Vinay Singh Chauhan

SOCIAL SCIENCE RESEARCH ON MOBILE COMMUNICATION IN INDIA: ISSUES, CHALLENGES AND PROSPECTS

Abstract

The mobile phone has been regarded as one of the driving forces of globalization by enabling instantaneous cross-border, cross-cultural communication. As a part and parcel of the new or digital media systems, it has been seen instrumental in transforming the dynamics of the personal and public by intensifying the deterritorialization of communication in novel ways. Its ubiquity and unprecedented impacts have led scholars to study its ramifications in socio-cultural life, yet very little has been achieved from Indian context. Given the concern of research paucity, the present paper provides a discussion on the development of the mobile by problematizing the methodological and empirical terrains with regard to the mobile communication scholarship, and raises some pertinent issues. It does so by providing a thematic overview of scholarly works and suggests that much needs to be done to build up a systemic understanding of the interplay between mobile media and society in a culturally heterogeneous country. By outlining the reasons behind literature scarcity, it argues that mobile communication has brought with it new challenges as well as new prospects for mobile communication scholars working in the Indian society.

Keywords: Globalization, issues, Indian context, mobile phone, mobile communication studies, research lack, themes.

Introduction

During this decade, we have seen a constant buzz in the mainstream media and everyday discourses about the mobile phone. The device, which has now been elevated into the status of Smartphone, is a matter of curiosity among the people of India. As usual with any novel and least understood invention, some have seen it with greater expectations and possibilities, while

VINAY SINGH CHAUHAN, Research Scholar, Department of Sociology, University of Lucknow, Uttar Pradesh, India, 226007, Email: vinaysocio@gmail.com

others have seen it with suspicions and anxieties. The pervasiveness of these two 'value orientations' highlight the duality of perceptions regarding the mobile media, which, as Giddens (1991b) would say, is the reflection of the general feature of 'high modernity', in which, "science and technology are double-edged, creating new parameters of risk and danger as well as offering beneficent possibilities for humankind" (p. 27-28). No wonder, the ubiquity of mobile, which is both a cause and consequence (surely not 'the cause') of our increasing global age, has intensified the debate and discussions surrounding its social implications. Meanwhile, in India, mobile communication has registered a revolutionary surge, which is now the second largest mobile user country after China (Statista 2020). The increasing use of the phone, which has become a routinized and inseparable aspect of the life-world of the people, not only opened up new realms of possibilities for its owners but also for researchers. Consequently, a whole new area of academic inquiry is developing in India.

Although the mobile is a global technology, yet its ramifications and their accounts significantly differ based on the regional and cultural differences. A comparative assessment of India in particular and Asia in general reveals that the mobile communication scholarship has been much progressed in Western regions where scholars remained in a beneficial position to interrogate the phenomenon. It is so because of the factors like early diffusion of mobile media, commercial necessity, abundance of developed and resourceful universities and availability of robust research facilities. It is said that the fact of slow pace of studies in the Asian region has blocked mobile communication studies in achieving its truly cosmopolitan or international status (Lim and Goggin 2014). However, in the recent years, the dual factors of huge leap in mobile penetration as a part of the overall ICT's developments (ITU 2019) and several new publications and discussions on the topic of the device's uses patterns and consequences have been contributed to some advancements in the slowly developing field of mobile communication studies in the Indian as well as other parts of the Asian region (Wallis 2013; Jeffrey and Doron 2015;Lim 2016;Tenhunen 2018).

Therefore, given the trend of massive mobile penetration, its growing social significance, emerging concerns and confusions related to its social impact and the fact of the lack of published academic studies, it is necessary to offer an appraisal of the state of mobile communication studies in the Indian context. Situated against this backdrop, the present paper briefly discusses the development of the mobile phone in India, which is the forerunner of all mobile communication technologies and analyses broader thematic patterns in the Indian scholarship through a systematically arranged overview. The paper also probes into reasons behind the prevailing research paucity and outlines some of the key issues, challenges and opportunities related with the knowledge production. However, this task could not be done without a brief overview of some emerging themes of mobile communication studies in the outside scholarship.

Emerging Theoretical and Substantive Themes of Mobile Communication Research

The general explanation of the role of media in the globalization and modernity has already been done by sociologists and communication scholars in different ways. Where Giddens' (1991a) conception of 'time-space distanciation' deals with the process of stretching of social relations and systems across spatiotemporal contexts and forces which expedite it (such as fast transportation, mass media, ICT's), Castells (2010) theory of 'network society' explicates the rise of a new techno-social complex, where new media systems such as the internet has a pivotal place. These 'transformative positions' may be contrasted with 'critical positions' of other scholars, particularly, Bauman (2000;2011),who frames new media systems within a paradoxical age of 'liquid modernity',in which, as he believes, 'networking' has replaced 'structuring' by giving ways to an uninterrupted game of connecting to and disconnecting from those networks. The result is the increasing frailty of human bond. Apart from these explanations and philosophical reflections, there is an increasing tendency to relate the mobile with the discourses of the *Global Village* of McLuhan (1964), which deals with the process of increasing global interconnectedness through the mighty and powerful media systems, *Deterritorialization*of Appadurai (1997), where cultures and places have lost their connectedness, *The Postmodern Condition* of Lyotard (1984), which explains the changes in the nature of knowledge due to the increasing miniaturization and consumption of technologies in the post-modern culture, *Mobilities* of Urry (2000), which put the new technologies within the general paradigm of motilities, and *Risk Society* of Beck (1992), where media systems play a significant role in the risk revelation, the social contestation that surrounds scientific knowledge of risks, and also the processes of social challenge to the risk society. Despite of some thought-provoking insights and remarkable explanatory power, the main problem with these studies is that either they are overly generic, thereby providing a meta-explanation of total technologies and total societies or lack context specific arguments with particular reference to mobile communication, as McGuigan (2005) noted with the reference of some eminent works where 'very little lines' have been devoted to the mobile. An exception to these is the sociological work of Geser (2004), which offers much context-specific and dense analysis where he explicates a multilayered theory (micro-meso-macro) of the ramifications of the mobile phone. However, it should be noted that the actual and collectively organized efforts of studying the phenomenon only began with the formal establishment of *Mobile Communication Studies*, an interdisciplinary field of social sciences, especially devoted tothe study of the vast variety of subjects associated with mobile communication. Belonging to different academic backgrounds in social sciences, the scholars of the field not only heavily borrowed broader approaches and explanatory theories from outside of the field such as 'technological determinism' (where causal priority is given to the technological/media

attributes), 'social construction of technology' or SCOT perspective (causal priority to the people and social groups), and 'social shaping perspective' or SSP approach (which looks for a creative interplay between technology/media and society)' (Baym 2016) as well as 'diffusion of innovation' (Rogers 1995),'domestication'(Silverstone and Haddon 1996; Haddon 2003) and 'mobile network society' (Castells et al. 2007) under the frameworks of 'adoption', 'impact' and 'use' (Ling and Donner 2009), but also produced their own conceptual inventory. In their conceptual baggage they have included new terminologies and neologisms to understand mobile communication in relation with the transformation of social coordination,as denoted by the widely cited concepts of 'micro-coordination' and 'hyper-coordination' (Ling and Yttri 2002), which explain the nuanced instrumental coordination where social interactants could instantly adjust their meetings. In the spatiotemporal domain,termssuch as 'softening of time' (Ling 2004), 'mobile-time space' (Arminen 2007), and 'timeless-time' and 'space of flows' (Castells et al. 2007) deal with the process of changing dynamics of time-space with specific reference to mobile communication.Andin the nature of communication, neologisms such as 'perpetual contact' (Katz and Aakhus 2002), 'constant touch' (Ager 2003),and 'connected presence' (Licoppe 2004) all explain the same process of 'permanent communication' the mobile fosters, which could not be achieved in the place-tied wired telephones, including its unprecedented ramifications in social life. Taking together,all these idea systems are helpful in understanding the interplay between mobile and users and the consequences of the mobile phone in socio-communicative life.

Another stream of emerging research area is where scholars have written aboutis the history of the mobile phone. Here,Jon Ager's *Constant Touch: A Global History of Mobile Phone* (Ager 2003) is one of the earlier and most comprehesive attempts to document the history of mobile mediain which he tracesits evolutionary development from Marconi's radio to the emergence of the idea of the cell transmission, leading to the success ofthe cell phone, and culminatig into 3G services and the cutting-edge smartphone of the Apple. The work is comparative and engaging. Some other works also offer at least a brief profile of mobile's development such asLing and Donner's *Mobile Communication* (Ling and Donner 2009) and Green and Haddon's *Mobile Communications: An Introduction to New Media*(Green and Haddon 2009). Very recently, many studies have been published to account the development of mobile in specific regions such as Europe, Asia and Africa.

Apart from creative conceptual developments and outlining historical contours,various themes of empirical enquiry like mobility (Ureta 2008; Campbell 2013), sociability (Licoppe and Heurtin 2002; Licoppe 2003;Ling 2004; 2008; 2012; Horst and Miller 2006;Schiffauer 2013), social capital (Chan 2013), power relations, control and surveillance (Rakow and Navarro 1993;Roos 1993;Fotel and Thomsen 2002; Yoon 2003; Gonzalez, Hidalgo and Barabasi

2008; Green and Haddon 2009; Sekarasih 2016), work-home spillover and public-private negotiation (Higgins and Duxbury 2002; Murtagh 2002;Chesley 2005;Wajcman et al. 2008), self and identity (Fortunati 2003a; Fortunati 2005; Campbell 2008), economic development (Bayes, Braun, and Akhter 1999; Samuel, Shah, and Hadingham 2005; Waverman, Meschi, and Fuss 2005;Donner 2009; Goggin and Clark 2009; Ilahiane and Sherry 2009; Aker and Mbiti 2010; Sey 2011; Tawah 2013; Wallis 2013; Watson and Duffield 2016), political mobilization and protests (Pertierra et al. 2002; Rheingold 2002;Castells et al. 2007;Liu 2013;Castells 2015) and democratic processes (Fortunati 2003b; Gergen 2008) are devised through systematic researches. Besides of these studies, new areas and themes related with usage and social consequences are constantly developing in mobile communication studies.

However, despite of these intellectual progressions, many issues arise in the scholarship with regard to methodological and substantive areas. Among these, the most serious are the low interest in theoretical models, lack of macro level researches, dominance of quantitative surveys as most preferred method (Kim et al. 2017) and Western prominence in the scholarship. The realms of scholarly agreements and disagreements about thematic domains also raise key issues which are asked for more probing, including the scarcity of efforts to put mobile communication under the broader framework of cultural globalization. Such shortcomings remind us that like other academic fields, 'mobile communication studies' is also moving forward through various problematic. The Indian situation is no exception where, very recently, the mobile has registered its strong presence and impact.

Mobile in India

India's communicational trajectory has evolved in a phased manner. The media development could be categorized in terms of pre-historical, ancient, medieval and modern periods, beginning from oral communications then going through the written media and mass communications, and ultimately leading to the contemporary global era of digital devices with a presence of diverse range of media systems. The pre-modern era was rudimentary in communication media. However, the Western contact, particularly that with British Empire formed an important and unique phase in the development of modern media(Singh 1973), which also laid the foundations of the wired communication, a precursor of cell phones (Jeffrey and Doron 2015).During the British Raj, the means of communication, including wireline telephones, were mainly used for administrative and power maintenance purposes, and were out of the reach of the wider population due to socio-cultural and infrastructural constraints. The whole scenario began to change in the post-independence era which marked a period of significant, yet relatively slow media growth under a socialist form of governmental control. However, it was the introduction of the pro-market policy in 1991, carried out through the

broader political and economic overhaul sunder the process of globalization, which played a key role in ushering India's communication revolution. The impact not only felt in other communication systems and services like radio broadcasting, television, cable and satellite but also in the sectors of telecommunications, computers and the internet in India (Singhal and Rogers 2001).

As a result of liberalization measures, telecommunication reforms and the realization of the need to bring more advanced systems of communications in India, the mobile phone was first launched in 1995,after 22 years of the first ever introduction of the mobile phone by Motorola corporation. During the initial period, the operational processes for telecom industry were not so smooth and bureaucratic hurdles continued to block the mobile surge (Jeffrey and Doron 2012). However, after learning from its earlier mistakes, the state intervened with the creation of the regulatory body as Telecom Regulatory Authority of India (TRAI) in 1997 with the objective to emancipate the sector from the domination of Department of Telecommunications (DOT) followed by anew policy framework in 1999. Consequently, by the turn of the millennium, the process become much friendly for companies to operate and compete in the market, which led the creation of an environment where mobile could grew at a faster pace (Jeffrey and Doron 2015; Narayan and Narayanan 2016). The later National Telecom Policy 2012 recognized the importance of broadband and data for socio-economic development and simplified licensing framework for better quality service (DOT 2012), thereby further accelerated the process of the growth of mobile phones in India.

The consequences of constant institutional push and growing popularity of the medium ultimately culminated in the massive mobile boom. In 1999, there were 23 million mobile phones in India (Jeffrey and Doron 2015: 50). In 2007,the number reached to 233 million, which by 2017 toucheda staggering 1, 162 million subscribers with a total 664 million subscribers in urban areas and a less 497 million in rural areas. While for the same years, the wireline subscriber base went down from 39 million in 2007 to 23 million in 2017, which highlights the fact of negative correlation between mobile phones and telephones. By June 2020, there were a total 1160 million mobile subscribers in India, in which 643 million subscribers belong to urban India while a less 517 million mobile subscribers registered in rural India (TRAI reports for several years).Besides of it, internet subscriber base is also expanding in India with a jump in mobile internet users from 31 million in 2007 to 472 million in 2018. However, the data of internet subscribers per 100 inhabitants reveals that by 2018 a total 84 persons were using the internet in urban India as compared to a less 16 persons in rural India (DOT 2018).

In the recent years, the ICTs growth came under the top priority of the Government of India, who launched the *Digital India* project in 2015 with the motto 'Power to empower'. The project aimed at improving ICTs

infrastructure, particularly in rural India with the developmental intentions. It also aimed at facilitating universal digital literacy and providing direct services to citizens with the intention of e-governance. Consequently, many initiatives are taken by policy makers through creating policy programs and efforts were mobilized for delivering them via mobile applications. In addition to it, increasing cross border flows has opened the gates for international mobile manufacturing players such as Iphone, Samsung, Xiaomi, Oppo, Vivo, Realme, One plus etc. who are competing in the market for providing cheap yet powerful smart phones. Similarly, the telecom service providers are also engaged in the competition and market monopolization. For example, by 30 November 2013, Bharti Infratel had a 23. 31% of service provider wise Indian market share, however, by 29 February 2020, Reliance Jio, a subsidiary of Reliance Industries Limited, taken the lead by capturing a 32.99% of overall market share (TRAI reports for several years), making telecommunications field as a battleground of market hegemony.

No wonder, the Indian mobile market is an outcome of the interplay between causal agents of political, economic and industrial forces where telecom and mobile manufacturer companies used state's patronage. The globalization process also plays a key role, which opened the door for global market and allowed capitalist enterprises to exploit the economic opportunities. Today, the mobile growth is ongoing with the massive surge in new technologies, spread of consumer culture and cross border flows of ideas and symbols through information superhighways. In addition to the above-mentioned large scale institutional forces, other factors such as large population size, cheaper availability of the device, simple payment methods for network, portability, affordances, device's usability in everyday co-ordination, information and relational accessibility, entertainment, consumption, health and education made it a popular social tool. No wonder, the mobile phone is now a common necessity, which was once an exclusivity of more urban, more wealthy, more male and more professional people.

However, on the opposite side, the data also raises the issue of inequality between rural and urban India. It may seem surprising because the proportion of the rural population is much higher as compared to the urban India, yet most mobile users reside in the urban areas. The reasons behind such frequently evoked '*access inequalities*' tied to social factors such as social location, poverty, illiteracy, gender gaps, and traditional patriarchal values deeply tied to Indian social structure, including the infrastructural factor of bad network connectivity. The Indian states with poor development performance are also lagging behind in the physical accessibility element. Besides, there are stark '*skill and usage inequalities*' across social categories in both regions. No wonder, the issue of skill (instrumental and operational abilities) and usage (differential usage of applications) inequality is much deeper as compared to physical access inequalities which may be sooner or later fixed with corporate and state efforts

(Van Dijk 2006). Therefore, it would be appropriate to say that within the nation a *multiple divide* exists as a result of multiplicity of deprivations associated with structural and cultural situational ties, whose examination is yet to be done. The inequality dimension will continue to remain an important subject of research among mobile communication scholars, trying to grapple with the broader issue of digital divide in India where accessibility and inaccessibility, skillful usages and unskilled usages are ongoing factual realities.

Mobile Studies in India

In spite of inequality issue, there is no doubt that the mobile phone has become a routinized part of Indian people and producing novel processes in social life. Studies say that the life of social groups have been increasingly dependent on the mobile devices (Sundari 2014). However, scholarly efforts to capture them are seriously low. So far, whatever research works are there, majorly produced by small minority of social scientists in which anthropologists, sociologists and economists have taken the lead. Their contributions are either in the form of books and published articles or in the format of unpublished dissertations. From social anthropological perspective, the first scholarly effort in the book form came from Robin Jeffrey and Assa Doron's publications *The Great Indian Phone Book: How The Cheap Cell Phone Changes Business, Politics and Daily Life* (Jeffrey and Doron 2013) and *Cell Phone Nation: How Mobile Phone have Revolutionized Business, Politics and Ordinary Life in India* (Jeffrey and Doron 2015). Both works are published in the continuity and written in a highly comprehensive and dense style. These works mainly describe the process of mobile diffusion, its development and its political economy from historical and anthropological approaches. Besides, they have also outlined the themes of the transformations of business, political and everyday life. In the business domain they assess the role of commercial strategies in mobile diffusion, formation of new occupational categories such as 'phone mistriis', 'artisans' and 'trainers', and potential of building business contacts as revealed by their study of 'Boatmen of Varanasi Ghats'. In the political realm they evaluate the transformations of political organizations who used cell phones for coordination purposes, and offer a discussion on the correlation between mobile communication and political mobilization. In the everyday life, they analyze mobile usages from a gendered perspective, including its intervention in the household domain. Overall, their research not only covers India in its macro level totality but also provides micro level ethnographic vignettes from areas like Lucknow, Varanasi and New Delhi to offer insightful empirical examples of mobile led transformations. Despite of their inability to make explicit contributions in the theory building, and setbacks such as part-journalistic and literary style of writing, the works remain useful for scholars who are beginning their research in the Indian context.

Another remarkable contribution goes back to the ethnographic

tradition of Indian village studies and published with the title *A Village Goes Mobile: Telephony, Mediation, and Social Change in Rural India* (Tenhunen 2018). The study explored change and continuity dimension among the villagers of Janta, West Bengal, by utilizing diachronic ethnography method, and highlights the interplay between mobile phone, culture and social structure within the conception of social logistics. The research found that the phone strengthened sociality and kinship networks in the village, helped women in extending their space and contact, and transformed the village economy. The research also relates these micro-processes with macro level global changes. Although the research failed in outlining general patterns of mobile use and does not offer a detailed description of new affordances. However, it becomes one of the firsts to provide a serious, academic and holistic account of the subject, therefore, it proved to be a useful monograph for researchers trying to understand mobile led impacts in the rural India.

Leaving aside these three studies, there is a very little literature availability in the book form except some journalistic style works like *India Connected: How The Smartphone is Transforming the World's Largest Democracy* (Agarwal 2018) which lacks theoretical and analytical exercise but only offers raw discussions on usage patterns. Fortunately, some journal articles have captured some emerging broader thematic issues. Among these, one of the main issues of research remains whether the mobile phone has appropriated by local cultures and it has reinforced existing arrangements, or brought disruptive changes. Studies of Donner et al. (2008) and Doron (2012) clearly indicate the coexistence of both themes in different contexts. However, not everybody shares the coexistence theme. For example, Johuki (2013) found the pattern of reinforcing where men tend to remain in a more advantageous position as mobile phone users in comparison to women. Similarly, Venkatraman (2017) reveals that a gendered bias exists in the mobile phone usage among the lower socio-economic class and lower middle class Tamil families. Konkka (2003) found the collectivist patterns where the mobile is used as a social instrument and experienced with phone are shared between family members of Mumbai. Tacchi, Kitner and Crawford (2012) argue that the mobile does provides benefits such as help in emergency and market information, however, these affordances do not disrupt local cultures grounded in kinship and traditional gender norms, and the device is appropriated accordingly. This theme of research is also consistent with Tenhunen's (2008) investigation where mobile phone usages were recorded as reinforcing existing relationships in rural India without bringing any disruptive changes. The above-mentioned studies reveal that despite of the looming anxieties regarding the disruptive implications of media globalization and the growing moral panics surrounding mobile effects, much usages revolve around local culture and mundane purposes. However, more researches across groups, cultures and environmental contexts (such as urban/rural) are required to shed light upon the change-continuity, reinforcement-disruption themes.

For a developing country like India, mobile phone has brought new opportunities. They exist not only in the expressive and relational spheres but also in instrumental and economic ones. The utilitarian pattern forged the issue of 'economic development', a theme about whom the economists are overly optimistic. Here Jensen's (2007) study is a widely cited prototype of such 'development optimism', which recorded the transformation of Kerala's fishing sector due to the increasing uses of the mobile phone by fishermen. The research reports that the device allowed buyers and sellers to coordinate sale. As a result, profit increased yet prices fell. His study is also consistent with Abraham's (2006) research of market efficiency in the same context. Similarly, Veeraraghawan et al. (2007) study of Warana village in Maharashtra also demonstrates the tales of efficiency where farmers were recorded as reaping economic benefits of the mobile phone. Some policy centered researches have also indicated a positive correlation between the teledensity and GDP, telecommunications and SME (Small and medium enterprises) sector (Kathuria, Uppal, and Mamta 2009; Uppal and Kathuria 2009). However, other studies doubted on these patterns and found that mobile are used more for emergencies and contact purposes rather than for special economic activities (Souter et al. 2005). The skeptic position on the development discourse mainly comes from the social anthropologists who supposed to work beyond the quantitative frameworks and explore more rounded possibilities. Overall, the lacuna in empirical research manifests in that there is no such clarity on the issue of the correlation between mobile phone and economic development, the clarification requires more researches, especially from critical and methodologically rounded viewpoints so a better understanding could be formed.

Another emerging domain of scholarly interest is that of political area where the research issue is related with the impact of mobile on political processes such as political participation, political mobilization and civil activism. From Indian context, some research papers have been published by Jeffrey and Doron (2012a, 2012b), which noted the increasing usages of mobile phone for political purposes such as in the election process and coordination among members of political parties. Other researches have related mobile communication with socio-political movements (Narayanan and Pradhan 2016), mobile governance (m-governance) and civil engagement (Rao and Desai 2008; Prasad 2012). However, just like other areas, there is a very little literature availability in the political dimension too.

In addition to the published contributions, the growing scholarly interest also manifests itself in the form of dissertations. A quick look at the website *Shodhganga*, an official database of Indian thesis, reveals increasing numbers of Ph.D. submissions in Indian universities, either with the topics related to adoption, impact and usages of mobile phone or examination of it as a specific part of broader ICT's studies. These studies are conducted from different disciplinary approaches and the focus remains on different research themes

such as gender differences in usages, adoption and use among youth, and consumer behaviors. However, most of these studies are not yet communicated to a broader audience through publications and failed in developing a theoretical system except some useful statements of empirical regularities.

No wonder, the scarcity of publications and low quality of existing research continue to remain a key problem in the mobile communication scholarship in India. If we dwell into the causes then the first and foremost of it lies in the fact of differential diffusion rates, where the extent of diffusion remained higher in developed regions during the initial phase of mobile development (Castellset al. 2007). Consequently, it provided the fertile grounds for building the scholarship on a new realm of academic inquiry in economically and technologically developed areas of West, particularly, those of European countries, while no such situation occurred in India or in the developing world in general. Secondly, even after the arrival of the mobile in India, its slow-motion growth, including its concentration among the few privileged groups during the beginning phase hindered its widespread societal impacts. Therefore, left no scope for scholarly efforts to study the phenomenon, until recently, when its ubiquity attracted scholarly attention. Thirdly, during the recent years, as the country is undergoing through massive digitalization, there is a strong tendency among scholars to study the mobile as a part of the broader digital or new media systems, not as a specific object of inquiry. However, in the present international scholarship, mobile related consequences are usually studied under the field of 'mobile communication studies', composed of scholars trained in the various social science disciplines, who are keen in research subjects like mobility, affordances, socio-cultural impacts and usage or users. In addition to these efforts, constant initiatives are given by the international scholarship in the forms of dedicated book series and journals, published papers, seminars and workshops to develop the field by intellectual debates and dialogues (Campbell 2013), while very little serious contributions came from Indian social scientists with specific reference to the mobile. Finally, the poor infrastructure of Indian universities and unavailability of access to global information with respect to mobile communication scholarship also results in its slow growth. As a corollary, much discussion is guided by either optimistic celebrations or by pessimistic skepticisms, while no grounding on the theoretical and substantive body of international scholarship.

Challenges and Prospects

The problem of research paucity concerned with the multidimensionality of usage and consequences of the mobile phone brings new challenges for enthusiast researchers. The challenges are both methodological as well as substantive. Firstly, the Indian situation is marked by enormous diversities based on caste, class, gender, linguistic, rural and urban divisions. These differences are key forces in shaping values, motivations, interests and

orientations of mobile users. As a result, any uniform and uncritical application of readymade approaches for understanding mobile related consequences would bound to be a futile exercise. This may be a case in using concepts attached with technological deterministic approaches which may have no applicability in explaining the cultural appropriation processes grounded on local contextualities. Therefore, one of the main challenges of Indian mobile communication scholarship is the *'careful conceptual utilization'* or *'careful selection of approaches'* for explanation purposes where conceptual sensitivity with empirical reality needs to be demonstrated. The second challenge is related with the issue of *'conceptual invention'*. This challenge is also true for international mobile communication scholarship which is suffering from the lack in theoretical interests. The result is the availability of few concepts or frameworks specific to mobile communication. In Indian context, the deficiency is even more stark since the phenomenon is novel and least understood yet society is extremely diverse and experiencing significant transformations under contemporary globalization. It certainly poses problems for researchers working to grasp mobile related transformations. The third challenge is associated with the issue of *'thematic inquiries'*. As said previously, in the international scholarship many new thematic areas are emerging, however, so far very poor work has been done in India. Exceptions of some relational, communicational and instrumental consequences, existing themes like mobile and surveillance, work-home spillover, public-private dynamics, conflict, exchange and identity etc. are not sufficiently investigated by Indian scholars, which may definitely reveal interesting findings in the Indian context.

The challenges are always related with opportunities. The same is the case with Indian scholarship. The cultural composition of India itself opens new junctures for researchers to bring out new themes which are not yet discovered. This may emerge out of the examination of diverse range of usage and impact patterns associated with the mobile phone by utilizing qualitative methods of in-depth inquiries. Secondly, mobile communication scholars have new opportunities to distinguish the implications of the affordances of the featured phone with the recent and powerful smart phones to inquire into how new socio-cultural processes have been unleashed with the progression and addition in technology. These efforts may definitely be useful for building the comparative understanding of mobile related consequences Thirdly, given the issue of access, skill and usage inequality, fresh findings could be obtained to highlight the complex and multidimensional problem of digital divide, which is also a social problem. Fourthly, apart from methodological and empirical innovations, given the state's curiosity for the ICTs in bringing economic development and efficient governance, policy-oriented researches are the need of the hour, so the scholarly knowledge could be mobilized for the betterment of the general public. Fifthly, since there is a serious scarcity of empirical works related with the global-local issue, there is a requirement to study the mobile phone with reference to cultural globalization in order to investigate

into whether the device usages are reinforcing or disrupting local cultural settings. As Singh (2000) noted with the reference to new technologies who, along with interconnecting and empowering people and cultures, have led to the "decontextualization and displacement of meaning and values of cultural objects" (p. 35). This exercise would definitely be helpful in clearing the doubts surrounding the socio-cultural impacts of mobile phone as a part of the globalization process which is constantly being evoked in general commentaries. Finally, and perhaps very important from academic viewpoint, a whole range of reasoned academic discussions and debates could be initiated in intellectual forums such as seminars, conferences and workshops related with diverse range of issues surrounding with mobile communication in India.

Conclusion

In a similar line with international scholarship, the mobile communication studies is in its infancy in India. The issue of research paucity is an effect of it followed by methodological and substantive lags. Very recently, the trend of mobile boom results in growing interest in understanding its usage and consequences. However, so far, most studies are either unpublished or uninformed with broad research patterns and themes of outside scholarship. The present paper concludes that there is an urgent need to move beyond from general commentaries related with its socio-cultural impacts, where it is given insufficient place and even under emphasized within the broader media ecology. And the efforts should be mobilized to initiate academic discussions and researches on the specific issues such as the assessment of access, usage and skill inequality, examination of multitudes of themes and dimensions of investigation related with usage and social consequences, analysis of mobile impact under the context of cultural globalization, and theoretical and conceptual requirements within the peculiarity of Indian context. Any scholarly effort of mobile communication studies in India should deal with these issues which also open a new realm of challenges and opportunities for them. The serious engagements with them will definitely be helpful in developing mobile communication studies in India.

References

Abraham, R.

2006.   "Mobile Phones and Economic Development: Evidence from the Fishing Industry in India." *Information Technologies and International Development* 4(1):48–56.

Ager, J.

2003.   *Constant Touch: A Global History of the Mobile Phone*. Cambridge: Icon Books.

Agrawal, R.

2018.   India Connected: How the Smartphone is Transforming the World's

Largest Democracy. New Delhi: Oxford University Press.

Aker, J. C., and Issac M. Mbiti.

2010.   "Mobile Phones and Economic Development in Africa."*The Journal of Economic Perspectives*24(3): 207–32.

Appadurai, A.

1997.   *Modernity at Large: Cultural Dimensions of Globalization*. Delhi: Oxford University Press.

Arminen, I.

2007.   "Review Essay Mobile Communication Society?." *Acta Sociologica* 50(4): 431–37.

Baym. N.

2016.   *Personal Connections in the Digital Age*, 2ⁿᵈ ed., . Cambridge: Polity Press.

Bauman, Z.

2000.   *Liquid Modernity*. Cambridge: Polity Press.

Bauman, Z.

2011.   *Collateral Damage: Social Inequalities in a Global Age*. Cambridge: Polity Press.

Bayes, Abdul, J. Von Braun, and R. Akhter.

1999.   *Village Pay Phones and Poverty Reduction: Insights from a Grameen Bank Initiative in Bangladesh*. Bonn: Centre for Development Research.

Beck, U.

1992.   Risk Society: Towards a New Modernity. London: Sage Publications.

Campbell, S. W.

2008.   "Mobile Technology and the Body: Apparatgeist, Fashion, and Function." In *Handbook of mobile communication studies*, edited by J. Katz. Cambridge: MIT Press.

Campbell, S. W.

2013.   "Mobile Media and Communication: A New Field, or Just a New Journal?" *Mobile Media & Communication*1(1): 8–13.

Castells, Manuel, Mireia Fernandez-Ardevol, Jack Qiu, and Araba Sey.

2007.   *Mobile Communication and Society: A Global Perspective*. Cambridge: MIT Press.

Castells, M.

2010.   *The Rise of The Network Society: The Information Age: Economy, Society and* Culture, 2ⁿᵈed.With a New Preface. Oxford: Wiley-Blackwell.

Castells, M.

    2015.   *Networks of Outrage and Hope: Social Movements in the Internet age*, 2nd ed., .Cambridge: Polity Press.

Chan, M.

    2013.   "Mobile Phones and the Good Life: Examining the Relationships among Mobile Use, Social Capital and Subjective Well-Being." *New Media & Society*, 17(1): 96–113.

Chesley, N.

    2005.   "Blurring Boundaries? Linking Technology Use, Spillover, Individual Distress, and Family Satisfaction."*Journal of Marriage and Family*67(5):1237–48.

Department of Telecommunications.

    2018.   "Telecom Statistics India– 2018." New Delhi: Economic Research Unit, Department of Telecommunications, Ministry of Communications. Accessed September 3, 2020. http://dot.gov.in/sites/default/files/statistical%20Bulletin2018.pdf?download=1

Department of Telecommunications.

    2012.   *"National Telecom Policy–2012." Accessed September 3, 2020.https://dot.gov.in/sites/default/files/NTP-06.06.2012-final_0.pdf*

Donner, Jonathan, Nimmi Rangaswamy, Molly Wright Steenson, and Carolyn Wei.

    2008.   "Expres Yourself" and "Stay Together": The MiddleClass Indian Family." In *Handbook of Mobile Communication Studies*, edited by J. E. Katz. Cambridge: MIT Press.

Donner, J.

    2009.   "Blurring Livelihoods and Lives: The Social Uses of Mobile Phone and Socio-Economic Development."*Innovations, Technology, Governance, Globalization*4(1): 91–101.

Doron, A.

    2012.   *"Mobile Persons: Cell Phones, gender and the Self in North India." Asia Pacific Journal of Anthropology 13(5): 414–33.*

Fortunati, L.

    2003a.   "The Human Body: Natural and Artificial Technology." In *Machines That Become Us: The Social Context of Personal Communicatio*n, edited by J. E. Katz. New Brunswik: Transaction Publishers.

Fortunati, L.

    2003b.   "The mobile Phone and Democracy: An Ambivalent Relationship." In *Mobile Democracy: Essays on Society, Self and Politics*, edited by K. Nyý´ri. Vienna: Passagen Verlag Publications.

Fortunati, L.

    2005.   "Mobile Phones and Fashion in Post-Modernity." *Telektronikk3*(4):

35.

Fotel, Trine, and Thyra Uth Thomsen.

2002.   "The Surveillance of Children's Mobility."*Surveillance and Society*1(4): 535–54.

Gergen, K. J.

2008.   "Mobile Communication and the Transformation of the Democratic Processes." In *Handbook of Mobile Communication Studies*, edited by J. E. Katz. Cambridge: MIT Press.

Geser, H.

2003.   Towards a Sociological Theory of the Mobile Phone. Accessed February 25, 2021. https://www.socio.ch/mobile/t_geser1.htm

Giddens, A.

1991a.   *The Consequences of Modernity*. Cambridge: Polity Press.

Giddens, A.

1991b.   *Modernity and Self-identity: Self and Society in the Late Modern Age*. Stanford: Stanford University Press.

Goggin, Gerard, and Jacqueline Clark.

2009.   "Mobile Phones and Community Development: A Contact Zone Between Media and Citizenship."*Development in Practice*19(4–5): 585–97.

Gonzalez, Martha, Cesar Hidalgo, and Alberto-Laszlo Barabsi. 2008. "Understanding Individual Human Mobility Patterns." *Nature*, 453(7196): 779–82.

Green, Nicola, and Leslie Haddon.

2009.   *Mobile Communications: An Introduction to New Media*. Oxford: Berg Publishers.

Haddon, L.

2003.   "Domestication and Mobile Telephony." In *Machines That Become Us: The Social Context of Personal Communicatio*n, edited by J. E. Katz. New Brunswick: Transaction Publishers.

Higgins, Chris, and Linda Duxbury.

2002.   *The 2001 National Work-Life Conflict Study: Report One*. Ottawa: Health Canada.

Horst, Heather, and Daniel Miller.

2006.   *The Cell phone: An Anthropology of Communication*. Oxford: Berg Publishers.

Ilahiane, Hsain, and John Sherry.

2009.   "Economic and Social Effects of Mobile Phone Use in Morocco."*Ethnology*48(2): 85–98.

International Telecommunication Union.

2019.   "Measuring Digital Development: Facts and Figures." Accessed September 3, 2010.   https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2019.pdf

Ito, Mizuko, and Daisuke Okabe.

2005.   "Technosocial Situations: Emerging Structuring of Mobile E-Mail Use."In *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life*, edited by M. Ito, D. Okabe, and M. Matsuda. Cambridge: MIT Press.

Jeffry, Robin, and Assa Doron.

2012a.   "The Mobile Phone in India and Nepal: Political Economy, Politics and Society." *Pacific Affairs* 85(3):469–81.

Jeffrey, Robin, and Assa Doron.

2012b.   "Mobile-izing: Democracy, Organization and India's First "Mass Mobile Phone" Elections." *The Journal of Asian Studies* 71(1):63–80.

Jeffrey, Robin, and Assa Doron.

2013.   The Great Indian Phone Book: How Cheap Mobile Phones Change Business, Politics and Daily Life. London: C Hurst & Co Publishers Ltd.

Jeffrey, Robin, and Assa Doron.

2015.   *Cell Phone Nation: How Mobile Phones Have Revolutionized Business, Politics and Ordinary Life in India.* Gurgaon: Hachette India.

Jensen, R.

2007.   "The Digital Provide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector."*Quarterly Journal of Economics*122(3): 879–924.

Johuki, J.

2013.   "A Phone of One's Own? Social Value, Cultural Meaning and Gendered Use of the Mobile Phone in South India." *Journal of the Finnish Anthropological Society* 38(1): 37–58.

Kathuria, Rajat, Mahesh Uppal, and Mamta.

2009.   *"An Econometric Analysis of the Mobile." In India: The Impact of Mobile Phones (pp. 5–20), edited by R. Kumar. The Vodafone Policy Paper Series. Accessed From http://www.icrier.org/pdf/public_policy19jan09.pdf*

Katz, James, and Mark Aakhus, eds.

2002.   *Perpetual Contact: Mobile Communication, Private Talk, Public Performance.* Cambridge: Cambridge University Press.

Kim, Bumsoo, Wang Yuan, and Kim Youngju.

2017.   "Mobile Communication Research in Communication Journals." *New*

Media & Society 19(2):1–24.

Konkka, K.

2003.   "Indian Needs-Cultural End User Research in Mumbai." In *Mobile Usability: How Nokia Changed the Face of the Mobile Phone*, edited by C. Lindholm, H. Kiljander, andT. Keinonen. New York: McGraw Hill.

Licoppe, Christian, and Jean-Philippe Heurtin.

2002.   "France: Preserving the Image." In *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*, edited by J. E. Katz and M. Aakhus. Cambridge: Cambridge University Press.

Licoppe, C.

2003.   "Two Modes of Maintaining Interpersonal Relations through the Telephone: From the Domestic to The Mobile Phone." In *Machines That Become Us: The Social Context of Personal Communicatio*n, edited by J. E. Katz. New Brunswick: Transaction Publishers.

Licoppe, C.

2004.   "Connected Presence: The Emergence of a New Repertoire for Managing Social Relationships in a Changing Communications Technoscape." *Environment and Planning: Society and Space,* 22(1): 135–56.

Lim, S. S., and Gerard Goggin.

2014.   "Mobile Communication in Asia: Issues and Imperatives." *Journal of Computer Mediated Communication* 19(3): 663–66.

Lim, S. S., ed.

2016.   *Mobile Communication and the Family: Asian Experiences in Technology Domestication*. Dordrecht: Springer Publishing.

Ling, Rich, and, Brigitte Yttri.

2002.   "Hyper-coordination via Mobile Phones in Norway." In *Perpetual Contact. Mobile Communication, Private Talk, Public Performance* (pp. 139-169), edited by J. E. Katz and M. Aakhus.Cambridge: Cambridge University Press.

Ling, R.

2004.   *The Mobile Connection: The Cell Phone's Impact on Society*. San Francisco: Morgan Kaufmann Publishers.

Ling, R.

2008.   *New Tech, New Ties: How Mobile Phone is* Reshaping *Social Cohesion*. Cambridge: MIT Press.

Ling, Rich, and Jonathan Donner.

2009.   *Mobile Communication*. Cambridge: Polity Press.

Ling, R.

2012.   *Taken for Grantedness: The Embedding of Mobile Communication*

into Society. Cambridge: MIT Press.

Liu, J.

2013.   "Mobile Communication, Popular Protests and Citizenship in China." *Modern Asian Studies* 47(3): 995–1018.

Lyotard, J. F.

1984.   *The Postmodern Condition*. Minneapolis: University of Minnesota Press.

McGuigan, J.

2005.   *"Towards a Sociology of the Mobile Phone." Human Technology1(1): (45–57).*

McLuhan, M.

1964.   *Understanding Media*. London: Routledge and Kegan Paul.

Murtagh, G.

2002.   "Seeing the Rules: Preliminary Observations of Action, Interaction and Mobile Phone Use." In *Wireless World: Social and Interactional Aspects of the Mobile Age*, edited by B. Brown, N. Green, and R. Harper. London: Springer Verlag Publishing.

Narayan, S. S., and Shalini Narayanan.

2016.   "An Overview of New Media in India." In *India Connected: Mapping the Impact of New Media*, edited by S. S. Narayan and S. Narayanan. New Delhi: Sage Publications.

Pertierra, Raul, Eduardo Ugarte, Alicia Pingol, Joel Hernandez, and Nikos Dacanay.

2002.   *Txt-ing Selves: Cellphones and Philippine Modernity*. Manila: Da La Salle University Press.

Prasad, K.

2012.   *"E-Governance Policy for Modernizing Government through Digital Democracy in India." Journal of Information Policy 2:183–203*

Rakow, Lana, and Vija Navarro.

1993.   "Remote Mothering and the Parallel Shift: Women Meet the Cellular Telephone."*Critical Studies in Mass Communication*10(2): 144–57.

Rao, Manmohan, and Mira Desai.

2008.   "Boom in India: Mobile Media and Social Consequences." In Handbook of Mobile Communication Studies, edited by J. E. Katz. Cambridge: MIT Press.

Rheingold, H.

2002.   *Smart Mobs: The Next Social Revolution*. Cambridge: Perseus Books/ Basic Books.

Rogers, E. *Diffusion of Innovations*. New York: Free Press.

Roos, J. P.

    1993.   "Sociology of Cellular Telephone: The Nordic Model (300000 Yuppies? Mobile Phone in Finland)." *Telecommunications Policy*, 17(6).

Samuel, Jonathan, Niraj Shah, and Wenona Hadingham.

    2005.   "Mobile Communications in South Africa, Tanzania and Egypt: Results from Community and Business Surveys." In *Africa: The Impact of Mobile Phones*, edited by D. Coyle. Vodafone Policy Paper Series 2. Accessed fromhttps://sarpn.org/documents/d0001181/P1309-Vodafone_March2005.pdf

Schiffauer, L.

    2013.   "The Mobile Phone in Siberia: The Impact of a New Communication Technology on the Everyday Culture of a Postsocialist Society."*Zeitschrift für Ethnologie* 138(1): 23–35.

Sekarasih, L.

    2016.   "Restricting, Distracting, and Reasoning: Parental Mediation of Young Children's Use of Mobile Communication Technology in Indonesia." In *Mobile Communication and the Family: Asian Experience in Technology Domestication*, edited by S. S. Lim. Dordrecht: Springer Publishing.

Sey, A.

    2011.   "We Use it Different': Making Sense of Trends in Mobile Phone Use in Ghana."*New Media and Socie*ty13: 375–90.

Silverstone, Roger, and Leslie Haddon.

    1996.   "Design and Domestication of Information and Communication Technologies: Technical Change and Everyday Life." In *Communication by Design: The Politics of Information and Communication Technologies*, edited by R. Silverstone and R. Mansell. Oxford: Oxford University Press.

Singh, Y.

    1973.   *Modernization of Indian Tradition*. Delhi: Thomson Press Ltd.

Singh, Y.

    2000.   *Culture Change in India: Identity and Globalization*. Jaipur: Rawat Publications.

Singhal, Arvind, and Everett. M. Rogers.

    2001.   *India's Communication Revolution: From Bullock Carts to Cyber Marts.* New Delhi: Sage Publications.

Souter, David, Nigel Scott, Christopher Garforth, Rekha Jain, Ophelia Mascararenhas, and Kevin McKemey.

    2007.   "*The Economic Impact of Telecommunications on Rural Livelihood and Poverty Reduction: A Study or Rural Communities in India (Gujrat), Mozambique, and Tanzania*." Commonwealth Telecommunications Organization for UK Department for

International Development 2005. Accessed, September 3. *https://assets.publishing.service.gov.uk/media/57a08c9f40f0b652dd001446/3943_R8347-Econ-Impact-TeleCom-Rural-Livelihoods.pdf*

Statista.

2020.   "Number of Smartphone Users by Country as of September 2019 (In Millions)." Accessed September 3, 2010. https://www.statista.com/statistics/748053/worldwide-top-countries-smartphone-users/

Sundari, T.

2014.   "Impact of Mobile Phones on Social Life among Youth in India." *Media Asia* 41(4): 334–342.

Tacchi, J., Kathi R. Kitner, and Kate Crawford.

2012.   "Meaningful Mobility: Gender, Development and Mobile Phones." *Feminist Media Studies* 12(4): 528–37.

Tawah, S.

2013.   "Market Women and Mobile Phones in the North West Region of Cameroon: Managing Informal Market Livelihoods and Trade Routes Through Mobile Phones." *Journal of the Finnish Anthropological Society* 38(1): 59–82.

Telecom Regulatory Authority of India (n.d.). Annual Reports, Various Years. Accessed September 3,

2020.   https://main.trai.gov.in/release-publication/reports/telecom-subscriptions-reports

Tenhunen, S.

2008.   "Technology in the Village: ICT's, Culture and Social Logistics in India. *The Journal of the Royal Anthropological Institute* 14(3): 515–34.

Tenhunen, S.

2018.   *A Village Goes Mobile: Telephony, Mediation, and Social Change in Rural India*. New Delhi: Oxford University Press.

Uppal, M, and Rajat Kathuria.

2009.   "The Impact of Mobiles in the MSE Sector." *In India: The Impact of Mobile Phones* (pp. 51–61), edited by R. Kumar. The Vodafone Policy Paper Series. Accessed From *http://www.icrier.org/pdf/public_policy19jan09.pdf*

Ureta, S.

2008.   "MobilisingPoverty?: Mobile Phone Use and Everyday Spatial Mobility Among Low-Income Families in Santiago, Chile." *The Information Society*, 24(2):83–92.

Urry, J.

2000.   *Sociology Beyond Societies: Mobilities for the Twenty-First Century*. London: Routledge.

Van Dijk, Jan.

2006.   *"Digital Divide Research: Achievements and Shortcomings." Poetics 34(4–5): 221–235.*

Veeraraghavan, Rajesh, Naga Yashodhar, and Kentaro Toyoma.

2007.   "Warana Unwired: Mobile Phones Replacing PCs in a Rural Sugarcane Cooperative." In *Mobile Communication*, by R. Ling and J. Donner. Cambridge: Polity Press.

Venkatraman, S.

2017.   Social Media in South India. London: UCL Press.

Wajcman, Judy, Michael Bittman, and Judith E. Brown.

2008.   "Families Without Borders: Mobile Phone, Connectedness and Work-Home Division." *Sociology* 42(4): 635–52.

Wallis, C.

2013.   *Technomobility in China: Young Migrant Women and Mobile Phones*. New York: New York University Press.

Watson, Amanda H. A., and Lee R. Duffield.

2016.   "From Garamut to Mobile Phone: Communication Change in Rural Papua New Guinea." *Mobile Media & Communication* 4(2):270–87.

Waverman, Leonard, Meloria Meschi, and Melvyn Fuss.

2005.   "The Impact of Telecoms on Economic Growth in Developing Nations." In *Africa: The Impact of Mobile Phones* (pp. 10–23), edited by D. Coyle. The Vodafone Policy Paper Series. 2. Accessed From https://sarpn.org/documents/d0001181/P1309-Vodafone_March2005.pdf

Yoon, K.

2003.   "Retraditionalizing the Mobile: Young People's Sociality and Mobile Phone Use in Seoul, South Korea." *European Journal of Cultural Studies* 6(3): 327–43.