Understanding Mobile Usage in Rural India – '09

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Over 65% of the Indian population lives in her villages and mobile penetration is around 40%, presenting the possibility of a vast potential market. This paper describes a qualitative research study conducted to understand needs and expectations of users vis-à-vis mobile phones. The study was conducted across 4 semi-urban towns and 8 villages across four Indian states of Andhra Pradesh, Maharashtra, Uttar Pradesh and West Bengal. Some unique user characteristics, lifestyles and usage patterns were observed during the study. This paper presents aspirations of the people and impact of mobile phones on their lives. A few design ideas aimed at enhancing mobile phone experience for people in rural India have also been presented in this paper.

Rural India, Mobility, Mobile phone usage, Dual SIM, shared phone, entertainment, SMS, phonebook, call-log, contacts, education, regional language, recharge, battery charge

1. INTRODUCTION

Mobiles are becoming more and more popular in rural India[1]. Hence, it is imperative to understand the emerging and evolving trends surrounding mobile phone usage to design for rural India.

The question here is how usable these mobiles are to the rural users. Rachel Hinman [2] notes that most of the mobile devices sold in India are actually made for Urban/Western users and posed a usability challenge for rural users. Natasha Alani [2] identified that many non-literate research participants ignored the screen when using mobile phone. Instead of engaging with the UI on the screen, rural users would engage with the physical interface of the phone. They would leverage their spatial memory and gestures by memorizing patterns (i.e., pressing a button three times, remembering the patterns of numbers) or ask for assistance in dialling a number from a family member.

In the recent past, many researchers have worked around issues pertaining to phonebook, SMS, language barriers, battery recharge. Giving a regional language options to the mobile still has shortcomings as per Dr. Dinesh S. Katre [3] who has discussed in detail about the usability Issues of Bilingual Mobile Phones. Kin Fai Law and Eva Shon [4] feel that the major constraint with rural mobile phone use is recharging them in areas that are off the power grid. Amy Yee [5] shares an interesting account wherein Arvind Tandon, 28,

charges phones in his shop where he sells and repairs clocks and radios. In yet another report by Jaymi Heimbuch [6], we get to read about a Ugandan village woman who charged her mobile by connecting it to 'D' batteries used for flashlights.

Tapan Parikh [7] states that there are still many obstacles to mobile phone ubiquity for people in rural areas. The objective of our study was to unravel such obstacles so as to provide insights for ideating around valuable solutions for this segment. Cell phone use could play an important role in connecting family, close friends, business contacts and information sources.

2. PROCESS OVERVIEW

The study was conducted in 4 medium sized villages (Tier1, Tier2, ~population: 10,000 to 20,000) and 4 semi-urban towns (~population up to 1,00,000) in four regions - *Uttar Pradesh (Hindi), West Bengal (Bengali), Andhra Pradesh (Telugu), and Maharashtra (Marathi)*. The most widely spoken languages in India as per Census 2001 are: *Hindi (42.2 crore), Bengali (8.3 crore), Telugu (7.4 crore), Marathi (7.2 crore), Tamil (6.1 crore), Urdu (5.2 crore), and Gujarati (4.6 crore)* and hence the study covered a major section of spoken Indian languages and the four major zones of India. This study was conducted with help from *Kern Communications, Hyderabad*. Participants were recruited based on the profile (Table 1) listed

below. A mix of age-group and gender was considered while finalizing the participants.

The study was divided into two major sets. The field team constituted of one moderator, three observers and one audio/video specialist.

Table 1: Participant Profiles

Details	Participants			
	Small Farmer	Medium Farmer	Rich Farmer	Daily wage laborer
Land Ownership	< 5 acres	> 5 acres	> 20 acres	No land

2.1 Structured Questionnaire

Based on the areas of interest with respect to mobile phone usage in rural India, the research team put together a set of questions to gather insights from the participants. Mobile phone usage, user expectations, impact of mobile on their lives etc. were some of the areas in focus. This questionnaire passed through two levels of iterations before being tested out on a pilot user. The finalized questions were then taken to field. Few more iterations emerged after two dialogues.

2.2 Observational Study

Table 2: Region distribution and gender mix

Details	The regions (4 states)			
	Andhra Pradesh	Maharashtra	Uttar Pradesh	West Bengal
Semi Urban	Jangaon	Khopoli	Sandila	Hajipur
Tier1 village	Pargi	Murud	Khaju - Rahm	Arambaugh
Tier 2 village	Doma	Mazgaon	Bhadeicha	Khirpai
Participants (Gender Mix)				
Males	9	9	9	7
Females	3	2	2	2
Total	44			

Observing the users with respect to any physical artefact that they were using, their surroundings and way of life was taken up as a parallel activity in the field. Participants were asked to perform a few basic tasks (for example, making a call). Think aloud protocol was exercised during this task activity. The findings listed in this paper can be attributed to both, the questionnaire as well as the observational study. Apart from the above, we wanted to understand the lifestyle, readiness to spend money on mobile phones and services etc. as a part of our observations. The contextual

inquiry further addressed more aspects defining rural life and mobility in general.

3. STUDY FINDINGS AND KEY INSIGHTS

The section covers the major observations in the study through three subsections – observations about the life in rural India, insights about mobile features with respect to rural India and impact of mobile phone on rural India.

3.1 Village Life

During the course of study, we observed some unique patterns and behavioural characteristics that were common across most participants. These were observed in terms of their habits, their mentality, their needs, etc.

3.1.1 The houses

We observed several peculiarities about the way people lived in rural India. Most houses contained instances of make shift arrangements created out of broken objects, old, out-of-order appliances and other household things. For instance, a table fan was tied to the roof, acting as a ceiling fan.

Image 1: Ad hoc arrangement created using a spike guard and a broken all-battery-charger

Four people had bought the 'All battery charger' (Refer Image1), with the facility to charge any mobile phone battery.

Inside the houses, people had managed to make efficient use of the available space by stacking, hanging and finding useful applications for waste or worn-out objects.

There were very few cupboards and most objects were on shelves or on tables. Utensils, crockery, appliances, books, toys, etc all were visible, albeit neatly kept in most houses (Image2).

Image 2: Utensils arranged on a shelf in the living room, out in the open.

Most houses had frank display of religious inclination. Pictures of God hung in multitude with flowers and garlands adorning them (Refer Image3).

Image 3: Religious artefacts in a house

Although people seemed short-sighted in planning especially for recharging the SIM card, many houses employed the use of Compact Fluorescent Lamps (CFL). They specified their awareness about CFLs saving electricity.

3.1.2 Daily routine and observed patterns

Most of the people we met had a daily routine of meeting up with friends in the evening. Depending on their age or village, the venues varied from the market square to a barber shop. This daily activity of chatting with friends was an important part of their entertainment. Apart from relaxation, they also exchanged important bits of news such as recharge schemes, job opportunities, etc.

As far as spending money on mobile phones was concerned, people seemed to plan in a short sighted manner. Everyone owned prepaid cards and most of them used small recharge schemes. On several occasions it was found that the mobile phones were out of credit. They recharged in small amounts of Rs 10, 20 or 50 based on need. Recharge planning, if any, did not go beyond the 4-5 days. Moreover, many people had promptly bought new SIM cards for better profitable schemes. They did not think far enough to calculate and find out that probably the effective benefit in the long run might be either nil or negative. In general, they seemed to follow a "small savings" culture. One user had maintained a diary in which

he had maintained meticulous records of his daily savings which ranged from Rs. 5 to Rs. 20. A microfinance bank representative visited him regularly and collected small amounts of savings.

Although many users were either functionally literate or completely illiterate, we found that someone from the family or their circle of friends were literate. This person's literacy served the purpose for most needs, especially for help in mobile phone usage and understanding the interface. The child, the employer or a friend who was literate would help in entering contacts in the phonebook etc. This pattern of family/group literacy was found in almost all the cases.

3.1.3 Information needs of rural India

One of the major voids that was observed and felt in their life was lack of reliable sources of information. Information was needed in many aspects of life. We found a user whose job majorly involved guiding people in matters concerning *Thana* (Police station), *Tehsil* (Block office), and *Lekhpal* (Land-ownership record).

Apart from the lack of government related information and awareness, there was also lack of health information. The lack of health information and infrastructure has also been documented by Duflo [8]. Instances were narrated by users wherein they required medical assistance and did not know where to go. In one such instance, the person had understood that he was suffering from Jaundice (yellow fever) and yet, had to spend close to a month before he could find the proper facility for diagnosis and treatment. In another instance, a user whose cattle was suffering from illness tried to call a helpline advertised as "health care" support by a service provider. He was instructed to visit a veterinarian at the earliest.

People had a curious outlook and many regularly read the newspaper and tuned into news channels to keep themselves aware and informed. Specific occupational information needs were also expressed. For instance, best seeds to buy, reliable fertilizers outlets, soil maintenance methods, best prices to sell produce were important for farmers while for fishermen, means for knowing distance in the sea, safe and better places to fish, etc. were important. A fisherman we spoke to used signal strength in his mobile phone to gauge distance in the sea. Needs for information related to farming had also been discovered by Rege [9].

One user, who went out of the way to procure information, had bought a geography text book to learn more about soil types and understand the best practices for farming. Another user regularly attended camps and meetings that disseminated information to farmers. In another instance, one

user had studied and implemented bio diesel plantation wherein desalted pits were dug in a tank for biodiesel plantations.

3.1.4 Other aspects of villages

The villages visited, had an “opinion leader”. An opinion leader is a person whom the rural people look to for answers. He is generally respected throughout the village and is a common known source of solutions [10]. The influential contacts of these opinion leaders in government offices at various levels provided villagers a way to resolve their concerns. They were looked at as problem solvers and reliable information sources by many.

Communication within the villages were mostly human-to-human and through word of mouth. There were a few instances where kids were used as messengers to convey messages. For villagers, using a mobile phone for communicating with a person in the same village was impractical. Going to the person's house to convey a message was common in these villages. Certain messages meant for a mass were conveyed using “*Dhindora*” (broadcasting announcements using a drum to attract attention in public places – the drum is called a *Dhindora*) in villages. In one such instance, announcements pertaining to subsidized fertilizers were conveyed to the villagers through a “*Dhindora*” for Rs. 50. This had been done with prior permission from the village head.

3.2 The mobile phone in rural India

We observed some unique characteristics pertaining to the mobile phone usage, features, and perception. Observations were more about how the rural Indian population use or perceive a particular feature than what impact the feature is causing on the people.

3.2.1 Phone book

From our observations, we discovered that there were problems in fetching numbers during a call or in recording numbers exchanged on call. Across multiple users, it was found that there was a need to prioritize one's phone book entries and identify them uniquely. This corroborated a similar finding discovered previously [11]. Two people achieved that through ad hoc efforts such as saving the number preceded by ‘A’ in the name field (Example:balance enquiry number), Four had saved special numbers such as those of their female friends, in cryptic manners (for example, ‘Aff’). Various name identifiers such as symbols, icons, short forms, phonetics, location and businesses were used across phones. Locations have been found to be used as identifiers elsewhere as well [11].

A user had even input the names of relatives in regional language (Telugu) for his wife who could not read English (*Image 4*). This incidentally, reflected the way physical diaries have been found to be maintained – numbers in English while the names in regional language [11].

Image 4: Telugu entries in the phone book entered by a participant for his wife's benefit

Of the few obvious complains the users had, the most prominent ones were with regard to the laborious process to transfer or copy the phone book to a new phone. Many users had recently bought a new phone, owing to various causes such as losing the older phone, damaging phone due to environment, finding a tempting scheme along with the new phone etc. In such a situation, it was painful for them to get their contacts in the phone book again. Also, a need to easily convey newly acquired number to all the important contacts was expressed.

Most users in rural India did not use search in lists such as phone book. They almost always used scroll. They scrolled down in the list until they came upon the item they wanted.

3.2.2 Call log

To the users of rural India, call log and the phone book were merely lists of numbers stored in their phones. Not many had the understanding as to how the call log functioned, why it existed and exactly how it was different from the phone book. We observed them through a few tasks such as calling a frequently called contact, calling a contact that is not so frequently called by them and looking for a particular number. The users almost always went to the call log first, and if at the end of the call log the number was not found, they switched to the phone book to find the required number.

Also, apart from recently called numbers, missed calls had a special significance in their life. Missed calls have been discovered to convey multiple meanings in rural India [6]. A few participants used missed calls as a game with their friends, while in other locations, people used missed calls to express how much they missed their friends, and

sometimes they used missed calls just to harass friends.

3.2.3 Messaging (SMS)

None of the participants from our research composed messages. SMS was considered as a feature meant for literates who could read and write English fluently.

Image 5: A forward that the participant had saved and tried to customize before sending to a friend

People mostly liked to forward witty or funny messages. Good forwards were prized possessions and they liked to store these in case they wanted to forward or show them to others. They used folders such as the Outbox to save such messages. Some users sent these messages deliberately to an invalid number so that it got saved in the Sent Items folder. They took particular pleasure in forwarding emotional, expressive messages to friend from the opposite gender; especially if the message contained patterns (E.g. heart made out of asterisks, *Image5*).

There were varied reasons for using SMS. Some users in Maharashtra who were politically inclined, perceived sending forwards and festive wishes to contacts as an easy means to keep their connections alive. Composed SMSes, if any, were mostly transliterated into regional languages.

3.2.4 Games and Applications

Almost all users we met played mobile games. Especially the users in the age group of 18-25, found this to be a good means for passing time. Games which were familiar to them already, such as “Carrom”, seemed to be more popular with them.

Of the various applications that the mobile phones featured, users used Calculator, Calendar, Media player, Alarm clock, and Games. Some users whose occupation involved numbers and calculations (E.g. calculating wages for farm labourers) found calculator very useful; although they had aspirations of a calculator which would allow them to use numbers in their regional language.

3.2.5 Memory Card

The perception of a memory card in rural India was quite different. They considered the memory card as a “vessel” that carried music. In most places, there were shops where users took the memory cards and filled them up with songs. Often, the songs were chosen by the shopkeeper himself. For a charge of Rs 100 or so, the user could get the card filled with songs.

3.2.6 Mobile Battery Charging

Charging the mobile phone was found to be an issue across rural India with frequent power cuts and power shortage. Five users walked to places where a facility to charge the phone had been set up.

Image 6: Make-do-charging system using the tractor

We found a user who had fashioned a mobile charger out of the battery from his tractor so that he did not have to depend on electricity supply to charge his phone (*Image 6*). Another user had connected the charger to a bulb socket for lack of a plug point in his house (*Image 7*).

Image 7: A charger powered by the bulb - socket

3.2.7 Other observations

There were many unique observations pertaining to the way users dealt with various features of the mobile phone. Many users who could not read English had entries in their phonebook which had been entered by a literate friend. They would identify the number either by looking at the last few digits of the number or by treating alphabets as visual patterns. This was an observation that had been previously found as well [11].

We found many users who had ad hoc ways to carry their mobile phones. A female user had developed a method to wrap the phone in her sari's *pallu* (loose end of the traditional Indian 9-yard sari). In some villages, we found special straps being sold with clips to attach the phone to the pocket. Users had an inherent need to keep the mobile phone close to their body because they perceived it as a delicate, expensive device and some users had a lot of dependency on it for their livelihood.

3.2.7.1 Multiple SIM cards

Multiple SIM card usage had previously been discovered as well [12].

Image 8: A participant shows his extra SIM card stored under the battery cover of his phone

We also found that many users frequently changed SIM cards, and none of them were irked by the fact that changing the SIM card means changing their number. They did not see their phone number as their identity. This starkly contrasted with the fact that most users who could not read English alphabet identified the contact by identifying the digits in their phone number.

Users possessed multiple SIM cards for varied reasons – reception from different service providers at home and farm, need for separate numbers for separate groups of people (relatives vs. others) or simply for a better scheme.

3.2.7.3 Chinese phones

The popularity of Chinese phones in rural India was striking. Main reason for the popularity was the plethora of features that the users could buy for cheap prices. These phones offered loud, ostentatious entertainment features such as multiple speakers, flashy LED lights and loud music. Since users in rural India like to brag about the unique features of their phones, Chinese phones with their peculiar features (E.g. voice modulator to make a male voice sound like that of a female, accelerometer and games based on that sensor, etc) , touch screen capabilities and many hard keys mapped to internal features made a lucrative choice. Most users were aware of the fragility of these phones and did not mind spending on them anyway.

Despite many difficulties in the UI that we personally faced on the Chinese phones we bought for observation, it was surprising to see that the people who owned them were strikingly comfortable with them.

Image 9: A Chinese phone owned by one of the participants

3.3 Impact of mobile phones on rural life

Some of our observations pertained to the impact that the entrance of mobile phone in the lives of the rural Indian population has caused. The introduction of the mobile phone in their life brought out some unique aspects about their lifestyle. We found that the need for connecting with people existed almost universally. Some looked at the mobile phone as an indispensable cog in their livelihood since it served as a tool for networking and connecting with important people, while some looked at it as a tool to connect and stay in touch with loved ones and relatives. A few others looked at the phone as a tool to spend free time chatting with others or to use it for entertainment.

3.3.1 The private life

Young users we met maintained a secret life of theirs which they had guarded from their friends and relatives. They had a girlfriend/boyfriend and since the culture does not look well upon these relationships, they had come up with creative ways to mask this aspect of their life. A mobile phone became a loophole in their mask since it was, among other things, a record of their communication. Moreover, in rural India, sharing one's mobile phone was very commonplace. It was not surprising for a friend to casually take the mobile phone and go through it without the owner's consent. Hence, there were many instances where the users had developed methods to make sure their secret remained a secret.

Image 10: We see three messages received from a nondescript sender stored as 'Aff'

Users had stored the numbers of these secret contacts in their phone book under various masks – some had used random combinations of letters (*Image 10*) which only they knew meant something. A teenage girl user, who was otherwise comfortable with using the phonebook, had still maintained a diary of numbers. She used a mobile phone which was shared between her and her older brother. Hence, she used this diary to record numbers she did not want her brother to come across. One user had explored their phone enough to discover methods to put a password protected lock on their inbox and phonebook. A few users who sent and received vulgar jokes from their friends as forwards had a system to delete these messages after reading/forwarding so that nobody else finds out they had received these messages. In almost all cases, the measures taken to keep these secrets safe expressed two basic considerations: That the secret should not be leaked out and that the existence of the secret should not be obvious (E.g., having password protection is an obvious indication of secrecy, and hence not desirable).

These observations lead us to realize that most of the users in rural India had secrets of their own in their mobile phones and they had developed methods to guard these properly.

3.3.2 Entertainment and mobile phone

Entertainment was largely a social activity in rural India. The market place was a common space for friends to meet up and spend time, chatting. People frequently played music on their phone and in all cases; it was played on the speaker at loud volumes such that everyone can hear. Phones which could play loud music were preferred.

We encountered a few instances where dialogues from movies were stored on the phone as ringtones. Also, some users had snippets of videos of songs from regional movies. While working in the farm, some had the habit of playing music on the mobile phone out loud for entertainment. For some users, even talking on the phone was perceived as entertainment. They called people at leisure or at

times when they had to wait such as in queues. Forwarded SMS also were a form of entertainment.

3.3.3 Alternate artefacts for the mobile phone

We found several instances during the study wherein people maintained usage of some objects even when the mobile phone contained facilities to replace them in their life.

Image 11: A physical calendar in regional language (Marathi) used by one of the participants

60 % users had physical calendars on their walls to which they referred quite often. Mostly these were regional calendars. The users had made markings on a few dates on the calendar as reminders for events such as money recharge for the phone, date of buying for a gas cylinder for cooking, etc. Regional calendars also aided them in quickly finding out information about festivals and referring the *Panchang* (the Hindu calendar used in astrology)

We found many instances where users maintained a phone diary in spite of the mobile phone book. They could not enter phone numbers and contact names quickly or efficiently in the phone, and so had to make use of the physical phone diary. Also, some users had been maintaining that diary since quite some time which made it difficult for them to migrate to the mobile phonebook.

Moreover, we found a user who maintained two mobile phones. He had a *Nokia* phone for communication purposes and had bought a Chinese phone specifically for listening to songs and satisfying his entertainment needs.

3.3.4 Shared mobile phone

Sharing of mobile phone was a recurring trend that was observed in rural India. It had been previously documented as well [4]. In most cases, one phone was enough for one family. There were many instances where the mobile phone being used currently by a user was actually given by a friend/relative and so, the phone book contained several contacts which the current user could not identify.

When there was one phone in the whole family, the head of the family usually made extensive use of the phone. He was the one who would carry it with him if he went out for work. Other members of the family used the phone for their communication needs by borrowing it from the family head.

Apart from this active sharing, mobile phone's image as a personal device was disregarded even within groups of friends. It was commonplace for a person to handle, use and go through the phone of any of his/her friends.

3.3.5 Perception of mobile phone and its usage in rural India

Mobile phone usage was not perceived as an aide in emergency. In general, there was a complete lack of emergency in the lifestyle of rural India. Hence, a device built for that scenario did not make sense. Many users perceived mobile phone as a device used for talking to relatives/friends during one's leisure time. The only circumstances where mobile phone would be used between two people from the same village we saw were when one of them was on a trip outside the village and needed to talk to members of his family. In that case, the user would call the phone of a neighbour and the neighbour either fetched the person or conveyed the message.

Many users also looked at the mobile phone as a support to their livelihood, especially middlemen to farmers. One user used the phone to make sure that he did not lose opportunity for extra work so that he could earn some extra money. In most such cases, the mobile phone had been bought as, more than anything else, an occupational need.

The perception of the device as a valuable, delicate instrument was common across most users. A user commented that something had been pressed and he lost balance and since then he has ensured that the phone does not end up in the hands of his kids. People had taken measures to ensure its safety such as polythene bags to protect it from rain. They aspired to own phones which were more robust.

Owning the mobile phone was a prestige issue for the people. In some cases, such as a young user who had created a group within his phonebook containing all contacts from his caste, the mobile phone expressed the owner's identity.

People formed an emotional connect with the device since it was a prized possession that helped them in many activities. One female user went as far as to comment that a mobile phone was having a man in the house.

3.3.6 Usage hindrances in mobile phone

Almost 90 % users were poorly informed about their phones and the features residing within it. A few users got confused because there were multiple missed call notifications. In the recent calls list, many users would get confused between incoming calls and outgoing calls. We found around 3 users who had saved the number for checking balance (*141#) in their phonebook as 'A' but would not use it. When checking balance, they would dial the number manually and commented that the entry in the phone book is 'a mistake'. People forgot their own number many times and had come up with various solutions to remind them. There were many multiple entries in the phonebook for many users and they did not know how to get rid of these or how they had been created.

English language in the menu was another hindrance for most users. With that interface, they found navigating deeper into menus difficult. We found a user who was using Hindi language on his phone and hence had managed to explore it much more than other users. Users tended to favour Chinese phones also because those phones had hard keys relating to main features, eliminating the need for navigation. Even so, users were reluctant to admit that the English interface was a problem. Even in conversations, they liked to reply in monosyllabic English replies to try and prove that they know English.

4. PERSONAS – IDENTIFICATION AND DEFINITION

From our observations and analysis, we derived four key user personas to design for. These personas were defined based on recurring patterns and behavioural observations accumulated and analyzed from the study. The following set of parameters helped us categorize users into the defined personas:

1. **Money Bother** – How much does a person value money and monitor spending?
2. **Number as Identity** – Is his/her phone number his/her identity?
3. **Enterprising** – Did we observe any "Entrepreneurial" traits in the person? Sharing - Active/Scared – Does the person actively share mobile phone? Is the person scared of sharing?
4. **Types of contacts** – What kind of people are there in his contact book? (friends, business contacts, relatives, etc)
5. **Purpose** – Why did the person procure a mobile phone?
6. **Information seeking behavior** – Is the person inquisitive, curious and/or well-informed?

7. Personality Type – Striking aspect of his/her personality – content, aggressive, hopeful, responsible, early adopter, society conscious, patient, ambitious, influential, harbinger of change, etc

8. Influencers (in purchase) – Who influenced the decision of this person to buy a mobile phone?

9. Call for? - What are main reasons for which the person would typically make a call?

Image 12: From the 44 participants, the break-up according to personas

4.1 Networker and Information Seeker

This persona has a strong and active network of people. This person values his contacts and makes use of them. He is a “people person” and for him, his connections are his strength. The networker is ambitious and is always on the lookout for progress. He is self motivated, and has accomplished feats driven by his own motivation.

A typical networker buys a mobile phone because it helps him keep his network alive easily. He sends messages to his contacts on festivities to keep the thread with them alive. He values his contact book. His phonebook contains anything between 50 to 100 contacts. He may be a person who people either look up to or seek help from frequently. He solves his own problems and has learnt to find the proper sources of information whenever he needs it. Money is a concern and he keeps a close watch on his spending, planning and executing as he goes. His mobile number is important and is his identity. Even if he changes it frequently, he updates his contacts religiously every time. His phone is not shared actively, and most of his phone calls are for business.

4.2 Entertainment Seeker

An entertainment seeker is typically a youth, between 18 and 25 years of age. This person does not have heavy responsibilities on his shoulders, or

even if there are responsibilities, this person has just stepped into them. An entertainment seeker buys a mobile phone as an entertainment device. The people fitting this persona use their phones mostly to play games, listen to music and boast about possessing it than to make calls. The need to keep in touch with people, to call them for plausible reasons is quite less and hence, even calls that they make are done out of the need for entertainment and at leisure.

These people like to buy Chinese phones. They want loud music, games and fancy features to flaunt in a group of friends. Their circle of friends is very strong and the mobile phone becomes an integral part of passing time in groups. They actively share their phones among friends, and most of them have a private life that they protect cautiously from their friends. They do not monitor their expenses on the phone very closely, but do have a vague idea if they spend too much or too less.

4.3 Dependent Family Talker

Majority of the people belonging to this persona are women who are house wives or help their husbands in the farms whenever required. These people have very less knowledge of the phone. The phone has been bought by someone else in the house and they use it mostly to talk to their relatives. They are intimidated by the phone and worry if pressing the wrong button will cause loss of money. They cannot operate the phone properly and in many cases are helped by a networker or an entertainment seeker within the house to place a call. Their aspirations also revolve around their family, E.g., wishing for better education for their children.

Their usage of the phone is limited. The phone is bought out of the necessity of someone else in the house and so it is shared actively. They do not calculate the expenditure on the phone and treat it as an object that does not belong to them. They are more comfortable with the landline or the PCO, unless they find it embarrassing to talk to relatives on the street from a public phone, as found in one of the cases.

4.4 Mobile Pessimist

This persona is averse of using a mobile phone. He does not believe that he needs a mobile phone and would not buy it even if it was offered to him at an affordable rate. He is not ambitious or curious. He is aloof and is content. Maintaining his relationship with friends, relatives and acquaintances is not a major necessity and so, he manages to keep in touch with whomever he wants by the occasional borrowed phone call or personal visit.

5. CONCLUSION

5.1 Impressions and Inferences

From the time spent in rural India and the study, the overbearing feeling of restraint had become quite apparent. Everywhere, there was an urge to control, restrain oneself from spending. A user switched off the phone to refrain from the temptation to use it during studies, some recharged with limited amounts to ensure less spending. The phone was perceived as a device that can receive calls at all times, and one can fill in money (not very different from petrol in a vehicle) whenever one needs to talk. Since the phone was not perceived as a device meant for emergencies, the need to have enough balance in the phone at any given time was absent. Except for networkers, who maintained a minimum of around Rs. 2 to 5, most users did not bother to refill the phone even if it was out of balance unless they needed to place a call.

The feeling of individual ownership was conspicuously absent from their lives. The sharing of the phone was not a makeshift arrangement, or a compromise – but more of a default assumption. If a person bought a mobile phone, it automatically ended up being owned by all the people close to him. The ownership varied in degrees – the dependent family talker of the house did not express the ownership explicitly but depended upon the presence of the phone for communication needs with relatives. As far as owning a mobile phone was concerned, the owner in rural India was a sphere of individuals, and not a specific individual.

5.2 Ideation avenues

Based on the analysis and findings, we suggest a few ideas designed specifically for the defined personas.

5.2.1 Easier Phone-Book

We suggest an intuitive and easy method of marking contacts as “superstars” so they move up in the list (refer 3.2.1, 2). Since very few used groups, grouping can be achieved using colours.

5.2.2 Dual language referencing

Aspiration to learn English was commonly observed as a need in many households (refer 3.2.1, 3.2.2). Most of them were comfortable with their local language as well. A solution to refer dual languages on the fly would work well in this segment.

5.2.3 Regional Calendar and Colour marking

Using basic colour or icon (domestic or Indian symbols) markers to identify dates provides users the flexibility to use their own personalized association (refer 3.3.3).

5.2.4 Simple photo contacts

Eliminating the need to enter the name of a person in the phonebook is an alternative method of saving contacts (refer 3.2.1). Clicking the picture of the person (or any identifier) and then dialling the phone number could automatically associate the two.

5.2.5 Entertainment features

We feel that a phone which allows them to quickly mix two songs, add simple effects like changing tempo and pitch of the songs in a quick, easy method such as at the touch of a button would address these needs (refer 4.2). The key in designing these features would be to make sure the features do not get hidden under layers of menus and do not appear intimidating to the novice user. They should be out there, ready to be used and shown to others.

5.3 Future scope

We believe that we have obtained important insights into rural life especially with reference to mobile phone usage. We intend to build on these insights with solutions that address the needs discovered during the study. We are also looking to prototype and test some solutions along these lines with users.

From the data collected during the study, we realized that information access and spread was a very interesting area to study further. Networkers and Info-Seeker personas are searching for information proactively. But even the other personas (Dependent Family Talkers and Entertainment Seekers) expressed the need to be in touch with people for information. We realized that talking to friends/relatives is the way information is sourced and spreads quickly. We would like to now understand the process of organizations such as co-operative societies and other similar bodies which spread information in rural areas. We could then look to ways of enhancing these processes through the use of mobile phones and relevant infrastructure.

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