5. SOCIAL IMPACTS

There is little doubt that mobile telephones have transformed the social landscape, especially since the turn of the century. McGuigan (2005) while raising the following question, also states that from 'a sociological point of view, actual and potential uses across the generations and in different circumstances of life are more important topics for discussion than sheer technological capability and over-hyped marketing gimmicks'[43]:

While the mobile phone extends and increases the sheer volume of communications, does it actually improve the quality of communication?[44]

5.2   The social impact of mobile technology can be studied along different dimensions:

a) as changing social dynamics as in interpersonal, business, and professional relationships or altering social systems in myriad ways;

b) as affecting the behavior of individual actors at work, home and in public spaces; and

c) as influencing creative and innovative coping behavior as well as applications.

5.3.1   It has been perceptively noted that 'many people, especially those under 30 years old, are spending a great deal of time speaking to people they are not with, at the expense of those who are actually there'[45]. Early conclusions from sociological enquiry into the effects of mobile telephones as in Geser (2004) concluded that 'the most general function of cell phones is to lessen the degree to which social

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[43] *p.56*
[44] *p.55*
[45] ITU (2009)

[49]

relationships and social systems are anchored in space, and they increase the degree to which they are anchored in particular persons'[46]. Since the time mobile telephones were commercially introduced in the late 1970s and early 1980s[47] to the time they overtook fixed telephones in terms of absolute number of subscriptions in 2002 and onward to the current scenario where they are the 'phone of first choice', these handy communication devices have had a profound influence on the ways in which human beings live and communicate with each other. For one, the 'intrusion (or potential intrusion) of remote others, in any given social context, has become commonplace, and even anticipated'[48]. Both 'talking' and 'texting' have become acceptable forms of social interaction, thereby delivering considerable efficiencies of scale and time, but at the same time reducing the quantity and quality of face-to-face interaction among people. While cantankerous old people may quibble about these deleterious effects, the young and pre-teens have taken up enthusiastically with mobile technology. Fox (2001) for example pointed to how mobile phones 'are the new garden fence' and by 'facilitating therapeutic gossip in an alienating and fragmented modern world, has become a vital 'social lifeline', helping us to re-create the more natural communication patterns of pre-industrial times'. Mobile phones have been observed to assist young people 'to sustain and enhance their social networks'[49]. A telling example was brought home to the author when on a rural study trip to Rajasthan to come across a 'below poverty line' family where a young mother staying with her mother in law while her husband was away on work in the city (about 80 km away) proudly displayed her mobile telephone over which she could keep in touch with him. Another kind of dynamic affecting social relationships has been observed for example

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[46] *p.40*

[47] Second generation (2G) mobile telephones on GSM platform were first introduced commercially in Finland in 1991 by *Radiolinja*

[48] ITU (2004), *p.20*

[49] Srivastava (2005), *p.121*

in the way mobile phone communication has 'decentralize' networks of communication, making it easier, 'for shy or reserved people to communicate, and SMS has been a big hit with the deaf community'[50]. Similarly, for those geographically and materially challenged individuals for whom a fixed telephone was an unattainable luxury, mobile telephony and associated initiatives that enrich the services available over it have enabled them for the first time in many cases to more egalitarian access to information and market access. Even discounting for marketing hype, there are significant success stories regarding the benefits delivered, there is ample evidence as for example in ITU (2004) that supports such a conclusion where farmers in 2003 Kenya could 'inquire about the prices of maize, beans, potatoes, tomatoes, cabbages, and onions in the towns of Eldoret, Nairobi, Kitale, Bungoma, and Karatina' using short messaging service and fisherfolk in Philippines between 1999 and 2002 could meet the demand for exotic foods and specialty items from expatriate Filipinos and those living outside of main urban areas benefited from fishermen being provided 'subsidized mobile telephones to expedite order placements'[51].

5.3.2 The extension of the influence of mobile phones beyond social and cultural interactions into the arena of business and professional transactions – an extension that has percolated deeply as well – is perhaps best illustrated by the way in which mobile telephones have empowered the women of *Grameen* in Bangladesh (women have around the world been enthusiastic adopters of mobile phones) have benefited from a combination of technology and local circumstances. There are other important examples of the impact of mobile phones on agriculture such as the evidence from

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[50] *Ibid., p.122*
[51] Both quotes from ITU (2004), *p.31*

Gandhi *et al* (2009) who notice that for 'many of the farmers interviewed, it was the only convenient phone access they had', while acknowledging that shortcomings in physical infrastructure affecting access to markets need to be overcome if the full benefits of the technology are to reach them. Similarly, in terms of improving the efficiency of emergency services, it has been noted that mobile phones have virtually revolutionized access, and the additional benefit has been the mobile phone's ability to give 'location information for the purposes of emergency response'[52]. The many examples of successful use of mobile telephones being included in the 'business model' of small and medium enterprises and in the informal sector have been well documented. *Box 2* details the case of a self-employed low-income earner in Delhi's unorganized sector who finds that the mobile phone adds to his income. There are other cases where the mobile phone has enhanced the ability of informal sector actors to gain better traction in their business endeavours. The author is witness for example to the simple expedient adopted by a garage popular among government drivers in Delhi where the owner controls all operations of his staff in the two square kilometer area radiating out from his central location in the basement of a *palika bhawan* using a fixed line that communicates with mobile telephones that hardly have any 'charge' on them, thereby disallowing his mechanics from communicating with anyone except on incoming calls. The mechanics cheerfully accept this state of affairs, as they still are accessible to family and friends all through the day[53].

5.3.3   There is much anecdotal evidence like this in studies around the developing world documenting the economic benefits of the mobile telephone in several ways. Consolidation of efforts to benefit self-employed skilled workers and artisans is also

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[52] ITU (2004), *p.37*
[53] The owner allows his mechanics to keep the mobile handsets (after some due diligence), and the mechanics are happy to recharge these pre-paid connections at their expense, once in a while.

underway as for example in LabourNet in Bengaluru that gathers and registers into a database details of construction workers of all trades that is then available on-call to builders, contractors, architects, and individual customers for projects in urban Bengaluru. The service is available at a membership fee of INR 150 (~USD 3) for individual households and INR 500 for private companies and builders Monday through Saturday, 9am to 8pm[54].

Box 2: 'Puncture mechanic'

'99684 35812' – the number is scrawled inelegantly with the simple label 'puncture mechanic' written out in Devnagari by the side of the small cigarette stall at the important junction near Delhi ITO. The area has a number of parking lots that can accommodate about 250-300 cars in all, and there is a constant stream of traffic visiting the cluster of offices situated nearby.

Tyre bursts are commonplace on Delhi's roads, given the rough use to which they are subjected to. Car and two-wheeler tyres are often 're-treaded' to prolong useful life. Spare tyres are available in some vehicles, but many drivers would prefer to get outside help to both repair a burst tyre as well as to change tyres. It is under such circumstances that the number displayed above the cigarette stall comes in handy.

On enquiry, **Jitender** reveals that he has displayed the telephone number at six or seven key locations in his 'area of operations' that extends to an area roughly three kilometers in radius stretching from India Gate to ITO, and that he gets about five or six calls every day asking for help. He has a semi-permanent 'place' that he has been allowed to use courtesy some help from the municipal authorities and the local policeman, where he is helped by a relative considerably younger than him. While he claims he has steady business even being stationary at his place of work, the additional work *via* the mobile phone comes handy, for he can charge higher for convenience and service (he charges about 30% higher for coming over). His relative holds charge while he is away on these occasions. His mobile phone is essentially for 'incoming calls', except for the occasional call home which is about 12 km away, and to his hometown Azamgarh in neighbouring Uttar Pradesh. He naturally uses a ('lifetime') pre-paid connection that allows him to control expenditure, but is extremely sore about the quality of coverage and 'call drop' in New Delhi's central areas such as India Gate and Janpath. He would like to see a further reduction in call charges.

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[54] For details, see http://www.labournet.in

5.3.4 The success recently announced of the Thomson Reuters' 'Reuters Market Light' initiative in the States of Maharashtra (where it was launched) and Punjab is a larger application of the mobile phone device in the aid of the community. *Box 3* lists some of the features of the venture that arose from the commercialization of a project idea conceived by a Reuters' employee while on a Fellowship at Stanford University.

Box 3: Market Light and Competitive Advantage

Reuters Market Light (RML) has, in January, 2009 [see http://thomsonreuters.com/content/press_room/tf/tf_gen_business/2009_01_05_TR_Mobile_Crop, accessed on 23rd February, 2009] announced the crossing of the 100,000 subscriptions milestone for its innovative service of providing accurate, timely, and customized information to Indian farmers. The service currently operates in the States of Maharashtra (where subscriptions can be purchased from Post Offices and where more than 90% of the current subscriptions originate) and Punjab and provides 'customised and localized market intelligence to farmers in their local language including crop prices from local markets, local weather forecasts and relevant agricultural news and crop advisory information'. Started in October 2007 in Maharashtra at a monthly subscription of INR 60 (less than USD 1.50), the mobile phone and SMS based service saw a recent spurt in subscriptions in that State. Plans are reportedly on to extend the footprint of the service to more States such as Uttar Pradesh and Himachal Pradesh in the north of India, Gujarat in the west, Madhya Pradesh in central India, and Andhra Pradesh and Karnataka in the south.

According to one report [see http://www.medianama.com/2008/12/223-reuters-market-light-to-expand-to-haryana-in-jan-9-states-by-2009-end/, accessed on 23rd February, 2009] the service covers 54 crops / commodities in 270 *mandis* (agricultural marketplaces) and offers farmers weather information specific to their *taluka* at around 7.30 am, market prices from 3 selected *mandis* and tips related to specific crops in the afternoon, and national and international news in the evening. Subscriptions can be purchased for validity of one month, three months, six months, or one year.

The company is upbeat about the direct economic benefit that the service is delivering to its customers, and even announced in one web report that a text message to a subscriber warning of heavy rain on a sunny October day enabled him to hire more labourers and harvest his soy bean and cotton on the same day, 'whilst the crops of many other farmers were destroyed by the unexpected rain'.

5.4.1 In terms of the impact of mobile telephones in affecting the behavior of individual actors at work, home, and in public spaces too, there is a considerable body of evidence that points to the remarkable changes wrought by what many consider to be the most important invention in the last fifty years. First of all, ownership of the mobile telephone is considered as adding to social recognition and status. This is especially true given the large gap between *ownership* and *access* to mobile phones that has been reported in a study of five developing countries by de Silva *et al* (2008), who also report that in South Asian countries, non-owners 'relied on some kind of public phone'[55]. The study, while affirming that BOP owners in India and four other countries perceived direct access to telephones as increasing the efficiency of their daily activities, also finds that 'changing historical and cultural factors in the region placing importance of face-to-face contact for business purposes may take time even though the benefits of using the phone instead seem theoretically more beneficial'[56].

5.4.2 The use of mobile phones during emergencies has had a positive effect. The utility of mobile phones during the Kosi river floods during August, 2008 in the State of Bihar has been documented, as when one of the victims is quoted[57] as saying:

....The water began rising in the middle of the night. I have never seen anything like it. It rose up to five feet in some places. Some people had mobile phones and they called to warn us... ...

5.4.3 The importance of mobile telephones in many developing country situations where disaster response systems are not strong has been emphasized in GSMA (2005) that concluded that mobile phones could (i) play a supplementary role in early

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[55] p.8
[56] p.10
[57] See http://www.msf.org.uk/patient_stories_Bihar_20080923.news

[55]

warning systems (as they seemed to have played in the cited reference from Bihar), and (ii) a lead role in the aftermath of disasters, given that any collateral damage to mobile telephone backbone can be repaired at short notice. The report also cautions that due to network congestion in times of catastrophe, texting may be a preferable mode of communication than talking, which may not be feasible in many developing country settings. The availability of electric charge on the handsets is one of the identified constraints to use in such situations. However, the final take away from the report that mobile telephones make a valuable contribution in relief and recovery due to the speed of recovery of mobile communications relative to other forms of communication, as well as to the already flagged 'unique capacity of mobiles to decentralize the sharing of information' cannot be faulted.

Figure 5.1 (a): Delhi Police information interchange

Figure 5.1 (b) Delhi Police 'from the spot'

5.4.4 That mobile telephones have been found to be useful in both emergency and non-emergency situations as means of quick and reliable communication and for information interchange is exemplified in the approach of Delhi Police that is arguably the largest metropolitan police force in the world[58]. Their approach is two-fold. For reducing time required for obtaining information regarding stolen vehicles or firearms, and for status of passport verification information, they now provide a short messaging service for obtaining information (See *Figure 5.1 (a)*). A second, more 'real time' application is for traffic related problems such as harassment by auto rickshaw drivers and faulty signals where an SMS is to elicit prompt, 'from the spot' redress of grievances (See *Figure 5.1 (b)*). While this is one end of the story of G2C (and C2G) communication, the other end where the newer form of 'eve teasing' by way of sending vulgar or intrusive SMSs (and even Multimedia Messages consisting of video, on more sophisticated models) to women and girls is also sought to be tackled by the police who have launched a multimedia campaign in Delhi asking receivers of such SMSs to forward these to designated police mobile telephones

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[58] See http://www.delhipolice.nic.in/home/about/history2.aspx

[57]

presents really the flip side of the wide-ranging effects of mobile telephones on individual behavior.

5.5.1   The different kinds of impact that mobile telephones have had in wide-ranging and profound ways on individual, collegiate, and corporate behavior has led to creative and innovative ways of enhancing utility and increasing the range and depth of applications. Probably the most famous in the Indian context is the concept of 'missed call' that signals to the receiver of the call that the originator wishes to communicate at the receiver's convenience. This phenomenon could have originated during the early times when India's fledgling mobile services were laboring under a high tariff regime made doubly difficult by the stipulation that the receiving party pays for receiving calls as well. However, the practice safely continues even in the present low tariff regime, what with a ring tone also in circulation that exhorts the receiving party to take the call as 'this is not a missed call'! There are, of course, many other side effects of mobile telephones on social life, including those connected with *etiquette* that are often a source of discomfort to fellow passengers on public transport and paying fellow-movie-goers in cinema halls. A more deleterious effect such as described in *Box 4*even made it to the movies.

Box 4: 'Mobile phones banned'

Faced with a case of misuse of mobile telephones in the nationwide examination for recruitment of Assistant Commandants to the Central Police Forces in the year 2003, the Union Public Service Commission implemented a policy of banning mobile telephones anywhere in the campus of its examination centres. This is now standard practice among examination bodies in India.

The problem of using mobile telephones to further illegal means in examinations is now compounded by Bluetooth technology that allows for less intrusive devices to be carried on the offender's person.

5.5.2 The possible adverse effect of mobile telephones on quality of communications and individual responsibility has also been noted by Srivastava (2005). This could take the form of *lack of committal*, the *illusion of communication* using SMS when that medium has serious limitations as compared to voice, and people becoming *harder to reach* ironically enough because mobile telephone technology offers them the convenience of call screening, recording of missed calls, and voicemail that fixed telephony just did not offer earlier. She notes that

> *The increased convenience and extended information access afforded by mobile phones, however, is also accompanied by the potential for technology to enter the private sphere of human lives. It is clear that always-on connectivity and mobility will define not only the future technological landscape, but equally the sociopolitical one[59].*

5.5.3 It is in this context that ITU (2004) would have it that

> *Mechanisms and safeguards to be developed by policy-makers should no longer be sector-specific as traditional telecommunication regulation has been in the past. Public policy for the protection of consumers should be wide in scope and include service pricing, prevention of abusive and harmful content (including SPAM and adult content), health and environmental considerations, surveillance and privacy issues[60].*

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[59] *p. 128*
[60] *p. 40*

5.6   In terms of the evidence presented here and that compiled in the specifically Indian context by Gandhi *et al* (2009) who see, 'in addition to economic benefits, safety benefits and enhanced quality of life from decreased isolation and vulnerability'[61] for fishermen, and by Sarin and Jain (2009) who notice in their survey of urban slums that 'the interplay between existing levels of income, economic activity and the use of mobile creates a virtuous cycle allowing households to edge their way from poverty'[62], there is no doubt that the social dimension of the impact of mobile phone is significant. However, given that technology in general and mobile telephone technology in particular have several unintended consequences such as those that have been described, there is a very good case for maintaining an 'ironic distance' in evaluating the beneficial impact, and not allowing a one-sided commercial orientation to hijack the discussion.

5.7.1   The answer then to the question posed by McGuigan (2005) indicated at the beginning of this Chapter is two-fold. First, the 'sheer volume' of communication is in itself a blessing to the vast majority of people who were previously without voice. The ubiquity of the mobile telephone has admittedly been driven by ease of rollout and operation combined with low costs both of ownership and access. These features are not insignificant in the socio-political sense in allowing *empowerment* of large sections of society who now have the wherewithal to gain some control over their communication needs. While for the previously well-off sections of society this empowerment may be a mixed blessing in terms of behavior and etiquette, evidence both anecdotal and empirical from the sections at the margins indicates that the mobile telephone is considered as a welcome addition to their survival toolkit. That

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[61] *p. 32*
[62] *p. 48*

there are commercial considerations in deciding the marketing mix of mobile products and services is a given, and it is therefore refreshing to note how the producers and service providers have responded responsibly to the demands of the Indian market that is renowned for being price conscious. It is still early days for the mobile telephone, and there is considerable opportunity for governments, corporate, regulators, consumers, and non-profits to consolidate knowledge in the area and act in concert to leverage upon the massive growth in subscribers and usage so as to improve delivery of social sector services such as health, education, and access to employment and livelihoods.

Box 5: Easy commute

Shamshabad, as Hyderabad is now referred to on the international air map, is quite a distance from many areas that earlier were a stone's throw from the conveniently located Begumpet airport inside the city. Many domestic flights continue to be scheduled early in the morning, and given the sparse public transport service at that time, and the often heavy baggage with which many Indians travel, commuting to Shamshabad could be a nightmare at that time.

Radio taxi services like **Easy Cabs** have responded to the challenge by offering premium taxi services round the clock (of course, for anywhere else also in the city). The service can be booked on telephone, and immediately confirms by SMS the fact, time, and reference number of booking. To the pleasant surprise of many Hyderabad residents, there is an SMS giving the taxi number and driver's mobile telephone number about half-an-hour before the taxi is due. The taxi driver picks up the phone when called, and has obviously been trained to be polite and helpful. And the taxi actually reaches your residence on time! The charges of between INR 12 and 15 (USD 0.25-0.30) per kilometer seem competitive when the taxi reaches you at the airport in time for that early morning flight, a far cry from unreliable auto rickshaws and the occasional taxi of the Begumpet times.

5.7.2 The second part of the answer relates to the question of improving the *quality* of communication. There is evidence that communication at the *personal level*, as for example in the over-dependence of youth on texting that does not allow of nuance and the rich variety of vocal, face-to-face communication, is being affected, but at the same time, even here, the preference for previously ascendant modes of communication would appear to be somewhat *ideological*, and the proper contestation in this regard would need to come from the youngsters themselves. Even granting that such 'dehumanised' modes of communication are on the ascendant, it would still be interesting to consider the counter-factual and wonder whether, *if mobile phones did not exist*, communication among the youth and pre-teens would have been any better, and whether their span of attention and regard for their parents' generation would have been enhanced. More importantly, in contrast to the middle-class obsession with *personal* etiquette, there is a large body of evidence that at the *aggregate level*, at the level of communities and neighbourhoods of workers and businesspeople, there is a considerable excitement about the potential benefits to be derived from use of mobile phones. Even among the middle classes, there is an increasing awareness of the time saving and efficiency enhancement aspects of mobile telephone use that may overcome any remaining skepticism of its deleterious effects. *Box 5* indicates the improved assurance provided by means of mobile telephones to the initially harried air traveler after Hyderabad's new airport was inaugurated, almost 35 kilometres from the old one. The bigger story however is undoubtedly the consolidation of efforts around *content* that signifies a maturation of *carrier* technology. Now that different kinds of consumers representing different market segments and professional and business interests are on board, there is a proliferation of efforts to make their mobile

[62]

phone experience meaningful and purposive, both on non-profit and commercial terms.

5.7.3 The commercial exploitation of market niches is both fascinating and insightful when viewed along the different dimensions that it is playing out on. At the top end of the market are the enhanced services such as Blackberry, 3G that includes streaming video and high quality gaming, and handsets whose prices run into many thousands of Indian Rupees. These handsets are loaded with goodies ranging from high resolution cameras to fast web surfing and a phenomenal range of games and other entertainment options designed to overwhelm young and old alike. At the lower end of the market for handsets however the mobile phone is likely to be a sturdy piece of equipment that can withstand the ravages of weather and rough use, with a minimum number of features such as a VGA camera and FM radio made available to tap niche segments. The nature of content on both dimensions would possibly be sophisticated enough to cater to the respective markets. If the high end is looking for entertainment and leisure activities and is willing to pay handsomely for these, the lower end of the market, from available indications, is going to be in the market for *relevant* content, content that is useful and apposite. This end of the market would nevertheless demand a sophisticated response from service providers who will need to harness the backend to deliver information services and access to markets that can directly benefit the user's business and professional requirements in the real time.