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Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.ror.isrj.net

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ORIGINAL ARTICLE

THE REVIEW OF MOBILE PHONE INDUSTRY AND CUSTOMER CARE IN KARNATAKA STATE, INDIA

Adel Qochkanlou[1] and K. Nagendra Babu[2]

[1]Research Scholar , Department of Studies in Commerce, Mansagangotri, Mysore, University of Mysore.
[2]Associate Professor and Principle Investigator (UGC Major Project), Department of Studies in Commerce, Mansagangotri, Mysore, University of Mysore.

Abstract:

The phenomenal growth of the IT industry in Karnataka has brought to the fore of the growing importance of India as a knowledge powerhouse. In fact it is the sector that is increasingly contributing to the high growth rate recorded in the state. However, since the mobile phone service industry is growing at a stable rate there are a large number of customers and therefore there is little pressure to take customers from competitors. Karnataka boasts of a robust communication infrastructure that connects most of the major cities and popular tourist locations and it is characterized by a high Internet literacy rate, which can be ascribed to the thriving IT industry in the state. Karnataka is the sixth-largest telecom market in India, with the total mobile subscriber base crossing 52.45 million and the handset demand in this state is projected to reach 16 million a year by 2020. There are a large number of mobile companies in this state and the competitors can easily attract customers by offering better services, lower prices and aggressive advertisement campaigns.

KEY WORDS:

Review of Communication in Karnataka, Mobile Phones, Mobile Services, Mobile Companies in Karnataka, Mobile Phone Demand.

INTRODUCTION

Communications is the fastest growing sector within India's economy. The average compound rate of growth of the sector works out to 24.02% per annum since the turn of this millennium. Public mobile telephone history begins in the 1940s after World War II. Although primitive mobile telephones existed before the War, these were specially converted two way radios used by government or industry, with calls patched manually into the landline telephone network. With a subscriber base of more than 811.59 million, the Mobile Telecommunications Industry in India is the second largest in the world and it was thrown open to private players in the 1990s. Competition has caused prices to drop and calls across India are one of the cheapest in the world.

According to the latest statistics by Telecommunications Regularity Authority of India as on 2013-02, India has 861.7 million mobile subscribers and there are only 52.45 million mobile subscribers in Karnataka. Top two largest mobile subscribers are in Uttar Pradesh and Tamil Nadu and Karnataka stands sixth with 52.45 million mobile subscribers followed by the central Indian state of Madhya Pradesh.

Furthermore, projections by several leading global consultancies indicate that the total number of subscribers in India will exceed the total subscriber count in China by 2014. This is evident from a dataset on ICT spending developed by World Information Technology and Services Alliance (2006), of the total spending on ICT by India, about 63% was in communications. The domestic production of telecom equipment's has shown some impressive increases during the period since 2001, but even now, it accounts for only about 15% of the total telecoms industry. Even then with some fluctuations the equipment sector is slowly decreasing its share in the total revenues of the telecommunications industry

The history of the mobile services industry can be traced to 1997 or so when GSM cellular services were started. Since then the industry has grown and matured with another standard, CDMA, being introduced towards the end of 2002. Compared to the fixed services, the mobile services industry has a number of distinguishing features. First, the industry started as one dominated by private sector enterprises and the government religiously followed a policy of 'managed competition" by licensing more than one service provider in a telecom circle. The early part of the industry was of course riddled with much controversy pertaining to the terms and conditions under which the licenses were issued and the spectrum allocated between various kinds of service providers (Desai, 2006).

HISTORY OF COMMUNICATION IN KARNATAKA

In early 1881, Oriental Telephone Company Limited of England opened telephone exchanges at Kolkata, Mumbai, Chennai and Ahmedabad. On the 28th January 1882 the first formal telephone service was established with a total of 93 subscribers. From the year 1902 India drastically changes from cable telegraph to wireless telegraph, radio telegraph, radio telephone, trunk dialing. Trunk dialing used in India for more than a decade, were system allowed subscribers to dial calls with operator assistance. Later moved to digital microwave, optical fiber, and satellite earth station. During British period all major cities and towns in India were linked with telephones.

Located in the Southern region of India, Karnataka has a population of 61.15 million (Census 2013), making it India's ninth most populous state; it state has an area of 191,976 sq. km and accounts for 5.83% of the country's total land area. The state is divided into 29 districts. Bengaluru is the capital city. After Bengaluru, Hubli-Dharwad, Mysore, Gulbarga, Belgaum and Mangalore are the large cities in terms of population.

Karnataka boasts of a robust communication infrastructure that connects most of the major cities and popular tourist locations. Apart from ubiquitous modes of communication like telephones and post, Internet penetration is also quite high, particularly in urban centers. Across the length and breadth of the state, one can witness a proliferation of public telephone booths known as PCOs. These PCOs provide both local and STD/ISD call facilities at rates fixed by the government. Mobile phones have also caught up in a big way with a number of private and government agencies providing services.

The state of Karnataka is characterized by a high Internet literacy rate, which can be ascribed to the thriving IT industry in the state. Cyber cafes have mushroomed in major cities of the state and they provide broadband connections at a nominal rate. Karnataka as top sixth largest mobile users has only 52.45 million mobile subscribers out of 861.7 million mobile subscribers in India.

Karnataka is a leading state in the electronic and telecommunications industry, with as many as 300 leading international companies. Leading telecom companies operate in the state in the sectors of telecommunication network, basic telephony services (both wire line and wireless) and networking services for telecommunication equipment. The entire state is networked via optic-fiber cables (OFC) of the state-owned company, Bharat Sanchar Nigam Limited (BSNL) as well as private companies like Bharti, Reliance, VSNL and TATA Tele Services. BSNL as well as TATA Tele Services in various parts of the state provide last Mile Access. Bharti and Reliance Communications provide the last-mile access, directly, to the customers in all major cities of Karnataka.

MOBILE PHONES

A mobile phone (also known as a cellular phone, cell phone and a hand phone) is a device that can make and receive telephone calls over a radio link while moving around a wide geographic area. It does so by connecting to a cellular network provided by a mobile phone operator, allowing access to the public telephone network. By contrast, a cordless telephone is used only within the short range of a single, private base station.

In addition to telephony, modern mobile phones also support a wide variety of other services such as text messaging, MMS, email, Internet access, short-range wireless communications (infrared, Bluetooth), business applications, gaming and photography. Mobile phones that offer these and more

general computing capabilities are referred to smartphones.

Most of operator follows GSM mobile system operates under 900MHz bandwidth few recent players started operating under 1800MHz bandwidth. CDMA operators operate under 800Mhz band; they are first to introduce EVDO based high-speed wireless data services via USB dongle. In spite of this huge growth telecom sector is hit by severe spectrum crunch, corruption by Karnataka state, officials and financial troubles.

In 2008, India entered the 3G arenas with the launch of 3G enabled Mobile and Data services by Government owned MTNL and BSNL. Later from November 2010, Karnataka private operator's started to launch their services. Karnataka has opted for the use of both the GSM (global system for mobile communications) and CDMA (code-division multiple access) technologies in the mobile sector.

MOBILE TECHNOLOGIES

Mobiles were a vogue over a decade ago and now it has become a necessity for the urban crowd and the rural development in mobiles is the new buzzword for the corporate. Started with the basic feature of attending calls on a wireless device seemed a remarkable achievement but now that has grown into a web of integrated technologies for complete comfort of the user.

Mobile technologies have grown tremendously over the past few years with devices growing smaller still increasing their features. It has been even difficult for the mobile makers to include all the features in one device and thus they try to specialize in a particular technology but the need of 'all in one' is still on the makers mind and the efforts continue. GPRS has enabled Internet banking and managing finances and stocks through your phone. The mobile technology has been exploited by the reality shows to increase viewership, TRP's and spectator's involvement. Online ticket bookings are been now taken over by mobile phone ticket booking with applications used in mobiles to book movie, railway and airline tickets. The latest offering is that made by the suburban Mumbai Railways for providing mobile ticketing for its commuters.

Mobile technology is the technology used for cellular communication. Mobile code division multiple access (CDMA) technology has evolved rapidly over the past few years. Since the start of this millennium, a standard mobile device has gone from being no more than a simple two-way pager to being a mobile phone, GPS navigation device, an embedded web browser and instant messaging client, and a handheld game console.

Where mobile technology moved from SMS's, games and personal diary it has now become a strong tool for the marketers to sell their products through engaging people with the device that is always close to them. Convergence of all forms of media like the internet, television, radio into the mobile has increased the potential of this wireless device which now flaunts an array of functions and is technologically more sound, feasible and truly mobile.

FM radio in Karnataka has been born due to the inclusion of this technology in mobile phones. The whole FM medium is on the shoulders of the mobile phones to communicate to their audiences. The mobile has been a success and continues to grow due to its convergence capacity. It has the ability to integrate many technologies into it and has thus survived the race of technology and is emerging as a leader.

Online mobile shopping is a new tradition of shopping so sometime it turns out into a big problem for the customer. On almost every online mobile store, customer may check entire features of own choice of phone; even they may compare its prices in different shops.

OPERATING SYSTEMS

Many types of mobile operating systems (OS) are available for smartphones, including: Android, BlackBerry OS, webOS, iOS, Symbian, Windows Mobile Professional (touch screen), Windows Mobile Standard (non-touch screen), and Bada. Among the most popular is the Apple iPhone, and the newest - Android. Android is a mobile operating system (OS) developed by Google. Android is the first completely open source mobile OS, meaning that it is free to any cell phone carrier.

WIRELESS COMMUNICATION

Bluetooth wireless specification ensures communication compatibility worldwide and the wireless technology allows you to bring connectivity with you. Bluetooth is an open specification for a cutting-edge technology that enables short-range wireless connections between desktop and laptop computers, personal digital assistants, mobile phones, printers, scanners, digital cameras and even home appliances.

Bluetooth emerged as a boon to data transferring among digital devices and listening to wireless music, whereas the GPRS (General Packet Radio Service) allowed Internet connectivity through mobile phones. Video call conference, though not yet official in India has mobiles touting dual cameras. The integrating music player into a mobile has made it possible to cut down on carrying multiple gadgets and has served all the purposes into one congregate tool. Watching television or catching up on a movie has become a passé in mobile technology.

GLOBAL POSITIONING SYSTEM: GPS

A technique that can be very useful when users are mobile is the GPS system. With GPS the user can find out the exact geographical position, on the earth, he is located in. GPS will tell the user the exact position day as night regardless of the current meteorological situation. Now with the latest addition of the GPS (Global Positioning System), first initiated by Nokia is seeing India's detailed map on your phone.

4G NETWORKING

4G technology basically defines the next generation of mobile devices. The use of G – standing for 'generation' – in mobile technology covers the major advances of the past 20-30 years. First came 1G technology which was widely used in cell phones; 2G came next in the early 1990s which made text messaging possible and introduced us to a revolutionized digital scenario; 3G technology improved the efficiency of how data is carried which made it possible for us to carry information services, such as websites, in their original formats; and now we have 4G mobile technology, which is not yet an agreed upon industrial standard so the conversation is currently focused on its goals and not its requirements.

In India the reliance industries will start offering 4G services probably in the summer of this year. Sources within the RIL, headed by Mukesh Ambani, revealed to The Economic Times that it plans to provide 4G connectivity to 700 cities by June of this year, which will definitely be a big step toward its developing India. RIL will be touting speeds of up to 50–100 Mbps on its network. Taking this into account, low costs and high speed are the main avenues through which it will rise in the market, with its speed being 7 times that of 3G. It is also planning to launch low-cost data cards and Android-powered tablets to counter the price-sensitive market of India.

The 4G revolution still awaits Karnataka. Drastic changes and improvements from 3G technology need to be a priority and, before they're addressed, there are many gray areas for 4G. But if done intelligently and thoroughly, 4G holds enormous potential for Karnataka and can really create a boom in the IT industry, key to the Indian economy. Hence the evolution from 3G to 4G will be stimulated by services offering enhanced quality, requires increased bandwidth, needs elevated sophistication of large-scale information provisions and must have improved customization capabilities to support myriad user demands.

Further, 4G applications are set to evolve in a multiplatform environment. 4G apps will be available across various wireless technologies like LTE, Wi-Fi, etc., and also in devices like cell phones, laptops, e-readers, digital cameras, printers and so on. 4G applications are very likely to be extended and improved versions of the existing 3G services, but it is still unclear what the capacity of 4G will hold for the mobile world.

INDIAN SATELLITES

India has launched more than 50 satellites of various types, since its first attempt in 1975. The organization responsible for Indian satellites is the Indian Space Research Organization (ISRO). Most Satellites have been launched from various vehicles, including American, Russian, European satellite-launch rockets, and the U.S. Space Shuttle. First Indian satellite Aryabhata on 19th April 1975, later Bhaskara, Rohini, INSAT, Edusat, IRS, GSAT, Kalpana, Cartosat, IMS, Chandrayaan, ResourceSat, RiSat, AnuSat, etc.

MOBILE PHONE DEMAND

Demand of mobile phones in India is expected to reach 350 million units per annum by 2020, says a study by industry body FICCI with market analyst firm Ernst and Young (E&Y). “Karnataka is the sixth-largest telecom market in India, with the total mobile subscriber base crossing 52.45 million by TRAI, February 2013. The handset demand in Karnataka is projected to reach 16 million a year by 2020," the study said. At present, Indian mobile handset market is estimated to be in around 130 million handsets per annum.

It's estimated that 505 million handsets are to be manufactured in India during the same year.

The study sees untapped rural market to provide handset players the next phase of growth. The number of 3G subscribers expected to cross 11.8 million by 2020, fuelling the growth of 3G-enabled handsets. A favorable policy and regulatory initiative conducive for handset manufacturing in Karnataka is expected to drive sustainable growth in this segment," the statement said. The study recommends that there is need to set up handset manufacturing cluster parks that would enable a sustainable ecosystem for the manufacture of mobile handsets in the state.

According to the report, low-end smartphones accounted for majority of the smartphone sales. The Indian manufacturers ramped up shipments and released multiple models in the sub 10,000 categories, to take a significant share of the smartphone market in the country. Android continued to be the dominant player in the market but the last few months also witnessed the rise of iOS and Windows Phone as mobile platforms in the country. However the Karnataka market is still significantly small when compared to the other states in India.

MOBILE PHONE SERVICE

First mobile telephone service on non-commercial basis started in India on 48th Independence Day at country's capital Delhi. The first cellular call was made in India on July 31st, 1995 over Modi Telstra's Mobile Net GSM network of Kolkata. Later mobile telephone services are divided into multiple zones known as circles. Competition has caused prices to drop and calls across India are one of the cheapest in the world.

In Karnataka, T24, the mobile loyalty program cum UNPAID GSM mobile services from Future Group, jointly with Tata Teleservices Ltd (TTSL) today launched its services in this telecom circle. T24 is India's first UNPAID Mobile Service which aims to benefit the shopaholic people by giving them the benefit of FREE talk time on their shopping for FREE has now footsteps in 9 telecom circles via Tata Docomo's GSM Network. For assistance call T24-Karnataka Customer Care or visit one's nearest Future Group stores like Big Bazaar, Food Bazaar, Pantaloon, Ezone, Central, Brand Factory & Home Town. The Future group will be offering T24 Mobile services through its big stores across the Karnataka circle.

Karnataka government welcomed 2013 by launching mobile governance services for their citizens. Mobile phone users in Bangalore, Hubli-Dharwad and Mysore can now pay their electricity, water, telephone bills, property tax and fine for violating traffic rule using their mobile handsets. More than 100 services have been rolled out by the state government, which can be accessed by voice mail, SMS and Internet using mobile phones. All the services offered under existing e-Gov framework viz. Sakala, Bangaloreone, Bangalore Transport, Mysore Traffic and Karnataka one etc. can now be accessed through a single number. (m-Gov World Corresponden, January 10, 2013)

M-Gov initiative in the state would soon include services related to health, education, legal aid and agriculture. Gunjan Krishna, Head of SeMT (State e-Governance Mission Team) for Karnataka under the National e-Governance Division, said m-gov would tap the high cellphone penetration in the State. More people today access the Internet on their phones than on laptops.

M-Gov World View: Mobile Governance provides an unprecedented opportunity for the government agencies not only to provide services to all sections of the society, but also prove to be an excellent tool for enhancing citizen engagement in policy making. The potential of the mobile and new media technologies in connecting government to citizens as providing 24/7 everyday e-Government services is limited only by the imagination of the practitioners and policy makers.

Karnataka has become the sixth fastest growing mobile markets in India; therefore the mobile phone service companies have high fixed costs as a result of which they try to increase their productive capacity, which leads to intense competition. The customers can switch to another operator at very little cost. The competitors can easily attract customers by offering better services, lower prices and aggressive advertisement campaigns.

The mobile services (commercial services) were commercially launched in Karnataka in 1996. First with GSM services, then in 2002, CDMA services also commenced offered first with reliance pan Karnataka service. In Karnataka, pager communication launched successfully and was looked upon as devices that offered the much-needed mobility in communication, especially for businesses. When mobile phones were commercially launched in Karnataka, the pager had many advantages to boast. Pagers were smaller, had a longer battery life and were considerably cheaper. However, the mobile phones got better with time and continuously upgraded themselves.

MOBILE COMPANIES IN KARNATAKA

Karnataka is one of the fast growing mobile industries in India and there are a large number of mobile companies such as Bharti Airtel, Reliance, Tata DoCoMo, Vodafone, BSNL, Idea, MTS and Aircel.

Rank	Operator	Technology	Subscribers	Market Share
1	**Airtel**	GSM, EDGE, HSPA	16,823,114	29.9%
2	**Reliance**	CDMA, GSM, EVDO, HSPA	7,325,988	13%
3	**Tata DoCoMo**	GSM, CDMA, EDGE, EVDO, HSPA+	7,195,147	12.8%
4	**Vodafone**	GSM, EDGE, HSPA	7,015,371	12.5%
5	**BSNL**	GSM, EDGE, HSPA, CDMA, ECDO	6,700,874	11.9%
6	**Idea**	GSM, EDGE, HSPA	6, 611,164	11.7%
7	**MTS**	GSM & CDMA, EDGE, HSPA	2,382,452	4.2%
8	**Aircel**	GSM, EDGE	2,241,354	4%

Source: Telecom Regulatory Authority of India (TRAI)

CONCLUSION

Along with the extraordinary growth of the IT industry in Karnataka, Telecommunications is increasingly contributing to the high growth rate recorded in this state. The mobile services industry has a number of distinguishing features dominated by private sector enterprises and the government religiously followed a policy of "managed competition" by licensing more than one service provider in a telecom circle. However, since the mobile phone service industry is growing at a stable rate there are a large number of customers and therefore there is little pressure to take customers from competitors. Karnataka boasts of a robust communication infrastructure that connects most of the major cities and popular tourist locations and it is characterized by a high Internet literacy rate, which can be ascribed to the thriving IT industry in the state. The Exit barriers for the mobile industry are moderate because the initial investment is so huge that it takes time to recover the money and exit could result in losses but at the same time there are no government or social restrictions involved. Since the start of this millennium, a standard mobile device has gone from being no more than a simple two-way to being a mobile phone, GPS navigation device, an embedded web browser and instant messaging client, and a handheld game console.

Karnataka is the sixth-largest telecom market in India, with the total mobile subscriber base crossing 52.45 million and the handset demand in this state is projected to reach 16 million a year by 2020. Competition has caused prices to drop and calls across India are one of the cheapest in the world. The customers can switch to another operator at very little cost. The competitors can easily attract customers by offering better services, lower prices and aggressive advertisement campaigns. As operators expand coverage into urban, semi-urban, and rural areas, they will be confronted with the daunting tasks of developing a countrywide infrastructure and improving and maintaining the quality of service. It is quite likely that the rapid expansion of mobile services will provide economic, logistic and strategic challenges to the operators. Next Generation Networks, multiple access networks can connect customers to a core

network based on IP technology. These access networks include fiber optics or coaxial cable networks connected to fixed locations or customers connected through Wi-Fi as well as to 3G networks connected to mobile users. There are a large number of mobile companies in Karnataka and the competitors can easily attract customers by offering better services, lower prices and aggressive advertisement campaigns.

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