Evaluating Digital Financial Services for Financial Inclusion in Southern Ghana

Sarah Yu
Paul G. Allen School of Computer Science
University of Washington
Seattle, WA

ABSTRACT
Access to formal bank accounts, or being financially included, allows individuals the opportunity to plan, save, and stabilize their financial lives. This expansion of financial inclusion has recently moved up the ranks as a priority for development, as it enables individuals to improve their financial well-being and, in turn, assists the reduction of poverty on larger scales. The simultaneous success of Kenyan mobile-phone based money transfer service M-Pesa, bolstered by the proliferation of mobile phone access, convinced many that mobile money would be the solution to this newly-minted UN sustainable development goal of financial inclusion. However, with such nuanced characteristics in each country and even more distinctions within each financial system and economy, mobile money has not been an applicable solution in every context. This research evaluates one case of mobile money as a vehicle for financial inclusion in the Southern region of Ghana. To do so, I conduct surveys in five different cities ranging from small towns to large cities to evaluate an individual’s financial practices, existing and projected needs for financial services, and the role that mobile money can potentially play in fulfilling either of these goals.

1 INTRODUCTION
A well connected financial system is imperative to a developing country, not only for facilitating economic transactions for the community as a whole, but also to serve as vehicles for savings and long-term planning at the individual level. However, many developing countries, especially the rural areas, do not have access to formal financial institutions for lack of infrastructure, funding, and oversight capabilities. It is reported that 2.5 billion people in the world do not have access to a traditional bank account. Of those people, 77% live on less than $2 a day. Having to support a family on such an income, then, requires meticulous planning. In addition, the environments that such families operate in do not leave any room for error; a financial shock in any form can result in permanent

Mobile money (or branchless banking), which provides financial services using the widespread cellular and distribution network of mobile operators, has been pursued as a means to expand financial inclusion. While the services associated with a financial account are rendered over a mobile device connected to their mobile wallet account, customers deposit and withdraw cash from these accounts through retailers or mobile money agents. USSD, SMS, and smartphone applications have all been used to access these services on mobile devices.

However, with such nuanced characteristics in each country and even more distinctions within each financial system and economy, mobile money as a solution may not be applicable in every country aiming for financial inclusion. Therefore, this research aims to primarily understand the financial practices and needs of Ghanaians, after which we can evaluate the role mobile money may play within the context of existing needs and practices. To be clear, my research explores the financial needs of Ghanaians and understanding mobile money in the context of those needs and expanding financial inclusion. This project is focused on understanding mobile money as a potential answer to the basic financial needs of Ghanaians, whereas other projects already assume this point and evaluates mobile money offerings as they are already being used for these ends.

The purpose of this study, then, is to understand the financial needs and how mobile money does or does not play a role in those needs for people in Southern Ghana. At this stage in the research, the financial needs of people will be generally defined as what citizens use money for and how they pay/finance/budget for those costs.

2 METHODOLOGIES
My sample population was a variety of different genders, socioeconomic backgrounds, occupations, and spending levels for adults in the following Southern cities of Ghana (in order of visit): Accra, Ada, Ho, Kumasi, Cape Coast. My sample size was 17 - 15 informal interviews with written notes and 12 formally recorded interviews. All participants were aged 18 - 50 and were interviewed in a semi-structured manner. In later interviews, participants were asked to go through the physical process of using the mobile money service of choice and recorded to see their interactions. Of the 27 participants, 13 were men and 7 were women. 4 of the 17 interviewees were urban respondents with the remaining individuals being rural area residents. All interviews were conducted in English and did not utilize any translators. Recruitment was done in public spaces without compensation.
3 RESULTS

The results I find are segmented by three main questions:

- Who is using Mobile Money, if anyone, and for what?
- To what extent do the poor, urban and rural, use mobile money?
- To what extent are the financial needs of Ghanaians met by mobile money?

3.1 Users

From literature review and previous research, I expected the majority of mobile money users to be from middle to upper class regions. This would imply that these users already have access to banks and are in urban areas with significant access to formal financial institutions.

From interviews, the common denominator found a stronger basis in English and technical literacy rather than class divisions. While some participants send money home in the form of remittances, most users cited their reasons for using the service to send small amounts to friends as well as family members. One cultural pressure that surfaced was two respondent’s hesitations in adding to their mobile wallets. The hesitation came from an expectation that if they had existing money in their wallets, they could not refuse any requests from family and friends. However, not having funds in their wallets excused them from the situation altogether. This showed a specific privacy expectation. In this sense, the aim of mobile money to be easy-to-use and to connect large geographical regions would serve as a double-edged sword. The efficiency and efficacy of the service was what kept these two respondents from fully utilizing the service.

While 4 of the respondents used mobile money for their business, most respondents had signed up for the service as a one-off situation or for emergency reasons. Most had used it only a few times, or not at all, since starting the service. Two respondents had registered and created an account in case they might need it one day to send or receive funds, but had not actually used it. Expected or not, there was a direct correlation between English capabilities and the individual’s mobile money use.

3.2 Mobile Money Use

With the pronounced importance of remittances in services like M-Pesa, I had also expected to find that the urban poor were not using mobile money and the rural poor were using it only as receivers. In particular, I expected the urban poor to have low usage of Mobile Money services because of the reduced need to close geographical gaps in this context.

In conversations with those who referenced limited income, we find that many use mobile money to send or receive money to family or friends, but do so rarely. One important finding is that users are not sending or receiving money often because they are making a limited number of financial transactions to begin with. This points to an important learning: mobile money needs to be assessed in the context of existing practices. One cloth-maker respondent shared "I don't spend a lot of money", which characterizes an important aspect of mobile money use: the use of mobile money by urban and rural poor must be in the context of their existing transactional base rather than an absolute value as has been the prevailing measure thus far. Similarly, a nurse described her purchasing schedule as "only buy things at the end of the month". This showed that even if she were to use mobile money to carry out these transactions, they would be characterized as low usage in absolute terms, even though the use of mobile money for these services would translate to a large conversion of her spending from physical cash to mobile money services.

3.3 Financial Needs

I expected to find that the financial needs of Ghanaians were not being addressed by mobile money. While Ghana presents a ripe environment for the successful implementation of mobile money - high literacy rates, high mobile phone access and usage - the delayed uptake of the service reveals that the service, as it is, is not fulfilling the financial needs of individuals. Through this exploration, however, I hoped to address and reveal what those financial needs may be.

However, respondents saw mobile money as an important product for certain uses. The respondents would share that rather than spending, the exchange of money between friends and family would be the largest use case for the service. This impression, as mentioned before, is founded on absolute terms of usage and flow of funds, which is not an accurate measure of success. For two respondents, a barrier to using mobile money is that transaction fees exist, rather than the actual price of these fees. Another respondent was using mobile money to operate with banks and other financial services to buy supplies for his business. Additionally, two local student respondents used mobile money to receive funds from their parents in rural areas while they attend school in urban cities. One suggestion they shared was that most students need to pay school fees and wait in long lines at banks to do so. This, then, presents a potential financial need that mobile money could address for students.

4 DISCUSSION

Drafting a research plan only based on the available literature and before conducting any field research would reveal several underlying assumptions embedded in the original plan. I explore these assumptions and their confirmations or refutations below:

4.1 “Mobile Money has not Taken Off”

One of the launching points for my research began with the premise that mobile money had not seen significant uptake in Ghana. For example, CGAP (the Consultative Group to Assist the Poor) posted as recently as December 2015 of a Financial Inclusion Insights survey outlining the low numbers of mobile money adoption rates in Ghana. This survey was focused on portraying the contradictory state of
mobile money in the country; while Ghana has some of the best conditions, in comparison to other African countries, for mobile money to gain popularity – high literacy rates, basic numeracy, high mobile phone usage/technical literacy – the country has had significantly lower adoption rates than its East African counterparts. With this as my background, I arrived in Ghana expecting to meet less mobile money users than non-users. I also made this “fact” one of the foundational parts of my research; two of my research questions were specifically trying to delve into why mobile money hadn’t taken off and what was deterring people from the service.

After arriving in Ghana, I realized that this was no longer an accurate depiction of mobile money in the country. Even before conducting interviews Dr. Godfred Frempong and Nana Defie Asamoah-Bonsu referenced the recent explosion of mobile money usage in the past 6-12 months. This was confirmed through interviews and observations. All respondents recognized and were familiar with the concept of mobile money; about 85% of my interviewees used or had used mobile money once before. In addition, traveling to Accra, Ada, Ho, Kumasi, and Cape Coast resulted in seeing a strong mobile money presence in the main parts of each city. In particularly crowded areas of each city, it was common to find multiple mobile money agents within a 50-ft. radius.

Further, in the cities of Ho and Kumasi, mobile money had become so ubiquitous that it was becoming an alternative form of currency – both formally and informally. In a situation where mobile money has yet to gain popularity (much like the one I imagined I was going to be in), the main concern is bringing on users to the service. In the beginning, we expect users to use mobile money primarily for sparse remittances over large geographical distances. However, seeing mobile money being accepted in places such as hotels to pay for accommodation, points to a much more mature market. Brick-and-mortar stores, street stands, and market vendors alike were accepting mobile money in these cities. In addition to its direct use for goods, mobile money has created a market for services relating to mobile money. In my interview with a merchant from Togo, I learned of a service that he uses to transfer mobile money from his account to a bank account to pay for his supplies. In the cities of Accra and Ada, I came across stands that sent money from one service (i.e. MTN Mobile Money) to a receiver on a different service (i.e. Vodafone cash). This service has filled the gap of interoperability that Ghana and many other countries have difficulties with. In other interviews, it became clear that many of the Mobile Network Operators (MNOs) had responded to the shortcomings in previous iterations of their mobile money services.

4.2 “Tariff/Fee Structures are Difficult to Understand”

Based on the previous assumption, one of the objectives of the original research plan was to understand whether fee structures played a role in people choosing not to use a particular or none of the mobile money services. Fee structures are defined as the costs associated with transfers, deposits, withdrawals and any actions with the mobile wallet. While all are slightly different, most operate on a sliding scale where, for example, sending 1-50 cedis costs 1 cedi, sending 51-100 cedis costs 1.5 cedi and so on. While this was more of a hypothesis to explore than an assumption, conversations with interviewees revealed that the way I conceived of fees was fundamentally different from their perspectives.

A point of concern that the group I work with had discussed was the sheer complexity of tariff/fee structures as they are presented. All of the four mobile money services in Ghana present the tariff costs at once in a table format, as shown in Figure 1. In seeing this, my colleagues and I were trying to digest and memorize all of these fees at once. In doing so, we placed ourselves in the shoes of a user and were overwhelmed with the amount of information presented.

However, in conversations with users, I began to learn that nobody was consuming the information in this way. Rather, because the services they used were limited and the amounts that they transacted were in relatively consistent ranges, they knew the costs of doing their usual transactions out of repetition. In retrospect, this is logical and also how many of us operate outside of this instance. Yet, I realized that I had made an assumption that since the target population of mobile money services were “the poor”, these users would be vigilant about calculating costs and the relative value of doing which kind of transaction. An exercise I did before my field research was calculating the relative percentage of each amount in each bracket (transferring 1-50 cedis that costs 1
cedi to send ranges from 100 – 2% of the transaction amount). However, none of my interviewees viewed the tariffs in that way. Rather, they understood that it was better to send higher amounts closer to the end of the bracket if they were already sending money, but that did not play as much of a factor into whether they made those transactions or not – their demand for the transfers was relatively inelastic.

A nurse from Apemanim (a small rural town) mentioned that while she knew it cost exactly 1 cedi to send the amount she wanted home to her mother, her concern was not with how economical each end of the sliding scale was, but rather that there was any cost at all. In the early stages of mobile money being offered, MTN and TigoCash were offering free transfers to gain user base. However, both services have changed their model to charge every transaction – a move that further isolates the users transacting in the lowest amounts. Overall, my approach to this assumption/hypothesis has shifted after understanding that most users are not trying to understand everything; they know how to do the transactions that they usually do and over time learn how much that costs.

4.3 “Mobile Money is Failing because Low Numbers Means Failure”

Finally, another foundational underlying assumption was the way in which success is measured and defined. In the literature, the success of a mobile money service is often discussed in terms of adoption rates, usage rates, and transaction volumes. Again, in relation with the first assumption, these measurements are what allow for much of the literature to deem, for example, Ghana as a “non-successful mobile money market”. The aforementioned Financial Inclusion Insights survey bases its conclusion of Ghana as a stifled mobile money market on its finding that “20% of adults in Ghana have mobile money accounts and 17% of adults in both Rwanda and Ghana have their own mobile money accounts that were used in the last 90 days.”

This kind of measurement finds its basis on money practices reflective of higher income individuals. In particular, a fabric maker in Woadze Tsatoe and mobile money user shared that while she uses the service for all of her money transfers and some of her transactions, she “[doesn’t] spend a lot of money” to begin with. This reveals that the current measure of “success” for mobile money may be missing an important segment of the market. In particular, where mobile money is hoping to address the unbanked and low-income population, measuring transaction frequency or volume will not be reflective of the utility that mobile money brings. While it is important to keep track of these statistics, it will be important to add another layer of measurement to capture the success of these services relative to an individuals’ existing financial practices.

5 CONCLUSION

In conclusion, we find that our main understanding of the mobile money landscape in Ghana is defined by their financial needs. These are mostly defined by money necessary for food and other basic services, often paid for on a routine of monthly or sometimes weekly. This points to a question of how we’re measuring success for mobile money: are we assuming that it doesn’t meet the financial needs of people or isn’t successful just because people aren’t using it constantly every day? If it is offering a service even if just one-off, it can be meeting the financial needs of citizens, but this is also different from the financial needs of merchants. Currently, most who are using these services already have access to bank accounts, so while it may not be offering a new way to meet their needs, it is offering an improvement to the way things are already done.

ACKNOWLEDGMENTS

I thank all the interview participants and research advisors: Araba Sey, Chris Rothschild, and Richard Anderson.

REFERENCES


