Mobile Remittances: Design for Financial Inclusion

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Abstract. This paper investigates the design requirements for international mobile remittances in the context of users' money management and control in the household and the family. Through scenarios that draw on remittance literature, the paper suggests five design principles for mobile remittances that could be a US$ 41 billion market while empowering women, varying patterns of money management and control in transnational families and aiding financial inclusion.

Keywords: mobile remittances; money management; money control; empowering women; privacy, financial inclusion.

1 Introduction

> *I use(d) to send money home by taxi. It wasn't secure, it was expensive and it took a long time. Now that I use Wing, it has become convenient for me. It is secure with low cost …*
> Som Mony, 22 years old, Garment Factory Worker in Cambodia, eldest of 10 children[1]

WING is a new business wholly owned by the Australia and New Zealand Banking Group (ANZ). It launched its controlled pilot with garment workers in November 2008. The company is trying to capture the main remittance corridors from Phnom Penh to the six closest provinces. This is where over 90 per cent of garment workers come from today. The workers have been using informal methods of money transfer including mobile scratch cards, taxis/couriers or taking the money home themselves. It costs Som Mony 10 per cent to send an average payment of $US 20-30. Now it costs approximately US$0.50, that is US$0.10 for the person to person transfer, and then US$0.40 for the cash out

WING's project in Cambodia is one of several projects in the developing countries. Mobile money transfer projects started from 2003 in the Philippines, Kenya and South Africa. In most countries the take-up has been encouraging, though the technological and regulatory infrastructure varies.

The literature on money being transferred by mobile phones is reminiscent of electronic money and e-commerce in the 1990s. There is an overall lack of user studies, though there are some early exceptions (See [13, 19, 20]). The business excitement now as then, centers round the lower cost of transactions, the growth of mobile phones in developing countries, their greater availability and convenience compared

[1] Personal communication, Brad Jones, CEO, WING, 13 February 2009.

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with bank branches and ATMs. An important difference is that innovation and take-up is happening in the developing countries rather than the developed world.

The picture on the ground is more mixed. Despite the growth of mobile phones in developing countries approximately two billion people, particularly in low income rural areas do not have a mobile phone. This is not counting the estimated 500 million users who may be using shared phones [14].

We know about the successes of mobile money projects in the Philippines, Kenya and South Africa. However, as Mas and Kumar [18] say 'With a few exceptions, the road to implementing mobile banking is littered with discontinued mobile banking projects, failed new technology vendors, and shelved deployment plans' (p. 1).

Security of the technology may be adequate, particularly with SIM-based solutions, but it remains challenging to ensure that the dispensers of cash in the recipient areas have the required liquidity and reliability. There are reports from the Philippines that sometimes the agents do not give the whole amount remitted [6]. In Kenya, a study of the use of M-Pesa, a form of mobile money, found that consumers trust the mobile service provider Safaricom, but do not trust the agents [19].

At present consumer protection measures for the most part remain undefined. Regulators are trying to regulate mobile banking and its agents [18] , but also have to be conscious of 'enablement'[25]. They need to manage 'the delicate balance between sufficient openness and sufficient certainty' (p. 50) to enable new models and markets to emerge but at the same time protect customers who must entrust their money to new mobile money providers.

1.1 The Mobile Remittance Market

Remittances are a large market for mobile money transfers. Formally recorded international remittances to developing countries are estimated at $283 billion in 2008 [27]. In addition, there is an estimated 45 per cent in international remittances that go through informal channels. Figures vary from 15-80 per cent in Asia, 28-46 per cent in Mexico, [3], 53 per cent in Zambia [12].

Building on the experience of the use of electronic money, we know that people will use a mix of channels that match their needs for their varied activities in different social and cultural contexts [30]. Even if mobile remittances can capture only 10 per cent of the US$410 billion in formal and informal remittances to developing countries, it would be a US$41 billion market.

Mobile money transfers can particularly address some of the impediments that encourage informal remittances from the senders' and receivers' perspectives. Senders move to the informal channels because of high cost particularly for smaller amounts, inconvenient access to banks and their inability to prove identity for the formal financial system. Hence mobile remittances will attract senders who are unskilled, unauthorized or in shift work. Mobile remittances will particularly suit receivers in rural unbanked area lack of access to bank accounts, and those who lack financial literacy among poor, rural users or women – the dominant components among the unbanked. Formal transfer mechanisms have seldom been able to serve this segment [3, 17, 23].

Governments are enthusiastic about the conversion of informal remittances to the formal transparent channel. This change will make a larger amount available for securitization of loans. This greater transparency is also seen to reduce the threat of money laundering and aiding terrorism [6].

In order to tap this lucrative mobile remittance market, it is important to understand the characteristics of remittances and the social and cultural context of the users [7]. At present, there are few bridges between the macro picture of the scale of remittances and the anthropological study of the effect of remittances on money management and control in the recipient household. There are no connections at present between mobile use and the dynamics of remittances.

1.2 Empowering Women to Aid Financial Inclusion

Mobile money transfers can potentially increase the percentage of the banked by offering connections between the mobile channel and the more formal financial system. The best estimates of the unbanked, based on the number of accounts per 1000 adults, range from 98.1 per cent in Afghanistan, 83.1% in Kenya, 43.4% in the Philippines; 44.8% in South Africa and 34.3% in India [33]. Hence the enthusiasm around mobile money transfers extends from the business and technological communities to governments, non-government and international organizations.

To date however, the dimensions of the increase in financial inclusion are unclear. The advantages have as yet been tracked mainly to existing customers [33]. Real-time person-to-person transfers have yet to become commonplace [24]. Costs are lower for mobile transactions when compared with banking transactions, but the poor may not always be able to afford them [28].

If the large market for mobile remittances is to aid financial inclusion, it has to help women for they routinely figure as an important group among the unbanked [34]. Hence it is important to ask: Is mobile money helping women have a greater role in the management and control of money in the household? Is it giving women a greater sense of control over their lives?

In section 2, the paper draws on remittance literature to discuss the impact of remittances on the management and control of money in the household and family. Section 3 paints four scenarios of the use of mobile money transfers as they amplify and modify the control and management of money in the household. Based on these scenarios, it outlines user-centered design principles for mobile remittances. The concluding section summarizes the paper and poses questions for further research.

2 Management and Control of Remittances

Domestic and international remittances are important flows of money. They are also an expression of caring for the family and community, and are one of the ways the migrant expresses a continued sense of belonging to both [38]. The migration of a person or a component unit of the extended family leads to changes in the way money is managed and controlled by the migrant/migrant family and in the family left behind.

The mobile phone has already had the effect of encouraging more regular communication within the transnational family, and the micromanaging of remittances [10, 11]. There is however scant literature on the way remittances influence the management and control of money at both ends. As with other domestic technologies it is expected that mobile money will at first re-affirm traditional patterns, but after a series of small changes, may in the end transform them [11, 29].

The literature on money in the household distinguishes between the everyday management of money, that is organising money to make ends meet, and money control, that is the power to make major financial decisions or prevent discussion about them [16, 22, 35-37]. The research focuses on Europe and North America leading to a 'unitary model of household finances' [21]. Relatively little work has been done on money in the family in developing countries. We know little of how money is managed and controlled across gender and generation in the extended families which are common in developing countries. Issues of the privacy of money within the nuclear and extended family still have to be addressed in detail. It thus becomes essential not to transfer the assumptions of the jointness of marital money – common in middle-income Anglo-Celtic households – across cultures and different household structures [31].

Management and control of money has been a tangential issue in literature on transnational families and remittances. Ethnographic studies however give some insights. Kurien [15] and Gulati [9] in their different stories of remittances to Kerala – a state in India with a high percentage of migration particularly to the Middle East - tell stories of women who were empowered because of the remittances. They are the ones who received the money, opened bank accounts for the first time and learnt to manage money and make financial decisions, thus altering the traditional male control of money. In other cases where the woman and children were staying with the husband's family, and the money was sent to the father-in-law, mother-in-law or brother-in-law, the woman became even more dependent.

Kurien's study [15] shows there are important differences between the Muslim, Hindu and Syrian Christian communities in Kerala. She argues that religion, gender, and status shape migration and remittance patterns and are in turn transformed by migration. In the patrilineal Mapilla Muslim community, the wife has no control over household money as the remittances are sent via informal channels to the male relatives. In the matrilineal Ezhava Hindu community, the remittance comes via postal orders to the wife's father or to her, leading to a greater emphasis on girls' education and the matrilineal traditions. Among the Syrian Christians, it is often the wife who is the primary earner and migrant. But if only the husband migrates, the money comes semi-annually via bank drafts to the wife. She manages the investments and the construction of the house.

There is also considerable pressure on the migrants, when they migrate singly or as a family. There can be an overwhelming demand for money and goods from family at home who assume that money is easy to earn overseas. This money-tree syndrome comes at the same time that the migrant family is trying to establish itself [2]. Greater access to telephones in the home country can make this pressure so overwhelming that the migrant family is at times pushed to temporarily disconnect their phone, despite the moral frameworks supporting remittances [1].

In other cases, the author's continuing work on remittances from Australia reveals that the tension results from husbands wanting to show care for the natal family, while the wife is managing a difficult budget. Lack of overt recognition from the family left behind worsens the tension. At times, this leads to the husband trying to keep secret the money he sends home.

A common theme when women migrants send money home is that they lose control over the use of these remittances. Some Sri Lankan women working overseas send money home to find that their husbands, losing the breadwinner role, spend the money on drink without looking after the home or the children.[8].

3 Four Scenarios of Mobile Money Transfers

This section presents personas and scenarios drawing on insights from the ethnographic literature on remittances, money management and control across cultures and the known characteristics of mobile phone usage in developing countries. As Carroll (2000) [4] says scenario-based design can help focus human-computer interaction on the person and activity within a particular context. The detail can evoke reflection, help manage the 'fluidity of design situations' give 'multiple views of an interaction', while at the same time capturing abstractions (p. 43). Personas embedded in the scenarios help further focus attention on the person at the center of design [5].

These scenarios and personas are derived from the lessons learnt from electronic money and the literature on remittances. If mobile remittances are to aid financial inclusion, an essential aspect of the design of mobile remittances is to use the lower cost and convenience of this technology to direct at least a small part of the remittances to the women in the non-migrant household.

3.1 Sending Money to His Mother Privately so She Has Some Personal Money

Amit, 36, works as a doctor in Philadelphia. He comes from a well to do family in Dharamshala, a small town in India. There is enough money available for the family's needs. Amit is single at present and wants his mother to enjoy some of the benefits of his earnings. She has always been a housewife. She gets a housekeeping allowance from her husband. She and her husband have a joint account but he alone manages it. Though she has much influence in the family, this money is directly or indirectly, accountable to her husband.

Amit's issue is: How does he send money to his mother so that she can control this money? He thought of opening a joint account in India in his name and his mother's name. He can freely move money online from his account in Philadelphia to this joint account in India. He could have an arrangement with his mother that she could take out INR 4000 every 2nd of the month. But, at the time he was thinking of it, Dharamshala had only two ATMs, and one often did not work. He also suspected his mother would not be comfortable going alone to the bank which was in the center of the market place.

Sending a postal money order was more expensive. It would also be more public as the postal order would arrive home, leaving his mother to explain.

When Amit went home last year, he bought his mother her own mobile phone. Previously she would use the phones belonging to her husband or daughter. Now he is able to go to his bank and do a mobile transfer. An SMS arrives on his mother's phone giving her a PIN number. She can collect the money from a post office, the offices of the self help groups of a microfinance financial organisation (which acts as an agent for the bank) or the ATM, if it is working.

When the first lot of money arrived, Amit's mother went to the temple to make an offering of gratitude that she had a filial son. Then she posted some money to her niece for her birthday via a postal money order. She also bought a present for Amit, waiting for his visit home.

3.2 Sending Money to His Wife While Leaving Control with His Father

Maryam, 24, lives with her parents-in-law and her children in Kerala, while her husband, Abdullah, 29, works as a carpenter in the Middle East. Though her own parents live in the next village, Maryam's husband wants her to live with his parents.

In the first year of working in the Middle East, Abdullah sent money back every month through 'the tube' – an illegal channel which exchanged money at 1.3 to 1.5 times the exchange rate. He also sent money, gifts and letters with friends who were returning home. These remittances were sent to his father, for he was the head of the household and controlled the money. His letters were also addressed to his parents. One of his gifts to his wife was a mobile phone, so that it was easier to talk to her. Maryam was not a fluent reader.

In one of these phone conversations, Maryam told Abdullah she was worried about the education of their five year old daughter. He sent INR 1000 to his wife via the mobile phone. He rang her up to find out if she had received the SMS for he was unsure what he would do if the money did not reach her. He explained how she could cash it at the nearest ATM. He continued to send money to his father via 'the tube' because of the better exchange rates. He also continued to send money and presents home via his friends.

When Maryam received the SMS, she went with her mother-in-law and brother-in-law to the bank. The bank officer helped her open her first bank account and showed her how to get money out of the ATM and get a receipt. Maryam bought a small present for her mother-in-law, gave a small sum to charity and they began inquiring about tutors in the neighbourhood.

3.3 A Man Cares for His Mother without Telling His Wife

An IT professional, Ibrahim, in Melbourne from the Middle East sends money regularly to his mother. She is well looked after, as she lives with her daughter. Her other son, a doctor, remains in the Middle East. So his mother does not go without. Ibrahim, however feels guilty that he is not contributing to the care of his mother.

He does not share these feelings with his wife, for he knows she will say that his mother does not need the money, and that she will most likely hand it to her daughter.

His solution to this quandary is to open a separate account that his wife does not know about and send money from that account to his mother. Every time he sends money to his mother, he feels good for it allows him to show he cares. However, he worries that one of these days this secret account will get revealed, bringing into question their avowed jointness in the management of money. He moves to mobile remittances to ensure the privacy he seeks.

Ibrahim begins sending his mother mobile money transfers. When she receives the money, she asks her daughter to go to the ATM and get the money. As predicted, she hands over most of the money to her daughter, but also has the pleasure of giving ceremonial packets of money to her two grand daughters.

3.4 Targeting Remittances and Keeping Control

Anna, 32, is from the Philippines and works in Hong Kong as a maid. She has left her two children, 8 and 10 years old in her mother's care. Her husband has been unable to get regular work, and is expected to help in the household.

Anna does not know how her money is being spent. She hears from the other maids about husbands who feeling they lack the provider role, use the money for drinks and gambling. Anna tries to hedge her bets by sending money one month to her mother, and another month to her husband. And through all of this, she worries whether her children are getting the care and education they need.

On their Sunday gatherings in the square, Anna hears from other maids that sending money via the mobile is cheap and reliable. She goes with one of her friends to a participating dealer and sends $50 to her mother. She rings up her mother telling her what is happening and how she should go to a participating dealer in their neighbourhood, show him her electronic money card and he would give her the money. She also tells her mother to make sure she receives the full sum of money for some agents try and keep back a bit for themselves without permission. The mother rings her daughter to confirm receipt.

Anna then begins to use mobile money transfers with more confidence. Now she herself pays the school fees, the tuition fees, money to her mother, and money to her husband for the utility bills and some for his personal expenditure. This way she also gets to keep some of the money as savings for a home she wants to buy once this work contract is over.

3.5 Design Principles for Mobile Remittances

The scenarios above show the importance of placing the design within the social and cultural context of the user, so as to give control to the sender and receiver of remittances. The designers of mobile remittances need to keep in mind cross-cultural differences in the management and control of money across different types of households and families. Privacy of money in the household in the developing countries remains to be studied, but it is often at the center of the management and control of money in the household. It is important to recognize that small changes in the handling of money may over time lead to empowerment. The scenarios illustrate the importance of the following design principles for mobile remittances:

- The starting point should be to design for everybody, including users who lack print and financial literacy. This approach is particularly important when the recipient has little financial literacy and numeracy. Universal design [26] has to be a starting point of the design of mobile remittances, particularly if women are to become banked and financially included as a result of this technology.
- Give a choice of cash-in and cash-out points to make the mobile a preferred channel. The greater choice will widen the options so that the characteristics of the channel meet the needs of the senders and recipients for different kinds of remittances;
- Use the ability of mobile remittances to target multiple recipients. This will enable the remittance to empower women, without directly confronting traditional patterns of money management and control;

- Ensure the privacy of the information of money transfers, keeping in mind the boundaries of information sharing within the family. Issues of fit, privacy and trust are particularly important as they differ across cultures; and
- Engender trust in the transaction, the provider and the agent by clarifying ways of gaining redress.

4 Conclusion

This paper connects the discussion of mobile money transfers with the macro data on international remittances, and anthropological studies of money management and control. Part of the excitement about mobile remittances is that they will tap into a large, growing market. If mobile remittances were to capture only 10 per cent of the estimated US$410 billion in remittances to developing countries in 2008, it would mean a US$ 41 billion market. Governments are encouraging of this development for moving international remittances to formal channels will give them greater options for securitization. Given the large percentages of the unbanked in developing countries, it is hoped that this technology will also aid financial inclusion.

Keeping the user at the center, this paper connects the business and technological literature around mobile transfers with the remittance literature, focusing on insights into money management and control. Through scenarios and personas, it emphasizes the importance of placing the user at the centre of his or her social and cultural context. This is particularly important because money management and control differs across cultures. Universal design also has to be an important starting point to ensure financial inclusion. The social and cultural approach to user centered design can increase the likelihood of getting a slice of the possible US$41 billion market.

This paper in dealing with mobile remittances, money management and control has dealt with one of the large social issues relating to the use of mobile money. Many questions warrant further study. It is important to ask: Is mobile money used differently from other kinds of money? Will mobile money change cash dominated societies? How will people use mobile money on shared phones? Will remittances be divided up and targeted more than they have been? Will credit be available via mobile phones?

These questions will need to be considered if mobile transfers are to continue to grow and keep their promise of empowerment and inclusion.

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