

Examining the Usage and Impact of Transformational M-Banking in Kenya

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Abstract. Since its introduction in March of 2007, the M-PESA application has acquired a user base of over five million, and an agent network of over five thousand. Because of its rapid growth, the application has received a significant amount of attention. There have been assertions that it can engender transformational benefits by providing the unbanked with new opportunities to access financial services. There is, however, very little discussion of what these transformational benefits are and how they are engendered. This paper will contribute to filling this gap in the literature. It will draw from ethnographic fieldwork that was deployed over a period of fourteen months in two locations—an informal settlement near Nairobi and a farming village in Western Kenya. It will show that the M-PESA application was utilized for the cultivation of livelihood strategies. Such strategies helped residents to cope with (temporarily adjust) and recover from (longer term shifts in livelihood strategies) stresses and shocks. The outcomes of these strategies will also be discussed.

Keywords: M-PESA, m-banking, livelihoods, impact, transformational technologies, migration.

1 Introduction

In March of 2007 a mobile-banking application was introduced into the Kenyan market by Safaricom, Kenya's largest mobile service provider. The application, called M-PESA, facilitates a variety of financial transactions through the mobile phone. Users can check their account balance, make deposits and withdrawals, pay bills, purchase mobile phone credit, and transfer such credit to other users. The growth of the user base has been impressive. Over five million customers have registered with the

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service.¹ The agent network has also grown rapidly. Over five thousand retail outlets have signed up as agents [20].

The rapid uptake and extensive reach of the application has led some to assert that M-PESA has the potential to become “transformational”[44]. That is, it can extend financial access to a sufficient segment of the unbanked population.² The literature further notes the developmental impacts of these transformational applications. There have been assertions that such applications can help the poor to increase their household income, build their asset base and improve their resilience to shocks [13], [44]. Similar assertions regarding transformational benefits have also been made about information communication technologies (ICTs) in general, and the mobile phone in particular [1, 3, 4, 33]. However, questions still remain regarding the impact of mobile phone use on the livelihoods of the poor.³ This is because the evidence of such impact, particularly at the micro-level, remains scarce.⁴ Furthermore, most of the literature has examined impact of the mobile phone as it used for communication. Very little is said on this subject when it is used to access financial services.

This paper will contribute to filling this gap in the literature. It will draw from ethnographic fieldwork that took place over a period of fourteen months in two locations—an informal settlement near Nairobi and a farming village in Western Kenya.⁵ There was an emphasis on tracking urban-rural ‘money trails’ throughout the course of the fieldwork. Urban migrants who used M-PESA to send money home were interviewed along with their rural relatives who were the recipients of these transfers. The paper will show that the M-PESA application was utilized for the cultivation of livelihood strategies by both the urban migrants and their rural relatives. Such strategies helped residents to cope with (temporarily adjust) and recover from (longer term shifts in livelihood strategies) stresses and shocks. It will also explain the outcomes that were engendered from these strategies. In particular, it will show how M-PESA was utilized for the solicitation and accumulation of financial assets and the maintenance of social networks. Attention will also be given to some of the negative outcomes, or unintended consequences, that were generated through usage.

2 Following the Money Trail: Introducing the Research Sites

As was mentioned in the introduction, the two sites were chosen after the “money trail” was followed. The research began in Kibera, an informal settlement outside

¹ This is in a country of 38 million. It is estimated that Safaricom has over 80% of the market share. See [34].

² In Kenya, this segment is large. It is estimated that only 19% of the adult population can access formal financial services through the banks. Another 8% are served by microfinance institutions (MFIs) and savings and credit cooperatives (SACCOs). This is low in comparison to mobile phone penetration. It is estimated that 55% of Kenyans own or have access to a mobile phone [18].

³ For a summary of the livelihoods literature see [6], [11], [12], [14], [17], [39].

⁴ This point was made by Jonathan Donner in a review of the literature on mobile phones. See [15].

⁵ During this period, over three hundred interviews (semi-structured and unstructured) and twenty three focus groups were conducted with M-PESA users and non-users.

Nairobi with a population of over 1 million. Most of the residents migrate from villages in Western Kenya where it is difficult to find work.⁶ Whilst residing in Kibera, they usually find employment as casual labourers or in the informal sector. Only 10% are reported to be formally employed [26]. These informal, or casual jobs, provide migrants with little job security. As such, it is common for them to move between Kibera and their rural home—returning when they can no longer afford to live in the city [27].

Many of the urban migrants interviewed confirmed that they came to Kibera from Western Kenya. After a visit to this area, a village called Bukura was chosen as the second site. The majority of the residents are subsistence farmers holding one to five acres of land. On this land they usually grow food crops for domestic consumption. There are very few opportunities for employment within and around Bukura. Many of the households depend on remittances sent by friends and family in urban areas such as Kibera. According to many of the interviewees, these remittances make up a substantial part of the household income. Some even asserted that 50-100% of such income was derived from remittances.

Time was also spent in other sites, both urban and rural, in Western Kenya. These sites were visited during the post-election crises. Kibera was not accessible during this period because of the ongoing violence within the informal settlement [36].

3 Money through the Mobile: Explaining Usage

Throughout the course of the fieldwork, there were several factors and events that affected the nature of usage. One such event, which had a tremendous impact, was the post-election violence. This was instigated by the disputed presidential elections of December 2007. During this two month period, over 1500 people died. Another 300,000 were displaced from their homes [28]. The movement of goods and people was also constrained. Many of the main roads were blocked by rioting youths. Parts of the railway were dismantled. This had a significant impact on money flows within Kenya. It was difficult, and sometimes impossible, to physically move money across the country. Financial services were also affected. Many banks and MFIs remained closed because of the constant insecurity. This was problematic for many Kenyans. There was a great demand for cash during this period. Some needed to escape the threat of ethnic violence. Others needed to purchase basic commodities such as food and water.

Some M-PESA agents were operational throughout the clashes. The urban agents in particular asserted that the demand for services had increased drastically during this period. Some even claimed that their customer base had doubled, or tripled. Many agents further saw a fundamental change in the nature of transactions—urban customers were making withdrawals rather than deposits. An agent interviewed in Eldoret explained:

I was serving over 600 customers per day. Guys had no other way of getting money. After they finished the transaction they ran out of here and looked for transport. They wanted to go home.

⁶ The majority of interviewees asserted that they came from Western Kenya. The finding that Kibera is dominated by the Luo and Luhya has also been noted by Ishihara. See [27].

Several M-PESA users in urban areas like Eldoret and Kibera asserted that the application was vitally important during the clashes. It became one of the only means through which they could access cash, especially during periods of escalated violence. A single mother of two in Eldoret asserted that she lost her savings when a group of young men looted and burned her house. She called her sister, who lived in central province, to ask for help. Her sister responded to the request, and sent her money through M-PESA. This money was used to purchase “daily bread” for the entire family. It was also used to pay for transport back to their rural home. The urbanites were also receiving airtime from their rural relatives. Because of the road blockages, the supply of scratch cards was limited. In some instances, these cards were being sold at twice their value. An elderly man in Kisumu said that he was receiving airtime from his brother during the clashes. He was using the airtime to text other relatives, and friends, and make additional requests for money and airtime.

Seasonality also influenced how the application was used. In Bukura, farming cycles determined the financial requirements of the household. For example, the M-PESA agent in Bukura asserted that the shop was busiest during the harvest and planting season. He explained that the financial demands on the farm increased during this period. Farm inputs such as seed and fertilizer needed to be purchased. Additional “farm hands”, who helped with the planting, also needed to be paid. The agent further explained that the traffic in the shop also increased during the “hunger season” or “hunger months”, which usually occurred between March and June. During this period the food stocks from the previous harvest had depleted. Subsistence farmers thus required additional income to replenish these stocks. Many of the farmers asserted that they would use M-PESA for the solicitation of funds during these periods. They claimed that with M-PESA they could access a larger network of potential remitters or lenders. This increased the chance that they would receive the required funds.

Seasonal pricing also had an impact on usage. In Bukura, some of the shop keepers would raise their prices at month end. The demand for products was high during this period as many of the villagers received their remittances. To avoid the inflated cost of commodities, some of the recipients asked their urban relatives to send the money “in bits”. They wanted to receive the money on a bi-weekly or weekly basis. This would allow them to purchase essential items during other periods of the month when the shops had more stock and when the prices were lower. Several farmers asserted that by spacing out their spending, they decreased the total amount spent on household consumption during the month. Many of the urban migrants confirmed that they increased the frequency, while decreasing the value of the money transfers. Many of the respondents claimed that they would send at month-end with the other money transfer channels. With M-PESA, they would make these transfers on a weekly, or bi-weekly basis. They asserted that they did this because it helped their rural relatives to organize the finances in the house. They also claimed that they did this because it helped them to organize their own finances.

This phenomenon of sending money “in bits” instigated another interesting outcome. On average, there was an increase in the total amount of money that was remitted back to the rural home. Both the senders and the recipients noted this change. The senders asserted that they were able to send more money because they saved on the act of making the transfer. A shoemaker working in Kibera described this change:

Shoemaker: Before M-PESA, I would give money to my friend. He would go home every two months...I usually gave him 2000 [KES] for my wife and parents. I also contributed 300 [KES] for his transport, and another 200 [KES] to say thank you.

Interviewer: So, you sent about 1000 per month.

S: [Nods].

I: And now?

S: Now I am sending every two weeks. But I send a smaller amount. Usually 700-800 [KES]. I can send her more because I save on the transport cost. I also don't pay my friend.

I: Now you are sending about 1400-1500 per month? Your wife must be happy.

S: Yes. [laughs]. But my friend is not.

The wife of the shoemaker, who stayed in Bukura, confirmed this increase. She also asserted that since her husband started using M-PESA, the inflows of money were more regular. He no longer needed to depend on his friend to transfer the cash. In most cases, it was found that this increase was between 20-40%. The urban migrants claimed that they would include the amount saved on making the transfer into the amount sent back home. In most cases, the amount saved was from 50 KES-400 KES. The recipients also noted that they saved money because they no longer needed to pay transport fees to collect the money.

A focus group in Kibera composed of female M-PESA users, asserted that they frequently used the application to store their "secret savings". These savings were used to purchase household items, to address "illness", to pay for school fees and to invest in business. The women explained that they preferred to store money outside of the home because it decreased the risk of it being found, and stolen, by their husbands. They further explained that they preferred M-PESA to the bank because it was accessible. They did not need to travel into town to deposit or withdraw their money. They could also check their account balances from home, via their mobile phone, without their husbands knowing what they were doing. Jenifer, one of the group members, asserted that:

Having something small in my secret savings is important. I can make decisions and not ask my husband. I want to save money and then start some business. Maybe I can sell some onions around Kibera...I know that he [my husband] won't give me the money. So, I will put a small amount of money into M-PESA every week...I will soon have enough to start business...

These secret savings thus provided these women with some financial autonomy. By having an accumulation of funds they were able to make decisions without asking their husbands.

This section has shown that the M-PESA application was appropriated for the cultivation of livelihood strategies. It must be noted, however, that individuals also mobilize an array of other assets. They utilize these assets and adjust their strategies according to their circumstances and the changing context in which they live. As such, even though M-PESA was vitally important for individuals in both communities, alone it was not sufficient for the reduction of vulnerability.

4 Soliciting Capital and Maintaining Networks: Explaining Impact

The most significant of the outcomes generated by M-PESA usage, was a reduction in vulnerability. This was done in two ways—by the solicitation of financial capital, and the maintenance of social networks.

M-PESA was one of the only available channels for the transfer of money and air-time during the post-election period. As such, the application became fundamentally important for urban migrants who were trying to escape from, and cope with, the threat of ethnic violence. It provided these migrants with new opportunities for the reduction of vulnerability through the mobilization of financial assets. This was also the case during the “hunger months”. Subsistence farmers used M-PESA to expand networks of potential remitters and lenders. This increased the chance that they would receive the necessary funds to secure their “daily bread”. M-PESA was also used for the cultivation of strategies during other shocks, such as illness. It provided a platform through which funds could be instantly sent to address an urgent situation. The recipients did not need to wait for the money to physically travel from the city.

M-PESA also helped the urban migrants to maintain their social networks. It did this by fostering money transfers between urban centres and rural areas. Most of the interviewees in Kibera confirmed that they would send money home “regularly”. For some, this meant that they would send several times per month. For others, it meant once per year. The act of sending money home had not only a practical but also symbolic function. With each transfer, the migrant was sending an important message—that they had not forgotten their obligation to the village whilst residing in the city. With each transfer, the migrant was also maintaining relations with their rural relatives. According to the literature, such relations are vitally important for the urban migrants [23, 41]. They provide them with a safety net whilst residing in the city. As was shown here, urban migrants looked to the village for support and received both money and airtime from their rural relatives. This helped them to purchase basic commodities such as food and water. It also allowed them to escape the threat of ethnic violence.

It must be noted, however, that in some instances M-PESA usage engendered the opposite outcome—it weakened relations between urban migrants and their rural relatives. As the fieldwork progressed an interesting discovery was made. Urban migrants were making fewer visits back to the village. Before M-PESA was introduced, many of these migrants would deliver the money home by hand and spend some time at their rural homes. Since adopting the application, however, they claimed that they no longer needed to make these home visits. In the village, the recipients confirmed that their urban relations were visiting home less often. They further claimed that this arrangement caused some problems. The wife of the carpenter voiced her concern. She explained that her husband had not come home since he started using M-PESA. This was four months ago. This made her life “more difficult”. She now had to take care of the farm by herself. Some of the women were also concerned that if their husband decreased the number of home visits they would become “lonely” and find a “city wife”. The outcome of this, the woman explained, could be the reduction or elimination of money sent back home.

The application also helped to reduce the vulnerability of women by providing them with a safe place to keep their money. As was mentioned above, many women claimed

that they preferred to save with M-PESA because it decreased the risk of the money being stolen by their husbands. This savings base was vitally important for several reasons. It could be used by to smooth consumption, cushion shocks and for investments in other vital assets. This allowed the women to have more financial autonomy. They had an accumulation of savings that could be used to cultivate livelihood strategies.

Besides the reduction of vulnerability, the M-PESA application also facilitated another important outcome. It helped users to generate additional income. This happened in several ways. It was mentioned above that M-PESA users were changing the way in which they sent money home. Rather than sending at month-end, they would send the money “in bits”, making transfers weekly or bi-weekly. The result was an increase in the total amount that was remitted back home. As was mentioned above, the amount remitted back home usually increased between 20-40%. The recipients also saved money on the transfer. They no longer needed to pay travel expenses when retrieving their cash. It would be interesting to examine whether this trend will continue, and if remittance patterns will continue to change with increased usage.

Finally, the application extended the network of potential remitters and lenders. This was beneficial for subsistence farmers during the hunger months. It made it easier for them to acquire small amounts of money from a larger base of contacts. This also resulted in an increase in the gross remittance inflows. Some farmers even stated that such inflows had doubled since they started using M-PESA. However, the extension of potential remitter and lender networks resulted in new problems for urban migrants. These migrants were receiving more demands for their limited income. In some cases, this resulted in new tensions between the urban migrants and their rural relatives.

5 Conclusion: Substantiating the Transformational Debate

What does this all mean for the transformational literature? How can these findings be used to substantiate this emerging debate [16, 30, 31, 38]? The first thing that must be considered is how the term transformational has been defined. In most of the literature, the term has not been defined at all. Only Porteous has made explicit what this term means in the context of the m-banking debate [38]. According to his definition, an m-banking application is transformational when it targets the unbanked sector, and provides this sector with new opportunities to access financial services. If this definition is to be appropriated as is then it can be argued that M-PESA is already transformational—at least in the two contexts in which this research was deployed. It has provided individuals in these contexts with new opportunities to save, transfer money, and purchase airtime. What has not been made clear, however, is what happens *after* an m-banking application becomes transformational.

Within the debate, there is very little said about how the technology is being used and why it is being used in these ways. In the two research sites, a divergent set of usage patterns were noted. This divergence was explained by the vulnerability context. It was argued that M-PESA was used for the cultivation of livelihood strategies that helped residents to cope with, and adjust to, shocks and trends within their communities. More research is needed, however, to determine how the application is being used for the reduction of vulnerability in other contexts. It would further be useful to identify the aspects of the application that generate impacts. One of the success factors of M-PESA is its impressive outreach. The substantial customer base has

generated a network effect.⁷ That is, the usefulness and value of the service has increased as the customer base has expanded. This is because each user is a potential recipient, lender and remitter. As was shown here, many rural farmers realized the benefits of the extended M-PESA network as they acquired small amounts of money from a larger base of contacts. The impact was an increase in the total amount received by these farmers. This is one of the most significant benefits offered by these so-called transformational applications. It is not just about providing individuals with access to a technology. It is also about tapping them into an extensive financial network.

Finally, this study challenges an argument that is frequently made in the literature on mobile phones—that these technologies amplify existing relations [21, 22]. As was shown here, increased usage resulted in a decrease in the number of home visits made by the urban migrants. This caused some of rural wives to worry that their husbands would stray. It is not yet known whether these migrants will continue to decrease their visits and just how this will affect urban-rural relations. Such a finding, however, supports the statement made earlier in the paper—the impacts of usage are different when the phone is used as a tool for communication than when it is used to access financial services.

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⁷ For a description of the network effect see [29, 43].

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