

Personalizing the Shared Mobile Phone

Nimmi Rangaswamy¹ and Supriya Singh²

¹Microsoft Research Bangalore 560080, India
nimmir@microsoft.com

²RMIT University, GPO Box 2476V, Melbourne 3001, Australia,
supriya.singh@rmit.edu.au

Abstract: Sharing mobile phones, an enduring practice in developing nations, finds insufficient empirical effort or theoretical scrutiny as a sociological phenomena. Predominant conceptions of design for a mobile phone are aimed at independent and private behaviour as the device is perceived and designed to be a private object for personal use. In this paper we draw attention to the need for designing personalized spaces within the shared or familial culture around the mobile phone. We report on a qualitative case-study of shared mobile phones in low-middle income families in Mumbai city and Dharamshala, reframing personal communication devices as shared objects.

Key Words: Mobile Phone, Shared phones, India, Middle-class, Ethnographic Design

1 Introduction

Sharing mobile phones, a common practice in developing nations, finds insufficient empirical effort or theoretical scrutiny as a sociological phenomenon. Predominant conceptions of design for a mobile phone are aimed at independent and private use.. In this paper we draw attention to the need for designing personalized spaces within the shared or familial culture around the mobile phone. This approach to design could transform an individually owned mobile phone to a family device or may lead to a family device that is personalized for each family member. The design will involve personalizing a public object. Therefore, even if the mobile phone is individually owned, it can be personalized and customized to suit the needs of multiple-users.

Mobile remittances in Asia and Africa need to contend with shared mobile phones but money that is often private within the household. In India among urban patrilineal middle income households, money is predominantly controlled by men. In joint families, information about money travels more easily between father and son than between husband and wife. Even when the husband and wife have a joint account, the wife may not have information about money in the account. She may never have deposited or withdrawn money from the joint account (19). The issue of a woman's personal spending money is especially fraught, particularly in patrilineal joint families.

While shared mobile phones may be a transitional stage (6) money management and control in families will continue to include some measure of jointness and privacy. Hence design that takes into account the need for flexible boundaries between shared and private spaces will continue to have wide currency.

We report on a qualitative study of shared mobile phones in low-middle income families in Mumbai city and middle income families in the small town of Dharamshala. Our family ethnographies of shared mobile phone usage reflect family dynamics; that material resources are often shared at the level of the family rather than the individual. Communication technologies enable family interaction and co-ordination. Our research findings in middle class Indian homes challenge received notions of mobile phones as necessarily personal, private, individually owned and used.

We draw attention to two arguments in this paper. The first addresses the design of personalized spaces within the shared or public space. We found in the middle class Indian families we studied, the personal mobile phone can be shared while an individual may own the family phone. In the Indian context there is significant sharing at the level of family or community or neighborhood and the desire for privacy articulates as personalization of space that is otherwise public. We also see tensions, especially coming out of youth behavioral practices that seek individual identity through ownership of mobile phones and simultaneously desire to share the phone with family as socialized members of a shared culture (5).

The second argument deconstructs a dominant perception that the sharing of personal communication objects thrives only when there is economic constraint. In our data, this idea is questioned when we find multiple phones in Indian households, being shared.

2 Methodology

We conducted a qualitative study of 49 lower middle income households in Mumbai and 11 households in Dharamshala between May 2005 and June 2006. Mumbai is India's largest metropolitan city with 17.7 million people (3) and Dharamshala, a Himalayan town with a population of 19,034 in 2001(4). We defined the lower middle income households as those that had a monthly household income of between INR 9,000 and INR 30,000 (1 US Dollar = 49 Indian Rupees Feb 2009).

In Mumbai, we used multiple ways of collecting data through focus groups, open ended interviews, family case studies and participant observation. We draw on the focus groups for a general understanding of the use and consumption of mobile phone against the background of the household and family. For the detailed discussion of mobile phone usage we draw on the richer open-ended interviews, family studies and participant observation. As this data was collected in the households, the household and family context was immediately at the fore, with the individual elaborating on personal use.

In the small town of Dharamshala, the research drew upon participant observation with a particular focus on mobile phone ownership and usage. Participant observation

in Dharamshala was based on an 11 year relationship with friendship and neighborhood groups.

The focus group data in Mumbai were taped and fully transcribed. For the interviews and participant observation, only one interview was taped and transcribed. The taping of family interviews became socially problematic in Mumbai and Dharamshala. So we depended on detailed field notes and field journals.

3 The Mobile Phone in the Literature

The mobile phone has been at the centre of media research in developed nations viz Europe and Japan, for its varied usage as a personal device [15, 14, 13, 18]. Mobile phones are also seen as status markers and fashion items [11, 16, 17]. The mobile phone is a tool for community development, sometimes the first family communication device, the small business enhancer and identity marker for youth. Specific studies speak about mobile technology shaping social relations. Research has emphasized the mobile phone, as a means of cementing, sustaining, and managing relationships. Youth and friendship have received considerable notice [6] identifying texting and social networking, chatting and friendships via the mobile phone, and the new agendas to which they give rise. Importantly, interactions of a more romantic or flirtatious kind found ease of existence through mobile dialogues and communication. All of these studies, interesting as they are, follow the life and times of the mobile phone in either a western or hyper-modern contexts.

Our focus is on the use of mobile phones primarily in the context of the family and in cultural settings that lay emphasis on the collective and shared use of media. Previous researchers have focused on particular elements of mobile use within families predominantly in western contexts. Some have looked at how mobile use and family rules and norms dictate appropriate mobile use [8] and the ways in which families manage and allocate money and finance for personal communication devices [12].

There is an emerging body of work on the use of the mobile phone in developing countries from diverse perspectives (8). Sharing of mobile phones is acknowledged as a common practice in developing nations. As noted in the Information Economy Report [20].

...in developing countries a single mobile phone is frequently shared by several people, particularly in poor, rural communities, and people at all income levels are able to access mobile services either through owning a phone or using someone else's (p. 12).

The leasing of mobile phones in the villages of Bangladesh by *Grameen Bank* is based on shared use [1]. A 2004 study of rural municipalities in the Philippines found that fifteen per cent of the cell phones were family owned but 62 per cent allowed others in the household to receive and respond to messages [17].

The sharing of mobile phones is common in Africa (Vodafone, 2005). In Rwanda as Donner notes [7].

...handsets often pull double-duty, used by multiple family members, shared among friends (perhaps by swapping SIM [Subscriber Identity Module] cards in and out), or perhaps by a

whole set of users in a village or neighborhood. Across the region, many people make their living by selling individual calls on handsets. (p. 2).

Shared mobile phones in Asia are used within a culture of sharing in Asian homes. As Bell says [2], firstly material resources are often shared at the level of the household and neighborhood. Secondly, the middle class Indian home is the hub of family life even if the family is nuclear in nature. Domestic communication technologies are seen not only as enablers but support devices for family interaction and co-ordination. Thirdly, Asian cultures privilege the family over the individual. Though there are several social units competing as identity markers, the individual is not seen as the primary unit of social organization.

We must note that the picture is nuanced and not always uniform. Yu notes [21] the mobile phone in China

...allows privatized and mobile communications based on personal choices and individual pleasures. As such, the mobile phone has become the technology of privatized and individualized networking of our age, par *excellence* (p. 33).

4 Findings and Discussion

The mobile phone, in our sample of low-middle income families, is largely perceived as a functional and affordable family communication device. The image of the (immobile) land line in the drawing room as the family phone informs the usage of the family mobile phone in the lower middle-income households. In eight per cent of the households the mobile was the only telephone and functioned as the family phone. As Akshata,¹ 32, in Mumbai says 'The mobile in our home is the walking landline.' She not only shares her husband's mobile but also uses her neighbor's as a contact number for emergencies.

Savio Miranda, 36, has not taken up a land line connection at all. His mobile works as the common phone number for both him and his wife. 'Most of our calls are long distance and are all calls to our home towns. Besides, STD (Subscriber Trunk Dialing to call long distance within the country) is cheaper on the mobile.'

The mobile phone in lower income households in Mumbai is still male and often a business communication device. Women are given less priority when it comes to owning a personal phone though men often share the phone with their wives or mothers. In our Mumbai sample, of the 19 single mobile phone households, 17 belonged to the men. In Mumbai and Dharamshala, both men and women feel that housewives do not need mobile phones as long as they can make and receive calls at home. When women own a mobile phone it is often shared and attains the status of a family phone.

The gender divide for mobile phones disappears for young men and women. Young people's use of the mobile phone shares many of the characteristics of youth

¹ All the names from the qualitative studies are pseudonyms.

in other parts of the world [9, 16]. They talked of the mobile phone as personal and an identity marker, used to communicate with friends or listen to music. Mobile phones were personally owned, often bought with their own earnings. The mobile phone is a status marker, and important for maintaining their friendship networks. Music and the camera functions are important for their status and functionality. In the absence of home PCs, the phones became a social networking device, the affordable iPod and an identity enhancer to absorb and transmit the look and feel of their owner.

4.1 Multiple Mobile Phones in a Household are shared

Sharing of mobile phones draws on a tradition of shared, public access to communication in developing countries. Universal access as opposed to universal service is seen in terms of providing a public shared communication device for a designated area.

Mobiles were shared across a range of household incomes in our sample. Around 40 per cent of mobile phones in our Mumbai sample (Table 1) were shared. In Dharamshala, the mobile phone was shared in all the four households that had a mobile phone. In Mumbai, mobile phones were shared when there were one, two, or three phones in the household. Many single phones in a household were not shared while twin and triple phones were shared amongst members of the household. Sharing was not restricted to households where there was only one phone per household.

4.2 Patterns of Sharing

The phone was shared in multiple ways. Individual ownership of the mobile phone does not preclude sharing. Of the 52 mobile phones (out of a total of 81 mobile phones in 49 homes in the Mumbai sample) attached to their owners, a third of them were being shared in the household.

The sharing can be partial. Some women use the mobile only to receive calls, rather than for making calls. With low mobile rates, the mobile phone is often cheaper than the landline and so is also used to speak to extended family outside Mumbai. The shared phone can also be earmarked to receive calls from family members overseas.

In Dharamshala one phone could be shared but with two SIMs or two phones with one SIM; or the appropriation of the phone without paying. The disaggregation of the phone from the SIM [14] is an important element of sharing. Below we give some vignettes from our data in Dharamshala. The sharing was between siblings, between father and daughter, and between extended kin.

Charan in Dharamshala has completed his BA and has a GPRS (General Packet Radio Service) enabled mobile which cost him INR 9,000. He lends it to his younger brother, Chetan, who is still in school. Chetan does not have a mobile because schools in Dharamshala do not allow their students to use the mobile phone during school times. When Chetan goes to a party, he borrows his brother's phone. 'I just put in my

Table 1: Sharing of mobile phones in Mumbai homes n=49

Households and mobile phones	Number of Households	Not shared	Shared
No mobiles	4	NA	NA
Single mobiles	19	14	5
Two mobiles	16	5	11
Three mobiles	10	6	4

own pre-paid SIM, and it becomes my phone,’ Chetan says. ‘My brother manages without it for that time.’

Anita, 20, in Dharamshala does not yet have her own SIM so borrows her father’s SIM. ‘If there are messages for Papa,’ Anita says, ‘I ring him up and tell him this or that Uncle wants him to call.’ Amar, 15, Anita’s brother who is still in school also uses the same phone. If Anita’s friends ring up while he has the phone, Amar asks ‘Sowhat?’ Anita agrees. ‘No,’ she says, ‘there is nothing personal about my mobile phone.’

Dharam (in his 40s) in Dharamshala is in trade and sees his mobile phone as an essential business tool. He says tradesmen do not borrow from each other, and if they do, it would only be for a local call. His wife Dheera (in her 30s) interjects that her husband lends his mobile to anyone who asks. She says,

We were going to a wedding and his cousin who was in the other car asked him for his mobile. The idea was that they could be in touch if the cars lost sight of each other, as another person in my husband’s car had a mobile. But then his cousin kept the mobile for five days and spent all the INR 500 that was on the recharge card.

What can one say?

Dharam says, ‘Now I don’t set it to Roaming when I go away to the village. ...So I neither receive calls, nor have other people make calls.’

4.3 Not Sharing Phones

Phones were not shared for three reasons Firstly, the household or the owners had more than one phone. One was shared with family and the other was for business communication. There are instances where in one household, one phone is used only by one individual, whereas the other one is shared. In the Solan Lal household in

Mumbai, Rakshita (22) sees her mobile as her own. She says, 'I need to keep it with me all the time. Also, clients may want to call up anytime, so I have to make sure that the phone is not engaged.' But her father, Kishna's mobile functions as the *de facto* landline for the whole family.

Secondly, mobiles are not shared when they are used primarily for business. This is particularly true for men as they are more likely to have mobiles for business. Where a father shared a business mobile with his daughter, it was because the daughter helped him with his business. Where the woman has the mobile for work, she too does not share the mobile. Chandan, a trader in his 50s in Dharamshala cannot contemplate offering his mobile to anybody because all his business calls come on the mobile.

The exceptions are when the businessman is not very mobile as with Anita's father who can rely on his fixed line phone or Dharam who was caught in a difficult social situation. Men spoke about their business phones as being personal but often shared them with their children, wives or mothers when they got home from work. Children used it to play games. Some of the women respondents in Mumbai gave the husband's mobile as their contact number.

Sometimes fathers stored their address books on their children's phone. One details of them said "My 13 year old son insisted on getting a fancy mobile with large storage and features... I compensated buying a cheap phone for myself. I store my address book on his device." Children shared mobiles of fathers when the device was brought home from work. The radio, camera and text messaging were features used largely by children (12 years or above) on owned or borrowed phones.

Thirdly, for young people there is tension between the emotion invested in the mobile phone, contribution to purchase and the norm of sharing. Youth in our sample perceived the mobile as a personal and life-style device in contrast to the more functional mobile of their parents. Hence not every young person is comfortable sharing the mobile.

In the Mumbai data, nine young persons shared the mobile phone, whereas ten did not. In Dharamshala sharing the phone was the norm, particularly between siblings. It is interesting to note that daughters are more likely to share than the sons. Of the nine who shared in Mumbai, six were female and three male. The position reversed itself among the ten who did not share – three female and seven male.

The phone was shared when it was bought by the parents or older sibling (6 instances) or from the young person's own income (3 instances). Of the 10 who did not share, three belonged to the same family and the father had bought all of them a mobile phone. Two work late, but the other five do not want to share. Sudarshan, 19, says, 'It is my mobile, and nobody uses it. My parents do not even know how to...'

Rakshita's story in Mumbai illustrates the strength of these norms of sharing, even when there is much emotion and status associated with the mobile phone. Rakshita, 22, saved up for ten months to buy her first mobile phone in 2002 while she was still in college. She took the phone with her wherever she went. It became the family phone when she was at home. Everyone could receive calls and messages but she was the only one who made outgoing calls from it. The others used a Public Call Office except in the case of an emergency.

When Rakshita's father got a mobile in 2004, his phone became the default family phone, but Rakshita's brother used her phone for messaging and receiving calls. He felt he could chat for a longer time with friends on his sister's phone. Rakshita then upgraded her phone to a *Nokia* phone with a radio. Now her brother uses the radio when she is at home. It is the only radio in the house. Rakshita is now saving up to buy a camera phone. Rakshita says her family is entitled to the benefits and convenience the phone affords. She adds, 'They are family'.

5 Concluding Remarks

Our research on middle class Indian families challenges received notions of mobile phones as private, personal and individual. In many cases the mobile phone was shared, even when there were multiple phones in the household. Young people especially felt the tension between individual ownership, the emotion invested in the phone and norms of sharing. Yet, even young people shared the phone, particularly with siblings. Even when older persons used the phone for business, this phone at times became shared after work. There were many different patterns of sharing, ranging from no sharing to partial and more complete sharing. .

Ethnography informs technology design by incorporating awareness of cultural contexts and social meanings [2]. Our research establishes the importance of culture in shaping the use of technology, especially the seemingly personal communication device, the mobile phone. The social/cultural approach is important for the design of a shared private mobile as this sharing is in the context of several other realms of being and living in an Indian family.

There are precedents for shared access to information and communication technologies in multi-user PCs and telecentres, which could usefully be used for shared mobile phones. Personalization of the mobile phone would allow shared access and absorb diverse sharing behavior. With close-knit family sharing of a mobile phone, we might locate the personal and private within the public family device.

The paucity of empirical studies of the sharing of the mobile phone means there are many unaddressed issues. What does the sharing of the mobile phone say about family connectedness, youth culture and privacy? Is this sharing a temporary phenomenon that will disappear once every person in the household has a functioning mobile phone? Does the sharing of the mobile phone question the individualization of new media?

New media research could usefully take three directions. Firstly, research on new media needs to probe whether media outside Europe, Japan and the United States – given time – will follow the same trajectory of individualization, multiplication, and personalization. Or will there be a different kind of connected individualism, which tries to bridge individual ownership with the norms of a shared family life? Secondly, these questions may well lead to a re-examination of the use of new media in its traditional markets, to see how individuals manage to share personal media.

The third area is the ethnographic study of diverse constructions of privacy and trust in families across cultures [2]. The broad issue is the ways in which people negotiate the competing demands of individualism on the one hand and connectedness

of the household and the community on the other. With greater empirical research, we could reveal the varieties of ways in which people use new media to negotiate their need for individual privacy, trust and connectedness. We could then begin to bridge the gap between social and cultural practice on the one hand and regulatory policy and design on the other.

References

1. Bayes, A., Braun, J.V., Akhter, R.: Village Pay Phones and Poverty Reduction: Insights from a Grameen Bank Initiative in Bangladesh. ZEF Bonn, Zentrum für Entwicklungsforschung, Center for Development Research, Universität Bonn, <http://www.telecommons.com/villagephone/bayes99.pdf>
2. Bell, G.: Other homes: Alternate visions of culturally situated technologies for the home. CHI 2003, ACM 1-58113-630-7/03/0004 (2003)
3. Mumbai municipality and suburban population since 1981, <http://www.demographia.com/db-mumbai1981.htm>
4. Dharamshala Himachal Pradesh, http://www.indianetzone.com/8/dharamsala_himachal_pradesh.htm
5. Chavan, L. A.: A dramatic day in the life of a shared mobile phone in India, 12th International conference on. Human Computer Interaction 2-27 July, Beijing, P. R. China (2007)
6. Chipchase, J., Tulusan, I.: Shared Phone Use, <http://www.janchipchase.com/sharedphoneuse>
7. Donner, J.: User-Led Innovations in Mobile Use in Sub-Saharan Africa' Receiver Newsletter#14, <http://www.vodafone.com/flash/receiver/14/articles/index02.html>
8. Donner, J., Rangaswamy, N., Steenson, M. W., Wei, C.: "Express yourself" and "Stay together": The middle-class Indian family (pp. 325-338). In: J. Katz (eds.) The handbook of mobile communication studies. Cambridge, MA: MIT Press (2008a).
9. Jonathan Donner.: Research Approaches to Mobile Use. In: the Developing World: A Review of the Literature, The Information Society, vol. 24, no. 3, pp. 140-159 (2008b)
10. Ellwood-Clayton, B.: "All we need is love—and a mobile phone: Texting in the Philippines" Paper presented at the International Conference on Cultural Space and the Public Sphere in Asia, Seoul, Korea (2006)
11. Haddon, L.: Information and Communication Technologies in Everyday Life: A Concise Introduction and Research Guide, Berg, New York (2004)
12. Haddon, L., J. Vincent.: Making the most of the communications repertoire: choosing between the mobile and fixed-line. In: A sense of place: The global and the local in mobile communication (eds.) K. Nyiri. Vienna: Passagen Verlag (2005)
13. Ito, M., D. Okabe., M. Matsuda. (eds). Personal, Portable, Pedestrian: Mobile Phones in Japanese Life, The MIT Press, Cambridge, Mass(2005)
14. Lacohee, H., N. Wakeford., I. Pearson.: 'A Social History of the Mobile Telephone with a View of its Future' BT Technology Journal vol 21 no 3: pp .203-211(2003)
15. Livingstone, S. (2002) Young People and New Media. London: Sage Publications
16. Özcan, Y. Z., A. Koçak.: Research Note: A Need or a Status Symbol? Use of Cellular Telephones in Turkey' European Journal of Communication vol 18 no2 pp 41-254 (2003)
17. Pertierra, R.: 'Mobile Phones, Identity and Discursive Intimacy' Human Technology vol 1 no.1pp 23-44(2005)

18. Plant, S.: 'On the Mobile. The Effects of Mobile Telephones on Social and Individual Life', http://www.motorola.com/mot/doc/0/234_MotDoc.pdf
19. Singh, S.: Balancing separateness and jointness of money in relationships: The design of bank accounts in Australia and India, 13th International conference on. Human Computer Interaction 19-24 July, San Diego, USA (2009)
20. United Nations Conference on Trade and Development.: Information economy report, http://www.unctad.org/en/docs/sdteedc20051_en.pdf
21. Yu, H.: The Power of Thumbs: The Politics of SMS in Urban China. Graduate Journal of Asia-Pacific Studies vol 2 no. 2 pp 30-43(2004)
<http://www.arts.auckland.ac.nz/sites/index.cfm?P=7328>