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ROLE OF MOBILE PHONE IN INDIA'S TRANSFORMATION**KULWANT SINGH RANA****PROFESSOR****DEPARTMENT OF COMMERCE & MANAGEMENT STUDIES****HIMACHAL PRADESH UNIVERSITY****SHIMLA****DR. ASHWANI RANA****DEPARTMENT OF ENGLISH****HIMACHAL PRADESH UNIVERSITY****SHIMLA****ABSTRACT**

Technology has always played a vital role in the socio-economic and cultural transformation of all societies. In the history of human civilization, wheel and fire stand out as the most significant inventions. In the modern period, Industrial Revolution played an important role in the socio-economic transformation of Europe. In the 20th century, satellite and computer technology has played a dominant role in transforming the world into a global village. The history of Indian telecom can be started with the introduction of telegraph. The postal and telecom sectors had a slow and uneasy start in India. The foundation of present day telecommunication was laid down by the British. Major means of telecommunication during this period was telegraph, wireless sets and landline telephones. While all the major cities and towns in the country were linked with telephones during the British period, In the period of reforms, the telecommunication sector was also opened to the private and foreign players. In the two decades of reforms, India has experienced a major revolution in the field of mobile telephones. Presently India has emerged as the second largest market in the world only after China. It has broken the barriers of caste, class, religion etc. It is expected that by 2013 there will be 100 per cent teledensity in India. It has played a role of a biggest catalyst in the transformation of Indian economy. Even during the global melt down of 2008 Indian economy continue to perform as the second fastest economy of the world. Definitely, the exponential growth in mobile phone sector was one of the most important factors responsible to maintain the tempo of Indian economy. Hence it will not be wrong to call mobile phone in India as the biggest revolution in post independent era.

KEYWORDS

Communication, Cellular Telephony, Impact of Mobile-telephony, Mobile Phones, MMS.

INTRODUCTION

Technology has always played a vital role in the socio-economic and cultural transformation of all societies. In the history of human civilization, wheel and fire stand out as the most significant inventions. In the modern period, Industrial Revolution played an important role in the socio-economic transformation of Europe. In the 20th century, satellite and computer technology has played a dominant role in transforming the world into a global village. Here, it is important to mention that over-emphasis on technological variables is not very appropriate because it may lead towards technological determinism and may undermine the role of other forces that go into the making of a nation. Although the pace of technological change, has been many times faster than the social change. Nevertheless, at different junctures of history, technology has played an overvaulting role in bringing about organic changes in the basic structure of socio-economic and cultural formations. Abheek Barua in his "Paths to Prosperity" (The Times of India 26 Dec, 09), says that "History tells us that the spread of new technology often makes a permanent difference to a nations fortunes. It was, after all, the steam engine and the spinning penny that transformed a tiny rain-sodden island in the Atlantic into a global economic powerhouse in the nineteenth century.

Communication is a process of transferring information from one entity to another. Communication is commonly defined as the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs. Communication requires that all parties have an area of communicative commonality. There are auditory means, such as speech, song, and tone of voice, and there are nonverbal means, such as language, sign, paralanguage, touch, eye contact, through media, . i.e., pictures, graphics, sound, and writing (Wikipedia). Over time, technology has progressed and has created new forms of and ideas about communication. These technological advances revolutionized the processes of communication. The development of language, printing press and communication through electronic waves were the three major revolutions in the field of communication. After Industrial Revolution, the world experienced another revolution in the 20th century which is generally known as Information Revolution.

A revolution in wireless telecommunications began in the first decade of the 20th century, with Marconi winning the Nobel Prize in Physics in 1909 for his pioneering developments in wireless radio communications. Other early inventors and developers in the field of electrical and electronic telecommunications included Samuel F.B. Morse and Joseph Henry of the United States, Alexander Graham Bell of Canada, Lee de Forest of the U.S., who invented the amplifying vacuum tube called the triode, Edwin Armstrong of the U.S., John Logie Baird of England, and Nikola Tesla whose most important inventions were created in the United States (Wikipedia). The history of mobile phones begins with early efforts to develop radio telephone technology and from two-way radios in vehicles and continues through emergence of modern mobile phones and associated services. In 1910 Lars Magnus Ericsson installed a telephone in his car, although this was not a radio telephone. While travelling across the country, he would stop at a place where telephone lines were accessible and using a pair of long electric wires he could connect to the national telephone network. In Europe, radio telephony was first used on the first-class passenger trains between Berlin and Hamburg in 1926. Later on, quantum jumps were noticed in this area.

OBJECTIVES

The pin pointed objectives of the present study are as under:

- 1 To study the growth and development of mobile telephony in India.
- 2 To study the impact of mobile phone on Indian economy.
- 3 To analyse the role of mobile phone as a catalyst in the transformation of Indian society.

LITERATURE REVIEW

Various studies have been conducted on the role of mobile phones in the overall transformation of the economy. Mirjam De Bruijn, Francis Nyamnjoh, Inge Brinkman (2009), have done a major study on the role of mobile phone in the transformation of African countries. It is not possible to imagine life now without a mobile phone is a frequent comment when Africans are asked about mobile phones. They have become part and parcel of the communication landscape in many urban and rural areas of Africa and the growth of mobile telephony is amazing: from 1 in 50 people being users in 2000 to 1 in 3 in 2008. Such growth is impressive but it does not even begin to tell us about the many ways in which mobile phones are being appropriated by Africans and how they are transforming

or are being transformed by society in Africa. This volume ventures into such appropriation and mutual shaping. Rich in theoretical innovation and empirical substantiation, it brings together reflections on developments around the mobile phone by scholars of six African countries (Burkina Faso, Cameroon, Ghana, Mali, Sudan and Tanzania) who explore the economic, social and cultural contexts in which the mobile phone is being adopted and harnessed by mobile Africa. Another pioneering study has been conducted by Christiana Charles-Iyoha (2008) in his edited book *Mobile Telephony: Leveraging Strengths and Opportunities for Socio-Economic Transformation in Nigeria* brought an interested findings that how a mobile phone is playing an important role in the transformation of African continent in general and Nigeria in particular..He further maintain that Mobile telephony presents the prospect for closing the access and development gap in Nigeria, Mobile penetration has increased in Nigeria at an astonishing rate; mobile phone subscribers are currently increasing at a rate of about 25% per year. According to this study, out of Nigeria's population of 140 million, 12.1 million own mobile phones and 64 million are potential mobile phone users through mobile payphones at call centers. The increase in phones has led people to modify their ways of life. Nigerians have benefited from immediate access to information on everything from health issues to commodity prices, and various radio and television programs ask for feedback through SMS and call-in numbers. Over a million indirect jobs have been created by the mobile telephony sector in the past five years. This figure indicates that mobile telephony could boost job creation and poverty alleviation if the conditions that would stimulate its spin-offs are introduced and nurtured in a consistent manner. About 10,000 direct jobs, or people employed by the mobile phone operators in Nigeria, have been created by the industry. Book also contains some primary investigations relating to entrepreneurship and gender question. The book seeks to answer the question of how to further influence socio-economic growth through the maximization of opportunities provided by mobile telephony. Nigeria has clearly been changed in numerous ways by mobile phones.

Gerard Goggin (2008) tried to explore the cultural dimensions of mobile phone. This provocative and comprehensive collection explores the cultural and media dimensions of mobile phones around the world. An international team of contributors look at how mobiles have been imagined through advertising and social representations tracing the scripting and shaping of the technology through gender, sexuality, religion, communication style and explore the locations of mobile phone culture in modernity, urban settings and even transnational families. This book also provides a guide to convergent mobile phone culture, with fresh, innovative accounts of text messaging, camera phones, and mobile adventures in television. Mobile Phone Culture opens up important new perspectives on how we understand this intimate yet public cultural technology. Kavoori and Arceneaux (2006) observed that the cell phone reader offers a diverse, eclectic set of essays that examines how this rapidly evolving technology is shaping new media cultures, new forms of identity, and media-centered relationships. The contributors focus on a range of topics, from horror films to hip-hop, from religion to race, and draw examples from across the globe. The book provides a road map for both scholars and beginning students to examine the profound social, cultural and international impact of this small device.

Shashi Tharoor (2007) observed that the cell phone revolution in India is exciting not only as a sign of India's economic transformation into a 21st century success story, but as a symptom of something far more important, a change in the attitude of our ruling classes. The government is marginal to this success story, since we don't need it to lay telephone lines across the country any more, and the private sector telecom companies develop their own connectivity. Perhaps the key contribution of the government has been in getting out of the way in cutting license fees and streamlining tariffs, easing the overly complex regulations and restrictions that discouraged investors from coming in to the Indian market, and allowing foreign firms to own up to 74 per cent of their Indian subsidiary companies. The Telecom Regulatory Authority of India (TRAI) has also been a model of its kind, a regulatory agency that saw its role as facilitating the growth of the business it was regulating, rather than stifling it with rules and restrictions. Tharoor termed this revolution as mobile miracle. VisionRI (2005) can be considered as the major study in India based largely on primary survey relating to the satisfaction provided by the telecom companies in India. The satisfaction level of users was analyzed on a five point scale ranging from not satisfied to fully satisfy. Only 14 percent of the consumers say that they are fully satisfied with the services, while 6 percent responded as not satisfied. A major group of consumers either say that they are almost satisfied (43%) or average satisfied (20%). "Very less satisfied plus not satisfied combined together comes to 20 percent of the total consumers. The major reasons cited for dissatisfaction are poor quality of signals (42%) and higher costs (38%). Poor quality of signals means unavailability of signals, call failure, call drop downs etc. Billing complaints were experienced by 4 per cent users while 9 percent are not happy with the quality of customer care services being provided. Many respondents cited multiple reasons for dissatisfaction. Users feedback on likings for various attributes of the mobile phone instrument was recorded. Operational ease (53%) and price (22%) are two attributes most valued by the customers followed by looks of the handset (11%) and multiple functionalities (10%). Major functionalities of the handset and other added services mostly used by the consumers are making and receiving calls, SMSs/MMSs, telephone diary and auto answering. The usage of other attributes that are being added and advertised by the handset manufacturers like camera, organizer, games, and radio etc. is quite less. Seventy seven percent of the sampled consumers receive unsolicited calls while only seventeen percent of it feels happy on getting such calls. Out of the consumer who gets such calls twenty three percent stays indifferent to such calls while thirty percent accepts that they get disturbed and feel irritated. Six percent gets very angry on receiving unsolicited calls. These various studies provide valuable insights for understanding the role of mobile phone in today's scenario; however, the prevailing gaps in the existing literature fully justify the present study.

METHODOLOGY

In the present study both secondary and primary methods have been used. The desk work has been done in the libraries of Himachal Pradesh University and Indian Institute of Advanced Studies. The data related to mobile phones has been collected from various magazines, newspapers and books. Various sites of internet have also been surfed relating to similar themes. For the purpose of primary data, stratified, random and convenience sampling has been used. For this purpose, a sample of illiterate migratory workers has been selected. The size of sample comprised of 200 migratory illiterate labourers from Bihar, Chhatisgarh and Orissa was taken those were working in 3 districts of Himachal Pradesh i.e. Kangra, Mandi and Shimla. The information was collected with the help of discussion and observation methods. For this purpose, a comprehensive discussion and interview schedule was finalised after a thorough testing. Delfy method has also been used to know the opinion of selected experts. For this purpose, a sample of 20 Professors was taken out of which half were ladies. For of analysis and interpretation, descriptive analytic and graphic methods have been used.

EVOLUTION OF MOBILE TECHNOLOGY

Present day's mobile phone technology is the by product of a long historic process. Different countries and organisations have contributed significantly in this area.

TABLE- 1: HISTORY OF CELLULAR TELEPHONY

1947	Bell Laboratories introduced the idea of cellular communications with the police car technology.
1947	The FCC decided to limit the amount of frequencies available, the limits made only twenty-three phone conversations possible simultaneously in the same service area.
1968	AT&T and Bell Labs proposed a cellular system to the FCC of many small, low-powered, broadcast towers, each covering a 'cell' a few miles in radius and collectively covering a larger area. Each tower would use only a few of the total frequencies allocated to the system. As the phones travelled across the area, calls would be passed from tower to tower.
1968	The FCC reconsidered its position by stating "if the technology to build a better mobile service works, we will increase the frequencies allocation, freeing the airwaves for more mobile phones."
1973 (April)	The first call on a portable cell phone is made by Dr Martin Cooper, a former general manager for the systems division at Motorola, who is also considered the inventor of the first modern portable handset.
1977	AT&T and Bell Labs had constructed a prototype cellular system. A year later, public trials of the new system were started in Chicago with over 2000 trial customers.
1979	The first commercial cellular telephone system began operation in Tokyo.
1980	Analog cellular telephone systems were experiencing rapid growth in Europe, particularly in Scandinavia, United Kingdom, France and Germany. Each country developed its own system, which was incompatible with everyone else's in equipment and operation
1981	Motorola and American Radio telephone started a second U.S. cellular radio-telephone system test in the Washington/Baltimore area.
1982	FCC authorizes commercial cellular service for the USA.

Source: <http://www.coai.com/history.php> visited on November 1- 2010

The decade of the 1980s can be considered as evolutionary stage of present day mobile phones while during 1990s mobile phone acquired a stage of maturity. In the late 1990s, the second generation mobile phone systems emerged, primarily using the GSM standard. These 2G phone systems differed from the previous generation. As the use of these phones became more widespread and people began to utilize mobile phones in their daily lives, it became clear that demand for data services was growing. Furthermore, if the experience from fixed broadband services was anything to go by, there would also be a demand for ever greater data speeds. Hence, the industry began to work on the next generation of technology known as 3G. The main technological difference that distinguishes 3G technology from 2G technology is the use of packet switching rather than circuit switching for data transmission. In addition, the standardization process focused on requirements more than technology. In the first decade of 21st century, 3G services were introduced on commercial scale.

The developing countries such as Brazil, India, China, Africa and Latin America have demonstrated blistering cell phone growth in recent years. As a result providing service and hand set to developing countries has become a substantial source of profits for several major companies. Many developing countries have seen rapid economic growth since 2000. The average revenue per user was \$50 in developed countries versus \$3-\$7 in developing countries. Markets in developing countries have continued to grow at double digit rates some as high as 100% per year and have penetration rates ranging from low double digits to 50%. Given these dynamics, several major carriers have decided to move into developing countries in a major way (www.economywatch.com). A number of research works are being carried out all over the world to improve the quality and speed of transmission. Research works are also done on the basis of the users' needs. The objective of the research work is to provide quality and affordable service to the consumers. The leading telecom companies like AT&T, Vodafone, Verizon, SBC Communications, Bell South, Qwest Communications etc. are trying to take the advantage of this growth. The service revenue of the global telecommunications industry was estimated to be \$1.7 trillion in 2008, and is expected to touch \$2.7 trillion by 2013(www.wikinvest.com). Even in the third world countries, Telecommunication has emerged as a dominant sector and a major source of revenue in the overall economy. According to UNCTAD's Information Economy Report 2010, the fixed line subscriptions will soon become a thing of the past with the mobile penetration across the world deepening, especially in the poor and developing countries. The relative share of mobile phones in the overall telephone market is consistently increasing. The major reason for the substitution of landline phone by mobile phone is its technological superiority. The biggest strength of mobile phone is its manoeuvrability that it can be carried in a pocket or a purse. Further, even illiterate people can use a mobile phone with ease. Useful phone numbers can be stored in the phone memory itself and it has made a pocket diary redundant. Features like the radio, music, camera, GPS, Internet, enhance its usability and uniqueness. Person can attend missed calls when he is free which is not possible in case of landline phone. The maintenance of landline telephone is another serious problem.

GENESIS OF MOBILE PHONES IN INDIA

The history of Indian telecom can be started with the introduction of telegraph. The postal and telecom sectors had a slow and uneasy start in India. Major means of telecommunication during this period was telegraph, wireless sets and landline telephones. 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 was only around 80,000. Even after independence, growth was extremely slow. The telephone was 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 real transformation in scenario came with the announcement of the National Telecom Policy in 1994 (economywatch.com/world-industries/telecommunications/india.html).

TABLE-2: MAJOR DEVELOPMENTS IN THE GROWTH OF MOBILE PHONES IN INDIA

1992	Telecommunication sector in India liberalized to bridge the gap through government spending & to provide additional resources for the nation's telecom target. Private sector allowed participating
1993	The telecom industry gets an annual foreign investment Rs 20.6 million
1994	License for providing cellular mobile services granted by the government of India for the Metropolitan cities of Delhi, Mumbai, Kolkata & Chennai. Cellular mobile service to be duopoly (i.e. not more than two cellular mobile operators could be licensed in each telecom circle), under a fixed license fee regime for 10 years.
1995	19 more telecom circles get mobile licenses
1995	Kolkata became the first metro to have a cellular network
1997	Telecom Regulatory Authority of India is set up
1998	Annual foreign investment in telecom stands at Rs 17,756.4 million.
1999	FDI inflow into telecom sector falls by almost 90% to Rs. 2126.7 million
1999	National Telecom Policy is announced.
2000	FDI inflow drops further down to Rs 918 million coming

Source: Cellular operators Association of India.

Government of India implemented the unified access licensing regime, which enables basic and cellular mobile service to use any modern technology. In 1997, Telecom Regulatory Authority of India was formed to facilitate the growth of the telecom sector. India is divided into 23 telecom circles. Airtel was the first company in India to launch mobile services in India. Later on, other players also entered this sector. Due to the rapid growth of the cellular phone industry in India, landlines are facing stiff competition from cellular operators. The share of landline phones in India has declined to 5 % in the overall market. The cellular operators have been permitted to provide all types of mobile services. In India, both GSM and CDMA technologies are used by the cellular service providers.

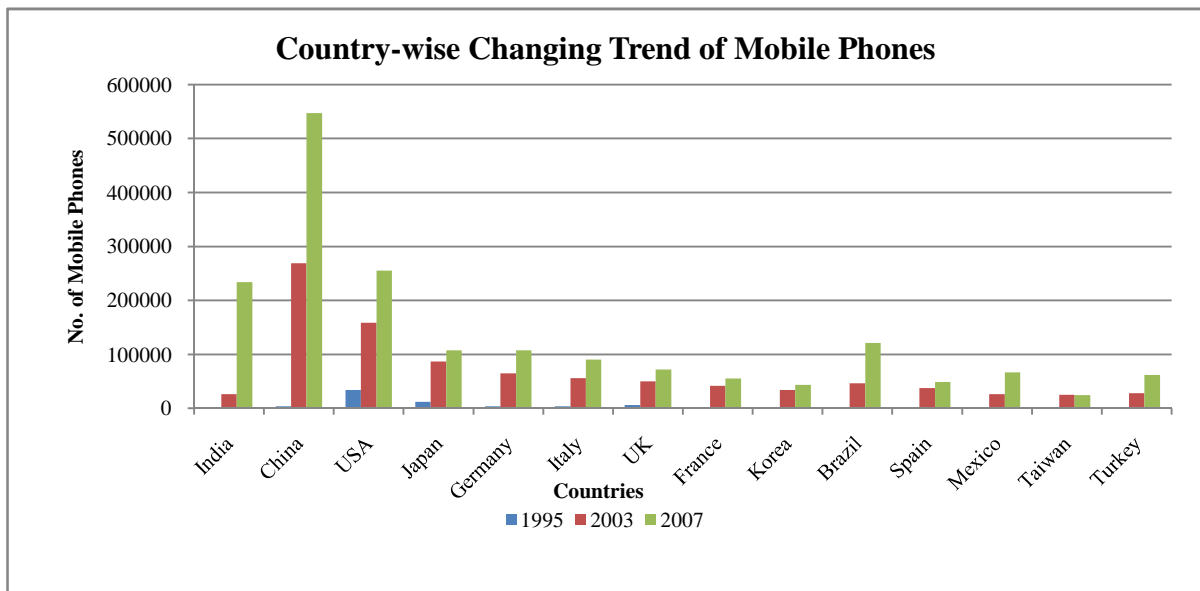
GROWTH OF MOBILE PHONES IN INDIA AND THE WORLD

Telecom industry in India has been playing a major role in Indian economy. The Indian government is also enforcing some effective telecom policies and regulations for the infrastructural growth of this industry. Indian telecom market provides a Tele-density of 8.5 percent as registered in the year 2004. A number of leading multinational telecommunication companies are approaching and showing their interest to invest for the telecom industry in India. Telecommunication industry of India ranked sixth the world.

TABLE-3: CHANGING INDIA'S RELATIVE POSITION IN THE GLOBAL CELLULAR MARKET (000)

Country	1995	2003	2007
India	76	26154	233620
China	3629	269000	547306
USA	33785	158722	255396
Japan	11712	86659	107339
Germany	3725	64800	107339
Italy	3923	55918	90151
UK	5735	49677	71993
France	1302	41683	55358
Korea	1641	33592	43498
Brazil	1285	46373	120980
Spain	945	37507	48423
Mexico	688	25928	66560
Taiwan	772	25090	24302
Turkey	437	27888	61976

Source: The figures given in the table have been compiled from Tata's Statistical Outline of India 2009.



From 1995 to 2007, the number of mobile phones in the world has gone from 90695000 to 3352767000. This shows that mobile phone has become a fastest growing product through out the world. Nevertheless, the rate of growth in India has been much higher than the global average. The compound growth rate in the mobile sector was 35.10 for whole of the world from 1995 to 2007 while this rate was 95.27 for India for the same period. In other words, India’s mobile market has expanded almost three times faster than the global market. Here it is important to mention that in number of countries, it has already saturated while in India it is still growing at a much faster pace which is clear from the figures given in the next table.

TABLE- 4: LIST OF COUNTRIES ON THE BASIS OF MOBILE PHONES IN 2009- 2010

Sr. No.	Country	NO of mobile phones	Population	percentage	Updating Date
1	China	785,524,000	1,337,960,000	59.6	June 2010
2	India	635,510,000	1,180,166,000	53.8	June 2010
3	USA	285,610,580	308,505,000	91.0	Dec. 2009
4	Russia	213,900,000	141,940,000	147.3	Jun. 2010
5	Brazil	185,135,000	191,480,630	96.6	Jun. 2010
6	Indonesia	140,200,000	231,369,500	60.5	Dec. 2008
7	Japan	107,490,000	127,530,000	84.1	Mar. 2009
8	Germany	107,000,000	81,882,342	130.1	2009
9	Pakistan	97,579,940	168,500,500	59.6	Dec.2008
10	Italy	88,580,000	60,090,400	147.4	Dec.2008
11	Mexico	83,500,000	111,212,000	75.0	Apr.2010
12	UK	75,750,000	61,612,300	122.9	Dec. 2008
13	Vietnam	70,000,000	87,375,000	80.1	2009
14	Philippines	67,900,000	92,226,600	73.6	Dec. 2008
15	Turkey	66,000,000	71,517,100	92.2	2009
16	Nigeria	64,000,000	154,729,000	41.3	Dec. 2009
17	France	58,730,000	65,073,842	90.2	Dec. 2008
18	Ukraine	55,170,908	46,143,700	119.5	April. 2009
19	Thailand	51,377,000	65,000,000	79.0	2008
20	Spain	50,890,000	45,828,172	111.0	Dec. 2008
21	Bangla Desh	50,400,000	162,221,000	31.1	Aug 2009
22	South Korea	47,000,000	48,333,000	97.2	2009
23	Argentina	40,402,000	40,482,000	99.8	2007
24	South Africa	42,300,000	47,850,700	82.9	2007
25	Iran	39,400,000	71,208,000	54.2	2008
	World	4,600,000,000	6,797,100,000	67.6	2009

Source: Wikipedia (Site visited on October 15, 2010).

The year 2009 noted a major slump in the mobile market of the world, because of the recessionary situation in the global market. However, it is important to mention here that there may be some exceptional companies those have noticed rapid expansion in their products. Like Apple's i- phone sale has increased by 91 % in 2009 (*The Tribune, 30th October, 2010*). Such cases can only be considered as an exception. In the overall market situation, it is only the markets of developing countries which have shown a major jump. Even the world wide slow down has failed to decelerate the markets of mobile phones in India and China. India has not only surpassed USA in number of mobile phones in the last two years, rather the size of the Indian market has gone more than twice bigger than USA and after China, it has emerged as the biggest market for mobile phones in the world. Moreover, gap between India and China has further come down and if the existing rate of growth is allowed to continue, it is expected that within next one decade, India's mobile market may come close to China. Another point to be mentioned is that the developed countries have limited market and major potential is mainly in the developing countries. India's mobile phone market is the fastest growing in the world, with companies adding some 20.31 million new customers in March 2010. By the end of 31st.August, 2010, the mobile figure of the country has crossed the figure of 650 million. The various estimates made by TRAI states that by 2014, the total number of mobiles is likely to cross 1 billion. According to Business Bhaskar (27th June 2010), by 2020, India is going to be world's biggest market for value added services through mobile phone. The existing trend of exponential growth in the mobile sector will continue to be there in the next decade also.

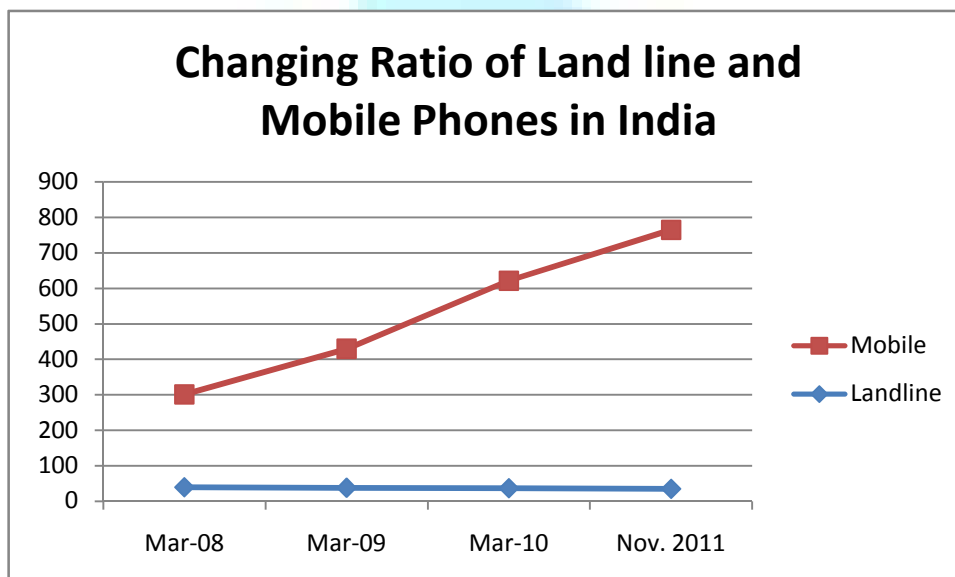
COMPARATIVE PERFORMANCE OF LAND LINE AND MOBILE PHONES IN INDIA

The biggest victim of the growth of mobile phone in India has been the land line phone. In the first decade of 21st century, mobile phone has noticed an exponential growth while the land line phone noticed a saturation and some times negative growth also.

TABLE 5: GROWTH OF TELEPHONE CONNECTIONS IN INDIA

	March 2008	March 2009	March 2010	Nov. 2011
Landline	39.41	37.96	36.96	35.19
Mobile	261.8	391.76	584.32	729.58
Gross Total	300.49	429.73	621.28	764.77
Annual growth	46	43	45	19

Source: Department of Telecommunications.



Land line phone connections are being disconnected by the people because of its inherent limitations. The overall share of land line phone has come down to less than 5 per cent in 2011 and it is further expected to fall. The trend in the graph clearly indicate that day is not for when land line is going to be a thing of past.

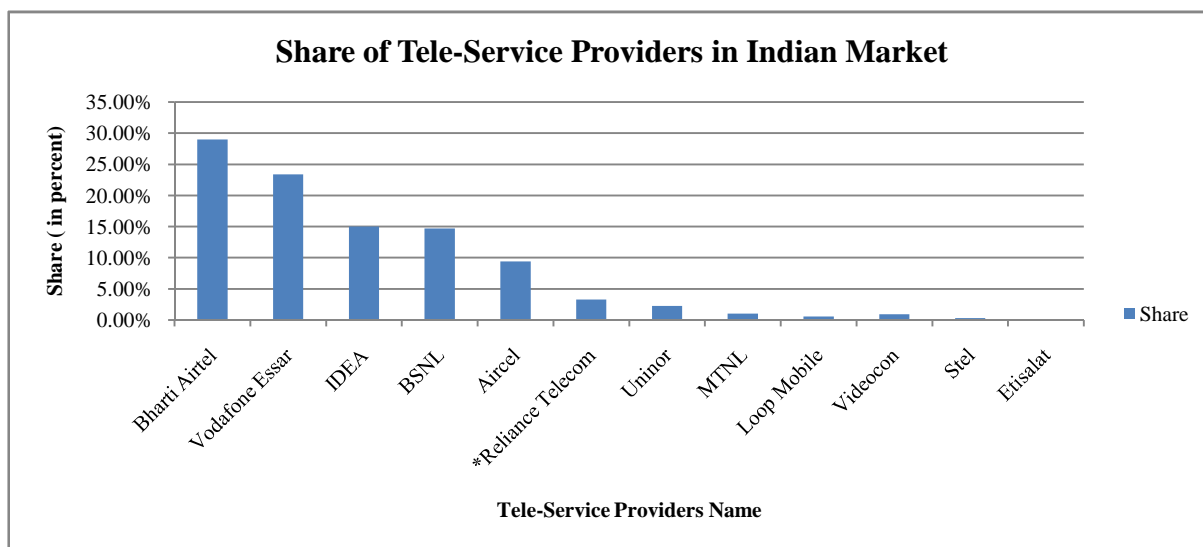
PERFORMANCE OF TELECOM COMPANIES IN INDIA

In India, large number of companies has joined this sector in the post reforms period. Presently, there is a stiff competition in this market. About a dozen companies have already joined this sector and some more companies are expected to follow them. Both public sector and private companies are there. BSNL and MTNL are mainly public sector companies and rest is private players.

TABLE 6: GROUP COMPANY WISE % MARKET SHARE AS ON SEP'2010

Sl. No.	Name of Company	Total Sub Figures	% Market Share
1	Bharti Airtel	143,292,272	29.00%
2	Vodafone Essar	115,553,042	23.39%
3	IDEA	74,213,507	15.02%
4	BSNL	72,693,217	14.71%
5	Aircel	46,515,378	9.42%
6	*Reliance Telecom	16,311,206	3.30%
7	Uninor	11,267,660	2.28%
8	MTNL	5,024,692	1.02%
9	Loop Mobile	2,983,899	0.60%
10	Videocon	4,482,272	0.91%
11	Stel	1,642,272	0.33%
12	Etisalat	56,583	0.01%
	All India	494,036,000	100.00%

Source: Cellular Operators Association of India, Site visited on October 30- 2010



Presently, Bharti Airtel is the leading company in this area which is controlling around 29% market of mobile phones in India. There are other 4 companies having market share in double digit. Here it is important to note that the share of public sector companies is gradually declining. In 2011 the share of private companies in this sector has increased to 85 per cent and the public sector companies' existence has been seriously threatened. Because of stiff competition, the various companies are coming with new schemes to attract the customers and the profit margins are quite nominal and that is why the rates of mobile calls in India are the cheapest in the world.

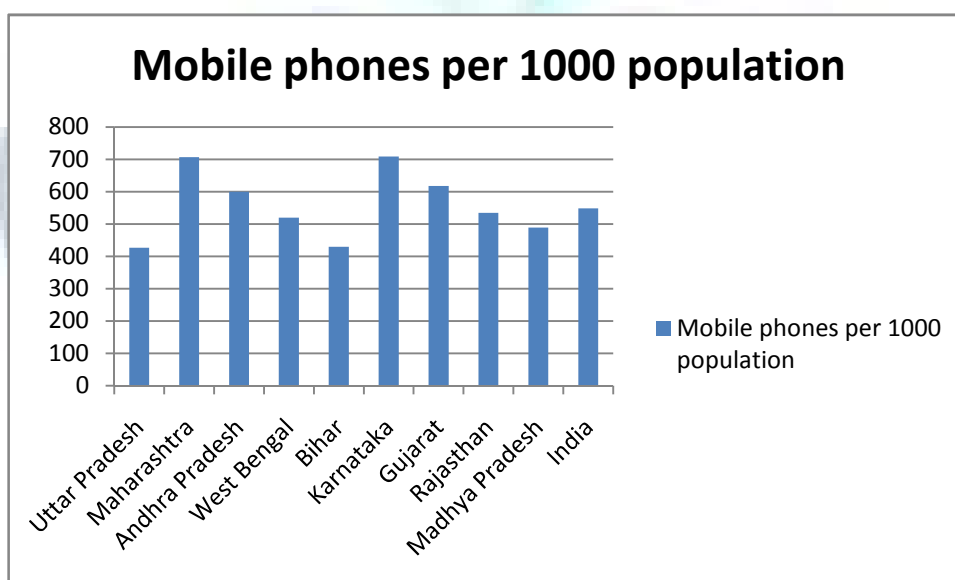
REGIONAL SPREAD OF MOBILE PHONES IN INDIA

India is a vast country comprised of more than 30 states and Union Territories. The spread of mobile phones is highly uneven.

TABLE- 6: MOBILETELE- DENSITY IN MAJOR INDIAN STATES

State	Subscriber base	Population (01/08/2010)	Mobile phones per 1000 population
Uttar Pradesh	85,185,307	199,415,992	427
Maharashtra	78,020,851	110,351,688	707
Andhra Pradesh	50,507,427	84,241,069	600
West Bengal	47,088,259	90,524,849	520
Bihar	41,898,468	97,560,027	430
Karnataka	41,804,172	58,969,294	709
Gujarat	36,097,163	58,388,625	618
Rajasthan	36,083,720	67,449,102	535
Madhya Pradesh	35,391,441	72,362,313	489
India	652,420,798	1,188,783,351	549

Source: Wikipedia visited on 1st November 2010.



Although, there are 549 mobile for 1000 people but it does not mean that more than half of India's population has been covered by the mobile phones. It is because number of people in India has got more than one sim and in actual terms roughly one third population has been brought under the mobile network. Therefore, there is still a lot of potential which is yet to be exploited. There are vast variations in the per capita income and standard of living. Amongst the 10 largest states of India, the highest tele- density has been noticed in Maharashtra while Madhya Pradesh has the lowest one. Therefore, it will not be wrong to conclude that there is some kind of positive correlation between spread of mobile phones and per capita income. The per capita income of Punjab, Haryana, Goa, Delhi etc. is many times higher than the per capita income of Bihar, JHarkhand, Chhatisgarh Madhya Pradesh etc. Similar trend can also be noticed in the spread of mobile phones also. According to the latest figure released by the TRAI in May (The Indian Express July 1st 2010) Punjab has emerged as the leading state as far as the density of mobile phones is concerned. The wireless subscriber base of the state has reached a staggering 21.24 million, just a few million below the state's estimated population of 25 million. The figures say the subscriber base of the state jumped by 6.5 lakh to touch 21.24 million users in the month of May 2010 alone. In Neighbouring Haryana, which has a population of over 21 million, the subscriber base has reached 14.93 million in May 2010 with 5.5 lakh new ones adding to the list that very month. The number of users in Himachal, too, has gone up to 5.2 million this year against the population of over 6 million. These highly Populated states still have lot of potential for further expansion in the near future also. Here it is important to mention that Punjab has also emerged as the leading state as far as the value added services like ring tones, SMS and MMS are concerned. For sustainable development, it is important that efforts should be made to cover the backward, tribal and other neglected areas and sections of the Indian society so that fruits of this technology could be distributed in every nook and corner of the country. Obviously, the rural areas of India still have huge untapped potential.

ECONOMIC DIMENSIONS OF MOBILE SECTOR

The Indian telecommunication industry is one of the fastest growing industries of the world, with 700 Million telephone (landlines and mobile) subscribers. It is projected that India will have 1.159 billion mobile subscribers by 2013. Furthermore, projections by several leading global consultancies indicate that the total number of subscribers in India will exceed the total subscriber count in the China by 2013. The industry is expected to reach a size of Rs 344,921 crore by 2012 at a growth rate of over 26 per cent, and generate employment opportunities for about 10 million people during the same period. According to analysts, the sector would create direct employment for 2.8 million people and for 7 million indirectly. In 2008-09 the overall telecom equipments revenue in India stood at Rs 136,833 crore during the fiscal, as against Rs 115,382 crore a year before (Wikipedia). A large population, low telephony penetration levels, and a rise in consumers' income and spending owing to strong economic growth have helped make India the fastest-growing telecom market in the world. A new mobile connection can be activated with a monthly commitment of Rs.100. Even some of the companies are offering life time validity where the consumer is supposed to charge his mobile once in six months. The average growth rate in this industry has been around 30 % in the first decade of 21st century.

The unprecedented growth in mobile industry in India has given a birth to the new class of entrepreneurs. The biggest example in this area can be of Sunil Bharti Mittal owner of Airtel which is the largest mobile service provider company of India. In 2010 Airtel has acquired Zain Telecom's Africa operations. It has made Airtel as the 5th largest mobile service provider in the world. Similarly, other Indian companies like Reliance, BSNL etc are also in the race for capturing global market through takeovers and tie up arrangements. Similarly, this industry has given a birth to number of entrepreneurs amongst the rural and urban poor section of the Indian society. There is hardly any village or locality in India where there is no shop relating to mobile sale, repairs, recharges coupons etc. Obviously, mobile has created a very large number of entrepreneurs through out the country.

In the last one decade, i.e. from 1999 onwards, average rate of growth of the world economy was between 3 to 4 percent while the average rate of growth of the Indian economy has stayed between 6 to 7 percent. In the face of global meltdown, the demand for a mobile phone has not seen any slump in the Indian market. Although companies like GM, Layman Brothers etc. walked into bankruptcy, however, mobile phone market in India remained unfazed and unaffected. The growth of any economy cannot be attributed to a single variable as there are multiple factors, for its socio-economic transition. Service sector has become an engine of growth for the Indian economy (See Economic Survey 2008-9). Its share in overall India's GDP has crossed 56 percent. Mobile phone sector is one of the biggest players in service sector which has boosted its exponential growth in service sector. In the last three years since 2007, the average monthly sale of mobile phones in the Indian market has been between 15 to 20 million. If the average price of a phone is taken for 2500 rupees approximately, the volume of total revenue generated through this sale is around Rupees 25000 crores. Similarly, assuming, if 65 crore mobile users spend Rs 200 per month as average expenditure on a mobile phone bill; the annual expenditure would generate Rupees 13000 crores. The amount spent on wear and tear, advertising etc. also comes around Rupees 5000 crores. The total direct contribution of this industry to the Indian economy is around rupees 50000 crores. Similarly, the indirect contribution of this sector is many times bigger than that. This amount is almost equal to the total amount spent by India's most revolutionary scheme named as Mahatma Gandhi National Rural Employment Guarantee Scheme.

Mobile phone has emerged as the fastest growing product in Indian market. In its demands it has already single-handedly surpassed all other consumer goods. Indian economy continues to grow at 7 to 8 percent while the rate of growth for the world economy has slumped to less than 1 percent. The growth of mobile phone market in India has stayed at more than 30 percent. Mobile phone has created countless employment opportunities for the people of India through its production, distribution, sales and repairs in every nook and corner of the country. For instance Nokia's plant at Chennai has provided direct employment to 4000 people. No single product has generated such a keen interest and a variety of employment opportunities in the last one decade. This appears to have surpassed even the software industry in terms of employment. Employability in mobile phone industry does not require specialized qualifications like an engineering course of four years. Here, one may add that employment need not be measured for its commercial content; it also has a multi-dimensional transformational impact on a society. The mobile phone industry has created enormous employment opportunities, especially in unorganized sector of the Indian economy. This can be substantiated by the fact that a plumber, a taxi driver or a casual worker who is generally on the move can be easily traced and contacted. Such a worker can also plan his time-schedule accordingly to serve many more customers. The unorganized work force of India has been benefited tremendously. The multiplier impact of a mobile phone has given an additional boost to the Indian economy. If any single product has to be credited for breaking the vicious cycle of underdevelopment and taking it to the stage of take-off, it has to be definitely a mobile phone. It has played an important role in checking the impact of global slowdown in India.

The founding father of India's Green Revolution Mr. Swami Nathan has pointed out that the farmers have been the biggest beneficiaries of the mobile phones because they always remain in touch with the latest developments taking place in the market. Earlier they have to sell their goods at throw away prices but mobile has sufficiently helped them in getting better price for their produce. Since, agriculture sector is still the biggest employer in India and without transforming the lives of peasantry; no worthwhile change can take place in the Indian society. This can be considered as the biggest contribution of the mobile phone in India. PTI reports in the Tribune of Jan 4, 2010 that over 1.75 million Indian nationals living in the UAE will find it easier to send money through mobile banking. It further says that at least \$25 billion in remittances were sent to India in 2008 by expatriates working across the Gulf, according to World Bank data with UAE representing about 13 percent of the total remittances to India. "Unique Identity Project of Government of India is exploring the possibility of using mobile as an instrument for the identity of Indians. Large number of banks has given the facility of mobile banking which can be operated purely with the help of mobile phone. It has become more popular than internet banking because large number of people has no access to computers. These are the few new areas; where off late mobile phone has also jumped and an important role in almost every section of the Indian society.

In the first half of the 20th century, India experienced a very slow growth, sometimes which is called as the Hindu Rate of Growth. In the post-independence era, slight improvement was noticed but till 1970s, India's rate of growth remained less than the world's economy. It was only after 1970s, that India registered a growth rate which was slightly higher than the world average. In the post reforms period, Indian economy has shown an outstanding performance in sectors like Information Technology. In the first decade of 21st century, Indian economy has emerged as the fastest growing economy of the world only next to China. Even during the world wide global melt down, Indian economy remained resilient and acted as engine of growth for taking out the world from this crisis. Although, there might be different factors responsible for this but the single most important reason for this unprecedented growth in the Indian economy is the expansion of the mobile telephone which acted as a biggest catalyst for keeping the momentum of the Indian economy. The sales volume of mobile phone has surpassed all other consumer goods including television, washing machines, radio sets, computers, etc. None of the changes that mobile phone connectivity brought about

seems earthshaking in isolation. As the steam engine and power loom played a role in England's Industrial Revolution, almost similar role is being played by mobile phone in India.

SOCIO-CULTURAL IMPACT OF MOBILE-TELEPHONY IN INDIA

Mobile phone is not merely a technological innovation; it has but also had serious implications for the socio-cultural fabric of Indian society. India is still considered a conservative society when compared to its Western counterparts. With the emergence of a mobile phone as a household product, the barriers in communication have broken down substantially. A popular advertisement on the TV has rightly exploited this theme that earlier it were the parents who introduced their children for marriage, now it is the children who in order to marry get their parents introduced. This has helped in bringing more freedom and frankness in the otherwise traditionally conservative Indian society. Generally it is said that Information Revolution has created a digital divide but a mobile phone can be considered as an exception to it because a large section of Indian population, living below poverty line has been successfully brought under the gamut of its usage. For the haves and have-nots, a mobile phone has become an integral part of their life. It has successfully dented the digital divide to a great extent and no more does it remain a sole domain of the elite class. Rural poor, labourers and other weaker sections of the Indian society have also started benefiting from this miraculous gadget.

Mobile phone is a product of mass consumption. Its sales in India far exceed in numbers when compared with other consumer goods. Although computer is also playing a vital role in India's economy but its access is limited to a negligible section of the Indian society. For operating a computer one has to possess certain specialized knowledge and skills whereas for operating a mobile phone one does not need any specialized training or education. Even illiterate people can operate it and in India where 300 million people have no educational background, a mobile phone has provided them with new opportunities in the various spheres.

According to The Times of India, Dec. 5, 09, in Andhra Pradesh's Jeedimetla village where people encouraged playing mobile games to learn English. Irani says Matthew Kam, an assistant professor at Carnegie Mellon University and his team are developing these games as part of Mobile and Immersive Learning for Literacy in Emerging Economies, a research project that aims to help poor Indian children acquire English as a second language. Generally literary creativity has little to do with a common man. Everybody need not be a professional play writer poet or a literary person to be creative. Since, mobile phone makes available various modes (verbal or written) of communication; it has promoted hidden creative potential of the younger generation. Shakespeare once said: "When hearts are full words are few" clearly depicts the limitations of the emotional human oral communication. A mobile phone has helped in overcoming this human hurdle through different means. One can write SMS message send a picture message or a MMS, which at times communicates more than the words. Therefore, the most unexplored and orally unspeakable dimension of a human personality finds a written or symbolic expression through the use of a mobile phone. Axel Mayer, the designer of N-series of Nokia phones says that "We wanted to capture life and wed it with technology, like taking pictures and sharing with others" (M. Rajendran 58) says that Mayer is working on the next N series phone which for him would "join the virtual with real world". Similar creative attempt is being made by other mobile companies which bank on creative people like Mayer in order to bridge the gap between expectations, aspirations and hopes of the new generation in constantly innovating mobile technology.

The reality of a mobile phone has come to stay. It would, indeed, go on endlessly redefining/reworking human lines. The boundaries of 'known-ness' (which perennially expands the territory of reality itself) have broadened. In present times, the dimension of mobility added by a mobile phone has re-modified our body language. It has now generated its own register, its own discourse. Mobile phone has extended the range of topics which could be discussed telephonically. It is a transition from transference of significant information to a dilution of seriousness of information to chat like gossip. It has freed the act of communication and further simplified it. It certainly has transformed the tone of a communication.

If one explores the feature of SMS offered by the mobile phones, one finds that it has added a new dimension in written language. A SMS flaunts the correctness of language. A simple letter 'd' is capable of representing 'the' or 'u' can now represent 'you'. This almost numerical representation for complete words or shortening of words, for instance, 'dat' for 'that'—are certain challenges of this new found language posed to the purely assumed by grammatical language. The language of SMS takes to task correctness. Language is forced to liberate out of its conventional grammatical correctness. Language and its uncomfortable other have now learned to tolerate each other and co-exist. Love-letters have become redundant and old fashioned. The discourse of love is now an admixture of a free-flowing, bolder and uninhibited speech between a boy and a girl while SMS questions the written form of a love-letters. This change is significant, since this gives a glimpse of how secretly this modern mode of communication has replaced a traditional mode, and in doing so, has manipulated the emotional and social habits. It would not be wrong to call a mobile phone a sign that is capable of altering human speech, language and social behaviour. It has added to the play in language. Now a days, mobile phones have come to be linked with modern day human identify. One is reminded of yet another advertisement where the husband while sitting in the same room goes on sending SMS's to his wife. The advertisement is constructed after the idea that mobile phone communication can redefine and promote a closer bonding between husband - wife relationship. As a new mode of communication it has added another dimension to rediscovery of their relationship. It has induced an element of surprise and variety to a relationship.

Lately, with the growth of communication technology in the last two decades the repressive in Indian traditional value system has found an expression through communication technology. If literature of the bygone era celebrated motifs like "Heer-Ranjha", "Laila -Majnu", "Sohni-Mahiwal" as reflections of traditional family system which opposed love relationships. Technology has indirectly empowered individuals and weakened the control of traditional value system. The barriers to meeting of a girl and boy imposed by typical traditional parents can be surmounted with the use of a mobile phone. The male female relations in India and now defy the spacio-temporal limitations imposed on them by their traditional parents to a reasonable extent. Walls that separate two lovers have noticed major cracks through the tsunami waves of the mobile phone. The mobile phone signifies a means to revolt against sanctions on communication.

With the growing use of mobile phone, the change in the Indian society is more visible at socio-cultural level, whereas for the poor this transformation is more visible in having improved their economic life. The middle class being more psychologically alive is more imaginative in its use of the mobile phone. The rich might only be obsessed with purchasing expensive phone sets. Definitely, there is hardly any section which has not been touched by this instrument. The experience of a mobile is multi-fold and it provides a secular space wherein the high and low could meet in the materiality of a phone. Purchasing an expensive handset is an elitist fad, whereas an inexpensive phone would give a symbolic opportunity to the poor to feel equal to the rich. More recently with the introduction of the 3G services on mobile phones, the act of communication has become a hyper-real act. While it adds an element of fiction to communication, its video imagery adds a sense of picturesque reality to a conversation and re-modifies relationships. It has added a dimension of "entertainment-value" to the otherwise mundane act of telephony. The mobile phone has combined the possibility of verbal, visual and the written word all in a single space.

MISCELLANEOUS CONTRIBUTIONS OF MOBILE PHONE TO THE INDIAN SOCIETY

Apart from the above stated contributions, mobile phone has played an important role in number of other areas also. According to 2001 census, India's literacy rate was 64 percent and the literacy figure projected for the year 2011 is 78 percent. Mobile phone has added a new dimension to extending literacy to helping improve the functional literacy of its users in a unique way. The computer is at times feared for being a highly technical gadget. Majority of people feel inhibited to use it in their daily life. This inhibition has been successfully broken by the mobile phone, because a variety of functions in a mobile phone are quite similar to that of the computer like enter, backspace, delete, copy, save alphabets, numbers etc. After using mobile one gets psychological confidence that like mobile even computer can also be operated. During the last five years there has been a tremendous increase in the sale of computers in India and the overwhelming familiarity with a mobile phone and its cheaper price has aided in boosting the demand of computers.

In a mobile phone has helped people during calamities and unexpected crises which has situations occurred in India during the last decade. Tsunami was the single biggest tragedy where death toll touched 16,000 in India during this decade. Mobile phone played an important role in reaching help to the needy similarly, during the Kosi floods in Bihar, lakhs of people could be saved only because of the connectivity provided by a mobile phone. A number of lives could be saved during Aila Tornado in West Bengal because of a mobile phone. The recent cloud burst in Leh played havoc and where all communication networks was damaged and the relief operations could be started with the help of satellite mobile phones and number of precious lives could be saved. At micro level in case

of an emergency mobile phone plays an important role. If a person meets with an accident or if a lady is travelling alone, in both cases it can provide ready succour and security. The GPS facility provided on the mobile phone will act checks crime as your guide in case one has to find ones way. Similarly, police or the family members can be called at one call in case of an emergency. Moreover, in case of natural calamity, the persons can be located by tracking mobile phone. Here it is important to mention that the police and security agencies have successfully used this technology to trap a large number of criminals/terrorists. No doubt criminals and terrorists have repeatedly made use of this technology but its use now can make them gullible. Number of criminals forget that once they use this device, they come under the global network and can be traced if the security agencies desire to so. In large number of criminal cases, the police investigation starts with the mobile calls. There is a strong tendency in the Indian society to hide a crime and most of the times; these crimes are put under the carpet. With the ever-growing use of a mobile phone, a large number of crimes have been brought to the book. Police and other security agencies keep a regular track of the communication network of the terrorists and the organized criminal gangs. Family as a unit is strengthening into a cohesive unit since parents can now monitor their children. Even husband and wife can follow track to each other's activities. In so many cases a number of rapists, kidnappers and other anti-social elements have been successfully trapped through mobile phone technology. The recent bribe case of parliamentarians or more recently the case of an IAS officer at Bhopal who was caught red-handed sexually assaulting his subordinate who called the media from his mobile phone had created a sensation in India. This technology is going to play an important role in tracing criminals and checking crime even in the near future also.

SOME PRIMARY OBSERVATIONS

The growing use of mobile phone amongst the various sections of the Indian society has virtually enhanced their skills and proved to be quite useful in sorting out their social problems in number of ways. It was interesting to note that majority of them have become conversant with English alphabets and numeric figures given in mobile phone. They further elaborated that now they can save mobile numbers, redial them and monitor their mobile bills. They further mentioned that mobile phone has helped them in enhancing their income through increased access to work. Even majority of them have provided phones to their household wives. Most of them preferred to buy another handset to their children rather than purchasing television or washing machine.

The intellectual community is of the opinion that mobile has played a multidimensional role in the transformation of Indian society. It will not be wrong to call mobile as the biggest revolution experienced by the independent India. It has broken the barriers of caste, creed, religion and class. It has emerged as a symbol of new India. Even the most neglected sections of the Indian society have been brought under its network. It has given a new dimension to the teacher/taught and employer/employee relationship. It was observed from the discussion with the university lady teachers that that mobile has played a revolutionary role in the sorting out the gender question. Any time they feel the problem of eve teasers, etc., mobile acts like a helping hand because they can call their family members and friends in case of any emergency. Further they believe that mobile has helped significantly in improving the social status of women in the Indian society because now they can better express themselves according to their convenience and through non verbal communication. For number of women, it is acting like a companion when they are alone or away from their homes. The mobile phone has helped significantly in enhancing their communication. Apart from an inhibited chat, women using SMS messaging whenever they find oral communication is either insufficient or undesirable. Obviously, mobile is playing multi-dimensional role in Indian society and further intensifying the process of social transformation.

MAJOR ISSUES IN MOBILE INDUSTRY OF INDIA

No doubt, Indian mobile industry has noticed unprecedented growth in the last one decade but at the same time it is also confronting with number of controversial issues. In 2008, India banned the unbranded Chinese mobiles which are without IMEI numbers. Also a large number of SIM connections have been deactivated in a number of Indian states because the identity of these SIM cardholders was suspect. In a recent development the Indian govt. went on to shut down 2 crore mobile connections which failed to procure IMEA identification number for their mobile handsets. Under WTO regime, such issues can create some legal problems. Similarly, Blackberry company of Canada also faces similar controversies at differ occasions. According to The Tribune (18th July 2010), the Blackberry has sold more than 75 million devices used in more than 170 countries. However, along the way, there were problems, financial vicissitudes, a patent battle and accounting issues with the Canadian securities regulators. Both times the firm paid major sums of money to settle the issues. Recently, Saudi Arabia and some Middle East countries have banned the products of Blackberry in their respective countries. According to Daily Herald (3rd August 2010), BlackBerry maker Research In Motion may make concessions to India and Kuwait after their governments voiced concerns about the smart phone as a security threat, newspapers said on Tuesday. According to Economic Times (9th August 2010) Blackberry has made a fresh attempt to break the logjam over its services in India by offering Metadata and relevant information to security agencies which will enable them in lawful interception but has failed to enthruse them. This issue has yet to settle between India and Blackberry.

Absorption and development of technology to meet the specific needs of different areas is very important. Mobile phones technology relies mainly on multinational companies for imports. Therefore, the product designing to meet the specific needs of India's rural, tribal and backward areas has yet to be satisfactorily achieved. The biggest handicap of a mobile phone in India is that its battery has to be charged frequently and in India, there are one lakh villages where there is no electricity. One fifth of India's population has yet to be brought under the cover of electricity network. Therefore, charging a mobile phone battery remains an important problem which might be addressed by some mobile phone manufacturing company in future. Mobile phone companies also claim that they provide all India network but in reality, a number of hilly, tribal and backward regions are yet to be brought under a far reaching electronic signal cover. In these areas, the so-called mobile network remains restricted to a district or tehsil headquarters. In the tribal districts of Lahaul Spiti and Kinnaur Himachal Pradesh only 20 percent area has been covered by mobile network. India has emerged a world power in software development but unfortunately computer hardware parts are yet to be manufactured in India. Microchips and semi-conductors are not manufactured in India hence; the price of a mobile handset in India is still higher in comparison to China, Taiwan, and Singapore. Also the excise duty structure in India is quite high in comparison to these countries.

MOBILE: A CRITIQUE

Since, every technology has its demerits; therefore a mobile phone cannot be an exception. As a sign it has come to mean different things in different situations. Some people believe that it has affected their privacy and thereby, to a large extent contracted human anonymity and freedom. In the early years of mobile phones in India incidence of pornographic MMSs' and obscene SMSs' are on the increase. The mobile phone has been frequently used to capture a sexual act wherein after an unaware girl is exploited by a boyfriend which amounts to a new kind of rape (unheard as Indian Penal code would define it). It can act as an instrument of revenge, a variety of sado-masochistic behaviour. The biggest criticism of mobile phones has been that it has broken down the taboos of Indian society drastically and obscene SMS are sent and even the climax of this obscenity can be found in MMS where some teenagers have exposed themselves beyond all limits. In some cases, it has seriously created not only law and order problem but also threatened the social fabrication of Indian society. Similarly, the criminals, terrorists and other anti-social elements have also taken a big advantage of this technology. In some of the Indian states like Jammu and Kashmir mobile services were not extended in full scale because of terrorism. According to Punjab Women Commission, out of 20 cases of crime against women, at least two cases were those of suspicion due to cell phone usage. It is interesting to put into perspective the use of mobile phone among the youth (who happen to be the biggest chunk of the total users of the mobile phone). The use of this technology has created enormous freedom for the youth in their domestic (private) sphere. However, when it comes the institutional (public) sphere the youth demonstrate an entirely different attitude. In public life the youth appear very conservative, they confirm to maintaining decorum, they plant in private. This compared to their behaviour in private sphere (home), which is hostile, volatile and different from their conformist streak in public life. This leads us to inquire into the kind of impact of mobile technology on the youth. This technology has promoted the personal ahead of the national/ public/social/ vision in the youth. It has redefined /reworked personal relationships while on a public front the social concerns have been reduced to insignificance. The 'I' culture has undermined the social 'we'. One recalls village life where the social ties even without a mobile phone would translate into community bonding. The mobile technology (which should have strengthened the 'we-ness) has oddly enough ended up in promoting 'I-ness. Maxim Gorky in his famous noble Mother mentioned that I hate a person who has invented the word I. Technology has grown but social

responsibility has taken a beating. In short, mobile technology while creating endless connectivity and freedom on the personal front has simultaneously enhanced narcissistic streak in the youth. Mobile handsets are not manufactured in India; hence, the demand of Indian market for handsets or spare-parts is met through imports. Around \$ 15 billion are siphoned off from India every year through its imports and it has further intensified the problem of current account deficit which has already worsened in recent years. Charging is another problem in India where people in the state of Bihar and Jharkhand etc. used to go to cities for charging their mobile phones. Another criticism against the mobile phone can be hoax calls and undesirable messages which some times disturb a person particularly during the odd hours. Similarly, mobile telephony is also criticized because people change their numbers very frequently. Perhaps this problem could be checked to an extent once the portability of the mobile numbers will be possible by the end of 2010. Roaming charges is also a major issue in India. Number of countries like USA has already gone away with the roaming charges. It is important to mention that any technology takes little time for its absorption. By now this technology appears to have been absorbed which can be substantiated by the fact that frequency of obscene MMS etc. has declined significantly over a period of time. It will not be wrong to say that mobile has become necessary evil of Indian society.

SUMMING UP

Technology plays an important role in the socio-economic transformation of any society. Each invention in the human history has played a unique role in changing human life. In countries like India where socio-economic formations are quite strong, the process of change and transition is very slow. However, in the last two decades, India has experienced drastic changes in its socio-economic fabric. Indian economy has emerged as the second fastest growing economy of the world. Many factors have contributed to this growth but the role mobile phone has been most crucial. Although computer has managed its place as a household product but its usage and know-how is limited to a few. Mobile phone has emerged as the single largest selling consumer product in the Indian market. It has made a major contribution to the Indian economy in terms of revenue generation, employment etc. This is the only product, which has overcome the digital divide to a large extent and has its reach beyond the class distinctions to the most under-privileged section of the Indian society. It has created a new class of entrepreneurs. It is also acting like a new tool of surveillance both for the security agencies as well as for the common public. It has acquired a dominant position in the India's GDP and has helped in substantially minimizing the impact of global meltdown. Taking into account the peculiar character of India's social and cultural formations, it has successfully diluted the retrogressive social taboos prevalent in Indian society. It is no more a tool of simple communication but rather it has emerged as a way of life in India. Nevertheless, for further improving the role of mobile in Indian economy; it is important to boost the hardware manufacturing within the country so as to provide cheap handsets to the Indian people. Moreover, electrification of all villages must be taken on top priority so that rural market of the country for mobile phones may be further expanded. In spite of some other limitations of mobile phones it will not be wrong to conclude that a mobile phone has played a role of most important catalyst in the socio-economic transformation of India.

NOTES

1. Nandan Nilekani in "Giving Indians an identity" in Times of India Dec 26, 2009 says that "Electronic stock markets have allowed individuals to execute their trading orders from anywhere in the country and wide spread access to mobile phones has meant farmers can call up 'mandis' to negotiate prices."
2. In "The dance of digitalization" Atul Sethi says that "The boundaries of cellular technology were pushed further with the arrival of smart-phones that added a lot more zing to the humble mobile." He also that "Their biggest contribution, however, was to fulfill a need that most people didn't even realize existed- adding more power to the mobile." (The times of India Dec 27, 09).
3. The Women Commission of Punjab came out with an interesting case of Navneet Kaur and Iqbal Singh for separation. Navneet Kaur was suspicious because of missed calls and SMS on Iqbal's phone. They have made charges of disloyalty against each other. See The Tribune 16th October, 2010. Similar another case can be of Tiger Woods. (See Times of India New Delhi, December 24-2009).

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