

# FSD Insights

## WHY DOESN'T EVERY KENYAN BUSINESS HAVE A MOBILE MONEY ACCOUNT?<sup>1</sup>

### 1. A business gap in mobile money use

M-PESA agents and, increasingly, the agents of other mobile money schemes and banks are everywhere. The most striking thing about mobile money in Kenya is how visible it is: the proliferation of store signage leaves no one with any doubt that something big is happening in the Kenyan payment space.

It is estimated that three out of four adult Kenyans have access to a mobile money account.<sup>2</sup> This means that most people that any business touches – whether they are consumers, employees, business partners or retail staff – are connected to a real-time electronic payment network.

And yet few businesses have a dedicated mobile money account for conducting their financial transactions electronically, and among those who have one most do not appear to promote its use by their customers and suppliers particularly aggressively. There appears to be little momentum behind the application of mobile money in business. Most businesses do not feel lifted, shaken or swallowed by the tidal wave of M-PESA<sup>3</sup>.

This is our main finding from over 75 interviews we conducted with businesses of all types in Kenya.<sup>4</sup> But that in itself should not have been a surprise. Beyond a few large utility companies and supermarkets, one doesn't see many businesses post a business M-PESA account number prominently on their store-front, their website, their invoices or their stationery. Why don't businesses loudly proclaim an M-PESA number that anyone can pay them on?

<sup>1</sup> The authors of this report are Ignacio Mas, an independent consultant associated with Bankable Frontier Associates, and Amolo Ng'weno, Managing Director of Digital Divide Data (DDD) in Kenya. The authors would like to thank Amrik Heyer of FSDK for very useful discussions, and especially Mediatrix Tuju for arranging interviews and managing logistical support.

<sup>2</sup> Safaricom reported 14.9 million M-PESA customers as of September 2011 (<http://www.safaricom.co.ke/index.php?id=1491>). Population over 18 years of age is 20.7 million ([http://www.unicef.org/kenya/overview\\_4616.html](http://www.unicef.org/kenya/overview_4616.html)). This produces a ratio if 72% of the adult population. This is validated by survey results from late 2009 by Tavneet Suri and Billy Jack who reported that 69% of households had access to an M-PESA account ([http://www.mit.edu/~tavneet/M-PESA\\_Update.pdf](http://www.mit.edu/~tavneet/M-PESA_Update.pdf)).

<sup>3</sup> The purpose of this report is to look at the business uses of mobile money platforms in general, of which there are many in Kenya today as described in Box 1. However, there was an inevitable tendency during our interviews to focus the discussions on M-PESA because it's the platform that everyone was familiar with and used most predominantly. Since most mobile money platforms in Kenya and elsewhere have been modeled on M-PESA, we consider our findings to be quite generally applicable despite the fact that they are stated specifically for M-PESA.

<sup>4</sup> We talked to businesses of different sizes, from outdoor producers and sellers (jua kali) to large utilities and supermarket chains, in and around Nairobi, Kisumu, Limuru and Nakuru. We covered many sectors, and the only one we excluded was financial services (banks and microfinance institutions) as we felt their circumstances around mobile money are already well researched elsewhere.

### Box 1: Electronic payment options in Kenya

Kenya remains the poster child of mobile money globally. It is a market dominated by **M-PESA**, the service operated by incumbent mobile operator Safaricom which was launched five years ago. Over 15 million users (82% of the Safaricom customer base) are able to cash in/out at some 30,000 locations across the country. Based on half-year results to September 2011, M-PESA's annual gross revenues (i.e. including agents' commissions) of \$90 million accounts for 17% of total Safaricom revenues. Mobile money transfers are capped at KSh 70,000.<sup>5</sup>

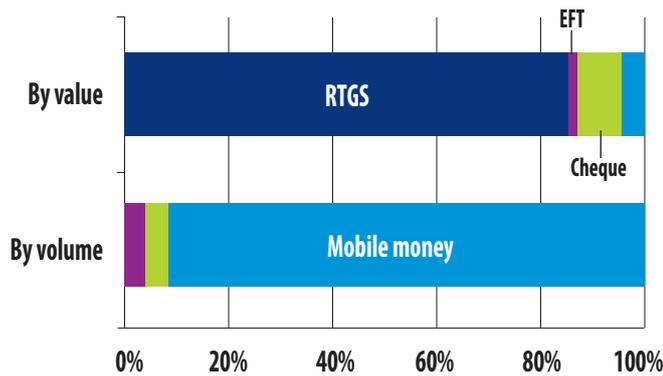
Competing mobile money services have emerged in Kenya, some managed by smaller mobile operators (such as **Airtel Money**, **Orange Money** and **YuCash**), and some operated by independent players (such as **MobiKash** or **Tangaza**). But they all struggle to gain the widespread acceptance that is enjoyed by M-PESA. Banks are also launching mobile banking and payments capabilities (such as **Equity Bank Eazzy247** service and **KCB Mobile Banking**), supported by the spread of thousands of banking agents at shops. The cash-based payment options all these systems are competing with are: (i) physical exchanges of cash, and (ii) direct deposit into the payee's bank account. The main options to make inter-bank payments are:

- **Cheques.** With the completion of the new cheque truncation process, the time it takes to clear cheques has been reduced from four days to generally two. Images of cheques are taken, and the transactions are processed through the ACH. The cost of cheques varies, but it may be as low as KSh 10 for cheque issuance plus KSh 30 for cheque processing.
- **Electronic Funds Transfer (EFT).** These are processed through the Nairobi Automated Clearing House (ACH) managed by the Kenyan Bankers' Association (KBA). Payments are batched, and funds take two days to clear between banks. EFT charges depend on transaction size, but would typically be in the KSh 50–300 range.
- **Real-time gross settlement system (RTGS).** Large payments of over KSh 1 million must be routed through the Kenya Electronic Payment and Settlement System (KEPSS), though smaller payments are also possible. KEPSS is operated by the Central Bank of Kenya (CBK), and all banks are connected to it. Though the settlement is immediate within banks, it may take 2–6 hours for banks to reflect smaller payments on their customers' accounts.

<sup>5</sup> At the time of this study, the exchange rate was US\$1=Ksh77.



**Fig. 1: Distribution of non-cash payment options in Kenya: Annual data to June 2011.**



Source: Central Bank of Kenya, Annual Report 2010-11

Business adoption of mobile money might be slow, but what is perhaps more surprising is how few enterprises are seeing an opportunity to use mobile money to re-engineer how they do business. Sure, M-PESA may be an additional, perhaps more convenient way to pay and get paid. But it could also be a way to move towards full electronic recording of all business transactions: to provide more immediate feedback for business planning (exploiting information value of transactions), to cut down on corruption and leakages, to reduce credit risk in supply chains (moving from cash on delivery to prepaid).

There is little evidence of such a business revolution being unleashed by M-PESA. Moreover, most businesses that do use mobile money have it for one very specific purpose (usually accepting payments from customers who are far away), and are not able to articulate a vision of how M-PESA might be further deployed across other areas in their business. Adoption by more established enterprises seems to be not only slow but incremental. The largest impact to-date is probably at the base of the pyramid, where M-PESA has made it easier for entrepreneurial people to break out geographically in terms of where they source their inputs and where they sell their goods and services.

## 2. Formal businesses: Paper is king

Formal businesses are more likely to use M-PESA to get paid by end-user customers than to pay out to their suppliers and employees. This may be due to three factors. First, the number of customers generally is larger than the number of suppliers, and hence receiving money puts more pressure on corporate processes than making payments. Second, corporate authorization procedures for paying out are more rigid than procedures to collect money from customers. Finally, payments to suppliers tend to be much larger, and often exceed the transactional limits of mobile money.

The following is the general picture of how businesses pay out:

- Suppliers are most often paid by cheque, though electronic bank transfers are also common. Both take typically two days to clear through inter-bank systems. The preference for cheques over bank transfers is surprising, given that they entail greater credit risk: unlike with bank transfers, there is no way of knowing whether the funds are in the account at the time the payment instruction is issued. Yet most businesses feel that cheques give them more sense of financial control: they lend themselves more naturally to internal company authorization procedures (cheques can be stapled onto invoices in a way that electronic payments cannot), they leave more of a paper trail (the counterfoil for the payor, the cancelled cheque for the payee), and the status of payments are easier to track. Cheques are also useful if there are payment terms, as the payee can collect post-dated cheques immediately as proof of intent to pay. On the other hand, many businesses dislike electronic bank transfers because when they receive a payment they have difficulty matching it to clients or invoices.
- Most formal businesses require their employees to have a bank account, and pay them through bank transfers. Bank-based salary payments seem to work well: we did not hear any quibbles from any business. The cost of wage disbursements per employee seems to be about the same as the cost of a money transfer using M-PESA, so there is no cost advantage either way. We heard strong opinions from both employers and employees that receiving money into a bank account is better than into an M-PESA account. They felt it was easier to misuse M-PESA money because it is too liquid, too like cash.
- Small suppliers (e.g. purchases of stationary at a local shop or daily milk deliveries), are paid either by cheque or directly with petty cash. Few businesses have institutionalized a mobile money account to pay for such day-to-day expenditures.
- Field workers are generally given their allowances in cash prior to departure. Where mobile money does seem to be used is to make exceptional payments, for instance if a trip has to be prolonged (in which case the staff needed more money for gasoline and per diem) or if there is an emergency such as car break-down. Given the infrequent need for such payments, they are typically done using personal staff phones, and accounted for as disbursements of petty cash.

Cash remains by far the most common way of collecting money from end-customers, whether these are consumers or small retail outlets. However, M-PESA is making in-roads in some contexts:

- The most frequent users of mobile money are service companies that collect periodically from their customers. That includes primarily utility companies and educational institutions, though the institutions in this category we talked to would have less than a quarter of their customers

paying with M-PESA. Their aim is to reduce the amount of payments they need to accept at their own premises, which can be quite onerous since payments tend to be bunched up on particular days. However, billers do not generally pass on the full cost savings to customers paying remotely using M-PESA. In fact, they share M-PESA Pay Bill charges with their customers, so the direct cost (not counting customer travel and queuing costs) are higher.

- A particular driver of usage is security, for instance for taxi drivers and pubs that are open late-night.
- Online retailers who need to collect money remotely, before sending goods by courier. They are now adding mobile money payment options, though these would coexist with bank payment options (credit card, bank transfers or cheques). However, mobile money use online is hampered by the lack of integration tools between M-PESA and e-commerce sites, so that customers cannot complete a sale and pay for it as a single process from the same site.
- Local wholesalers and distributors who deal with a large number of retail shops may accept mobile money when they deliver goods to stores. Their aim is to reduce the amount of cash that their trucks and employees need to carry. However, they appear to not offer incentives for stores to prefer paying by M-PESA rather than cash, nor are they requiring prepayment of orders before sending the delivery as a means of optimizing their inventory management and truck routes. Payments are generally made on delivery of goods, and at that point it's entirely a matter of convenience to the store whether they pay with cash or mobile money. Since stores themselves collect cash from their customers, they would typically in turn pay the distributor with cash.
- Retail chains, especially the more up-market department stores and supermarkets, are now starting to experiment with M-PESA's Pay Goods option. While they are very concerned about how M-PESA payments may delay check-out times, they feel they it is prudent to offer a full range of payment options to their customers. Their aim is to prevent walk-outs from people who get to the counter and find they don't have enough cash to complete the sale, and hence to permit more impulse buying. It is interesting to note that in at least one case (Bata shoe stores), customers who pay with M-PESA are requested to sign a receipt and show their ID, which is not required if they pay in cash. It is not clear why they create such extra requirements which only further delay the sales process.
- Most smaller and independent retail shops would also accept M-PESA under the P2P modality, though we can call this an informal practice. Shops do not tend to have a Pay Bill number or a business phone to be used to pay M-PESA into. Instead, customers typically send M-PESA value as a person-to-person (P2P) transaction to the store clerk's

personal phone. The clerk will typically ask that an amount equal to the withdrawal charge be added, and will withdraw the money at a convenient time. Clerks allow payment by M-PESA in order to not miss out on a sale, to offer good service to their customers (essentially offering to run a withdrawal service on their behalf), and possibly also to make extra money to the extent that they get a withdrawal fee each time but clump transactions together before cashing out. The normal practice is for all M-PESA value received to be converted into cash and added to the till, for counting at the end of the day. This cash might then be deposited at a bank branch. Thus, money that may have been paid in electronically is converted into cash for reconciliation before taking it to the bank for safekeeping.



Sample pre-paid electricity meter from KPLC  
<http://www.kenyapower.co.ke>



Water dispensing unit from Grundfos  
 Photo credit: Ignacio Mas

- M-PESA is starting to be used to enable new business models. A particular area of promise in using mobile money is in the prepayment of utility services. The Kenyan Power company (KPLC) has appointed three technology vendors to develop and market pre-paid electricity solutions. Grundfos markets a community water pump system with an automatic dispensing facility linked to M-PESA payments. However, to-date they have only installed 35 such units. Such services are proving slow to take off due to the high cost of metering equipment. In the case of Grundfos, the cost of the water charging and dispensing unit increases the initial deployment outlay per site by 2.5 times. M-PESA is also starting to be used to allow companies to offer payment terms for their products. Kickstart sells small mechanical water pumps under a mobile layaway plan which allows people to send money by M-PESA and to build up over time the amount of money they need to get their pump.

In summary, formal businesses seem to be quite rigid about their payment habits. They are sticking to cheques as the preferred way of paying suppliers, and treat M-PESA mostly as a collection method. Except for large billers, M-PESA is treated mostly as a cash equivalent - money that makes it into the cash box, by another means. Paper-based payment instruments - cheques and cash - still dominate business life.

**Box 2: Case study of DDD Kenya Ltd**

In addition to the face-to-face interviews described in the main text, Digital Divide Data – a Nairobi data management company recently founded and managed by one of the authors of this report – called 50 corporations to whom it had made payments in the past month and asked all whether they would accept payment by M-PESA.

The median amount DDD had paid the previous month was KSh 50,000 (about \$600), although the mean was more than double (KSh 109,000, or \$1240) which is above the M-PESA payment threshold. During this period, DDD paid 75% of its bills by cheque, 15% by cash, and 10% by bank transfer (ACH, RTGS or SWIFT). Bank transfers tend to be larger (they account for double the share of all payments by value, to 20%) and cash transactions are smallest (only accounting to 5% of all payments by value). DDD did not use M-PESA during the month, but it's sometimes used (as P2P) for some temporary wage payments and travel expenses..

Just over half of DDD's suppliers were willing to accept M-PESA (26 out of 50), but only 4 have a Pay Bill account. These were two internet service providers, the government communications regulator and the National Health Insurance Fund.

For the 21 who would accept M-PESA but were not registered for Pay Bill, they generally wanted the sender to pay the withdrawal fee so that they could quickly withdraw from an employee's personal account and deposit cash in their bank.

For the 24 who did not accept M-PESA payments at all, the main reason they stated were not having a corporate M-PESA account. One mentioned difficulty with reconciliations, one mentioned security concerns, and three



mentioned difficulties with internal policies. One supplier which DDD pays in cash said they rarely get requests for M-PESA payments from their customers.

**DDD's reasons for not using M-PESA yet**

To begin with, signing up as a corporate M-PESA customer has proven laborious. DDD's application for Pay Bill was only recently approved, after more than 8 months after requesting it, and they are now starting the process for registered for bulk payments. At the same time, DDD's customers do not pay them by M-PESA and hence DDD is not holding an M-PESA float that they would like to liquidate. Finally, DDD perceives transfers between M-PESA and their bank to be slow, voiding the benefit of making instantaneous transactions.

There are also several reasons that explain why DDD use cheques in preference over bank transfers. DDD considers online banking to not be well implemented by their banks. One bank has an online banking service that is often down, works slowly when operational, and has a clunky and difficult password process. The other bank has not yet provided any online access two months after submitting the required forms. On the paying side, bank transfers require DDD to get the bank account information of their payees, which is cumbersome for one-off payments. On the receiving side, sometimes payors don't provide enough information as to what they are paying for so a lot of administrative time may be spent tracking down the origin of a payment.

**3. Informal businesses: Whatever works**

Informal businesses seem to be more ready to use M-PESA than formal businesses. They will typically make entirely pragmatic decisions on when to use M-PESA versus cash, on a case-by-case basis. The main deliberate uses of M-PESA we observed are:

- Tradesmen (e.g. plumbers or carpenters) and other service people doing house calls, so that they don't have to be carrying cash or providing change.
- Traders (e.g. auto spares, fruit sellers, etc.) who procure goods from further afield rather than from local distributors, in order to gain a cost advantage. The supplier would require prepayment via M-PESA, before sending the goods by courier.

- Informal vendors (shops or market stalls), who deposit working balances overnight for safe-keeping. They prefer using M-PESA rather than bank accounts for overnight storage because of the longer opening hours and shorter queues of agents relative to bank branches. That could change, though, as banking agents proliferate.

In addition, any seller is likely to accept M-PESA as an alternative to cash, much as the formal stores do so as described above. It is common to hear sellers express opinions like: "Normally we prefer cash, but if the customer wants to pay with M-PESA we don't mind."<sup>6</sup>

<sup>6</sup> We also heard of one trader of computing equipment who pays suppliers in cash, but through an M-PESA agent. The trader withdraws cash from their M-PESA account early in the morning but leaves the cash at the agent; suppliers can then go by the agent at a convenient time for them to pick up the cash. Thus, the trader only does one withdrawal, but with that can have multiple suppliers paid.

### Box 3: Further reading – Relevant business case studies and surveys

Case studies of the mobile money use for specific enterprises and programs:

- Case study of Bridge International Academies: Jeff Abrams, Retail Payment Innovation Builds Bridge to New Business Model Serving the Poor (Confidential report from Bankable Frontier Associates, November 2011).
- Case study of Grundfos Lifelink: Sherri Haas and Geetha Nagarajan, Water Delivery through Payment Platform – M-PESA Pushes the Rural Frontier (Report of the Financial Services Assessment project, July 2011).
- Case studies of the Ministry of Lands, PACT Kenya (a USAID program), Kenya National Examinations Council and Juhudi Kilimo: Loretta Michaels, It's Better than Cash: Kenya Case Studies Summaries (Report prepared for Accenture Development Partnerships, November 2011).
- Case study of a supermarket chain's experience with Pay Goods: Matt Krueger, In-Store Payments with M-Pesa: Uchumi Experience (blog post available at <http://mobilemoneyexchange.wordpress.com/2011/10/06/in-store-payments-with-m-pesa-uchumi-experience/>).

Small-scale quant/qual surveys of retail uses of M-PESA:

- Survey of 932 SMEs: Ben Lyon and Dylan Higgins, Mobile Money Usage Patterns of Kenyan SMEs (Report prepared by Kopo Kopo for the Bill & Melinda Gates Foundation, December 2011).
- Daily transactions at local stores in two communities: Daryl Collins, Peter Fleming and Julie Zollman, Research on the Scope of Cash Versus Non-Cash Payment Methods in Kenya (Confidential report prepared by Bankable Frontier Associates for Equity Bank and the Bill & Melinda Gates Foundation, September 2011).
- Analysis of cash movements within a small community: Julie Zollman, FSD Cash Lite Scoping Study (Report prepared by Bankable Frontier Associates for FSDK, February 2012).
- Financial diaries including information on informal business: Guy Stuart and Monique Cohen, Cash In, Cash Out Kenya: The Role of M-PESA in the Lives of Poor People (Report of the Financial Services Assessment project, September 2011).

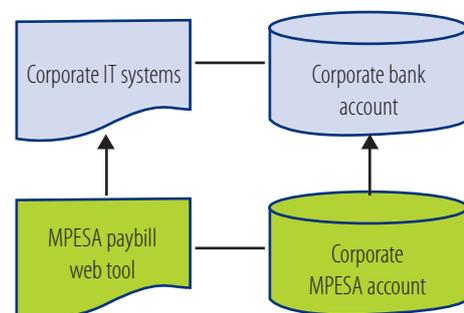
## 4. What accounts for the low usage of mobile money in business?

We can posit four main types of reasons why mobile money is proving slow to spread across businesses in Kenya. As one interviewee at a larger company told us – he was from the marketing department and reasonably keen on it: “M-PESA is difficult for the people in the finance department.” Here's why.

First, mobile money services are still largely closed-loop systems and do not offer easy integration with either business information technology (IT) platforms or traditional banking services. M-PESA constitutes only one of several ways for businesses to pay and be paid, and hence enterprises would expect to fit into the other transaction flows and financial practices happening within their business. However, due to inherent limitations in the M-PESA service, businesses tend to perceive M-PESA as a parallel solution rather than an extension of their existing systems:

- **IT integration.** Most businesses using M-PESA's Pay Bill or Bulk Payment services don't have access to application programming interfaces (APIs) or the skills to use them. As a result, M-PESA transactions are not automatically reflected in their corporate IT systems. They must enter their M-PESA transactions manually into their corporate IT system, introducing delays, errors and risk of fraud into what should be a fully electronic process.
- **Bank settlements.** Moving money from the M-PESA Pay Bill account into the business's normal bank account can take up to four days – twice as long as what it would take for an inter-bank transfer cheque to clear.

Fig. 2: Pay bill Integration requirements



This goes a long way to explaining why M-PESA tends to be used more by either small, informal businesses (who do not have their own IT platform or bank accounts) or large utilities or retailers (who can afford to pay for the requisite process automation and integration into their systems).

Second, applying M-PESA in a business context presents some trust issues which Safaricom will need to deal with. In a social context, with friends & family, senders and receivers tend to know and trust each other. In a business setting, though, the business who is being paid may not have any knowledge of who their customer or payor is. The market is rife with stories with businesses who were defrauded when they accepted M-PESA payments, and the level of apprehension in accepting M-PESA transactions from unknown customers is high. Several businesses told us they were still “afraid of using M-PESA.”

There are two types of situations in which businesses stand to lose money with M-PESA:

- **Fraudulent SMS.** The payee receives an SMS which purports to come from M-PESA but is in fact sent directly by the trickster. The SMS is made to look like an M-PESA confirmation. Fig. 4 shows an actual fraudulent SMS we collected from a jua kali in Nairobi. One could spot the fraud in three ways: (i) the sender listed at the top is a phone number rather than M-PESA;<sup>7</sup> (ii) there is inconsistent punctuation, capitalization and spacing throughout the message; and (iii) the stated M-PESA balance would not be right.)
- **Transaction reversals.** The customer does a correct M-PESA payment, but on leaving the store he calls the Safaricom contact center claiming the transaction was done in error, to the wrong phone number. There is a widespread belief that Safaricom automatically reverses such transactions, without checking with or even informing the original recipient of the funds.

**Fig. 3: Fraudulent M-PESA message**



<sup>7</sup> There is a more elaborate case of this fraud which requires the fraudster gaining access to the receiver's phone. If he does, the fraudster can enter a new record in the address book with his own phone number and 'M-PESA' as the label. When that phone receives a message from the fraudster's phone, it then appears as a message from 'M-PESA'. This has been an issue particularly with M-PESA agents, where fraudsters purported to be Safaricom employees needing to 'inspect' the agent's phone. Safaricom now instructs their agents to never hand over their phone to anyone, even if they purport to work for M-PESA.

Beyond the potentially fraudulent behaviors of payors, mobile money struggles to be perceived as a sufficiently reliable and trustworthy service. Customers are frustrated at frequent system outages. Also, the perception that it is not like a bank limits the comfort of formal business managers in entrenching mobile money within its operations.

Third, having M-PESA adopted by businesses requires adapting internal business practices to an all-electronic environment. While businesses are comfortable with operating (electronic) bank accounts, many processes are still manual and paper-based, including the authorization of payments (with cheques) and the maintenance of records. On-boarding mobile money often requires substantial change management and redesign of processes. Many of these processes are Board-approved, which introduces its own rigidity: Boards tend to include older people who are the most reluctant to dispense with paper-based records and signatures.

Fourth, it also appears that Safaricom has not marketed corporate M-PESA services very widely or aggressively. Safaricom seems to direct few marketing and sales resources to the corporate sector, and it has so far failed to build a sufficiently incentivized business sales and support channel. The delay in approving and provisioning Pay Bill accounts can be substantial: over six months in one case we know about.<sup>8</sup> It is also symptomatic that the corporate Pay Bill customers we talked to did not appear to be aware of M-PESA's Bulk Pay service: the two corporate services do not seem to be cross-sold. Additionally, M-PESA seems to limit its own market for corporate M-PESA accounts: applications are limited to companies that have been in business at least 3 years.

Interestingly, the one explanation for low M-PESA use that we did not hear at all is around taxation. There did not seem to be (overt) concerns from informal businesses that M-PESA would be used by tax authorities to assess taxes due. There is trust that Safaricom is not sharing that data with the tax authorities, and even if they did it would be difficult for the authorities to assess when a payment corresponded to business rather than personal use. The informality around the use of M-PESA itself creates that sense of comfort.

## 5. How appropriate are M-PESA services for business?

Safaricom offers three types of services for corporate users:

- Pay Bill, for non-face-to-face consumer-to-business (C2B) payments. These are customer-initiated transactions using a specific item on the standard M-PESA menu. The customer can enter an account number as a reference to the biller, and the biller has access to a web tool to view all transactions.

<sup>8</sup> We also heard of a company that got a Pay Bill number two months after requesting it, but it turned out that the number was already being used by another business. Thus the transactions of the two businesses got mixed up. It took another month for the company to get their own unique Pay Bill number.

Fig. 4: Home page for M-PESA corporate services



- Pay Goods, for merchant payments at selected retail outlets (i.e. face-to-face C2B payments). These are also customer-initiated transactions from yet another item on the M-PESA menu.
- Bulk Payments, for business-to-consumer (B2C) payments. This was conceived for salary disbursements but may be used for any outgoing payments. These payments are initiated by the corporate using a web tool which can link to the Pay Bill web tool.

There are a number of issues that limit the uptake of these services among corporates. Taking the Pay Bill service as an example, we can identify the following customer pain points with the service. Box 4 gives some example of how a mobile money system might be designed to address these points).

- **Inflexible web interfaces.** The web tool that Safaricom offers its corporate customers to view their transactional histories does not permit easy visualization or searching of transactions. Only transactions in the last six months can be accessed. The users we talked to reported many difficulties with password management.
- **Inadequate APIs.** The main interfaces to transfer data from the M-PESA web tool to corporate systems is by exporting the data to Excel

or PDF files. This is clunky for corporates, and presents security issues. In the last few months, M-PESA has made available an Instant Payment Notification (IPN) service that can perform automatic HTTP posts to payees' corporate IT systems. However, experts refer to IPN as a work-around pending the implementation of appropriate APIs by M-PESA. As a result, there are reports that sometimes there are substantial delays in the information being posted, and this new capability does not seem to be promoted actively by Safaricom (few companies we talked to knew about its existence).

- **Improperly identified transactions.** Payers can make mistakes: they can enter the wrong biller code or the wrong identifier for the account they hold with the biller. M-PESA's corporate payment services have no mechanisms to detect or prevent these errors, so either the payor (customer) needs to seek redress from Safaricom's contact center or the payee (corporate) needs to handle exceptions.
- **System delays and downtime.** Some payors wait until the final deadline to pay their utility bills with M-PESA, but then the system might be down which prevents them from paying in time. Additionally, utilities have reported instances where they get information from last-minute payors late from M-PESA, resulting in them cutting off service to

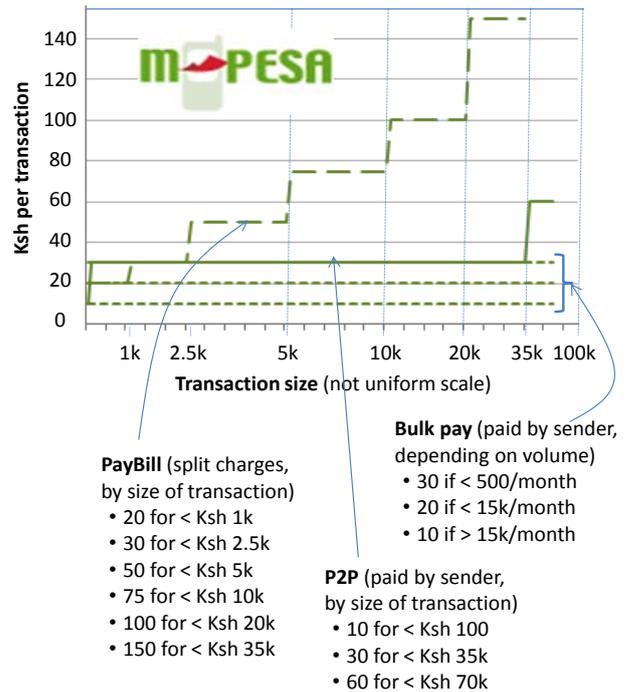
people who have in fact paid. All this creates fear in customers' minds on the status of their service when they pay with M-PESA.

- Payment confirmations.** M-PESA says a payment confirmation by SMS to Pay Bill customers. However, this just confirms that M-PESA has taken the money from the client's M-PESA account, not necessarily that the biller has credited the funds to the client's service account. Thus, the payment loop is not closed, and this creates anxiety for Pay Bill customers.
- Paper receipts.** Many customers want to have a paper record of the payment, especially corporate customers. They feel this will help them in the event of any subsequent billing dispute. However, the Pay Bill service does not allow customers to pull a receipt from the web. This limits the uptake of Paybill among payors, and reduces the opportunity for billers to reduce expenditures on alternative payment channels.
- Liquidating balances.** The process for transferring money from the corporates' M-PESA account to their bank account is laborious and slow. There are three issues: (i) there is a minimum transfer size of KSh 50,000; (ii) there is no possibility of automatically sweeping money (the corporate's administration must process the request each time from the corporate M-PESA web interface); and (iii) it takes four days for the money to clear and settle into the corporate's bank account (that's twice as long as inter-bank transfers usually take). This imposes significant burden on corporates, both in terms of staff time (because of lack of automation) and working capital costs (since the M-PESA account is non-interest-bearing).

Pricing can also be an issue for transactions that are relatively small (on which mobile money fees can be significant in percentage terms) or where face-to-face cash payments are not so inconvenient. In fact, many businesses seem unprepared to absorb the direct cost of making or receiving electronic payments, even if that saves them larger indirect costs of handling cash or cheques. By making payment costs explicit, mobile money may paradoxically hinder its use in new situations, even if the total cost is less.

- Pay Bill transactions are cheaper than P2P for smaller transactions, though the price rises significantly for larger transactions. Charges can be split between the customer (payor) and the biller, according to different pre-set schedules.
- With Pay Goods, both parties are charged: the payor pays a flat rate of KSh10, and the merchant pays an additional 1% of the value of the transaction.

Fig. 5: M-PESA tariffs (as of Sept 2011)



- Bulk Payments at or below the headline P2P price. Prices depend on transaction sizes and monthly payment volumes. There is an option for the sender, rather than the recipient, to pay for the withdrawal fee.

### 6. What it means for banks and third party payment solution providers

Overall, the surprise is that M-PESA is not more widely used in business, given its ubiquity and instantaneity. Banks continue to be the preferred provider of financial and payment services by most formal businesses. Banks' primacy in the enterprise space does not show any signs of being under threat from M-PESA.

In fact, with the new agent networks that banks are deploying, it is possible that they will regain some of the ground that they have lost to M-PESA in the small, informal business space. We observed that M-PESA can no longer hold exclusivity of its retail outlets: more and more we see stores with multiple bank and mobile money logos. This will make it easier for banks to establish extensive agent networks, as they will be able to ride on the store selection and due diligence, investment in education, and business volumes of M-PESA agents.

#### Box 4: How might electronic payment platforms be improved to serve business better?

There remains a huge business opportunity to satisfy the electronic payment needs of business clients – formal and informal, large and small. M-PESA does not fill this need and neither do the banks. Here are the features of an ideal mobile money platform for business:

<b>Who is the payment from and what is it for?</b>	Any payment can be identified with a corporate account number or payment purpose. Under the current M-PESA platform, this is only possible under the Pay Bill service. An optional description field could be introduced for basic P2P transfers, so that smaller and informal business users can use M-PESA more flexibly.
<b>What if the payment is sent to the wrong number?</b>	Business users should have unique numbers different from phone numbers, and these should incorporate cheque digits in order to minimize the claims that payments were sent in error. A chequesum digit (or two) at the end of business M-PESA account numbers would allow the system to immediately identify when a number was mis-typed, and could reduce errors by 90-99%. This would ease businesses' concerns that customers can too easily request transactions to be reversed, and reduce the volume of calls to Safaricom's call centre.
<b>What if I need/want a paper receipt?</b>	Payors (and payees) ought to be able to print receipts and reports from a website even if they themselves are not a business, so that they can document in paper the transactions they have made with businesses. This would increase the confidence of mobile money as a payment mechanism.
<b>Secure business integration options</b>	There should be standard application programming interfaces (APIs) which make it easy and safe to export information in formats that can be used with corporate accounting and ERP systems. These APIs should also allow application developers to embed M-PESA payment functionality within their value-adding offerings.
<b>Easy sweeping of funds between mobile money and bank accounts</b>	M-PESA should integrate better with businesses' bank accounts. Business customers ought to be able to set rules for automatic funding of and sweeping of funds to their M-PESA account. Transferring funds between a business's M-PESA and bank accounts should take no longer than standard inter-bank transactions. In fact, M-PESA could use its superagency arrangement with many banks (whereby they hold M-PESA float which they buy and sell to their customers) and arrange transfers of value between M-PESA and bank accounts as intra-bank transfers, which are instantaneous.
<b>Integrated paying and receiving functionality</b>	M-PESA business accounts should allow for both receiving and sending money in one registration, under one set of rules and user interface.
<b>Clear and efficient dispute resolution processes</b>	For a vibrant digital payment ecosystem to evolve, it is necessary that the risks associated with any payment – whether arising from fraud or error – are defined and allocated based on clear rules between the different parties – payer, payee and payment service providers. If this does not happen, then it is likely that unforeseen liabilities will result in losses to the parties which may affect the willingness of providers to participate in the payment system; or undermine the trust of consumers. M-PESA will need to design new contractual and procedural arrangements which provide sufficient certainty for all parties and which allocate risks fairly and appropriately.



Banking customers are served at a local grocery shop.  
Photo credit: Ignacio Mas

This suggests that M-PESA's apparent dominance of low-value payments may erode over time. In the regulatory zeal to promote more competition in low-value retail payments, M-PESA needs to be allowed to develop fully without undue restraint on competition grounds. For all the reasons explained above, when it comes to business payment applications, M-PESA needs to do more, not less. Still, competition authorities might focus their attention and vigilance on two key issues:

- Within the telecoms market: Safaricom may be in a position to transfer market power from the personal payments space which it currently dominates back into its core telecoms market, thereby making it difficult for smaller operators to compete effectively in telecoms services.
- Within the financial services market: Safaricom sells service both at the network connectivity level (which banks have to access in order to provide their own mobile banking and payments services to their clients) and also directly at the financial services level. Safaricom could therefore use its control over telecoms networks to make it difficult for banks to offer a compelling mobile banking or payments service in competition to its own M-PESA service. Safaricom should provide access to voice, SMS and USSD channels on fair and non-discriminatory terms to banks and their customers.

The fragmentation of business payment solutions across mobile money operators and banks is creating opportunities for third party players to add value to business customers by presenting to them more user-friendly interfaces and more holistic payment solutions. Some examples of companies doing that are:

	<p>Development, customization and implementation of holistic mobility solutions, incorporating payment services. For instance, their customized software systems enable companies to streamline and manage supply chain business processes, or to create, publish, read and search information electronically across a company.</p>
	<p>Offers a range of value added services running on top of an M-PESA corporate mobile money account(s), including: web services APIs to facilitate integration with third party systems, a range of configurable reports, tools for identifying and resolving flagged transactions, contact management and SMS campaign tools, and an e-commerce widget linking to the corporate's website.</p>
	<p>Automated the M-Pesa and Airtel Money transaction process from receiving and sending to reconciliation, allowing businesses to integrate mobile money into their website and point of sale terminals at their shop.</p>
	<p>Online payment gateway allowing users to securely make payments using a variety of mobile money and standard banking services.</p>

### 7. Summary and policy implications

M-PESA can be thought of as a utility that links citizens and enterprises to each other and to a range of service providers. Riding on top of Safaricom's mobile communications network, what flows through the mobile money utility is information: about user's digital money holdings and about how this gets passed around between different people and entities connected to it.

The potential for mobile money to grease the wheels of commerce is clear: digital money is easier to store and transport securely than physical cash. Digital money leaves information in its wake, which can be used to build up financial histories for individuals or accounting records for businesses. Freed from physical constraints, digital money is simply more versatile than cash. If every potential customer, supplier and partner of any given enterprise was connected to the same electronic payment network, interactions between them could be significantly more efficient. There would be lower costs associated with paying and collecting for goods and services, businesses would

have instantly available information on payments made and amounts owed, and credit and business risks could be streamlined across supply chains.

Yet mobile money has only begun to scratch the surface of business payment services. This might seem surprising in the light of M-PESA's stunning growth in the personal money transfer market since it was launched five years ago. It is important to note, though, that most successful payment network and services do remain largely specialized. VISA and MasterCard dominate higher-value merchant payments, but despite repeated efforts have only made limited inroads in money transfers and remittances. Western Union is the polar opposite: it has created a very successful franchise in remittances, especially internationally, but is not used for merchant payments. PayPal remains most successful in powering e-commerce transactions, though they have also created a free business in small person-to-person payments. In all cases, their brand positioning, service design concept and pricing structure make it very difficult for them to exploit opportunities in adjacent markets. It is therefore not surprising that M-PESA is showing the same limitations.

In developing their mobile money business, mobile operators have been concentrating on building a viable agent network and developing P2P services. They have devoted limited resources in looking at B2C, C2B and B2B transactions. It is quite likely that mobile money services will naturally tend towards these business transaction pools, even if mobile money operators do not proactively chase them, but the process may be fitful and slow. To move decisively in this direction, M-PESA will need to improve on the platform it offers its business customers, offering better integration options into their corporate IT systems and bank accounts. But beyond that, their business customers will need change management to implement mobile payments, which Safaricom does not currently provide. It will be useful to have case studies and best practices emerge documenting the business benefits of electronic payments, in order to inspire other firms to follow suit and create inertia for change.

An active managed business solution consulting channel will be necessary particularly where there are strong dependencies across firms. This is the case for example in agricultural value chains, where one party (the buyer or processing plant) may know how much produce each farmer sold but the farmers' associations knows how much fertilizer input each farmer took. In this case, there is an information flow re-design that needs to take place in order to allow for direct payments to farmers. Because the limitations are largely with the mobile money operators and their customers, there are no major policy initiatives that can, by themselves, drive greater acceptance and use of mobile money in the business domain. It is not clear that should be the goal anyway, as banks could themselves serve the payment needs of businesses in Kenya and keep mobile money successfully at bay. But there are two clear

indications that suggest that there might be a bigger role for mobile money beyond personal money transfers. First, the large volume of cheques and cash that gets exchanged in the course of business does suggest that there is substantial scope for improvement in the electronic payments space. Second, as long as most individuals in Kenya have mobile money accounts and most formal businesses have bank accounts, there is an obvious opportunity to link the two domains for the benefit of the economy as a whole.

We can think of the policy options in the context of some of the main barriers we identified in section 5:

- **Mobile money-bank integration.** The central bank might look into why it takes four days for Safaricom to move money from a corporate customer's M-PESA account into its bank account. This seems an unjustifiably long period of time, and may suggest deficiencies in M-PESA's security system which Safaricom is addressing through manual checks and authorizations. The supervisory authorities may wish to conduct a security audit specifically on the larger M-PESA-to-bank transactions.
- **Transaction reversals.** The central bank might also look into M-PESA's policies and processes around transactions that are sent to the wrong number. Safaricom's practice of freezing the money pending an investigation of the situation and, allegedly, automatically reversing transactions in some cases without consulting or informing the payee risks undermining trust in the system. Safaricom needs to be much more transparent in its customer redress policies and systematic in their application.
- **System reliability.** As M-PESA becomes more prevalent, it becomes increasingly a matter of national interest to ensure that it operates without interruption. The central bank should look into system capacity and stability issues as part of its normal supervisory function, and require Safaricom to take the pertinent measures to address any deficiencies. The central bank could at a minimum define metrics on system uptime and transaction completion rates, require mobile money providers to report regularly on them, and perhaps establish clear benchmarks of unsatisfactory performance.
- **Transaction pricing.** M-PESA has the peculiarity that purely electronic money transfers (P2P) are more expensive than cash withdrawals. This discourages use of mobile money at retail outlets, because it's cheaper to cash out at an agent nearby and hand over the cash to the store than to pay for the goods electronically. The authorities should engage with M-PESA and other mobile money providers to prod them towards pricing that encourages the development of an electronic payment ecosystem and penalizes cash.

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