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The Impact of Pure Mobile Micro-financing on the Poor: Kenya's Musoni Experience

Dr. Tonny Omwansa
School of Computing and Informatics
University of Nairobi, Kenya
tomwansa@uonbi.ac.ke

Professor Timothy Waema
School of Computing and Informatics
University of Nairobi, Kenya
waema@uonbi.ac.ke

Abstract
Almost all the micro-finance institutions (MFIs) in Kenya have introduced mobile money to increase the convenience and speed of transactions, and to lower the cost of transferring funds. Since most MFIs had already established their brick-and-mortar operations, mobile money only complements their traditional approaches to serving their clients. Musoni, a relatively new MFI, provides micro-finance purely through mobile technology. This cashless model eliminates some administrative costs and makes transactions efficient for both the customers and the MFI. The uptake has been impressive and the model is believed to help reduce client groups' meeting frequency, leaving customers more time for business and increasing customer loyalty. The researchers proposed to establish preliminary evidence of the impact of pure mobile money on the consumers of Musoni services. The qualitative data was collected through focus group discussions and in-depth interviews while quantitative data was collected via structured questionnaires. From the study, it was observed that mobile money, when bundled with other products, became more valuable to customers and made the other products more appreciated. There was also an element of increased savings as a result of using mobile money. In addition, there was an apparent shift to mobile money for other transactions.

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Introduction

M-Pesa ('M' for mobile and 'Pesa' for money), the mobile money service provided by Safaricom, has become very popular in Kenya, across all age groups and socio-economic classes. Currently the count of local transactions per unit time outnumbers global Western Union transactions. Supported by a network of over 40,000 agents, over 14 million Kenyans access the easy-to-use service on a regular basis[i]. Usage of M-Pesa is higher among urban Kenyans, but is also significant among rural dwellers (World Bank, 2010). Sending and receiving money are the dominant uses of mobile money in Kenya, but other forms of usage, most of which were not initially intended, have also been observed. Other usage forms include airtime purchase, temporary saving, paying bills, and ATM withdrawals (FSD, 2010).

The benefits of greater convenience and speed of transactions, as well as lower cost of transferring funds, have led to the application of mobile money on other fronts. Safaricom has established over 800[ii] business partnerships facilitating customer to business M-Pesa payments. One valuable extended usage is in micro-financing. Almost all of the micro-finance institutions (MFIs) in Kenya are now using mobile money to facilitate disbursing of loans and receiving of repayments or savings. By introducing mobile money, MFIs save their clients the trouble of traveling to receive loans or make repayments. It is a more convenient and faster approach.

Given that most MFIs have already established their brick-and-mortar operations, mobile money only complements their traditional approaches to serving their clients. Musoni ('M' for mobile and 'Usoni' for future), however, provides micro-finance through mobile only. It is the first MFI to offer 100% mobile phone based financial services to the lower end of the market. This is an innovative approach to micro-finance whereby loan disbursements, repayments, and savings are made exclusively through mobile money (at the time of study, only M-Pesa was in use). Musoni is the first in the world to achieve this kind of cashless automation and has taken alternative delivery channels to a whole new level, providing a paradigm shift in the way traditional MFIs operate[iii]. The pure mobile-based micro-financing model eliminates some administrative costs for the MFI both in the field and in the back office. In addition, transactions are much more efficient for both the customers and the MFI. After their launch in May 2010, Musoni enrolled over 10,000 clients in its pilot phase of one year and could receive over 5,000 loan repayments in a week as of 2011. Musoni had established three branches, two of which are within Nairobi, the capital city of Kenya, but planned to open 18 branches by the end of 2014 (Maina, 2011). Rabobank, Oxfam Novib, and Hivos are the key partners who have invested in supporting Musoni business. By the time of the study, Musoni had over 18,000 loans issued and had signed up about 8,000 clients. Musoni's clients are poor workers, some of who run small businesses. The clients sign up in groups and seek low value loans from the MFI.

For cash-in-cash-out services, Musoni rides on the M-Pesa agent network. Clients send and receive e-money and interact with the MFI through established Musoni agents, currently set up within Nairobi. Musoni is able to disburse loans within 72 hours of application (frequently achieved within 24 hours). Repayments are recorded instantly and automatically posted on the Musoni M-PESA web interface (Maina, 2011).

Musoni believes that this model reduces client groups' meeting frequency, leaves customers with more time for themselves and their business, and increases customer loyalty. These benefits are believed to be true although hardly any published research is available. Analysis of data collected by Musoni does show, however, that about 65% of all loan repayments are made outside normal banking hours, proving that clients value the flexibility and convenience of the mobile payments approach.

As high as 80% of transactions in most African countries are cash-based[iv]. Handling cash can be costly and inconvenient, yet many poor and semi-literate people tend to avoid the use of technology for fear of losing control of their money. Using mobile-based micro-financing somehow "forces" Musoni's clients to adopt and increase their confidence with mobile money. This study shows that gradually these poor clients do recognize the benefit of cash-less operations in their lives.

Musoni Operations

The operations of Musoni are outlined below.

- Musoni targets poor people who may not have collateral to access commercial bank credit; they should be involved in a form of business.
- Customers form a group and register a name for identification.
- The group is registered with Musoni and all members fill application forms (the MFI is now going paperless and will make this process electronic).
- All members must provide a mobile phone number. Currently Musoni works with M-Pesa only, but has plans to roll out in Uganda in collaboration with two mobile money providers.
- Customers as a group begin to make mandatory deposits.
- The group begins to meet regularly and invites a Musoni wealth creation officer (WCO) on a regular basis.
- After a period of time, individuals apply for loans guaranteed by the group. The group must approve the loan applied for Musoni to award the loan.
- A form is filled out as part of KYC for loan applications. The request is keyed into an information system.
- If a loan is approved, funds are received within a day through mobile money. Contractually, Musoni assures loan disbursement within 3 days. This is unlike other MFIs, which take more than a week.
- Loans can be received any time of the day in electronic form.
- Repayments, done weekly, must be made through mobile money.
- When a member defaults, the group bails him/her out in time for the next group meeting.
- The WCO comes with a printout of repayments to the meetings for confirmation (Musoni has now launched a paperless process. WCOs will use tablets in the future).
- Results show that most repayments are done after working hours, particularly Friday evenings.
- At the moment, Musoni is not a deposit-taking MFI, but plans are underway to get the necessary license for this service within the first half of 2013.

Challenges with the Musoni model

The key challenges for Musoni are outlined below.

- *Developing the computing infrastructure to integrate with M-Pesa for back-end operations*. This has been the greatest challenge as currently there is no such system in the market. Managing money through a system of this nature, particularly for poor individuals, is at the heart of Musoni's survival.
- *Getting customers to make correct entries*. Customers use the same phone to send money for savings and for loan repayment. Others pay or even save for other customers. Harmonizing the mobile phone numbers, recipients' accounts, and purpose of funds transmitted has been very difficult, especially for customers with low literacy levels. To differentiate a savings from a loan repayment, Musoni expects the sender to add prefixes. For example 'SI' represents 'standing in for' while 'LR' represents 'loan repayment'. But despite these guidelines, customers make mistakes or even invent their own short codes.
- *Customer education, particularly on operating purely with mobile money*. This has been a radical shift, particularly for this class of society. Many request paper-based alternatives. Others struggle with trusting that electronic payments would work. Ultimately, upon trying

and verifying their transactions they begin to like the option. The group networks and social influence have contributed to their acceptance.

- *Dependence on a single mobile money provider*. In Kenya, M-Pesa is dominant, but sometimes the system goes down and all Musoni services stall.

The solutions to these challenges that Musoni has developed are discussed in a later section.

Study Objectives

The study had two objectives:

- To establish whether the clients do recognize any socio-economic impact of utilizing technology-based financial services, and if it drives them to consider using increasingly less cash in their other transactions.
- To establish and quantify the impact of cashless mobile micro-financing on the lives of poor clients, including the apparent shift from cash to e-money on many of the clients' other transactions.

Research Questions

The objectives were translated into the following four research questions:

1. What are the factors influencing adoption and continuous usage of MM-based MFI services by individuals at the BoP?
2. How do demographics influence adoption of MM-based MFI services?
3. What are the knowledge capabilities enabled by use of this channel for MFI services?
4. What are some of the developing or changing perceptions in relation to use of MM-based MFI services?

Methodology

Both qualitative and quantitative techniques were used to obtain necessary data from a sample of respondents among Musoni clients in Nairobi. There are five branches located in Nairobi, and one branch in particular was recommended by Musoni's CEO. Initially a number between 50 and 70 respondents was considered, but upon discussions with Musoni management and evaluating the client base, the researchers settled on a larger sample size. The researchers randomly identified 250 respondents to be interviewed. These respondents were based in registered groups; interviews were conducted after their weekly meetings. Of the 250 questionnaires that were filled out, 245 were considered acceptable (the other five had mistakes caused by the interviewers). Three focus group discussions involving three different groups were conducted as part of the qualitative data collection. Only six in-depth interviews were conducted: one with the branch manager, and five with group leaders. Initially more in-depth interviews were planned, particularly with the field officers employed by Musoni, but due to their unavailability and a recommendation by Musoni management that they would not provide more valuable data than what the branch manager had already provided, the researchers decided not to interview them. Since the sample size for quantitative data had been significantly increased, the researchers felt that the entire data set would be sufficient.

Quantitative

Researchers used structured questionnaires to obtain quantitative data to complement the qualitative data, guided by the sustainable livelihoods framework. The framework has five constructs, namely human capital, natural capital, social capital, physical capital and financial capital. This framework helps organise the complex issues surrounding poverty and can be modified and adapted to suit local circumstances and priorities. Three of the constructs, namely social capital, physical capital and financial capital were used in the questionnaire's design.

Qualitative

Researchers used Focus Group Discussions (FGDs) and In-Depth Interviews (IDIs) to collect qualitative data. The most practical way to organize the FGDs was through the groups and their membership. Groups typically have 8 to 12 members, which was a perfect fit. It was difficult to get members of different groups to come for a joint FGD, and so the researchers settled on having different FGDs arranged for each group.

Within each group, there were members who had received a loan and completed repayment, while others were still in the process of repaying. There was also a smaller number of new members who had not yet taken any loans. All of the group members were actively engaged in small businesses within a reasonable distance (less than 500 meters) from the Musoni office. The most convenient place to meet the group members was at their weekly meetings, so the FGDs were scheduled soon after their meetings.

Though the initial proposal was to separate members by gender, it became clear that the FGDs would run best by having all of the group members participate in the same discussion. The discussions were recorded, transcribed, and then used in analysis to complement the quantitative data. For IDIs, no recordings or transcriptions were done. Instead, notes were taken, which were then used to complement the FGDs and quantitative data.

Analysis

Data from the 245 questionnaires were entered into and analysed with SPSS and Microsoft Excel. In the course of quantitative data collection, several issues came up such as adoption, barriers to the use of mobile money, and strategies for managing transaction costs, among others. The qualitative data collection took an investigative and confirmatory approach. Most of the issues that appeared in the quantitative data also appeared in the qualitative responses. Analysis of the qualitative data took an iterative and progressive approach. Key messages from the FGDs were captured, coded, and grouped together. In-depth thinking and mapping was done to the quantitative data already analysed.

In-depth interviews focused on Musoni management, from which the business model was further understood, and challenges and solutions were discussed. The trends among the customers were also confirmed by management.

Findings

Demographics and background information

Out of the 245 respondents, there were 134 female and 111 male from a total of 34 groups. All the groups' names had either Swahili, English, or a combination of words from both languages. Most group names had positive and progressive meanings, e.g. 'Uthiru progressive' (Uthiru is the name of a place), 'Uhuru Vision' (Uhuru means 'independence'), 'Turning point', 'Tumaini alliance' (Tumaini means 'hope'), 'Pamoja Tujijenge' (which means 'let's develop ourselves together'), 'Mavuno' (which means 'harvest'), 'Inua' (which means 'lift'), and 'Amka' (which means 'wake up').
The majority of the respondents were married (190) and almost half were high school dropouts (109). The youngest was 21 while the oldest was 63 and the median was 38 years. 81 respondents where between 21 and 30 years of age, 101 respondents between 31 and 40 years, 34 of them between 41 and 50 years while the rest were over 50 years.

Most of the respondents (209) had preferred in the past to borrow from ASCA/ROSCAs. The least used option was banks, while a reasonable number opted for MFIs or to borrow from friends and family. This distribution is typical of financial service usage at the BoP.

Appreciation of the value of electronic money

Almost half (108) of the respondents had previously been members of another MFI, but only 44 were currently members of another MFI. This drop was significant. During focus group discussions and in-depth interviews, those who had withdrawn membership from other MFIs said that Musoni's pure mobile-based services were attractive enough to make them shift. Expressions such as "Musoni is best" or "I don't need another MFI" were common during discussions. Upon analyzing the comments from respondents about what they felt about Musoni and its services, it became apparent that the use of mobile money over and above the fact that the MFI gave them good service was significantly influencing their choice. Table 1 summarizes the comments received and what they could be attributed to. Those who retained their accounts in other MFIs were either still repaying loans or appreciated the value of having an alternative account.

Table 1: Comments about how consumers felt about Musoni

Observation by respondents	Attributed to (our own attribution)
Cheap/affordable	Musoni Services
Easy to access credit	Musoni Services/Mobile phone based
The loan interest is low	Musoni Services
Good Service	Musoni Services
Very efficient	Musoni Services/Mobile Money
Convenient	Musoni Services/Mobile Money
Faster to get credit	Mobile Money
Quick response	Mobile phone based/Mobile Money

The respondents were asked why they thought the use of M-Pesa for loan repayment was better than cash. Over 75% of them said that they found the option faster, timesaving, and convenient. It was interesting to note that 34% of these respondents felt that use of M-Pesa saved them money when repaying their loans.

Asked specifically why they preferred Musoni over any other MFI, the respondents significantly agreed with factors associated with M-Pesa. These responses are shown in Table 2.

Table 2: What makes you prefer Musoni over any other MFI?

	Percentage of respondents agreeing
I get my money faster	85%
Helps avoid handling too much cash	37%
Services are more Convenient	73%
Receiving loan via M-Pesa is safer	59%

Among other reasons, safety ranked highest as a reason why users would rather keep money in electronic form (see Table 3). Besides safety, a number of respondents realized that electronic money is expensive to convert back to cash or that since they would be transacting through their phones, they would rather have some money in that form anyway. Table 3 summarizes the reasons why the respondents preferred to keep money in M-Pesa. All respondents were asked to select all the options that apply. So each option (and percentage) should be viewed independently.

Table 3: Reasons why respondents keep money in M-Pesa

	Percentage
It is expensive to change back to cash	27%
It is safer remaining in M-Pesa	73%
I will need to transact in M-Pesa anyway	40%
I don't keep money in M-Pesa	8%
It acts as a savings account	2%

Discussions with Musoni management and loan officers indicated that customers rank security as the highest parameter. This benefit is inherited from M-Pesa. This is consistent with the summary in Table 3. The respondents, for lack of appropriate and convenient financial instruments, rely on cash for transactions, and thus have to store their money in cash. Having a safer way to store their money, particularly credit received from a financial institution that they will have to repay, goes a long way in improving their financial lives. Mobile money is received by phone, making it very confidential and personal, something that is greatly valued.

Apparent shift to electronic money

The apparent shift in preference from cash to electronic money among the poor was of particular interest during this study. One would assume that if the respondents saw benefit in using mobile money for Musoni transactions, that they would use mobile money for other transactions as well. This section summarizes the findings on this issue.

As many as 90% of the respondents said they now keep some money in M-Pesa for other uses besides loan repayment. The amount kept in M-Pesa and used for other things ranged significantly, as shown in Figure 1. For these respondents, a little amount was anything less than KSh. 500; a reasonable amount was between 500 and 3000, while a substantial amount was over 3000 at an exchange rate of 85 KSh. for 1 USD. As to exact amounts, the respondents indicated that they vary almost uniformly as shown on Table 4, though it appears that a significant percentage kept less than 2000. This position was confirmed during the focus group discussions where respondents indicated that over time the amounts that they kept in M-Pesa had been increasing.

Figure 1: Keeping money in M-Pesa for other uses besides loan repayment

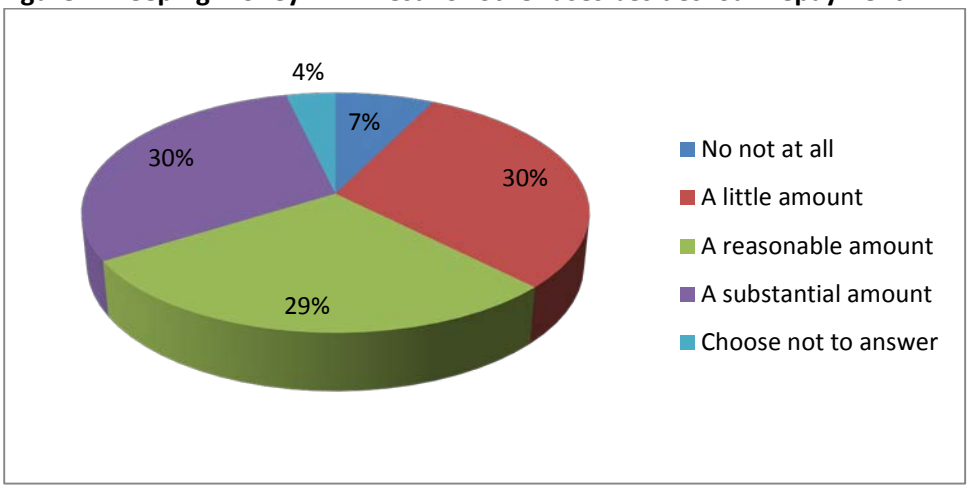
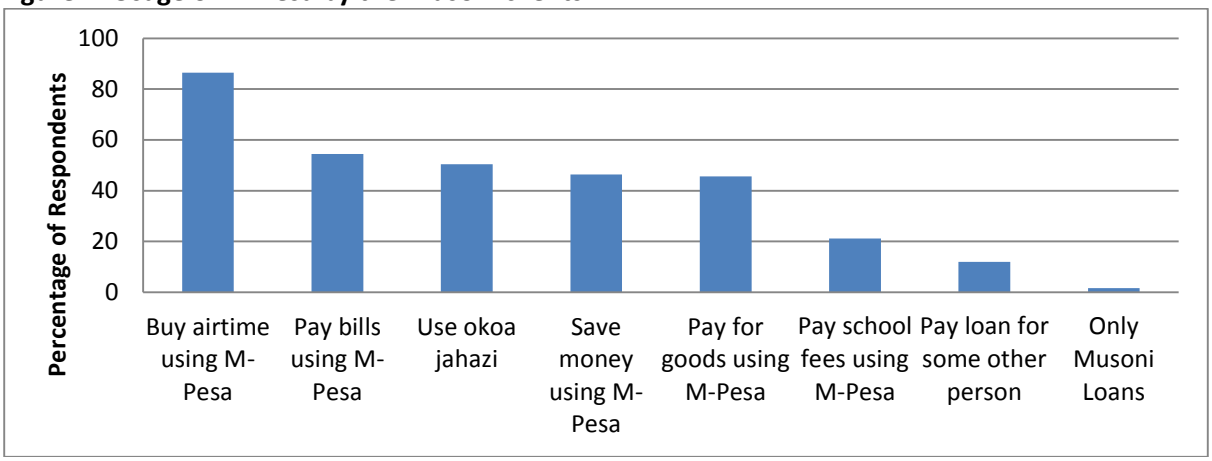


Table 4: How much money, in Kenya Shillings respondents keep in M-Pesa at a time

	Percentage
Less than 1,000	19%
Between 1,000 and 2,000	23%
Between 2,000 and 3,000	6%
Between 3,000 and 4,000	7%
Between 4,000 and 5,000	6%
Above 5,000	22%
Fluctuates a lot	11%
Choose not to answer	6%

The respondents were then asked for which services they were using mobile money. The options provided were based on the services offered by M-Pesa. Purchase of airtime was the most popular, as 86% of the respondents reported using mobile money for this service. Other services like bill payment, Okoa Jahazi (airtime bought on credit), saving money for future use, and paying for goods (a form of m-commerce) were all used by between 45% and 55% of the respondents. Less than 2% were using M-Pesa only for Musoni loan repayments. The distribution is shown in Figure 2. A national representative study done by Financial Sector Deepening (FSD) in 2009 revealed that purchase of airtime was the most commonly used service of M-Pesa besides sending and receiving money (FSD, 2009). Okoa Jahazi had not been introduced at that time, while bill payment was not yet a well-established service either. Saving money was the second most popular use of M-Pesa, which is consistent with this study. Asked if they had increased their M-Pesa usage since they started receiving loans from Musoni, 82% answered affirmatively.

Figure 2: Usage of M-Pesa by the Musoni clients



If the respondents had a choice of using mobile money for all transactions in the future, 68% answered affirmatively while 19% preferred to keep using cash and another 13% were not sure. During focus group discussions and in-depth interviews, respondents confirmed that they developed an appreciation of electronic money after they started using Musoni services. This was almost three years after M-Pesa was launched. Respondents also indicated that when M-Pesa got bundled with a more complex financial service (in this case MFI services), they then began to think more about the value of electronic money. Because loan officers spent time with them to explain technical details and give them advice about financial management, the low-income earners began to rationalize several aspects of mobile money.

Mobile money as a better channel for managing finances

In the book 'Portfolios of the Poor' the authors clearly outlined that one reason the poor remain in poverty is because they lack appropriate financial instruments (Collins et al., 2009). A number of

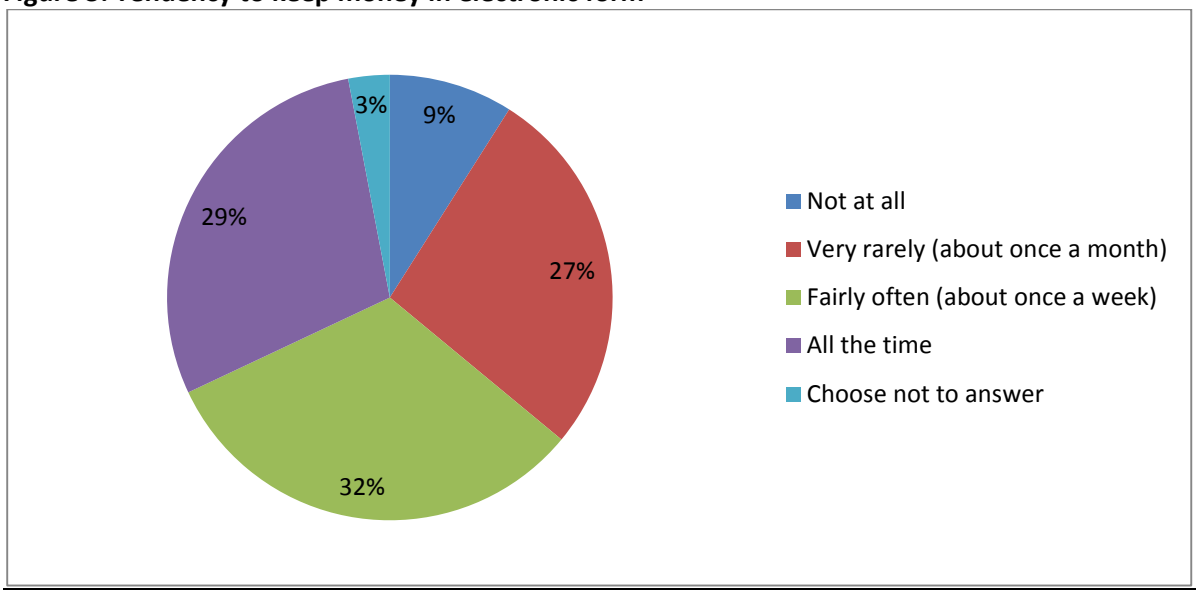
responses in this study revealed that these poor users believe that M-Pesa has helped them to better manage their money. Originally the mobile money product was designed to facilitate money transfer, but these users applied mobile money in multiple ways, including temporarily storing money.

Upon receiving their loans, the respondents do not withdraw all of the cash at once. Most of them (60%) withdrew the amount that they needed and retained the rest in M-Pesa until they were ready to use it. Cohen and Stuart (2011) studied low-income individuals and their use of M-Pesa in Kenya and found that 94% of transactions done by the respondents were still in cash. They also found out that the e-money loop was very short, with most electronic money received (75%) likely to be withdrawn within a day (Cohen & Stuart, 2011). The participants in the Cohen and Stuart study were simply M-Pesa users, while this study—which focused on the behaviour change of M-Pesa users who were also Musoni services users—confirmed that the bundling of the financial service was creating a different view of e-money and its use.

As a tool for managing finances, the Musoni customers confirmed improvement of certain aspects like the ability to conveniently track their repayments. 70% of the respondents felt that tracking of loans and repayments was better and easier with M-Pesa, 66% felt that receiving loans using M-Pesa was better than by cash or cheque or a bank deposit, and 67% thought that repaying their loans using M-Pesa was better than doing so by cash.

The tendency to keep money in electronic form even when customers did not intend to use it to repay loans immediately indicates a preference to use mobile money as a channel to manage funds. Figure 3 shows that only 9% of the respondents did not keep any money in electronic form.

Figure 3: Tendency to keep money in electronic form



Is mobile money ideal for the BoP?

Despite these findings that point towards an increased use of mobile money, it was noted that there is a persistent use of cash as a preferred means of payment. Temporary storage, which may be considered as savings, may have gradually become electronic, but respondents would still rather make payments in cash. Jack and Suri (2011), who studied the impact of M-Pesa, adopted their own definition of saving as any financial instrument in which funds are held for more than 24 hours. One respondent summarized it this way: “I have to pay a bill, to pay a bill,” referring to the transaction fees associated with money transfers. At the time of the study, mobile money providers had introduced bill pay functions that enable consumers to conduct customer to business (C2B)

transactions at a relatively cheaper cost. However, most small businesses do not have "pay bill numbers" that are provided by mobile money providers to facilitate C2B payments[v]. Furthermore, the transaction fees for C2B transactions would still be prohibitive. For the participants in this study, most business-related transactions take place within a limited geographical area, meaning that they would rather walk around to make payments than incur a fee.

Another perspective on the use of bill pay functions is that cash flow gets affected. When businesses receive money in electronic form, the mobile money provider has to deposit the funds in a physical bank account at certain intervals in order for the owner to access the funds. These small businesses need greater control of their cash flow, making the current mobile money model unattractive.

It is common practice for individuals sending mobile money to include a small amount over what was requested which is to be used by the recipient to cover any withdrawal fees. This implies that the senders are expected to absorb both the transfer fee as well as the withdrawal fee. For small amounts being sent, the cost of transfer and withdrawal is proportionately high. Table 5 summarizes the transaction cost of sending and withdrawing money from M-Pesa for an amount less than KShs. 1,000 (approx. USD 11). Assuming someone was sending KShs. 500 as per the M-Pesa tariff[vi] assessed in September 2013, it would cost KShs. 27 to send and an equivalent amount to withdraw. This is equivalent to about 11% of the amount being transferred. Naturally, for senders to make a choice to pay this amount as a transaction fee, it would either be because they have no other choice or they are ignorant.

Table 5: Cost of transferring and withdrawing small amounts of money

Amount being sent (KShs)	Amount charged to transfer to a number in same network, followed by a withdrawal to cash	Percentage of total amount	Amount charged to transfer to a number in a different network, followed by a withdrawal to cash	Percentage of total amount
50	15	30%	NA	NA%
100	15	15%	NA	NA%
200	54	27%	93	46.5%
500	54	10.8%	93	18.6%
700	60	8.6%	93	13.2%
1000	60	6%	93	9.3%

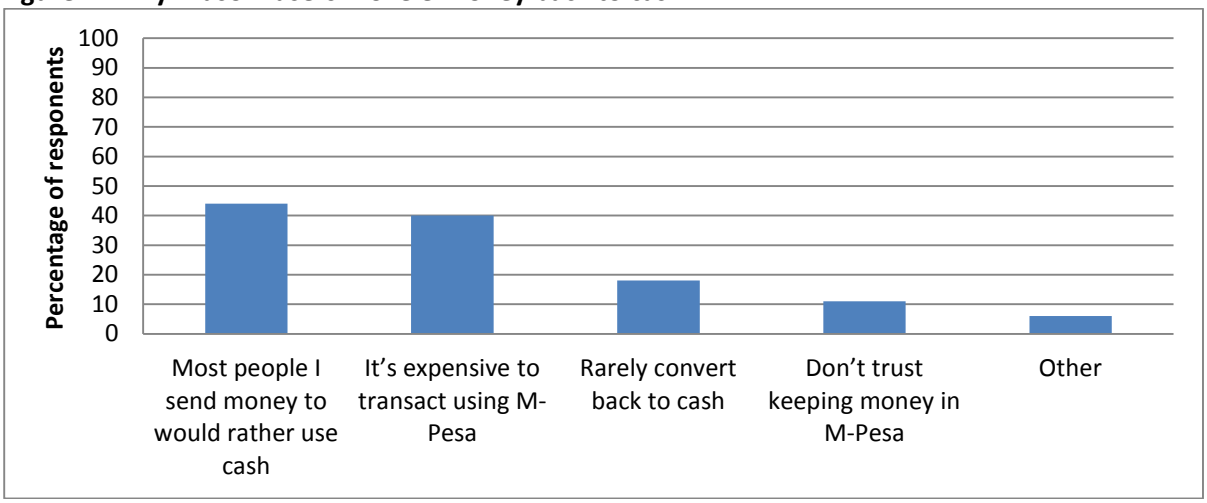
There are numerous studies that reveal that exchange of money is not only viewed from a commercial point of view (Berry 1993). Findings by anthropologists indicate 'confusions' (Graeber 2011) and 'misunderstanding' (Shipton 2009) inherent in the use of money and financial instruments. There are also spiritual, moral, cultural, and social dimensions to such exchanges (Bohannan, 1959; Simmel, 1978; Yan, 2005; Peebles, 2010). Within these exchanges, debts are managed and social capital enhanced. Most of the respondents in this study ran small businesses in confined locations. They had few suppliers, and most of their clients visited them at their sites. Though the social relations were not investigated in this study, it appears that the choice to make cash payments had a social value attached to it. When one respondent walked over to someone to make cash payment, the transaction went beyond exchange of money. It involved a number of engagements including catching up, discussing business or domestic developments, considering future opportunities or collaborations, and the like. Given the nature of informal business, face-to-face interactions and exchange of information play key roles in business sustainability and development.

Barriers to using mobile money

Inasmuch as these customers appreciate the value of mobile money, utilization is still not 100%. There are factors inhibiting more widespread usage. The first most pronounced barrier is the cash culture and the second is the transaction cost (See other factors in Figure 4). When respondents were asked to give reasons why they do not use mobile money as often and instead prefer to convert back to cash, 44% of them said that their main reason was because recipients prefer cash. During the focus group discussions and in-depth interviews, respondents indicated that there are no systems to encourage use of electronic money, particularly mobile money. For example, it is very unlikely that the respondents would pay for goods using mobile money, arguing that merchants do not accept this mode of payment.

The second most important factor (40%) was the transaction cost. Currently for every loan repayment that a customer makes, a transaction fee[vii] is charged by the mobile money provider. Musoni absorbs a third of the transaction fees. The MFI made a business decision not to entirely absorb this fee mainly because the convenience provided to the consumer outweighs the amount charged. As the MFI builds its client base, the transaction fee will ultimately be paid entirely by the customer. Given that customers have to convert mobile money back to cash when paying other people, they prefer to withdraw as much as possible so as to minimize the withdrawal fees. Musoni absorbs the transaction fees for disbursing loans. Some respondents (about 25%) had figured out another way of reducing transaction costs. They move money through their phones to their bank accounts before withdrawing. In most cases an ATM withdrawal costs about KShs. 30.00 to withdraw up to KShs. 40,000.00. There is, however, a transaction fee for moving money from the phone to the bank account. At the time of the study, 10 banks were providing this service, charging a fee that varies from bank to bank. Most respondents said that they had bank accounts with Equity bank, currently the largest bank in terms of account holders. Using M-Kesho, a service provided in partnership with M-Pesa, customers can move e-money to a physical bank account.

Figure 4: Why Musoni users move e-money back to cash



Managing the Musoni challenges

As a business institution, Musoni has developed specific mechanisms to manage the challenges of running a cashless MFI service:

- *Developing the computing infrastructure integrating with M-Pesa for back-end operations*. This has been the greatest challenge. Musoni has invested heavily in developing the software necessary to facilitate these operations, and the software has undergone several tests and reviews. Musoni has a loan tracking system that captures both client data and

transaction data. There is also an API/Interface application that connects with the M-Pesa transaction verifying system.

- *Ensuring customers make correct entries.* Musoni has approached this problem from two fronts. The first is to refine the programming to make the software intelligent enough to figure out the intentions of the sender. Over time, the system has been refined to fix all customer requests and errors. The second front is to better educate the senders, who after a while have become more accurate.
- *Customer education, particularly on operating purely with mobile money***.** This has been a radical shift, particularly for this class of society. Many request paper-based alternatives, while others struggle with trusting that electronic payments will work. Ultimately, upon trying and verifying their transactions, they begin to like the e-payments option. The group networks and social influence have contributed to their acceptance.
- *Dependence on one mobile money provider*. This is a major hurdle because of the possibility of infrastructure breaking down. There is no option in this case. The good thing is that M-Pesa's network never goes down for long, at most a day or over the weekend when the system is being upgraded or serviced.

Benefits of a pure mobile money-based approach to the MFI

Though this was not part of the study, Musoni management raised several aspects that they value about the mobile money approach. The following are the benefits of electronic transactions from their viewpoints: 1) the automated system prevents staff as well as clients from committing fraud, the processes are speeded up, and request processing is streamlined; 2) the current processes help WCOs to allocate more time in building relationships with clients and addressing business issues as opposed to reconciling money related issues; and 3) there is a reduced cost of operations, e.g. no need for a strong room (bank vault) or queues at the branch level. In addition, Musoni feels that the business model is much easier to scale, adding branches across the country once the business model is streamlined.

Conclusions

To highlight some of the findings so far, we summarize responses from some of the key questions that guided the study in the form of lessons learned. First, the bundling of mobile money with other products increases the value of the electronic channel to clients. More specifically, there is a shift from informal methods, including ASCAs and ROSCAs, to slightly more formal options like the MFIs. The shift in this case was greater because of mobile money integration as opposed to a new formal MFI opening up shop in the area. This was confirmed by the fact that as many as 26% of the respondents who were members of more than one MFI are now members of Musoni only, and that 37% of the respondents chose to stick with Musoni because it uses mobile money. Furthermore, 45% of the respondents make it a pre-condition for an MFI to have mobile money before they decide to join.

Secondly, there is an increase in savings as a result of mobile money usage. Consumers at BoP generally lack appropriate financial instruments. The availability of mobile money as a flexible, safe, and convenient channel encourages keeping money for longer periods of time. Though the study did not specifically investigate the e-money loop, there were specific elements that showed temporary storage of money in mobile phones, which can be viewed as a form of savings. As many as 77% of the respondents indicated that they had extra 'idle' electronic money in their phones at the time of the study, and 79% kept some amount in electronic form for a specific use in the future besides loan repayment.

Thirdly, as a result of a form of 'forced use', there was an apparent shift to mobile money for other transactions. The MFI expects that all repayments be done through mobile money, requiring that the

clients regularly load their phones with mobile money or not spend the entirety of their loans. This requirement has gradually resulted in some behaviour changes. To illustrate, as many as 80% of the respondents purchased their airtime using mobile money. In addition, only 27% of the respondents converted all of their loans received in electronic form back into cash. Further, since beginning to use mobile money for MFI services, 81% of the respondents were now using mobile money more than they were before.

Despite these interesting findings, we acknowledge that mobile money might not be entirely appropriate for the poor. Going cashless might not be ideal for them at this stage considering the nature of their business transactions. Research shows that exchange of money has spiritual, moral, cultural, and social dimensions that the small traders value. These situations indicate that cash would not be entirely replaced. Besides, these users may not have a choice, as transaction costs are proportionately high, particularly for smaller amounts. These realities lead us to the conclusion that the poor need a combination of mobile money and cash, as the two fill specific, important roles in their financial lives. However, we argue that e-money will only replace cash to the extent that the former fulfills the spiritual, moral, cultural, and social needs valued by small traders or societal norms/values change to make e-money readily acceptable.

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Footnotes

[i] The number of agents and users has been growing exponentially, changing every other day.

[ii] The number continues to grow rapidly as businesses appreciate the value of electronic money. A list of the business accepting mobile money payment is available at http://www.safaricom.co.ke/images/Downloads/Personal/M-PESA/pay_bill_partners.pdf (Accessed June 2013)

[iii] Source: http://mmublog.org/blog/microfinance-2-0/ (Accessed June 2013).
[iv] Research ICT Africa (http://www.researchictafrica.net) estimates 85%.
[v] A pay bill number is provided by mobile money providers and becomes a unique number that businesses use to receive funds from consumers.
[vi] Source: http://www.safaricom.co.ke/personal/m-pesa/m-pesa-services-tariffs/tariffs (Accessed June 2013).
[vii] The tariff is set between KShs. 0 and 30 depending on the amount being sent and was recently revised upwards, but ideally the largest fee that customers would have to pay is KShs. 30.00