




Teleuse@BOP3: A Qualitative Study

Center for Knowledge Societies

Findings from a six-country qualitative study of teleuse at the bottom of the pyramid in Asia

Conducted for LIRNEasia www.lirneasia.net by CKS





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LIRNEasia

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Introduction

Why Is This Study Important?

Telecom and the Bottom of the Pyramid

Rural and low income urban markets are of considerable interest to multinational telecom players today than they have ever been in the past. It is widely evident that urban mobile penetration rates in several parts of Asia are reaching saturation and mobile development will now take place in the rural areas. Not only the rural consumers but also the low income consumers residing in urban areas in these countries will become the next telecom adopters. The fact that many industry experts believe that the next billion telecom subscribers (particularly mobile) will come from the Bottom of the Pyramid (BOP) only hints at the need to study such respondents in more details to understand how to serve this segment better. The urban BOP consumers have substantial needs for information due to the challenges posed by income and infrastructure. In rural BOP consumers both entertainment and information are substantial needs since remoteness aggravates these lacks by posing challenges to business development as well as general needs for communication. In the course of this research we observe that while the types of information needs are similar in both urban and rural users, the volume of information that is being sought are higher in rural areas than in urban, except for Philippines where they emerged as equal. This is due to the difficulty in accessing information infrastructures like institutional resources which are available more easily to the urban residents than rural ones.

The Mobile Development Report (2006) produced by CKS also highlights the role of telecom as a source of enhanced household income. In addition, telecom adoption at the BOP also transforms their personal identity by increasing their accessibility and hence, their credibility. Telecom adoption is also seen to impact their social and professional network coordination by strengthening family ties and increasing business coordination overcoming substantial challenges posed by their location and context.

Pyramidal versus Normal Distribution

The BOP has largely been understood as the last step in a society that is represented through the pyramidal approach popularized by C.K. Prahalad and S. Hart (2002). Their classification of society with respect to income levels and population size is perhaps the most widely used and understood schema for all involved in understanding consumer segmentation for various reasons and interests. They indicate that according to Purchasing Power Parity (PPP), households around the world organize themselves roughly as a pyramid. While Prahalad and Hart have received much deserved appreciation for their contribution to global business and developmental conversations by calling people's attention to the 'Bottom of the Pyramid' (BOP), we also know from the laws governing large numbers that large populations do not tend to cluster as pyramids, but rather as normal / Gaussian distributions represented by a bell curve. With Socio-Economic Classes A1 and E2 constituting the tails of the bell. Prahalad and Hart's

pyramid neglects the true base of the society by treating SEC D and E collectively and thus offering a pyramidal structure to their classification. Prahalad's attempt of transforming his pyramid into a diamond through an expansion of the middle classes is misleading, because in reality it represents progressive entry of rural households into the money economy as a consequence of rapid industrialization and urbanization.

It may be true that these lower-most market segments are not the most compelling for global corporations, but a detailed understanding of such categorization of world's households is an essential prerequisite for an effective distinction between corporate responsibilities and business interests and activities of the corporations. Their needs, challenges and hence their 'teleuse' is noticeably different from other segments in this distribution. There may be further sub-segmentation of all the categories based on their occupation, income levels, degrees of remoteness or any such variables. Such sub-segmentation however, is yet to be initiated.

Teleuse @ BOP 1 and Teleuse @ BOP 2

Teleuse@BOP 1 aimed to understand the use of telecom services by the 'financially constrained' or the BOP respondents in three South-Asian countries, namely Bangladesh, Sri Lanka and India. The findings for Sri Lanka and India were based on data collection exercises conducted during April – May 2005. The findings on Bangladesh were based on a meta-analysis of the information already available in the form of various print and reliable online platforms. The research locations in both India and Sri Lanka countries were selected to capture the diversity of both the countries in terms of telecommunications access, economy, geography and population. It did not aim to get a representative sample of either of the two countries. The study aimed to explore the ways in which BOP respondents communicated, why they chose to use the form of access that they were currently using (fixed, mobile or public) and what benefits were they deriving from such usage.

Teleuse@BOP 2 was based on the findings and many lessons learnt from the first study conducted in 2005 (Teleuse@BOP 1). The scope of Teleuse@BOP 2 increased with the expansion of the study to 5 countries, namely India, Pakistan, Philippines, Sri Lanka and Thailand. This study sought to provide insights into how the poor as compared to the non-poor benefit from access to telecom. In addition, the study aimed at exploring the differences in access patterns in all the countries under the scope of the study. To be able to effectively compare the usage patterns of the BOP respondents with high income respondents, the sample comprised of both the categories of respondents. Furthermore, a simultaneous qualitative component of the study was also carried out to better understand the usage trends and patterns.

The uniqueness and importance of Teleuse@BOP 3

Teleuse@BOP 3 is characterized by providing insights into the usage of 'more than voice' or 'Mobile 2.0' services on mobile phones. By looking at the usage of such services like money transfer, social networking or text-voting, this study intends to bring clarity to the issue of BOP respondents having their first internet experience through mobile phones. The issue of trust and reliability amongst the BOP respondents while using mobile payment or other such services involving financial transactions is also of special interest to the study. Another added module for this study is the focus on the teleuse experience of BOP migrant workers with a special emphasis on coordinating remittances. The quantitative component of the current study was carried out in India, Pakistan, Philippines, Bangladesh and Sri Lanka in 2008. Unlike the previous study in 2006 (Teleuse@BOP 2), the qualitative component for Teleuse@BOP 3 was initiated only after the quantitative findings were in place to streamline the scope of the qualitative aspect. The qualitative research has been carried out by CKS Consulting Pvt. Ltd., India on behalf of LIRNEasia in early 2009 in the same countries.

The qualitative research was planned to gain deeper socio-cultural and behavioral insights into the quantitative findings by looking to understand the reasons behind various statistically verified statements made for each of the countries. The qualitative component is designed to complement the quantitative part by providing 'stories' that can explain the occurrence of each of the phenomena brought about by the statistical analysis for each of these countries.

Objectives of the Study

End goals and audience of this report

The main objective of this research is to provide more contexts to the findings from the quantitative phase of the research. It attempts to provide socio-cultural, behavioral or any other cognitive insights into conclusions drawn from the statistical analysis of the quantitative data generated in the preceding phase of the research. Hence, it attempts to answer questions like 'why' and 'how' that may come to a reader's mind after going through the preliminary findings. This report is thus a supplement to the Teleuse@BOP 3 study carried out by LIRNEasia and has to be read closely with the quantitative findings to be able to understand the context of these conclusions. This report will enrich the knowledge of various stakeholders such as policy makers and large corporate organizations around certain observed phenomena and will help them take up their individual goals in a much more effective and informed manner.

Sub Classification of the Research Countries

South versus South-East Asian countries

South and South East Asia vary in terms of ethnic origin, size of nations, population and their economic prospects. The average household size is higher in South Asia. India's population itself is twice that of the other 4 countries put together. This indicates that at all levels of growth and development, India will be a more complex but also a more substantial and profitable market to understand, as compared to the other countries. South East Asia, on the other hand, has relatively higher levels of GDP per capita than South Asia but income disparities are lower in South Asia. Internet penetration rates in South East Asian countries are higher with an average penetration rate of 15.25% due to the substantial contributions of Malaysia and Philippines which pull up the regional average. In contrast, South Asia's average 3% penetration is strikingly low. Literacy is also much higher in the South East Asian countries as compared to South Asian countries, largely because they have smaller population sizes as well as more gender equitable societies.

Review of Quantitative Findings

Facts and Figures

The data from the quantitative study is analyzed by LIRNEasia personnel. Some of the key findings which informed the probe areas of qualitative research and consequently this report are briefly discussed as under:

Demographic Trends

Access to a phone

- Considerably lower use of public access phones in Pakistan compared to other South Asian countries is observed. It is also observed that Philippines showed the lowest use of public access phones.

- In India, Philippines and Thailand people owning mobiles see more benefits.

Gender

- Considerably greater gender differences are seen among South Asian countries than in South East Asian countries; greatest divide is seen in Pakistan and a slightly greater percentage of females than males owned mobiles among South East Asian countries.

- In South Asia, public access phone use considerably is seen to be higher among males than females. The greatest difference in such behavior is observed in Pakistan.

- It is found that men used the phone more for business transactions than women. Such differences are greater in South Asian countries as compared to the South East Asian countries. 66% of Bangladeshi women used the phone everyday for such communication and only 8% of Sri Lankan and Pakistani women showed such teleusage.

Age

- The quantitative research showed that in Bangladesh, Pakistan, Sri Lanka, Philippines and Thailand younger people are more likely to have more than one SIM. In India, however, age is not a significant variable.

- On an average, a greater percentage of respondents belonging to the 15-24 years age group are found to be making use of cost-cutting strategies than the older age groups.

Location

- According to the quantitative research, Pakistan, India and Sri Lanka displayed the greatest differences in urban/rural use. Bangladesh, unlike other South Asian countries, displayed no urban/rural differences in use. However, in the Philippines, rural use of the phone in the last day is found to be 6% higher than urban respondents.

- A larger percentage of urban respondents are reported to be using the phone for business communications than rural respondents. 70% of rural respondents in Bangladesh used the phone for such transactions and a greater percentage of Filipino rural respondents (differences of 10%) used the phone than urban respondents.

- Generally a greater percentage of urban respondents are found to be using cost-cutting strategies than rural respondents.

Enabling Environments and Mobile Usage

Transportation

- It is found that a greater percentage of respondents who owned mobiles had access to motor transport, with the exception of Bangladesh.

- In the logit model for mobile adoption, it is found that higher the walk time to the nearest town implies lower the likelihood of having a mobile.

- It is observed that a greater percentage of respondents who owned mobiles had access to electricity and tertiary education than those who did not.

Experiencing Network Effects

Adoption Narratives

- The quantitative analysis reveals that higher the percentage of top five contacts having mobile phones, higher the likelihood of having a mobile and similarly higher the percentage of household members having mobile phones, higher the likelihood of having a mobile phone.

- It has been found that in Sri Lanka, Philippines and Thailand people with a higher percentage of top five contacts having mobile phones are likely to have more than one SIM. In Bangladesh, Pakistan and India there is no significant difference of the percentage of top five contacts having mobile phones.

Social Network Mapping

- It is found that higher the percentage of top five contacts having mobile phones, lower the number of missed calls sent for all the countries other than Sri Lanka. In Sri Lanka, the relationship is positive.

- It is found that higher the percentage of household members having mobile phones, higher the number of missed calls sent.

Business and Entrepreneurial Mobile Usage

Leveraging Social Networks for Business

- Using the phone regularly for financial or work-related transactions is highest in Bangladesh and Philippines and lowest in Sri Lanka.

Remote Coordination

- According to the findings, the greatest daily use of phone for work/financial transactions is seen among respondents in higher-management positions and relatively less so among businessmen. 39% of respondents belonging to “Farmer - animal husbandry/cultivation” categories used the phone everyday for work/financial transactions.

Migration and Mobile Usage

Needs for Communication

- Philippines and Sri Lanka displayed higher levels of SMS use than other countries (among both external and internal migrants).
- Public access phone/friend's or relative phone/neighbor's phone use highest among Indian external and internal migrants to take or receive calls while at home.
- The highest frequency of making calls to family / friends in home country i.e. once a day or more is seen in Bangladesh, followed by Sri Lanka (among both external and internal migrants).

Financial Coordination

- A greater % of people in India physically take money (either themselves, or through another friend or relative) than other countries (among both internal and external migrants).
- Awareness of the use of mobile phones for sending money is found to be higher in South East Asian countries than South Asian countries. With the exception of Bangladesh, greater levels of awareness are seen among external migrants than internal migrants.
- A higher level of "distrust" in the service is observed in the South East Asian countries than in the South Asian countries.

Looking to Mobile 2.0

Service Awareness and Adoption

- A considerably higher percentage of respondents in Sri Lanka, Philippines and Thailand are aware of "Mobile 2.0" services than other countries. Sri Lanka's awareness is very high when compared with the other South Asian countries.
- Among respondents belonging to the "Farmer - animal husbandry/cultivation" occupational category, only 3% are aware that they can access agricultural or fisheries information through ICTs.

- On average, a slightly higher percentage of respondents belonging to the 15 – 24 age categories are aware of such services than other categories. Greatest difference between this age group and older groups are seen in the “competition polls and other live programs” category.

- A greater percentage of urban dwellers are aware of such services than rural dwellers.

- A significant percentage in Bangladesh, the Philippines and Sri Lanka who are not aware of mobile money remittance services, government services and agriculture/fisheries information will try such services if given the opportunity to access those via their mobiles.

Innovative Coping Strategies

- The most popular cost-cutting strategies used are making calls to mobiles only from mobiles making calls when the rates are lower and the use of missed calls/ring-cuts.

- Use of missed calls as a cost saving strategy is most popular in Sri Lanka (39%), followed by Pakistan (33%) and Bangladesh (27%). Only 9% of those in the Philippines used missed calls.

Soft Skills and Service Uptake

- Payment services – Apart from “not being applicable” the most cited reason for not using Mobile 2.0 services is “not knowing how to use it.”

Sample of the Study

Sampling Rationale

A staggered approach to the number of research protocols per country is adopted in the qualitative research based on factors like population size, income ecology, migration scenario as well as cultural diversity.

Since India's population is more than double that of all the other 4 countries put together, India is a much more complex and more substantial ecology to understand. Thus the sample size for India is the largest.

Thailand and Philippines like other countries in South East Asia like Indonesia, Malaysia and Vietnam, not only share similar population sizes and contemporary cultural backgrounds but they are also witnessing similar labor migration patterns. Populations from these countries migrate amongst each other and to America and Europe. Thus the sample for both the countries is smaller and similar to each other.

Bangladesh, Pakistan and Sri Lanka uphold three very distinctly representative cultural aspects within the continent. They have a very complex dynamics of internal and external labor migration. They are also evolving from purely agrarian societies to knowledge economies at variable paces. Thus a similar sample is devised for them as well.

The BOP as defined by Prahalad and Hart is taken as SEC Ds and SEC Es. It was decided to focus on both external and internal migrant workers but for the study to be relevant in the present context, external migrants who had come back to their country within the last 3 months are chosen for the study. It was also decided that through group discussions we will also understand non-owners who are 'peripheral respondents' as they are using mobile phones through shared usage. To understand how migrants (both external and internal) are living and meeting various needs apart from understanding their phone usage, and coordination of remittances, all the home visits in all the countries were conducted with migrant workers and migrant worker families.

Non owners who are 'peripheral respondents' were not a part of the sample in both Thailand and Philippines. Also, since the quantitative study in Philippines was carried out exclusively with SEC Es, the qualitative research also followed the same logic and mandated interacting with SEC Es only.

The sample was also designed with a view to have at least 15-20% migrant workers and their families as a part of the total sample. Taking into consideration various socio-cultural factors it was decided to focus more on male migrants in Pakistan and Bangladesh and more female migrants than males in Sri Lanka. Also, to include more migrant workers in Mumbai than Bangalore, the group discussion in Mumbai was conducted with migrant workers. The rural male group discussion in the southern zone of India was conducted with respondents who are using public phones very frequently to get an idea of the

demand side while the supply side was probed in the western zone where the complementary group discussion was carried out with public booth owners.

With a view to understand the gender split in teleuse, the focus group discussions which had 8 respondents of the same gender are split by gender into two mini group discussion with 4 respondents each. This is only done in the urban areas.

Detailed Sample:

BANGLADESH

Location	Protocol	Age	Gender	SEC	Immigration	Education	Occupation	Tech and Other Experiences
Urban	FGD	30-40	male	D/E	Resident	Primary / Secondary	Daily Wage Laborers	Calls and Texting, 4 users must **share phones (and are non owners),** atleast 2 must have dual SIMs, atlease 2 others should use VAS
		20-30	female	D/E	Resident	Primary / Secondary	Student / Housewife / Worker	Calls and Texting, some should be non-owners but be using (somone else's) mobile phones on a regular basis
	HV + MM	45-60	male + female	D	Migrant Worker Family / Parents	Primary / Secondary	Employed / Small Business / Housewife	Calls, receives money from external migrant family members
		30-35	male	D/E	External Migrant Worker (Should have returned to the country within less than 3 months)	Primary / Secondary	Daily Labourer / Factory Worker / Employed Laborer	1 year plus mobile experience, sends money home, uses e-reloads, may have multiple SIMs
	UME	20-25	female	D/E	Resident Worker	Secondary / Vocational Training	Daily Labourer / Factory Worker	1 year plus mobile experience
		15-25	male	D/E	Resident	Primary/Secondary	Small Entrepreneurs / Student / Small Job and Entrepreneurial Interests	Calls, non owners but use the phone regularlly and show keen interest in adoption
Rural	FGD	20-30	male	D/E	Resident	Primary	Local Workers / primarily engaged in agricultural activities	Calls, texts, some should not be using e-reloads, share their mobile, some use VAS, **2 people should be non-owners but have used other people's phones**
	HV + MM	30-40	male	D/E	External Migrant (should have returned to the country within less than 3 months)	Primary	Daily Wage Laborers / Employed Laborer	Calls and Texting, uses e-reloads and sends money home
		25-30	male + female	D	Male + Female (Migrant Worker Family / Parents)	Primary	Farming Support	Calls, receives money from migrant family members
	UME	15-20	male	D/E	Resident	Primary	Farmer / Small Scale Entreprenuer	2 year plus mobile experience, uses e-reloads

INDIA: West Zone

Location	Protocol	Age	Gender	SEC	Immigration	Education	Occupation	Tech and Other Experiences
Mumbai	MGD	30-40	female	D/E	Resident	Primary / Secondary	Daily Wage Laborers	Calls, some of them should not be using e-reloads, 2 share phones (and are **non owners)**
		25 - 35	male	D/E	Migrant Workers	Primary / Secondary	Employed Laborer / Daily Wage Laborer / Small Scale Entrepreneurs	Calls, some of them should not be using e-reloads, 2 share phones (and are non owners)
	HV + MM	20-30	male + female	D/E	Migrant Worker Family	Primary / Secondary	Housewife / Daily wage laborer or employed	Calls, receives money, shares phone
	UME	30-35	female	D/E	Resident	Primary / Secondary	Employed Laborer / Daily Wage Laborer	Downloading Ringtones, sends home money, uses e-reloads, uses multiple SIMs
Nasik	FGD	30-40	male	D/E	Resident	Primary	Local Workers	2 years plus mobile experience, 2 may use multiple SIMs
	HV + MM	30-40	male	D/E	External Migrant (should have returned within the last 3 months)	Primary / Secondary	Employed Laborer	Calls, would like to use VAS and sends money home
	UME	20-25	female	D/E	Resident	Primary / Secondary	Employed Laborer / Self Employed	Calls, downloads ringtones, would like to use more sophisticated VAS
		15-20	male	D/E	Resident	Primary / Secondary	Student / Small Scale Entreprenuer	Calls, uses mobile for work
Paithan	FGD	20-30	male	R2 / R3 / R4	Resident	Primary	Telephone booth owners	2 years plus mobile experience, uses basic VAS, can talk about use of phone in rural areas
	HV + MM	45-60	male + female	R2 / R3	Migrant Worker Family	Primary	Farming Support	Calls, receives money from family members
	UME	30-45	male	R2 / R3 / R4	Resident	Primary	Small Scale Entreprenuers / Engaged in Agricultural activities	Mobile experience of a maximum of 2 years

INDIA: South Zone

Location	Protocol	Age	Gender	SEC	Immigration	Education	Occupation	Tech and Other Experiences
Bangalore	MGD	30-40	female	D/E	Resident	Primary / Secondary	Daily Wage Laborers	Calls, some of them should not be using e-reloads, 2 share phones (and are **non owners)**
		25 - 35	male	D/E	Resident	Primary / Secondary	Employed Laborer / Daily Wage Laborer / Small Scale Entrepreneurs	Calls, some of them should not be using e-reloads, 2 share phones (and are **non owners)**
	HV + MM	20-30	male + female	D/E	Migrant Worker Family	Primary / Secondary	Housewife / Daily wage laborer or employed	Calls, receives money, shares phone
	UME	30-35	female	D/E	Resident	Primary / Secondary	Employed Laborer / Daily Wage Laborer	Downloading Ringtones, sends home money, uses e-reloads, uses multiple SIMs
Srirangapattana	FGD	30-40	male	D/E	Resident	Primary	Local Workers	2 years plus mobile experience, 2 may use multiple SIMs
	HV + MM	30-40	male	D/E	External Migrant (should have returned within the last 3 months)	Primary / Secondary	Employed Laborer	Calls, would like to use VAS and sends money home
	UME	20-25	female	D/E	Resident	Primary / Secondary	Employed Laborer / Self Employed	Calls, downloads ringtones, would like to use more sophisticated VAS
		15-20	male	D/E	Resident	Primary / Secondary	Student / Small Scale Entreprenuer	Calls, uses mobile for work
Kundur	FGD	20-30	male	R2 / R3 / R4	Resident	Primary	Employed laborer / self employed / small scale entrepreneurs / engaged in agricultural activities	2 years plus mobile experience, uses basic VAS, can talk about use of phone in rural areas, also should be using public access phones frequently to make calls
	HV + MM	45-60	male + female	R2 / R3	Migrant Worker Family	Primary	Farming Support	Calls, receives money from family members
	UME	30-45	male	R2 / R3 / R4	Resident	Primary	Small Scale Entreprenuers / Engaged in Agricultural activities	Mobile experience of a maximum of 2 years

PAKISTAN

Location	Protocol	Age	Gender	SEC	Immigration	Education	Occupation	Tech and Other Experiences
Urban	FGD	30-40	male	D/E	Resident	Primary / Secondary	Daily Wage Laborers	Calls and Texting, 4 users must **share phones (and are non owners)**, atleast 2 must have dual SIMs, atlease 2 others should use VAS
		20-30	female	D+E	Resident	Primary / Secondary	Student / Housewife / Worker	Calls and Texting, some users must have faced some societal restrictions on mobile use in Pakistan, some should be non-owners but be using (somone else's) mobile phones on a regular basis
	HV + MM	45-60	male + female	D	Migrant Worker Family / Parents	Primary / Secondary	Employed / Small Business / Housewife	Calls, receives money from external migrant family members
		30-35	female	D/E	External Migrant Worker (Should have returned to the country within less than 3 months)	Primary / Secondary	Daily Labourer / Factory Worker / Employed Laborer	1 year plus mobile experience, sends money home, uses e-reloads, may have multiple SIMs
	UME	20-25	female	D/E	Resident Worker	Secondary / Vocational Training	Daily Labourer / Factory Worker	1 year plus mobile experience
		15-25	male	D/E	Resident	Primary/Secondary	Small Entrepreneurs / Student / Small Job and Entrepreneurial Interests	Calls, non owners but use the phone regularlly and show keen interest in adoption
Rural	FGD	20-30	male	D/E	Resident	Primary	Local Workers / primarily engaged in agricultural activities	Calls, texts, use e-reloads, share their mobile, **2 people should be non-owners but have used other people's phones**
	HV + MM	25-30	female	D/E	External Migrant (should have returned to the country within less than 3 months)	Primary	Daily Wage Laborers / Employed Laborer	Calls and Texting, uses e-reloads and sends money home
		30-40	male + female	D	Male + Female (Migrant Worker Family / Parents)	Primary	Involved in Agricultural Practices / Local small enterprises	Calls, receives money from migrant family members
	UME	15-20	male	D/E	Resident	Primary	Farmer / Small Scale Entreprenuer	2 year plus mobile experience, uses e-reloads

PHILIPPINES

Location	Protocol	Age	Gender	SEC	Immigration	Education	Occupation	Tech and Other Experiences
Urban	MGD	30-40	male	E	Local Low Income Residents	Primary/Secondary	Daily Wage Laborers	Calls and Texting, 2 users must share phones and also use other phones (eg. Public phones). 2 users must have used VAS
		25 - 35	female	E	Local Low Income Residents	Primary/Secondary	Employed Laborer	Calls and Texting, 2 users must share phones and also use other phones (eg. Public phones). 2 users must have used VAS
	HV + MM	20-30	male	E	Internal Migratnt Worker. Migrated in last 1 year	Primary/Secondary	Employed Laborer	Calls, Texting and uses different types of VAS, owns multiple sims, uses internet from mobile, sends money home
	UME	20-30	female	E	Resident	Primary/Secondary	Employed Laborer	Calls, texting, uses VAS, uses e-reloads for phone, shares phone, may have multiple SIMs
Rural	FGD	25-30	male	E	Local Low Income Residents	Primary	Local / Agricultural Employment	Calls, texting, uses e-reloads for phone
	HV + MM	45-60	male + female	E	Migrant Worker Families / Parents	Primary/Secondary	Small Business / Agricultural Support	Calls, receives money from migrant family members
	UME	15-25	male	E	Resident	Primary	Student / Small Scale Entreprenuer	Calls and Texting, would like to use more sophisticated VAS, sometimes uses public phones

SRI LANKA

Location	Protocol	Age	Gender	SEC	Immigration	Education	Occupation	Tech and Other Experiences
Urban	FGD	30-40	male	D/E	Resident	Primary / Secondary	Daily Wage Laborers	Calls and Texting, 4 users must **share phones (and are non owners),** atleast 2 must have dual SIMs, atlease 2 others should use VAS
		20-30	female	D/E	Resident	Primary / Secondary	Student / Housewife / Worker	Calls and Texting, some should be non-owners but be using (somone else's) mobile phones on a regular basis
	HV + MM	45-60	male + female	D	Migrant Worker Family / Parents	Primary / Secondary	Employed / Small Business / Housewife	Calls, receives money from external migrant family members
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	HV + MM	25-30	female	D/E	External Migrant (should have returned to the country within less than 3 months)	Primary	Daily Wage Laborers / Employed Laborer	Calls and Texting, uses e-reloads and sends money home
		30-40	male + female	D	Male + Female (Migrant Worker Family / Parents)	Primary	Involved in Agricultural Practices / Local small enterprises	Calls, receives money from migrant family members
	UME	15-20	male	D/E	Resident	Primary	Farmer / Small Scale Entreprenuer	2 year plus mobile experience

Respondent Profiles

OCCUPATION	PROFILES
Daily Wage Laborers	Employments which are non-contractual and involve being paid on a daily basis such as rickshaw pullers, tuk tuk drivers, weight bearers, sweat shop workers and construction workers among others.
Student	Individuals with educational qualification from formal institutions collaborating with national standards or of professional courses which helped endow certain occupation specific skills.
Housewife	Married woman, can help husband in earning the family's livelihood
Employed Laborer	Employments which involve having a contractual binding between the employer and the employee and salaries are paid on a monthly basis. Examples of such employees can involve waiters, delivery boys, sales staff, domestic help, car drivers for companies and individuals, nurses,
Farming Support	Landless laborers who work on a daily, a monthly or a seasonal rate. It involves farmers, delivery personnel, poultry assistants and other similar groups.
Small Scale Entrepreneurs	Individuals who are involved in earning their own livelihood through micro business ventures like providing any kinds of services like roadside vendors of food, small product sellers, repairers to producers of cottage industry goods.

Research Locations

Location Selection Rationale

The research had to be carried out in the same countries as in the quantitative part to be able to substantiate the initial findings effectively. The research was carried out in 5 countries with the help of CKS' research partnerships. The countries in the scope of the study are as follows:

- Bangladesh
- India
- Philippines
- Pakistan
- Sri Lanka
- Thailand

The specific research locations within the countries were chosen with the idea of covering both the rural and urban dwellers that constitute the BOP. The research was thus carried out in one urban location as well as a rural area to cover the diversity. In India, however, the research was carried out in two urban, two peri-urban and two rural locations owing to its large size in relation to the other countries under the scope of the study. The specific locations of the research were chosen by CKS to cover areas that showed abundant migration behavior as well as agri-based occupations.

Contextual insights on all the research locations

Bangladesh

Within Bangladesh, the fieldwork was carried out at Dhaka as the urban location and Sonargaon as the rural location.

Dhaka city stood at approximately 6.7 million people but the population is growing by an estimated 4.2% per annum, reflecting ongoing migration from rural areas to the Dhaka urban region. The city has historically attracted large

numbers of migrant workers. Hawkers, peddlers, small shops, rickshaws transport, roadside vendors and stalls employ a large segment of the population. Rickshaw-drivers alone number as many as 400,000. Half the lower income workforce is employed in household and unorganized sector, while about 800,000 work in the textile industry. Even so, unemployment remains high at 23%. The annual per capita income of Dhaka is estimated at $3600. However, a large segment of the population coming from the villages in search of employment, live below the poverty line, with many surviving on less than $10 a day.

The population of Sonargaon is primarily involved in agriculture. Males who constitute are 52.11% of the population in this region; seek alternative employment opportunities in Narayanganj which is a prominent port area. Increasing cases of metal contamination complicate the life of the rural poor posing challenges in earning opportunities as well as health.

India

The research was conducted in two different zones in India and in 6 different locations. Each zone comprised of an urban, a peri-urban and a rural location. The study was conducted in the west zone and the south zone. The major hub for coordinating the west zone was Mumbai and Bangalore for the south zone.

In the west zone, the study was carried out at Mumbai, Nasik and Paithan as urban, peri-urban and rural locations respectively.

Mumbai is the financial capital of India and its per-capita income is Rs. 48,954 (US$ 1,030) which is almost three times the national average which is extremely attractive to low income groups. Mumbai is in the midst of migrant worker disputes with allegations of UP and Bihar residents replacing locals in all employments and thus, it qualified as a valuable location for our research.

Nasik represents the developing potential of tier 2 cities in India. It is the Marathi heartland receiving labor from low development areas of Dhule and Jalgaon. The city has a growing manufacturing, automotive and food processing industry coupled with an emerging IT sector all of which are employing more number of lower SEC laborers from surrounding districts in more manual jobs.

Patihan is a typical example of slow growing rural villages where traditional agriculture and artisanal activities are failing to keep up. Growing economic needs are resulting in increasing poverty and loss in the crafts industry is compelling a need to migrate to larger urban centers. Residents of the village are migrating for both educational and employment opportunities.

In the south zone, the study was conducted at Bangalore, Srirangapattana and Kundur as urban, peri-urban and rural locations, respectively.

Bangalore is emerging as a destination for skills based employment in the lower SECs in its manufacturing, textile and infrastructure segments. It is faced with new challenges of rapid urbanization and poor infrastructure. Influx of both sophisticated and manual laborers is leaving the local Kannadiga community in quest for new ways of adjusting to this rapidly globalizing city.

Srirangapattana is an emerging Tier 2 city in terms of employment but is starting to face problems of maintaining its civic and historic infrastructure. Its crafts industry and new positioning as a potential location for BPOs, opens up new areas of employment for both the low income and the more educated members of the city and its neighboring regions. It falls in the centre of large mining areas noted for economic exploitation.

Kundur is identified as a low development area in this particular district. Poor quality of hard infrastructure makes rural living more difficult. It is an insightful area to understand the complex range of challenges faced by the BOP in truly remote areas.

Pakistan

In Pakistan the research was carried out in an urban and a rural location. Karachi and a village called Jatoi in Nawabshah district qualified as the research locations.

Karachi represents best the income discrepancy between Pakistan’s highest and lowest income population. The city's population is currently growing at about 5% per year mainly on account of rural-urban internal migration. An estimated 45,000 migrant workers come to the city every month from different parts of Pakistan.

Agriculture is the mainstay of the Jatoi population but low crop yield is emerging as a substantial challenge to sustain rural livelihood. The area is reputed to be orthodox, making it interesting to see how gender differences play out in relation to communication technology adoption in this region. In order to overcome poverty and food security issues, various non-governmental activities are in development in order to enable the village to achieve improved conditions.

Philippines

The research in Philippines was carried out in the metro Manila city and Pampanga, San Fernando near Manila.

Manila is the second most populous city in the Philippines, employing large local populations at fairly low salaries in labor intensive sectors like chemicals, textiles, clothing, electronic goods, food and beverages and tobacco products. The city experiences substantial labor migration, receiving the largest amount of remittances of overseas Filipino workers reaching $14.4 billion in 2007, which constituted 10% of Philippines's GDP. Manila being largely a service industry hub faces the challenge of creating new employments at the BOP and this in turn results in substantial instances of urban poverty.

Pampanga is one of the prime agricultural processing centers of Central Luzon. It is one of the more prosperous rural regions in Philippines making it an interesting research location to understand more sophisticated mobile 2.0 usage possibilities amongst the Filipino BOP. The region has an interesting mix of sources of livelihood from agriculture to newer manufacturing, construction utility (electric, gas and water), transportation and communication, making it possible to look into profession based Mobile 2.0 services that can assist these individuals in their livelihood.

Sri Lanka

In Sri Lanka, the research was carried out in the Kandy urban area and Katudeniya village in the Matale district.

Kandy's distance from Colombo reduces the impact of the economic concentration and strength of Colombo and makes it more representative of remaining Sri Lanka. It has a more prominent agricultural base which is not increasing economically. It is the hub of migration from poorer districts in the east and unlike in Colombo where 6%

of the household remains in poverty, in Kandy, 25% of the household remains below this line, according to the Sri Lankan Department of Census and Statistics.

Katudeniya's agro-forestry based ecology makes new employment opportunities difficult. It is a zone prominent for the rising number of its female migrants largely due to the plantation economy of this region. The region is undergoing infrastructural development which is expected to enable its residents to be in greater connectivity with the urban centre of Matale and benefit from it.

Thailand

In Thailand Chiang Mai and Jae Hom were selected as urban and rural research locations respectively.

Chiang Mai city is a growing urban sprawl with nearly 1 million people, which is more than half the total of Chiang Mai Province. The city has a history of cross border migration from Chinese migrants. Over the past decade, low income laborers from Chiang Mai and other towns in northern Thailand have had to compete with Chinese migrants and there is a growing unease due to the strong nationalist tendencies of these migrants.

Jae Hom is a rural area concentrating on small scale industries in ceramics. The region shows an interesting mix of labor involvement in agriculture, manufacturing as well as the growing service sector which can indicate ways in which the BOP is changing in urban-rural transition areas in Thailand. Falling in the Northern Uplands region, this zone accounts for more than 20% of Thailand's total poverty rate.

Specific Research Methods

Respondent Mini-Ethnographies

Respondent Mini-Ethnographies were conducted to understand the context of the BOP respondents from their own perspective. This innovative research method involved a respondent self documentation exercise by providing respondents with a camera and briefing them to click photographs that will throw light on their lifestyle. The respondents were shadowed going about their daily activities to observe their teleuse, their need for

information and challenges encountered rather than probing in an interview format. The respondents were accompanied for a total duration of 3 hours where they were asked questions relevant to their lifestyle, livelihood and technology usage within the scope of the study while being engaged in their day-to-day activities.

The protocol was designed with a view to observe how the BOP respondents are living. It aims at observing what are the challenges that BOP respondents are facing in their work and how are they coping up with them. Another objective of this protocol was to understand what are the various needs of information amongst these respondents and how are they currently being met. Equally important was to know the use of various technologies in meeting those needs with a special focus on the use of phones.

Home Visit and Media Mapping Exercises

Home visits and media mapping exercises were conducted with migrant workers as well as migrant worker families in all the countries according to the sample specific for each research location. This methodology aimed at not only exploring the teleuse of the respondents but also the needs of communication in the migrant worker category of the BOP respondents. The sample was spread across internal and external migrant workers and a major area of focus in this protocol was the coordination of remittances and other such financial transactions between the migrant workers and their families / friends.

This protocol looked at the social as well as professional networks of the respondents and explored their teleuse in coordinating personal or business related tasks. Through exercises involving mapping of media, we aimed at documenting how media consumption informed tele-adoption and usage amongst the migrant workers at the BOP.

Group Discussions

Group discussions with respondents from a variety of occupational backgrounds from the BOP were conducted in all the countries. Gender split group discussions with no more than 8 respondents in each discussion were carried out in all the locations. Since the sample size for the South East Asian countries is smaller, the urban group discussions comprised of 4 respondents in both the male as well as the female group discussions.

The group discussions aimed at getting the BOP respondents' perceptions on mobile 2.0 services and to understand high level usage patterns of mobile phones amongst these sections of society. Through gender segregated group discussions, we aimed to inform the research on how does gender affect teleuse and consumption of mobile 2.0 services. These discussions also aimed at gathering information on needs for services around transport, communication, business or social networking that had a direct bearing on generating alternative means of income or enhancing livelihood for the male respondents. Conversely it also aimed at gaining insights into how do these needs differ amongst women.

Review of Field Research Process

Timeframes of field research

The field research was carried out during different times at different research locations in early 2009 with the help of CKS' research partners. The fieldwork in Philippines and Thailand was carried out by a single CKS researcher. Another CKS researcher attended the fieldwork in Sri Lanka and Bangladesh. The fieldwork in both the zones within India were undertaken by two different researchers from CKS. In Pakistan, due to VISA limitations, the research was carried out by CKS' research partners. However, CKS arranged for facilitation for LIRNEasia's researcher attending the fieldwork in Pakistan. LIRNEasia personnel attended all the field locations except in the Southern Zone of India.

The research in Philippines was carried out from 3rd February to 6th February. In Thailand, the research was carried out between 6th February and 11th February. The fieldwork in Sri Lanka commenced on 8th of February and ended on 13th of February. Fieldwork in Pakistan began on 6th February and continued till 13th February. The fieldwork in Bangladesh began on 17th of February and concluded on the 24th of February.

For India, the fieldwork in the Southern Zone commenced on 9th of February and concluded on 25th of February while for the Western Zone the fieldwork began on 13th of February and ended on the 26th of February.

The fieldwork in all the locations was conducted in the native language with the help of CKS' research partners. However, translation into English was provided for CKS and LIRNEasia's researchers.

Discussion of Limitations

There are certain limitations of this qualitative research which need to be put forward at an early stage for the reader to be able to better understand the qualitative aspect of various quantitative findings.

Since the sample of this research is considerably smaller than that in the quantitative phase, the findings may not necessarily support all the findings from the qualitative phase. Further on, there may be interesting but seemingly irrelevant insights as well as contradictions to some of the quantitative findings but such findings are subject to the individual characteristics of the research respondents, which we have to respect and represent.

In certain cases, some findings should not be considered as conclusive because of the nature of the data. For instance, the ability of the BOP respondents to calculate effectively, their savings based on travel time and costs incurred on travel versus making a call. Such data is highly subjective and can vary for different respondents. The reliability of such data is not guaranteed. We have, however, sought an average from most of our respondents and the results presented were largely agreed upon. In other instances, the perceptions on institutional resources may also be partially subjective. The research location may be having health services but the respondent may not have faith in the doctors available and thus project it as a lack of good health institutions in his area. Such findings have been cross checked and we have given the average perception although in order to prove the point of people's dissatisfaction, we have represented what was said by such single users in actuality.

As a result, it is not possible to neglect such influences and thus they have been described in this report being as subjectively objective as possible

Demographic Trends

Gender

Gender differences in teleuse has been an ongoing discussion in the telecom industry. In South and South East Asia, the gender based use of mobile phone has emerged as one of the most interesting areas of variability. While in South East Asia, we observe female members of the household lead mobile adoption and up gradation to new services, software and content; in South Asia, the adoption continues to be driven by male members of the household.

In South East Asia, women have better phones, have upgraded more than once and are the primary phone owners in the house. Unlike South Asian countries like Pakistan, Bangladesh and to some extent even India, female respondents in both Philippines and Thailand are independent mobile users. They are not dependent on male members of the family for purchasing mobile phones and did not face any restrictions on mobile usage at a domestic as well as social level. Most of them are even capable of reloading their mobile credit from their own income.

In contrast to the female respondents in South Asia, the ones in South East Asia seem to be more technology savvy and are familiar with the usage of internet to meet their infotainment based needs to a great extent. Urban males and females are both quite adept in using internet as a source of information mostly by visiting cybercafés. In Thailand, two urban female group discussion respondents have used internet on their mobile phones as a part of a promotion offered to them by their service providers. It is remarkable that women in Philippines are using internet (on PCs at home or cybercafés) to meet their needs of information while male respondents are not able to do that both in the rural as well as urban locations.

In South Asia, mobile ownership is an overall moment of achievement for all groups, irrespective of gender. In India and Sri Lanka, the phone is perceived as a necessary device for contemporary living as it is in Pakistan and Bangladesh as well but in these two countries, there is also a sense of the phone contributing to strengthening their self impressions, among the male respondents.

The strengthened sense of self due to mobile ownership is projected in Pakistan and Bangladesh with most male respondents (more than 50% of the total sample) claiming that they can now not only do more work efficiently but that they feel more confident in public and feel on par with people of other classes. According to them, mobile phones have acted as a class leveler wherein people of very different class backgrounds can carry the same phone and no one will know that some of them might be from the slums and others from respectable, middle-class

households. Such class leveler argument is, however, not mentioned in India or Sri Lanka, where it seems, all respondents and especially, the men have a very matter of fact attitude towards ownership. The perception in these 2 countries is that mobile phones help people remain in greater connectivity and facilitate work but it has not fundamentally changed who they are as individuals and their respective positions in society.

The pride associated with phone ownership, seems to be particularly high as seen in the urban male group discussions in Pakistan and Bangladesh. This results in misleading perceptions around ownership in both the countries but is striking in Bangladesh in particular. In Bangladesh, in the urban male group discussion group, more than 50% of the respondents seem to make very strong claims about having a phone since 2002. It is only after repeated confirmation seeking that it emerges that while they have used a mobile first around 2002; their individual ownerships are mostly in the horizon of two years. The most recent owners have had their own phones for 10 months to a year.

In contrast, when it comes to mobile ownership among female respondents, in India, Pakistan and Bangladesh, the female respondents, especially housewives, seem to have a difficulty in perceiving the phone as theirs although they may have received it from their husbands or brothers almost up to two years back. The women see these phones variably as a phone for the house or their husbands' first phone but not as their own. This is largely because of the way in which the phones have come to them.

In the case of most housewives, we see that they have had very little say in the choice, purchase or transitioning of the phone as opposed to the South East Asian countries. As pointed out by several female respondents in these countries, while the younger wives have been taken to mobile shops to see various models, the older wives have simply been given a phone that their husbands chose to purchase keeping in mind their understandings of what their wives will be able to manage, the male member's tentative budget and their own perceptions around ease of use and durability. The younger wives, on the other hand, being more comfortable with technology, willing to explore and overall more aware of the options available in the market, have been taken to shops for preliminary surveys. Samira Alam from Dhaka mentions that she had selected the model which she wanted during such a visit but her husband bought her a lower end model without taking her consent on another day because he felt he can not afford her choice. Consequently, while she is satisfied about having a mobile, she believes that one day she will purchase a phone of her choice. Similarly, for Vaishali from Mumbai, it is difficult for her to consider her current mobile as her own since it was her husband's and he initially used to leave it at home. Even now when her husband has another mobile and she is free to consider this handset as her own, she feels it is a house phone more than her own phone. (More examples - Vani in Srirangapattana and Naaji in Karachi). Acquiring a phone whether through purchase or handing down, is not easy for the female respondents in South Asia. Their mobile phones are acquired after repeated mentions, hints and requests ranging from the casual to the forceful.

Female respondents from both the South East Asian countries in the scope of the study are the primary owners of their mobile phones and state that they like their phones as they are not dependent on anyone to make or receive calls and the fact that mobile phones are ‘personal’ and hence secure provides satisfaction to them. Through these personal devices, they can store their personal information and can manage relationships with their boyfriends or textmates (in Philippines) privately without anyone else getting to know. It is also seen in the home visits conducted with older rural BOP females who are mothers of migrant workers in both Philippines as well as Thailand, that the females are the primary users of mobile phones. Their husbands are mostly occupied in their work while the mothers are using their mobile phones to interact with their sons as well as manage other social as well as professional networks. The husbands are practically non-users and will only use the mobile phones when they talked to their migrant offspring.

In Philippines and Thailand, most of the respondents seem to prefer using their cellphones for making calls as well as texting. In both the cases, public phones are only used when they run out of balance or when they have to call landline phones because making landline calls from public phones is cheaper than using cellphones to call landlines. When looking at the reasons for deciding to buy mobile phones, it is seen that female respondents bought mobile phones primarily when the need to connect with some distant family member or relative came into existence due to factors like migration. Only one of the female group discussion respondents in Philippines states that she bought her mobile phone because she saw one of her contacts winning prize money on a TV contest through her mobile phone. This made her want to explore better earning opportunities through mobile phones. On the other hand, Filipino urban male respondents are found to be more influenced by being surrounded by mobile owners. One urban male group discussion respondent even felt that it is fashionable to own a mobile phone and the possession of cellphones attracts women. The rural male consumers on the other hand see mobile phones as more of an investment through which they can explore new job opportunities and are able to work efficiently. Most of their contacts are from their workplace which helps them coordinate work through mobile phones.

In addition, most of the networks of female BOP respondents in the Philippines revolve around their family members. The need to stay in touch with family members, friends and children (especially in case of female migrant workers) are seen to be important factors determining mobile usage. On the other hand, male mobile usage seems to depend a lot on coordinating work and business as most of their top contacts comprise of people known to them from work or friends who can provide them more work through recommendations. Male respondents seem to be more commercial in their mobile usage as they will immediately relate their mobile usage to work and business coordination. On the other hand female respondents’ primary perception of mobile phone revolves around bridging the gaps between them and their distant relatives.

There is a personal versus professional remote coordination divide that can be observed across genders in Philippines. The males are either being remotely managed by their bosses or they are coordinating their work remotely by keeping in touch with their colleagues. On the other hand, female respondents are also coordinating

several tasks remotely but the nature of these tasks is more personal than professional. For instance, a male 'Jeepney' (a jeep-bus) driver receives texts from his customers to pick them up from a certain location in Philippines. Another respondent who repairs windows will receive calls as well as text messages from his boss to reach a particular location where he is to start work. Conversely, in the urban female group discussion we can note a respondent whose phone is a medium between her sister who is an overseas Filipino worker (OFW) and her children. The respondent is taking care of her sisters' children in her absence and her phone serves the purpose of coordinating with the sister. Another respondent who is working and thus can not stay at home during the day time is using her phone to coordinate with her eldest son who is responsible for taking care of her younger children while she is at work.

Male BOP respondents in Thailand are found to be using their phones for entertainment purposes more than the female BOP respondents. Male respondents prefer to play games and listen to songs on their mobile phones more often than the female respondents. Again, like in Philippines, the top contacts of the male BOP respondents are primarily from their work. Either they are in constant touch with their bosses or communicating with their colleagues and customers. Thus their primary usage of mobile phones is work related. They do use their phones to stay in touch with friends and family but mainly they seem to be using their phones to coordinate their work. Sammy, who is a mechanic by profession, mentions that he has to call the spare parts shop owner at least 5 to 10 times a day to enquire about the availability of various parts that he requires. On the other hand he calls his mother and brother only once in two days. Female respondents also have professional contacts listed in their top contacts but their usage revolves around calling their boyfriends or mothers and friends more often than they call their colleagues or other people related to their work. Thus there is a clear cut difference in usage of mobile phones in Thailand where females are found to be using it more to manage their social and personal networks while the male respondents are making use of the mobile phones to manage their work.

This is also true for most of the South Asian countries. However, in Bangladesh though males claim to have bought their phones to stay in touch with their family, their mobile usage patterns clearly indicate that they are using their phones more for business than for social reasons. The female respondents seem quite clear in their reasons to buy mobile phones where they are buying phones to manage their social networks and are using it for the same reasons.

Gender based discussions on telecom usage also need to deal with female usage of public phones as well as changing social perceptions around women's use of mobile phones.

In India, unlike in any of the other countries in South Asia, we see a clear preference in the use of public phones among female respondents. Women are using these phones to make calls in case they do not have access to mobile phones or landline phones or they are using the public phone to supplement their mobile use when their phone credit nears an end. Unlike Bangladesh and Pakistan, where female respondents clearly indicate that using public phones is difficult and socially criticized, in India, women are using public phones on a regular basis with the most frequent

being once in a week to once in a month at the least frequent. Female respondents in both west and south of India unanimously point out that they have public phones near to their houses and are perfectly comfortable using the same, since they have been doing for a long time. According to the respondents, while mobiles have come within their affordability in the last two to three years, they have a much longer experience of using public booths, ranging for more than fifteen years for some of the senior women. Most of these women are found to have started using the landline booths when they got married and shifted to a new place. At that time, they will call once a month to their native place. Progressively, this is found to have increased to once a week with reducing fixed line calls. Women are comfortable using these booths as they are enclosed ensuring safety and privacy in most cases and provide a place to sit and talk. As a result, women can talk in privacy with their family members as opposed to the openness of their home phones. According to the female respondents, using public phones has never been a hassle as the shops are near their homes, the shopkeepers at times allow them small credits if they talk more than they immediately have money for and they also keep messages for these women when some of them did not have any kind of phones. The women also express a great deal of confidence in using these booths since the number to be called can be both dialed by the shop owner or by themselves. They have been taught to use these phones and have a longer experience using it. Unlike in Pakistan and Bangladesh, none of the Indian female respondents claim ever having been disturbed while talking from a public phone booth. They suggest that using these phones are far more respectable than using other people's home phones since they pay their own share and can make as many calls as they wish without the booth owner having any objection.

Unlike in India, where women use public phones with considerable ease and no distinct social stigma, in Pakistan, several female respondents in the urban group discussion also point out that the public phones being rather far from their homes, is also a reason for their reduced usage or complete non usage. Family members do not consider their need to call urgent enough to allow them to go to these public phones on their own and instead, accompany them in true cases of emergency.

In both Pakistan and Bangladesh, female respondents claim to have been subject to verbal abuse and defamation of their character, if they are seen at telephone shops too frequently. In both the countries, women are aspersed to have "loose character" and talking to their lovers and are questioned on their need to talk so much. In Bangladesh, for example, a single working woman, who lives in a paid accommodation, would face the taunts of elder men of the location if she would go to a reload shop on 2 consecutive days. She would have to bear their comments as she needed the reload but at the same time, she would feel humiliated because they would not understand her needs and make her seem like a bad person. However, having experienced this on several occasions, she now prefers to walk extra, to some other reload shop in the neighborhood than the one nearest to her hostel simply to avoid such unpleasantness. Female respondents in both these countries rely extensively on their spouses, brother-in-laws, other male members of the family and even children, for reloading their phones than doing so on their own. This is ironic in the case of Bangladesh where Grameen's women manned booths are considered to be a pioneering effort in equalizing telecom availability to both genders in the country. However, it should be pointed out that female

ownership of public phones in an urban center like Dhaka and areas close to it are quite rare but are likely to be more prominent in far interiors of the country.

South East Asian countries do not show any such restrictions on female usage of public spaces. In Philippines, both male as well as female respondents use public phones only when they are out of credit on their mobile phones and rarely when they have to talk to their family members living in distant places who own a landline connection as it is cheaper to make calls from a landline to another landline. Both male and female BOP respondents avoid making special efforts by leaving their work to make calls from a public phone. With the introduction of mobile phones, the use of public phones is already on the decline in Thailand. There are no significant differences in women's motivation to use public phones and no socio-cultural factors that influence their usage of public phones can be deduced apart from the fact that mobile conversations can be more 'private' in nature as opposed to using public phones.

The gender differences in teleuse seem quite prominent and crop up in dependencies for phone use, recload behavior and the impact on domesticity in South Asia.

Male phone owners being primary earning members of their household in all these countries, depend on their income to enable their own mobile use. Even non-earning younger male respondents are comparatively free from any dependencies on parents for getting phone money. In contrast, all the housewives in the research said they are reliant on their husbands to fill up their phones. Only the working women are self reliant but they still exercise substantial control over their own spending.

In Bangladesh, for example, the average amount of the recharge which male respondents undertake for themselves maybe in the region of 20 taka (USD 0.28) but the frequency of the recharge is at least once a day, leading to a minimum of 140 taka / week (USD 1.96 / week). In contrast, most married women respondents who owned their individual handsets state that on an average their husbands will refill for 50 taka (USD 0.70) and expect them to use it for a week. Single women also seek to limit their reload to up to 50-60 (USD 0.70-0.80) taka per week.

In Sri Lanka, both the genders reload for 50 Sri Lankan rupees (USD 0.40) on average per week but more male members than female say they even recharge of 100 Sri Lankan Rupees (USD 0.80) at times. Often they run out of this within 3-4 days and reload with 10-20 Sri Lankan rupees (USD 0.08-0.16) as convenient for them. The reload values for women are in 20 to 30 Sri Lanka rupees (USD 0.16-0.24) whereas for men it is a more automatic 50 rupees (USD 0.40) denomination. No perceived dependence is found on men by the female respondents vis-à-vis their recharge, other than to avoid the hassle of going to the shop.

Interestingly, no major differences in phone usage are seen amongst male and female respondents in Sri Lanka. Both the male and female BOP users in Sri Lanka use their phones to coordinate work (in case of working women)

for similar reasons like coordinating with their colleagues and staying in touch with their friends and family on the personal front.

In India as well, the denominations of recharge for the women, are in alignment with Sri Lanka but lesser male respondents said that they reloaded for 100 Indian rupees (USD 20.00). The majority of Indian male respondents reloaded with 20 (USD 0.40) to 25 rupees (USD 0.50) in order to get the full talk time.

In Pakistan, on the other hand, female respondents mostly reload with 50 Pakistani rupees (USD 0.60) at a time and they request their spouses or brothers to reload for them. Even when their balance is less, the women felt they are more likely to reload with 50 Pakistani rupees (USD 0.60) again than go for smaller denominations. Women whose brothers reload for them say that although their elder siblings grumble, they will still reload their phones with 50 Pakistani rupees (USD 0.60) but if they send out younger siblings or children then they will at times give 20-30 Pakistani rupees (USD 0.24-0.36) based on whatever amount they can spare. For the male respondents, however, the most used denomination is about 100 rupees (USD 1.20) with 50 (USD 0.60) being the lowest they reload for. As a result, we see that while in India, both men and women prefer to go for small reloads, in the other three countries, male respondents are more likely to spend almost double the amount of their female counterparts which they may do so without necessarily restricting the usage of their female counterparts as seen in Sri Lanka or while exercising some limited control in Pakistan or extensive control in Bangladesh.

The South East Asian countries however, do not show any major differences in recharge behaviors. In Philippines, both the male as well as female members preferred e-loads worth smaller denominations like 30 pesos (USD 0.63) or 20 pesos (USD 0.56) which can provide them with unlimited calls or text for 3 days. Since all of them are multiple SIM owners as well, they have to reload all their SIMs to keep them activated and alive. Thus reload behaviors are indirectly being governed by promotional offers. Reloads of smaller denominations are preferred over larger ones further contributing to the success of e-loads over scratch coupons which only come in larger denominations like 100 pesos (USD 2.10).. The promotional offers have negated any gender differences in reload preferences. Even in Thailand, not much of a difference is observed in reload behavior. Both the genders prefer reloads of smaller denominations of 20 to 30 baht (USD 0.56 – 0.63). Few respondents in each gender seem to prefer reloads of large denominations like 300 baht (USD 8.00). They prefer to reload their credit once they have either completely exhausted it or are nearing the validity expiry date.

When it comes to preferring various methods of reloading credit, no major differences in preferences can be observed with respect to gender. While e-loading is seen as the most preferred means of reloading credit in all other

countries, respondents of both the genders in Thailand use both e-loads as well as scratch cards to reload their credit. Overall, there seem to be no significant differences in preference for reload methods across gender.

The final observation around gendered use of telecom in the countries in this study is that telecom use is leaving a direct and drastic impact on the social and familial structures in some of these countries. Telecom use is inspiring a culture of lies and lack of trust, adultery and suspicion in Philippines and Bangladesh prominently. Such extreme reactions are not visible in any of the other countries although a prevalent reaction in South Asia is that mobile ownership is making women freer and more independent.

In Bangladesh, almost 80% of the group discussions' respondents (19 respondents out of 24) state that a mobile makes people lie more. It facilitates dishonesty. Most of them cite the scenario where they are in one place but say are in another to avoid people, get more time on hand when late (this is especially told to wives), fake illnesses so as not to go to work (mostly done via SMS but sometimes by call as well) and pretend phones wer on silence and hence, missed an important call. Both the male and the female respondents agree that men are more prone to lying than the women.

However, in spite of men agreeing that they are more likely to tell such lies, it is the use of mobile phones by female members of the household which emerged as a major point of anxiety in Bangladesh.

Samira Alam in the urban female group discussion pointed out that there are considerable social pressures and disapproval around women using mobile phones and this disapproval is equally from men and women. She cited the example that if she talks for 30- 40 minutes on phone from an open space from where she is visible to her neighbors, her neighboring women get very curious. They make curious faces and probably start imagining things. As a result, Tuli has to finish her call and go out and casually clarify by informing them that she was talking to her brother who called from Dubai. This pacifies these women and does not create any suspicion on her.

At the home front, most women claim that they have been questioned on their "too much" phone use. Laila Begum who works in a beauty parlor and Samira Alam both claim that suppose they talk to someone for 10 minutes on the phone and if their husbands called 10 times within 5 minutes during the same period and did not get through to them; the men start arguing saying "you have been talking for the last 1 hour…no one can reach you when the need is there… who are you talking to so much?" The women at best try to pacify but progressively, many of them feel irritated by this constant need to justify themselves and some of them state they even tend to retort back at times, which further infuriates both parties.

The women also claim that even when they receive missed calls, their husbands will question them on who they are talking to, not believing that these are wrong numbers harassing them. Aspersions are thrown around these calls being from lovers. The male respondents did not agree to their reactions being so drastic but they did indicate a

failure to understand why their women need to talk so much and with whom, considering that they do not have any business related work. The male respondents in all the protocols, equate mobile phone calls with important business and as a result, have difficulties in understanding with whom can their wives be having such prolonged conversations.

This attitude of telecom use changing the women is equally prevalent in rural areas. Amongst the younger male group and individual respondents, it emerges that having access to both Cable TV and mobile phones, the village women are becoming more stylish. While they never before spoke in a loud voice or looked up to the men when talking, now the younger girls try and imitate foreign accents when saying hello and rarely display much reverence in front of the village elders. Such flirtatious behavior is perceived to be a direct outcome of growing mobile use by women.

In Bangladesh, these conditions of doubt, lies and increasing tension within households are increasing and tend to worry its male population substantially. Women on the other hand, are growing irate at having to justify their phone usage and some are even consciously flirting with strangers since they are anyways accused of it. Going forward in the future it remains to be seen whether such developments will result in a decline in female ownership of phones or whether Bangladeshi men will change their stand and create a more congenial atmosphere for unified teleuse.

No such sense of suspicion is perceivable in India, Sri Lanka and Thailand. In Pakistan as well none of the female respondents make such strong claims, perhaps because for them, their men asking them these questions appeared quite regular. As a result, when fathers, siblings and spouses, judge the importance of their call, they do not consider it to be unexpected or awkard. 2 of the female respondents in a group discussion also indicate that since the male members pay for their reloads, they can ask for clarifications at times. The pacified responses of the female respondents in Pakistan can be the result of social conditioning where women's decisions are hardly ever theirs.

In contrast, South East Asian male BOP respondents are found to be in a similar position as female respondents in the South Asian contexts elaborated earlier. Nearly 100 % of the sample is found to have 'textmates' in both the genders in Philippines. There is evident tension in marital relationships because of such relationships which are often seen to be promiscuous in nature. An urban male group discussion respondent mentions that wives often borrow their husbands' cell phones on the pretext of using it to contact someone while actually they do it so that they can catch their husbands 'red-handed' and often the couple ends up fighting. However, female respondents who are married, admit to having textmates as well. Interestingly, males do not seem to be spying on their female counterparts. According to Ronnie, a shop helper and a barbecue vendor, she is informed by one of her friends about a tracking service that she has secretly activated on her husband's phone without letting him know. Her husband who is a Jeepney driver is guilty of cheating on her as he has been caught by Ronnie when she read some messages in his phone during the time they happened to have exchanged their handsets because of low battery charge on his cell phone. She fought with him and later one of her friends told her about this tracking service that she

is currently using to track her boyfriend's whereabouts for similar reasons of suspicion. Ronnie's is currently tracking her husband through the service.

In other discussions it can be seen how textmate relationships have further evolved into marital bonds and how some couples seem to be comfortable with the ideas of their spouse having textmates as long as the relationships were textual. It would be interesting to track the development of the 'textmate phenomena' to understand its impact on gender usage in future.

Age

Age has emerged as a significant variable in tele adoption and use in most countries except Philippines. Phone use patterns and technology readiness are quite similar in all the four South Asian countries within the age groups of 15-25 years in male respondents.

The average age for mobile ownership in the BOP from our sample, is about 22 years for male in South Asia and 24 for women. Men, however, have far longer experiences around phone use, having used the phones of friends and other family members for more than four years on average. While men have a much longer experience of using and sharing phones, many of them are emerging as late buyers (considering the age from which they start use) since purchasing one's own handset requires investments made from one's own earning.

Women, on the other hand, are both late users and owners, largely because they are receiving their first handsets from male family members, at least after two years of the first purchase of the device. Unlike men, who have a longer experience of using the phones, women have minimal to no experience, prior to acquiring their phones. The minimal exposure is available mostly to housewives who may talk with their family members with the numbers being dialed for them or at most they make the calls themselves with permission. Listening to music is also partially prevalent in women as a part of their phone use when they are non-owners, but it is not seen widely. It is only when the mobile phone becomes a home phone or is specifically allotted to them that women actually begin to explore the device and the functions that it can perform.

Vis-à-vis the younger age group, it is observed that children are using the phones of their parents more and more. This is specifically true for the male child. We saw several instances of boys of 10-12 years of age in Sri Lanka, Pakistan, Bangladesh, Thailand and India, helping their parents in using their phones and using the same phones to interact with their friends as well. The earliest case of such usage was in Bangladesh where the parents being above 45 years of age, their son who is 8 years old, was helping them use the phone. As a result, we are seeing a situation where the higher the age of the senior mobile user in the household, the younger is the age of the child who assists

them in using the phone. In Thailand, in a rural home visit with a migrant worker family -Simi- it is seen that the respondent (migrant's mother) had consulted her niece who lives near her house to buy a cell phone. The young niece also helped her learn how to use the handset.

In South Asian countries, on the other hand, the girl child is never mentioned as the one who is helping the parents use their phones even when children of both genders are present. While no mentions of daughter are made in India and Pakistan, in Sri Lanka and Bangladesh, daughters are mentioned as helping them in phone use only when they are above 16-18 years of age and mostly help when the male offspring is away. In Pakistan, for example, in a home visit in Karachi, we saw that since the elder son is away in Dubai, the daughters are being allowed to use the computer, to enable the parents to communicate with the son, using the internet. In the same household, the father (Yasir Aziz), however, did not allow his daughters to make their own calls from his phone. He dials the number they need to talk to and hands it over to them to speak. In contrast, in another home visit with the Ansar family in Jatoi, Abed who has 3 sons, his two younger sons fully use their father's phone to conduct their own communications since they only have a single handset in the house.

In terms of actual tele adoption and use, the younger male age groups are instrumental in the choice of SIM cards, in managing the contacts of their parents, in reloading and in teaching their parents about the features of the phone and at times for downloading picture messages and ringtones and forwarding the same to others, in relation to 50 to 60 year olds. It is observed that from 45 years onwards there is a significant reluctance towards learning how to use a mobile phone though not in actually using it. This older age groups in all the South Asian countries are using mobile phones on the insistence of their offsprings or due to the lack of a home phone. They understand the utility of mobiles but are reluctant to use any other features or services beyond voice. These older respondents are not inclined towards SMS and face substantial challenges in navigation as well. Among the two genders, women are more curious and keen on knowing about the phones but phone acquisition is a substantial challenge for them. However, women are using their husbands' phones in order to communicate more with their children. This is substantially different from Thailand and Philippines where younger women have complained of their mothers in their 60s not allowing them to use phones and men becoming the secondary adopters in this age group in these 2 countries.

In all countries in South Asia and Thailand, the decision to purchase a SIM remains wholly with the youth and especially, the sons. The young men not only buy their own SIMs when they have their own handsets but they also advise all new buyers in their networks. Their influence spread to friends, family members, clients and vendors; encompassing both their social and the professional networks. In all the home visits and mini-ethnographic visits conducted in these countries, it is observed that sons and brothers guided their parents, siblings, relatives and others, toward the purchase of a specific SIM depending on their judgment of various networks, cost efficiency and the number of other known people on the same network. In many cases, these young men even went to the extent of purchasing the SIMs themselves for people who sought their inputs and taught them how to use it as well. These

male initiators, however, purchase the SIMs taking money from the user who needs the SIM. In Pakistan, Abed Ansar's 3 sons in Jatoi, practically modulate his entire phone use. His eldest son sent him his own second handset with a Telenor SIM since that is what he primarily uses. The two younger sons have subsequently got his assent to purchase two additional SIMs of Mobilink Jazz and Ufone, indicating that their elder brother also use these SIMs at different points of the day. Both these sons now also use these two additional SIMs for communicating with their own friends and often keep them on themselves than with their father. The father does not particularly mind this since he believes that the sons understand such things better than him.

Managing contacts of parents is a fundamental way in which youngsters in all these countries are assisting their parents. About 80% of the parent groups in our entire sample are non-English literate while the remaining 20% can manage with difficulty. Very few, mostly in Philippines and some in Sri Lanka, managed to understand and communicate in English with adequate ease. This is substantially because all the countries except Philippines use non Roman scripts. As a result, parents are inevitably turning to their children, for both linguistic and technology assistance.

The assistance with managing contacts comes most often in the form of inserting new contacts. In recurrent incidents, we saw the contact's name being written as 'Uncle / Aunt (in national language) XYZ.' On being probed, the main respondents clarified that these are not their uncles and aunts but rather their brothers and sisters. The younger children insert these names in English but they do so often with several errors in spellings. The numbers, however, are correct. The older respondents indicate that this is a useful practice since they can monitor the number insertion in the phone and their children also get better in using the device, which they can then teach them as well.

The youth as well as the children are also instrumental in reloading. This is specifically visible in Pakistan and Bangladesh with female respondents. The younger women in Pakistan rely on their elder brothers and younger siblings to whom they give the amount of their reload and their numbers written on papers at times. Housewives also do the same. In Bangladesh, the same, however, is done primarily by housewives. As indicated above, the cause for this is to avoid negative commentary on their excess phone use. The majority of the women found this process reliable and only one woman expressed any concern over her child losing the money on the way. On an average, children around 8 years and above are the ones who are being given such responsibilities.

Children from the age of 8 to those in their youth are all seen to be using their parents' phones for the purposes of sending SMS forwards, typed text messages as well as for downloading ring tones. This is widely visible in Pakistan, India and Bangladesh. While younger children send sms forwards for their parents on special occasions like Eid, Ganesh Chaturathi and New Year in India, Pakistan and Bangladesh, they also often send blank (empty) messages to their friends both as a joke and sometimes by mistake to people on their parents' contact list. Such incidents result in concerned calls from the other party but are not considered to be a nuisance by the parents. The younger children use the radio feature frequently as seen in the households of Vaishali in Mumbai, the Afeez in Bangladesh and

Maneesh in Srirangapattana. They also often request their parents to allow them to download ringtones. Parents whose children are below 13-14 years of age, however, do not allow their children to undertake the downloading saying that this will cost them too much money.

Downloading ring tones on parents' phones is strongly visible in the age group of 18 plus old males, especially if they do not have their own phones. Such a transaction is often conducted without the parents' knowledge. Downloading on parents' phones or using their phones on a regular basis as done by these male respondents, are not replicated in the female respondents. Young girls are seen to only use their parents' or elders' phone to undertake important calls and not for such personal, recreational purposes.

The age groups of 18 to 25 in all the countries in this research are the fastest growing mobile adopters. Other than Sri Lanka where there is a substantial presence of land phones, in all the other countries, these young mobile owners are mostly the first phone purchasers in their households (except in Thailand and Philippines) and this age is only going downwards with 16 year olds in India, Philippines and Thailand also emerging as the next age threshold for mobile ownership. In Bangladesh and Pakistan, this trend towards lower age groups beginning to acquire their own phones, is however, not so strongly evident. This age estimation, however, is only applicable to male offsprings, since women are not acquiring phones at such early ages.

Mobile ownership is occurring in the 18 – 25 segments either through financing from parents and elder siblings or through individual savings. In all the countries, we observe almost a 50 -50 split between these two options. However, in all cases, the youth convey a strong sense of determination to acquire mobile phones and in order to do so they are either more demanding on their kin or working hard to raise the amount from alternative income sources. In South Asia a greater propensity is displayed towards acquiring phones through individual work and perhaps with some support from family members; whereas in South – East Asia, sons are more demanding on their parents for purchasing them their phones. In South Asia the young male buyers are saving money from their main sources of income by economizing by selling milk (Dharmaratna in Matale), by selling more products in their shops (Wali in Karachi and Zayed in Bangladesh) or by using their scholarships (Vikas in Srirangapatana), whereas Dinn in Thailand and Rita's son in Philippines, both acquired their phones by repeatedly coercing their parents and elder siblings.

The result of self ownership versus purchase by parents is evident in the kinds of mobile phones that are owned by these youngsters. Male buyers in Sri Lanka and Bangladesh are mostly opting for basic models (which now comprise of radio, Bluetooth and camera), Indian and Pakistani male respondents are opting for cheaper Chinese phones and those in Thailand and Philippines are opting for high end gaming consoles with high image and sound qualities and video facilities. The female respondents in this same age group in the South Asian countries, however, merely have radio and very rarely, Bluetooth enabled phones. The women in Philippines and Thailand, however, are far savvier than their male counterparts with a clear penchant towards superior design and technology sophistication.

The younger age groups are not only the fastest adopters but they are also the ones using more innovative techniques in order to save money on phone use. The older age groups conveyed that they know how to manage their expenditures and as a result do not need to do new things to economize. If they are out of money, they will at most call from public phones or simply reload credit. The techniques used by the younger age groups, on the other hand, include owning multiple SIMs, giving missed calls, using the friends and family (F-N-F) offers, sharing load and using text messages extensively.

Multiple SIMs are in vogue with the younger generations in all the countries except India. This is largely due to the ease of acquiring a SIM and the low cost in all the other countries. In Bangladesh, the average SIM costs 100 to 150 taka (USD 1.40 to 2.10) from Citycell, Banglalink and Zem while Grammenphone and Warid, come within 200 taka (USD 2.80). In Sri Lanka, Celltel, Hutch and Airtel are free with Dialog and Mobitel charging between 100 to 150 SLR (USD 0.80 to 1.20) but special promos often make these free as well. In India, the costs range from 99 INR (USD 1.98) to 200 INR (USD 4.00). In Thailand it is about 25 Baht (USD 0.70) and in Philippines nearly 40 Pesos (USD 1.12). In all these countries, the average number of SIMs for male respondents are 3 in urban areas and 2 in rural and 2 in urban areas and 1 in rural areas for women, with the case being inverted in Thailand and Philippines. The highest number of SIMs owned by a single respondent is 5 and it is observed repeatedly in Sri Lanka, Bangladesh, Pakistan and Philippines.

The prime reason for acquiring multiple SIMs is to be able to reduce costs through phone usage on the same network. Most young respondents of both the genders are aware of the networks used by most of their social circle and as a result, they try to acquire SIMs of the same networks. Most respondents in all these countries said that they have hardly ever paid for the SIMs since they have either received them through hand downs, during special events or simply for free by recharging of a higher denomination. In Sri Lanka, all the younger male respondents claimed that they had tried to get themselves a free Airtel SIM which was being distributed by the company on its launch in Sri Lanka and almost 60% of these respondents had succeeded. Many of these successful acquirers indicated that they had good relations with their Communication shop owners and as a result, the SIMs were kept in reserve for them from before. The same is true even for free SIMs given to shopkeepers alone for meeting sales targets which they then distribute or sell within their social networks.

The second most important reason for the use of multiple SIMs is the lack of or problems in receiving quality network connection. This phenomenon is observed in all the countries to some extent. In the home visit in Paithan with Marun and Maini Rawat in India, they pointed out that in spite of having a Vodafone connection; they also had an Idea connection since Idea's network is better. They suggested that in their age they did not need to switch SIMs to make calls but they were compelled to do so due to bad network connection. Similarly, all the respondents in all the protocols in Bangladesh said they have at least 2 SIMs, one of Grameenphone and the second of primarily of Banglalink or of Warid. Their reasons are that Grameen has the best network in the whole country but it costs more, while Banglalink or Warid are cheaper and they are also rapidly improving their networks. Multi SIM respondents in

the male rural group discussion in Thailand also stated network reception as the main reason behind their decision to have more than one SIM. Since they had to travel to certain 'hilly' areas where network reception for certain services were not good, they owned another SIM that helped them stay connected in such areas. In Philippines, however, promotional offers and the contacts of the respondent guided the multi SIM ownership behavior. As all the respondents had similar people in their ecology who were again multi-SIM users, they also felt the need to have the same combination of SIMs with themselves. Also the fact that different service providers offer 'free calls' at different times of the day, made them own more than one SIMs to be able to avail such offers and optimize costs. Through this innovative business modeling of different service providers giving special hours that are non competitive, service providers in Philippines are encouraging multi SIM ownership to preserve their interests in the urban markets by making users latch on to all the major networks and not cannibalize on each other's market interests.

The third important reason for being a multi SIM owner is to use a number with a specific individual or a specific group of people. Innumerable stories are available in each country of such usage with younger generations saying they use a separate SIM to contact their boyfriends or girlfriends and the older generation guessing the same. The 18 to 25 age group state that the main reason for doing this is that they did not want their parents and friends to know about these relations. Predominantly in Bangladesh and Sri Lanka, at least 40% of the respondents mentioned that youngsters nowadays are able to carry on relations on the sly simply because they have access to phones. Parents suspect this and search their regular phones but are not able to find the kind of information they seek. This is because this data is in a separate SIM which the youngsters keep hidden either on them or in some secret place in the household. In Sri Lanka, Dhanambra in the mini ethnography in Kandy, did not initially state that he had a third SIM but his friends pointed out that he did and used it only to talk to his girlfriend.

Connected with multi SIM ownership and the need to talk to someone special, is the phenomenon of promotional hours when calls can be made at reduced rates. In Bangladesh, Grameenphone has a scheme of reduced call rates between 12 am to 1 pm which also coincides with lunch breaks for most people. In Pakistan, a respondent in a group discussion pointed out that 2 to 4 pm is also reduced tariff time on Ufone. The same is seen at night time between 11 pm and 7 am in Sri Lanka as well as Bangladesh which resulted in youngsters of both genders speaking late into the night (Dhanambra in Kandy, Zakir's sisters in Sonargaon and Wali in Pakistan.) Parents suspect such night time calls and get angry with their children but are unable to stop such usage, branding this as one of the prominent ill-effects of mobile adoption. In India, the younger age groups did mention talking at night time but they did not receive any lowered tariffs. Calls are made at this time for greater privacy and to be able to talk more comfortably than in the daytime when work schedules can be hampered.

Female respondents, even in the slightly higher age groups (up to 35 years), however, called during the day time in these special hours in both Pakistan and Bangladesh to talk to their family members primarily and then at times with their friends. No women mentioned placing calls on their own in the night slot. In Bangladesh, however, men of all age groups mentioned making calls in the night slot. Older men like Mohammad Abdul call relatives and share the

calls at times with his wife. All the younger male (including phone sharers) in the 18 to 25 years age group in the rural group discussion in Sonargaon, mentioned calling ‘friends’ in this slot. In Pakistan, the male respondents claimed to be talking to their male friends whereas in Sri Lanka, both male and female respondents said that they call their boyfriends / girlfriends in the night slot. All respondents who claimed to make calls in this slot, however, indicated clearly that business calls were hardly made at this hour and at most they would make the calls as soon as it was 11 and would last a couple of minutes.

Further innovative strategies around phone use for saving money includes giving missed calls. This practice figures prominently in the usage pattern of all age groups. Missed calls are used extensively by all age groups without significant usage differences in these countries. Differences, however, exist in perceptions.

In all the South Asian countries, giving missed calls is looked at negatively in the 35 years plus age group, especially in men. In the urban group discussions in all these four countries, the male respondents associated giving missed calls with a sense of helplessness and a failure to sustain one’s phone use. In the 25 to 35 years age groups, male respondents indicated that they give missed calls out of compulsion only when they do not have adequate balance on their phones and this is not enjoyed by them. In the 45 to 60 years age group, all respondents refuted giving missed calls and perceived receiving missed calls as sheer annoyance, even if it is from relatives or even their own children. It, however, needs to be pointed out that although this age group said they never give missed calls, it is not exactly true. They do not like giving missed calls but they do end up using them so that their relatives or children call them back when the need is not theirs for relatives and when the children have not called for a long time.

In regular times, when the male respondents do have adequate balance, giving missed calls are not even thought of by them in the South Asian countries (as indicated by respondents), while in the South East Asian countries, there are no such qualms. This however, does not appear to be completely true. It is possible that they are less likely to give missed calls if they have balance but discussions have shown that South Asian men are still likely to give missed calls even when they have adequate balance just to save some money and they tend to do so most often if they have a news to communicate which will benefit the receiving party. This is seen clearly during a mini-ethnography in Matale in Sri Lanka, where Dharmaratna receives a missed call from the owner of the carpentry shop where he works. He explained that this missed call implies that he has to go to the shop the day after as there is work for him. The shop owner will not call him since he needs the job more than the owner needed the laborer. It is understand between the two parties that if Dharmaratna cannot go this time but would like to receive such offers, he will have to call back to convey his unavailability.

It has been observed that there is an intricacy around men’s perception around missed calls because in different scenarios like checking if people are on the network and to indicate to the receiver to change their SIMs to the network being used by the caller, men of even the higher age groups feel no qualms about giving missed calls. In Philippines, missed calls being given to check whether the recipient is on net is rampant and emerged as an

acceptable teleuse practice. In Bangladesh and India as well, male respondents in group discussions clearly mentioned that they will rapidly change their SIMs, when they receive such missed calls. The problem area seems to be that men do not appreciate receiving missed calls from younger relatives like nephews and younger brothers or non primary contacts, especially if they are in the 45 to 60 years age bracket; since they will then have to spend money calling them up although they may not have any clear necessity. Missed giving is thus much more acceptable if it is for serious information sharing and is used responsibly with the missed call giver actually calling the receiver back after the later gives a return missed call to indicate that they have changed their SIM to the suitable network.

Only the younger groups of 18 to 25, irrespective of gender, use missed calls for fun with friends or to communicate non-verbally. Certain patterns are observed but these are very subjective to group dynamics and contexts of the communications and cannot be extended extensively. For example, in Bangladesh, one missed call seems to indicate “I’m thinking of you” between friends and spouses. This is used as a game where each keeps giving missed calls without having any intention to talk. Three missed calls indicate “call me / I have reached safely” and 1 missed call and then a long gap and then a call again means “listening to your tune and do not pick up”. The same are applicable for Pakistan and India as well where such codes are defined and understood differently by different groups.

Women on the other hand, are confident missed call givers in all the countries and they do not have any worries about it. In India, Bangladesh and Pakistan, the female respondents in the group discussions mentioned that while they would like to avoid giving missed calls if possible, it does not have any social implications on them even if they do give missed calls. In Sri Lanka, the female respondents, in fact, enjoyed giving missed calls and even considered it like a game with friends and relatives. In Philippines and Thailand, missed call even came out as formalized hinting within groups since signals are well understood and practiced. In all these countries, women in the 20 to 60 years age brackets give missed calls most frequently to their husbands / boyfriends, family and friends and clients. Parents are considered as those contacts that have to be called. In Bangladesh in particular and slightly less in number in India, married women have a well defined perception of whom they need to call and to whom they can give missed calls to. Most of the female respondents in Bangladesh in all the protocols agreed that if someone is younger to them in relationship and are really senior like parents and grand parents, then they will call them. They do, however, gives missed calls to male members to whom they are juniors like husbands, brother-in-laws, one’s own brothers and male relatives who are slightly elder than them like their uncles. They saw a balance of decorum and respect in this kind of phone usage. In several instances, in all the four South Asian countries, female respondents indicated that they have often been instructed not to waste a call when calling male relatives as seen in the case of Tanuja in the mini ethnography inKandy, Munira Alam in Dhaka, Divya in India and Naaji in Pakistan. On being probed how they perceive such instructions from their male relatives, only one woman in the Dhaka group discussion mentioned that she at times feels that people think she cannot afford to make a call but the unanimous response is that this is perfectly fine, since they can use the same balance to talk to a friend as well.

Load sharing is an equally popular way of saving money amongst young respondents in all the countries. The younger male and female respondents in Pakistan, India, Sri Lanka and Bangladesh undertake load sharing in various ways. In Sri Lanka, while respondents directly credit balance without any additional charges from their own phones; in Pakistan, India and Bangladesh, they reload others' phones with cash from the recharge shops or physically give their own phones but they are not aware of actual credit transfers. In Philippines and Thailand, on the other hand, respondents not only transfer credit but they also extend validity periods directly from their own phones.

In all the South Asian countries, male respondents suggested that they reload their friends' phones with an average of 20 INR (USD 0.40), 50 SLR (USD 0.40), 30 PKR (USD 0.36) or 20 taka (USD 0.28). Female respondents in Sri Lanka share loads of similar denominations as their male counterparts. In doing so, the majority of the respondents do not expect cash return for such small accounts but instead expect the favor to be returned in the future. Only when the amount is above 100, that respondents expect to be paid in cash. Load sharing is less prevalent amongst male members in South East Asia and more so with the female. Male respondents in Thailand and Philippines are more likely to receive loads than pass it on from their wives and girlfriends and friends and textmates.

In Philippines, the urban males seemed to be receiving load more often than sending. They ask for load from their friends and wives whenever they ran out of balance on their phones. The urban female discussions revealed that female respondents are more open to sharing loads with their contacts. They shared load worth 2 pesos (USD 0.056) or 5 pesos (USD 0.14) with their contacts just to keep the SIMs alive. The female respondents were very clear with respect to who in their contacts could they refer to for seeking loads. They said they will seek it from their husbands and friends but not textmates as it becomes a prestige issue and presents a very bad image of their personality to their textmates. The rural males however seemed to be more generous than the urban ones in terms of the amounts of load shared. They shared loads with their textmates of up to 20 to 30 pesos (USD 0.56 to 0.63) without ever meeting them.

Directly sharing phones is equally more prevalent in Philippines than in Thailand. People in Philippines give their phones to their friends, colleagues and family members without expecting anything in return. Sometimes when the respondents will be working and not using their phones, their colleagues will request to use their phone to chat with their textmates, availing a promotional service that they know has been activated on the respondent's SIM. It is more of a give and take relationship but sometimes people will recharge the credit on their will after consuming it. Generally, the need to use a colleague's phone arises when the respondent is out of credit in both the South East Asian countries. However, females in the Thailand group discussion displayed an interesting behavior where they are using other people's phones more than they are letting others use their own. They said that they do not like to share their phones with people but do not mind asking for their colleagues' phones to play games and watch videos and pictures apart from making calls. Only family members are allowed to use their phones for them to safeguard their privacy and to control unnecessary expenditures.

In Pakistan, Bangladesh and India on the other hand, women explain that for them load sharing does not mean giving away money to others but physically giving their phones. These women share the load but they also feel more irritated sharing it because they both receive less credit and put in money saving hard from household expenditures but they also cannot say no. The benefits of load sharing is that it allows the recipient to communicate in urgency without having to visit a reload shop and they can also delay their reload by a day or two thus saving at least 10 to 20 INR (USD 0.20 to 0.40), PKR (USD 0.12 to 0.24), taka (USD 0.14 to 0.28) or SLR (USD 0.08 to 0.16) from immediate use.

While load sharing is widely prevalent amongst the youth, in older age groups it is undertaken only in great necessity. In South Asia, in the 45 to 60 age group, respondents understand it only as sharing directly their own phones to make a call and very few see it as even reloading for others. Male respondents in Pakistan expressed a complete rejection of the idea of load sharing with any one other than their immediate family and at times their closest friends and neighbors. Their reason being for this is that they said when they themselves strive hard to reload their phones, why should they reload for others. Yasir Aziz and Abed Ansar explained that youngsters should know how to control their expenditures and at most there are public phone booths which people used to use when there were no mobiles and the same can also be used now as well.

Finally, the last strategy for economizing on phone money by the youth over the other age groups is the heavy usage of text messages. This is almost a singular story for Philippines and partially for Sri Lanka. This is also an area of striking difference between the age groups as well. In Philippines, there are extremely cost effective promotional packages that cater to the heavy text usage and allow most of the communications to happen via text messaging.

In contrast, all the South Asian countries, expressed a strong disinclination towards using text messages. Only in Sri Lanka in particular, the 18 to 25 years age group in both genders are heavy text users and in that also they are not even remotely close to the Filipinos. While in Sri Lanka both male and female respondents in this age bracket texted frequently and sent on an average 20-30 text messages per day, in the other three South Asian countries, even the youth did not express any particular interest in messages. In India and Pakistan, for example, it is only the more urban respondents with more than 10th grade education and whose primary communication needs in life is to communicate with friends, they are the ones to text. These youngsters are also more likely to be high SEC D and on their way to SEC C categories. Those who are actually in SEC D and E, are text averse because they suffer the triple disadvantages of low literacy, challenges with the English interface and lack of time to convey their messages in writing. These respondents are more keen on calling since it does not convey their drawbacks and at the same time, manages to pass on the information in the most effective and emotive manner. In India, in SEC D, the female respondents are more open to trying to learn to SMS while male respondents discarded it wholly citing lack of time and the greater efficacy of voice. On discussing with the Indian respondents in home visits whether they will now start using voice SMSes which has been launched by Airtel in India, many of them indicated that they might try but at 75 paisa (USD 0.015) per minutes as opposed to a 1 INR (USD 0.020) per minute call time, they will not only not get

any immediate response but they will also end up spending more trying to convey all that they have to say in a message. Two of the male respondents- Vikas and Uday – both of whom are studying also indicated that they had tried the service but the hash (#) and the number process was not easy for them to use. This response comes from educated students in the 18 to 25 age group and should be an indicator of the levels of difficulty that the BOP user can adapt to. As a result, having failed once, both these young men no longer want to try the service but prefer to call.

In Bangladesh, text use is likely to occur at a slightly higher age group of 22 years and above for men in rural areas and around 20 in urban areas. Texting is not a priority for Bangladeshi women in SEC D and E in either of the locations and they did not convey any particular keenness towards learning it either. The female respondents felt they have a lot to say and can convey these most effectively on voice. Rural men of 22 to 28 years of age, however, should not be mistaken as heavy text writers. They emerge simply as the most promising age group since they indicate that they have time on hand and do not mind SMS chatting. None of the male respondents, however, are subscribed to any SMS package because they did not feel that they are such high users.

In these 3 countries, the older age groups from 30 onwards, inclusive of both genders, found texting difficult and not enabling them to save money in any way. SMSes for them are synonymous with poetry forwards, jokes and picture messages, which are circulated at times individually or in most cases by the children when the respondents are above 40 years of age. SMSes are also perceived as a waste of time and their verdict is clearly in favor of voice calling than anything else for greater efficacy as well as prompt responses and successful conveying of emotions and information.

In Sri Lanka, on the other hand, the main age group of SMSers is from 16 to 21 years. From 22 to 25 years, the usage begins to slow with decline occurring post 25 years of age, especially in men, due to work pressures and time challenges. Women on the other hand, are late starters but they seem to continue SMSing regularly even up to the age of 30 plus. The benefit of sending messages is explained by these age groups as they often have a lot of free time and nothing very serious to say, so instead of wasting a larger sum in calling, they keep messaging friends intermittently to almost keep track of their daily activities when they are not together. This is especially true with boyfriends and girlfriends. Also using SMSes they can send and receive picture messages and the better the messages, the more popular will the sender be in their friend circles. In Kandy, both Dhanambra and Tanuja indicated that SMSing is often an alternative entertainment for them during power cuts in particular and late at night, if they are unable to sleep. They said that they cannot watch TV in both these times and doing so late at night, will anger their parents. As a result, they keep messaging putting their phones on silent mode. It keeps them occupied and does not draw any attention either. It is also cost effective according to them as in this youth segment all tend to have SMS services activated wherein they can send unlimited text messages per day at 50 SLR (USD 0.40) per month whereas if they were to spend an equal time on calls, the final amount they will end up spending is very hard for them to even imagine.

As a result, in terms of the age differences in teleuse, we see that the senior age groups are less keen on trying new technology and services, with the exception of Philippines. The significant reason for this is that neither the technology nor the services are designed for them, keeping in mind their actual needs and capabilities. The product or the service that they currently use, have been selected for them by others, learnt with considerable difficulty and with help from others. The older respondents are also using their phones in a challenging mental ecology where they have frequently heard their children complain that they understand nothing in spite of mobile phones being so easy to use. As a result, almost as a defense mechanism, this age group prefers to focus on the use of what they now know best than experiment with new things where they can make errors. In the future, one needs to explore further, whether apart from the Roman script, whether there are other possible reasons behind the technology confidence in Filipino seniors like greater income, more time and more sustained exposure to technology, which is benefiting and enlarging their use of mobile phones as opposed to that of the seniors in all the other countries.

Location, Enabling Environment and Mobile Usage

Location

Location is one of the prime factors impacting the growth in teleuse. Mobile growth over the last five years has extended from urban centers towards rural areas and while urban markets are saturating today, it is the rural markets which continue to drive the high adoption rates visible in the countries in this research.

Locational differences between urban centers and rural locations are the most significant in India, Pakistan, Sri Lanka, Philippines and Thailand and the least significant in Bangladesh.

In India and Pakistan, the urban telecom scenario is well developed with most respondents claiming that they have to walk a maximum of five minutes to reach their nearest mobile shop. Urban dwellers in Mumbai and Bangalore in India and Karachi in Pakistan have a variety of outlets ranging from operator service points to a variety of vending points in local grocery and general stores, low end saloons for men to even Xerox and internet parlors. The same kinds of vending points are equally visible in peri-urban and rural locations but the density of it begins to lower. In Nasik and Srirangapatana, the travel time to these outlets is about seven minutes while in rural Paithan it is about ten minutes by cycle and fifteen minutes by walking in Kundur on an average. In Jatoi in Pakistan, the average time to the nearest shop is around ten minutes by a cycle. In Sri Lanka, in Kandy, the average time to the nearest Communication shop or other general stores where reload can be undertaken is slightly higher than in India, ranging around 5 to 7 minutes. In Kandy, however, the density is not so visible, as a substantial part of the hilly sides of the city lacked such shops. Kandy city, however, has ample vendors and different kinds of vending points like in India other than the predominant Communication shops. In Chiang Mai, urban telecom presence is extremely dense with individuals selling SIM cards as low as 25 baht (USD 0.70) in local markets in Thailand without any documentation, deposits or identity proofs. Manila, however, has two extremes of vending points – organized retail shops like the 7-eleven and the smaller 'Sari Sari' shops on one hand and individuals vending SIMs and reloads on the other. Amongst rural areas, the average distance to the nearest mobile reload shop is about 10 minutes as for San Fernando Pampagna in Philippines, Jae Hom in Thailand and Katudeniya in Sri Lanka. Residents of these three village locations indicate that they had to cover a minimum of about 1.5 to 2 miles to go to their nearest public phone booth while that to the nearest mobile reload shop is about 1 mile. The village vendor points are a mix of general stores and specific mobile reload shops.

Compared to the other countries in this research, in Sonargaon, in Bangladesh, there is very little observed difference in density of telecom shops vis-à-vis Dhaka. While in Dhaka, respondents state that they have a telecom shop or public phones, every 2 to 3 minutes, in Sonargaon, this is at the maximum perceived to be about 5 to 7 minutes. This is significant, considering the fact that while in all the other countries in rural areas, respondents need to actually prepare to go to the reload shops by taking trishaws, bicycles and friend's bikes, in Sonargaon, it is a much easier walk or a quick bicycle ride. Residents here do not think that anyone takes a trishaw to go and reload, unless it is on their way to the main road to catch a bus as well. In Dhaka, reloading is not at all a challenge with a

super abundance of shops in all localities. The density of these shops, in Dhaka, seems much more than that of an urban Indian city as well.

Infrastructure Development

Infrastructure development is one of the biggest challenges in emerging economies. Lack of paved roads, availability of water and unavailability or partial availability of electricity, are all visible in these countries and each of these factors in turn affect, teleuse in significant ways.

The urban centers in all the countries are highly developed with Manila leading the fray. There are extensive road networks and consequently traffic jams are an integral part of these cities as well. Respondents are quite used to such conditions and do not particularly consider it as a major challenge that needs to be redressed through special means. A general level of dissatisfaction prevails but it is overcome in retrospective thinking of all the facilities they have. In Dhaka alone, respondents claim that the traffic conditions are so difficult that whenever possible, people prefer to complete their work by making calls rather than travel physically. In Mumbai as well traffic is considered to be a substantial challenge with wait times eating up productive times for auto and cab drivers, but the overall impression is that it is manageable. In Kandy and Karachi, respondents have no particular grievances with their road infrastructure and consider it to be quite well. In Kandy, however, since many of the BOP respondents, live on the hill sides, they suggest that they have cut the hillsides as a community to make some walkable tracts. These roads are unpaved and are of loose stones and gravels with soil. They suggest that while they have got used to using such roads, with rain it becomes a little difficult but it is nothing much of a grievance point for them. In Thailand, the economic development has lead to a well developed road transport network with metal roads prevalent in the rural areas as well. The government has made special efforts towards constructing as well as maintaining these roads. People in both rural as well as urban Thailand do not mention the condition of roads as a challenge but there is an evident lack of public transport facilities in the rural areas. The condition of roads in Philippines however, has been an area of concern for the population as well as the government. While the road network in and around metro Manila is well developed with special reference to the North Luzon Expressway, most of the people living in provinces face a challenge of bad infrastructure.

The peri urban areas in India in Nasik and Srirangapatana, are infrastructurally on par with urban centers. The conditions, here, are better as most residents do not face the urban problems of traffic, potholes and seemingly unnecessary traffic regulations.

The rural areas in contrast pose a substantial challenge in all these countries except Philippines. In India and Pakistan, rural areas lack paved roads with village residents having to travel to a main road (about 10 to 15 minutes

by walking). Villagers in both the countries suggest that not having paved roads means their travel time is more, no vehicles want to enter the villages easily and they have to pay more to the vehicle owners. In Jatoi, Ilyaz also indicates that while he himself, is able to still manage his travel, not having roads and consequently no ready transportation, makes it very difficult for him to take his aged mother to the doctor in the nearest town of Jatoi Magsi. In Paithan, Marun Rawat indicates that his difficulty is more with transportation than the roads per se. Marun, however, faces another problem where when he has to go to his field, he has to cross a highway fifteen minutes from his house. The highway is an expressway and with two way traffic, he has to be extremely careful while crossing it. As a result, in order not to be disoriented during this crossing, he switches off his phone while he is about to start walking on the sides of the highway (no pedestrian lane marked) and switches it on again after having reached his fields. Paved roads for Marun have come as an expressway and in spite of the advantage, it is a daily life threat for him as well.

In Sonargaon, on the other hand, the village roads suffer extreme deterioration due to annual floods. While it is visible that efforts have been made to pave the roads, cements are coming off loosening bricks and leaving big potholes. The roads are narrow enough to just allow for one trishaw at a time and since just next to the road there is a steep decline to the farm land, driving a trishaw on these roads is a challenge post 6 pm by when most villagers claim that they prefer to be in their homes.

Katudeniya, on the other hand is the most developed rural area amongst all the locations in South Asia. It had paved main roads while the interiors are open terrain. The interiors are broad and well lived resulting in trishaws going well inside the village as well. The problem faced by the residents of the other three countries is, however, not visible here as vehicles can enter well and the roads do not suffer annual dilapidation. Moreover, unlike in India, Pakistan and partially in Bangladesh where villagers have mostly bicycles, in Katudeniya, all households seemed to have at least one bicycle, many had bikes and several houses even have their own trishaws which one of the younger members of the household drives apart from farming.

In Thailand, roads are well developed and paved. Jae Hom, in spite of being in a hilly region has good roads and owning motorbikes is quite common for the rural users. The roads are not only well built, but also seem to be well maintained. Thai government's attempt to promote tourism in every small town and city of the country has led to major infrastructural developments with a prime focus on building a decent road structure.

Electricity and water connections are available in all the research locations but while in South East Asia these shortages are less significant, in South Asia, Sri Lanka is the most well developed while in India, Pakistan and Bangladesh some of these challenges are drastic and even life threatening.

In Philippines, in both Manila and San Fernando, electricity and water supply is not much of a problem. In fact out of the three largest islands of the Philippines, namely Luzon (which includes Manila and Pampanga, San Fernando),

Visayas and Mindanao, major infrastructural developments and government initiatives have been concentrated in Luzon. Both the other islands and other areas still face poor and erratic electricity supply. In Thailand as well a similar situation can be seen where the southern parts of Thailand which attract tourism have better electricity and water supply than the northern, hilly regions. Developments towards improving these conditions, however, are underway.

In Sri Lanka, electricity connectivity is widely available in Kandy and in Katudeniya but in both the locations power cuts are experienced. In Kandy, the respondents indicate that power cuts have increased in the recent years and at times they do not have power for about an hour or so but there is no fixed quota for such actions. In Katudeniya as well, power cuts are experienced but the village respondents claim that since many of them are beginning to electrify their houses, with new wirings, they are less hassled. The village main roads do not always have lights on but residents state that power cuts occur mostly after 8 pm when the day's work is complete and as such it does not hamper their lives. Water lines are available in each house in Katudeniya and while the pipe water can be drank; some families boil it for safety. Water, however, is a partial challenge in Kandy where residents get tap water but some of them feel that it is not enough. As a result, we see many young girls carry pots of water up the hills and a female respondent in a mini-ethnographic interaction showed a place where a water pipe is broken and water flows out continuously. This place has now become a new spot for the younger women in the locality to come and wash heavy things like bed sheets and large quantity of laundry as in her case when she had a lot of towels and aprons to wash from her salon business. It is also a temporary hang out spot for them. While the pipe breakage may explain some water shortage in this area in Kandy, in the other part of the town, respondents feel that their water supply is lesser than before.

In striking contrast to Sri Lanka, the other 3 countries in South Asia face substantial electricity and water challenges. In both Mumbai and Bangalore in India as well as in Karachi, respondents state that they have power cuts on a fairly regular basis with 2 hours on average per day in Mumbai, 3 to 4 hours in Bangalore and 4 to 5 hours in Karachi where the local manufacturing units also suffer considerably from these cuts. The consequences of these power cuts are visible most strongly in the lives of the female respondents. The women have begun to arrange the pattern of their daily chores which requires electricity around times when they knew power cuts are the most likely to happen. Vaishali in Mumbai indicates that in her locality power cuts occur around 7 to 8 in the morning and again around 2 to 4 in the afternoon for most days or around 5 to 6 in the evening as well. As a result, she watches TV programs that are outside these time zones and even charges her phone at night to avoid having low charge in the morning. Naaji in Karachi also warms the bath water for her children using an electric immersion heater before 10 am when the power cuts generally begin.

In rural areas, electricity cuts affect the entire population but the women less so. In Paithan and Kundur in India as well as Jatoi in Pakistan, power cuts directly hamper agricultural production and the functioning of small flour and oil mills in the villages. Women are less directly affected since in these villages, cooking is done using drift wood. In

Paithan in particular, the male respondents suggest that during the cultivation phase, increased electricity cuts can ruin the crop if the irrigation machinery stops functioning. In the last two years, Paithan has faced this challenge increasingly with low rainfall; and as a result, farmers have to physically irrigate their lands at times. This increases their labor requirements and also reduces their individual physical capabilities. In Jatoi, land productivity is perceived by the villagers as declining with a corresponding increase in desert conditions. Agriculture as a profession is becoming less and less viable and that is why many of the villagers are sending their younger male children to work either in Karachi or in Dubai.

In Sonargaon, power cuts do not affect agricultural production very much since the farming here is less machine intensive than in Paithan, Kundur and Jatoi where farmers use tillers, tractors, irrigation pumps and water sprinklers in some fields. Home electronics and children's education are perceived to be the biggest sufferers as due to the low voltage in the village, fridges do not stabilize and TV picture tubes also dim very often. As a result, electronic items often give troubles and need to be repaired. Children's studies, however, is seen to be badly affected as often after 7 in the evening there is no power supply. All studies have to be finished in 2 hours between 5 to 7 pm and in winters, even this is difficult. In the main village market area, however, the evening power cuts make trading difficult. The bigger shops have provisions for generators while smaller vendors use lanterns and candles and mostly try to finish their businesses by 7 pm in the evening. The problem with not having electricity is in managing the narrow, winding roads where villagers are frequently mugged in the by lanes.

Lack of water and the availability of safe water are perceived to be greater challenges than electricity. In Mumbai and Karachi, there is an acute shortage of water as is the case in Dhaka in certain localities. In Mumbai, Vaishali, indicates that she wakes up at 4 am to place her water buckets in the queue at the local tap. Only if she goes early enough, will she get water. She comes back and falls asleep for another 2 hours. Water comes between 8 to 10 am when she has to physically queue up as otherwise people behind will leave hers on the side and get their water. As a result, Vaishali has to get up at 6, take her bath and finish cooking breakfast and lunch for her family before 8. From 8 to 10 she queues up and can only do other household chores after 10. Her husband and children take their own food while she is away. A similar pattern is also observed in Mumbai as well in Imran Khan's household where his younger daughters keep the line and get water. In Karachi, in Naaji's locality, while she does not have to queue up, she has to collect the water for the day before the morning namaaz between 4 and 4:30 am so that once everyone starts using the day's water; she already has her share stored. She does this more specifically since she has 3 children and needs more water. In Bangalore, the challenge that is indicated by most respondents is that while water is mostly available, the quality of it is not always good with people getting almost brown (muddy) water at times and even tankers have to come when tap waters are not available for more than 2 days. Respondents express high anxiety around where the water comes from and as a result prefer to be safe by boiling it.

The rural areas in India, Pakistan and Bangladesh- Paithan, Kundur, Jatoi and Sonargaon- indicate two extremes of water problems. The first three face problems of declining water levels and even drought conditions over the last

three to four years. In Kundur, one of respondents, Manu indicates that although water levels are less, villagers make the condition worse by getting bigger pumps to pull out water. Instead of saving, they are depleting faster. In Paithan, one would find dried-up wells which are now abandoned and in Jatoi, the wife of Abed Ansar mentions that some women walk to their neighboring village for water but that is not appreciated by their neighbors as well. On being probed whether they consider their water safe, the predominant answer in all these villages is that they have not heard of anything being wrong or any harm happening from it. Some women in Paithan are seen to strain their drinking water using a thin piece of cloth.

In Bangladesh, Sonargaon, however, is at a precarious stage with its water situation. There is both water shortage and there is arsenic in the water in villages where the research was conducted. The villagers suggest that while government officials have treated the water, they know there are still remnants of it. They feel that the level of arsenic is less so that it did not significantly affect human beings but affects crops and cattle since they have weaker sustainability.

In these villages due to the shortage of water, land quality is on the decline and practicing agriculture is becoming difficult. As a result, it is seen that many of the families are converting their field into cement pits and producing cement. A huge line for water supply is also visible running through the entire stretch of these villages in order to pull water from a nearby river which is about 10 minutes by car. Producing cement on these fields has completely destroyed fertility and has not reduced water consumption in any significant way.

The other extreme of Sonargaon is that half of the village is in a low lying area and the other half in a higher area, resulting in the low lying area being easily flooded and remaining under water for two to three months annually. At this time, drinking water and electricity shortages are the most acute in this part. Roads are submerged and no vehicles, including trishaws can function. As a result, most households in this part of the village have wooden boats in their houses and seek the help of their neighbors in the higher regions for food delivery. Unemployed men from the higher regions take up work delivering food and assistance, save cattle in the lower regions by charging for their services. As a result, several villagers state that before the rains get heavy, they often hire out their trishaws to these other men against a fixed amount per day as they themselves are not able to drive them or do anything at all during these months other than be at home. During such moments of floods, all electricity lines tend to fall in the wind and rain and as a precaution, the local electricity board often disconnects electricity at the very moment when it starts to rain heavily.

Transportation

Among all the infrastructural resources, transportation is the only hard resource which is perceived to be improving in all the South Asian countries. In South East Asian countries, however, respondents indicate that they already have a stable system which is now improving but not at a dramatic rate. The same response is also visible in Sri Lanka as compared to the other three countries, which express that transportation connectivity is increasing very rapidly.

In Sri Lanka, Kandy is well connected with different kinds of vehicles from cars to trishaws to local buses and cycles with some option being available for all segments of society. The central bus depot is treated as a hub for business and networking and respondents state that they always get a bus to their required destination in less than ten minutes in the rush hour and half an hour at the maximum. In Katudeniya, as well the bus network is very well developed with a bus every half an hour. Trishaws are frequent but there is no central aggregation point for them in the village. They can either be caught while standing at important road junctions or by setting up prior appointments by calling on the trishaw driver's mobile. Respondents in Kandy and Katudeniya are extremely satisfied with their existing transportation networks and felt that more development will worsen existing conditions.

In Manila, connectivity and transport is not a challenge because of the easy availability of auto powered as well as manual trishaws, jeepneys (jeep buses) and cars. The metro-railway network that runs through the city is another favored means of transport that many of the Filipinos prefer to use. Trishaws are the most common means in rural Philippines. Due to bad roads, most of the coastal rural areas are inaccessible to other means of transport. The rural dwellers have to take trishaws and reach roads where they usually find jeepneys to be able to travel.

In Thailand, Chiang Mai does not have a well developed metro or skyline network like Bangkok. Most of the local commuting within the city happens via Trishaws (tuk tuks) or Thai versions of Jeepneys. There are huge traffic jams in the city due to increasing tourism and growing personal vehicle ownership in the city. The fastest way of commuting within the city however remains motorbike. A lot of people who can not afford public transport have their own bikes. In Jae Hom, lack of adequate transport facilities have resulted in people buying bikes to meet their daily needs of travel. The bus service is not frequent for the region but there is a relatively more frequent bus service and a small bus station at the nearest town Lampang which is around 45 minutes' journey from Jae Hom. Travelers who want to take a bus usually seek someone's help to reach Lampang on a bike from where they can continue their journey forward. For people who can not go to the town on a bike have to stand in front of housing complexes or the fresh food markets and wait for a bus to take them to Lampang.

In both the urban cities in India, transportation is considered to be well developed although traffic is very high. In Mumbai respondents find all forms of transport well crowded including autorickshaws (trishaws) since they can be availed in share. In Bangalore, respondents suggest that while public transportation is improving, the demand still far

outstrips the supply. They also feel that much attention is being given to the well salaried IT crowd while regular people still suffer from irregular buses timings, packed buses and poor service conditions. In peri-urban locations Nasik and Srirangapatana, transportation is not perceived as a challenge as there is neither extreme shortage as in the urban centers nor is there any stark lack as seen in the rural areas.

In rural Kundur and Paithan on the other hand, transportation is a partial challenge with buses and autos being the primary transportation sources connecting these villages with their nearest towns and neighboring villages. In both the villages, buses ply every one hour but not from the interiors. In Paithan, respondents have to walk ten to fifteen minutes to the nearest expressway where they can get buses. In Kundur, buses can be caught from the village bus depot. Both the villages also have some autorickshaws owned by local residents. Kundur being a smaller village hadn an autorickshaw stand to arrive at which people have to walk for about 10 minutes. In Paithan, however, respondents have to walk an average of 5 kilometers to come to main town area from where they can take connecting autorickshaws. The autorickshaws in Paithan are seven-seaters and start only when there are enough passengers. The time to fill up an auto before it takes off can be anywhere between 10 minutes in early morning to an hour in the middle of the afternoon. All rural respondents in India suggest that connectivity has never been better before and things are improving rapidly with more private bus routes and autorickshaw services connecting the villages. Devraj in Paithan suggests that even five years back there was no way to go to Paithan main town to deliver milk, other than by using a bicycle. The roads used to be bad and his tyres often sprung leaks. As a result two years ago he purchased a motorbike since it is sturdier than a bicycle and he can carry more milk.

In Bangladesh and Pakistan, urban transportation is well developed with buses, trishaws, autos and cars for the more affluent. The BOP respondents are using more of the private buses and manual trishaws than autorickshaws or cars. These options are easily available and are frequent. In the rural areas, however, between both the countries, Sonargaon is far better connected than Jatoi. In Jatoi, respondents indicate that they will have to take a bicycle to Jatoi town to go anywhere else. In order to reach the town, they either take their own cycles when they have work within the town or will seek the assistance of their family members, friends and neighbors to drop them in case they need to go out. In Sonargaon, on the other hand, there is a steady source of trishaws coupled with individual bicycles in most homes. Respondents say that they can easily get a bus to Dhaka or any other part of the country by coming to the main highway which took 20 minutes by trishaw or by going to Narayanganj which is another 20 minutes by bus or auto from the main road. autorickshaws ferry only upto Narayanganj and can be found on the main highway itself.

Unlike the South East Asian countries and Sri Lanka in South Asia, transportation in India, Bangladesh and Pakistan suffers from being over packed (a larger autorickshaw in Dhaka would take upto 15 people when its regular capacity is for 8 people) and often results in accidents. In villages, local manual rickshaws charge extra money for going in the interiors, for heavy weight as well as for being too late in the evening although they are functional. In Paithan and Kundur farmers indicate that they are extremely hassled when they buy pesticides and fertilizers from the nearest

towns. They point out that especially after the January harvest when they prepare for the next season, autorickshaw drivers will charge them more saying they have had a good crop which is why they can buy so much of materials. In Jatoi alone timings are found to be quite erratic and often respondents have to wait long either to get a vehicle or even get the vehicle to go as the drivers will not go without a full vehicle since it is not cost effective for them otherwise.

Transportation networks, in spite of such shortcomings are found to be the most satisfactory infrastructural service in South Asia. Respondents believe that this is possible because all kinds of transportation which connected rural areas to urban centers or even plied within the cities, the majority, are all privately owned and individuals in their drive to do better in life improve services and that in turn improve connectivity and save timings. Respondents in all these countries, both in urban and rural areas, keep numbers of trishaws and bus drivers handy, whom they can call to pre-arrange their transportation if they have a significant travel to make like going to sell all their crops to Dhaka or getting married in a neighboring village of Kundur. In times of harvest, villagers in all these countries also pulled together resources to pay for a bigger vehicle like Lorries to take their products to the market. The transportation sector is seen as a growing segment where there is always work to do and as a result in Bangladesh and Pakistan, in particular, a substantial number of respondents aspire to purchase their own vehicles to make a livelihood of this burgeoning sector.

Institutional Resources

Institutional resources both in South and South East are developing progressively although South East Asia again has a more mature ecology.

In Chiang Mai there are local government hospitals and chain of privately managed hospitals. However, the city does not have any international schools. There are local schools and universities. Additionally, there are small centers supported by the government for those who can not afford school so that they can have at least some basic education. In Jae Hom, there are local schools and the same charitable setups. Dinn has been expelled from the school after fighting with a couple of boys but still has aspirations to study. Even his father is restricting his involvement in his business as a mechanic for Dinn to be able to concentrate on studies. Dinn is now studying in a nearby educational center which was meant for children who can not afford education. He has plans of returning to studies formally. In spite of being young and having received some education, Dinn is not able to communicate in English. In fact, one hardly finds the English script in public places as writings on signboards; advertisements etc. in Thailand. Also, there are no hospitals but just small clinics as health facilities. People have to go to Lampang for any medical assistance beyond the clinics' level.

The republic of Philippines has a well developed educational system and Manila has a large number of public and private schools that offer quality education. Manila in particular, within the Luzon Island has a well developed educational setup and thus invites migration from a lot of surrounding provinces. In the words of one of the home visit participants Ricky, people come to Manila thinking that their "dreams will come true here". Public schooling is accessible to all individuals but with the all other expenses attributed to schooling, it is still costly. Generally many are able to get into elementary or primary schooling but few actually get to reach high school. In most metropolitan areas, private schooling is better than public schools.

Infrastructurally as well as resource wise, public schools do not have enough funding from the government and many rural areas (especially areas that are not accessible i.e. hilly areas and some coastal regions) do not have proper schooling facilities. Health is also one of the major issues in the country. Quality health services are still costly and can be afforded by the rich and affluent. However in recent years (beginning Ramos presidency), health services have improved with the advent of 'Philhealth - health insurance for all public individuals'. Medicines are still expensive but for the current administration, a bill has been passed in the name of, "the cheaper medicines act" which promotes the use of generic names for medicine and the creation of pharmacies that ensure their easy availability. The rural areas of Philippines face a challenge in terms of health services due to lack of proper hospitals and health centers in the areas. They have to travel a considerable distance to the nearest cities to seek proper medical facilities.

Institutional resources in Sri Lanka are very well developed compared to South Asian countries. The availability of resources like educational institutions, healthcare services, banks, postal services, sports facilities, community centers and places of worshipping, are all widely available and do not take more than 15 minutes to reach in Kandy and half an hour at most in Katudeniya. Banks, however, are found to be the furthest resource among all the others.

The presence of all such institutions in close proximity enabled the Sri Lankan respondents to have confidence in their existing ecology and it in turn affects their need for change. In both Kandy and Katudeniya, respondents have solid social networks through friends at places of studies, work places and places of living, coupled with a strong religious background, which encourages cultural training. Sports emerge as a crucial part in the lives of young male respondents and religion in that of the women. Having such points of social interaction, enables the younger respondents to integrate with others. Having regular visits by health workers is much appreciated and gives respondents a sense of well being in their native villages. The sense of community is extremely strong in Katudeniya with respondents expressing great pride. Only employment exchanges are not visible but assistance comes in the form of technical colleges trying to place their students in Kandy whenever an opening becomes known to them.

In India, formal institutional resources like educational institutions, healthcare services, banks and postal services are well available but the quality of service leaves much to be desired in respondents. Government schools in India are looked down upon by even BOP parents. In Mumbai, Vaishali's family barely survives but they send their children to private English medium schools. Government hospitals are not trusted in Bangalore due to repeat cases of wrong treatment and expired medicines and non-paid community centers are non existent in these cities. Respondents lamented they have nowhere to go for free like parks and gardens and as a result they remain cooped up in homes with children watching more TV than participating in sports and other social functions. Any extracurricular activity can only be afforded by the higher classes. Banks are the most respectable institution in this list while government hospitals caused the most anxiety in urban centers.

In rural Paithan educational quality is considered to be very high due to the substantial efforts of the Maharashtra government. Respondents who have children want them to study and not become farmers and milkmen like them. Parents show considerable interests and try to ease their children's education as much as possible. Kundur on the other hand, has schools that are within 5 kilometers of the respondents houses and yet there is no substantial motivation. Healthcare facilities in both the villages involve a weekend visit from doctors at the Panchayat centers and for emergency assistance, villagers have to travel 15 kilometers to Srirangapatana and 10 kilometers to Paithan town for the nearest government hospitals. No community development programs for children or women are visible but every village has a temple. In Paithan town alone, there is an interesting 'Krishi Seva Samsthan (Agri help center)' but this is about 10 kilometers from the researched village and requires villagers to make a clear investment of their time, money and effort to go seek assistance. As a result, most villagers call the organization than visit it.

In Pakistan and Bangladesh, the conditions are similar to India but average distances are higher which makes accessing them even more difficult. Unlike India where education is a point of concern, in both these countries weaker economic conditions, makes education as well a challenge. School dropout rates in Jatoi are predicted by respondents to be about 60% by grade 8 and healthcare facilities provision is the biggest challenge as indicated before. In Bangladesh and Pakistan, it is mentioned by respondents that the youth have very little constructive things to do. There are no educational help institutes or skills training points and as a result, the youth get very little constructive help. They remain skill less, devoid of employment, dissatisfied and restless resulting in anti-establishment feelings. In Sonargaon, respondents, however, praise the efforts of the government's healthcare department because their representatives come to each village to inform them of seasonal diseases, provide advise on child healthcare and distribute free medications as well.

The lack of institutional resource particularly impact Pakistan. In rural Jatoi, Ilyaz and Abed Ansar are the most critical with their responses bordering on extreme pessimism. They indicate that no developments have occurred in the last five years and Ilyaz cannot even remember much having changed from his childhood days. Both these respondents suggest that there is no interest among the local political parties in developing Jatoi while the infrastructure of the nearby Jatoi is improving substantially. Political parties are indicted for such indifference and they believe that not much development is likely in the future as well. In contrast, while even residents of Paithan and Sonargaon, have substantial challenges and blame their local governments for not doing enough, respondents of both these countries, however, believe that development is occurring and with a stable government at the helm, improvements will be forthcoming.

Hard Infrastructure vs. Soft Infrastructure

Having discussed hard infrastructural and institutional challenges, it is an interesting area to probe how respondents perceive the telecommunication infrastructure growth around them and its relevance in their lives. This co-relation question brings out a barge of comparisons and further insights on how development is taking place, in rural areas in particular.

The unanimous response vis-à-vis mobile growth in all these countries is that respondents are surprised at the rapid rate with which mobile telephony has spread and how even they, in their limited livelihood, are able to have phones. In urban areas, in both South and South East Asia, respondents point out that they have a phone every two steps whether it is a landline, a coin phone or even a mobile shop. The costs of all service providers are very comparable and it can be inferred that an individual can actually survive in these cities without owning their own phones.

In urban India, Pakistan and Sri Lanka, in particular, the previous commentary is however promptly modified to indicate that although telecommunication infrastructure allows them to remain without a phone, current social conditions do not. Respondents suggest that it is always better to have a mobile because one never knows of emergencies like floods, terror attacks, bomb blasts or even troublemaking political meets. In a city like Mumbai, respondents also feel that having a mobile is good since it improves their social status as well and gives them a sense of belonging. The first of these causes around emergencies is also considered as an imperative reason for mobile ownership by both Wali and Naaji in Karachi as well as most respondents in most group discussions in all these countries. Mobile ownership in urban India, Sri Lanka and Pakistan today is thus emerging as a strong personal safety measure with respondents feeling more assured when both their family members and they always remain reachable.

The rural BOP users in Thailand are more than happy to just be able to connect with their friends and family and to get more jobs through their phones by being highly accessible to their potential employers. They are happy with the growth of mobile phones but can not really compare and contrast the growth of ICT infrastructure with other basic infrastructure. This is perhaps also true because of their day to day needs being met by existing infrastructure already. Their electricity bills etc. are generally collected by agents who would come to their place to collect money and the residents are not required to move out of their house to make such payments. This habituates them to such a service offering and thus makes them quite content and satisfied with the existing infrastructure. Simi has been using her mobile phone to stay in touch with her son primarily and does not use it to meet any other needs of information because she is satisfied with the things the way they are. She feels that life is quite convenient for them with the mobile phones but she and her husband hold no grudges or complaints against other infrastructure.

In rural Bangladesh and Pakistan on being asked this comparative question, the rural residents almost come out venting their resentment saying that the growth of mobile infrastructure should be a lesson to their countries as to how services need to be provided and how when even the poorest benefit, they will also pay for useful services. In Jatoi, male respondents like Abed Ansar, Ilyaz and Aslam, all suggest that while Islamabad and Lahore prosper, no efforts are made towards rural areas like theirs. They begin to draw comparisons saying that if mobile connectivity can be up at all hours, why can not local electricity. While these respondents have difficulties understanding the complexity of building hard infrastructure like roads, electricity and water, their thought process at least is indicative of the fact that they now have a new benchmark for what development should be like as compared to the unawareness of before. This itself is a big recommendation from BOP respondents of how mobile telecom infrastructure growth has benefited them.

Mobile growth is also seen as a great enabler both socially and professionally which no other infrastructure makes possible according to the rural male and female respondents. Respondents like Ilyaz who lived in Jatoi, Manu in Kundur and Zayed Khan in Sonargaon and Shaima Aga in Bangladesh and Divya in India all suggest that it is only because of the growth of mobile telecom that they can afford to have a phone today. Jatoi till four years back had

hand counted land phones with most of them being in the houses of the richer traders and the most public ones being the one in the post office and two in two different village tea shops. Today, Ilyaz estimates that at least 30% of residents in Jatoi have phones. Manu believes that because mobile ownership rules are so respondent friendly that someone with limited education like him can also have the confidence to go and buy a phone on his own which would never have been possible for him to do if he had to apply for a landphone. Zayed on the other hand suggests that mobile telephony growth in his village has opened up the possibility of a new business for him and many others who were previously unemployed. The women, on the other hand, feel that the reality of their having a phone even becomes possible because of the way the entire ecology has grown, constantly reducing costs. They suggest that had mobile phones been as expensive as 10-12 years back, they can have never imagined being mobile owners.

Even competitors to mobile telephony like public phone booth owners in both urban and rural locations are found to be in praise of the growth of mobile infrastructure. This is mostly in response to the quantitative finding of a distinct reduction in public phones in rural India. However, even in other countries, like booth owners in Bangladesh and Sri Lanka, indicate that the definition of public phone is now changing.

In India, rural phone booth owners agree that less people come to use phone booths these days, having their own mobiles but it has not put them out of business. Knowing substantially about telecommunications from before, both in urban and rural areas they are the first ones to identify this opportunity and have started to keep mobile recharges and subsequently doing reloads. In Paithan, mobile service providers give mobile dealership to those who have an existing infrastructure first. One phone shop owner in Paithan points out that while he previously only had land phones from which villagers used to talk he now keeps new handsets. He uses his own handset to make calls and manages e-loads from it. He no longer has the land phones since their functioning is erratic, often due to some problem in the line. He has now replaced his land phones with two mobiles and gives those to customers to make calls. The charges are all comparable at 1 INR (USD 0.020) per minute and now he can even sell them e-loads and scratch cards. On being probed at this juncture on the element of pulse rates, he states that people do not care about pulse rates nowadays since the people they are calling are also mobile users. So, if they called from landlines, they will end up paying more. On a personal front, he also adds that he now has low maintenance costs, can have a smaller shop area and can even earn while at home, reloading from his home and not being dependent on the land phones. To him and other respondents in the same group discussion, their shops are still public phone shops.

However, in specifically pointing out that by public phones the researcher means coin phones installed by the government, the respondents in the group suggest that they seemed to be growing lesser as they are more difficult to maintain. Such phones are often left under a shed open to rain, heat and rough usage and as a result when they stop functioning, now less efforts seem to be made to repair them. Mobile phones, on the hand, are always working and as long as people get the service they seek, it does not matter to them whether it is a government phone or a mobile phone. Another respondent also indicates that with the growth in mobile phones, people no longer collect

coins to make calls. As a result, even if the government phone may be the first on the way, they will still end up coming to these shops since they may not be carrying change.

In Bangladesh, the opinion over the status of public phones is equally mixed. In the male group discussion at Sonargaon, the opinion is divided equally between whether the number of public access phones has increased or not. In both the male and female group discussions in Dhaka, the general perception is that the public access phones are diminishing. These responses emerge after the clarification that by public access booths, the research does not focus on individuals renting out their own phones from any kinds of shops they may have, while initially the prompt response is that public phones are growing very rapidly. Most male respondents of Sonargaon claim that there is no such thing as a government installed phone. It is the individual booth owners who started the service. The outcome of such perceptions is that what is now understood as a public access phone is now variable. Very few understood it as coin operated phones put in place by the government, in which a shopkeeper outside whose shop it is placed, may have some stake to it can be completely stand alone. In Bangladesh, such phones are not even found whereas shopkeepers who reload, grocery store owners advertising a 2 taka / min (USD 0.028 / min) call facility or even saloons which allow people to make such calls are understood by people as public access phones.

At the present, in both urban and rural Bangladesh, the 2 taka / min (USD 0.028 / min) call phones which can be a land phone or the shop owner's mobile phone are equated with public phones. These shops are many and available within very short distances, in Dhaka this being less than 500 metres in most prominent localities. There are no special permits for these shops as most of them use the shopkeeper's individual handset and the pricing model for these booths is also not sanctioned. On being asked whether this 2 taka (USD 0.028) is authorized by any regulatory body, the response of the few shopkeeper respondents is that they have followed suit from others who started it and they do not know whether it is regulated. Their rationale for charging 1 extra taka (USD 0.014) is that it is the only profit they see since vendor profits from scratch cards and e-reloads are less than 50 paisa (USD 0.007) as approximated by a shopkeeper.

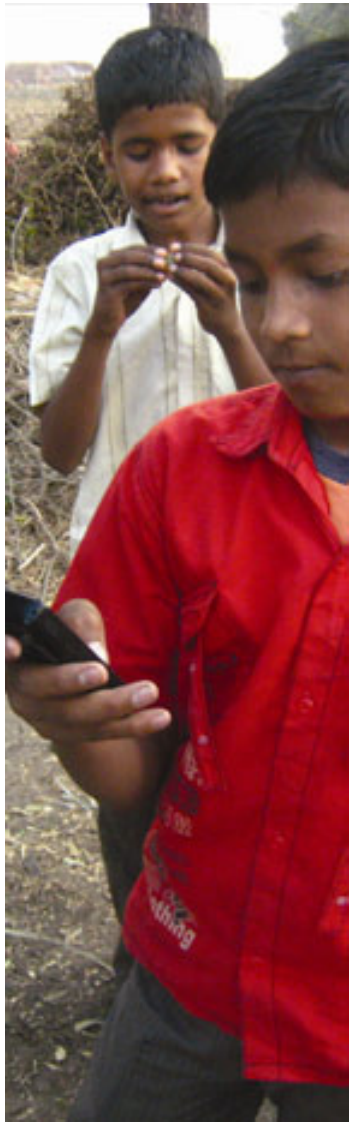
In terms of consumer awareness about this 1 extra taka, (USD 0.014) consumers indicate that they are fine with this expense since prices of phone calls have come down from 7-8 taka / minute (USD 0.098-0.112 / min) in the last three years and they are ready to pay the extra sum to have this facility so close to their individual locations. In a mini-ethnography conducted with a vegetable vendor (Mohin Mohammad) in Dhaka, he points out the ease of these shops as he can make a call while remaining on his regular vending route. He does not have to leave his cart behind or go out of the way, disturbing his sales, to make a call. Sometimes, if he happens to be on a call and a buyer comes, the phone shop owner chats with the buyer till he comes out. Sales are not hampered and nor does he have to make an additional effort to go out and make his calls.

In Philippines, even though there is an abundance of public phones in all major areas of congregation, users seem to rely heavily on mobile phones for meeting their needs of communication. SMS usage is the most preferred means of interaction and public phones do not afford such communication. Many respondents from the group discussions mention that they use public phones only in cases when they run out of credit on their phone. Mostly they prefer to borrow a phone rather than going out specially to make a call. Some of the respondents can not even recall when they had used a public phone for the last time.

Sri Lanka alone emerges as a country where no decline has occurred in public phone booths according to the respondents. Public phone booths are well visible in Kandy and respondents feel that they are equally useful. The female respondents are quite comfortable using public phones and prefer making calls from these phones than from the Communication shops. In Katudeniya as well such phones are well placed. The reason for their sustained use of public phones in Sri Lanka seems to be that they are already well developed in comparison with the other neighboring countries and as a result, even if their current rollout is static, their presence is more frequent and utility perceived to be greater than in the other countries.

As a result, it is observed that mobile telecom infrastructure is one of the fastest growing infrastructure experience observed in all these countries. This is leaving a significant mark on the minds of residents, irrespective of location. Respondents in urban areas respect the ease with which they can today connect with their social and professional networks, enabling them to do more in life. Respondents in rural areas are glad to be simply connected in the first place, reducing for the first times in their lives, significant gaps between urban and rural living.

Adoption Narratives



Mobile adoption at the BOP is being driven by the need to stay in touch with people. The primary reason for most respondents in this study for adopting a mobile phone is always to be better connected with people. This predominates over business needs, individual wish and requirements from prevailing social conditions. Some other factors which contribute to mobile adoption are the influence of existing mobile owners in respondents' social circle, to keep up with societal trends, the ability to do more or improve work efficiency through mobile communication, challenges posed by shared use and to react in emergencies as well.

The primary adoption story from this research is the need to stay in touch with friends and family members. BOP respondents in all the countries are using mobile phones to communicate more with their regular family members when collocated as well as to bridge gaps with those left behind while migrating from their native places. In all the countries, the primary need is to be able to connect with one's nearest ones in order to know about their well being, provide help and advice in need and reduce one's absence even when people are thousands of miles away. In all the countries, respondents indicate that the people they call first are their family members. They have purchased their phones first to be connected and only then to do other things like improve their businesses or seek new clients.

In India, we observed a sub set of this need to be connected with family members in particular connection with female relations. It is seen that men above 20 years of age and women above 45 years, are buying mobile phones to stay in touch with female members of their family, especially after they (wives, daughters, sisters, girl friends and mothers) are either married away or stay away from them. Many respondents from all the male group discussions in India mentioned that the need to buy a mobile phone came into existence for them when a female member from their house got married and moved to a distant place or when they themselves left their wives and mothers behind either at home or even in their native places. It was strange to discover younger men in India purchasing phones to remain in touch with their sisters and there seemed to be a discrepancy in what was being said. On probing, one realized that the phones of these young men were actually paid for by their parents and it often coincided with a sibling's wedding. The parents indicated to the younger boys that they have bought the phone to connect with the sister and not for their purposes. In reality, parents could still connect with their daughters without purchasing a phone but it is the son's hankering as well growing needs within the home which drive them towards such a purchase. Parents, however, tend not to mention these two causes so as not encourage sons to hanker for more while at the same time project their own needs as that of the family.

Male respondents above 25 years of age, who are unmarried, married or have older parents, suggest that they need to have a phone to be able to connect with their girlfriends, wives and parents at any point of time to ensure their safety as well as to remain contactable from their side as well. Such a need arises with growing urban crimes in households as well as the fact that wives, daughters and sisters are often ill-treated in India by in-laws. Husbands worry about the security of their wives in their households while brothers worry about their mother's health and sister's safety in her in-laws place. As a result, in India for sure and to some extent in Bangladesh and Pakistan as well, it is seen that male members of the households like fathers, elder brothers or husbands not only buy phones for themselves but also buy phones for their girlfriends, wives, daughters and mothers as soon as they are able to afford a second phone. Many even kept their own phones at home, considering that there may be more emergencies rising from home than with them in their work places. Men in India, Bangladesh and Pakistan, are more likely to buy phones to bring their mothers, wives, girlfriends and sisters into connectivity whereas daughters are given phones less immediately by fathers and require the insistence on their security by another female member of the household, especially the mother. In Sri Lanka, men are seen to be more likely to give their own first handsets to their sisters while purchase new ones for their girlfriends.

In the South East Asian countries, however, no such need to protect or be aware of their women's status are felt by men. Women are more independent and are buying phones out of their free will and on their own. The need to connect with people back in the native village and conversely the need to connect with people who have moved out for work is also seen as one of the factors leading to the adoption of mobile phones. Not just mobile adoption but even the phone usage of BOP respondents in Thailand and Philippines, is substantially driven by the fact of their close contacts living in a different place. During one of the discussions in Philippines a female respondent mentioned that owning a landline is not affordable for them to be in touch with their family members since landline to mobile calls are very expensive and the fact that their family members use international SMS to conduct most communication, means that they also have to move to the same technology as otherwise reverse costs would also be too high for them to sustain.

In Bangladesh, a phenomenon that was also observed unlike in India, Pakistan, Sri Lanka, Thailand and Philippines, was that male respondents above 25 years associated a feeling of isolation and nostalgia for their roots to be the cause for their mobile ownership. This was particularly high from 45 onwards (Saleem Afeez) where it was understandable that the older generations felt left out from their traditional societies due to the need to earn in a difficult city but even 20 plus young men who had migrated to Dhaka and had many friends and plans, also conveyed an overbearing sense of loneliness in their lives. In the Dhaka mini ethnography with Mohin Mohammad, the vegetable vendor indicated that although he meets people the whole day, lives with friends in a shared accommodation, he still felt that the only time when he was truly connected was when he talked to his family members and friends in his village. The same was reiterated over and over again in the group discussions as well in the home visits with external migrants in Bangladesh.

BOP respondents are also buying their phones after realizing how useful mobile phones are to act in emergencies. There are numerous incidents when respondents have faced emergencies but not owning a mobile phone, they have been unable to react in the best possible way. The inability to react prompted them to make this important decision of buying a mobile phone. Dinn in rural Thailand faced such an emergency when he was chased by policemen for breaking traffic rules and had to spend a night with one of his friends. His friend's family did not have a phone and nor did he. He also could not go out. As a result, he could not inform his parents about the incident and they remained worried about his whereabouts the entire night. In another incidence, he had gone to Lamphoon for a party and got lost in the middle of the night. Some of his friends had mobile phones but he did not and neither did he remember their numbers so as to be able to call from a local phone. He got really scared and sought police assistance to drop him at the bus station. After this incidence, owning a mobile phone became an absolute necessity in his life.

In Bangladesh, in the female group discussion in Dhaka, Sana Meera pointed out that her house which was previously a bamboo and tin tenement caught fire during the burning of dead leaves started by someone. Her husband who is a trishaw driver must have been at the nearest rickshaw stand 10 minutes away but she could not get his assistance because she had to save things first. She informed her neighbors but in the commotion her husband was quite delayed and they lost a lot of things. In Pakistan, Mrs. Yasir Aziz pointed out that three years back she had fallen severely ill. Her husband and son had to go off to their works and one day she had fainted with no one to help her. It is only when one of her daughters came back from school that neighbors were called and their assistance sought to get her husband. Mrs. Aziz feels she could have died that day and the thought of it made her decide to buy a phone before any other household necessities once her son went abroad. In Kandy, two trishaw drivers and one in Dhaka, similarly pointed out that all of them had trishaw accidents with them being hit from the back in the dark and the Dhaka driver getting toppled over not seeing a big crevice late in the night. They were badly injured and had no one to help them. The Kandy drivers, in spite of their anger with the other party, still had to take their help in getting back to the city center while the Dhaka driver had a harrowing experience of somehow managing to pull himself out and then spend the whole night there as he could not lift up his vehicle and nor could he leave it there. Such incidents made them purchase their phones a year back.

Not only the inability to react in emergencies but the inability to receive an important urgent message also led to several BOP respondents deciding to buy a mobile phone of their own. Before owning a mobile phone, these respondents were mostly dependent on shared usage of phone to receive important information. A female respondent from a group discussion in India stated that she had not received the sad news of her brother's demise on time because her neighbors were not in town and she depended on them for receiving calls. Since this incident her husband and she decided to buy a mobile phone for themselves. Another female respondent from a group discussion in Philippines pointed out that she had given her friend's contact number at a place where she had applied for a job. The company had hired her and had called up her friend to inform about the offer. However, the

friend forgot and she missed out on this opportunity because she did not go in time. Since then she felt that owning a mobile phone will help her receive information on time and will also help her in finding more jobs.

Since many of BOP users have begun their access to mobile phones as sharers, the discomforts of phone sharing also motivate many respondents to buy their own phones. This is visible most strongly among the women in Philippines and Thailand and both men and women in Bangladesh. The female respondents from South East Asia mention that they feel they are intervening in other people's private lives whenever they use their phones. They have to navigate through their call lists and at times by mistake they also end up going to their inboxes. From their own side, they are also unable to carry out private and personal discussions in such an atmosphere when the phone owner is hovering nearby. They also felt that receiving too many calls or the need to use phones sometimes at odd hours lead to uneasiness in relationships and such perpetual stress around what the other would think, motivated them to buy a mobile phone of their own so that their usage can be more personalized and not disturb others.

In Bangladesh, for all respondents, a secondary reason which motivated most users to purchase their own phones was the negative experiences around phone sharing. Respondents indicated that they have all had some bad experience but the degrees of seriousness were different. They have seen friends lie about not having balance or women being indirectly told that if they have so many calls to make then maybe they should buy a phone. Phone owners who give their phones to others ensure they give the phone when there is a balance of about 5 taka (USD 0.07) in the phone. If they have more money, they make excuses of expecting calls now and ask the borrower to come later. In spite of all excuses they still give their phones because the users are known to them and at some point they have also used someone else's phone. However, for the non-owners such refusal, denial and snide remarks, harm their self esteem and while the male respondents claim that they do not want to harm their longer relationship over phone use and prefer to use public phones or buy their own, women bear such insinuations as far as possible but otherwise, limit their usage till they get their own phones. Shared use being a problem and hence, a major motivator to purchase one's own phone, is not found very emphatically in the other three countries in South Asia. There is a basic level of discomfort which most respondents, especially men in the 18 to 35, talked about, but this did not necessarily drive them to action as it did in Bangladesh.

The fourth major reason for mobile adoption is that substantial sizes of the male BOP respondents who are daily wage workers, in all the countries in this research, believe that owning a mobile phone will fetch them more work as they will be accessible to people who seek their services. They feel that owning a mobile phone will give them an advantage over non-owners as they will be preferred by their superiors because of easy accessibility. They have seen people in their social and professional circles benefit from such mobile usage and have thus decided to buy one for themselves as well.

Many male BOP respondents who took up mobile ownership in the last two years are seen to have made conscious 'investments' in mobile phones and expect some return of investment from them. Zayed in Sonargaon and Devraj

are prime examples of such conscious profits being sought from mobile adoption. Both these men had already seen people around them benefit from mobile usage and had realized how important it can be to enhance their businesses. They had saved money to buy a mobile phone and are happy with their investments. The fact that mobile phones are effective tools for increasing business, reduce travel time and effort and hence, save money, apart from expanding one's business network, are some of the factors that both of them had considered before buying a mobile phone.

In Zayed's case, he estimates that remote coordination via his mobile phone enables him to save money, time and effort. He previously had to travel to Dhaka to get his supplies almost every two weeks to a maximum of once month. These were non-Fridays so he had to keep his shop closed losing business. He also had to spend about 250 taka (USD 3.50) on each of these trips - 25 taka (USD 0.35) for rickshaw to the main bus top plus 50 taka (USD 0.07) of bus fare for each way and another 50 taka (USD 0.07) on the rickshaw transportation on return. This was doubled since he would come back with his heavy stocks. Another 50 – 75 taka (USD 0.07-0.98) was also spent on eating in Dhaka. This entire activity would span an entire day (about 10 -12 hours). Zayed thus spent about 500 taka (USD 7.00) per month on a minimum, to acquire his stocks alone from Dhaka. This has now come down to 10-20 taka (USD 0.14-0.28) for talk time with his suppliers and fifteen minutes of communication each time, resulting in about 460 taka (USD 6.44) savings as well as eleven and half hours saved in travel time as well. In exchange, Zayed now recharges for 20 taka (USD 0.28) on average and it can last him between two to three days on an average. His mobile expenditure is now around 200 (USD 2.80) to 300 taka (USD 4.20) and it includes talking to others as well, which he said he could not even account for how many times he would have to go to their houses and spend something on rickshaw fare in the past. Saving this time and money on stock gathering, Zayed is now able to start a chicken selling business. He buys the chicken from a farmer who guides him on the right time to purchase and sells them to buyers who come to his shop. He sells live chickens and buys a hundred chickens at a time.

In Dhaka, male respondents like mechanics, plumbers and painters said that they would end up spending roughly 100 taka (USD 1.40) to go and seek information on jobs alone and this would largely be in paying the rickshaw fares. The time spent varied anywhere between 2 hours to up to 8 hours if multiple people had to be visited. This has now come to about 20 taka (USD 0.28) per day and calls can be made as per convenience spending an average of four to five minutes per contact.

In Devraj's case in Paithan, it is seen that he saves 400 to 500 INR (USD 50) per month on travel. Before owning a mobile phone, he had to go to Paithan main town to even source the fodder for his cattle as well as find new contacts for his milk business. He would spend about 1500 INR (USD 30) on petrol alone for a month but now he no longer makes physical visits for such sourcing and information gathering activities. He is able to communicate with local businesses on their milk requirements within 2 to 3 minutes and visits them for formal dealing when he is anyways there on other days. He also picks up the fodder on his way back home having called to ask them to keep it in stock for him. As a result, he is now saving at least for 4 -5 hours on multiple visits which he used to undertake separately

before above and beyond his regular delivery. He now spends 1000 INR (USD 20) on petrol and another 100 INR (USD 2.00) on monthly mobile bills, saving upto 500 INR (USD 10.00) regularly.

In Sri Lanka, in Katudeniya, most respondents from the group discussions as well as the male ethnography claim that they save about 300 SLR (USD 2.40) in total travel expense by not having to go to Kandy for any and every kind of little information. Respondents said they would spend 100 SLR (USD 0.80) on to and fro bus rides to Kandy, another 100 SLR (USD 0.80) for internal movement within Kandy by bus and an additional 50 to 100 SLR (USD 0.40 to 0.80) on food for the day. The time consumed for such travels would be about 5 hours minimum. Such an effort is now replaced by a maximum of 20 SLR (USD 0.16) worth talk time and about 20 minutes spent in duration at the maximum. In Kandy, three respondents said they would end up spending roughly 500 to 1000 SLR (USD 4.00 to 8.00) to go and seek information from their bosses in Colombo. An entire day would be spent in the process. This has now come down to a call from their bosses for about 15 to 30 minutes at the maximum if detailed instructions have to be given. Whereas previously most supervisory job holders had to travel to Colombo at least once a month, now they do so perhaps once in six months or even less.

The need to own a mobile phone after looking at the benefits that other people are deriving out of mobile usage is not the only influencing factor of the respondent's ecology on him. In several cases mobile phones are just purchased because they are becoming a 'fad'. This is particularly true for the younger respondents. In Philippines, one respondent in the group discussion in Manila mentioned that since he did not own a mobile phone, he felt left out from parties and other congregations as he would not receive the news of such occasions on time. All the people in his circle had a mobile phone and he felt that even he should own one to feel 'included'. Similarly, several respondents in Thailand and Philippines admitted to having purchased their own mobile phones as they saw most people carrying a mobile phone in their day-to-day life. In the absence of a real need to use a phone, their desire to own a mobile handset is a mere personal fascination with the device which have to be gratified. In Thailand, even though Dinn mentions several factors that triggered his decision to buy a mobile phone, it is observed that all his friends had a mobile phone prior to him and he also spent considerable time persuading his parents to buy one for him. Eventually, his brother got him his first mobile phone and Dinn felt a sense of pride in the fact that his handset had better features than his friends. In Jatoi, in Pakistan, the younger sons of Abed Ansar are even more innovative in their 'proxy - mobile ownership' behavior as they cannot get individual cell phones from their father. They are meeting their needs to stay in touch with their 'on phone' social circle by convincing their father to buy two additional SIMs as their migrant elder brother also has 3 SIMs. Their father is using just one SIM and the remaining two are used by the two sons. The other two SIMs, in fact, remain not with the father who paid for them but with each of the sons depending on who has more friends on which network. The father is made to feel like these SIMs are his own since they do allow him to make calls at times from them but overall it is they who make use of it much more than the father who both paid for them and now pays for their reloads as well.

In several cases, mobile phone adoption is also being initiated by supervisors or bosses. It is seen that either the bosses have handed over their old handsets to their subordinates or asked them to buy one because it is easier that way for both the parties to coordinate their work. Asking the subordinates to buy a mobile phone or just providing them with one relieved the bosses to a great extent. The bosses could coordinate their work remotely and were not required to be present with the worker all the time. In Philippines, Rita's boss had handed over his old handset to her when he bought a new one. Even though Rita quit her job, she decided to retain the handset as she really liked it. Similarly, Carlo had also been using his phone to coordinate with his boss in rural Philippines.

In Kandy, many respondents who were in supervisory roles like stockists, security guard and office assistants from the group discussions mentioned that they had been asked to buy a mobile phone by their superiors or in some cases have been handed over a cell phone for effective coordination. These men were supposed to give missed calls to their superiors once in a day to inform them of the status of things and if they were required to do anything more. Mobile ownership, according to such respondents, has made it easier for them to make their bosses aware of latest developments, save on travel and even do more work effectively.

In Soanrgaon as well, male respondents who were involved in poultry farming were asked to buy mobile phones by their superiors. In one case, a respondent was given a new Nokia dual sim phone for his good work remotely. In Nasik in Maharashtra as well, Deepali's aunt also asked her to buy a mobile phone with her first salary so that she could stay in touch with her regarding work and keep her informed on the workload. In the rural group discussion in Thailand as well, a respondent mentioned that he wanted to own a mobile phone but did not have the income. However, when he started working in a factory as a laborer, he was given a mobile phone by the company which funded the cost and the money is now deducted from his salary in installments with which he is very satisfied. In the course of this entire research, it seems to emerge that almost 60% of the respondents said they are remotely managed while another 40% (older and in supervisory roles) said they manage others remotely. However, this concept of remote coordination, in the average working level, although it is actually happening at all times, was not really realized by most respondents. They believed that only people with power can manage while they were very small individuals. On being given instances of remote coordination, however, they all said that most of them did indeed undertake some amount of remote management.

In terms of the influence of the social ecology, many BOP respondents are also buying phones as they envy people around them having mobile phones. This is particularly seen in the case of South East Asian female respondents. Interestingly, these respondents bought their mobile phones because everybody around them owned a mobile phone and they felt pressurized to buy one themselves but after buying the phones, the respondents have now started using them for their work as well. In such a scenario, the respondents have started benefiting from mobile phones in both their social and professional lives and feel that their phones have become inseparable from them. In the words of a male group discussion respondent from Philippines, mobile phone is his "second wife". This pressure to purchase a mobile phone, however, was not perceived to be very strong in South Asia because respondents in these

countries said that although youngsters may feel the pressure more, those who were above 20 – 25, they could not do anything even if their social circles derided them if they could not afford to have a phone. The moment they could afford to purchase a mobile they would. However, respondents in these countries did feel some shame but they had no other options.

Social networks thus emerge as one of the biggest influencers converting a non-owner into an owner. In all the countries it is seen that although respondents (mostly men) have purchased their phones in the last two to three years, they have been exposed to mobile phones through their social circle for more than five to six years. The respondents have used their friends' phones frequently and when it came for them to purchase phones, they relied on their social circle for both buying the phones, choosing their networks and learning in details the functions. In Philippines, respondents consider owning SIMs that corresponds to the ones most commonly used in their circle as a strategy to optimize their expenditures. In India however, the quality of the network is more important than the tele-ecology of the respondent. Even, in such cases, the non-owner usually consults his immediate contacts who own a mobile phone. In several cases where our respondents are early adopters, they instigated mobile purchase amongst their close contacts so that they are able to communicate effectively. Ronnie in Manila mentions how she is one of the earlier adopters in her whole circle and how her circle grew because of her recommendations to friends and relatives. She even states that she recommended them to subscribe to the same network that she had subscribed to for them to be able to optimize their expenditure on communication.

Migration has also almost always resulted in mobile adoption either on the migrant's part or for the family. If the migrant's family lives in an area which faces challenges of basic infrastructure, then the need to own a mobile phone is even higher. In several cases it is observed that migrant workers are the ones who have purchased handsets for their family members with whom they needed to be in constant touch. For instance, Simi had never faced a situation in her past where she had to stay in constant touch with her son because they lived together. However, ever since her son had to move out to the city for work, the need to stay in touch with him on phone has arisen and it is a significant need for her. Since initially Simi did not own any kind of a phone herself, she had to go to the public phone with her husband on a bike. Even after traveling a considerable distance to make the call, she would have to wait for other people to finish their calls. This lead to a lot of wastages of time and effort. Additionally, her son also could only call her on her cousin's phone. Her cousin also had to come to her place on a bike and take her along for her to be able to talk to her son. This kind of constant mediated interaction was a great bother. This went on for two years till her son bought her a mobile phone for her to be able to stay in direct touch with him. Her current usage of mobile phones is primarily to stay in touch with her son. Two Filipino respondents also mentioned that their girlfriends lived in a different part of the province and the need to stay in touch with them motivated the respondents to buy a mobile phone.

Apart from communicational needs, other trends which emerge around migrant worker tele-use are tele adoption narratives with respect to different age groups. Among the elder age group of 35 to 50 year olds, the migrant worker

is likely to have purchased a mobile phone for himself / herself in the last three years on an average. Many of these workers, especially in Sri Lanka, have installed land phones in their homes first, in order to be able to communicate with their family members more conveniently. Since then, they have bought mobile phones for themselves and subsequently, left these mobiles with wives and older parents, while they have upgraded to newer models. Unlike Sri Lanka, where we saw this prominent second stage of purchasing a WLL phone, in all the other countries, the direction is towards purchasing a mobile for home use, especially in countries like India, Bangladesh and Pakistan where respondents found applying for government owned land phones to be complex, requiring extensive documentation and often needing some bribe to process.

Amongst the younger group of internal migrant workers, purchasing their own phone first is the priority. Young, internal migrants, irrespective of gender, often purchase their first phones when they are about to move to a new place or soon after having moved to a new place. Many of them, who have migrated in less than a year, already had mobile phones, which they initially took with them. While male migrant workers either owned or purchased their own phones, the female workers, are given such mobile handsets by their parents for their safety and timely communication, especially in India and Sri Lanka.

Unlike internal migrants who attain connectivity quite easily, external migrant workers, especially from South Asia, used to face substantial challenges around their communication needs. Many of these respondents, who have worked externally four to five years from now, irrespective of gender, claimed that communicating with their families, used to be a major challenge. They had to face the problems of long ques on Fridays (this being a holiday in UAE and having lower call rates) or face the high costs on other days. In their average ten to twelve hours work cycle, their supervisors did not appreciate them spending a lot of time on trying to place a call through and many respondents, especially Sri Lanka women and Bangladeshi men, claimed that they have been publicly rebuked for wasting time.

Similarly, these workers, in spite of having made a call, also often failed to connect with their families because the pre-appointed time had passed or they had not been able to fix a time at all in advance. As a result, both time and efforts were wasted which compelled the more adventurous of the workers to purchase their own phones around four to five years back. These trend setting workers, however, are not the average BOP external migrant workers.

The external migrants, even when they purchased phones, initially had to use their phones in secrecy in order not to break company rules. However, in the last three to four years such regulations have been eased, resulting in the majority of these external migrants, purchasing their own phones in UAE.

Young, female workers, who serve as domestic helps and late 40 male workers, however, emerge as two categories wherein ownership of mobile phones in external migrant workers, seem to be happening post their sojourn abroad. In India, we see the case of Imran, in Sri Lanka that of Dhanambra's father, Ilyaz in Karachi and Abed in Jatoi and in Sri

Lanka again in Dipali. While the older men, are purchasing their phones now with improving financial conditions and getting the help of their children to help them navigate; for the young, female domestic workers, phone ownership is considered to be impudent and a possible cause for trouble by female employers. As a result, these young women need to rely on their employer's benevolence of allowing them to call home once in two months or as Dipali's friends did, they share a phone which they keep hidden.

Another interesting influencer of mobile adoption seems to be the mobile shopkeepers in South Asia. The BOP respondents in these four countries rely heavily on mobile vendors for all sorts of consultation regarding mobile phones from handset choices, network options, reload criteria to problem solving with locked SIMs and changed languages to content insertion in their phones. Respondents see these shopkeepers as experts and rely on them for all sorts of enquiries regarding mobile phones as well as reloads and troubleshooting. Thus a lot of important decisions like which handset to buy and even the network and tariff plan selection are made on the basis of recommendations made by these vendors. As a result, a close rapport gets established and there is a great deal of loyalty towards these shopkeepers from the respondents. The shopkeepers in turn, inform them on new tariff plans and promotions and even recommend a certain offer that will be of use to them. An instance of this is Manu in Kundur, who is an internal migrant living in Kundur but working in Mysore. He has a trusted vendor in his village for anything related to his mobile phone. He does not even get a reload in Mysore but rather calls up the vendor to do the same and pays him later when he visits his village. Since Manu visits his village every weekend, even the vendor is assured of timely payment. Similar scenarios are reported by several respondents from the male group discussions and other protocols in Bangladesh, Pakistan and Sri Lanka as well. Since these vendors also acted as important mediums in sending remittances, as in Bangladesh, having cordial relationships with them help these respondents avail certain privileges like timely flow of remittances, information on new promotional offers in Sri Lanka and what they can do for cost saving in Pakistan. However, certain factors like not receiving the e-loaded credit on time impact these vendor-customer relationships adversely and will be discussed subsequently in the report. The vendors are the face of the network and although it may be a technical problem, respondents blame the vendors for such inconsistencies in service and that is when such relationships deteriorate.

The type of handsets to be bought and the network to be subscribed to are also influenced by media presence in the respondents' lives. They watch TV and learn about new tariff plans and promotional offers as well as Mobile 2.0 services. TV is in fact seen as the first major investment in their lives and the second major investment is mobile phone for the BOP respondents in India. Media consumption through television is far higher in these respondents as compared to other print or broadcast media due to challenges posed by literacy and income respectively. The respondents not only rely on TV for any information needs but also learn a lot about societal trends by watching new products and service offerings on it including those related to telecom products and services.

The adoption narratives of BOP respondents are many and complex. While the early rush of adoption has been based on the need to connect with families, the future need to adopt seems to be centered on developmental

opportunities facilitated by mobile ownership. The BOP user is beginning to perceive mobile ownership as an investment from which they expect beneficial returns whether it is in acquiring more earning opportunities or keeping them well connected, although both are not necessarily exclusive in any way.

Social Network Mapping

Teleuse of BOP respondents are highly dependent on their social networks. Apart from work purposes, they seem to be spending a lot of time and effort on maintaining their social networks.

Social circle of the BOP respondents primarily involve family members and friends. In all the countries it is seen that the need to connect with family members is not only driving mobile adoption but also impacting actual teleusage. Most respondents in this study indicate that they call some family members and friends at least once a day when they live within the country. For external migrants the frequency is about two to three times per week with one's own family members being the primary recipients of such calls. The social network for external migrants becomes narrow when they are abroad since they cannot call relatives over family members but an interesting resurrection of the circle is observed as soon as the migrant worker is back in the native place. A new mobile connection is taken and interactions with friends and family are revived. Overall, it can be observed that the larger the number of one's contacts having mobile phones, the easier it is for people to connect with them and even the frequency of the connect is far higher than if they had landline phones or no phones at all.

In all the four South Asian countries it is observed that the BOP respondents rely heavily on their social contacts for information, employment opportunities and an overall sense of well being. Friends are the first point of reference for jobs, guidance on directions and financial consultation and family members for advice on ways to live, save money and future plans. With both parties now being mobile users, mobile phones are becoming the tools that enable such interactions and various schemes and provisions are available to enhance such social interactions. In Bangladesh and Sri Lanka the F-N-F (Friends and Family) offer has brought more density and texture to the social networks of the BOP users. Saleem and Saeeda Afeez in Bangladesh who are in their late 40s have both activated the F-N-F function in all their SIMs. They can have 3 people in the F-N-F scheme per SIM card. Having 5 SIMs between 2 of them, they can now call 15 people at 60 paisa / minute (USD 0.008 / minute) instead of 1 taka / minute (USD 0.014 / minute). They have become aware of this service through their local flexi shop owner. Since these are the 15 people they mostly talk to, they believe they save about 200 taka (USD 2.80) per month while they only have to pay 20 taka (USD 0.28) for the facility. The cheaper calls have strengthened their social networks drastically because now both the husband and wife talk with family members both in Dhaka and in their native place in their free time. They remain close to their relatives and do not feel like they are visiting their villages after ages when they go home, as they used to feel before.

In Sri Lanka, Dhanambra also feels well connected to his cousins in Colombo although he has not met them for more than two years at the time of the visit. He has put two of his cousins on a similar scheme and they talk at least once a month. These calls serve as advisory talks with people of his own age group or who have similar experiences as him in guiding him towards the right courses he should study or the employments that he could try for both in Kandy as well as in Colombo. Dhanambra says that he feels confident that his cousins can guide him to jobs in Kandy as well because they have worked in the city before and as a result, his faith in them is stronger than on his own father.

Trying to understand social networks from a gendered perspective, it has been observed that amongst the BOP respondents, the social networks of females mainly comprise of their family members, friends and neighbors.

Women in South Asia alone are quite reluctant to interact with strangers having experienced harassments on phones and can not really extend their networks unless they did some work. Men, on the other hand, however, have their social networks overlap with their professional networks.

Male respondents are surrounded by a lot of people who are similar to them. A trishaw driver in Sri Lanka has several similar trishaw drivers as his friends, a daily wage laborer in Pakistan will have similar people around him with whom he goes to work and the tie they share fall under the broader category of friendship. Interestingly, the individuals are all mutually dependent as they recommend work for each other and even act as sources of information and guarantee for the other. In such contexts, mobile phones are found to facilitate such symbiotic relationships. A male group discussion respondent in Thailand, mentions how his fellow drivers are important contacts for him as they consult each other for work related information while also entertaining the other in their free times.

In another scenario, which is more prevalent in the South Asian context, family members are often business partners displaying a variant of overlapping social and professional networks. Imran, who is a furniture and carpets artisan from Mumbai, is establishing a business for his sons with the help of his nephew who is in the same business. His nephew is helping him around with practically everything and Imran's shop is actually like a franchisee of his nephew's business. Since their shops are not in the same area, most of their coordination and communication is being mediated through mobile phones and they are not in a competitive frame since Imran sources his materials and his workers all from his nephew's shop and connections.

Interestingly, slight fuzziness of social ties, however, is experienced by the urban male respondents in Thailand. 4 out of 5 respondents in a discussion mention that they have witnessed a reduction in their ties with their friends. They state that earlier they used to meet their friends in person and now most of their communication happens through mobile phones and they do not get to see each other as frequently as they did earlier. In contrast, in all the other countries however, it is seen that social networks have become denser and have also expanded in size. In Philippines for instance, respondents in the urban male group discussion indicate how they meet very old friends and

stay in touch with them conveniently by exchanging phone numbers. Even within Thailand, both Dinn and Lenny are in constant touch with their friends and are using their phones to maintain these relationships. Dinn feels that his not having a mobile phone had led to some sort of an alienation from his group of friends. The introduction of a mobile phone in his life has rather helped him overcome that challenge. Lenny on the other hand had made calls to his friends to look for a god job for himself. Another Filipino male group discussion respondent feels that he was left out of all the major parties that his friends used to have because they were unable to coordinate with him through mobile phones. Ever since he bought a mobile phone, he feels a restrengthening of his ties. He states that with mobile phones sending invitations for parties is easier as the invitation is typed only once and then sent to various people at one go. On the other hand, calling each of the guests is more expensive as well as time consuming.

Mobile ownership is also opening up new ways of cherishing one's social networks. Asians are considered to be less effusive verbally when it comes to expressing personal emotions. They have problems expressing their true feelings in front of a person and now mobile phones are coming to their help even in this. A female group discussion respondent from Philippines highlights how mobile phones have strengthened her ties with her sister through text messaging. She mentions that text makes her capable of communicating things like "I Love You" to her sister. In normal life saying such things will put her in an awkward position while text helped her convey the message effectively. Another lady respondent in the discussion states that she can use words like "Honey" for her husband on text but in real life she would not do it. So the ability to convey the right emotions has made these relationships stronger. Overall, in all the countries in this research more text and picture forwards being sent with message contents ranging from festival greetings to good morning – good night wishes, love poetry and hearts can be observed. Such forwards serve as a connector between both the sender and the recipient(s) indicating that the other is thinking about them on all special occasions and in various different ways. While messages of these kinds are sent to parents as well in the South East Asian countries, in South Asia, it remains confined to people of the same age or slightly above. Only in Sri Lanka in some cases, one can notice special messages for mothers being sent by their children as seen in a home visit, a mini-ethnography and a group discussion. Interestingly, all the respondents in these protocols are females. Fathers, unfortunately, are not considered the right kind of people to send such forwards to as many of the youngsters indicate that even if they sent it in good faith, their fathers are more likely to reprimand them for wasting money on such frivolous activities and not focusing on their studies and life in general. Mothers were more accepting and respondents could show mothers different things in their phones much more comfortably. Having said that, it has also been pointed out by the same youngsters that at times their parents are too curious and go through their phones, which then infuriate them.

In Philippines, another interesting expansion of the social networks is also noticed through text messaging. Filipino respondents are heavy text users and there are a lot of promotional offers that provide them with unlimited text messages to be consumed in a very short span of time. In order to do so, all respondents in both the genders, have discovered an innovative way of entertaining themselves by having a lot of friends in their lives. These friends are often people they have never met and will never do. Rarely do they call and talk to each other, thus they are called

‘textmates’. Textmates are discovered through random messaging and in the Filipino society having a textmate is common in all the age groups. All but one respondents in the Philippines study had textmates. Respondents in Philippines spend a lot of their time and money in maintaining these relationships. Although the nature and content of these interactions is not discussed in detail, but there are indications towards the sexual character of these relationships. Ronnie’s cousin had once gone out to meet one of her textmates but she was intoxicated and sexually abused. In other references to these relationships made in all the group discussions, wives are found to be spying and checking on their husbands and husbands seemed to be making efforts to keep secret their textmates from their wives. In several cases, including Ronnie’s, strained marital relationships are observed. Ronnie has learnt about a tracking service which helps her track the location of her husband as she has caught him cheating on her earlier. She learnt about this service from a friend who is a part of her immediate social network and an important source of information. The textmate relationships are seen to be evolving and the bonds getting stronger. Only in rare cases, do they go bad. The male group discussion respondents in rural Philippines mention that they had even sought load from their textmates and the amount of such load sharings is actually heavier than what is seen in the urban context. In other cases, respondents have even married their textmates.

The discovery of ones’ textmates is also an interesting part of the story where a respondent may get a random message from someone saying ‘Hi !’. Both Filipino males as well as females are very open to responding to such messages with a traditional ‘a/s/l’ (age / sex / location) chatting reply which owes its origin to the World Wide Web. After a couple of such SMS exchanges, the relationship witnesses its progress or withdrawal depending on the preferences of the people involved. In other cases, an SMS that is intended for some other recipient but by mistake is sent to a wrong number also instigates such interactions. Such messages are called ‘wrong sends’ in the Philippines. The textual nature of such interactions is actually one of the major driving forces behind this textmate phenomenon. Text gives the respondents the liberty and the confidence to say things that they will not be able to say in person. This is why it is easier for them to share their feelings, venting out their frustrations with their own social lives by confiding in a textmate. Since the other party does not get to see them, poor self impressions are not likely to come up in their conversations and as a result, it becomes a wholly supportive relationship.

A parallel of the ‘wrong sends’ in Philippines is also evident in Bangladesh. As indicated in the gender section, the urban women in Dhaka, under the burden of suspicion of their spouses, were actually beginning to talk to strangers on wrong numbers. Zayed in Sonargaon also has a male friend in Dhaka who is a student. Their relationship got established when Zayed received a phone reload of 400 taka (USD 5.60) by mistake. The actual recipient called him and requested him to send this back. Zayed did so and the previous party was so grateful that ever since then he sends Zayed wishes on Eid, New Year, Valentine’s day and other occasions and the latter reverts. They have also talked on phone once. Zayed finds such a friendship quite pleasing as it is very different from his own life in Sonargaon and he likes hearing about student life in Dhaka University which is something he feels he will never be able to experience on his own.

Unlike in all the other countries, where people are actually proactively extending their social networks, Pakistan and India seem to be the most cautious and prefer to rely only on people whom they already know. Wrong numbers in both these countries are dealt with most sternly and looked at as mischievous tricks of no good people. Even Vikas who is an 18 year old student, is thoroughly averse to talking or messaging people he does not know. He feels his social network is big enough for him not to seek such new people. His opinion is supported extensively by respondents of both these countries who think their families being so large, were quite enough. Respondents in both these countries are happy to extend their social networks only via known family members and business contacts and are even suspicious of first time callers even if it was a purpose that is useful to them.

Social networks in all the countries in this research are expanding and respondents are paying more to remain in touch. They have never spent so much time or money in maintaining relations before but this is not a waste for them. Economic as well as emotional benefits are derived and as a result, people are content to know more people like them. However, a general note of caution prevails in Pakistan and India as to who they can interact with given the socio-political conditions of terrorism and political distrust in both these countries.

Leveraging Social Networks for Business

Social networks are seen to be of utmost importance when it comes to work related matters. In all the countries within the scope of the study, there seems to be an overlap between the social as well as professional networks of the BOP respondents. In several instances, it is seen that the BOP respondents get a lot of work through references and recommendations from their friendship as well as kinship ties.

In the Philippines urban male group discussion, several respondents point out that they receive a lot of work from their friends who may or may not be in the same profession. Borbon, who is a carpenter by profession, gets a lot of recommendations from his friends and acquaintances on repair works. He mainly receives text messages seeking his services and directions to the place he has to visit. In Thailand, in the rural group discussions, majority of the respondents mention that they are using their phones to be accessible to potential employers. An interesting overlap of their professional and personal networks is seen especially in the case of daily wage laborers where they are dependent on each other to provide references on new recruitments and hiring information through mobile phones. In some cases, family members are also seen to be forming an integral part of such networks where those who have already migrated influence further migration by advising their kin on new job opportunities available either in the country or outside. Lenny in Thailand has migrated to Chiang Mai to seek better job opportunities and is taken care of by his aunt living there. He is staying with his aunt and is using her bike to work as a painter in a shop. He is even provided an accommodation by his aunt in exchange of him helping her around in managing her shop. Similarly, in Philippines, Ricky has migrated to Manila from his province because he has the opportunity to work with his aunt in her courier business. He had initially come to Manila from his province in 2006 to look for a job but went back as he could not find any. Later, he came back again in 2008 and incidentally one of his aunt's courier guys had left the job without informing her. So Ricky got the job and since then has been working with her. In fact, Ricky's primary mobile usage revolves around interacting with his aunt several times a day to coordinate work.

Thus social networks are found to play a very crucial role in managing business. Trust and reliability on people who are close to you and them having good intentions for your business are considered to be a significant factor in leveraging social networks for work related reasons. Ronnie is the first resort for her aunt to seek help for her shop when the aunt had newly established her business in Manila and both of them now rely upon each other heavily to manage various tasks related to their works. They are required to contact each other through mobile phones several times a day mainly through text messaging. Ronnie's decision to start up her own business of providing e-loads and asking her husband to do the same with the fellow drivers is another example of where we see BOP respondents

making money out of their social relationships. Ronnie not only sells loads to people living in her locality but a lot of friends ask her to load their credits as well. Zayed in Sonargaon actively seeks inputs from both his brothers and an uncle in order to explore new ways of extending his business. His cousin who is studying is someone he can think of involving in his new ventures since he knows that the latter is reliable. Badru who is a migrant worker in Dubai also mentions that since he has gone abroad following the instructions of one of his uncle, he would also like to help his other cousins do well in life by getting them visas for new jobs in Dubai whenever the opportunity arises.

Another important observation around leveraging social networks for businesses is that the female BOP respondents seem to be initiating more new entrepreneurial ventures than the male respondents. The male respondents are interacting more to get more people involved in existing opportunities like construction work, pulling more relatives abroad or finding similar jobs like theirs in manufacturing units. Women on the other hand, are evolving new service areas like beauty courses, making shoes, home vending, tailoring and embroidery, cooking food, educational assistance, remote parenting and even reloading.

In spite of being late adopters, women are emerging as more entrepreneurial in their thinking and hence, in their mobile usage as well. This is true for all the countries in this research. Ronnie in Manila is one of the most enterprising women in this study, juggling her time between taking care of her domestic responsibilities, managing her job with her aunt as a vegetable shop assistant to having her own barbecue business coupled with recently selling e-loads. She works from 2 am in the night to 10 to 11 pm in a day which just does not seem to stop and in this kind of a lifestyle, she is not alone. In contrast, her husband on the other hand has no mind or interest for business and lets her initiate everything. He is happy with the passengers he gets and does not have to worry about his well being because his wife is pulling their entire family up with her extraordinary efforts. Ronnie, on the other hand, wants her daughter to do well and wants them to have a better life, which is why she is ready to try anything that will enable her to multi-task and make money.

Similarly, Rita's husband who is also a trishaw driver does not even know how to use a mobile phone and is only busy managing his driving. Rita on the other hand, has first spent the major chunk of her life working as a domestic help in Dubai and has now also started her own beverage selling business with little help from her son and is effectively using her mobile to contact her suppliers and manage her business. In Thailand, Dinn's mother has her own business of creating stuffed toys, cushions and pillows. She also takes up some other stitching jobs from the community center or some schools. She uses a stitching machine borrowed from the community center for her work.

In India, Vaishali is seen to be more progressive in thinking than her husband who is an autorickshaw driver. It is evident that her husband is not as hard working as herself by comparing their daily routines. While she works more than 8 hours a day in a continuum between her household and her professional tasks, her husband barely works for 6 to 8 hours and keeps complaining of not being able to make more money. Vaishali has high aspirations for her children's education and is working hard to keep them in an English medium school. She works for a pendant

manufacturer where her job is to insert the pendants into small metal rings using a pair of pliers. She wants her children grow up so that she can move out of her home to work and earn more for their benefit. In contrast, her husband has not even thought that if he cannot make money from driving, then perhaps, he should try other things. The story is exactly the same in Katudeniya, where Dipali's husband who is a trishaw driver, does not get enough from driving but still he does not even consider going to Saudi Arabia which Dipali suggests to him.

In Nasik, Divya's aunt is another example of an entrepreneurial woman who is not only earning her livelihood but also helps other young women get started in life. The aunt has a tiffin supplying business since a long time. She markets her service by visiting neighboring educational institutions to get students to avail her service and expand her business. Through her growing business she has been able to raise herself up to a level and is now pulling up her relatives like Divya by taking them into her business and even instigating mobile adoption for them to improve time coordination and effort management. Divya herself quit education because her parents can not afford it and now by assisting her aunt, she is contributing to her younger brother's education.

In Pakistan, Yasir Aziz's wife is following a similar course. She has started a bleach making business with the help from an ex-colleague and even runs a candle manufacturing business in parallel. She learnt bleach making from her husband's colleague and is currently assisted by her husband. Again it is her who initiated the business and her husband is helping her with it. At the same time, she still plans to expand her candle making business by getting back to it and getting better rates of raw material for the same which she feels she shall be able to do using a mobile phone. She even trains her neighbors in making candles and believes that if she knows something and can teach others who can then make a living out of it; it is her good fortune to be able to be the medium of their social upliftment. According to her, in a country like Pakistan, where the government does very little for the people, people have to help themselves to be able to live their lives.

Similar stories are equally visible in both Sri Lanka and Bangladesh. In Kandy and Katudeniya, the beauty business and selling garments emerge as two of the most frequently done businesses for women. In an ethnography conducted with Tanuja, in Kandy, it can be seen that she is currently running a home salon where her neighbors are her first customers and she even gets outsiders who require her services. She has been brought into this line after failing to complete her education by her aunt who lives nearby. The aunt has been a talented dressmaker and beauty enthusiast on her own and used to do small jobs but when her niece was in trouble, she encouraged her brother-in-law to allow Tanuja to attend a beautician's course. Her father agreed only to the condition that she herself also accompanied Tanuja. As a result, the two attended the same course and now share clients and tasks. Tanuja who does not have a good showcase in her house, stores her handmade bouquets for weddings with her aunt. She also helps her aunt when the latter gets too many customers and the aunt sends some customers to her when she knows that Tanuja is going through a lean period. Out of the two women, the older aunt is more proactive with her advertising her salon and even photographing her work which she is trying to teach the younger girl.

In Bangladesh, the wife of Mohammad Abdul makes potato chips and packs sweets at home which she then gets her husband to sell in the village shops. She is teaching the same skills to her sister-in-law who not only does this but also conducts tuition classes in the evening for the kids in the neighborhood. As a result between these women they can not only supply snacks for social events in the homes of villagers but the sister-in-law imparts valuable assistance to the children of illiterate parents by supervising their studies. She is not only earning herself but also helping her neighbor's children in the process. Similarly, in Dhaka, Shaima who is a tailor, also teaches other girls in her neighborhood and does embroidery and dress making work for her neighbors. While a regular dress costs 100 taka (USD 1.40) to make, she makes them for her neighbors for 80 taka (USD 1.12) which makes them come back to her apart from the fact that she is a good tailor as well. She believes that by teaching these girls she is not only improving her teaching skills but when she will have too much work, she will be able to fall back on them to complete her orders.

As a result it is evident that the social networks for BOP respondents are imperative support systems in their attempt towards economic well being. These respondents not only receive help in the form of information, advice and even money but they also feel a great sense of responsibility towards their networks. Many of them having been able to find a livelihood through their friends and relatives now feel committed to do the same for the next generation.

Trust and Credibility

Trust and credibility are crucial factors in an interaction of a user with a technology or in interactions between two parties which are mediated through technology. Credibility comes into play when respondents are dealing with important business related issues on their mobile phones, when financial transactions are being carried out or new services are experienced. Trust is equally important while sharing phones or having textmates as well.

Trust and credibility on mobile based interactions whether for personal or professional purposes, is equally ambiguous in both South and South East Asia.

When it comes to business purposes, concerning financial transactions and one's reputation; trust and credibility remain in personal, one to one and face to face communication. In all the countries in this research, most of the respondents prefer to interact face-to-face for business related matters. They feel that they will not rely on interactions over phone but will rather want to have a face-to-face interaction to ensure that the important conversation happens effectively. In their opinion, such interactions ensure that the message is conveyed clearly and is received by the other party without any ambiguity. As business matters are important, they require special attention from the respondents ranging from proving one's own credibility by being physically there to showing the other party how important they are for you by being physically present. This does not, however, mean that

respondents distrust mobile technology. They trust it enormously but have difficulties imagining how financial transactions can be undertaken using a phone. The majority response is that such services will have to prove their credibility as they have to do in business for people to trust it with their hard-earned money.

Interestingly in all these countries, lack of trust on the person with whom the interaction is being carried out seems to be the main factor rather than the lack of trust in technology. This is instantiated in Philippines by Ronnie who says that she will prefer to interact on such matters as orders placed or time of delivery through her mobile phone, using a text message as she can use it as a documentary evidence of the conversation if the other party is trying to fraud her. Thus clearly it is not a lack of trust on the technology because she is using it, but rather, the lack of trust is in the person with whom she is interacting. Similarly, Munira, who is a tailor, points out that such issues of trust and credibility actually depend on the person with whom such interactions are carried out. She states that if it is someone from one's family, neighborhood or friend network, she is likely to trust them more, giving them credit advances as well as taking greater efforts in her work for them. Also, in case they are not willing to pay, she will have an infrastructure to fall back on for retrieving her dues. Similarly when women in Bangladesh, receive lewd calls, they do not blame mobile communication, the blame remains with the person making such calls. The women indicate that people blamed mobile use but actually what should be blamed are those who use it in negative ways.

Another factor which proves the trust in technology is that respondents in all these countries did not hesitate in sending their transaction identity numbers for remittances over an SMS. In Philippines, Thailand, Sri Lanka as well as Bangladesh, migrant workers do not hesitate in sharing the important details of transactions via text messages or calls to their family members in their country of origin. They in fact, prefer it, so that the written record remains conveniently at hand and does not fall in wrong hands, which could happen if they were written in paper.

This then raises the question of would these individuals trust mobile transactions, especially for financial purposes. The observation here is that BOP respondents have low levels of literacy. The consequence of this lack of adequate education is a consequent lack of confidence as well in these respondents. Coupled with this is that most mobile content is still predominantly in English, which most of the BOP users have no knowledge of in this region. Typing on mobile keypads is again a challenge for these respondents due to their unfamiliarity with the script in all the countries except the Philippines and the complex navigation systems. Older age groups also feel that to use these services, it requires a certain set of 'soft skills' acquired from using computers, bank ATMs and other automated systems, none of which are prominently available to them. Juxtaposed with these challenges is the wide range of social and informal networks for information gathering, conducting business and undertaking financial transactions, which are available to them very easily. In such a scenario, the overall perception of users is that they would need substantial help to be able to become such extensive service users. The service creators have to prove their credibility and commitment to such users by making such facilities dependable, user friendly and popular. Only when there are enough positive feedbacks, will the BOP users opt to invest their money through such means. For the moment being, however, they

are open to hearing about such options while continuing to trust long existing sources like banks, hundi systems and their own social networks for transaction purposes for the immediate present.

An instance of the lack of confidence in one's own inability over that of technology emerges in Sophia, a female ethnography respondent from Thailand. She is well adept in using various forms of technology like a high end Chinese dual SIM phone, a computer, a television and a music system, but when it comes to money transfers, she is absolutely certain that she will rather rely on banks. She says that since she just has to write the details and hand over to the person on the counter, she does not need to interact with the technology and thus there is no scope for making an error at her end. Moreover, she also gets a tangible proof of the transaction in the receipt which she can keep for her records and can present it as an evidence in case of an error. Another male respondent in Thailand who had once transferred money online via net banking using internet mentions that he is even aware of the mobile transfer schemes. In spite of already having successfully used the online service, he still prefers to send money from the bank counters as he says that it does not take much time and is more convenient indicating his inclination towards conventional means of transferring money. Both these individuals are exceedingly technology savvy and yet they are hesitant to move to mobile based transactions. The reason for this is that while such services are available, they are not yet omnipresent and enjoying mass success. It will take greater presence and more rapid growth of these systems, ensuring quality and accuracy, which will spurt such almost ready users to make the shift and it is likely to occur first in the more sophisticated ecologies of Thailand and Philippines than the South Asian countries. Sri Lanka, would appear to be most advanced ecology for such services in South Asia but the strong emphasis on formal institutional systems in respondents here coupled with their comparatively lesser desire to do more with technology, can make it possible for countries like Bangladesh and India, take the lead. Bangladesh with its flexi system already seems to have an indigenous informal mobile transaction system and could quite readily formalize this into a recognized service.

The discussion on trust and credibility of technology can be extended from business to even reload behavior as it also involves monetary transactions. The introduction of e-loads has reduced the dependency of BOP respondents on the scratch card method in all the countries. As discussed earlier, the BOP respondents in all the countries except Philippines are not comfortable with the soft skill of typing and they are equally reluctant to use the scratch card method of loading because of it. They fear making mistakes in inserting the numbers and also often scratch too hard removing the print. As a result, they prefer e-reloads since it depends more on the vendor and does not require the user to type.

Respondents state that while they are quite happy with this new facility initially now they have begun to experience its down side. In Philippines, Thailand, Bangladesh, Sri Lanka and India, respondents indicate different degrees of dissatisfaction with the e-reload system with the highest grievance coming out of Kandy. It is seen that in spite of writing their numbers and paying the reload amount, respondents often did not get their reload. The causes for this was that at times they made an error in writing their numbers, the shopkeeper was a fraud who did not send the

reload and even network challenges. In Kandy in particular, almost all the respondents say that they have lost some reload amount or the other. The highest reported loss by a respondent is 100 SLR (USD 0.80) and the minimum is 20 SLR (USD 0.16). Among the urban residents, women seem to blame the shopkeeper more saying that they fraud them by saying that the network is down when they are in the shop and that they will fill it later which they then do not. Other excuses are that of not having enough credit on their phones. Men, on the other hand, indicate that although everything may be correct and the shopkeeper has sent the reload request, they may still not receive the reload because as explained by the shopkeepers, the receiver could have been in a poor network area where the delivery did not occur. Once they are unreachable for 30 to 60 minutes, the reload is then lost in the network. As a result, neither party is to be blamed directly. In other situations, when the shopkeeper makes a mistake, initially they used to refuse to reload again but with more altercations, they have now begun to reload from their own pockets but the possibility of finding the error made by a shopkeeper is very little since they mostly do not keep their sent items. The impact of this on the system of reload is that all respondents now stand and wait in the shop till they receive the confirmation message. The longest time someone has waited in a Communication shop in Kandy is 15 minutes and the minimum being a couple of seconds. Here we have an instance where although a particular technology is helpful, it is not able to win the trust of the consumers by failing to deliver credible results. While the shopkeepers were more prone to blaming the network, the individual users, however, turn against the shopkeeper himself, since they believe that not knowing anything about the network, the vendors are their only touch points and if anyone has to prove the credibility, it is the vendors first and foremost since they are the public face of the operator. Issues around not receiving reloads result in reduced trusts in the operator and many, in rural India, in particular, are changing their networks citing such instances.

In Thailand, not receiving the e-load even after making the payments result in boycotting the vendor rather than the service provider. Dinn has faced such a situation where he did not receive his credit and thus he went back to the vendor, fought with him and got his money back. Since then he has discontinued visiting that vendor and get e-loads done elsewhere. In Philippines even when certain group discussion respondents claim to have ‘some bad feelings’ for the service provider after such experiences, they still use e-loads as that is the only viable option that is meeting their needs.

Similarly, lack of trust in the network, also emerges when Filipino respondents complain of not receiving load or their credit being deducted automatically. They even say that they receive unwanted value added services (VAS) messages like a picture message or a ringtone and their load is deducted even when they have not placed any such request. In some other cases they have not received their credit on time and have been informed that it is due to some network problem. They feel helpless and state that they had no option. Such erratic behavior of service also impacts Mobile 2.0 service adoption to some extent. A female group discussion respondent from Thailand points out that she has lost all her credit while trying to use GPRS on her phone as a part of a promotional offer that gave her some free usage. Once her free usage was over, she did not come to know that she was being charged and all her credit was gone within 5 minutes which made her realize that the service is unreliable and expensive. As a result, the

trust in the service provider takes a strong beating and although people like the service of using internet on phone, they will still not use it, since the system is not 'honest.'

In spite of the lack of trust in the e-reload system, they are still preferred over the scratch cards due to the variety of denominations in which they are available and the different schemes with which each comes accompanied. In India, charging for 66 INR (USD 1.32) brings down STD (standard tone dialing) rates while Filipinos get more text messages free if they spend 20 baht (USD 0.56) per day. Similarly, an e-load can be had for smaller denominations but a scratch card is usually available only for a denomination of 100 pesos USD (2.10), 50 INR (USD 1.00), 100 SLR (USD 0.80), 100 taka (USD 1.40) and 50 baht (USD 1.40) and above. An e-load on the other hand can be done for any denomination above 10 in all these countries. Respondents like e-reloads because it keeps in mind their affordability and allows them to pay in small chunks unlike a recharge.

However, in India and Pakistan, respondents are also showing a new trend towards recharges of higher values. They prefer to recharge for higher values in order to reduce repeated service charges as well have the balance in case they are traveling. Urban respondents do this in particular when they visit their native places. The reason being for them is that they do not want to go out searching new reload shops which are further than in urban areas. They keep scratch coupons with them for emergencies and use them when they are in need of load while they are away in their native places.

Overall, in terms of trust and credibility, BOP users have significant faith both in mobile technology as well their operators. They doubt their own abilities and are even rigid at some points when it comes to learning new things, especially if they are older. This, however, does not mean that they are accepting of network problems or frauds committed by vendors. Their idea is that since they are paying their hard-earned money, they want the best service possible and whoever will provide them that will have very loyal customers.

Perceived Benefits

Perception of benefits around mobile use and entrepreneurial functioning is quite high in India, Pakistan and Bangladesh and comparatively less so in Thailand, Philippines and Sri Lanka. It is in fact the least in Sri Lanka where respondents face substantial challenges to enumerate benefits other than the obvious but most important benefit, of remaining in touch with people. In India, Pakistan and Bangladesh, all respondents indicate that mobile use has great benefits as it helps them be more productive. We have already seen how respondents save time and effort in India, Sri Lanka and Bangladesh in the earlier chapter, in an approximate formulaic manner but from an emotional perspective, the gratefulness towards mobile communication in these three countries is exceedingly high. Having discussed perceived benefits under each head of analysis, an enumeration of those is provided here along with

explaining why perceived benefits are considerably low in Sri Lanka. The most significant perceived benefits of mobile usage for personal and entrepreneurial use are improved communications with one's business and social networks for greater social inclusion and work efficiency, assistance in saving money from overall livelihood expenditures, initiating entrepreneurialism, reducing urban-rural divide, acting quickly in urgencies, being more well informed than ever before in the past, enabling others, remote managing activities, enjoying entertainment at reasonable rates, ensuring the safety of migrant workers and inspiring new generations to improved life conditions.

In Thailand and Philippines, perceived benefits of mobile communication are extremely high when it comes to the idea of being connected but on probing, how else it is beneficial, other than the ability to react in emergencies and remote managing their activities, respondents experience some difficulties in replying. They indicate that in their societies most people are well aware of their information needs and can resolve them fairly easily using not just mobile phones and services based on it but even through other technologies like radio, TV, newspapers and the internet and of course, their social networks. They do not believe that it is a necessity that all their life solutions should come from mobiles and as a result they prefer to have dynamic forces which can be of use to them at various points of time ranging from the personal to the technological. It is also evident that with growing mobile adoption and easy availability, the respondents also fel that mobile phones are natural to have and did not require special reasons for use.

Similar perceptions are also evident in Sri Lanka but the difference between Thailand and Philippines on one hand and Sri Lanka in the other is that while the respondents of the other two countries proactively seek to do something to meet their needs and have substantially high aspirations in life which is driving them towards different technology usage and changing traditional ways of work, in Sri Lanka this is not the case. Respondents are content with their own conditions and when they are not, they seek a big change that will drastically improve their lives.

Unlike the respondents of all the other South Asian countries in both urban and rural geographies who have substantial life challenges and seek any help possible, urban residents in Kandy and rural residents in Katudeniya, have very minimal needs which they want solutions for. Everyone wants to make more money but the how part of it goes unanswered. Most of the respondents have some employment and they perceive that things will improve over time through hard work and perseverance. Unlike Ronnie and other women like her in Philippines who can say that apart from all that they were already doing, they will still search new opportunities to make money while waiting at shops or in their free times, not only the female but even the male respondents in Sri Lanka hardly have any future plans. On being probed how they see their futures unfold, in Kandy, the response is that largely they will be living a similar life but only if they get some money through inheritance, lottery or some financial schemes then they would like to scale up the employments and business in which they are already involved. Some of the younger female respondents who are graduates thought that getting a government job will be quite beneficial although they themselves reiterated that that is not very likely to happen. In Katudeniya, all the male respondents, who are mostly young men in all the protocols, said that they also have fairly clear ideas about what they can do in the future. They

will continue farming or doing the small village jobs like printing, masonry and poultry farming which they were already doing and their individual incomes will continue to be supplemented by remittances sent by their mothers, wives and sisters, who work abroad. Their other prominent option is to join the army from which they expect a good, wholesome salary. The male respondents are very confident that these are the only major ways through which their lives would improve to the level which they sought.

This fall back on inheritance money or on some established jobs, especially government jobs, are perceived to be the only ways in which social upliftments are possible. These are areas where mobile or any form of technology intervention, however, has very little scope to help them. Unlike in the other countries where we observe young male workers save money to buy a stall then give that to a friend to go abroad and then come back to the country to set up new businesses with incremental improvements taking place in each step and a constant need for saving and exercising innovative judgments where information could play a valuable role in giving them an edge over others, this is just not possible in Sri Lanka. The young men here are looking for easy ways to great success and as a result, they can not believe that mobile phones have any significant perceivable benefits.

The few people who do consider mobiles to have a lot of benefit and can convey a sense of future aspirations and know ways to fulfill them are the female external migrant workers and one male respondent in Katudeniya. The female external migrant workers are quite confident that they do want to go back abroad. One of them being married to a trishaw driver in Katudeniya wants him to go with her to Dubai where both can find work but her husband has refused categorically although she said he would never stop her from going if she wanted to. The single man, from all the Katudeniya protocols, who has some alternative business plans, wants to increase his timber business through building specialized networks with furniture makers. All these three respondents know they can contact more agencies for jobs and for distribution, they can save time and money on travels to get information, the women want to know about job openings abroad while the man wants to advertise his business. As a result, it can be said that strong need for anything coupled with good supporting infrastructures, seem to be making Sri Lankans comfortable with their lives. Not having any particular challenges, they also do not need more help. They seek either no major help or the biggest jump which is to get ready money. In such a scenario, the incremental improvements made possible through technology adoption have very little relevance. Consequently, Sri Lankans do not seem to find any major perceivable benefits from their mobile use.

Needs for Communication

Migrant workers in all the countries in the study express similar communicational needs. The majority of these respondents claim that their communicational network includes their families, collocated or past colleagues, boss and or / supervisors and clients when they are in a client servicing role. In this study, all the external migrant workers interviewed in the sample worked in Dubai and Abu Dhabi, with only one respondent's son from Bangladesh being in Singapore.

The primary needs for communication for migrant workers is to remain in close contact with their family members, especially parents and wives. Unlike in Bangladesh, the male migrant workers of India and Pakistan, convey a far lesser urgency in their need to call home. While Bangladeshi men call almost 2-3 times a week on average, Indian and Pakistani male external migrant workers call mostly once a week. Sri Lankan female migrant workers equal Bangaldeshi male workers in the number of calls per week.

The most distinct phenomenon about teleuse for migrant workers is that it is unanimously a one way process. Every family member says that the primary caller is always the migrant worker although they themselves in the present scenario, can afford to call them. However, they do not do so even in emergencies. On being probed as to why even in great urgencies will they not call, the response of all migrant worker family, except in Sri Lanka, is that they will give a missed call. Families in Pakistan, India and Thailand, try to justify this behavior as they will not know if the worker will be busy or not and hence, will give a missed call. Only one family in Bangladesh claims blatantly that their son anyways has more money than them and can well afford to make the call without realizing that they can themselves now afford to make a single call as well considering their growing affluence based on the son's income. Only in Sri Lanka, do the migrant worker families say that they will call their family members and in fact, do so, in great urgencies. All the three families interviewed explain that making this call is imperative and no money concerns come in, in an emergency, since it will anyways be refunded with money sent home by the migrant worker. In Philippines as well, the mother of an external migrant worker mentions that if she does not hear from her son once in a week, she gets worried and calls him herself.

In three occasions in totality in both Pakistan and Bangladesh, it has been found that the family members of external migrants have no contact numbers of either their family member directly or of any close contact to them abroad. This means that if anything is to happen to the workers in the foreign land, the family will not know for quite a while. On being indicated the consequences of such an event, the respondents do not have any answer to offer.

Discussing further the communicational needs of migrant workers, we observe that remaining in touch with work providers or clients, is a prime necessity for both internal and external migrant workers.

Internal migrant workers who are daily wage earners like auto drivers, mechanics, plumbers, suppliers, coolies, stock deliverers and street side vendors, have very high needs for communication as their income and survival depend on receiving job information at the right time or sourcing products in the most cost effective manner. While internal migrants need to communicate more with people in their new contexts in urban areas, external migrants, on the other hand, have very limited or no use to make calls to people in the foreign country they are working in.

External migrants like cab drivers, AC mechanics and plumbers, are the only categories of people who at least receive calls from other local customers to whom they have given their numbers. Such calls, however, are rare, since most of these individuals work under some company, which generally sponsors their visa and work permit, and as a result, client calls for repairers are also in most cases directed to the company's customer care. 2 respondents – both mechanics from Pakistan and India, however, indicate that if they build up a good rapport with the client, then they can do some freelance work for these clients at a lesser rate on their own. Making calls within Dubai and Abu Dhabi for external migrants is thus rare and is limited to the infrequent communication with their supervisors if they have been given some delivery jobs or to inform them of their location, if they have gone out.

The extent of communication needs of external migrants increase considerably once they return to the country. They not only communicate more with their local acquaintances and relatives but they also need to make conscious efforts to remain in touch with their colleagues and supervisors in UAE, if they intend to return. It is a unanimous finding that all the external migrant workers, irrespective of their genders and type of employments, all network with their colleagues and supervisors abroad. The main reason for this is that while they are in their home country, their supervisors have to replace them with others. As a result, those who work in factories, have a high chance of losing the exact job they are doing when they leave. On return, these employees will be reinstated in their specific categories but not necessarily to the exact same jobs. Similarly, for cab drivers, they may have to wait in order to get a vehicle. As a result, all the external migrant workers who return on holidays, keep SMSing their supervisors either original texts or SMS forwards, in order to remain in their thought horizon. All the respondents mention that small talks around the supervisor's families' well-being, what to bring for them on return and how day to day work is going on, help them retain their same positions and build a stronger tie with their colleagues and supervisors. (Badru in Bangladesh, Imran in India bed sheet seller and Ilyaz in Pakistan)

External migrant workers, who return to the country on finishing their employment contracts, remain equally in touch in order to get information on openings within the company or elsewhere, which their colleagues might know of, from their individual social networks. Once such openings are flagged, the returned migrant workers, at times, go to a local agency and give these details for them to try and place them again. This procedure, however, seems only to be followed in Sri Lanka; whereas in all the other South Asian countries, the returned migrant workers, request their colleagues abroad to go and recommend them to the company seeking workers. In terms of the SMSing, the frequency, however, reduces from 2 to 3 SMS per week when on holidays to once a month when finally returned to the country. This is due to the need to reduce their expenditures and yet manage a social profile.

Financial Coordination

Financial coordination for migrant workers in all the sample countries in this research varies between a mix of formal and informal transaction networks.

In the formal means of transactions, bank drafts and wire transfers, post office money orders, using money transfer organizations like Western Union and mobile network money transfers from Smart Padala and Globe in Philippines are the primary means of sending money and in this specific order of preference as well.

Bank drafts and wire transfers are the most preferred means of remittance transaction since these are two of the least expensive means. In Sri Lanka and Bangladesh, we see a clear preference amongst external migrant workers, towards sending money through banking networks. In both these countries, migrants as well as their family members indicate that while initially they used to send money as drafts in their letters, in the last two to three years, the external migrant in most cases, has opened a bank account for their family members, to which they send money. In order to send money, the worker in Dubai does not need to have a bank account. The Etisalat Bank which is mentioned frequently, enables cash deposit in person in their banks or they send a bank representative to the factories. The workers are given a bank ID using which they can send money to any account of their choice and the nominal service fee is paid by them in cash. The service charge amounts to 2.5% of the total amount sent or 100 dirham (USD 27.2) for transactions up to 5000 dirham (USD 1360).

The Bangladeshi men and the Sri Lankan women claimed that such client servicing by the bank is extremely helpful since as they get half a day off on Saturday, they can give their money to the bank official who is often a countryman or at least from the South Asian region, without having to go to the bank and they can receive their transaction receipt and service charge amount the week after at their own factories, in their own convenience.

Bank wire transfers, on the other hand, are associated with great emergency and cost upto 5% of the total amount sent. The money is transferred within minutes and it is only resorted to when there is an urgent need like having an operation, breaking legs, last salaries received a day before returning home or urgent debts to be repaid. Being an emergency measure, bank wire transfers, are more expensive as well as require the worker to go to the bank.

90% of the respondents who transfer money through banks find this process absolutely reliable. Only one respondent in Bangladesh ever had to go through the hassle of stopped processing, since he himself had made an error in the account number.

Post office money transfers, on the other hand, are extremely popular in India but mostly so with internal migrants in sending money from urban to rural locations. The rural migrants indicate that post offices have a well developed

network within the country and being a government enterprise, it is highly trustworthy. The service charge is also about 5% of the total amount sent and being delivered right at home, it is one of the cheapest financial transaction options available to Indians. The only concern with this system that is raised is the time taken for the delivery but the research indicates that while a regular money order can take anywhere between 7 to 15 days, the Indian postal department now has come up with several schemes which allow for delivery with 2 days to rural India and day-on-day in urban centers. These facilities, however, are not very well communicated and as a result, the awareness about them is considerably less.

In Thailand as well, internal migrant workers rely on the postal services or bank transfers for remittances. The availability of a limited number of banks in the vicinity of their native places leaves them with no option in choosing their banks. In other cases, where banks are not common, people rely on postal services for remitting money and use their phones to call up and confirm receipt of the same after 3-4 days of sending the money.

In the minds of external migrant workers in Sri Lanka, Pakistan, money transfer organizations are synonymous with Western Union. While many Filipino workers rely on it for money transfers within the islands along with sending remittances from abroad; in Sri Lanka and Pakistan, we see the younger age workers, being more knowledgeable about its services and having used it as well. The issue, however remains that the charges are more and as a result, it is always a secondary option to bank transfers. The process, however, is simple with the migrant worker providing a transaction code to their family by calling them, which the latter have to show at the Western Union bureau with adequate identity proofs. In Philippines, Western Union is extremely popular even for in-land money transfer as it is difficult and time consuming for workers to travel between the islands and as a result, they prefer to have the amount delivered home.

New remittance sending services are also being developed in Philippines by operators like Smart and Globe Telecom. Smart Telecom's 'Smart Padala' is the older service which is mentioned by a respondent as the way he sends home money. Ricky deposits the money at Smart Telecom's outlets which is then transferred to in the name of the recipient whom he chooses. The mechanism is very similar to a Western Union transfer. An advanced version of the service allows the user to transfer money via mobile as well. While services like these offer the greatest comfort of receiving remittances on cell phones, the service is complex for the elderly to understand and navigate and run the risk of errors which will lead to further hassles of rectifying the error. These services are also more expensive and as a result, banks continue to be the overall favorite but the growth of new remittance sending mechanisms, especially via mobile phones, are inevitable in all these countries, especially in Philippines, where the technology ecology is far superior than any of the other countries in this research.

Informal financial transaction is a substantial phenomenon in Philippines, India and Pakistan. The volume of informal transactions is higher in internal migrants although the quantity of the amount sent is higher for external migrants. Internal migrant respondents from all the countries suggest that this is because the amount they send are less, they

are more likely to have someone in their network who will go home and they are less comfortable with paper works and charges sought by banks and other services due to their lower literacy levels and lack of formal addresses, which is often required as identity proof. Internal migrants in India and Pakistan clearly indicate that when 4 to 5 people are from the same area, they take turns in going to their villages, in order to facilitate money sending.

In Sri Lanka, hand to hand cash delivery by relatives, friends and acquaintances, is the most informal of all the methods visible in these countries. All Sri Lankan internal migrants have sent home money at some point in their lives with others but they do not perceive this as an informal transaction. Both migrant worker families as well as the workers explain that this is the most formal transaction according to them since the individuals with whom they entrust money will deliver at the earliest, charge nothing and will also know whom to deliver to correctly. Sri Lankans send home money with friends and relatives at least once in every 2-3 months and carry money for others as well. This is particularly applicable to male respondents. Female respondents are more likely to use the banking network or bring the money themselves once a month since they do not go to far parts of the country like their male counterparts. One of the primary reasons for the high amount of formalized transaction even amongst internal migrants in Sri Lanka, is the fact that army men who constitute a significant portion to internal migration, all require a formal bank account and they receive their remunerations in these accounts. As a result not only do they have accounts but they also bring in dependent family members within the banking network by opening a second account. Similarly, the more educated internal migrants like accountants, teachers or all those in the service sector in Sri Lanka, seem more likely to have a bank account and use the same, thereby reducing the scope for truly informal transaction systems.

The hundi system is an overarching financial infrastructure for migrant workers of India and Pakistan. The system operates extensively both within and outside these countries. All the male respondents (only male migrants interviewed in these countries) state that they usually get initiated into using the hundi system at some moment of great familial urgency like death, accident or illness. The person they give the money to is known to them only through a phone number which they acquire from friends and they know nothing more about them. The same is true for their family members as well as the deliverers are rarely from their own villages. The advantage for internal migrants in using the hundi system is that they not only can send money rapidly but at times if they do not have adequate amount on them, they can even take a loan from these lenders. In Mumbai, a female respondent suggests that her husband had taken 25000 rupees (USD 500) using this system. He had to give an interest of 1000 rupees (USD 20) on 25000 (USD 500) for every month. They are worried about the high interest rate and had to seek the assistance of family members to pay off the loan in 6 months as otherwise, they had heard that the lenders, can even physically harm them.

The usage of the hundi system in external migrants form both these countries are considerably high especially when the external migrant has a lower educational level and has a more of a manual employment like grill making, food delivery, carpet making, painting and pipe laying. Such migrant workers are initiated into the hundi system through

their friends and the reason for their usage of this system is that the money is delivered directly at home, since many of the remote villages in both these countries lack banks, post offices or any other formalized infrastructure for money delivery. The lack of infrastructure combined with the good service provided by the hundi networks are the prime reasons why the senders do not mind paying between 10-20% of the amount sent as they have the assurance that the money will reach in time.

On being probed that whether the respondents know that this system is illegal, some of the respondents state that they are not aware of it but two respondents one from each Pakistan and India mention that whether it is illegal can hardly be of a concern to them as long as it helped in their need. They also suggest that if there are alternatives which can deliver with such efficiency then they are perfectly keen on moving to another system that is more legal but for them to do so, they will need proof of the system's success.

The hundi story is known by respondents from all the other countries as well since they work with Indian external migrants but their perceptions of it are negative and not trust worthy with the strongest rejections of it coming from Sri Lanka and Bangladesh.

In Bangladesh, another informal money transaction network which is highly popular is that of the flexi money transfer. This is available only within the country wherein internal migrant workers send money home to rural areas in emergency via a reload to their local reload shopkeeper's phone. The shopkeeper retains a 15-20% commission on the amount sent and hands over the remaining to the family. This flexi money transfer system has been widely used by the Bangladeshi male respondents as well as the single, female working women in transferring money from Dhaka. All the respondents state that this system is practical if the amount of money to be sent is between 500 (USD 7.00) to 5000 taka (USD 70.00) at the maximum. The problem with higher denominations is that even the reload shop owner may at times not have so much of ready cash available for them to give it to the receiving party in one go.

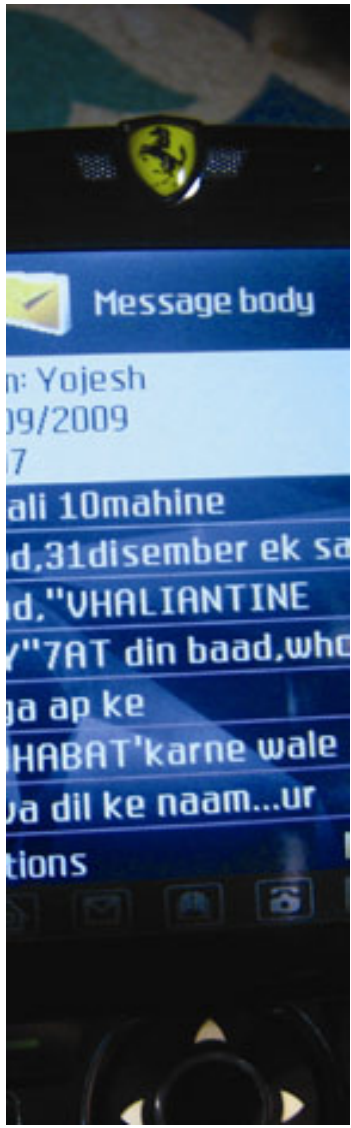
Such a transaction process, however, is as exploitative as the exorbitant interest rates of the hundi system. The recipient shop keeper not only takes a hefty 20% commission but even the remaining cash is not given in entirety. Depending on relationships, the shopkeeper can take a day or two to give the family the entire sum if the amount is high. The vendor profits in every way - he not only gets a 20% commission but also makes another 20% in profit by selling that recharge amount.

Apart from these major informal transaction networks, in India and Philippines, we also see the case of delivering money through bus drivers and through couriered letters. While Indians who send money through letters, have

frequently lost money, the bus network delivery in both the countries is very strong. Using this network for delivery costs about 5-10% of the total amount sent in Philippines, in India tapping the bus network happens mostly when the driver is a close personal contact and he takes the money with him without charging anything. In Bangladesh, a variant of this is handing the money to steamer drivers from one's own village who take the money till the village port for the family to collect. No money is charged in this and such personal relations are seen to be called upon more frequently by women. Men prefer a more business like transaction using either flexi or banks in Bangladesh.

A great deal of remittance is changing hand every day and in a variety of ways. However, there is very little dissatisfaction with these existing transactions in all the countries. Respondents praise these financial networks for their delivery on time and trust them far higher than they trust their own abilities of sending money from their own phones through their own initiatives. As a result, the interest in mobile money appears to be more in the younger age groups which are comfortable with mobile technology than in age groups above 35. All respondents involved in remittances have also pointed out that while the Bangladeshi system of receiving flexi on mobile is acceptable for small amounts since they can either make calls or collect in cash, they do not want to pay the substantial service charges on large sums of money as large sums are generally for emergencies where any loss is a big loss. More than half of the total remittance sending and receiving respondents from the entire research sample also say that mobile money transaction cannot be autonomous between two parties as then someone is likely to exploit the system. They prefer the involvement of a bank in some stage of the distribution process but this very involvement means complicating the procedure and forcing the respondents to travel to banks or other service points

Service Adoption



Mobile 2.0 services is the new direction for mobile service providers in the emerging economy world. Competitive pricing has substantially brought down call costs in the last five years and as a result, service providers are now left with the challenge of discovering new ways of increasing their income and to keep their respondents at sustainable Average Revenue Per Respondent (ARPUs). In order to improve ARPUs as well as offer new possibilities of mobile use, service providers are now turning to new services that will be well sought by their consumer bases. Over the last few years, considerable efforts have been made by service providers to create new services like SMS, MMS, GPRS, downloading ringtones, wallpapers, sports updates and ringback tones which are quite popular today and more options are being experimented with agri services, weather, astrology, film news and general news updates.

Initial service adoption for Mobile 2.0 services is found to happen on an average within fifteen days to less than a month of phone acquisition in all the countries in this research. In Philippines, SMS is introduced on the very day of purchase by most shopkeepers whereas the more sophisticated ringtone download occurred for the first time within a maximum of a month in the 18 to 25 year olds in most of the countries. In India and Thailand as well, SMSes are shown by phone shop owners at the time of sale but such rapid instructions are often unfruitful towards understanding the usage. In Pakistan and Bangladesh, no such efforts are made towards introducing SMSes or other services and it is only friends and family members who point out the existence of SMSes while exploring phone features. Many of the male respondents in the 18 to 25 year group in all these countries already knew how to send SMSes even before having a phone. They knew this through seeing elder family members and using the phones of friends.

In Sri Lanka, SMS is sent by the younger age groups within the first 15 days of mobile ownership while downloading ringtones can take between one to three months. In India and Bangladesh, on the other hand, SMSes are attempted within a week of phone use but sent only around a month or less than that. Ringtones are not attempted before a month. In Pakistan, respondents felt that they must have sent their first SMS within the first month but could not convey this with certainty. In India and Bangladesh, a phenomena that is observed is that male respondents above 25, try to download a ringtone even before they sent an SMS. The same pattern, however, is not visible in the other countries as most respondents claimed to have sent SMSes first.

In Philippines, the adoption of Mobile 2.0 services did not show any major difference in time between the younger groups and the older but women are clearly the faster adopters. In Philippines, we saw repeated instances where female respondents claimed to have bought their phones only to be able to use these services and texting in particular.

While the service introduction of SMSes happens mostly at the phone shop or even through the person selling it, the introduction of the other services are more difficult. Youngsters in all the countries came to know about the other

services from their friends and sometimes from promotions on TV and the internet but older respondents (45-60) indicated that they did not know because there is no way for them to know. Their children did not consider showing them these, since these respondents are reluctant to both spend more money and anyways their children are there to download using their phones. The older age groups in South Asia and Thailand, also indicated strongly that they are happy with call facilities and did not want to expand further in too many of these “money guzzling” services as indicated by Saleem Afeez in Dhaka. In the age group of 25 to 45, male respondents learnt about these services from their friends, newspapers and televisions but it is only their friends who can motivate them to actually use it. The presence of a friend has been frequently cited in relation to their first attempts to download. In the same age group, women knew much more about these services from television than from any other sources but they never tried using them, fearing the loss of money.

The difficulty between using ringtones as a Mobile 2.0 service and the more informative services or MMS, however, is quite substantial. Challenges arise around platforms, costs and usability.

MMS is one of the most attractive services mentioned by respondents in all the countries and yet MMS sending is very low in these countries. All the respondents in the 18 to25 age group have heard of the service but other than the Filipino female respondents, only four men – two in Sri Lanka, one in Pakistan and one in Bangladesh, have ever used it. These respondents who have used it, however, have done so only once, except in Sri Lanka, where the respondent has not sent more than four to five MMSes. The reasons behind such low MMS usage are the lack of compatible handsets in South Asia, the high cost in all the countries and the sophisticated navigation required to receive an MMS.

Most handsets in South Asia, are basic handsets in the range of the Nokia 1100. These phones are non colored, allow calls, monophonic ringtones, SMS and various info services but are not video, mp3 or internet reliant. Other phones range from Samsung CDMA phones to the most frequently used Chinese handsets in India, Bangladesh and Pakistan. Sri Lanka has the most advanced phones on average and most of them are MMS, Bluetooth and GPRS enabled along with being polyphonic tone enabled from Sony Ericsson and Nokia. As a result, a substantial number of respondents are left out of the possibility of using MMS on the ground of their phones alone in India, Pakistan and Bangladesh. In contrast, in Thailand and Philippines, most of the phones are MMS enabled. The growth of Chinese handsets which are cheaper but are feature intensive with TV, dual SIM capability, audio-video players, MMS, Bluetooth, camera etc. are catching on with the rural users in these countries as well as with urban low income consumers. Only few rural respondents do not already have such phones in Thailand and Philippines but it will not be long before they start using such phones because they already aspire to have them.

MMS costs are equally prohibitive towards use. MMS costs a minimum of three times the price of a regular sms in most of these countries. In India, on an average it costs 3 INR to send an MMS and 10p / KB to download by the receiving party. In Thailand, it costs 15 Baht (USD 0.42) to send and in Bangladesh, it costs 5 taka (USD 0.07) to

end and 25 p / KB (USD 0.003 / KB) to download while in Sri Lanka it is 5 SLR (USD 0.04) to send and 2 cents / KB (USD 0.00016 / KB) for download on Dialog. While younger respondents (18-25) can still reconcile with the idea of paying the charge for sending the MMS, they are not willing to pay for the download costs. They suggest that MMS should also work in the same principle as SMS and the cost should only be borne by the sender. MMS sending is known infrequently by the 45 to 60 age groups but there is no value of this service in their lives as indicated by the respondents. The women in Bangladesh and India, also pointed out that they have heard about 'wrong pictures" being sent on phones and were worried about the security and safety of MMS use. Thus these women, who are in the 25 to 40 range in both the countries, did not feel the necessity of MMS although they said if given a choice then they would like to receive videos of their families but having said that immediately discontinued such a possibility citing that they cannot spend on such fancy services.

Navigation emerged as one of the biggest deterrent towards sending MMSes even among the younger groups whose phones were MMS enabled. In Sri Lanka, Dhanambra who has sent an MMS before, said that the "Setup Required" prompt on his handset had left him completely perplexed till the second time when his friends had explained that he needed to have GPRS activated. In the Sonargaon group discussion as well, one of the younger male respondents indicated that he did not know that he had to have GPRS activated to receive an MMS and as a result, his friend lost money sending him an MMS whereas the latter could have sent five SMSes which would have been much more useful. This secondary process of the receiver having to download the content is identified as a major deterrent towards sending or receiving MMSes with those who had used it previously. They question why an MMS cannot be delivered in the same way as an SMS since MMS is only a more sophisticated version of the latter.

Wali in Karachi also indicated the risks of his phone getting seriously affected by viruses from MMS transfers as one of the reasons why he does not use it often.

Information and entertainment services provided by service operators are variously perceived as useful and important but not essential by all the respondents in this study including the younger groups. Even the younger age groups in Sri Lanka, Thailand and Philippines, which are the most active Mobile 2.0 service respondents in this research, indicated that while call is the most important service, the only other non voice service which they require is SMS. Information needs for them can be satisfied through a wide range of alternative sources which will be discussed later.

The most popular Mobile 2.0 service in all these countries are SMSes – self written as well as forwards; downloading ringtones, games, wallpapers and ringback tones followed by participation in tele opinion polls and quizzes. 90%of all the respondents in this study had forwarded messages though not necessarily written them themselves. The remaining 10% comprise of senior respondents who did not even send the forwards themselves.

SMS is the primary ‘more than voice’ service that BOP users in Philippines are using. Their heavy text usage is made possible because of various factors like their familiarity with the Roman script, their literacy levels as well as the abundance of promotional packages allowing them to consume a large number of text messages. Moreover, these users do try to download ringtones, wallpapers or seek news updates on their phones, but the prices that these users have to pay for these services are higher than they can afford and as a result, they do not continue to use these services even after initial use. Moreover the users felt that activating the services is easier than deactivating them which further ‘eats their load away’. Such bad experiences around the drastic loss of load using services have also often led users to discontinue using various services. Some respondents in the rural group discussion in Philippines also mentioned that if a person downloads something one time, they keep receiving a lot of spam which is irritating to the users.

Ringtones are downloaded by most respondents at least once but not more than two to three times over a time span of more than a year if they are not in the young age group of 18 to 25 in South Asia. In South East Asia, however, most respondents are now beginning to completely discontinue downloading ringtones and ringback tones. This is because of high costs and the possibility of downloading the same content for free from the internet. Ringback tones are largely used only once and often it is frequently caused by confusion between terminologies - which one can you hear yourself and which one can others hear on calling you. Ringback tones have thus been mostly used only once or twice and discontinued even in between the 30 day period. Vis-à-vis the duration period, a common misunderstanding that prevailed in all these countries is that respondents felt that they are charged on these services on a per day usage and as a result if they discontinue earlier, they save some money. In practice, however, the charges are deducted for a 30 day span and renewed automatically on the 28th day of the month unless stopped beforehand. As a result, in Srirangapatana, it was repeatedly found that either respondents lost money by using the services for lesser number of days than they had paid for or they ended up paying extra for the second month, not having stopped the service on time.

Tele opinion polls as a Mobile 2.0 service came up prominently in India, Sri Lanka and Philippines more than the other countries. The primary respondents for these reality talent hunts are both the genders in the 18 to 25 segment but the frequency of the voting seemed higher in the females than the males with one respondent in Sri Lanka saying she sent twenty-five smses for a singer on Superstar. Polls conducted during and after tele dramas are unanimously used by women in the 25 to 40 age groups but they sent an average of one to two per month. In India, questions asked during the ‘saas – bahu‘ serials are responded to in the hope of winning gifts in cash or kind. Few respondents in Maharashtra also suggested that they liked to participate in quiz contests like Kaun Banega Crorepati or Kya Aap Panchvi Sal Se Tez Hain in order to check their intelligence. This, however, was observed more in women who had children where the children coaxed their mothers to let them reply since they knew the answer and had a good chance of winning.

Almost 30% of the total respondents from all the protocols in Sri Lanka, Philippines and Bangladesh knew about services around health. Although these respondents are aware that they can locate their nearest hospitals and health centers, they have never used it and indicated that this is useful but what will be more useful will be, if they can reserve their appointments with doctors. In India, Pakistan and Thailand, mobile based health services are not heard of by respondents and in Thailand in particular, both the genders claimed that they did not really require it so much since they can get this for free from the internet which they are anyways accessing. The unanimous requirement from health services is the ability to find the nearest health point within a certain budget and the ability to book appointments. All the respondents said that they will not trust health advices given on SMS since they will not know the source of the information and the reliability of it. In Sri Lanka, Dina Geetha who is an external migrant worker suggested that healthcare information on mobile would be useful if she could remote monitor her parents' health data on phone. This is the furthest that the respondents were ready to go. However, in Sonargaon, Mohammad Abdul, who had a young son as well as old parents said that they only condition in which they will follow even go to the extent of following medical advice on phone would be in case of a dire emergency with no alternatives left. Unlike the quantitative study which indicated that a higher percentage of rural respondents are using health services on mobile, it was found that they are not actually using it but rather they are aware of the existence of such healthcare information services and are relatively keen on checking out the kinds of content but in none of the countries did we get even a single respondent who was accessing healthcare information on mobile.

Remittance services which is also indicated as one of the greatest in use in the quantitative study, stands refuted by the sample interviewed in this qualitative research. Only four to five male respondents combinedly in Philippines and Thailand, have heard of sending money on phones but have never used it themselves. As seen previously, people had a much stronger faith in the banking networks and Western Union like organization for them to turn readily to mobile transaction. The 25 to 45 year old male respondents in all these countries, however, are more open to using such a potential service but they suggested that they will need to see the service do very well, prove its reliability, have to be recommended by their social networks and competitively priced for them to use it.

Other content heads like current affairs, transportation, weather and government policies are all cited as useful but not too many conclusive needs are felt around these services. Respondents suggested that other than transportation, all the other news are available on TV, through their social networks and newspapers in South Asia and through TV and Internet in South East Asia which is why these services were not essential necessities in their lives.

Some of the most interesting service conceptualizations that emerged are job portals on mobile in all the countries, locational tracking of a mobile owner in Pakistan, India and Philippines; soft skills building in Sri Lanka and Bangladesh, educational and language skills in India and emergency care services in Bangladesh.

Since most of the respondents in this study were already making use of their mobile phones to be accessible to potential employers (particularly daily wage laborers), one of the services they could easily conceptualize was that of portal where they could either upload their resume or mention their details (skill set, contact number etc.) for the potential employers to be able to track and contact them when needed. Some of them even mentioned that there could be a call center number created by their operators where they could call and seek employment based on their skills. This was particularly mentioned by the rural group discussion respondents in Thailand. One rural group discussion male respondent from Philippines mentioned about a Smart employment service which is essentially an SMS based job service in association with the Philippines Overseas Employment Authority (POEA). He was aware that Globe also offers a similar service. He had learned about these services by watching TV but was not able to use them because he could not recall the message that has to be sent to the service provider. These services allow an individual to send a text message or even call a number to specify what kind of jobs the user is looking for. The service then reverts to the user with phone numbers of potential companies seeking such employers. The service also provides information on how much money is required to apply for a job overseas.

The disconcerting conditions of social disturbances and natural disasters in South Asia also inspired certain respondents to conceptualize services which would help them track their near and dear ones. Due to the recent bomb blasts and other disturbing events in Pakistan, several respondents showed concerns around traveling and moving out alone. Similarly, in India, Vaishali, found it very difficult to locate her husband during the 2005 floods in Mumbai. She was really worried back then as there was no way in which she could contact her husband. She thus felt that there is a need to track people through their mobile phones so that their family can know their location and arrange for rescue in such emergencies. Interestingly there is a similar service which is operational in Philippines. The service is advertized on the television for relatives of older people and children to be able to track their location in cases of emergency. The service has to be activated on the handset of the child or the old person. The person searching the child or the older person simply needs to make a call and then contact this tracking service to receive exact information on the location of the cell phone (and hence the owner) over an SMS. However this service is being used to spy on cheating husbands and boyfriends by people like Ronnie and her friend.

The need for soft skills training including adult education or vocational training on mobile is a recurrent request in both Sri Lanka and Bangladesh. A possible cause for this is that Sri Lanka seems to have an ecology for vocational training combined with a shortage in the number of good institutes which can impart such knowledge at low fees. In all the mini ethnographies in Sri Lanka with two male and one female respondent, it is repeatedly pointed out that not having studied beyond grade 10s and 12s due to bad results or lack of finances, these young men and women face substantial challenges in getting admissions in vocational colleges. They seek help in building life skills which will permit them to have adequate income sources that fall in between the two extremes of government, clerical work and impoverished, daily wage laborer positions. The young male respondents wanted to attend technical schools to learn carpentry, plumbing, wiring, AC repairs and masonry. Women on the other hand wanted beautician training, sewing, cookery, dress design and arts and crafts training. The reasons for seeking soft skills training in Bangladesh,

however, are not so much as a shortage of such infrastructures but rather the complete lack of it. While in Sri Lanka Dhanambra can at least mention that such technical education institutes are available in the district, the same can not be said by Zakir in Sonargaon. In Bangladesh, most respondents of this age group indicated that they will actually have to go all the way to Dhaka to get such training which is way many of the youngsters first come and work in Dhaka, gather money to join such courses and then migrate abroad. The areas in which Bangladeshi male and female respondents also sought training are the same as in Sri Lanka.

In India on the other hand, a strong need is expressed for educational and language skills in particular. Respondents who are between 25 to 60 years of age, irrespective of gender but are either single or parents, all sought formal educational assistance and particularly linguistic help. While parents sought help in improving their children's study in both Paithan and Srirangapatana; in Mumbai, several respondents wanted to first learn English and then Marathi, especially when they had migrated to the city like Imran's family. The reason for wanting to learn English is to enhance their social positioning but the need to learn Marathi, emerged from a fear of being attacked by the extremist politicians of Mumbai who condemn intra-India migration of North Indian, Hindi speakers from Uttar Pradesh, Madhya Pradesh, Bihar and Rajasthan.

Emergency health services like calling private ambulance companies, arranging hospital admissions and getting doctors on private call along with private fire fighting company information are very strongly sought by the urban respondents of Dhaka. The primary reasons for seeking such emergency services is that due to the close proximity of houses and the high population density inside these houses, people fear fire outbreaks. Fire brigades never arrive on time due to high congestion and narrow roads and this result in high mortality. Traffic jams are also cited as the reason for immediate health care based service needs so that interim action can be taken before reaching hospitals and so that the hospitals themselves remain on alert to fast process emergency victims based on prior warnings.

Another service which is much mentioned by the 18 to 30 years old male respondents in all the countries is television on mobile. On being probed why they wanted TV in their phones when most of them already have cable TVs at home, the younger respondents said they found it cool and it will truly turn their phones into a fabulous device. The older respondents, from 25 onwards, however, indicated that they spend considerably less time at home, being out the whole day and even when they are at home, often parents, wives and children are already watching some program. As a result, they have very little TV time of their own when they can watch sports, English films and MTV without interruption. Coincidental with this is the fact that these men spend a lot of time waiting in auto stands, sitting and guarding offices or just seeing their cattle feed. In such moments they have nothing to do but wait and watch. On further probing in Sri Lanka and Bangladesh, around the fact that if a ringtone costs x amount, can they conceptualize how much more they might have to pay for IPTV and will they be willing to do so, the respondents are quite enthusiastic about using the service and paying for it. This enthusiasm, however, needs to be taken with moderation considering the high cost that such a service is likely to entail. However, it is certainly the most inspiring service for the majority of the respondents in this study.

The direction for Mobile 2.0 service needs in the BOP is towards life solutions – solutions that help people live better, safer and longer. The average BOP respondent needs information that is specific to their region, age group and social conditions. While entertainment solutions are interesting, they are not important enough to drive increased usage, except television on mobile, where enthusiasm abounds but pricing will be the key decider of uptake. The text heaviness of information services are also likely to be a deterrent in their uptakes but service providers will have to innovate around technologies and interfaces to make available valuable information which their consumers need, in the easiest manner possible.

Innovative Coping Strategies

In the visible scenario of the currently low Mobile 2.0 usage, the question that now arises is that in an age when livelihood is dependent on information access, how does the BOP user cope with their information needs. From the discussion above it is evident that they have various information needs that are urgent, self improvement oriented, and employment centric and each of these can have significant consequences on their lives. However, being unable to afford the steep prices, all the respondents in this study indicated innovative ways through which they are able to overcome their challenges around information needs.

Dependence on social networks is the biggest coping strategy for all the respondents in this study, irrespective of age and gender. Respondents in the various countries said they depend on their social networks for seeking employment, getting advice on education, identifying good schools for children, find good doctors, seek travel tips, discover market insights, understand government regulations as well as request financial assistance. While acquiring work through social networks has been discussed previously, one observed that education is a significant section on which respondents sought the assistance of their networks. While in all the South Asian countries, respondents sought the advice and help of their family members and friends to admit their children in good schools, to get the right tuition teachers and buy the most useful books or borrow from heir neighbor's children books after they have gone to higher classes, in South East Asia; no such information sharing is taking place. Respondents in Thailand and Philippines said that they alone decided the schools of their children and at maximum, they looked for the information on internet, especially in the case of higher studies. In South Asia, educational advice seeking is perceived as a way of giving respect to the opinion of those whom one asked.

Seeking advice on doctors is equally prevalent. Respondents said that having heard about a doctor from their close relations increases their confidence in them. This recommendation is valuable for them as it makes them feel that something is known about this doctor as compared to a nameless face that can be recommended by an automated system that merely works keeping in mind things like distance and budget. In Bangladesh, several respondents pointed out that the reason why they will never take healthcare advice on mobile, is that a system like a mobile

cannot understand human sensibilities. The data system within the mobile will not take into account the fact that if a doctor is good they are ready to travel more than the immediate vicinity of their village and they can also pay more than their average budget when it comes to healthcare as one cannot bargain with one's health. These respondents also suggested that they will never trust a mobile generated content which may recommend their nearest doctor because they may already know that he is not good. As a result, the information will be faulty for them- they will have spent money and yet not got the solution that they required. In such a scenario, it is so much easier to call relatives and one can be sure that they will have the much more reliable answer. Additionally, their relatives might even go with them as a support gesture for which information on mobile has no alternative. Thus the human assurance of first hand experience is valued much more than quick information when it came to healthcare services.

In Sri Lanka, in particular, all the respondents said that they always ask for travel tips to their friends and family when they have to visit some place. They suggest again that there is no way of assuring that a place will be good by seeing mere rates or locations on a phone. People who know them understand the experience they seek and as a result can lead them to the right kind of place. Respondents in all the countries thought asking for travel directions, transportation time and hotels on phone, are complete luxuries and waste of money. While the male respondents said that they will go to a place and manage accommodation, older men said that a day before their trip, they physically go and enquire about times. They perceived this to be a good practice since they got the right information from the person who knows the most and they did not mind waiting 15 to 20 minutes as this did not significantly hamper anything in their day.

In India and Pakistan, on the other hand, it is seen that in rural areas, respondents said they depend on their family members and neighbors to find out market prices, new policies made by the government and ways in which to acquire financial assistance. They suggested that while they can consider price information being sought on mobile, government information and financial assistance seeking did not seem practical to them. The reason being indicated by them for this is that the regulations are understood by them only through explanation and discussions with their neighbors. Such discussions and question answer sessions will not be available when a text message plainly indicates the bare fact. Similarly, when they need financial assistance, the time duration is always short and they take money on mutual trust. Oral commitments without paper works is never allowed by formal organizations and these agriculturalists felt that a mobile service in this domain will only lead them to bankers whose legal policies and formalism does not appeal to them when they need the money in urgency.

In Thailand and Philippines, people are dependent on their social networks for information inputs but they are also exercising a great deal of individual decision-making through their reliance on information on the internet. Respondents rely on their friends and other contacts in their social network for their information needs but BOP respondents in urban Thailand and Philippines have also begun to use the internet effectively. They are fulfilling their varied infotainment based needs from the internet. It is usually accessed from PCs at home or cybercafés where respondents were found to be spending two to three hours on weekends. The respondents in female group

discussions in Philippines mentioned how they will receive an SMS from their Oversees Foreign Worker relatives to be online at a particular time and then they will communicate with them using internet services like Yahoo, Skype or Goggle Talk. The service that these people conceptualized is to get a notification on their mobile phones every time their relative is online for easy coordination.

Alternative technologies like cable, radio, internet and Bluetooth enabled phones all substantially meet the information needs of the BOP tele users as well.

Cable TV is the primary source of information for all respondents. All the respondents in this study had a television and 80% of them also had cable connections. Cable TV news and programs are the top source of information for the female respondents from 18 to 60. While the younger girls still got some information on radio, for the married middle to senior age group of women, all identified the TV as a source of information where they can seek the information they wanted rather than be told about things which happens when their spouses pass on information from newspapers they might have had access to. Women watch films, cooking shows, beauty programs, tele dramas and reality shows while doing their household chores mostly in the middle of the day and post 8 pm in the evening.

In Sri Lanka, Pakistan and Bangladesh, among trishaw drivers, the radio is the major source of information for them during the day. They indicated that the radio could either be in their phones or it could be a separate equipment as well. In Pakistan, for example, Wali, pointed out that previously his trishaw driving friends used to play the radio in their vehicles while waiting for passengers near his shop. As a result he could hear songs, news and cricket updates. Now he has also purchased a small Chinese radio which he plays in the afternoon when the traffic in the shop is less and fellow shopkeepers often sit with him, listening to the same. In Kandy also, all the respondents who were trishaw drivers, as seen in the group discussion, indicated that listening to songs and news on the radio alerted them on the war and helped them spend time while waiting for customers.

In Thailand, the most widely used strategy to acquire information is the use of the Internet. Respondents in Thailand are meeting their needs for local information through a popular local site www.kapook.com and Google. The younger respondents are more adept in using the internet and even in rural Thailand, youngsters like Dinn spend a considerable amount of time on the internet. Dinn visits cybercafés to seek information about new bike designs and is even engaged in social networking. Most of the respondents accessed internet on PCs and one of the female respondents mentioned that she used internet on her mobile phone as well. The BOP respondents download wallpapers, songs and other such things from the internet and then upload them on their mobile phones. This is a coping strategy to optimize their expenditures and one of the reasons why they do not download from mobile operator offered services. Some respondents like Sophia, who is an urban mini-ethnography respondent from Thailand, said that she had learnt the usage of internet recently at home because the internet is installed for her niece but she also liked using it and spent time learning it. She is using the internet currently to look for better jobs as

she felt that her job at a factory was no secure. She said that she logged on to Google and www.jobschiangmai.com to look for jobs.

Compared to the extensive use of the internet in South East Asia, rarely did BOP respondents in South Asia, except Sri Lanka to some extent, use the Internet. The internet ecology is South Asia is rather nascent and will need substantial work around content, interfaces and connectivity, for it to be on par with the current South East Asian ecology.

The final most important coping strategy observed in these countries vis-à-vis their information dissemination is the use of Bluetooth phones. The 18 to 25 years male age group emerged uniformly in all the countries as the largest multimedia content buyers and sharers. In Sri Lanka, Thailand and Bangladesh, entertainment related content downloads are extremely popular and more so in rural areas than in urban areas. Respondents in rural areas of these countries suggested that since their entertainment options are limited with less places to go to, less people to interact with and some not having cable TVs (in Bangladesh), these respondents feel that new songs, movies, wallpapers and forwards, keep them entertained and aware of developments in urban areas.

In Kandy and Chiang Mai, the popularity of content downloads are strongly visible. In Kandy, the younger male respondents go to their nearest Communication shop to acquire such content. These respondents in Sri Lanka, both in Kandy and Matale claim, that they pay around 50 SLR (USD 0.40) each time to download a mix of ringtones, movie clips, songs, wallpapers, picture messages and text forwards. They give their own phones to the shop owner who loads these using either their own data cables or through Bluetooth from his own phone. Only one boy and one man each in Kandy and Katudeniya, respectively, suggested that they have also downloaded using the internet on their home pc and on to their phone, respectively. They have then shared this content with friends and family members, using Bluetooth. In Sri Lanka, we also saw 50% of the young female respondents in the urban group discussion claim that they have received such downloaded content from their siblings, husbands or friends (female friends who also got it through their male networks) but only one young girl of 23 years age in the urban group discussion, actually went to a Communication shop to get the content. Such downloaded content are also loaded on to parents' phones as well. The youngsters have rarely faced any problems of virus and when they do, they ask the Communication shop owner to resolve the issue. Several of the younger men also know how to resolve such issues on their own. In Sri Lanka, the youth loaded such multimedia content in rotation within one's friends' group and the average time of use before a refresh is about two months.

In Bangladesh as well, the same process is followed with the amount of money being spent being 50 taka (USD 0.70) per download. This amount is at times variable depending on the size of the downloads. While in Sri Lanka and Thailand, we find the craze for such multimedia content to be quite equitable over locations in the 18 to 25 age group, in Bangladesh, the urban male respondents had very little interest. They suggested that this is because of a lack of time for entertainment as well as not being interested on spending so much on entertainment when they have

more ready access to cable TV than their rural counterparts. Content sharing with female relatives, may be occurring but it has not been commented upon explicitly by either of the genders in Bangladesh.

In India as well the young male respondents in both urban and rural areas purchase pirated mp3s or go to CD shops to get new songs loaded on their phones. They spend approximately 50 INR (USD 1.00) and acquire mostly songs. Images and wallpapers are received through forwards and shared through Bluetooth. In Pakistan alone we found that while content is being shared through Bluetooth, none of the respondents had any experience of going to any shop to acquire them. They all got it from their friends and on being asked whether they will go in the future, they said that they did not want to spend money. Receiving content is fine as long as it is sent by others. This can be the subjective opinions of these specific respondents and our secondary research shows a similar loading and sharing to be already existing in Pakistan as well, though perhaps, to a slightly lesser degree due to the safety concerns of most Pakistani phone owners.

Thus we see that while social networks are very powerful sources of information, the portion of need that can be met with technology, has several contenders. TV, Bluetooth and internet allow unlimited information dissemination and are free from the drawback of per head costs. People are getting similar content that they can get on mobile on all these platforms and since many more people can absorb it, such technologies are both complementary and competitive to Mobile 2.0 services.

Barriers to Service Uptake

The major barriers to service uptake of Mobile 2.0 services are cost, service awareness, language and text heaviness, lack of relevant services for older demographics, lack of confidence with the transaction process, availability of alternative media and generally limited needs.

The top barrier to Mobile 2.0 service adoption for BOP respondents in all these countries is cost. Teleusers in all these countries measure the utility of all these services in relation to a call and expect their pricing to be comparable with that of a call. It is difficult for them to understand differences in technology requirements and consequently, the higher service rates. Service operators are perceived as omnipotent with multiple respondents in all these countries saying that “They (operators) can do anything if they want” implying that operators can reduce prices if they want. Their yardstick is how voice call rates have come down and they want to see a similar effect in the other services as well. This is particularly emphasized in Bangladesh and Pakistan more so than all the other countries because these respondents have faith in the way their service operators have brought down prices and want them to do more.

Respondents, themselves, however, can not indicate on their own what will be reasonable price brackets for these services for them. The amounts quoted are off the cuff and not practical with people citing caller tunes at 5 INR (USD 0.10) per download and no time limitation in India, MMS being charged only at SMS sending rates in Philippines and any educational services to be free since it is a 'noble' service in all South Asian countries.

The second most prominent response to what prevents them from service uptake, respondents suggest is that they are not aware of the variety of services on offer. All respondents are aware of the basic services like SMS, ringtone download, wallpapers and MMS but beyond that there is a drastic decline in awareness. This is a recurrent complain from the 30 to 60 years age groups irrespective of genders in India, Pakistan and to some extent in Thailand. In urban Thailand however, they are aware of services like GPRS and internet on mobile as well. In Bangladesh the female respondents in the 25 to 35 years age group are well aware of many services like news alerts, sports updates, filmy gossips and hospital information, but their awareness is limited to service understanding and corresponding advertisements for the same. There is no understanding around prices of the services and nor is it felt necessary since they cannot afford to subscribe to such services.

In Bangladesh, however, a striking feature that is observed in the respondents of 18 to 25 age group in both the genders, is that more than 60% of them read the booklet that they got with their SIMs and keep it and as a result, they know about services like Friends and Family (F-N-F), reduced call costs at night as well as things to do to reactivate their own SIM when it shuts down on wrong pin insertion. The booklet gives them an understanding of basic service costs but not that of these services in particular. As a result, many of them activate the F-N-F feature but only after having consulted with friends and local mobile reload shop owners.

In India and Pakistan, respondents mention that they come to know about new services at times from TV but more so by communicating with their nearest mobile shop owners. They make a clear distinction saying that they find out more about the network from TV advertisements but about the specific services from these shop owners. These men not only tell them about what is new but also help them judge which of these services are likely to be useful for them both from a content and cost perspective.

In Philippines, all knowledge around Mobile 2.0 services revolved mainly around text messaging. Since it is far cheaper to send an SMS than making a call, most of the Filipino respondents prefer to use SMS. The same is true for all the countries but then the familiarity with the Roman script gives Filipino BOP respondents an advantage over other countries. In countries like India and Pakistan typing is a challenge because of the low literacy levels while the high levels of literacy in Sri Lanka explain why they are better at sending SMSes than other South Asian countries. Another factor that encourages heavy text usage in the Philippines is the abundance of promotional packages that provide a very large number of text messages to be consumed within a very short period of time. This leads the BOP respondents to send too many messages for the sake of covering the costs that they have incurred on the package. Even though text messages are used for general communication as well because of the above mentioned factors,

most of the text message in Philippines also revolves substantially around indulging in ‘fun’ and recreational activities for these respondents. An important part of these recreational activities is the ‘textmate behavior’ discussed earlier. Filipino BOP respondents have phone friends with whom they communicate only through text messages and hence they are called ‘textmates’. An analogy of this behavior can be derived from having ‘pen friends’ from the days when postal services were much more important for day-to-day communications and not merely restricted to physical transfer of official or bureaucratic paper work. Texting is a means of recreation and passing time for nearly all the Filipino BOP respondents studied in this research. The number of textmates for an individual is variable. Rita, who is 56 years old still has textmates and her daughter often curiously enquires how she can have textmates at this age.

The overall direction that emerges in terms of service awareness is that while the younger age groups in these countries know more than any other segment about services, their focus remains more on entertainment than informative services. They are also more knowledgeable on what constitutes the service and its messaging than service costs and validity. This is why many of them disconnected ringtones within less than thirty days assuming they were saving money.

Associated with the lack of awareness of services, is the indication from older respondents of there not being any useful services for them. It is observed that the current batch of popular services, have very little relevance for people above 25 in most of the countries. Low cost mass SMS, current film songs or late night cheaper call rates have little relevance for people above 25 if they are settled in an employment and have a steady way of life. In Sri Lanka, all the male respondents in the group discussions in Kandy, being above 25, questioned what they can do with such current offerings on a regular basis. Their work lives are so tough that they no longer have any interest in films and music and after a tiring day’s work, they hardly have any energy left to talk well into the night. They, however, specified that they may talk for a while but they cannot possibly talk from 11 pm to 7 am. As a result, such a service is hardly useful for them. Similar thoughts are also echoed in all the countries with those in India and Pakistan also citing linguistic inability to decipher content in English as one of the reasons why these services are irrelevant for them. The older respondents, like Saleem Afeez in Dhaka, Yasir Aziz in Karachi, Marun Rawat in Paithan and Kumarasena in Kandy, in home visits with migrant worker parents, suggested that they require local security information, updates on their transactions so they do not have to go somewhere recurrently or government schemes for the elderly which no service provider is currently providing.

Fourthly, confidence in the transaction process for these services is also cited as one of the clear reasons for not opting to use them. Recurrent mentions are made of instances where a first time user has paid for a ringtone or an update but has not received it, spent an extraordinary amount finishing their entire balance not knowing service rates and the unduly long telephonic navigation which is charged at very high rates. Factors like not receiving a ringtone after having paid for a first time respondent creates a substantial negative impression and they feel cheated of their hard earned money. While the error may be caused by their own mistakes around selection or implementation or even bad networks around where they are positioned, people feel that it is imperative that once they have paid, the

product must be delivered to them and it should be perfectly functional. Any failure to do so results in a negative impression and a refusal / reluctance to use the service again. In Philippines, women who are open to new service try outs recommend that since these services are very expensive they need cautioning before any kind of transaction occurs or limits need be set to avoid complete loss of all their credit. In Philippines, respondents wanted notification before a transaction but in the remaining countries, respondents sought quality service delivery from the operators. The long time taken to navigate these service offerings in the operators' Interactive Voice Response system is equally opposed by respondents. As indicated before, they want to pay only for the end product and not the interim time. Citing that often the instructions given to go back, forth and insert hash (#) are not understood by them, the respondents felt that they ended up spending a lot of time and wasted a lot of money without getting anything in exchange. After a while, this increases the level of anxiety in the respondents and out of frustration they quit the service although but by then they may have actually been very close to their end product. In India, two male respondents in Kundur suggested that to facilitate such service use, the service providers should have a customer service format where they can dial and ask for the content they want to a human being. These two respondents felt that this can reduce errors, fasten up the process and actually give consumers what they want. Promising as this solution is, the current orientations of service operators, are towards interactive voice responses for which customers are reluctant to pay for the long times taken to maneuver such complex systems and as a result, service uptake is suffering.

Finally, in all the South Asian countries, respondents, especially those above 25 and of both genders, pointed out that not everything can be done by phones. These respondents felt that if they did everything through technology, then they will hardly have any social lives. In India, Bangladesh and Pakistan, respondents cited the instances that if neighbors did not talk about children's schools or places they are going to or how to get a job, then there will be no one to share their joys or anxieties with. People will not have friends and they will have nothing but their phones.

In Sri Lanka, the male respondents in Kandy pointed out that their social networks have already been circumscribed with them being less in touch with their village friends but now if they do not even communicate or seek advice and give opinions in their small circle of friends that is still existing, then they will be left all alone with no one to come to help them out of genuine concern. This need to keep a hold on one's human interaction, though felt very strongly in South Asia, is more ambiguous in South East Asia where some respondents felt more comfortable with technology mediation and sought human inputs less, preferring mobile or other technology mediated assistance like online social networking over paying personal visits. This has led to a little fuzziness around their social ties where they themselves realize that by not meeting their friends, they are hampering their relationships and mobile technology is the main contributing factor for the same.

Sri Lanka is also the only country in this research where the overall impression of respondents is that they do not really need more solutions. The age groups of 25 plus in both genders are quite satisfied with existing conditions and believe that remaining improvements will come with time. These respondents in both Kandy and Matale felt that they have a reasonably good lifestyle, well supported by most infrastructures and with no significant challenges. If they need transport news they can ask the local bus drivers or go to the main depot, health workers visit houses regularly and people have enough for a comfortable livelihood. Only the youth want more but that too in entertainment options. This too is not a dire need for them. As a result, service uptake in both Kandy and Matale is impacted by respondents having less pressing needs, less aspirations and an accompanied sense of wanting to retain older ways of life.

Summary of Findings

Teleuse at the bottom of the pyramid is growing and it is going to be characterized by more and more complex flow of needs, usages and demographic criteria with gender being one of the most important factors. Unlike South East Asia where female users have already taken a proactive lead, in South Asia clear gender differences exist and this in turn impacts several elements of teleusage like phone sharing, spatial elements of phone use, mobile adoption, ownership and perceptions around benefits. Special attention needs to be focused on female users in India and Bangladesh since they are initiating various micro schemes while remaining at home, for which mobile telecom might have certain solutions for. They are displaying high aspirations and are using their mobile phones to initiate income enhancements from which their male counterparts are already familiar and are benefited. In a country like Bangladesh, we see mobile telecom use for women coming to a crossroads where they will either go ahead and use phones in ways that will benefit them or they will subside to social repression. Considering the improvements that Bangladeshi women are seeking, the first seems to be the greater possibility. In contrast, women in Pakistan, not realizing any difficulties from male led adoption and usage, will continue to have longer time horizons for individual uptake.

It is also observed that age is emerging as a serious impediment to mobile usage due to challenges posed by illiteracy, unfamiliar languages, difficult navigations and complex interfaces. Mobile phones as a device are strikingly different from any other technology that the senior age groups are familiar with. A simultaneous lack of interesting content along with limited needs further reduce chances of uptake and consumption in them. As a result, while the older age group remains a challenge to be delved into; the most promising target groups of consumers are aged between 16 to 25 years. They are not only the fastest adopters themselves but can also instigate adoption in their ecology as well, apart from playing a vital role as technology supports to their parents impacting their teleuse as well.

Entertainment will remain a stronghold in teleusage but BOP users will still require services that are informative and are designed specifically in alignment with their age, gender, occupation and other relevant demographic factors. Only when services begin to have personal and professional relevance, will the users stick to them. Users will also need to see some value for the price that they are paying for Mobile 2.0 services, for uptake to occur. The costs for many of the services will have to be slashed for the BOP consumers. Also, operators will have to prove their credibility for Mobile 2.0 services to catch up.

In India, public booth owners are now reinventing themselves in line with the mobile development. They are not only providing mobile phones to their customers for making calls and charging them for it but they are also becoming mobile vendors and advisers. They are providing various kinds of telecom services ranging from handset selection

advices, to servicing and credit reloading services. They are establishing good rapports with their consumers and are being looked up to as experts in this domain. Telecom organizations which can leverage these opinion makers in their own favor will seek gain substantial new and sustained users.

In terms of adoption, BOP users have so far been connecting with their families first and subsequently deriving professional benefits. This pattern, however, is like to change with more and more users entering mobile usage because they seek palpable benefits having seen their predecessors benefit from it. Connectivity will social networks will continue to be important but users will expect to see more ways of benefiting from mobile adoption.

Mobile infrastructure growth will emerge as the new hallmark for infrastructural support sought by BOP users. BOP users will refer to the rapid growth of mobile telecom and its support of their lifestyles as means of judging the success or failures of other associated infrastructures like roads, transportation, healthcare services, banking, electricity, water and education. They are expecting these other infrastructural elements to replicate the success of mobile telephony in improving their life conditions.

With respect to migration, external migrant workers will need more assistance for social integration on return to the country. They will either require facilitation in finding further jobs abroad or way in which they can be made useful within the existing societies in their own countries.

For remittances, although the use of informal means of sending will continue to be widely used, BOP users' trust in conventional and formal ways of sending remittances like banks, postal services and Western Union-like services will continue to rise with greater awareness around formal and informal transaction networks. BOP users will orient themselves towards more mobile based transaction but they need ample recommendations and assistance around these services, for them to turn to active usage.

The social networks of BOP users will continue to become denser and will influence their adoption of various technologies from mobile to Internet. Social networks will become more complex and will overlap with professional networks to derive increasing employment and income benefits. Service operators who will make services centered around social networks will stand to gain huge number of users who will remain together bound by the service use.

Teleuse at the base of the pyramid will thus grow more rapidly than ever before and more and more stakeholders will tap this consumer segment. While profit margins will have to be lowered, the volume of these users will more than amply make up for reduced costs by making this the most interesting, challenging and even profitable sector to innovate for.

Appendix

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Annexure

The report uses the www.xe.com for United States Dollar (USD) equivalent conversion rates for all country currencies as of February, 10th 2009 given below:

1 USD = 0.014 Taka

1 USD = 0.020 Indian Rupees (INR)

1 USD = 0.012 Pakstani Rupees (PKR)

1 USD = 0.021 Pesos

1 USD = 0.008 Sri Lankan Rupees (SLR)

1 USD = 0.028 Baht

1 USD = 0.272 Dirham

Teleuse at the base of the pyramid is expected to grow more rapidly than ever before and more and more stakeholders will tap this consumer segment. The volume of these users will make up amply for the lowered costs at which they have to be serviced. As a consumer segment, it will be the most interesting, challenging and sustained sector to innovate for.









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