A STUDY ON CONSUMER'S PREFERENCE OF CELLULAR SERVICES IN AIZAWL CITY, MIZORAM

(A DISSERTATION SUBMITTED FOR THE AWARD OF THE DEGREE OF MASTER OF PHILOSOPHY IN ECONOMICS)

BY

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CERTIFICATE

This is to certify that the dissertation entitled **"A Study on Consumer's Preference of Cellular Services in Aizawl City, Mizoram"** by Thelma Lalhmingthangi has been written under my guidance. This dissertation is the result of her investigation into the subject and was never submitted to any other University for any research degree.

DECLARATION

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I, Thelma Lalhmingthangi, do hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form the base of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the dissertation has not been submitted by me for any research degree in any other University/ Institute.

This is being submitted to the Mizoram University for the degree of Master of Philosophy in Economics.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Communication Sector has become an essential infrastructure for socio-economic development in an increasingly knowledge-intensive world. The accomplishment of telecom services to all regions of the country turns out to be an important part of an innovative and technologically-driven society. It is one of the main support services needed for rapid growth and modernization of various sectors of the economy. Studies have shown a positive correlation of the Internet and Mobile Services on growth of the GDP of a country. As a result of sustainable measures taken by the Government over the years, the Indian Telecom Sector has grown exponentially and has become the second largest network in the world, next only to China. The reasons for growth of the telecom sector in India are reform measures by the Government of India, active participation of the private sector and wireless technology. The National Telecom Policy (NTP) 2012 was announced with the objective to maximize public good by facilitating reliable, secure and

affordable telecommunication as well as broadband services in India.

1.2 AIZAWL PROFILE

Aizawl is the capital of the state of Mizoram in India. According to 2011 census, a population of 293,416 resides in Aizawl city. It is the largest city in the state. It is also the centre of administration containing all the important government offices, state assembly house and civil secretariat. The population of Aizawl strongly reflects the different communities of the ethnic Mizo people.

1.2.1 History

In 1871-72, the disorderly conduct of Khalkom, a Mizo chief, compelled the British to established an outpost that later became the Aizawl village. In 1890, officer Dally of the Assam Police and his 400 men arrived at Aizawl to support Colonel Skinner's troops during a British military operation against the Mizo tribals. On Dally's recommendation, Aizawl was selected as the site of a fortified post that Colonel Skinner had been ordered to construct. The troops constructed stockades and buildings at the site. In 1892-95 Aizawl became accessible from Silchar by fair weather road under the supervision of Major Loch. The Indian Air Force carried out air strikes on the town during

the March 1966 Mizo National Front uprising, following which the MNF withdrew to Lunglei. Until 1966, Aizawl was a large village but the regrouping of Mizo villages after the uprising made it become a larger town and then a city. Aizawl has become the centre of road network in Mizoram connecting the north and south, east and west. More than 25% of the Mizoram population resides in Aizawl.

1.2.2 Civic Administration

The Aizawl Municipal Council is the authority of civic administration of Aizawl city. It was formed in 2010 with 19 members when the Congress-ZNP party coalition was voted to power in the state legislative assembly. The AMC office is being administered by one Council Chairman and three executive members. It consists of 19 elected members representing 19 wards of the city and others appointed by the Governor of Mizoram. One-third of the total membership is reserved for women, these six seats shall be rotated after every five years. The tenure of the council is five years. There is a ward committee in every ward that consists of a Chairman, who is an elected councilor from that ward, and two members each from all the local council within the ward. There are 78 local councils having a term of 5 years.

1.2.3 Demographics

As of 2011 India census, Aizawl had a population of 293,416. Females constitute 50.61% of the population and males made up the remaining 49.39%. Mizos from various tribes make up the majority of the population. Christianity is the dominant religion in the city. Other religions include Islam, Buddhism and Hinduism.

Prebyterians make up the majority of the population. However, there are also significant numbers of the salvation Army, Baptists, Seventh-day Adventists, United Pentecostal Church and Roman Catholics in the city. There are also some cultural based Christian sects. Hinduism and Islam are also represented in very small numbers in the city population.

1.2.4 Economy

The economy of Aizawl is basically sustained by government services as it is capital of Mizoram. The major banks are also located within Aizawl. A 3-star category hotel, Hotel Regency, has recently been inaugurated at zarkawt, a central location within the city. It provides a much needed hospitality service for tourists and business visitors to Aizawl.

1.3 CONCEPTUAL FRAMEWORK OF TELECOMMUNICATION

Telecommunication is the transmission of signs, signals, messages, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems. Telecommunication occurs when the exchange of information occurs when the exchange of information between communication participants includes the use of technology. It is transmitted either electrically over physical media, such as cables, or via electromagnetic radiation. Such transmission paths are often divided into communication channels which afford the advantages of multiplexing. The term is often used in its plural form, telecommunications, because it involves many different technologies.

A number of key concepts reoccur throughout the literature on modern telecommunication theory and systems. Some of these concepts are as follows:

1.3.1 Basic Elements

Telecommunications is primarily divided up between wired and wireless subtypes. Overall though, a basic telecommunication system consists of three main parts that are always present in some form or onother:

Transmitter: It takes information and converts it to a signal.

Transmission medium: It is also called the “physical channel” that carries the signal. An example of this is the “free space channel”.

*Receiver***:** A Receiver takes the signal from the channel and converts it back into usable information for the recipient.

1.3.2 Analog versus Digital Communications

Communications signals can be sent either by analog signals or digital signals. There are analog communication systems and digital communication systems. For an analog signal, the signal is varied continuously with respect to the information. In a digital signal, the information is encoded as a set of discrete values. During the propagation and reception, the information contained in analog signals will inevitably be degraded by undesirable physical noise.

1.3.3 Telecommunication Networks

A telecommunication network is a collection of transmitters, receivers, and communications channels that send messages to one another. Some digital communications networks contain one or more routers that work together to transmit

information to the correct user. An analog communications network consists of one or more switches that establish a connection between two or more users. For both types of network, repeaters may be necessary to amplify or recreate the signal when it is being transmitted over long distances. This is to combat attenuation that can render the signal indistinguishable from the noise.

1.3.4 Communication Channel

The term “channel” has two different meanings. In one meaning, a channel is the physical medium that carries a signal between the transmitter and the receiver. Examples of this include the atmosphere for sound communications, glass optical fibers for some kinds of optical communications, coaxial cables for communications by way of the voltages and electric currents in them, and free space for communications using visible light, infrared waves, ultraviolet light, and radio waves. This last channel is called “the free space channel”. The sending of radio waves from one place to another has nothing to do with the presence or absence of an atmosphere between the two. Radio waves travel through a perfect vacuum just as easily as they travel through air, fog, clouds, or any other kind of gas.

The other meaning of the term “channel” in telecommunication is seen in the phrase communications channel, which is a subdivision of a transmission medium so that it can be used to send multiple streams of information simultaneously. For example, one radio station can broadcast radio waves into free space at frequencies in the neighborhood of 94.5 MHz (megahertz) while another radio station can simultaneously broadcast radio waves at frequencies in the neighborhood of 96.1 MHz. Each radio station would transmit radio waves over a frequency bandwidth of about 180 kHz, centered at frequencies such as the above, which are called the “carrier frequencies”.

1.3.5 Modulation

The shaping of a signal to convey information is known as modulation. Modulation can be used to represent a digital message as an analog waveform. This is commonly called “keying”- a term derived from the older used of Morse Code in telecommunications- and several keying techniques exist. The “Bluetooth” system, for example, uses phase-shift keying to exchange information between various devices. Modulation can also be used to transmit the information of low-frequency analog signals at higher frequencies. Thereare several different modulation schemes available to achieve [two of the most basic

being amplitude modulation (AM) and frequency modulation (FM)].

1.3.6 Telephone

In a telephone of network, the caller is connected to the person they want to talk to by switches at various telephone exchanges. The switches form an electrical connection between the two users and the setting of these switches is determined electronically when the caller dials the number. Once the connection is made, the caller's voice is transformed to an electrical signal using a small microphone in the caller's handset. This electrical signal is then sent through the network to the user at the other end where it is transform back into sound by a small speaker in that person's handset. The landline telephones in most residential homes are analog-that is the speaker's voice directly determines the signal's voltage. Mobile phones have had a significant impact on telephone networks. Mobile phone subscriptions now outnumber fixed line subscriptions in many markets.

1.3.7 Radio and television

In a broadcast system, the central high-powered broadcast tower transmits a high-frequency electromagnetic wave to numerous low-powered receivers. The high-frequency wave sent

by the tower is modulated with a signal containing visual or audio information. The receiver is then tuned so as to pick up the high-frequency wave and a demodulator is used to retrieve the signal containing the visual or audio information.

The broadcast media industry is at a critical turning point in its development, with many countries moving from analog to digital broadcasts. The move is made possible by the production of cheaper, faster and more capable integrated circuits. The chief advantage of digital broadcasts is that they prevent a number of complaints common to traditional analog broadcasts. In digital television broadcasting, there are three competing standards that are likely to be adopted worldwide. These are the ATSC (Advanced Television Systems Committee), DVB (Digital Video Broadcasting) and ISDB (Integrated Services Digital Broadcasting) standards. All three standards use MPEG-2 for video compression. The choice of modulation also varies between the schemes.

1.3.8 Internet

The Internet is a worldwide network of computers and computer networks that communicate with each other using the Internet Protocol. Any computer on the Internet has a unique IP address that can be used by other computers to route information

to it. Hence, any computer on the Internet can send a message to any other computer using its IP address.

There were 161 Internet Service Providers (ISPs) offering broadband services in India as of 31st May 2013. The top five Internet Service Providers (ISPs) in terms subscriber base were Bharat Sanchar Nigam Limited (BSNL) (9.96 million), Bharti Airtel (1.40 million), Mahanagar Telephone Nigam Limited (MTNL) (1.09 million), Hathway (0.36 million) and You Broadband (0.31 million). Cyber cafes remain the major source of Internet access.

Second Generation (2G) internet is the most prevalent in India. Wireless Internet Service Providers (ISPs) in India use both Code Division Multiples Access and Edge Technologies for Second Generation (2G). India's wireless Internet frequencies are

- 2G : Global System Mobile for Communications (GSM) 900 Megahertz, Global System Mobile for Communications (GSM) 800 Megahertz
- 3G : Universal Mobile Telecommunication System (UMTS) 2100 Megahertz
- 4G : Time-Division Long-Term Evolution (TD-LTE) 2300 Megahertz.

1.3.9 Local Area Network and Wide Area Network

Despite the growth of the Internet, the characteristics of local area networks (LAN)-computer networks that do not extend beyond a few kilometers-remain distinct. This is because networks on this scale do not require all the features associated with larger networks and are often more cost-effective and efficient without them.

Wide area networks (WAN) are private computer networks that may extend for thousands of kilometers. Prime users of private LANs and WANs include armed forces and intelligence agencies that must keep their information secure and secret.

1.3.10 Next - Generation Networks

A Next-Generation Network (NGN) is a packet-based network which can provide services including Telecommunication Services and able to make use of multiple broadband, quality of Service-enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies. It offers unrestricted access by users to different service providers. It supports generalized mobility which will allow consistent and ubiquitous provision of services to users.

In the Next Generation Networks, multiple access networks user can connect to the Internet Protocol (IP)-core of Next-Generation Network (NGN) in various ways, most of which use the standard Internet Protocol (IP). User terminals such as mobile phones, Personal Digital Assistants (PDAs) and computers can register directly on Next-Generation Network (NGN) core, even when they are roaming in another network or country. The only requirement is that they can use Internet Protocol (IP) and Session Initiation Protocol (SIP). Fixed access (e.g., Digital Subscriber Line (DSL), cable modems, Ethernet), mobile access (e.g. Wideband Code Division Multiple Access (W-CDMA), Code Division Multiple Access (CDMA) 2000, Global System Mobile for Communications (GSM), General Packet Radio Service (GPRS)) and wireless access (e.g., Wireless Local Area Network (WLAN), Interoperable Implementations of the IEEE 802.16 Family of Wireless-Networks Standards (WiMAX)) are all supported. Other phone systems like plain old telephone service and non-compatible Voice over Internet Protocol (VoIP) systems are supported through gateways. With the deployment of the Next-Generation Network (NGN), users may subscribe to many simultaneous access-providers providing telephony, internet or entertainment services. This may provide end-users with virtually unlimited options to choose between

service providers for these services in Next Generation Network (NGN) environment.

1.3.11 Subscriber Identity Module or Subscriber Identification Module (SIM) Card

A Subscriber Identity Module or Subscriber Identification Module (SIM) is a circuit that securely stores the International Mobile Subscriber Identity (IMSI) and the related key used to identify authenticate subscribers on mobile telephony devices (such as mobile phones and computers).

The SIM circuit is part of the function of a Universal Integrated Circuit Card (UICC) physical smart card, which is usually made of Permanent Virtual Circuit (PVC) with embedded contacts and semiconductors. "SIM cards" are designed to be transferrable between different mobile devices. The first Universal Integrated Circuit Card (UICC) smart cards were the size of credit and bank cards; the development of physically smaller mobile devices prompted the development of smaller SIM cards where the size of the plastic carrier is reduced while the electrical contacts remain the same.

Cell phone has gained importance among the various classes of people due to its easy handling and flexibility. A subscriber to this service can send and receives calls while he is

on the move or located anywhere in the service area. In this context cell phones play a vital role in promoting the effective communications. So, this study entitled as “A Study on Consumers’ Preference for Cellular Services in Aizawl City”.

This analysis concentrated only on the four mobile service providers namely,

- Airtel
- Vodafone
- Aircel
- Bharat Sanchar Nigam Limited (BSNL)

1.3.12 Bharti Airtel

Bharti Airtel Limited is a leading global telecommunications company with operations in 20 countries across Asia and Africa. Its Headquarter is in New Delhi, India, the company ranks amongst the top four mobile service providers globally in terms of subscribers. In India, the company's product offerings include Second Generation (2G), Third Generation (3G) and Fourth Generation (4G) wireless services, mobile commerce, fixed line services, high speed Digital Subscriber Line (DSL) broadband, Internet Protocol Television (IPTV), Direct to Home Services (DTH), enterprise services including national and international long distance services to carriers. In the rest of the

geographies, it offers Second Generation (2G), Third Generation (3G) wireless services and mobile commerce. Bharti Airtel had nearly 287 million customers across its operations at the end of December 2013. Airtel is the second largest mobile operator in the country by subscriber base, behind China mobile. Airtel is the largest provider of mobile telephony and second largest provider of fixed telephony in India and it is also a provider of broadband and subscription television services. It offers its telecom services under the "Airtel" brand, and is headed by Sunil Bharti Mittal. Bharti Airtel is the first Indian telecom service provider to achieve Cisco Gold Certification. It also acts as a carrier for national and international long distance communication services. The company has a submarine cable landing station at Chennai, which connects the submarine cable connecting Chennai and Singapore. Bharti Airtel added 5.10 lakh subscribers to take its base to 20.97 crore at the end of July 2014. Its market share in India is highest with a value of 28.4 per cent.

Airtel operates in all telecom circles of India. Its network is present in 5,121 census towns and 457,053 non-census towns and villages, covering approximately 86.6 per cent of the country's population as of September 2012. Airtel is the largest operator in rural India with 83.82 million subscribers as of April 2013. Airtel is the sixth most valued brand according to an annual

survey conducted by Brand Finance and The Economic Times in 2010.

In October 2016, India's telecom regulator TRAI recommended imposing a combined penalty of Rs 3,050 crore on three mobile networks operator- Vodafone, Bharti Airtel and Idea Cellular- for denying interconnection to Mukesh Ambani's Reliance Jio Infocomm (RJio), the latest entrant into India's telecom service.

1.3.13 Vodafone

Vodafone India is a member of the Vodafone Group and commenced operations in 1994 when its predecessor Hutchison Telecom acquired the cellular license for Mumbai. The company now has operations across the country with over 150 million customers. Vodafone India has firmly established a strong position within the Vodafone Group too, making it the largest subscriber base globally. This journey is a strong testimony of Vodafone's success in a highly competitive and price sensitive market. Vodafone India has been awarded the Most Admired Telecom Operator and Best Third Generation (3G) Operator at the recent Telecom Operator Awards 2012. The company has also received the globally recognized prestigious 'Product of the Year 2012' consumer award for Vodafone Apps Store in the

Mobile Services Category. In another survey conducted by Nielsen, Vodafone India was the only telecom player in the Top 10 ‘Most Exciting Youth Brands’ in India. Vodafone India also features in the Top 10 ‘Most Trusted Brands in India’ for 2011, in a survey conducted by a leading financial daily. Serving the needs of an enterprise, Vodafone Business Solutions is a total communications offering that caters to all their voice and data, wireless and Fixed-line requirements. With the advantage of global expertise and experience and the knowledge of local markets, the business is run through the following verticals - Vodafone Global Enterprise, Small and Medium Sized Enterprises (SME) division, National corporate and key accounts. Since its inception, Vodafone Business Solutions has garnered over 3 million corporate customers in India and currently provides services to over 6000 Global and national accounts equipped with a robust and superior network infrastructure and a 24x7 Network Operations Center (NOC). Vodafone has been recently awarded the 'Enterprise Mobile Service Provider of the Year' at the 2012 Frost and Sullivan India Information and Communications Technology (ICT) Awards. At Vodafone, sustainability is an integral part of the company’s mission and strategy, shaping the conduct of business every day. Vodafone India, in line with its group philosophy has released the Corporate

Sustainability Report for India - Footprints 2010-11. Vodafone Group is one of the world's largest mobile communications companies by revenue with over 398 million customers as at 31st December, 2011. Vodafone currently has equity interests in over 30 countries across five continents and more than 50 partner networks worldwide.

1.3.14 Aircel

Aircel is India's fifth largest and fastest growing Global System for Mobile Communications (GSM) mobile service provider with a subscriber base of 65.1 million. Aircel is a pan India operator with a presence across 23 circles. The company offers voice and data services ranging from postpaid and prepaid plans, Second Generation (2G) and Third Generation (3G), Broadband Wireless Access (BWA), Long Term Evolution (LTE) to Value Added Services (VAS). In addition to providing premium internet access solutions to facilitate data intensive live streaming applications, the company has also paved the way to be amongst the first to offer Third Generation (3G) and Fourth Generation (4G) Long Term Evolution (LTE) services to customers. Aircel successfully bid for Third Generation (3G) licenses/ spectrum in 13 states, (Andhra Pradesh, Karnataka, Tamil Nadu, Kolkata, Kerala, Punjab, Uttar Pradesh (East), West Bengal, Jammu and Kashmir, Bihar, Orissa, Assam and North

East), with Broadband Wireless Access (BWA) licenses / spectrum also obtained in 8 of these states. Aircel's Third Generation (3G) rollout has been the fastest roll out ever in the Indian Telecom Space. Aircel is optimistic about the data bundling in its key markets. Tamil Nadu, being the strongest circle with spectrum in 900 Mega Hertz, Third Generation (3G) and Broadband Wireless Access (BWA) and in incumbent circles where the company is strong in voice, will now start adding data bundles.

Aircel was also adjudged the "Best Employers" by Aon Hewitt in 2011. The company's continuous focus is on acquiring, nurturing and retaining highly talented people by providing them with an inclusive and dynamic working environment. It has also set up the Aircel Academy, a 25,000 square foot facility in Gurgaon (Head Quarter) to provide learning and specialized development for employees. Being a caring and responsible corporate, Aircel is involved in initiatives like 'Save Our Tigers', an effort to save and grow the dwindling population of tigers in India. The 'Save Our Tigers' campaign made India wake up to the alarming fact that there were only 1411 tigers left in India through its 360 degree awareness program. Another initiative by Aircel is the A+, initiative which aims to bridge the digital divide. 'Through 'Aircel A+'; Aircel provides underprivileged

youth from rural areas access to computers and internet for educational and developmental purposes**.**

1.3.15 Bharat Sanchar Nigam Limited (BSNL)

Bharat Sanchar Nigam Limited was incorporated on 15th September 2000. It took over the business of providing of telecom services and network management from the erstwhile Central Government Departments of Telecom Services (DTS) and Department of Telecom Operations (DTO), with effect from 1st October 2000 on going concern basis. It is one of the largest and leading public sector units providing comprehensive range of telecom services in India. Bharat Sanchar Nigam Limited (BSNL) has installed Quality Telecom Network in the country and now focusing on improving it, expanding the network, introducing new telecom services with Information and Communications Technology (ICT) applications in villages and winning customer's confidence.

Bharat Sanchar Nigam Limited (BSNL) is the only service provider, making focused efforts and planned initiatives to bridge the rural-urban digital divide in Information and Communications Technology (ICT) sector. In fact there is no telecom operator in the country to beat its reach with its wide network giving services in every nook and corner of the country and operates across

India except New Delhi and Mumbai. Whether it is inaccessible areas of Siachen glacier or North-Eastern regions of the country, Bharat Sanchar Nigam Limited (BSNL) serves its customers with a wide bouquet of telecom services namely Wireline, Code Division Multiple Access (CDMA) mobile, Global System for Mobile Communications (GSM) mobile, Internet, Broadband, Carrier service, Multiprotocol Label Switching (MPLS) – Virtual Private Network (VPN), Very Small Aperture Terminal (VSAT), Voice Over Internet Protocol (VoIP), IN Services, Fiber to the Home (FTTH), etc.

Bharat Sanchar Nigam Limited (BSNL) is numero uno of India in all services in its license area. The company offers wide ranging and most transparent tariff schemes designed to suit every customer. Bharat Sanchar Nigam Limited (BSNL) has 90.09 million cellular and 5.06 million Wireless Local Loop (WLL) customers as on 31st July 2011. Third Generation (3G) Facility has been given to all Second Generation (2G) connections of Bharat Sanchar Nigam Limited (BSNL). In basic services, Bharat Sanchar Nigam Limited (BSNL) is miles ahead of its rivals, with 24.58 million wireline phone subscribers i.e. 71.93 per cent share of the wireline subscriber base. Bharat Sanchar Nigam Limited (BSNL) has set up a world class multi-gigabit, multi-protocol convergent Internet Protocol infrastructure

that provides convergent services like voice, data and video through the same Backbone and Broadband Access Network. At present there are 8.09 million broadband customers. The company has vast experience in planning, installation, network integration and maintenance of switching and transmission networks and also has a world class International Organization for Standardization (ISO) 9000 certified Telecom Training Institute. During the 2010-11, turnover of Bharat Sanchar Nigam Limited (BSNL) is around Rs. 29,700 crores.

BSNL has large number of work force of around 2.14 lakh as on December 31, 2015. BSNL is a 100% Govt. of India owned Public Sector Undertaking. BSNL is a technology-oriented company and provides all types of telecom services namely telephone services on wireline, WLL and Mobile, Broadband, Internet, leased circuits and long distance telecom Service.

The company has also been in the forefront of technology with 100% digital new technology switching network. BSNL nation-wide telecom network covers all District headquarters, Sub-Divisional headquarters, Tehsil headquarters and almost all the Block Headquarters.

1.4 DEVELOPMENT OF TELECOM IN MIZORAM

Mizoram is located in the corner most state in the NER, connectivity has been the main issue for a lot of developmental works. To address the problem of connectivity in the District, Block and villages the District OFC network project under the USOF and National Optical Fiber Network (NOFN) under the Dot/GoI has been started. While the Government of Mizoram has given full support to these projects, due to inherent problem like landslide, hilly terrains, narrow roads etc, it seems unlikely to complete these projects within the stipulated timeframe.

Mizoram had 285,272 mobile connections as of October 2008 and the consumer base has been increasing rapidly. As of February 2009, there were 64 telephone exchanges and 56,816 landline phone connections in Mizoram. As of March 2009, the state had over 2,000 broadband connections. The Central Government plans to provide wireless communication and broadband Internet service across the state by 2011.

According to the Annual Report (2015-16) of Department of Telecommunications, Government of India, the status of telecom facilities as on December 31, 2015 in the state of Mizoram is shown below:

Telephone Exchange (Wire-line) - 65

Total Capacity (Wire-line+ Wireless) -2,76,132

Total DELs (Wire-line + Wireless) - 1,84,267

Broadband connection - 42,891

VPTs (As per census 2001) – 704

1.4.1 Status of OFC in District and Blocks:

The present status of Optical Fibre Cable in the state is as follows:

- District Head Quarter =4 out of 8, 4 DHQ not yet connected.
- Sub- Division Head Quarter =4 out of 17, 13 SDHQ not yet connected.
- Block Head Quarter =6 out of 26, 20 BHQ not yet connected.

1.4.2 Initiatives Taken Under Government of India:

a) Mizoram State Wide Area Network (MSWAN): The Mizoram State Wide Area Network (MSWAN) was inaugurated on 19th June, 2012 by the Hon'ble Chief Minister of Mizoram Pu Lal Thanhawla. There are 42 PoPs (1 State Hqrs, 8 District Hqrs and 33 Su- Divisional/ Block Hqrs) in Mizoram SWAN.

b) Intra – District OFC Network: Under the financial assistance of Universal Service Obligation Fund (USOF), M/s RAILTEL has implemented the project 'Intra- District OFC network' for connecting all District and Blocks using OFC. The survey has been completed but work has yet to be started. The project is not expected to be completed on time since the work has not yet started till date.

c) National Optical Fiber Network (NOFN): The project is being implemented by M/s RAILTEL and survey has been implemented and is in tender stage. The Government of Mizoram has signed tripartite agreement with the Ministry of Telecom and BSNL for the project.

d) Mobile towers under the USOF: During the first phase 38 shared Mobile Tower were constructed to be used in rural areas for improving the mobile telephony. Only 26 were utilize from these shared towers as the mobile operator incurred huge loss for the project. Therefore, these towers become unreliable in the present business model and appropriate measures may be taken by the Government of India.

1.5 OBJECTIVES

1. To analyze the factors determining the choice of selecting the particular service provider.

2. To examine the choice of plans provided by the service providers in Aizawl city.

3. To find out the preferences of customers' with respect to the facilities provided by the service providers.

4. To identify the problems of the customers with respect to their service providers.

1.6 RESEARCH QUESTIONS

1. How soon do the service providers rectify the grievances of their customers?

2. Among the value added services, what are the services most well known by the consumers?

1.7 METHODOLOGY

The study was based on both primary and secondary data. Primary data was collected through structured questionnaire and interview method. The questionnaire contained questions which are both open-ended and close-ended. Interview schedule comprised of number of variables that help us in finding out the consumer preference for particular branded service provider and problems faced while using particular service provider. The variables was related to awareness, features, factors responsible

for selecting particular service provider and those variables relating to the reasons for changing the particular service provider, duration of the user, problems faced by the users, rectification done by service providers, satisfaction level and suggestion of respondents to improve the service providers.

The sample size covered 200 consumers of different cell phone users from North, East, West and South of Aizawl city which was based on the random sampling method. The sample was collected proportionately from the four blocks based on the number of people using cell phones.

Secondary data was collected from various publications of central and state Governments, various publications of foreign government or of international bodies and their subsidiary organization, Books, magazines and periodicals reports and newspapers, e-resources and report and publication of various associations connected with business and cellular industry.

CHAPTER 2

REVIEW OF LITERATURE

This chapter is an effort to compile the literature related to the consumer preferences towards mobile phones service providers. The review of literature has been classified as

- **Studies Related to Telecom Sector in Global Scenario;**
- **Studies Related to Telecom Sector in Indian Scenario; and**
- **Studies Related to Consumer Preference towards Cellular Industry;**

2.1 STUDIES RELATED TO TELECOM SECTOR IN GLOBAL SCENARIO

Madden et.al (2000)[1] in their studies 'Telecommunications and Economic Growth' pointed out that the ability of the telecommunications sector to provide an internationally competitive network for transferring information has significant implications for trade and economic growth. Because of recent large world-wide investments in telecommunications infrastructure, quantifying the impact of telecommunications in

[1] Madden, G & Savage, S.J. (2000), 'Telecommunications and Economic Growth', *International Journal of Social Economics*, Vol. 27, Issues (7-10), pp. 893 - 906.

economic growth has received much attention. However economic analysts, in the absence of investment data for many developing countries, adopt the International Telecommunications (ITU) practice of using main telephone lines to measure the stock of telecommunications capital. The accuracy of this proxy has not been subject to careful statistical scrutiny. This study develops a supply-side growth model which employs tele-density and the share of telecommunications investment in national income as telecommunications capital proxies. Estimation results suggest a significant positive cross-country relationship between telecommunications capital and economic growth, when using alternative measures of telecommunications capital.

Welenius et.al (2001)[2] stated that information is regarded today as a fundamental factor of production, alongside capital and labour. The information economy accounted for one-third to one-half of Gross Domestic Product (GDP) and of employment in Organization for Economic Cooperation and Development (OECD) countries in the 1980s and is expected to reach 60 per cent for the European Community in the year 2000. Information also accounts for a substantial proportion of Gross Domestic

[2] Welenius, B & Stern, P.A. (2001), 'Implementing Reforms in the Telecommunications Sector', The World Bank, Washington DC.

Product (GDP) in the newly industrialized economies and the modern sectors of developing countries.

Pedersen et.al (2002)[3] studied the technology aspect and explained a comparative view. According to them, a comparison of the slow adoption of Wireless Application Protocol (WAP) services in Europe with the successful adoption of comparable I-mode services in Japan and technologically simple Short Message Service (SMS) based services in Scandinavian suggest that aggregate and technology based models are insufficient to explain the mobile service. Thus, technological models of the supply side need to be supplemented with the views and impact of perceptions from the demand side of the mobile commerce end user.

According to Mourik (2003)[4], mobile phone has a significant impact on UK economy as it increases its Gross Domestic Product (GDP) up to £5 billion and employment impact is 160,000. Public mobile generates £8,200 million in benefits for the UK economy. Author concluded that social benefits are equally stronger when above eighty percent people in

[3] Pedersen, P.E. & Methlie, L.B. (2002), 'A Taxonomy of Intermediately Integration Strategies in Online Markets', presented at the 15th Bled Electronic Commerce Conference, Bled, Slovenia, pp.17 - 19.

[4] Mourik, R (2003), 'Benefits of mobile telephony to society', 1st Annual GSM Europe Seminar, p. 25.

a survey say that it gives peace of mind for loved ones' safety, increase own personal safety, it organizes social life, and forty percent considered that it is more productive at work. The young people consider that mobile changed their lives, making it easier to communicate with others at any time and in any place. Safety, security and emergency use of mobile phone is another benefit as they feel safer and more secure and approximately 80-100 lives are saved in a year in UK through making an emergency call to the ambulance for its early arrival.

Ding et.al (2004)[5] assessed the role of telecommunication infrastructure in long run regional economic growth in China for a sample of 29 regions for a 17 years' period, from 1986-2002. With a panel dataset, they used a dynamic fixed effects model for estimation, which allows testing the relationship between regional economic growth with initial economic condition, fixed investment, population growth, as well as telecommunications infrastructure. On the basis of the results, they showed that telecommunications is both statistically significant and positively correlated to regional economic growth in real Gross Domestic Product (GDP) per capita in China. The results were strong even after controlling for investment, population growth, past levels of

[5] Ding, L. & Haynes, E.K. (2004), 'Telecommunication Policy Research Conference', Washington. D. C.

Gross Domestic Product (GDP) per capita, and lagged growth. They further indicated that the telecommunication investment is subject to diminishing returns, suggesting in this manner that regions at an earlier stage of development are likely to gain the most from investing in telecom infrastructure.

Rossotto et.al (2005)[6] conducted a study on 'Opening up telecommunications to competition and MENA integration in the world economy'. This paper investigates the potential impact of opening up telecommunications to competition in MENA on this sector performance and on the participation of the region in the world economy. The latter is assessed with respect to manufactured exports, participation in production network and attractiveness of Foreign Direct Investment (FDI). The paper first introduces a model to assess the benefits of telecommunications liberalization on sector performance. The assessment is based on three key factors: (i) degree of effective competition in fixed and mobile networks; (ii) openness to foreign investment; and (iii) pro-competitive regulation. The results confirm that liberalization and open markets are conducive to higher efficiency in the telecommunications sector. Regarding the integration of the region in the World economy, the analysis confirms that, after

6 Rossotto, C.M., Sekkat, K, & Varoudakis, A (2005), 'Opening up Telecommunications to Competition and MENA Integration in the World Economy', *Journal of International Development*, Vol. 17, Issue 7, pp. 931 – 955.

controlling for the influence of other structural factors, better performance of telecommunications strengthens export performance in manufacturing including exports of intermediate products. Moreover, by facilitating linkages with transnational production networks and reducing the cost of doing business, better telecommunications sector performance is found to be a determinant of foreign direct investment inflows in developing countries.

Turela et.al (2006)[7] performed an empirical investigation of 210 young adult cellular subscribers in Canada to examine the antecedents of customer satisfaction and loyalty. Adapting the American Customer Satisfaction Model this study offered insights for service providers, policymakers and subscribers. Also it formed the foundation for future benchmarking of the performance of wireless network operators in terms of user satisfaction and loyalty.

Garbacz et.al (2007)[8] evaluated, among others, price and non price determinants of demand for telecom services by residential and mobiles services, using a sample of 23 developing

[7] Turela, O. & Serenko, A. (2006), 'Satisfaction with Mobile Services in Canada: An Empirical Investigation', *Elsevier Telecommunications Policy*, Vol. 30, pp. 314 -331

[8] Garbacz, C. & Thompson, H.G. (2007), 'A Framework for Assessing Universal Service Obligations: A developing Country Perspective', TPRC Research Conference on Communication, Information and Internet Policy: Washington, DC.

countries including India. Telecom prices are distinguished between residential and mobile services. These prices enter into demand estimations both as exogenous variables, and endogenously determined by telecom reform and other variables in a recursive equations framework. Empirical results offer evidence for significant price effects for mobile services.

Ferguson et.al (2008)[9] focussed a study on 'Telecom's search for the ultimate customer loyalty platform' and further analyzed that; companies with sound customer strategies can use this 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 entrenched 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.

Yanming et.al (2009)[10] in their study 'Study on Value Chain of Telecom VAS under Transformation Background' revealed that, in the new environment, telecom industry is

[9] Ferguson, R & Brohaugh, B. (2008), 'Telecom's search for the ultimate customer loyalty platform', *Journal of Consumer Marketing*, Vol. 25, Issue: 5, pp. 314 - 318.

[10] Yanming, T. & Jianqiu,Z. (2009), 'A Study on Value Chain of Telecom VAS under Transformation Background, Communications and Network', pp. 63 - 69.

becoming a part of several converged industries in information society gradually from an independent industry which provides telecom products like voice or data. Judging from the industry status quo, the construction of flexible telecom networks still need more time, and the degree of information society also needs to be further upgraded, and applying conditions of the new value chain mode of telecom Value Added Service (VAS) may be not sophisticated enough. However, it will be necessary to implement gradual transition towards future goals for telecom operators, and the study of this paper will offer certain theoretic guide to operators.

Arshad, et.al (2010) [11] conducted an investigation on 'Evolution and Development towards 4th Generation (4G) Mobile Communication Systems' and mentioned that the 4G mobile technologies will stimulate subscriber interest in broadband wireless applications because of its ability and flexibility towards the world of wireless mobile communications. A concentrated effort seems to categorize how wire-less mobile technologies can accompaniment a more user focused world of wireless. Finally the report elaborates the different Mobile Communication Technologies that have been developed in the past and their

[11] Arshad, J., Farooq, A, & Shah, A (2010), 'Evolution and Development towards 4th Generation (4G) Mobile Communication Systems', *Journal of American Science*, pp. 63 - 68.

evolution and development towards 4th generation communication systems. Their detail comparison with each other has been discussed to have a better knowledge and understanding about the technological advancement made towards the evolution and development of 4th generation communication systems.

Dahari, et.al (2011)[12] in their study 'Customer Satisfaction with Mobile phone operators: An exploratory study in Kuala Lumpur, Malaysia' concluded that, the Malaysian customers are very much conscious of brand image, service quality and price of the operators. Therefore, Mobile phone operators in Malaysia should be very careful about these factors and the kind of services they are offering. In order to complete, mobile phone operators probably need to develop effective marketing strategies, upgrade their technological capabilities and develop their efficient marketing activities. In particular, there is a need for mobile phone operators to develop and maintain better quality, minimize price and increase brand image to increase the level of customer satisfaction.

[12] Dahari, Z.B., Rahman, M.S, & Azam, F (2011), 'Customer Satisfaction with Mobile phone operators: An Exploratory Study in Kuala Lumpur, Malaysia', *Indian Journal of Marketing*, Vol. 41, No. 4, p.39 - 47.

Akram, et.al (2012) [13] examined, in their study on 'Globalization's Impacts on Pakistan's Economy and Telecom Sector of Pakistan', almost the whole world has accepted the globalization as a prevailing reality in the present era. Globalization has affected all the major sectors of the world economies either directly or indirectly. This paper is mainly focusing on one of the largest sector of Pakistan's economy i.e. Telecommunication Industry. This was an attempt made to find out how the globalization has hit the telecom sector in Pakistan. In this paper, it has been proved with the help of past statistics that globalization has resulted in ending up the monopolistic regime in telecom sector of Pakistan and has given a boost to the Pakistan's telecom industry.

Chindo (2013)[14] in 'Assessing the Impact of GSM Sub-Telecommunication Sector on the Tele-density Rate and Economic Growth in Nigeria: Time Series Analysis', examined and assessed the impact of the GSM sub-sector on the tele-density rate (growth indicator of the industry) using Ordinary Least Square estimator. It must be noted that stationary and co

[13] Akram, M., Faheem, M.A., Dost, M.K.B. & Abdullah, I (2012), 'Globalization's Impacts on Pakistan's Economy and Telecom Sector of Pakistan', *International Journal of Business and Social Science,* Vol. 3, No. 1, pp. 283 - 290.

[14] Chindo, S. (2013), 'Assessing the Impact of GSM Sub-Telecommunication Sector on the Teledensity Rate and Economic Growth in Nigeria: Time Series Analysis', *International Journal of Business and Social Science,* Vol. 4, No. 3, pp. 156 - 165.

integration tests were conducted before the model was finally estimated. Furthermore, diagnostic checking tests were conducted and the model has been found to be good and stable in conformity with the Classical Linear Regression Model (CLRM) assumptions. It was established that GSM has a positive impact on the tele-density rate and economic growth of Nigeria. So also it has been established that GSM sub-sector serves as one of the key contributor to the nation's GDP.

Qiang et.al (2014) [15] focused on the study 'Telecommunication Infrastructure and Foreign Direct Investment in Pakistan: An Empirical Study'. This paper explores the role of infrastructure availability, particularly with respect to telecommunication in stimulating Foreign Direct Investment (FDI) in Pakistan. Mobile cellular subscription is taken as a proxy variable for infrastructure along with market size, labor force and trade openness as explanatory variables. The study covers the time period from 1990 to 2012 based on the fact that mobile cellular service introduced in 1990s in Pakistan for the first time. Johansen test of Co-integration has been used to check the long run relationship between the variables and then ordinary

[15] Zeb, N., Qiang, F & Shabbir, M (2014), 'Telecommunication Infrastructure and Foreign Direct Investment in Pakistan: An Empirical Study', *Global Journal of Management and Business Research: B Economics and Commerce*, Vol. 14, Issue 4, pp. 1 - 5.

least square technique has been applied to estimate the coefficients of all the variables. The results of empirical analysis indicate the positive significant effect of infrastructure in attracting FDI to Pakistan.

Raza, et.al (2015)[16] identified the factors that influence the customer's decision to switch to another telecommunication service company. The scope of the study was very important as mobile service industry is growing rapidly in Pakistan and this industry is facing a huge competition and there is a massive number of users who are switching from one brand to another so our study will be supportive in knowing those factors that influence brand switching and in analyzing the customers preference. Variables of research are service quality, price, brand image, value offered, trust, satisfaction, customer loyalty where as the dependent variable is switching cost. Different techniques are used to collect data .The data analysis for this research done by using the Statistical Package for Social Science (SPSS). This research indicates several factors that play an important role in switching consumers in telecom industry.

[16] Raza, M., Siddiqi, Z & Nasim, S (2015), 'Factors Affecting Brand Switching in Telecommunication Sector', *Journal of Research in Business and Management*, Vol.3, Issue 1, pp. 11 - 15.

2.2 STUDIES RELATED TO TELECOM SECTOR IN INDIAN SCENARIO

According to Rengarajan (2000)[17] , the pressure for the consolidation of the telecom industry is driven by the increasing customer demands, falling tariffs, fast changing technologies and shift in competitive strengths. And his observation shows that, the global telecom market is undergoing a paradigm shift and the market is expected to be dominated by agile players that can capture and retain customer base and run business profitably after catering to a ever increasing demand for higher bandwidths from the heave usage segment.

Jain (2001)[18] revealed that this paper critically examines issues in auction design that contributed to this delay and reviews the key elements in the design process namely a coherent regulatory framework, choice of service areas, flexibility for service area consolidation, standards and their role, convergence, managing public service regulation and managing defaults. The paper compares the handling of these elements in auctions in the

[17] Rengarajan, M. (2000), 'Community Telecom Access in Rural Areas: Solving the Economic Sustainability Puzzle' in the Global Information Technology', Report 2001-2002, Readiness for the Networked World, Oxford University Press, pp.189 - 203.

[18] Jain (2001), 'Spectrum Auctions in India: Lessons from Experience', *Telecommunications Policy*, Vol. 25, Issues.10, pp. 671 - 688.

United States (US), United Kingdom (UK) and Australia with the objective of drawing lessons for Indian policy makers.

Economic Survey (2002)[19] has mentioned two important goals of telecom sector as delivering low-cost telephony to the largest number of individuals and delivering low cost high speed computer networking to the largest number of firms. The number of phone lines per 100 persons of the population which is called tele-density, has improved rapidly from 43.6 in March 2001 to 4.9 in December 2002.

Ghosh (2003) [20] pointed out that the most significant development since 1999 has been the progressive reduction in tariffs which has been facilitated by competition through multi operator environment. The most dramatic reduction in tariff has been from very high Rs. 16 per minute to Rs. 2 per minute.

Kathuria (2004)[21] reviewed the Indian telecom industry's market structure from 1991 with special focus on the Asia-Pacific region. It was discussed that the Indian telecom sector had grown rapidly over the last ten years but still lagged behind China and

[19] Union Budget and Economic Survey (2002 – 2003), Energy, Infrastructure and Communications, Ministry of Finance, Government of India.

[20] Ghosh, S. (2003), 'The Resurging Telecom Sector', Press Information Bureau, pib.nic.in.

[21]Kathuria, R & Hossain, M (2004), 'Telecommunications Reform and the Emerging 'New-Economy': The Case of India', *World Review of Science Technology and Sustainable Development*, Vol. 1, Issues 2.

other Asian countries in the context of investment and tariff rates. The author had further discussed the impact of WTO negotiations on the Indian telecom industry and suggested the scope of future growth in this sector without changing the existing regime.

Ramachandran (2005)[22] examined the performance of Indian Telecom Industry which is based on volumes rather than margins. The Indian consumer is extremely price sensitive. Various socio-demographic factors high GDP growth, rising income levels, booming knowledge sector and growing urbanization have contributed towards tremendous growth of this sector. The instrument that will tie these things together and deliver the mobile revolution to the masses will be Third Generation (3G) services.

Mittal (2005)[23] explains the paradigm shift in the way people communicate. There are over 1.5 billion mobile phone users in the world today, more than three times the number of PCOs (Public Call Office). India today has the sixth largest telecom network in the world up from 14th in 1995, and second largest among the emerging economies. It is also the world's 12th

[22] Ramachandran (2005), Director General, Cellular Operators Association of India, Trends and Development.

[23] Mittal, R.B. (2005), Joint Managing Director, Bharti Televenture Limited, Trends and Development.

biggest market with a large pie of $ 6.4 billion. The telecom revolution is propelling the growth of India as an economic powerhouse while bridging the developed and the developing economics.

Srivastava, et.al (2006)[24] in their study found out that, to survive in telecom market and face the competition the companies has to provide customers extra value added features, high quality services at competitive prices, make innovative schemes through aggressive pricing and superior service to retain and add more customers.

Bulsari (2007)[25] in his study 'National Telecom Policy (NTP) 1994 and Structural Change in Telecommunication Sector of Gujarat' concluded that, there has been a significant development in the telecommunication sector in the past decade. The reforms in the telecommunications sector its beginning with the liberalization policy in general and the NTP 1994. This policy was revised after having identified the lacunae and it is being revised continuously in tune with the changes in technology and value added services with basic telephony. Since the introduction

[24] Srivastava, R., Bhangle, J., Bhatt, N., Gogri, K & Marfatia, H (2006), "Role of Competition in Growing Markets: Telecom Sector", *Indian Journal of Marketing*, Vol. 26, No. 9, p. 8.

[25] Bulsari, S (2007), 'National Teleocm Policy (NTP) 1994 and Structural Change in Telecommunication sector of Gujarat', *The ICFAI Journal of Infrastructure*, Vol. 5, No.3, p. 35.

of the NTP 1994, a significant growth in the telecommunications sector of Gujarat and the growth rate is estimated to be 9.6 per cent.

Economic Survey (2007)[26] targeted growth of 250 million by the end of 2007 has been achieved in the month of October 2007. The total number of telephones has increased from 76.53 million on March 31, 2004, to 272.88 million on December 31, 2007. While 63.8 million telephone connections were added during the 12 months of 2006-07, more than 7 million telephone connections are being added every month during the current fiscal year. The tele-density has also increased from 12.7 per cent in March 2006 to 23.9 per cent in December 2007. Rural tele-density has increased to 7.9 per cent with 63.68 million rural telephone connections whereas urban tele-density was 60.04 per cent at the end of November 2007.

Mani (2008)[27] in his reviewed work 'Growth of India's Telecom Services (1991-2007): Can It Lead to Emergence of a Manufacturing Hub' analyzed that, the telecom industry can be achieved by easing governmental regulations with respect to

[26] Economic Survey (2007), Union Budget and Economic Survey (2007 – 2008) Ministry of Finance, Government of India.

[27] Mani, S (2008), 'Growth of India's Telecom Services (1991-2007): Can It Lead to Emergence of a Manufacturing Hub', *Economic and Political Weekly*, Vol. 43, No. 3, p. 37.

production, imports and exports and focusing more on tariffs and other conditions of sale. The growth of the telecom services segments of the industry appears to be spawning a manufacturing industry. In order to sustain this high growth, the government ought to be very serious about examining various proposals for bridging the digital divide through the support of private sector service providers at well.

Sharma et.al (2009)[28] highlighted the major challenges faced by India's telecom equipment manufacturing sector, which lags behind telecom services. They found that only 35% of the total demand for telecom equipment in the country is met by domestic production. This is not favourable to long-term sustained growth of the telecom sector. The country is also far behind in Research and Development spending when compared to other leading countries. Farther they have analyzed that India needs to see an increase in Research and Development (R&D) investment, industry academia government partnership, better quality doctoral education and incentives to entrepreneurs for start-ups in telecom equipment manufacturing.

[28] Sharma, S & Singhla, L. (2009), 'Indian Telecom Equipment Industry: Challenges and Prospects', Economic and Political Weekly, Vol. 44, No. 1, pp. 16 – 18.

Arshad, et.al (2010)[29] in their study concluded that the 4G mobile technologies will stimulate subscriber interest in broadband wireless applications because of its ability and flexibility towards the world of wireless mobile communications. A concentrated effort seems to categorize how wire-less mobile technologies can accompaniment a more user focused world of wireless. Finally the report elaborates the different Mobile Communication Technologies that have been developed in the past and their evolution and development towards 4th generation communication systems. Their detail comparison with each other has been discussed to have a better knowledge and understanding about the technological advancement made towards the evolution and development of 4th generation communication systems

Amulya et.al (2011)[30] pointed out that Telecom connects people across the length and breadth of the country, irrespective of income bracket and it provides many benefits to all in the society. It contributes significantly to India's GDP and particularly benefits to the poor people in the country. The mobile phone has revolutionized Indian economy in that it has become more inclusive in terms of enabling greater participation

[29] Arshad, J., Farooq, A. & Shah, A (2010), 'Evolution and Development towards 4th Generation (4G) Mobile Communication Systems', *Journal of American Science*, pp. 63 - 68.

[30] Amulya, M. & Anand. D. (2011), 'Market Competence of BSNL in the Dynamic Telecom World', *Indian Journal of Marketing*, Vol.41, No. 6, pp. 13 - 21.

of the poorer sections of the society. Now, people in these regions can conduct their business activities in a more economical manner, they do not have to move from place to place in order to do business. Small businessmen and small traders are able to do their business over telephone and that is a very important contribution to the growth of the country. And broadband services will only improve matters. BSNL is still the largest network owner across the country and it can do miracles only if it takes unbiased decisions at the right time. Delaying all the decisions and too much political interference is what is pushing it into losses. This is the right time to introspect and take action before it leads to bankruptcy.

National Telecom Policy of India (2012)[31] projected to increase rural tele-density from the current level of around 39 to 70 by the year 2017 and 100 by the year 2020. The number of telephone connections, at the end of February 2012, was 943 million, as compared to 41 million at the end of December 2001. This growth has been fuelled by the cellular segment (mobile phones) which alone accounted for 911 million connections at the end of February 2012. The composition of the telecom sector too has witnessed a structural change, with the private sector

[31] National Telecom Policy of India (2012), Department of Telecommunications, Ministry of Communications and IT, Government of India.

accounting for 88 per cent of the total connections. It is also projected in NTP 2012 to provide affordable and reliable broadband-on-demand by the year 2015 and to achieve 175 million broadband connections by the year 2017 and 600 million by the year 2020 at minimum 2 Mbps download speed and making available higher speeds of at least 100 Mbps on demand.

Das (2012) [32] assessed the growth of mobile phone subscribers in India and forecast the growth of mobile phone subscribers in India. Based on the data of mobile phone subscribers from the year 1996-97 to 2007-08, a short term forecast is made up to the year 2015-16. Under assumed saturation level, the logistic and Gompertz distribution function are used for forecasting the growth of mobile phone subscribers in India. It is observed that, the coefficient of determination is high and mean square error is low in case of logistic distribution. This distribution forecasts the growth of mobile phone subscriber to 98 per 100 people in India by the year 2015-16. This study will be useful for planners, policy makers and researchers in the area of the telecommunications sector for realistic view of the subject and for planning appropriate strategy accordingly.

[32] Das, D. (2012), 'Growth of Mobile Phone Subscribers in India', *Journal of Business Management and Accounts,* Vol. 1, No. 1, pp. 14 - 20.

Baruah et.al (2013) [33] examined, in their study on 'Telecom Sector in India: Past, Present and Future',analyzing the history and evolution of Indian telecom sector, its growth and developments in present scenario along with the future opportunities of the sector in India. Hence, it is based on secondary data collected from the Department of Telecommunication, Telecom Regulatory Authority of India, Ministry of Communication, the reports from Government of India and other sources. In order to study the specified objectives, statistical tool like year-wise Percentage of market share of different service provider, annual growth rate and percentage were calculated. Finally, the study concluded that, the growth and development of Telecom sector of India has made it a key contributor in India's economic and social up gradation. Every functional division and service provider of Telecom Sector of the country is trying to provide world class telecom infrastructure in its area of operation to give services to its customers and so, helping the country to progress in the global scenario.

[33] Baruah, P. & Baruah, R. (2013), 'Telecom Sector in India: Past, Present and Future', *International Journal of Humanities and Social Science Studies (IJHSSS)*, Vol. 1, Issue 3, pp. 147-156.

Kaur et.al (2014) [34] conducted a study on 'Telecommunications and Economic Growth in India: Causality Analysis'. The main aim of this paper was to investigate the causal relationship between telecommunication development and GDP as well as various sectoral components of GDP in India. The results of the study reveal a long run relationship between growth of telecommunication and economic growth at aggregate level as well as at sectoral levels. The study indicates that there is causal relationship between telecommunication growth and growth of manufacturing sector as well as services sectors. Growth of FIRB services (Finance, Insurance, and Real Estate and Business Services) is causing telecommunication growth in India while the causal relationship is other way round that is growth of SPC and TTHC is caused by telecommunication growth in India. The results show structural break in data in 1995 and 2005 which indicate strong impact of telecommunications o development of various sectors of the economy.

Acharya et.al (2015) [35] empirically investigated the contribution of Telecom sector to growth of Indian Service

[34] Kaur, K. & Malhotra, N. (2014), 'elecommunications and Economic Growth in India: Causality Analysis', *International Journal of Research in Business Management*, Vol. 2, Issue 5, pp. 31 - 46.

[35] Acharya, R. & Patel, R. (2015), 'Contribution of Telecom Sector to Growth of Indian Service Sector: An Empirical Study', *Indian Journal of Science and Technology*, Vol. 8(S4), pp. 101–105.

Sector and attempt was made to examine the trend of growth of exports, imports of telecomm sector and its impact on the growth of telecom sector with the help of regression model. The study will help us to understand the factors that affect the growth of service sector and thus policy implications and suggestions can be drawn for the overall growth of service sector. Finding of the study reveals that in case of Indian service sector the growth is positively affected by increase in exports and imports of telecomm sector. The paper concludes that the exports of telecom equipments can boost the growth of not only the telecom sector but can also contribute to the growth of service sector as well.

2.3 STUDIES RELATED TO CONSUMERS' PREFERENCE TOWARDS CELLULAR INDUSTRY

Leung et.al (2000)[36] conducted a study in Hong Kong and found that intrinsic or social (social status, affection or sociability, and relaxation) and instrumental or task oriented (mobility and immediate access) were the main drivers for owning the mobile handset. Mobility, immediacy, and instrumentality are found the strongest instrumental motives in predicting the use of cellular phones, followed by intrinsic factors

[36] Leung, L. & Wei, R. (2000), 'More Than Just Talk on the Move: Uses and Gratifications of the Cellular Phone', *Journalism and Mass Communication Quarterly*, Vol. 77, No. 2, pp. 308 - 320

such as affection/sociability. Subscription to functionally enhanced services such as call transfers and caller ID appears to be important predictors for overall cellular phone use, especially for those who are on the go. As expected, the use of cellular phones on buses, cars, and trains or in malls and restaurants is strongly linked to mobility and immediate access gratifications. Further, young and less educated women tend to talk longer on each call. Finally, talking to co-workers and business partners via cellular phones appears to be for instrumental reasons, while talking to immediate family members is for mobility and showing affection.

Requelme (2001)[37] conducted a study on how much self knowledge consumers have when choosing between different telecom service brands. The study was built upon six key attributes (service features, connection fee, access cost, cell to cell phone rates, call rates and free calls) related to mobile. The research showed that consumers with prior experience about a product can predict their choices relatively well, although respondents tended to overestimate the importance of features, call rates and free calls and underestimate the importance of a monthly access fee, mobile to mobile phones rates and the

[37] Requelme, H. (2001), 'Do Consumers Know What They Want?' *Journal of Consumer Marketing*, Vol. 18 (5), pp. 437 - 448.

connection fee. Mobile phone choice and use has also been found to be related to prior consumption style.

Liu (2002)[38] examined the choices between mobile brands in Philippines and studied the factors affecting the brand decision in the mobile industry in Asia. His study concluded that the choice of a cellular phone is characterized by two distinct attitudes to brands: attitude towards the cell phone brand and the attitude towards the service provider brand. While price and service regulations were the leading factors in the choice• of a service provider it was high capability and large screens which were the dominant factors in the choice of a mobile hand set.

According to Wilska (2003)[39] , young people aged 16-20 was surveyed and it was found that mobile phones choice and especially usage is consistent with respondents‟ general consumption styles. The researcher showed that addictive use was common among females and was related to trendy and impulsive consumption styles. Instead, males were found to have more technology enthusiasm and trend – consciousness. These attributes were then linked to impulsive consumption. The study concluded that genders are becoming more alike in telecom

[38]Liu, C-M. (2002), 'The Effects of Promotional Activities on Brand Decision in the Cellular Telephone Industry', *Journal of Product and Brand Management,* Vol. 11(1), pp. 42 - 51.

[39] Wilska, T-A. (2003), 'Mobile Phone Use as Part of Young People's Consumption Styles', *Journal of Consumer Policy,* Vol.26 (4), pp. 441 - 463.

service choice. Because individual differences in consumption patterns are obviously identifiable.

Kim (2004) [40] conducted a study on 'The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile communication services', concluded that service providers must focus on service quality and offer customer-oriented services to increase the level of customer satisfaction. The authors had also traced certain other factors such as low co [41] st, and interpersonal relationships affecting the switching barrier. It was suggested that service providers must increase the switching cost in order to increase the customer life time value and customer retention.

Karjaluoto (2005) examined consumers' choice criteria in mobile phone markets in Finland, focusing on factors that influence intention to acquire new mobile phones on one hand and factors that influence mobile phone change on the other. With the use of a series of focus group interviews with 79 graduate students in one study, followed by another survey of 196 respondents, the authors found that although the choice of a

[40] Kim, M-K., Park, M-C, & Jeong, D-H (2004), 'The Effect of Customer Satisfaction and Switching Barrier on Customer Loyalty in Korean Mobile Telecom Services', *Telecommunication policy*, Vol. 28 (2), pp. 145 -149.

[41] Karjaluoto, et,al (2005),'Factors Affecting Consumer Choice of Mobile Phones: Two Studies from Finland', *Journal of Euro marketing*, Vol.14 (3), pp. 59 - 82.

mobile phone is a subjective choice situation, there are some general factors that seem to guide the choices. The studies classified the factors into seven categories: innovative services, multimedia, design, brand and basic properties, outside influence, price and reliability. The authors found that factor innovative services and factor multimedia were the most important factors that affect mobile phone choice. The authors also found from the two studies that while technical problems were the basic reason to change mobile phone among students; price, brand, interface, and properties were the most influential factors affecting the actual choice between brands.

Banumathy et.al (2006) [42] found out that majority of respondents form the services provided by the mobile services. The important reasons for choosing cell phone are facility to identify the missed calls, more convenience and low cost. The level of satisfaction among the consumers is found to be as higher in the case of Aircel and BSNL, whereas, it is lesser in the case of Reliance and Airtel.

[42] Banumathy, S & Kalaivani, S (2006), 'Customers' Attitude towards Cell Phone Services in Communication System', *Indian Journal of Marketing*, 36(30), pp. 31-36.

Chinnadurai et.al (2006)[43] in their study '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 focusing companies to change their targeting strategies. It was found that advertisement play a dominant role in influencing customers but most of the customers are of opinion that promotional strategies of cellular companies are more sales oriented rather than customer oriented.

Ray (2007)[44] analyzed that Vodafone's presence in the Indian market can augur a new marketing statement for all telecom operators. Multi National Corporations (MNCs) must understand the working environment of different countries. Many companies have failed to understand the cross-cultural management system they prevailed there. This wouldn't create a problem for Vodafone, as it has been able to understand the Indian market to a great extent through participation in stock in Airtel for the past couple of years. In Airtel, it holds some shares but is not involved in management. Now it is a company with huge presence in the Indian market. Vodafone's immediate

[43] Chinnadurai, M & Kalpana, B. (2006), 'Promotional Strategies of Cellular Services: A Customer Perspective', *Indian Journal of Marketing*, Vol. 36, No. 5, p. 29.

[44] Ray, B. (2007), 'Vodafone in the Indian Telecom Market Issues and Challenges', Marketing Mastermind, p: 19.

agenda should include new customer acquisition, acquiring new circles, strategic alliance with the BSNL for network and strong emphasis on customer retention. Vodafone's global experience should help the company do things right in all directions and aspects. Vodafone will succeed or fail in the Indian telecom market.

Singh et.al (2007)[45] found that, after the liberalization of the telecom policy in 1994, the telecom sector was one of the sectors to be opened for private players. Entry of new players in this sector has made selection of cellular services difficult for consumers. The survey results identified certain factors influencing customer's behaviour while selecting service options but the degree of importance of each factor varies. The findings of this survey are also beneficial for service providers both existing as well as new, to design their promotional strategies accordingly.

Oyeniyi, et.al (2008)[46] in their study titled 'Customer Service in the Retention of Mobile Phone Users in Nigeria', observed that customer service has received considerable

[45] Singh, F & Sharma, R. (2007),'Cellular Services and Consumer Buying behaviour in Amritsar City', *The ICFAI Journal of Consumer Behaviour*, Vol. 2, No.3, pp. 39 - 51.

[46] Oyeniyi, Omotayo & Joachim, A.A (2008), 'Customer Service in the Retention of Mobile Phone Users in Nigeria', *African Journal of Business Management*, Vol. 2 (2), pp. 26 – 31.

attention in marketing literature. This paper attempts to find the relationship between customer services on customer retention in telecommunication industry in Nigeria. If retention is not managed, customer's loyalty may be lost. This study examined the potential constructs in customer retention by investigating the chain of effects of retention from customer service, satisfaction, value and behavioural intention. The hypotheses are supported except that a higher level of customer satisfaction does not lead to customer loyalty.

Roach (2009)[47] studied consumer perceptions on mobile phone marketing. Through the application of constructs adapted from traditional innovation and product involvement research, the study examined how a consumer's perception of the relative advantages, compatibility and complexity associated with mobile phone marketing, and their involvement with their mobile phone, influenced their intention to accept marketing communication sent via this channel. For this study a deductive, quantitative research approach was adopted, where data was collected using a self-completed questionnaire administered to a sample of 254 university students. Statistical analysis revealed that a consumer's perceptions of two of the three innovation attributes tested

[47] Roach, G (2009), 'Consumer Perceptions of Mobile Phone Marketing: A Direct Marketing Innovation', *Direct Marketing: An International Journal*, Vol. 3 (2), pp. 124 - 138.

(relative advantage and compatibility) were significantly associated with their acceptance (or adoption) of marketing messages sent via their mobile phone. However, a slightly weaker relationship between a consumer's level of involvement with their mobile phone and their adoption of mobile phone marketing was found.

Singla et.al (2010)[48] in their study, key attributes that influence mobile phone purchasing between Sangrur and Ludhiana consumers in India were identified and compared. The samples were collected from 795 consumers from Ludhiana and Sangrur Districts. According to the authors, mobile phone users wanted their handsets to be loaded with multiple functions, entertainment being the most important among them. They wanted their mobile phones to be fully loaded with top end features, but at the same time they wanted all these at affordable costs.

Paulrajan et.al (2011)[49] focussed a study on 'Service Quality and Customers Preference of Cellular Mobile Service Providers'. This study was made with an objective to understand

[48] Singla, S & Bansal, S. (2010), 'A Study on the Factors Affecting Choice Criteria of Consumers for Mobile Handsets - A Comparative Analysis in Ludhiana and Sangrur Districts', *Asian Journal of Management Research*, Vol.2 (1), pp.443 - 456.

[49] Paulrajan, R. & Rajkumar, H. (2011), 'Service Quality and Customers Preference of Cellular Mobile Service Providers', *Journal of Technology Management and Innovation*, Vol. 6(1), pp. 33 - 45.

the Indian consumers' perception choice in selecting cellular mobile telecommunication service providers. Consumers' perception is widely varied in accordance with the communication quality, call service, facilities, price, customer care and service provider's attributes. A structured questionnaire was developed to collect the required primary data from the consumers. Collected data were analyzed; reliability and factor analysis were carried out. The outcome of this research shows a comprehensively integrated framework to understand the relationships among several dimensions. The study shows communication and price were most influential and most preferential factors in selecting telecommunication service provider. However, product quality and availability has a significant impact on consumer perception choice in selecting cellular mobile service provider.

Shah (2012) [50] in 'Consumer Preferences for Mobile Service Providers: An Empirical Study in Bardoli' mentioned that huge competitions, advancement in technology and reduced tariff have propelled the growth of mobile services in India. In the last five years, the industry has made tremendous growth in terms of subscriber base. Today, cell phones have become

[50] Shah, C. (2012), 'Consumer Preferences for Mobile Service Providers: An Empirical Study in Bardoli', *International Journal of Marketing and Technology*, Vol. 2(8), pp. 269 - 288.

indispensable for people and moved beyond their fundamental role of communication. They have become a major source for gaming, getting information, shopping, banking, entertainment and much more. Since the Indian Mobile Service Provider (MSP) market is overcrowded, customers have many choices of MSPs. Nowadays; customers have become smarter and consider various factors before choosing an MSP. Therefore, it is really important and beneficial for the marketers of MSPs to understand and analyse the preferences of customers. By using factors analysis, this paper highlights the factor considered by the customers to shape their preference for MSP. Further, the study evaluates the impact of motivators on subscription decision for a particular service operator, and gives a guideline to the marketers of MSPs to increase their subscriber base.

Anbhule (2013) [51] conducted 'A Critical Study of Consumer Preferences Regarding Selected Mobile Handsets in Pune City' and observed that, today, there is increased use of mobile phones by most of the people. Increased use may be due to easy exchange of information and convenient communication. The purpose of this study is to find out the preference criteria of consumers for particular mobile handset. Also the aim of the

[51] Anbhule, H.A. (2013), 'A Critical Study of Consumer Preferences Regarding Selected Mobile Handsets in Pune City', *Indian Journal of Applied Research*, Vol. 3(3), pp. 251 - 253.

study is to find out the relation between age of respondents and mobile preference. For this study, 50 respondents are selected having 6 different age groups. For the analysis of the study, only 6 brands of mobile handsets are selected and chi – square test is used with the help of SPSS to know the relationship between age of respondents and mobile brand preference. The sample design adopted for the research problem is convenience random sampling. In order to achieve the objectives of the study, the primary data as well as secondary data is collected. The primary data for the study was collected from target respondents through structured questionnaire and personal interviews. The secondary data was collected from various sources such as technical and trade journals, articles, journals, books, magazines, newspapers internet and publications of associations related to mobile phone manufactures. Result of the study shows that there is significant relationship between age of respondents and mobile brand preference.

Oyatoye, et.al (2013)[52] examined Consumers Preference for Mobile Telecommunication Attributes in Nigeria and the study empirically analyzed consumers' preference for mobile telecommunication attributes in Nigeria, using conjoint analysis.

[52] Oyatoye, et.al (2013), 'An Empirical Study on Consumers Preference for Mobile Telecommunication Attributes in Nigeria', *British Journal of Economics, Management and Trade*, Vol. (4), pp. 419 - 428.

Survey design, through 200 dedicated mobile phone users, were conveniently sampled in Yaba and Akoka environs of Lagos State for the conjoint study. They ranked telecommunication services profiles with 18 eighteen combinations, using 1 and 18 to indicate highest and lowest preference, respectively, and different combinations of attributes for their preferences. Orthogonal methods were used to design 18 cards that were used for the interview and which were ranked by respondents (phone users). They were then analyzed with the use of Ordinary Least Squares (OLS) regression, with the aid of Statistical Package for Social Sciences (SPSS). The result shows cost attribute, the adjusted part-worth for the low, moderately and high levels, respectively, as follows: -2.396 - 10.204 = -12.600; 12.99 - 10.204 = 2.785; and 10.205 -10.205 = 0 which was consistent with economic theory. The mobile telecom users in the study area prefer a mobile service with a lower cost to one with a higher cost. The study concluded that telecom service providers in Nigeria should strive harder to improve services where the customers' preferences lie: affordable service, wide coverage, followed by clarity of call, being the most desirable attributes by consumers, rather than undirected promotional strategies that hardly aid loyalty of customers to their network only while also involving huge costs.

Juwaheer, et.al (2014)[53] explores the various factors that influence the selection of mobile phones among young customers in Mauritius. The study also investigates the relative significance of these factors in determining the selection of mobile phones in Mauritius. It reports the empirical findings of a customer survey on the various factors impacting on the selection of mobile phones by the questionnaire method. The Mobile Phone Selection Model (MOPSM) is further validated through a survey instrument administered to 150 young mobile phone users. The questionnaires were further processed and analyzed with the statistical programme SPSS, via descriptive and inferential analysis. The analysis has revealed that young customers have identified pricing as a key determinant when selecting mobile phones. The results also suggest that top-of-mind awareness and perceived brand value are key factors contributing to mobile phone selection. Mobile phone features and young consumers' lifestyles also impact on mobile phone selection. Further examination of the inferential analyses has revealed that significant relationships exist between mobile phone selection and the demographics of the young consumer segment.

[53] Juwaheer, et.al (2014), 'Factors Influencing The Selection of Mobile Phones in Among Young Customers in Mauritius', *International Journal of Innovation and Knowledge Management in Middle East and North Africa*, Vol. 3(1), pp. 65 - 92.

Gupta (2015) [54] examined 'Perception of Customers towards Cellular Phone Services' and pointed out that mobile phone services are becoming more and more significant throughout the world due to technological changes. The success of the mobile phone service providers depends upon satisfaction level of consumers. He mentioned that it has become more important for the mobile phone companies to meet the current market conditions and expectations of the customers. Customers perceive services in terms of the quality of the service and how satisfied they are overall with their experiences. Therefore, the perception is to be studied so that their preferences may be known and their desires may be fulfilled.

By keeping the content and meaning of the analyzed review of literature in mind, it was observed that there is no systematic study on consumers' preference to service providers of cellular industry pertaining to Aizawl city. This is the gap identified by the researcher. In order to fulfill this gap, the present study was undertaken.

[54] Gupta, P (2015), 'Perception of Customers towards Cellular Phone Services', *International Journal of Informative and Futuristic Research (IJIFR)*, Vol. 2, Issue 7, pp. 2023 - 2033.

CHAPTER 3

DEVELOPMENT OF TELECOM INDUSTRY IN INDIA

3.1 INTRODUCTION

Communication has become an essential infrastructure for socio-economic development and the growth of communications media accelerated the pace of social interaction, migration, commerce, and government activities. Telecom services have reached in all parts of the country which become fundamental to development of an innovative and technologically driven society. Studies have shown that there is a positive correlation between the penetration of Internet and Mobile Services on the growth of Gross Domestic Product (GDP) of a country. As a result of the measures taken by the Government over the years, the Indian Telecom Sector has grown exponentially and has become the second largest network in the world, next only to China. The number of telephones increased from 996.13 million in the beginning of the financial year to 1036.57 million at the end of December, 2015.

3.2 TELECOMMUNICATION IN INDIA

3.2.1 History of Telecommunication

Telecom in the real sense means transfer of information between two distant points in space. The popular meaning of telecom always involves electrical signals and nowadays people exclude postal or any other raw telecommunication methods from its meaning. Therefore, the history of Indian telecom can be started with the introduction of telegraph.

3.2.2 The Beginning

The Indian postal and telecom sectors are one of the world's oldest. In 1850, the first experimental electric telegraph line was started between Calcutta and Diamond Harbour. In 1851, it was opened for the use of the British East India Company. The Posts and Telegraphs department occupied a small corner of the Public Works Department, at that time.

Subsequently, the construction of 4,000 miles (6,400 km) of telegraph lines was started in November 1853. These connected Kolkata (then Calcutta) and Peshawar in the north along with Agra, Mumbai (then Bombay) through Sindwa

Ghats, and Chennai (then Madras) in the south as well as Ootacamund and Bangalore was started in November 1853.William O Shaughnessy, who pioneered the telegraph and telephone in India belonged to the Public Works Department and worked towards the development of telecom throughout this period. A separate department was opened in 1854 when telegraph facilities were opened to the public. In 1880 two telephone companies namely the Oriental Telephone Company Limited and the Anglo Indian Telephone Company Limited approached the Government of India to establish telephone exchange in India. The permission was refused on the grounds that the establishment of telephones was a Government monopoly and that the Government itself would undertake the work. In 1881, the Government later reversed its earlier decision and a licence was granted to the Oriental Telephone Company Limited of England for opening telephone exchanges at Calcutta, Bombay, Madras and Ahmedabad and the first formal telephone service was established in the country.

On 28th January 1882, Major E. Baring, Member of the Governor General of India's Council declared open the Telephone Exchanges in Calcutta, Bombay and Madras. The

exchange in Calcutta named the "Central Exchange" had a total of 93 subscribers in its early stage. Later that year, Bombay also witnessed the opening of a telephone exchange.

3.2.3 Further Developments and Milestones

- Pre-1902 – Cable telegraph.
- 1902 – First wireless telegraph station established between Sagar Island and Sand head.
- 1907 – First Central Battery of telephones introduced in Kanpur.
- 1913 – 1914 - First Automatic Exchange installed in Shimla.
- 1927 – Radio-telegraph system between the UK and India, with Imperial Wireless Chain beam stations at Khadki and Daund. Inaugurated by Lord Irwin on 23rd July by exchanging greetings with King George V.
- 1933 – Radiotelephone system inaugurated between the United Kingdom and India.
- 1953 – 12 channel carrier system introduced.
- 1960 – First subscriber trunk dialing route commissioned between Lucknow and Kanpur.
- 1975 – First Pulse Code Modulation (PCM) system commissioned between Mumbai city and Andheri telephone exchanges.

- 1976 - First digital microwave junction.
- 1980- First satellite earth station for domestic communications established at Sikandrabad (Uttar Pradesh - Noida Sector 62 Supply chain Management System (SCMS).
- 1983 – First analogue stored programme control exchange for trunk lines commissioned at Mumbai.
- 1984 – Centre for Development of Telematics (C-DOT) established for indigenous development and production of digital exchanges.
- 1995 – First mobile telephone service started on non-commercial basis on 15th August 1995 in Delhi.
- 1995 – Internet Introduced in India starting with Laxmi Nagar, Delhi on 15th August 1995.

3.2.4 Development of Broadcasting

Radio broadcasting was initiated in 1927 but became state responsibility only in 1930. In 1937, it was the name, All India Radio and since 1957 it has been called Akashvani. Limited duration of television programming began in 1959 and complete broadcasting followed in 1965. The Ministry of Information and Broadcasting owned and maintained the audio-visual apparatus including the television channel Doordarshan in

the country prior to the economic reforms of 1991. In 1997, an autonomous body was established in the name of Prasar Bharti to take care of the public service broadcasting under the Prasar Bharti Act. All India Radio and Doordarshan, which earlier were working as media units under the Ministry of Information and Broadcasting became constituents of the body.

3.2.5 Pre-Liberalization Statistics

While all the major cities and towns in the country were linked with telephones during the British period, the total number of telephones in 1948 numbered only around 80,000. Post independence growth remained slow because the telephone was seen more as a status symbol rather than being an instrument of utility. The number of telephones grew leisurely to 980,000 in 1971, 2.15 million in 1981 and 5.07 million in 1991, the year economic reforms were initiated in the country.

3.2.6 Liberalization and Privatization

Liberalization of Indian telecommunication industry started in 1981 when Prime Minister Indira Gandhi signed contracts with Alcatel Centre for Information (CIT) of France to merge with the state owned Telecom Company known as Indian

Telephone Industries Limited (ITI), in an effort to set up 5,000,000 lines per year. But soon the policy was let down because of political opposition.

Attempts to liberalize the telecommunication industry were continued by the following government under the prime minister ship of Rajiv Gandhi. He invited Sam Pitroda, a United States (US) based Non-Resident Indian (NRI) and a former Rockwell International executive to set up a Centre for Development of Telematics (C-DOT) which manufactured electronic telephone exchanges in India for the first time. Sam Pitroda had a significant role as a consultant and adviser in the development of telecommunication in India. In 1985 the Department of Telecommunications (DoT) was separated from Indian Postal and Telecommunication Department. Department of Telecommunications (DoT) was responsible for telecom services in entire country until 1986 when Mahanagar Telephone Nigam Limited (MTNL) and Videsh Sanchar Nigam Limited (VSNL) were carved out of Department of Telecommunications (DoT) to run the telecom services of metro cities (Delhi and Mumbai) and international long distance operations respectively.

The demand for telephones was ever increasing and in the 1990s Indian government was under increasing pressure to open up the telecom sector for private investment as a part of Liberalization, Privatization and Globalization policies that the government had to accept to overcome the severe fiscal crisis and resultant balance of payments issue in 1991. Consequently, private investment in the sector of Value Added Services (VAS) was allowed and cellular telecom sector were opened up for competition from private investments. It was during this period that the Narsimha Rao led Government introduced the National Telecom policy (NTP) in 1994 which brought changes in the following areas: ownership, service and regulation of telecommunications infrastructure. The policy introduced the concept of telecommunication for all and its vision was to expand the telecommunication facilities to all the villages in India.

Liberalization in the basic telecom sector was also envisaged in this policy. They were also successful in establishing joint ventures between state owned telecom companies and international players. Foreign firms were eligible to 49 per cent of the total share. The multi-nationals were just

involved in technology transfer and not policy making. During this period, the World Bank and International Telecommunication Union (ITU) had advised the Indian government to liberalize long distance services to release the monopoly of the state owned Department of Telecommunications (DoT) and Videsh Sanchar Nigam Limited (VSNL) and to enable competition in the long distance carrier business which would help to reduce tariff's and better the economy of the country. The Rao run government instead liberalized the local services, taking the opposite political parties into confidence and assuring foreign involvement in the long distance business after 5 years. The country was divided into 20 telecommunication circles for basic telephony and 18 circles for mobile services. These circles were divided into category A, B and C depending on the value of the revenue in each circle. The government threw open the bids to one private company per circle along with government owned Department of Telecommunications (DoT) per circle. For cellular service two service providers were allowed per circle and a 15 years licence was given to each provider. During all these improvements, the government did Global System Mobile for Communications (GSM) face oppositions from Indian Telephone Industries (ITI),

Department of Telecommunications (DoT), Mahanagar Telephone Nigam Limited (MTNL), Videsh Sanchar Nigam Limited (VSNL) and other labour unions, but they managed to keep away from all the hurdles.

In 1997, the government set up Telecom Regulatory Authority of India (TRAI) which reduced the interference of government in deciding tariffs and policy making. The political powers changed in 1999 and the new government under the leadership of Atal Bihari Vajpayee was more pro-reforms and introduced better liberalization policies. In 2000, the Vajpayee government constituted the Telecom Disputes Settlement and Appellate Tribunal (TDSAT) through an amendment of the Telecom Regulatory Authority of India (TRAI) Act, 1997.

The primary objective of Telecom Disputes Settlement and Appellate Tribunal (TDSAT's) establishment was to release Telecom Regulatory Authority of India (TRAI) from adjudicatory and dispute settlement functions in order to strengthen the regulatory framework. Any dispute involving parties like licensor, licensee, service provider and consumers are resolved by Telecom Disputes Settlement and Appellate Tribunal (TDSAT). Moreover, any direction, order or decision

of Telecom Regulatory Authority of India (TRAI) can be challenged by appealing in Telecom Disputes Settlement and Appellate Tribunal (TDSAT).

The government corporatized the operations wing of Department of Telecommunications (DoT) on 1st October 2000 and named it as Department of Telecommunication Services (DTS) which was later named as Bharat Sanchar Nigam Limited (BSNL). The proposal of raising the stake of foreign investors from 49 per cent to 74 per cent was rejected by the opposite political parties and leftist thinkers. Domestic business groups wanted the government to privatize Videsh Sanchar Nigam Limited (VSNL). Finally in April 2002, the government decided to cut its share of 53 per cent to 26 per cent in Videsh Sanchar Nigam Limited (VSNL) and to throw it open for sale to private enterprises. Tata finally took 25 per cent stake in Videsh Sanchar Nigam Limited (VSNL).

This was a gateway to many foreign investors to get entry into the Indian Telecom markets. After March 2000, the government became more liberal in making policies and issuing licences to private operators. The government further reduced licence fees for cellular service providers and increased the

allowable stake to 74 per cent for foreign companies. Because of all these factors, the service fees finally reduced and the call costs were cut greatly enabling every common middle class family in India to afford a cell phone. Nearly 32 million handsets were sold in India. The data reveals the real potential for growth of the Indian mobile market.

Many private operators such as Reliance Communications, Tata Indicom, Vodafone, Loop Mobile, Airtel, Idea etc., successfully entered the high potential Indian telecom market. In March 2008, the total Global System Mobile Communication (GSM) and Code Division Multiple Access (CDMA) mobile subscriber base in the country was 375 million, which represented a nearly 50 per cent growth when compared with previous year. As the unbranded Chinese cell phones which do not have International Mobile Equipment Identity (IMEI) numbers pose a serious security risk to the country. Mobile network operators therefore suspended the usage of around 30 million mobile phones (about 8 per cent of all mobiles in the country) by 30th April. Phones without valid International Mobile Equipment Identity (IMEI) cannot be connected to cellular operators. 5 - 6 years the average monthly subscribers

additions were around 0.05 to 0.1 million only and the total mobile subscribers base in December 2002 stood at 10.5 millions. However, after a number of proactive initiatives taken by regulators and licensors, the total number of mobile subscribers has increased rapidly to over 929 million subscribers as of May 2012. India has opted for the use of both the Global System for Mobile Communications (GSM) and Code Division Multiple Access (CDMA) technologies in the mobile sector. In addition to landline and mobile phones, some of the companies also provide in Wireless Local Loop (WLL) service. The mobile tariffs in India have also become lowest in the world. A new mobile connection can be activated with a monthly commitment of US$0.15 only. In 2005 alone additions increased to around 2 million per month in 2003 - 04 and 2004 - 05.

3.3 PRESENT STATUS OF TELECOM INDUSTRY IN INDIA

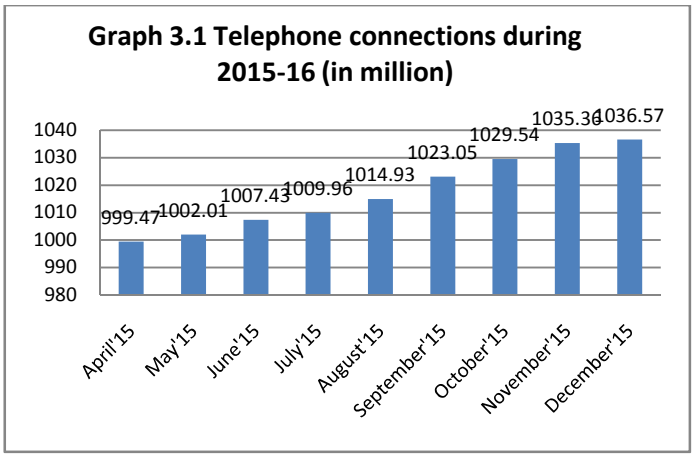
According to the Annual Report (2015-16) of Department of Telecommunications, Government of India;

- Indian telecom network is the second largest in the world after China, in terms of the number of telephone connections.

- The country has 1036.57 million telephone connections, including 1011.05 million wireless telephone connections.
- Overall tele-density in the country is 81.85%.
- Urban tele-density is 152.57 Per cent, whereas rural tele-density is 49.82 %.
- The share of wireless telephones in total telephones is 97.54%.
- The share of private sector in total telephones is 89.88 %.
- Number of Broadband connections is 131.49 million.

The Chart below indicates the number of connections at the end of each month during the year 2015-16 is as follows:

Graph 3.1 Telephone Connections (in Millions)



Source: Annual Report of Telecommunication (2015- 2016)

3.3.1 Wire Line vs. Wireless

While the wireless telephones continued to grow, the landline telephones kept declining. The landline telephone

connections are now 25.52 million and the number of wireless telephone connections has grown to 1011.05 million at the end of December, 2015. As a result, the share of wireless telephones increased to 97.54% of total services. The ever-expanding demand for wireless services has propelled the telecom sector to create sustainable resources to meet such requirements.

3.3.2 Public vs. Private

Another noteworthy feature of the Indian Telecom Sector is the continuous rise in the number of telephones of the private sector operators. At the end of December, 2015, the total number of telephone connections provided by the private sector increased to 931.63 million and number of telephone connections provided by the public sector stood at 104.94 million. The share of private sector in the total number of connections increased to 89.88% at the end of December, 2015, over public sector share of 10.12% during the same period. In present scenario, the private sector has a dominant position in Telecom Sector (Table).

Table 3.1: Telecom Development Indicators

Sl. No	Item			At the end of			
			March '13	March '14	March '15	December' 14	December '15
1.	Number of Telephones (in million)	Overall	898.02	933.02	996.13	971.01	1036.57
2.		Wireline	30.21	28.50	26.59	27.00	25.52
3.		Wireless	867.81	904.52	969.54	944.01	1011.05
4.		Rural	349.21	377.78	416.08	398.73	434.23
5.		Urban	548.80	555.23	580.05	572.28	602.34
6.	Tele-density (Telephones per 100 persons)	Overall	73.32	75.23	79.36	77.59	81.85
7.		Rural	41.05	44.01	48.04	46.14	49.82
8.		Urban	146.64	145.46	149.04	147.75	152.57
9.	Percentage share	Wireless	96.64	96.95	97.33	97.22	97.54
10.		Public	14.49	12.87	10.07	10.85	10.12
11.		Private	85.51	87.13	89.93	89.15	89.88
12.	Percentage growth of Total Telephones over previous year		(-)5.61	3.90	6.76	4.07	6.75

%age growth of Total Telephones in respect of December, 2015 – over December, 2014 i.e. 12 months.

Source: Annual Reports, Department of Telecommunications, Ministry of Communications & Information Technology, Government of India, New Delhi.

3.3.3 Tele-density

Tele-density or Telephone density is the number of telephone connections for every hundred individuals living within an area which is an indicator of telecom penetration in the country. Tele-density in India, which was 79.36% as on April 1,

2015, increased to 81.85% at the end of December, 2015. The rural tele-density increased from 48.04% to 49.82% per cent during this period. Urban tele-density, maintained its upward trend (higher than the rural tele-density) from 149.04% to 152.57% during this period. Amongst the Service Areas, Himachal Pradesh (124.54%) had the highest tele-density followed by, Tamil Nadu (117.27%), Punjab (104.15%), Karnataka (102.33%) and Kerala (100.52%). On the other hand, the service areas such as Bihar (52.55%), Assam (55.22%), West Bengal (61.40%), Madhya Pradesh (63.07%), Uttar Pradesh (63.51%) and Odisha (65.69%) have comparatively low tele-density. Amongst the three metros of Delhi, Kolkata and Mumbai, Delhi Service Area tops in tele-density with 240.93% tele-density, followed by Kolkata (160.30%) and Mumbai (149.45%).

3.3.4 National Telecom Policy 2012 (NTP 2012)

The Government announced National Telecom Policy 2012 (NTP) in 2012. The main objectives of the policy, inter-alia, include increase in rural tele-density to 70 per cent by the year 2017 and 100 per cent by the year 2020, 175 million broadband connections by 2017 and 600 million by the year

2020 at minimum 2 mega byte per second (Mbps) download speed and making available higher speeds of at least 100 mega byte per second (Mbps) on demand. Pursuant to National Telecom Policy 2012 (NTP), unified licence, merger and acquisition guidelines, clarity on spectrum pricing and auction are major initiatives taken by the Government to boost investment and employment opportunities in the telecom sector.

3.3.5 Unified License

With a view to achieve the objective of National Telecom Policy 2012 (NTP 2012) to create one nation - one license across services and service areas, the Department of Telecommunications (DoT) has issued guidelines on Unified License. As per these guidelines, the allocation of spectrum is de-linked from the license and has to be obtained separately as per prescribed procedure i.e. bidding process. Only one Unified License is required for all telecom services in entire country. In addition, authorization for various services (like access services, National Long Distance Services, International Long Distance Services, Internet Service Provider (ISP) services will be required separately. Single authorization for Unified License (All services) category would cover all telecom services except

Internet Service Provider (B) (ISP (B)) and Internet Service Provider (C) (ISP (C)) services. The tenure of such authorization will run concurrently with the Unified License. Also, the entry fee for various telecom services has been reduced substantially.

3.3.6 Merger and Amalgamation Policy

A revised policy for merger and amalgamation of companies holding various licenses for telecom services has been issued on 20th February 2014. This will facilitate transfer of license consequent to merger, amalgamation and acquisition of various companies for different services in different service areas. The market share limit for transfer and merger of licenses has been increased to 50 per cent from existing 35 per cent i.e. merger will be allowed where the market share of the combined entity in the respective service area is up to 50 per cent.

3.3.7 Spectrum Auction

National Telecom Policy 2012 (NTP) envisages adequate availability of spectrum and its allocation in a transparent manner through market related process. Auction of spectrum in 900 mega hertz (MHz) band and 1800 mega hertz (MHz) band was conducted during February 2014. In the category of

spectrum 1800 mega hertz (MHz) band, 307.2 mega hertz (MHz) out of 385.2 mega hertz (MHz) was sold. In 900 mega hertz (MHz) band, 46 mega hertz (MHz) spectrum was put for auction in Delhi, Mumbai and Kolkata service areas and all spectrums was sold out. The total amount of $ 61162 crore obtained through auction of spectrum was 27.6 per cent more than the value of the spectrum on offer at reserve price.

3.3.8 Foreign Direct investment (FDI) Policy

To attract Foreign Direct investment (FDI) inflow and make the sector more attractive and investor friendly, Government raised Foreign Direct investment (FDI) limit for the telecom services from 74 per cent to 100 per cent on 22nd August 2013. This measure will facilitate telecom licensees to consolidate equity and raise domestic as well as foreign debt from the market. Telecommunication and telecom services have been included under Harmonized Master list of infrastructure sub-sector and qualify for infrastructure lending. Reserve Bank of India has also expanded the existing definition for infrastructure sector for the purpose of availing External Commercial Borrowing (ECB).

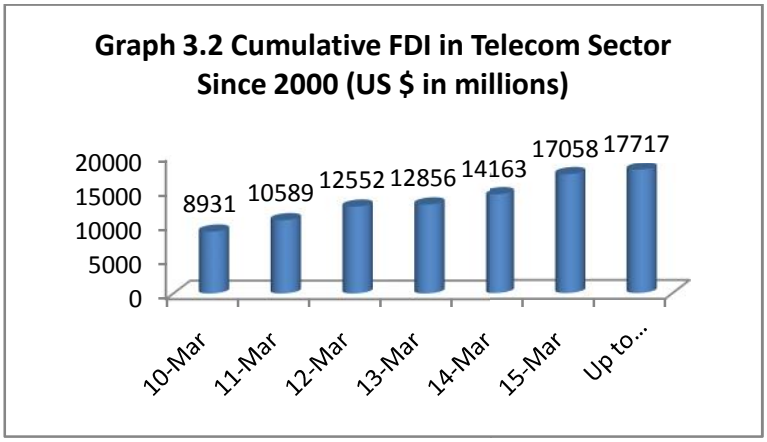
3.3.9 Foreign Direct investment (FDI) Inflow

Actual inflow of Foreign Direct investment (FDI) in Telecom Sector from April 2000 to March 2014 is US $14,163 million. The Cumulative Foreign Direct investment (FDI) data for last four years and current year is as under

Table No. 3.2: Cumulative FDI in Telecom Sector Since 2000

Up to Year Ending	Cumulative FDI (US $ in millions)
March 10	8931
March 11	10589
March 12	12552
March 13	12856
March 14	14163
March 15	17058
Up to September	17717

Source: Annual Report of Telecommunication (2015- 2016)



3.3.10 Universal Service Obligation Fund (USOF)

To give impetus to the rural telephony, the Government in June 2002 established a Universal Service Obligation Fund (USOF) by an Act of Parliament. Subsequently the scope of Universal Service Obligation Fund (USOF) was widened to provide subsidy support for enabling access to all types of telegraph services including mobile services, broadband connectivity and creation of infrastructure like optical fiber in rural and remote areas. Therefore, various schemes have been launched by Universal Service Obligation Fund (USOF) for provision of telecom services in rural and remote areas of the country. The Universal Access Levy (UAL) collection in 2014-2015 was 1869.68 crore and subsidy disbursed during the given period was 1781.93 crore. The UAL amount of 26678.43 crore has been utilized till 31st December, 2014. The Fund balance is `41834.10 crore as on December 31, 2015 with resources raised via universal levy to the tune of `70120.03 crore out of which an amount of `21337.29 crore has been disbursed as subsidy support, so far.

3.3.11 National Optical Fiber Network (NOFN)

The optical fiber has predominantly reached state capitals, districts and blocks. To connect all 2.5 lakh Gram panchayats in the country, Government approved a project called 'National Optical Fiber Network'. Non-discriminatory access to the network will be provided to all the telecom service providers like mobile, Internet and cable TV in rural areas. The project is being executed by a Special Purpose Vehicle (SPV), namely, Bharat Broadband Networks Limited (BBNL). Three pilot projects have been completed to cover all 59 gram panchayats of Araian Block in Ajmer District (Rajasthan), Panisagar Block in North Tripura and Paravada Block in Vishakapatnam (Andhra Pradesh). The amount disbursed under the project till the end of December 2014 is 2010.00 crore. The National Optical Fiber Network (NOFN) project is likely to be completed by December 2016.

3.3.12 Mobile Communication Services in Left Wing Extremism affected areas

Government, on August 20, 2014, approved a project to provide Mobile Services in 2199 locations in Left Wing Extremism (LWE)-affected areas, identified by Ministry of

Home Affairs, in the States of Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Maharashtra, Madhya Pradesh, Odisha, Telangana, Uttar Pradesh and West Bengal. The scheme is being executed by Bharat Sanchar Nigam Limited (BSNL). 1288 sites are connected as on December 31, 2015.

3.3.13 Rural Wire-line Broadband Scheme

For providing wire-line broadband connectivity up-to village level in rural and remote areas, USOF signed an agreement with BSNL under the Rural Wire-line Broadband Scheme to provide wire-line broadband connectivity to rural and remote areas by leveraging the existing rural exchanges infrastructure and copper wire-line network. The speed of each of the broadband connections shall be at least 512 Kbps. It is estimated that there are about 55,669 villages in the country that do not have mobile coverage. Providing mobile coverage to the 8621 uncovered villages in the North Eastern Region (NER) has been included as part of Comprehensive Telecom Development Plan for NER.

3.3.14 Regulatory Framework

The Telecom Regulatory Authority of India (TRAI) has always endeavored to encourage greater competition in the telecom sector together with better quality and affordable prices in order to meet the objectives of National Telecom Policy (NTP)-2012. A number of recommendations on various telecom issues were made by TRAI during 2015-16. TRAI has also taken steps to ensure the quality of service provided by the service providers by way of monitoring the performance of Basic and Cellular Mobile Telephone Service on quarterly basis and Point of Interconnection (POI) congestion on monthly basis. The regulatory measures taken by TRAI facilitate orderly growth of telecom sector by promoting healthy competition and enhancing investment efficiency besides protecting the interest of consumers.

3.4 TELECOM REGULATORY AUTHORITY OF INDIA

The Telecom Regulatory Authority of India (TRAI) was established under the TRAI Act 1997. Subsequently, Broadcasting and Cable Services were also brought within the definition of 'telecommunication service'. The mission of Telecom Regulatory Authority of India (TRAI) is to ensure that

the interests of consumers are protected and at the same time to nurture conditions for growth of telecommunications, broadcasting and cable services in a manner and at a pace which will enable India to play a leading role in the emerging global information society. TRAI has played catalystic role in the development of the telecom, broadcasting and cable services. It has been its endeavour to provide an environment, which is fair and transparent, encourages competition, promotes a level-playing field for all service providers, protects the interest of consumers and enables technological benefits to one and all. Under the Telecom Regulatory Authority of India (TRAI) Act, 1997, Telecom Regulatory Authority of India (TRAI) is mandated, inter-alia, to ensure compliance of the terms and conditions of license, lay down the standards of quality of service to be provided by the service providers and ensure the quality of service, specify tariff policy and recommend conditions for entry of new service providers as well as terms and conditions of license to a service provider. An important aspect of TRAI's functions as mandated under the TRAI Act is to make recommendations to the Government on diverse subjects including market structures and entry of new operators in the sector, the licensing framework, management of scarce

resources such as spectrum, consumer safety and security. Under this mandate, several significant policy regulatory recommendations were made during the year.

3.4.1 Financial Data of Telecom Service Sector

Report of the financial data of telecom service sector during July-Sept 2015 as given by Telecom Regulatory Authority of India 2016 is given below:

Table 3.3: Gross Revenue (GR), Adjusted Gross Revenue (AGR), License Fee (LF) & Spectrum Charges

Particulars	Sept-14 (in crore)	June-15 (in crore)	Sept-15 (in crore)	% change over June 15	% change over Sept 14
Gross Revenue(GR)	62447	65030	64996	-0.05	4.08
Adjusted Gross Revenue (AGR)	43230	47134	46257	-1.86	7.00
Pass Through Charges (GR-AGR)	19217	17896	18740	4.71	-2.49
License Fee	3459	3783	3701	-2.18	6.98
Spectrum Usage Charges	1683	1913	1876	-1.97	11.41

Source: TRAI Report 2016

From the above table, we can see that Gross Revenue (GR) declined by 0.05% in Sep-15, whereas on annual basis, it has increased by 4.08%. Adjusted Gross Revenue (AGR) also declined by 1.86% in the Sep-15. Pass through charges increased by 4.71% in the Sep-15 whereas on annual basis it has declined

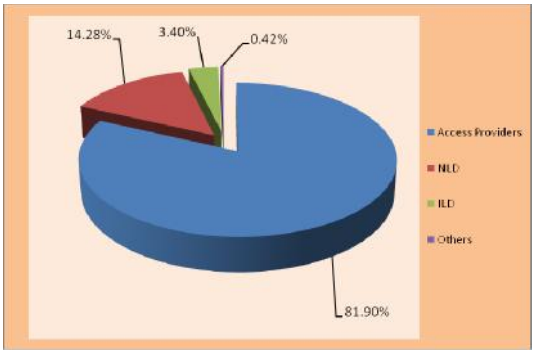
by 2.49%. Pass-through charges as a percentage of Gross Revenue are 28.83% in Sep-15 as against 27.52% in the previous quarter

Table 3.4: Service-wise Gross Revenue, Adjusted Gross Revenue, License Fee and Spectrum Charges

Service	GR	AGR	LF	Spectrum Charges
Access Providers	49157	37882	3031	1872
NLD	8513	6608	529	-
ILD	4120	1573	126	-
Others	3207	194	16	4
Total	**64996**	**46257**	**3701**	**1876**

Source: TRAI Report 2016

Graph 3.3: Composition of Adjusted Gross Revenue



Access services contributed 81.90% to the total Adjusted Gross Revenue (AGR) of telecom services. In Access services, Gross Revenue (GR), Adjusted Gross Revenue(AGR), License Fee and Spectrum Usage Charges(SUC) declined by 1.36%,

1.80%, 1.74% and 1.99% respectively whereas Pass Through Charges increased by 0.18% in QE Sep-15.

Graph 3.4: Trend in ARPU per month for Access Services

Monthly ARPU based on AGR for Access services declined from `128.45 for Q.E. Jun-15 to `124.68 for Q.E. Sep-15. Chart below shows the trend in ARPU.

Table 3.5: Access Services - Service Provider wise Adjusted Gross Revenue (in ` Crore)

Service	Sept-15	June-15	% Change
Bharti	11386.71	11529.45	-1.24
Vodafone	8185.35	8451.13	-3.14
Idea	6857.80	7002.10	-2.06
BSNL	3492.55	3321.29	5.16
Tata	2533.30	2588.35	-2.13
Aircel	1974.08	2006.67	-1.62
Reliance	1633.20	1863.88	-12.38
Telewings	831.34	831.85	-0.06
MTNL	604.56	601.23	0.56
Systema Shyam	331.82	316.24	4.93
Videocon	44.66	51.70	-13.62
Quadrant	--	12.57	--
Grand Jio	6.74	1.93	249.16
Grand Total (Access)	**37882.13**	**38578.39**	**-1.80**

Source: TRAI Report 2016

Public Sector Undertakings' share in the Access AGR of telecom services is 10.82% in Sep-15.

As a result of sustainable measures taken by the Government over the years, the Indian Telecom Sector has grown exponentially and has become the second largest network in the world.

CHAPTER 4

ANALYSIS AND INTERPRETATION OF DATA

4.1 INTRODUCTION

Data analysis is considered to be important step and heart of the research work. It is the process of evaluating data using analytical and logical reasoning to examine each component of the data provided. After collection of data with the help of relevant tools and techniques, data should be analyze and interpret in order to arrive at an empirical solution to the problem.

Data was first edited, coded and tabulated by using graphs, charts, etc. to extract meaningful information from the data given by the respondents. Data analysis is the process of planning the data in an ordered form and then combining them with the existing information and extracting from them. Interpretation is the process of drawing conclusion from the gathered data in the study.

In this chapter, an attempt is made to study the consumers who are using various service providers. Consumers are the most important people for any organization. They are the resource upon which the success of the business depends. Thus, without meeting the consumers' expectations and requirements, no

business could prosper and flourish. In order to fulfill the requirement, a study on the consumers is done to find their preferences and tastes towards various service providers in the market. The sample size cover 160 consumers of different cell phone users from North, East, West and South of Aizawl city which was based on stratified random sampling method. The sample was collected proportionately from the four blocks based on the number of people using cell phones. This chapter also dealt with the socio-economic background in relation to their Gender, Age, Marital Status, Educational Qualification, Occupation and Income and their preferences towards service providers. Gender plays an important role in the preference and usage of a mobile phone. It was found out from the analysis that 54 percent of the respondents are female and 46 percent of respondents are male, thus, majority of the consumers are female subscribers. The use of mobile phone may also vary according to the age of the users. It was observed from the analysis that 10 percent of the respondents are below 20 years, and 42 percent of the respondents lies between the age group of 21-30 years, whereas 22 percent of the respondents lies between 31-40 years, 11 percent of them lies between the age group of 41-50 years, the remaining 15 percent lies between the age group of 50 years and above. Thus the result shows that majority of the consumers' lies

between the age group of 21-30 years. The study also focused on the marital status of the mobile phone subscribers and it was found out that 51 percent of the respondents are unmarried and 49 percent are married. Thus, it was clear from the result that majority of the consumers are unmarried.

4.2 EDUCATION, OCCUPATION AND INCOME PATTERN OF THE RESPONDENTS

Education plays an important role for the development of human civilization. It promotes national unity and uplifts the human society. It is an important factor for distinguishing social class. Under this segment, the consumers are classified according to their educational qualification.

Table 4.1: Level of Education

Level	No. of Respondents	Percent	Cumulative percent
Below Class 10	24	15	15
Class 10	16	10	25
Class 12	29	18	43
Graduate	62	39	82
Post- Graduate	25	16	98
PG & Above	4	2	100
Total	**160**	**100**	

Source: Field Survey 2016

Table 4.1 is also presented in the following graph.

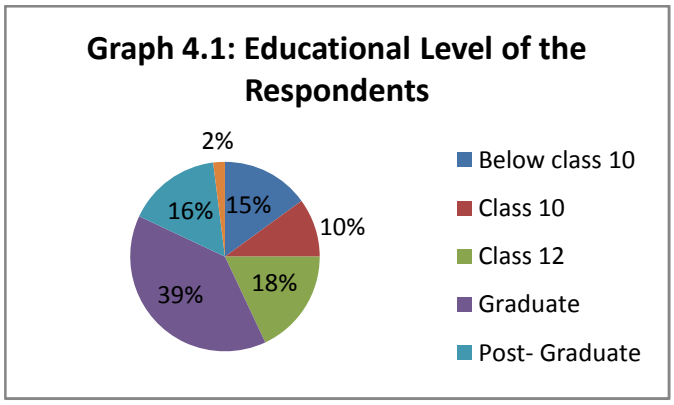


Table 4.1 indicates data based on the educational qualification of the respondents. From the above table, it can be ascertain that 15 percent are below class 10, while 10 percent of the respondents are up to class 10, and 18 percent are up to class 12, 39 per cent of respondents are graduates, 16 per cent of the respondents are post graduates, and 2 percent of the respondents are in post graduate and above. Thus, it can be concluded that maximum number of the respondents are Graduates.

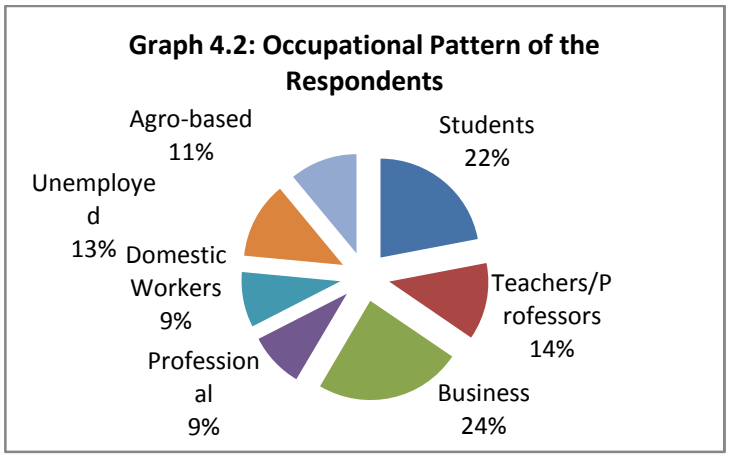
Occupation is an important measure of social class and signifies the status of a person in the society. Consumers' preference for a product may depend on the cost of the products and the income of the consumers. Occupation plays a crucial role in the preference of a consumer for a particular service provider.

Table 4.2: Occupational Pattern of the Respondents

Occupation	No. of respondents	Percent	Cumulative Percent
Students	35	22	22
Teachers/Professors	20	12.5	34.5
Business	38	24	58.5
Professional	14	9	67.5
Domestic Workers	15	9	76.5
Unemployed	20	12.5	89
Agro-based	18	11	11
Total	**160**	**100**	

Source: Field Survey 2016

Table 4.2 is presented as graph below.



The occupational status of the respondents is represented in Table 4.2 which is also presented in Graph as seen above. From the above table, it was found that 22 per cent of respondents are students, whereas 12.5 per cent of the respondents are teachers/professors and 24 percent of the respondents engaged in business. 9 percent of the respondents are

professional and 9 percent are domestic workers. It was found that 12.5 percent of the consumers are unemployed and 11 percent of the respondents engaged in agro-based activities. Thus, it is clear from the study that majority of the consumers are business men/women.

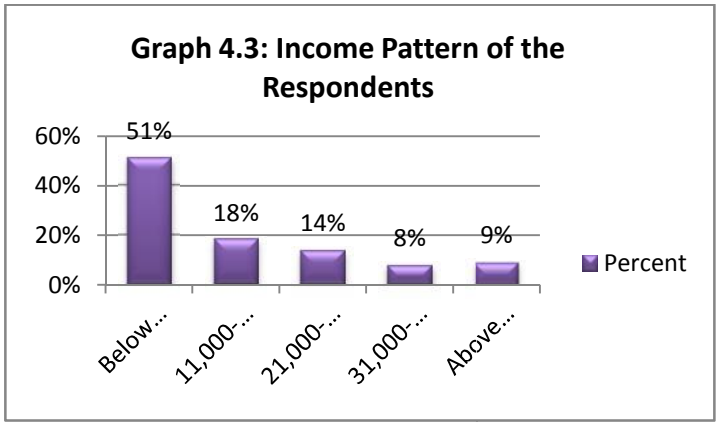
Income is an important factor which determines the buyer behavior. An individual with higher income are often willing to spend more on recharging their particular service provider. The table below explains data based on the monthly income of the respondents.

Table 4.3: Income Pattern of the Respondents

Monthly Income (in Rupees)	No. of Respondents	Percent	Cumulative Frequency
Below 10,000	81	51	51
11,000-20,000	29	18	69
21,000-30,000	22	14	83
31,000-40,000	13	8	91
Above 40,000	15	9	100
Total	**160**	**100**	

Source: Field Survey 2016

Table 4.3 is presented as graph below.



From the above table, it is observed that 51 percent of the respondents lies below 10,000, while 18 per cent of respondents income lies between Rs.11,000 - 20,000, 25 per cent of the respondents income are below Rs.10,000. The study also revealed that 14 per cent of the respondents income lies between Rs.21,000 - 30,000. The remaining 8 per cent and 9 per cent of the respondents income lies between Rs.31,000 - 40,000 and above Rs.41,000 respectively. From this analysis, majority of the consumers income lies below Rs.10,000.

4.3 BRAND WISE CLASSIFICATION OF RESPONDENTS

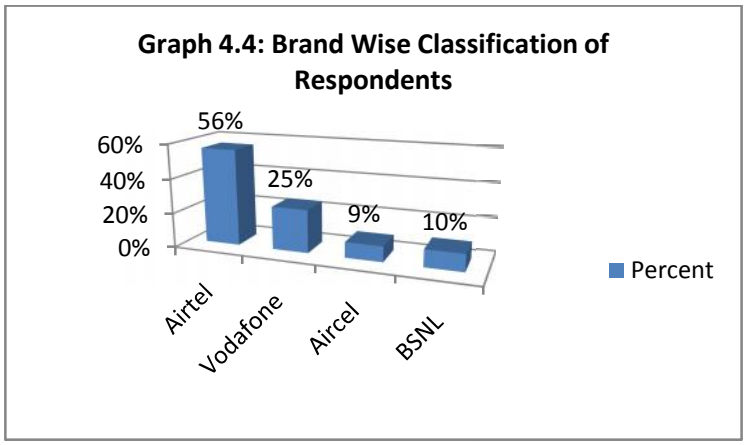
There are several brands of service providers activating mobile phones in the market. They offer almost similar features and have similar facilities. The different brands of service provider use by the respondents introduced in the study area include: Airtel, Vodafone, Aircel and BSNL.

Table 4.4: Brand Wise Classification of Respondents

Service Providers	No. of respondents	Percent	Cumulative Frequency
Airtel	90	56	56
Vodafone	40	25	25
Aircel	14	9	90
BSNL	16	10	100
Total	**160**	**100**	

Source: Field Survey 2016

Table 4.4 is presented in the graph 4.4.



The brand wise classification of the respondents is demonstrated in the table above. A keen observation of data in Table 4.4 denotes that 56 per cent of respondents preferred Airtel, 25 per cent of the respondents preferred Vodafone, 9 per cent of the respondents preferred Aircel, 10 per cent of the respondents preferred BSNL. From this analysis, of all the brands available in Aizawl, Airtel has the maximum number of consumer in Aizawl city.

4.3.1 Type of Plan

In this analysis, an attempt was made to examine what the consumers prefer most out of the two types of plan prevalent to the consumers, i.e., prepaid plan and postpaid plan. The user of a prepaid plan pays in advance for credit which is then consumed by use of the mobile phone service. On the other hand, the user of a postpaid plan is billed after the fact according to their use of mobile services at the end of each month.

Table 4.5: Type of Plan

Type of Plan	No.of Respondents	Percent	Cumulative Frequency
Prepaid	140	88	88
Postpaid	20	12	100
Total	**160**	**100**	

Source: Field Survey 2016

Table 4.5 is presented as graph below.

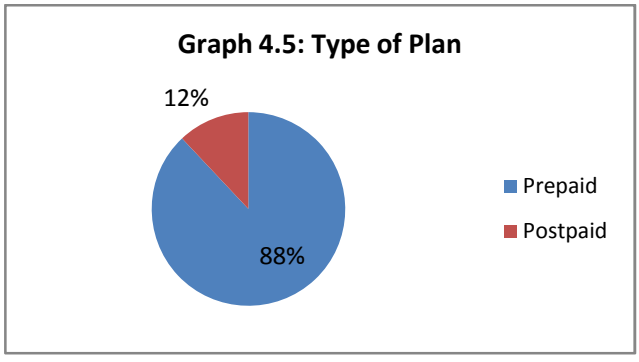


Table 4.5 depicts data based on the type of plan. From the above table, it was determined that 88 per cent of respondents preferred prepaid plan and only 12 per cent of the respondents

preferred postpaid plan. From this analysis, it was found that in Aizawl city maximum number of consumers are using prepaid plan.

4.3.2 Reasons for Preference of Prepaid and Postpaid Plan

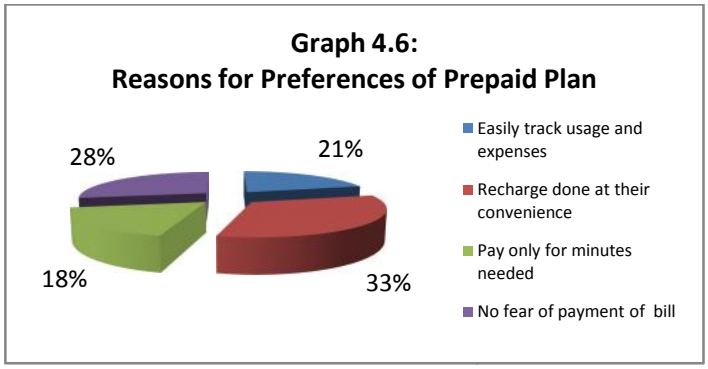
Since an individual respondent have an opportunity to choose various reasons for preferences of prepaid plan or postpaid plan available, the resulting outcome are presented on percentage terms for the sake of simplicity. Table 4.6 explains data based on reasons for preference of prepaid plan.

Table 4.6: Reasons for Preference of Prepaid Plan

Prepaid Plan	Percentage of respondents	Cumulative Frequency
Easily Track Usage and Expenses	21	21
Recharge Done at their Convenience	33	54
Pay Only for Minutes Needed	18	72
No fear of Payment of Bill	28	100
Total	**100**	

Source: Field Survey 2016

Table 4.6 is presented as graph below.



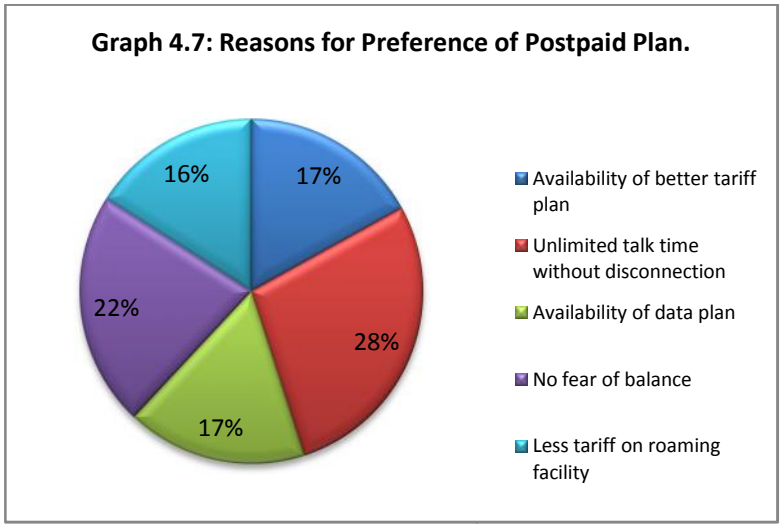
It was revealed from the table that 33 per cent of the respondents preferred prepaid plan for recharge done at their convenience, 28 per cent of the respondents are preferred for no fear of payment of bill, 21 per cent of the respondents are preferred for easily track usage and expenses and the remaining 18 per cent of the respondents are preferred for pay only for minutes needed. Thus, it can be said that the consumer preferred prepaid plan because of its easy recharge facility. The following Table shows the reason why they chose postpaid plan.

Table 4.7: Reasons for Preference of Postpaid Plan.

Postpaid Plan	Percentage of Respondents	Cumulative Frequency
Availability of Better Tariff Plan	17	17
Unlimited Talk Time Without Disconnection	28	45
Availability of Data Plan	17	62
No fear of Balance	22	84
Less Tariff on Roaming Facility	16	100
Total	**100**	

Source: Field Survey 2016

Table 4.7 is presented as graph below.



It was revealed from the table that 28 per cent of respondents are preferred postpaid plan for unlimited talk time without disconnection in the service, 22 per cent of the respondents are preferred for no fear of balance, 17 per cent of the respondents are preferred for availability of better tariff plan, another 17 availability of best data plan, and the remaining 16 per cent of the respondents are preferred for less tariff on roaming facility. Thus, it is clear from the study that the consumer who are using postpaid preferred postpaid plan because of its unlimited talk time without disconnection.

An important point that should be noted from the survey result shows that most postpaid consumers have been using their own service provider for a very long time even before the prepaid plan was introduced in the area.

4.4 AWARENESS PROVIDED BY THE SERVICE PROVIDERS

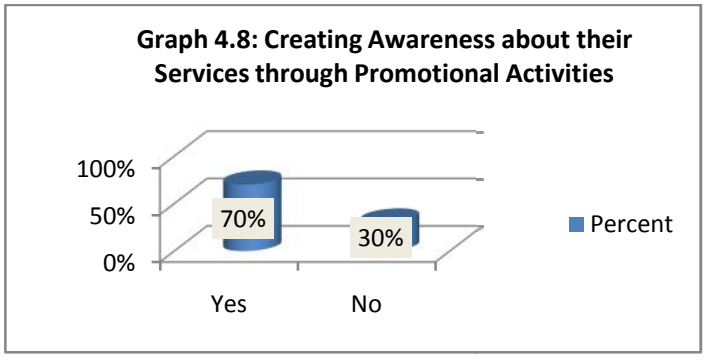
Promotion allows businesses to reach out to consumers in the most effective way. Promotion will communicated the brands message to consumer through different platforms including television, radio, shopping outlets, magazines and social media. Subsequent goals of creating awareness about brands and products amongst customers will improve market share, increasing customers and growing revenue. Thus, the table below manifests the importance of creating awareness through promotional activities.

Table 4.8: Creating Awareness about their Services Through Promotional Activities

Aware of Service	No. of Respondents	Percent	Cumulative Frequency
Yes	112	70	70
No	48	30	100
Total	**160**	**100**	

Source: Field Survey 2016

Table 4.8 is presented in the Graph 4.8.



A keen observation of data in Table 4.8 reveals about creating awareness about their services through promotional activities. From the table, it was observed that 94 per cent of the respondents felt that service providers are creating awareness of their services through promotional activities and only 6 per cent of the respondents felt that service providers are not creating awareness of it. Thus, it is observed that bulk of the consumers felt that service providers are creating awareness of their services through promotional activities.

4.4.1 Awareness of Different Services Provided by the Service Providers

Awareness plays a pivotal role in determining the choice of selecting the particular service provider by the consumers. Data present in Table 4.9 indicates on awareness of different services provided by the service providers in the market. From the given table, it can be discernable that 16 per cent of respondents are aware of recharge facility followed by 15 per cent of the respondents are aware of prepaid/postpaid plan, another 15 per cent of the respondents are aware of internet facility, 13 per cent of the respondents are aware of network coverage, and 12 per cent of the respondents are aware of mobile tariffs and plan, while 9 per cent of the respondents are aware of promotional offers/schemes balance transferring facility, 8 per

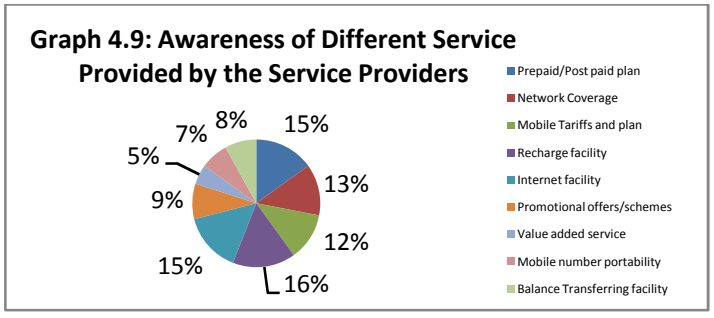
cent of the respondents are aware of balance transferring facility, 7 per cent of the respondents are aware of mobile number portability, 7 per cent of the respondents are aware of internet facility and only 5 per cent of the respondents are aware of value added services.

Table 4.9: Awareness of Different Services Provided by the Service Providers

Awareness towards various services	Percentage of Respondents	Cumulative frequency
Prepaid/Post paid plan	15	15
Network Coverage	13	28
Mobile Tariffs and plan	12	40
Recharge facility	16	56
Internet facility	15	71
Promotional offers/schemes	9	80
Value added service	5	85
Mobile number portability	7	92
Balance Transferring facility	8	100
Total	**100**	

Source: Field Survey 2016

Table 4.9 is presented in the graph below.



Thus, it can be concluded that the consumers are highly aware of recharge facility provided by the service provider and least aware of the value added service.

4.5 Sources of Knowledge about the Service Providers

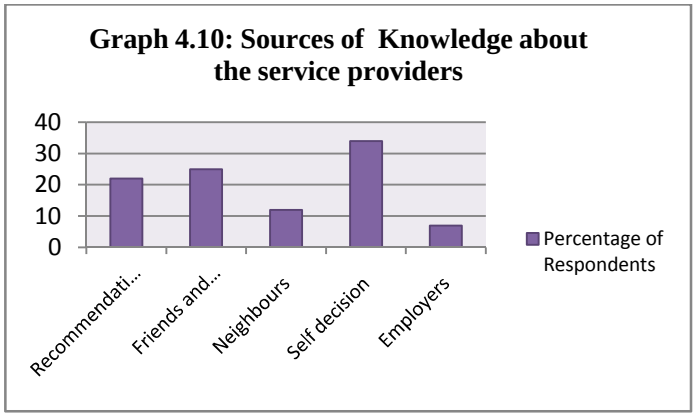
An attempt has also been made to study the sources of knowledge about the service provider. There can be several sources of knowledge derived by the consumers from such as recommendation of users, friends and relatives, neighbor, self decision and employers.

Table 4.10: Source of Knowledge about the Service Providers

Sources of knowledge	Percentage of Respondents	Cumulative frequency
Recommendation of users	22	22
Friends and Relatives	25	47
Neighbours	12	59
Self decision	34	93
Employers	7	100
Total	**100**	

Source: Field Survey 2016

Table 4.10 is presented in the Graph 4.10.



A keen observation of data in Table 4.10 reveals the study based on sources of knowledge about the service providers in the market. From the table, it was examined that 34 per cent of respondents are influenced by self decision, 25 per cent of the respondents are influenced by their friends and relatives, 22 per cent of the respondents are influenced by the recommendation of users, 12 per cent of the respondents are influenced through neighbors' and only 7 per cent of the respondents are influenced by employers. Thus, majority of the consumers are aware about the services by themselves.

4.6 Preference Based on Attractive Features Offered by the Service Providers

The success of every service providers greatly depends on the attractive features they offer. The consumer will incline towards the available features which will give them the maximum satisfaction. Data presented in the Table 4.11 reveals the attractive features offered by the various service providers in the

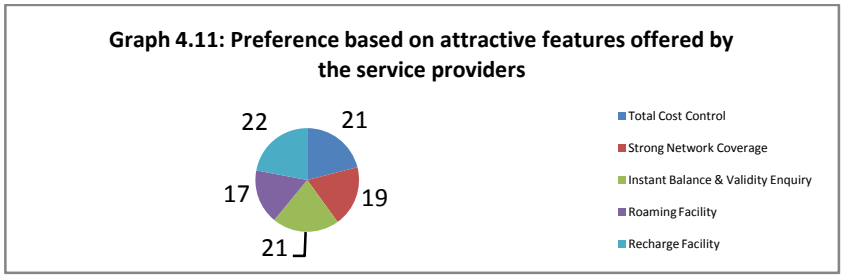
market. From the table given, it was examined that 22 per cent of respondents are attracted towards recharge facility, 21 per cent of the respondents are attracted towards total cost control, another 21 per cent of the respondents are attracted towards instant balance and validity enquiry. Different features offered by the service providers in this survey include total cost control, strong network coverage, instant balance and validity enquiry, roaming facility and recharge facility.

Table 4.11: Preference based on attractive features offered by the service providers

Features of service providers	Percentage of Respondents	Cumulative Frequency
Total cost control	21	21
Strong network coverage	19	40
Instant balance & validity enquiry	21	61
Roaming facility	17	78
Recharge facility	22	100
Total	**100**	

Source: Field Survey 2016

Table 4.11 is presented in the graph below.



The remaining 19 per cent and 17 per cent of the respondents are attracted towards strong network coverage and roaming facility respectively. Thus, a larger part of the consumers are attracted towards the recharge facility.

4.7 MONTHLY AMOUNT SPEND FOR RECHARGING THE SERVICE PROVIDERS

Since different consumers have different sources of income, the amount spends for recharging their service provider will also vary. In this study, monthly amount spend of the consumers was analyzed and represented in the following table.

Table 4.12: Monthly Amount Spend for recharging the Service Providers

Monthly Amount Spent	No. of Respondent	Percent	Cumulative Frequency
Below Rs. 200	66	41	41
Rs. 201-Rs 400	48	30	71
Rs. 401-Rs 600	24	15	86
Rs. 601- Rs. 1000	14	9	95
Above Rs. 1001	8	5	100
Total	**160**	**100**	

Source: Field Survey 2016

Table 4.12 is presented in the graph 4.12.

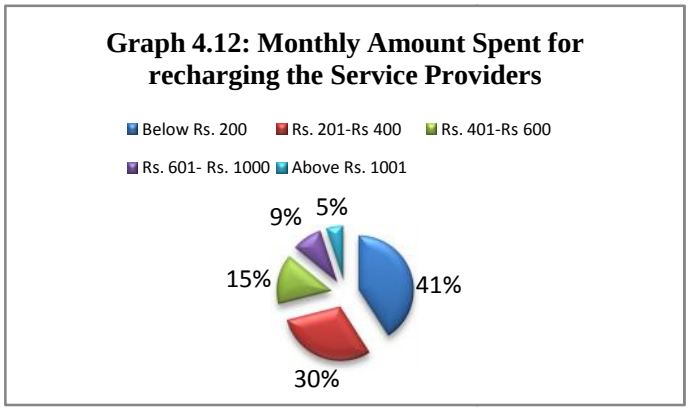


Table 4.12 describes the monthly amount spend for recharging the service provider. From the table, it was examined that 41 per cent of respondents are spending below Rs.200 per month, 30 per cent of the respondents are spending between Rs.201 – 400, 15 per cent of the respondents are spending between Rs.401 - 600, 9 per cent of the respondents are between Rs.601 - 1,000 and only 5 per cent of the respondents are spending above Rs.1,000. Thus, majority of the consumers are spending below Rs. 200 per month for recharging their service provider.

4.8 USAGE OF A PARTICULAR SERVICE PROVIDER

The usage of a particular service provider depends mostly on the behavior and preferences of the consumers. While some enjoy it for their personal use, others may give a high priority on managing their business, educational purposes as well as

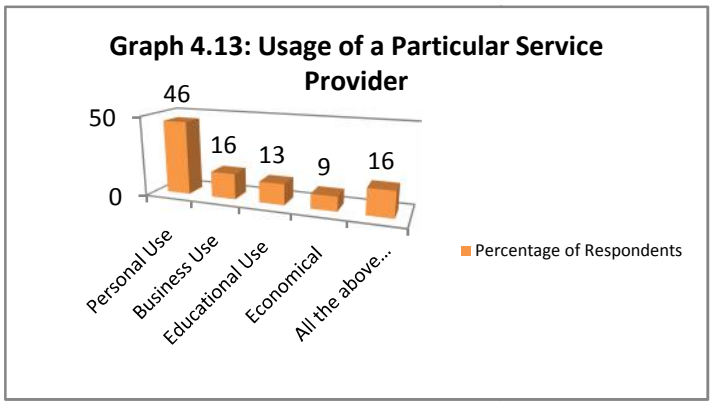
economical use. The table below highlights the usage of a particular service provider.

Table 4.13: Usage of a Particular Service Provider

Using a Particular Service Provider	Percentage of Respondents	Cumulative Frequency
Personal Use	21	46
Business Use	16	62
Educational Use	13	75
Economical	9	84
All the above Purposes	16	100
Total	**100**	

Source: Field Survey 2016.

Table 4.13 is presented in the graph below.



Data presented in the Table 4.13 represents usage of a particular service provider. From the table, it was observed that 46 per cent of respondents are using the service provider for personal purpose, followed by 16 per cent of the respondents are using for all the above purposes, and another 16 per cent of the

respondents are using for business purposes, 13 per cent of the respondents are using for educational purpose and only 9 per cent of the respondents are using for economical reasons. From this Table, it can be said that maximum number of our respondents used cellular services for personal consumption.

4.9 FEATURES OF OWNING A PARTICULAR SERVICE PROVIDER

It has become the norm to own a cellular phone these days. Most people would feel lost without their cell phone. Thus, table below illustrates the different kinds of purposes in owning a particular service provider.

Table 4.14: Features of Owning a Particular Service Provider

Purpose of Owning a Service Provider	Percentage of Respondents	Cumulative Frequency
Both Incoming/Outgoing Calls	21	33
SMS	26	59
Internet/GPRS/MMS	26	85
Playing Games	15	100
Total	**100**	

Source: Field Survey 2016

Table 4.14 is presented as graph below.

Graph 4.14: Features of Owning a Particular Service Provider

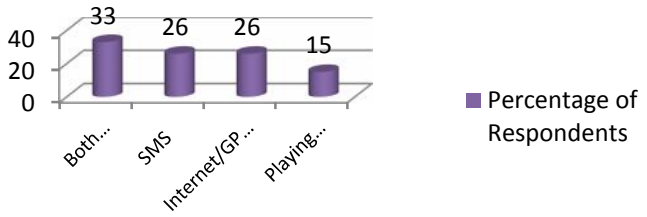


Table 4.14 denotes data based on the features of owning a particular service provider. From the given table, we can notice that 33 per cent of the respondents owned for both the purposes (i.e.) incoming and outgoing calls, 26 per cent of the respondents owned for SMS purpose, 26 per cent of the respondents owned for internet purpose, 15 per cent of the respondents owned for playing games. Thus, preponderance of the consumers owned their particular service provider for incoming and outgoing calls.

4.10 SELECTION OF PARTICULAR SERVICE PROVIDER BASED ON BRAND IMAGE

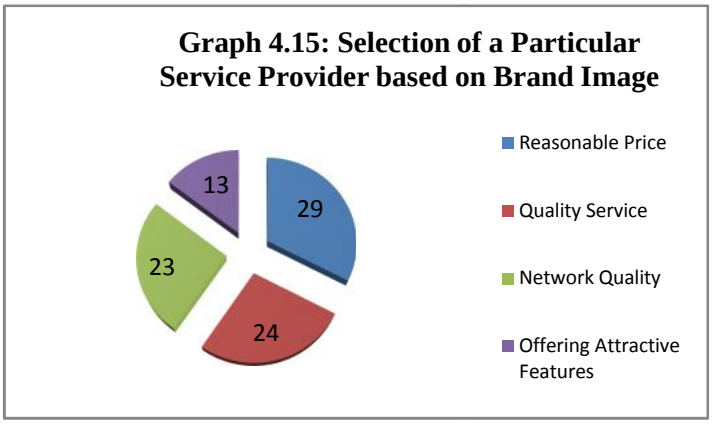
Realizing the significance of customer buying behavior in today's market scenario it is very important to analyze the drivers that trigger the purchasing decision. The image of a brand is ultimately a deciding factor that determines the product sales. It is an accumulation of beliefs and views about that particular brand and the mirror through which the company's values are reflected. The following table revealed the selection of a particular service provider based on Brand Image.

Table 4.15: Selection of a Particular Service Provider based on Brand Image

Brand Image	Percentage of Respondents	Cumulative Frequency
Reasonable Price	29	29
Quality Service	24	53
Network Quality	23	76
Offering Attractive Features	13	89
Promotional Activities	11	100
Total	**100**	

Source: Field Survey 2016.

Table 4.15 is presented in the graph below.



A keen observation of data in Table 4.15 specifies on brand image. From the above table, it can be ascertain that 29 per cent of respondents are preferred due to reasonable price, 24 per cent of the respondents are preferred due to quality service, 23 per cent of the respondents are preferred due to network quality,

13 per cent of the respondents are preferred due to attractive features and only 11 per cent of the respondents are preferred due to promotional activities provided by the service provider. Thus, it is clear from the analysis that majority of the consumers preferred their brand due to its reasonable prices.

4.11 PREFERENCE BASED ON THE FACILITIES OF VALUE ADDED SERVICE

A Value-Added Service (VAS) is a popular telecommunications term for non-core services or all services beyond standard voice calls or other bearer only type services. In this analysis, the various major value added services are categorized into four groups which include entertainment, games, social networking, mail and messaging. The table below demonstrates the preference based on the facilities of value added service.

Table 4.16: Preference Based on the Facilities of Value Added Service

Value Added Service	Percentage of Respondents	Cumulative Frequency
Entertainment	21	21
Games	16	37
Social Networking	38	75
Mail and Messaging	25	100
Total	**100**	

Source: Field Survey 2016.

Table 4.16 is presented in the following graph.

Graph 4.16: Preference Based on the Facilities of Value Added Service

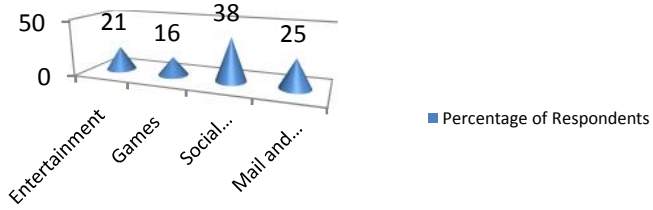


Table 4.16 depicts data based on value added services offered by the various service providers in the market. From the table given above, it was determined that 38 per cent of the respondents are preferred for social networking, 25 per cent of the respondents are preferred for mail and messaging, 21 per cent of respondents are preferred for entertainment, and only 16 per cent of the respondents are preferred for games. Thus, it is clear from our study that among the value addition by the service providers, the consumer preferred most the service of social networking.

4.12: PREFERENCE BASED ON PROMOTIONAL OFFERS AND SCHEMES

To achieve business goals and marketing promotions, different service providers introduced new offers and schemes on their products to draw the attention of the customers. It is an

essential element and effective tool to create awareness and persuade the customers to buy the products and services on offer. This will generate profits in achieving their goals. Thus, the table below depicts the preferences by the consumers based on promotional offers and schemes.

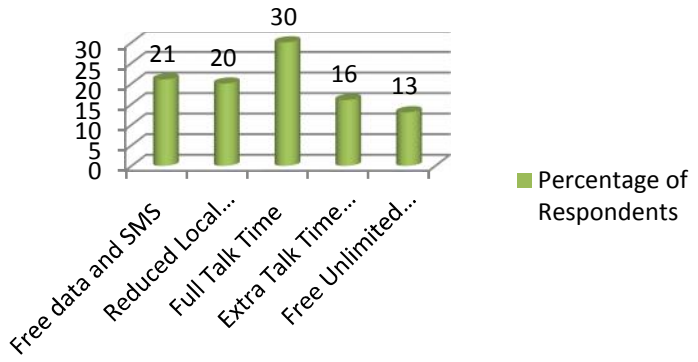
Table 4.17: Preference Based on Promotional Offers and Schemes

Promotional Offers/Schemes	Percentage of Respondents	Cumulative Frequency
Free data and SMS	21	21
Reduced Local STD and ISD call charges	20	41
Full Talk Time	30	71
Extra Talk Time and Data Usage	16	87
Free Unlimited Calls	13	100
Total	**100**	

Source: Field Survey 2016.

Table 4.17 is presented in the Graph 4.17.

Graph 4.17: Preference Based on Promotional Offers and Schemes



Data presented in the Table 4.17 indicates about promotional offers and schemes. From the table given, it was examined that 30 per cent of respondents are preferred promotional offers and schemes for full talk time, 21 per cent of the respondents are preferred for free data and SMS, 11 per cent of the respondents are preferred for reduced Local, STD and ISD call charges, 16 per cent of the respondents are preferred for extra talk time and data usage, 13 per cent of the respondents are preferred for free unlimited calls. Majority of the consumers preferred full talk time as the best promotional offers and schemes offered by the service provider.

4.13: PREFERENCE BASED ON DATA PLAN

A Data plan is part of the service that mobile operators offer to give the consumer connectivity anywhere around the world. It offers data transmission through an Internet Protocol

network and ultimately a connection to the internet, where multimedia resources can be accessed. The table 4.18 explains the preference based on data plan.

Table 4.18: Preference Based on Data Plan

Data Plan	Percentage of Respondents	Cumulative Frequency
Download/Upload Speed	28	28
Availability of Data Plan(2G/3G etc)	32	60
Cost of Data Plan	21	81
Wide Network Coverage	19	100
Total	**100**	

Source: Field Survey 2016.

Table 4.18 is presented in the graph below.

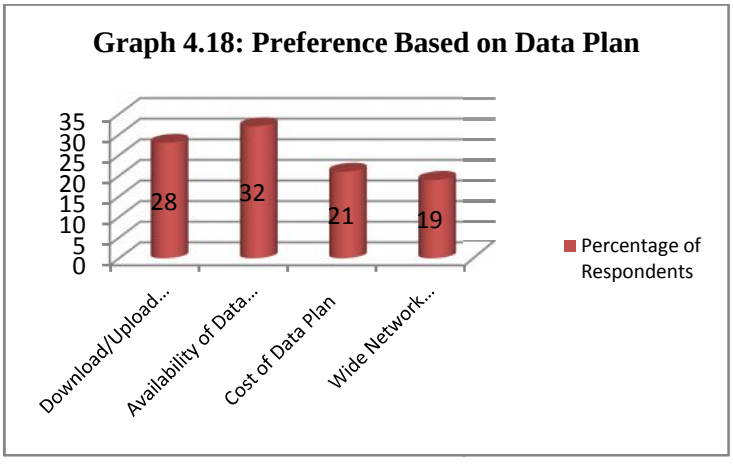


Table 4.18 indicates about the data plan for preferring a particular service provider in the market. From the table given, it was executed that 32 per cent of respondents are preferred data plan for availability of data plan, 28 per cent of the

respondents are preferred for download/upload speed, 21 per cent of the respondents are preferred for cost of data plan, 19 per cent of the respondents are preferred for network coverage. Therefore, bulk of the consumers preferred availability of data plan provided by the service provider.

4.14: PROBLEM CAME ACROSS WHILE USING A PARTICULAR SERVICE PROVIDER

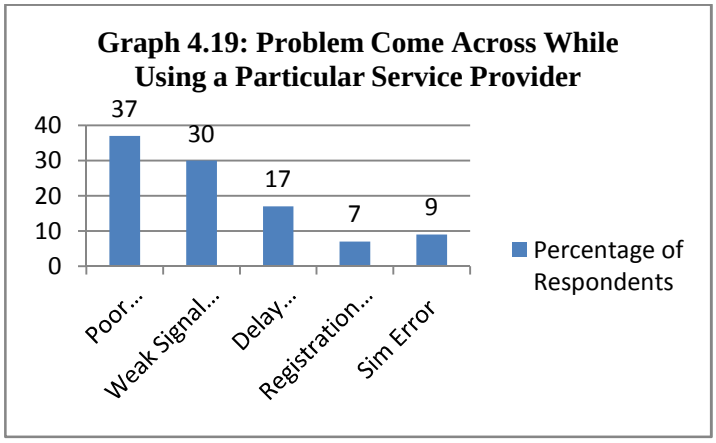
Problems and difficulties are inevitable in every business. The consumer confronts the hindrance and obstacles while using a particular service provider. This survey attempted to examine different problematic issues which include poor network coverage, weak signal strength, delay connectivity, registration failure and Sim error. The table below exhibit problems faced by the consumers.

Table 4.19: Problem Come Across While Using a Particular Service Provider

Problem Faced by the Consumers	Percentage of Respondents	Cumulative Frequency
Poor Network Coverage	37	37
Weak Signal Strength	30	67
Delay Connectivity	17	84
Registration Failure	7	91
Sim Error	9	100
Total	**100**	

Source: Field Survey 2016.

Table 4.19 is presented in the graph below.



From the given table, it was studied that 37 per cent of respondents faced problem due to poor network coverage, 30 per cent of the respondents faced due to weak signal strength, 17 per cent of the respondents faced due to delay connectivity, 9 per cent of the respondents faced due to sim error, 7 per cent of the respondents faced due to registration failure. Thus, majority of the consumers came across the problem of poor network coverage for which they lodged a complaint against the particular service provider.

4.14.1 Duration of Lodging Complaints to the Service Provider

Since an individual consumers have different opinions and attitudes, the duration of lodging complaints to the service provider will also differ. While most of the subscribers handle their service provider with lack of knowledge and without much

awareness about their services, some may sensitive and conscious about their usage of a particular service provider.

The table below shows the duration of lodging complaints to the service provider which grouped into five categories: Occasionally, Frequently, Rarely, Often and never.

Table 4.20: Duration of Lodging Complaints to the Service Provider

Duration of Lodging Complaints	Percentage of Respondents	Cumulative Frequency
Occasionally	19	19
Frequently	6	25
Rarely	17	42
Often	6	48
Never	52	100
Total	**100**	

Source: Field Survey 2016.

Table 4.20 is presented in the graph below.

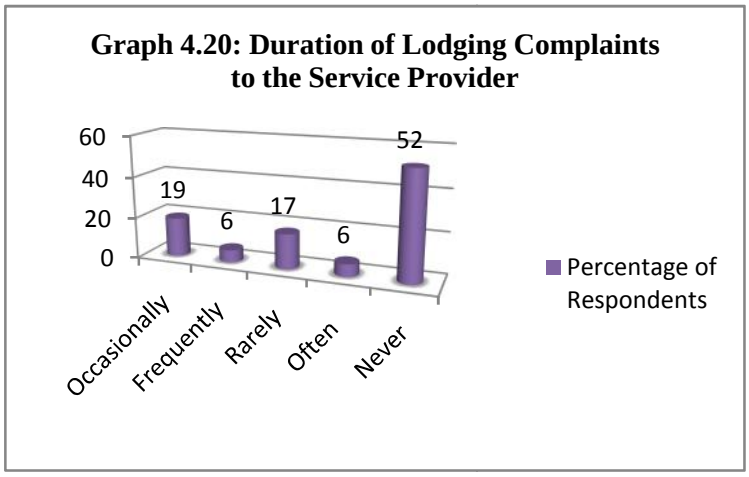


Table 4.20 identifies about the duration of lodging complaints to the service provider. From the table, it was inferred that 6 per cent of respondents lodged complaints frequently, 19 per cent of the respondents lodged complaints occasionally, 6 per cent of the respondents lodged complaints often, 17 per cent of the respondents lodged complaints rarely and 52 per cent of the respondents never lodged any complaints. It can be concluded that majority of the consumers even if they have problems, never lodged complaints to their service provider in the market.

4.14.2 Duration of Rectification of Complaints by the Service Provider

The different service providers resolve and made an adjustment on varying complaints put forward by the consumers. Some of the complaints may rectify by them within a day, or within two days, more than two weeks, within a week or more than a week. The preferences and choices made by the consumers greatly depend on the promptness and swiftness of rectification done by a particular service provider. The following table illustrates the duration of rectification of complaints by the service providers.

Table 4.21 Duration of Rectification of Complaints by the Service Provider

Rectifications of Complaints	Percentage of Respondents	Cumulative Frequency
Within a Day	40	40
Two Days	19	59
More than Two Weeks	20	79
Within a Week	12	91
More than a Week	9	100
Total	**100**	

Source: Field Survey 2016.

Table 4.21 is presented in the graph below.

Graph 4.21 Duration of Rectification of Complaints by the Service Provider

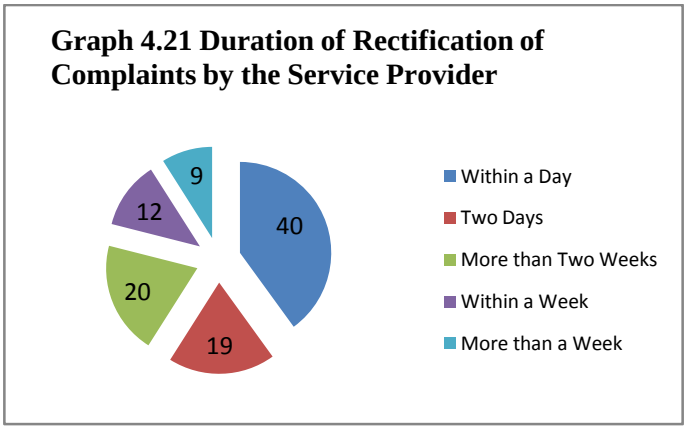


Table 4.21 explains data based on duration of rectification of complaints by the service provider. From the given table, it was inferred that 40 per cent of the respondents felt that their complaints are rectified within a day, 20 per cent of the

respondents felt that their complaints are rectified by more than two days, 19 per cent of the respondents felt that their complaints are rectified by two days, 12 per cent of the respondents felt that their complaints are rectified within a week and 9 per cent of the respondents felt that their complaints were rectified more than a week. Therefore from the field survey, majority of the consumer's complaints are rectified by the service provider within a day.

4.15 PREFERENCES BASED ON DIFFERENT SERVICES

Now-a-days cell phones play a vital role in every walk of our life. The customer has power to demand better and quality services. Their tastes, needs and preferences can be change as per current scenario. Hence, the development of cellular industry mainly depends on consumers' preference.

4.15.1 Preference Based on the Customer Care Service

Customer care service is one of determinant factor that influences the consumers to prefer particular service provider in the market. The success of every business lies on how well the service providers satisfy the expectations and desires of their customers. The following table and graph shows the preference based on customer care service.

Table 4.22: Preference Based on the Customer Care Service

Customer Care Service	Percentage of Respondents	Cumulative Frequency
Ease of Reporting Complaints	25	25
Registration of Customers Grievances	19	44
Speed of Complaints Resolution	18	62
Customize(Personalize) Care	19	81
Getting Feedback from Customers about their services	19	100
Total	**100**	

Source: Field Survey 2016

Table 4.22 is presented in the Graph 4.22.

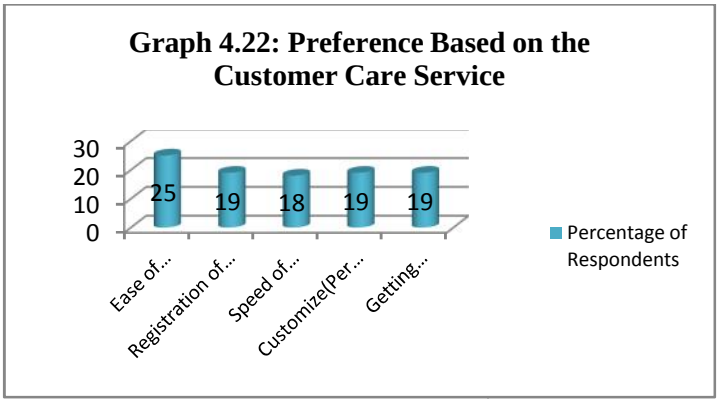


Table 4.22 executes data based on customer care services. From the table, it was inferred that 25 per cent of respondents are preferred customer care services for ease of reporting complaints, 19 per cent of the respondents are preferred for registration of customers grievances, 18 per cent of the respondents are

preferred for speed of complaints resolution, 19 per cent of the respondents are preferred for getting feedback from customers about their services and customize (personalize) care. Thus, majority of the consumers preferred customer care services for ease of reporting complaints provided by the service providers in the market.

4.15.2 Preference Based On Major Facilities Provided By The Service Providers

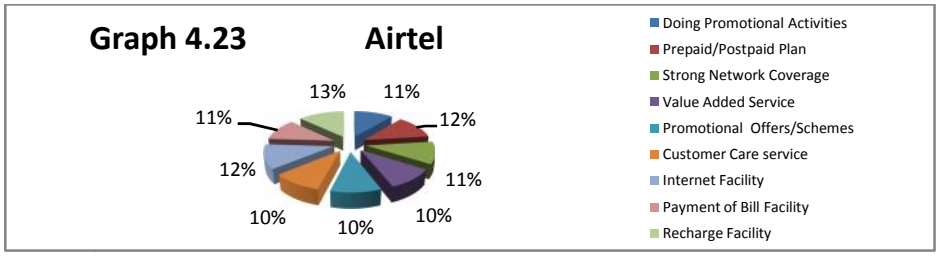
There are several facilities which influence the consumers to select a particular service provider in the market. The different facilities provided by the service providers include doing best promotional activities, prepaid/postpaid plan, strong network coverage, value added service, promotional offers/schemes, customer care service, internet facility, payment of bill facility and recharge facility. We can see from the following table 4.23.

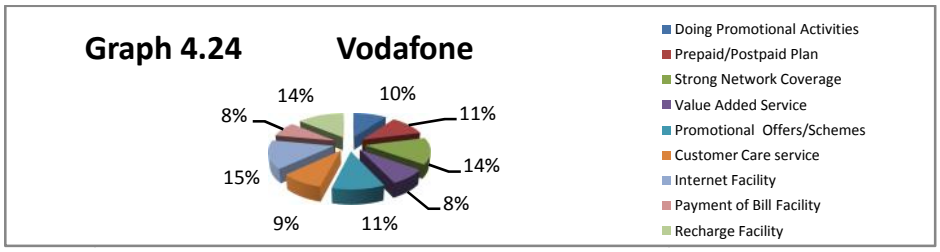
Table 4.23 Preference Based on Major Facilities Provided by the Service Providers

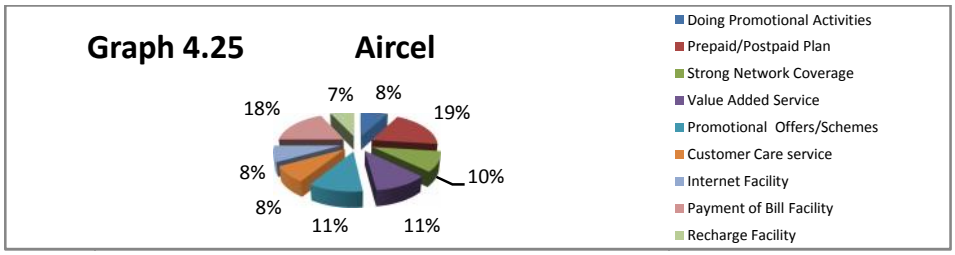
Major facilities	Airtel	Vodafone	Aircel	BSNL
Doing Promotional Activities	11%	10%	8%	9%
Prepaid/Postpaid Plan	12%	11%	**19%**	10%
Strong Network Coverage	11%	14%	10%	**17%**
Value Added Service	10%	8%	11%	10%
Promotional Offers/Schemes	10%	11%	11%	11%
Customer Care service	10%	9%	8%	12%
Internet Facility	12%	**15%**	8%	11%
Payment of Bill Facility	11%	8%	18%	10%
Recharge Facility	**13%**	14%	7%	10%
Total	**100**	**100**	**100**	**100**

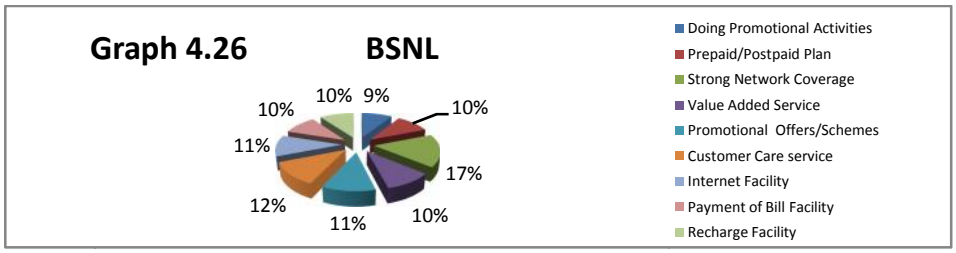
Source: Field Survey 2016

Since our analysis focused on four different service providers such as Airtel, Vodafone, Aircel and BSNL, the preferences based on major facilities provided by each of them will be separately demonstrated in graphs as follows.









From the graph 4.23, it can be perceived that the facilities that influenced most to the subscribers of Airtel become the recharge facilities.

From the graph 4.24, we can observe that the consumers preferred Vodafone because of the better internet facilities.

From the graph 4.25, it was examined that the facilities that influenced most to the subscribers of Aircel was the prepaid/postpaid plan.

We can observe from the graph 4.26 that the consumers preferred BSNL mainly because of the strong network coverage provided by them.

This empirical based analysis has provided an in-depth study on the consumer preferences of cellular services in Aizawl city. The suggestions for improvement of the cellular services are presented in the next chapter.

CHAPTER 5

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

- Of all the brands surveyed in Aizawl, Airtel has the maximum number of consumer in Aizawl city. *(Objective No.1)*
- The Airtel subscribers were influenced most by the easy recharge facility of the Airtel services. Whereas the consumers of Vodafone preferred vodafone service because of its better internet facilities. Also, the facilities that influenced most to the subscribers of Aircel is the prepaid/postpaid plan and the consumers preferred BSNL mainly because of the strong network coverage provided by them. *(Objective No.1)*
- Maximum number of consumers are using prepaid plan in Aizawl city. Out of many facilities provided by the service providers the consumers preferred prepaid plan because of its easy recharge facility.*(Objective No.2)*
- Those consumers who are using postpaid preferred postpaid plan because of its unlimited talk time without disconnection. *(Objective No.2)*
- Majority of the consumers preferred their brand due to its reasonable prices. *(Objective No.3)*

- Among the value addition by the service providers, the consumer preferred most the service of social networking among the various value added services. *(Objective No.3)*
- Majority of the consumers preferred full talk time as the best promotional offers and schemes offered by the service provider. *(Objective No.3)*
- Bulk of the consumers preferred availability of data plan provided by the service provider. *(Objective No.3)*
- Of all the problems faced by the consumers, majority of them came across the problem of poor network coverage for which they lodged a complaint against the particular service provider. *(Objective No.4)*
- Preponderance of the consumers never lodged complaints to their service provider in the market even if they have problems. *(Objective No.4)*
- Majority of the consumer's complaints are rectified by the service provider within a day. *(Research Questions No.1)*
- The consumers are highly aware of the recharge facility provided by the service provider and least aware of the value added services. *(Research Questions No.2).*
- It was also found that bulk of the consumers felt that service providers are creating awareness of their services through promotional activities.

- Majority of the consumers are aware about the services mainly by themselves and a larger part of the consumers are attracted towards the recharge facility.
- Majority of the consumers income lies below Rs.10,000 per month. Nowadays, mobile phones are available even for less than Rs.1000 and low rate recharge cards are also available which can be affordable to any income group.
- Majority of the consumers are spending below Rs. 200 per month for recharging their cellular services.
- Majority of the respondents are Graduates and they are mostly business men/women.
- Maximum number of the consumers preferred customer care services for ease of reporting complaints provided by the service providers in the market.
- Maximum number of our respondents used cellular services for personal consumption.
- Preponderance of the consumers owned their particular service provider for incoming and outgoing calls.

SUGGESTIONS

The following suggestions are given after comprehensive and careful investigation of the research problem. These suggestions would definitely help the service providers to

improve their service in the best possible way in order to satisfy the consumers' need.

- Unnecessary company calls and messages should be reduced to the minimum.
- The service providers are requested to upgrade their attractive features regarding better recharge plan.
- All the service providers should launch more and more periodical offers and schemes from time to time especially to reduce call charges and ensure free data.
- As most of the consumers are unaware of the value added services offered by service providers. Hence, service providers are suggested to create awareness and promote the value added service.
- Call tariff should be framed in such a way that the low income people can also afford and enjoy the facilities. Therefore, call rates should be made competitive and affordable in order to capture more consumers.
- Network problem is perceived as a major problem by the majority of respondents. Hence, it is suggested to expand network coverage and quality of the service by providing high frequency towers to help the consumers to access proper network without any interruption, especially in the rural areas.

- Necessary steps should be taken especially by BSNL in solving the problems of poor customer care service, costly value added service, high roaming charges call drop out and delay in connectivity. Hence, it is recommended that they should resolve these issues.
- Since 4G spectrum continue to boom in the mobile market. Service providers are suggested to offer better plan to create new consumers and to retain the existing consumers.
- Customer care service play an important role in retaining existing customers and attracting new customers. Therefore, customer care services should be improved and there should be provisions of taking feedback from consumers so that necessary steps can be taken according to the need and expectation of the customers.
- Proper training should be given to the employees of the service provider to treat their consumers in a customized care manner.
- All the service providers should emphasis more on the postpaid plans by making consumers aware about their unique features of the plan and reducing monthly rentals.
- Airtel offers maximum services at reasonable price. But, to compete with other competitors such as Vodafone, Aircel and BSNL, it has to maintain its goodwill in the present market strategies or else they might become a threat in the near future.

- The process involved in taking new and renew connection should be made simplified and easy.
- All the service providers should offer more range of mobile tariff plan.
- Especially BSNL should revise its call rates as per the competition prevailing because BSNL call rates are still very high in comparison to other service providers.

The study is limited to the consumers' preferences to service providers of cellular in Aizawl city. This study would be of immense help to the service providers in understanding the consumer preferences to improve their facilities and services in the market. The new studies which are to come in the future could take up these challenges so that it could benefit service providers in the long run.

5.3 CONCLUSION

In a competitive world of business, relationships between service providers and customers are important for achieving high levels of customer satisfaction and loyalty. People would expect quality products and quality services. A company which is unable to provide quality products and quality services cannot survive for a long run. Communication and information technology are the blood streams of the business world. Prompt service and

quality communication will enable a person to do more business. The service provider is a wonderful gift to the modern world of communication. No company, irrespective of their business, can satisfy their customers uniformly. To make a study into their behaviour and to arrive at a correct conclusion is rather impossible. But at the same time, any company which tries to improve their services and increase their customers, must float some effective and efficient methods.

In India, telecommunication revolution is going on in a big way. Every day, the service providers are coming with new value-added services and the consumers are literally confused as to which service provider is offering wide network coverage, best roaming facilities, attributes offered and whether it is economical and worthwhile. This study aimed to find out what are the contributing factors to consumers' preference, the service provider's offer and what leads to enhanced customer satisfaction/dissatisfaction with a particular service provider.

Hence, the service providers should strive to provide cost effective quality SIM, affordable and competitive call tariffs for connectivity at various levels and customized services in order to satisfy and delight their consumers. The study identifies that of all the brands surveyed in Aizawl, Airtel has the maximum number of consumer in Aizawl city. The study also revealed that

consumers prefer prepaid plan. Almost every consumer treats their cell phone as a necessity. They generally use their service provider for their personal and business use. The study observed majority of the consumers preferred their brand due to its reasonable prices. Among the value addition by the service providers, the consumer preferred most the service of social networking among the various value added services. Preponderance of the consumers are aware about the services mainly by themselves while selecting or buying a particular service provider and a larger part of the consumers are attracted towards the recharge facility.

From the study it can be concluded that consumers face problems of poor clarity, call drop and poor network but overall they are satisfied with the services offered to them. The significance development in this field in the past ten years shows that there is a very bright scope for expansion and modernization in cellular area with a very short span of time. Thus, service providers have to understand the ever changing preferences and the behaviour of consumers constantly in order to satisfy and serve them better. This research work is hoped to have some policy implications to the service providers to further improve their services in the study area.

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