Delivering Financial Services through Mobile Phone Technology: a Pilot Study on Impact of Mobile Money Service on Micro-entrepreneurs in Rural Cambodia

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Abstract

*Mobile technologies are powering up economic and social development in developing countries. This pilot study aims to generate a set of preliminary results that will contribute to advancing research on the impact of mobile money services on microenterprises and micro-entrepreneurs. The location of the study is set in rural Cambodia.*

*Keywords: Mobile money, mobile payments, mobile banking, micro-enterprise, microfinance, Cambodia, rural development*

1.0 Introduction

The pilot study evaluates the impact of mobile money services on micro-entrepreneurs in rural Cambodia. In particular, it is to examine how the business behaviour of micro-entrepreneurs have changed as a result of having easier access to money, as based on the social inclusion dimension framework of Burchardt, Le Grand and Piachaud (2002) and later extended by Hasse and Walsh (2007).
Researchers of poverty are provided with deeper insights on microenterprise behaviour in rural and remote areas and thus further identify entrepreneurial and economic implications for poverty reduction using mobile technology. This pilot study will help researchers of financial inclusion to develop new approaches to bring financial services to the unbanked population of the world.

A World Bank Group/World Resources Institute commissioned report estimated that about 80% of the world’s population (4 billion people) still has annual incomes below US$3,000 in local purchasing power (Hammond, 2007).

The International Telecommunications Union (ITU) reported global mobile phone subscriptions accelerating from 2.2 billion in 2005 to over 5 billion in 2010 reaching 87% of the total global population and 79% of the total developing world population (see Figure 1). This phenomenon is set to grow to 6 billion by end 2011 (ITU, 2011).

Figure 1: Number Of Global Mobile Phone Subscriptions

![Chart](http://www.itu.int/ITU-D/ict/statistics/index.html)

Chaia et. al. (2009), CGAP 2010 and Ardic, Heimann and Mylenko (2011) suggested that as at end 2009, there was an estimated 2.75 billion people out of 5 billion people (that is, 56% of
global population) who does not have access to formal financial services for saving, borrowing or transacting.

With this backdrop, the pilot study focuses on Cambodia where the World Bank Group reported that only about 6% of the total population of 14.5 million (or about 900,000 people) use financial services from banks and microfinance institutions (Sereivathana et. al., 2008).

As of 2010, financial services penetration rate is about 2.2 out of 14.5 million people (NBC, 2010). The total number of Cambodian bank branches is 568 which only reached 3.92 per 100,000 people as compared to 38.67 Australian bank branches per 100,000 people (CGAP 2010; Connolly, Georgouras, Hems and Wolfson, 2011). In 2010, Cambodian mobile phone subscriptions have a penetration rate of about 57% or 8.2 million.

Figure 2 shows Cambodia’s mobile phone subscriptions having a penetration rate of about 57 per 100 people (57% or 8.2 million) in 2010, compared to about 7.5 per 100 people (7.5% or 1.1 million) in 2005 (ITU 2011).

The significance of this pilot study is that it adds to the body of literature of delivering electronic money to the 2.6 Billion unbanked population. In particular it adds to the
understanding of the impact of mobile money services on micro-entrepreneurs and micro-enterprises in rural Cambodia for improving their livelihoods and business sustainability.

2.0 Microenterprises in Cambodia

In Cambodia, the number of private firms is dominated by micro-size firms (Ung and Hay, 2010). The authors' personal observations suggest that 99% of the economy are run by micro, small and medium enterprises. It is also observed that the nation has a high level of female entrepreneurship. These observations are similar to the Cambodia 2011 Economic Census Final Results that, (a) 95% of the listed business establishments have 5 or less employees; (b) 65% of the listed business establishments are owned by females (NIS, 2012). Most of the micro-enterprises operated by women are in the retail sector and service industries, but are increasingly moving towards small scale manufacturing (Phavi and Ghebreab, 2012).

It is generally accepted that microenterprises have some key characteristics. The owner micro-entrepreneurs are self-employed, they lack capital to form their business and will hire family members or having few employees. Also that a majority of the micro-enterprises are regarded as informal in that they may not necessarily comply strictly with legal requirements in operating their microenterprise. It is likely that the business operates from home and the business income is a supplement the total household income. Only basic knowledge or technology is needed to run the enterprise.

World Bank (1999) defines a microenterprise as "an informal sector business with five workers or less, and fixed assets valued at less than US$10,000." This definition is similar that used by USAID (Blayney and Otero, 1985) and other writers (Ayyagari, Beck and Demirgüç-Kunt, 2005).

The research of de Mel, McKenzie, Woodruff (2008) reported that the self-employed makes up around a third of the non-agricultural labour force, and represent half or more of the informal sector, in low income countries. They further said that a substantial majority of these micro-entrepreneurs work by themselves and hired employees without salaries.

Tokman's (2007) views are similar with the International Labour Organization (ILO). He suggested that the micro-entrepreneurs are actually being by-passed by the employment
market. The "unemployed workers" start small enterprises to run, while waiting for a job to hire them. This view is in some way supported by the research of de Soto (1989). He said that micro-entrepreneurs are in the informal sector because of three difficulties - lacking access to credit, inability to obtain an approval for a business license, or being prevented from starting a business.

3.0 Mobile Money Services

Most recently the mobile phone has been widely used as a channel for providing microfinance services, hence the term “Mobile Phone Banking” or “Mobile Money Services.” Furthermore, the use of mobile phones to provide financial services across developing countries has been one of the most remarkable technology stories in the past decade. By end of 2009, more than 120 mobile money projects are deployed in 70 emerging countries (Beshouri et al. 2010). This phenomenon has since been given a range of terminologies such as mobile banking (m-banking), mobile payments (m-payments), mobile transfers (m-transfers) and mobile finance (m-finance) (Donner and Tellez, 2008).

In 2008, a mobile money service called WING Money Cambodia (WING) was launched in Cambodia to provide basic financial services through mobile phones. By the end of 2011, WING has reached over 350,000 registered mobile money account users with services available in all of Cambodia’s 24 provinces and has processed more than 220,000 mobile financial transactions (WING, 2010; ANZ, 2012).

4.0 The Field Work

This study uses the qualitative research approach. The decision taken was based on the differences between a qualitative and quantitative research design strategy in accordance with the proposition of Bryman and Bell (2007) to consider the connection between theory and research, epistemology and the ontology.

In particular, the approach of the pilot study was influenced by two factors. Firstly, the nation of Cambodia lacks an existing theory, or data, to test the impact of mobile money. So the study seeks to generate an inductive theory on a social phenomenon that is new to the academic body of knowledge. Secondly, the impact of mobile money services is more of a constructionism ontology due to its high dependency on social actors. Then the study must
focus on the rural people with mobile phones who access financial services, and their perceptions, attitudes and behaviours on technology adoption.

This research study utilises a Most Significant Change (MSC) methodology framework because of its emphasis on evaluating outcomes and impacts as well as its genre focussing on social change. MSC involves the collection of significant change stories emanating from the field level and systematic selection of the most significant of these stories by stakeholders (Davis & Dart 2005). The MSC methodology is also useful for this research study to act as an overarching framework interface between academic research, professional practice and the participants involved in this research study (McDonald et.al. 2009).

The pilot study field work was conducted between July and September 2011. Access to users of mobile money services was provided by WING Money Cambodia (WING), the leading mobile money services provider in Cambodia. Face-to-face interviews and ethnographic observations were conducted in six rural provinces to analyse in context customer perceptions and experiences on payment delivery, ease of use and socio-cultural changes in transitioning from physical to electronic cash.

As per university research ethics requirements, a Khmer language statement/brief information pack was given to each interviewee. The interviewees also signed a consent form that ensured confidentiality, giving them the right to withdraw from participating at any time. In the pilot study, about 120 users of mobile money were approached for in-depth interviews. The responses of 35 respondents that were considered most relevant to the research were analysed. The 35 respondents consisted of 20 males and 15 females: 15 micro-entrepreneurs, 5 employees of micro-enterprises, 5 high school students, 3 WING rural agents, 2 soldiers in a remote hinterland, 1 coast guard, 1 farmer, 1 vegetable wholesaler, 1 meat vendor and 1 monk.

Two Cambodian research assistants acted as interviewers/ translators and also transcribed the interview scripts from the Cambodian Khmer language to the English language. The transcribed interview data was entered into NVivo 9 software for the conduct of qualitative data analysis.
The research study followed a data analytic procedure as categorised into six distinct phases (Marshall and Rossman, 1999), namely, organising the data; generating categories, themes and patterns; coding the data; testing the emergent understandings; searching for alternative explanations; writing the data analysis section report.

To enhance the current understanding of mobile money services, Dewan (2010) emphasized the need for more theory-based empirical research (qualitative and quantitative) as well as a using a cultural perspective to study the usage of mobile money services. He also recommended that the study should compare the culture of using cash and electronic banking and how does culture influence business.

5.0 The Impact

Social impact is linked closely with the concept of social inclusion. Based on the work of Burchardt, Le Grand and Piachaud (2002), social inclusion can be viewed as having the one or more of the following dimensions:

a) Consumption: including the capacity to buy goods and services, accumulate savings
b) Production: participate in the economy and other activities relevant to the society lived in
c) Political engagement: contributing to decisions that affect one’s life
d) Social: belong to a network of family, friends and / or neighbours

Hulme (2000) emphasised that the optimal impact evaluation methodology should be a mixture of the different methods for a fit between assessment objectives, program context, human resources, and timing.

An evaluation methodology needs to have impact and be forward-looking. Kiviat and Morduch (2012) emphasized that besides asking not only “does it work?” well-designed evaluations also ask “for whom does it work,” and “how can we make it work better?”

It was observed that small businesses located strategically in rural towns were appointed to provide mobile money services on behalf of WING. The benefits to them as well as small business owners with mobile money accounts have gone beyond from being just a revenue
channel or payment service (phone top-up, transfer, deposit and withdraw money) to become a business solution for reducing operational costs and increasing profitability.

The comments by a small business locksmith owner with a mobile money account:
“WING (mobile money) has helped me to reduce costs on money transfer service fee as well as transportation and meals for my trip to the capital city to collect my locks. With reduced time in travelling, I can now save more time and do not require to close my small business so that I can effectively earn more money”. “I do not need to spend time to go out to the shop to buy scratch cards to top up my mobile phone credit as I now use WING to top up my mobile phone credit.”

Mobile money services appear to have made significant changes on individual financial habits, behaviours and practices:

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<tr>
<th>Before Using Mobile Money Services</th>
<th>After Using Mobile Money Services</th>
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<td>The interviewees usually kept their money in their pockets which would lead them to spend their hard-earned money faster and sometimes impulsively.</td>
<td>Interviewees safe-keep their money in the mobile money accounts and they believe that they are spending less because the money is not within their immediate reach. The impact is that they now developed a more “savings” mentality due to a lack of physical cash in their pockets.</td>
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<td>The interviewees highlighted how transferring money via banks, money exchange shops, buses, taxis, motorbikes, family member, ‘ICOM’ radio service and horse carts was difficult and frustrating which resulted in creating tensions between the senders and the receivers.</td>
<td>The interviewees can now easily send money without having to worry about inconvenience, time wastage, security and safety.</td>
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<td>Interviewees with children did not have access to a savings account due to lack of access to a nearby bank branch.</td>
<td>Interviewees with children expressed that a mobile money account gave them a savings account mechanism to set aside some money for their children’s future.</td>
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6.0 Conclusions
The significance of this pilot study is that the findings add to current literature of delivering electronic money to the 2.6 Billion unbanked population. In particular it enhances the understanding on the impact of mobile money services on micro-entrepreneurs and micro-enterprises in rural Cambodia especially in improving their livelihoods and business sustainability.

Researchers of poverty, inequality, microfinance and the unbanked, are provided with deeper insights on microenterprise behaviour in rural and remote areas. In this aspect, the results of the pilot study further identifies entrepreneurial and economic implications for poverty reduction using mobile technology. The study will also help researchers of financial inclusion to develop new approaches to bring financial services to the unbanked population of the world.

Thus far the evidence shows that mobile money services are gaining market acceptance when used for daily business life in rural Cambodia while complementing or enhancing access to financial services. More so, the financial access to electronic money has changed and improved their livelihoods.

The study suggested that mobile money services has the greatest potential to improve the micro or small business trade supply chain process in terms of reduced operational costs, higher profit margins and higher market access opportunities.

Each of the six provinces surveyed has unique and varied needs. Understanding the economic and entrepreneurial impact can provide invaluable insights for government regulators, financial institutions and technology service providers to assist in the formulation of inclusive growth policies in designing financial and other services through the mobile phones for not only micro-entrepreneurs but also the unbanked and poor. Hence, industry stakeholders can be one step closer to laying the foundation to effectively identify a global response to the needs of the microenterprises.

The pilot study has two major limitations. Firstly, it has excluded the question on how microfinance institutions have effectively used mobile phone technology. Secondly, how mobile-phone applications can spur financial inclusion. These are key issues for consideration in future research on mobile money services.
References


