

2. Urban users adopted M-PESA because it is cheaper, easier to access, and safer than other money transfer options. Urban users usually persuade rural recipients to also register with the service.

Most interviewees in Kibera say they chose M-PESA because of cost. For example, sending 1,000 Ksh (US\$13.06) through M-PESA cost US\$0.39, which is 27 percent cheaper than the post office's PostaPay (US\$0.52), and 68 percent cheaper than sending it via a bus company (US\$1.16).¹ Urban users say they prefer M-PESA because it is faster (the transfer occurs almost instantaneously), easier to access (there is a wide agent network), and safer (they don't have to travel with money).

In Bukura, a majority of interviewees say their relatives in urban areas asked them to sign up and use M-PESA. The price structure is designed so that it is cheaper to send money to a registered user. For example, it costs 30 Ksh (US\$0.39) to transfer 1,000 Ksh (US\$ 13.04) if the user is registered. The recipient pays 25 Ksh (US\$ 0.33) to make the withdrawal. If the recipient is not registered, Safaricom charges a higher total fee of 75 Ksh (US\$0.98), which the sender must pay.

3. Barriers to usage for urban users include failed transactions and inability to get help from Safaricom. For rural users, barriers include cash float shortages.

Because M-PESA uses the same data channel as text messages, it often becomes congested at peak texting times. As a result, some transactions fail. These transactions either are not processed in the system, or they are processed but the confirmation SMS is not sent. This is a common source of customer dissatisfaction in Kibera. When this happens, the agent calls Safaricom's customer support for the customer. However, because of the high volume of calls, it can take agents several hours to get through. This sometimes makes failed transactions difficult to resolve.

In Bukura, the most common complaint is related to the cash float of agents. The M-PESA system depends on banks for its liquidity. To process withdrawals, agents have to maintain their cash float by making regular trips to the bank. These trips are often costly and time consuming for rural agents because most banks are located in urban centers. Some agents minimize their costs by stocking up on cash less frequently. This constrains the efficiency of M-PESA and forces some customers to travel to cities to make withdrawals.

4. M-PESA flows reversed during Kenya's post-election crisis, with rural users sending money and airtime to urban contacts.

Money transfers typically flow from urban centers to rural areas in Kenya. However, flows were reversed during the country's 2008 post-election crises. During this period, money and airtime cards could not be physically transported across the country. Many of the roads were blocked by rioting youth, and the railway was dismantled. Many urban migrants needed money to escape the threat of ethnic violence and airtime to communicate about their situation.

Some migrants received help from friends and relatives in the village, who transferred both money and airtime via M-PESA. Others withdrew cash from M-PESA if they had a balance in their account. Most banks remained closed during the crisis, which made it difficult to access money. Some agents in urban areas affected by violence confirm that demand for services was high during this period and that urban customers were making withdrawals rather than deposits.

5. M-PESA is used as a storage mechanism by both the banked and unbanked.

Although person-to-person transfers dominate M-PESA use, urban customers also use M-PESA to store money. Nearly a third of banked customers in Kibera keep a balance in their M-PESA account.

¹ US\$1 = 76.6 Ksh as of July 17, 2009. www.xe.com

They say they prefer M-PESA because it is easily accessible. There are no banks within the informal settlement, but there are more than 40 M-PESA agents. This means that M-PESA customers do not need to travel outside Kibera to access their cash. Note that money stored in M-PESA and a bank have different purposes. Most use M-PESA for daily consumption. Some also use it to accumulate “small money” into a lump sum. In this case, “small money” refers to deposits ranging from 100 Ksh (US\$1.30) to 1,000 Ksh (US\$13.00), or approximately one week’s wages. In some cases, this money is remitted back to the rural home. In others, it is kept for an “emergency” or unexpected event such as a funeral. Customers use their bank account mostly for long-term savings. Because M-PESA is not designed as a savings mechanism, no interest is gained on the money stored. This discourages many banked users from keeping larger amounts of money in M-PESA.

A fifth of the unbanked interviewees in Kibera use M-PESA as a substitute for informal methods of savings, especially keeping money at home. Most say they prefer to store money with M-PESA because it is safer. They do not need to worry about household members finding, and stealing, their money. Many of the unbanked further note that they keep money in M-PESA because they trust Safaricom, whereas they feel that money stored in a bank is at a high risk of being lost. Not surprisingly, those who use M-PESA for daily consumption usually store less than those who use it to accumulate “small money.” In contrast to users in Kibera, rural customers rarely use the application to store money. Most are concerned that money would be difficult to access because of recurring cash float shortages at M-PESA agents.

Observations on Impact

1. Users began to make smaller, more frequent transfers.

Remittance patterns changed significantly during the 14 months of fieldwork. As users became accustomed to M-PESA, they started remitting smaller amounts of money with greater frequency.

This is confirmed in the financial diaries. The diaries reveal that there was an average of five remittance transfers from November through December 2008. The average value of these transfers was just over 1,000 Ksh. Before adopting M-PESA, most users sent money home once a month or once every two months. Users explained that they made more frequent transfers because M-PESA is cheap and easily accessible. Money can be sent from anywhere, and at anytime, as long as a balance is maintained in the account. As one urban user notes, “M-PESA never closes.”

2. The income of rural recipients increased by up to 30 percent since they started using M-PESA.

Seventy respondents were asked whether household income had changed since they adopted M-PESA. Fifty-four rural respondents (77 percent) note an income increase since adopting M-PESA. For 38 respondents, this increase is 5–30 percent of household income. Such an increase is the result of money being sent more frequently. By breaking up their transfers, urban migrants end up remitting more money back home. Also, rural recipients save money when retrieving cash. They no longer need to pay for transport costs to urban centers, where most of the money transfer services are located. Instead, they make the withdrawal directly from Bukura. Such an increase is vitally important for the rural recipients, who depend heavily on remittances for their livelihoods. The financial diaries reveal that such remittances constitute as much as 70 percent of rural household income.

3. M-PESA empowers rural women by making it easier for them to solicit funds from their husbands and other contacts in the city.

The mobile phone, in conjunction with M-PESA, is a powerful tool for mobilizing remittances. Before these technologies were introduced, rural women had to travel to the city or post office by bus to get money. They then had to travel back to the village. This process could take over a week. Now they can use a mobile phone to request a remittance and receive it at a nearby agent, making it easier for rural women to solicit funds from their husbands in the city. It is also easier for them to solicit cash

from other contacts when their husbands refuse to make the transfers. This has increased the financial autonomy of the women and has made them less dependent on their husbands for their livelihoods.

4. Urban migrants began to make home visits less frequently after adopting M-PESA.

Before M-PESA, some urban migrants delivered money in person. They preferred this method because the money was transferred directly to their relatives. After making the delivery, they would spend several days at home with their family. Many explain that, after adopting M-PESA, the frequency of these home visits decreased. Through M-PESA, they send money directly to their rural relatives, without spending time and money on the journey. Less frequent home visits are a concern for rural wives. Many claim that their husbands will become lonely and find a “city wife” if they visit home less often. They describe two possible outcomes: (i) it could result in less or no money sent back home and (ii) it could also result in the co-wife coming from the city to inhabit the rural land. This finding counters a popular assumption that is often made about mobile phones—that these technologies amplify existing relationships. When used as tools for financial services, these technologies can have the opposite effect.

5. Users are integrating M-PESA into their savings portfolio. As a result, savings patterns are changing.

The financial diaries reveal that M-PESA is being used in conjunction with popular savings mechanisms, including having a bank savings account, using informal savings clubs, and keeping money at home. M-PESA users spread out their savings across all of these mechanisms to decrease the risk of money being “wiped out” if one mechanism fails. When M-PESA became available, users began to make frequent deposits of “small money” into their M-PESA accounts. The financial diaries reveal that users make, on average, 15 of these deposits per month. Because most participants who kept financial diaries are

frequent users, this high number of deposits cannot be generalized across the user base. This finding, however, reveals the intensity with which some are using M-PESA. Some made frequent deposits to accumulate a larger amount of money, which they then invest in their rural home (e.g., to purchase a cow). Others put the accumulated amount into their bank account to gain some interest on the money stored.

Conclusion

Rapid adoption and frequent use of M-PESA engendered a variety of positive outcomes, as well as unintended consequences. Specific design elements of the M-PESA system shape these impacts. Most important, by allowing money to flow electronically rather than physically, M-PESA lessens, and in some cases eliminates, many of the spatial and temporal barriers to money transfer. This releases money flows in Kenya and allows such flows to penetrate rural areas where cash is difficult to access. Also, as M-PESA reached a critical mass of users, network effects began to develop. Each new M-PESA user has the potential to tap into an extensive network of potential remitters and lenders. Many of the rural residents quickly realized this potential and used this network to increase their income inflows.

There are also some unexpected consequences of M-PESA, particularly in savings behavior. The fact that many customers use M-PESA for savings reveals a latent demand for appropriate savings products within the two communities studied. It also reveals an important opportunity for Safaricom. By partnering with financial service providers, mobile operators can play a significant role in mobilizing savings as they did in releasing money flows across the country.

Acknowledgments

This Brief is drawn from the doctoral research of Olga Morawczynski, funded by Microsoft Research and the University of Edinburgh.

AUTHORS

Olga Morawczynski and Mark Pickens