Opportunities and Challenges for Mobile-based Financial Services in Rural Uganda

Rachel Hinman
Senior Research Scientist
Nokia Research Center
2400 Broadway, Suite D-400
Santa Monica, CA 90404 USA
rachel.hinman@nokia.com

Julius Matovu
Sociologist and Anthropologist
Makerere University
Kampala, Uganda
jematovu@gmail.com

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Abstract
This paper outlines key research findings on the use of mobile-based financial services in rural Uganda. It also includes insights into behaviors and attitudes towards finances that may impact the widespread uptake of mobile financial services in rural Uganda. This paper provides actionable insight into the opportunities and challenges for these services as well as recommendations for future research.

Keywords
Emerging markets, ethnography, mobile, design, UI, user experience, user-centered design

ACM Classification Keywords
Design, economics, human factors.

General Terms
Design

Introduction
The well-documented success of services such as Safaricom's M-PESA in Kenya and Globe Telecom's GCash in the Philippines have positioned mobile money as a viable solution to the problem of bringing formal

financial services to the world's unbanked (people without formal bank accounts who operate largely in a cash economies, are limited in their ability to take out loans and maintain savings). Experts like Columbia University economist and emerging markets expert Jeffrey Sachs laud mobile phones as the single most transformative technology for development[1] and that *access*—access to capital, access to information, and access to mobile technology—is key to bringing financial stability to the world's unbanked.

Because the financial services industry is not as developed in Africa as in Europe, Asia and North America, those interested in mobile financial services in Africa are in an enviable position. Similar to mobile telephony vs. fixed wire, Africa is poised to leapfrog traditional banking infrastructures with mobile financial services.

Besides access, what could impede this innovation? What are the barriers to widespread acceptance of mobile financial services in Africa? We designed a 3-week, exploratory ethnographic field study to identify behaviors and attitudes of rural Ugandan villagers towards finances that may impact rapid uptake of mobile financial services in rural Uganda. It is our hope these insights will contribute to the growing body of knowledge around mobile money services and help to improve mobile financial services in Uganda as well as other emerging markets.

Study Methodology and Goals. We conducted a total of sixteen, one-hour, qualitative field interviews with participants living in rural Uganda. All participants owned or had access to a mobile phone. Since most banks in Uganda do not have branches in rural villages, we specifically focused on interviewing people who lived in rural villages and farms throughout southern Uganda and the outskirts of Uganda's capital, Kampala. Additionally, we interviewed the lead field agent for FINCA's Victoria Basin office, as well as a manager and a field agent in the independent locally owned and operated Victoria Basin Micro-Finance Cooperative.

RESEARCH FINDINGS

Mobile Money: "I've heard of it but I've never used it." At the time of our study, mobile money services were offered by two competing telecoms in Uganda: South African based MTN and Ugandan based Zain. Promotion of mobile money services in both rural and urban centers throughout the country was prevalent. Billboards, radio and TV commercials, advertisements, and articles in local and national papers expounded the benefits of mobile money services and promoted their ease of use. Due to prevalent advertising and promotion, it was not surprising that all sixteen participants in our study had heard of mobile money. While all participants had heard of mobile money, none had used it. When asked why, the answer was universal: "I don't understand how it works." Recruiting participants in the rural areas of Uganda who'd *actually used* a mobile money service proved the most challenging aspect of our study and a nearly impossible task.

Despite this lack of understanding, all participants were curious and eager to learn the procedures involved to initiate mobile transfers. Most owned phones and did not appear intimidated by the phone's features. They demonstrated a high degree of comfort using voice and text features on the phone. Many used the address book application to store numbers indicating that the participants understood saving, storing, and transmitting textual information through their device.

We were perplexed as to why people with the skills and motivation to learn about mobile money were unable to engage with the service. Questions designed to provide information into experiences with and attitudes towards financial services gave insight into why.

Figure 1. "Thrown Out? Stranded? MTN Mobile Money to the Rescue." Signs found throughout Uganda advertising MTN's Mobile Money Service.

Banks aren't for me. There was a general sense from all participants in our study that formal banks did not provide services tailored to the needs of people living in rural Uganda. Only three participants had a bank account with a locally owned and operated micro-finance institution, commonly referred to as an MFI.

We identified infrastructure as a primary cause. Few banks in Uganda have branches in rural villages, requiring customers to travel long distances on poorly maintained roads to complete transactions. Transport costs are considered too high for the small amounts common in their transactions.

Fear and mistrust of banks was another contributing factor. A handful of users in our study expressed a general concern that banks were not to be trusted. A group of fishermen we spoke with shared stories of saving their money in their homes, under mattresses, or burying cash in the ground. When asked if they were ever scared of theft, one fisherman replied, "… I'm more afraid banks will cheat me than my neighbor stealing."

Additionally, most formal banks in Uganda have relatively stringent requirements for opening an account. Most banks require valid identification, a letter of introduction from the local council, passport photos, and a letter of recommendation from an existing bank member. These requirements prove problematic for much of the rural population of Uganda as most do not have national IDs, passports or driver license and letters of introduction from the local council require financial bribes.

Despite a desire to have access to capital, many participants expressed fear and an aversion to the risk of formal loans. There was a perception that interest rates were very high and that banks provided little flexibility around repayment. Looming costs of possible family illness associated with malaria or HIV/AIDS left many participants wary of loans. If they were unable to work for health reasons, participants feared whatever collateral was used to secure a loan would be seized. Fear kept most participants from seeking capital from formalized banking institutions.

However, the most common perception amongst participants was that formal banks did not have services tailored to the needs of people in their socio/economic bracket. People were convinced they simply did not have enough money to open a bank account. One participant articulated the perception best, "Banks aren't for people like me. I don't have enough money."

Instead, many users shared stories of informal, homegrown financial services. Several of the women we spoke with were members of informal, community-based savings clubs, or Saccos. Logistically, Sacco members who are typically women, form a group and contribute money to a pot each week. The group votes and distributes the funds to the member voted most worthy of the funds for that week. Women are often members of several Saccos. Peer pressure keeps them from defaulting, but also makes women feel trapped in a cycle of debt. One woman in the rural village of Dimo explained, "The biggest problem is that women in our village like nice things. We spend the money on clothes or jewelry or scarves, instead of what we should be spending it on."

Figure 2. Women in the rural village of Dimo reported using informal savings groups called Saccos.

The MFI's we spoke with echoed this sentiment when the topic of loan defaults emerged. The manager of the Victoria Basin MFI explained, "People are stubborn. We tell them they must invest the money in their business so they can generate more revenue and pay off the loan. But instead, they use the money to what? Buy a car, or clothing or improve their house. Then they can't pay back the loan." She reported a 20% default rate on their loan services as compared to the "brutal" 12%[2] default rate of small business loans in the United States.

Access to capital is only one part of the equation. Advice and education into the investment of that capital is often the missing side of the equation that becomes the root cause of many defaulted loans in rural Uganda. In order for MFI loan customers to make good on their loans, they must learn how to wisely invest capital in their business. While there is great interest in providing capital, programs to educate and support the creation of viable businesses is not the primary focus of most MFIs and banks.

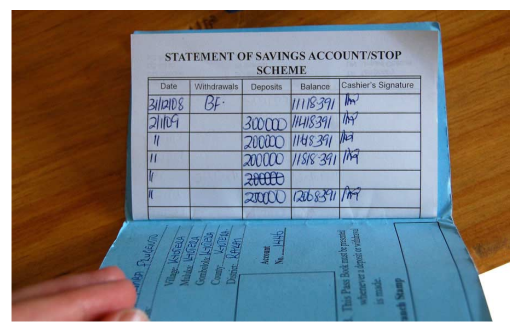

Figure 3. "Organizations like FINCA give customers passbooks and accounting forms… they teach people how to keep track of their money, not how to create a business. MFI's without a social component… people who just give out loans to the poor without investment advice are just driving the poor people

deeper into poverty. What poor people need is sound business advice and support." ~ Field officer for Victoria Basin MFI

A strong affinity for fixed assets. Common in all conversations about finances was a strong affinity for investing in "fixed assets" as opposed to saving cash in a bank account. Participants favor investing large earnings or windfalls of cash into tangible assets such as a cow, a goat, land for agriculture or a boda boda (motorcycle) that could be used for transportation. Fixed or tangible assets were even preferred for remittances to family members. Women reported hiring cars or boda bodas and stocking them with flour, sugar, and chickens. They hired drivers to transport the assets to family members living far away instead of cash.

An affinity for fixed assets is common in agriculturally based cultures and informal economies[3]. 56% of Uganda's population relies on agriculture and subsistence farming for their livelihood[4] making this affinity for fixed assets a strong and defining aspect of their culture and perceptions about finances. Farming, however, is a capital-intensive business and without access to capital, farmers must often liquidate their fixed asset to pay workers or transport goods. However, quick and equitable liquidation of assets relies on demand; a lack of demand can result in a financial loss for the farmer.

Joseph, a successful farmer interviewed in our study, claimed fishing was the biggest support to his success because it provide cash quickly. The cash generated by his four fishing boats provides the capital needed to support his farming enterprises, which include crops such as pineapple, bananas, coffee beans and 100 head of cattle. "I use the cash from fishing to pay workers, fix broken equipment… for unexpected expenses that often come up."

RECOMMENDATIONS AND FURTHER RESEARCH

Build on the metaphor or selling airtime. We found the participants in our study did not engage with mobile money services because they simply did not understand how the service worked. There are many contributing factors to this confusion that will be difficult to overcome: illiteracy, fear of losing money in the transaction, and lack of comfort with the phones. However, one identifiable and fixable source of confusion is the mental model of the service.

Most promotional materials for mobile money services focused on awareness, benefits of the service, and a key point of interaction – transferring funds on a mobile device. The focus was on transferring funds - the *movement* of money from one person to another. In order to fill in the conceptual gaps of how the service works, experience with creating and maintaining a formal account, such as a bank account or account with a mobile service provider, is required. If a user has that experiential reference point, they are able to form an accurate mental model of how the service works, giving them confidence to try it.

The creation and maintenance of a formal account with a bank or service provider is an experience most people in rural Uganda have not had. Money transfers are a metaphor they simply cannot relate to. It is a key point of confusion.

What people in rural Uganda do understand and have a wealth of experience with is trading: they understand *exchanging assets that are equal in valu*e. The people in our study who seemed to conceptually grasp how mobile money services worked were the ones who related the service to buying and selling airtime. Unlike transferring money, selling airtime mapped to their existing behavior of liquidating fixed assets when cash was needed, or gifting fixed assets to people, such as in the case of remittances.

Design for teach-ability. Unlike the neighboring countries of Kenya, Rwanda and the Democratic Republic of Congo, Uganda has experienced a stable government and minimal civil unrest since the early 1990s. Subsequently, participants in our study did not report fears such as robbery by a neighbor or distrust amongst people within a community. Instead, participants shared stories such as teaching each other how to use a mobile phone and relying on each other for advice on how to get a loan from an MFI. An important finding from our study was that cooperation amongst families and peers is a key component in rural Ugandan culture. Teaching by example and word of mouth are perhaps the most powerful way to dispense information in rural Uganda.

Participants in our study urged us to show them how to use mobile money services on their phone, explaining, "If one of us knows how it works, we can teach the others." Current mobile money applications are complex and difficult to explain. Privileging design principles such as teach-ability and share-ability will leverage existing cooperative behaviors and go a long way in increasing the uptake of mobile money services in rural Uganda.

Focus on advice for creating viable businesses as much as providing access to capital. While access to capital is undoubtedly a key component to driving financial empowerment in emerging markets, it must be married in equal measure with advice and support for creating viable businesses with that capital. Without it, financial institutions are potentially driving people already living below the global poverty line deeper into poverty.

Mobile phones are particularly well suited for delivering tailored information that can guide people through a process as well as provide support information. Models in the health sector, such as South Africa's Project Masiluleke[5], offer users mobile-based support throughout the HIV testing process. Services such as these provide insight into analogous models for mobile-based financial services and prove the most rich for additional research efforts.

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