

Mobile Money Usage Patterns of Kenyan Small and Medium Enterprises

Some people expect to see small and medium enterprises (SMEs) benefit substantially from using mobile money (MM). SMEs are often seen to process large numbers of payments and can have a surprising amount of money flowing through them. At the same time, their need for payment and transactional services are not always well served by traditional banks. They do not always find it easy or cost effective to adopt a full-featured package of banking services as a larger business might. Anecdotal evidence seems to confirm that many small businesses use MM intensively in markets where it is available; however, the phenomenon is not well documented or researched. In response, in late 2011, we conducted a survey of 865 SMEs in Kenya to better understand MM adoption patterns in one of the most active markets in the world.

We found that whether Kenyan SME owners use MM to pay utility bills or salaries or suppliers, they are driving higher volumes of both MM adoption and transactions. Our data show that of the 865 SME owners who responded, 861 (99.5%) used MM in their personal or business dealings, and 67% used it for business. SMEs are intensive users compared to consumers; 80% report using MM once per week or more, whereas the average usage in Kenya is closer to twice a month. SMEs also appear to promote viral adoption along the supply chain; many say they adopted it because clients or suppliers asked them to. For these reasons SMEs should be a critical market segment for mobile network operators who seek to make MM usage pervasive across the value chain from consumers, to merchants, to suppliers.

We also found that while MM use by SMS is widespread, it is not yet deep and SMEs are not yet “closing the e-loop.” Most SMEs use MM on a one-off basis and do not actively promote MM at the point of sale. In particular, SMEs are not yet

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closing the e-loop by receiving large volumes of retail transactions electronically and then paying out to employees in electronic value – both retail transactions and wage payments were predominantly cash. We did find that 28% reported accepting MM retail payments, a figure we found higher than expected given the high pricing of transactions and lack of a convenient interface. Enticing SMEs and other businesses to close the loop will be a major part of the endgame for MM operators who hope to move toward a cash-light world.¹

Finally, our survey found several barriers that have prevented people from using MM. Specifically, respondents cited high tariffs and inadequate access to record-keeping and payment-management interfaces as main barriers to adoption. In order to make MM ubiquitous, MM providers and their partners will need to keep an eye on cost and convenience and offer value-added services beyond the transaction.

CONTEXT

Three recent studies document how MSMEs (micro, small, and medium enterprises) are using MM, but the data sets are limited.² In general, this work shows that MSMEs are using MM more intensively than regular consumers, but it also shows that MSMEs are not “going digital” and using MM extensively for a large percentage of their business transactions.

One study of users of MTN MM in and around Kampala, Uganda, was conducted in 2009 by Ali Ndiwalana, Olga Morawczynski, and Oliver Popov.³ They did not set out to investigate business users, but when they asked their survey respondents what they were using MM for, aside from airtime purchases, they found that nearly 33% of transactions were to purchase or sell goods or services, while the remaining two thirds were for money transfers. Larger formal businesses in Uganda do not usually accept MTN MM as a means of payment, so it's likely that most of these purchases and sales transactions were conducted by entrepreneurial individuals or small businesses on one side or the other. This is a significant level of usage, given that MM has never been marketed for retail or business payments. It speaks to the high level of need in this group.

In another study, Lennart Bångens and Björn Söderberg⁴ interviewed 110 MSEs in Tanzania about their use of MM. (These were just micro and small enterprises, not medium-sized ones). They found that, in Tanzania, business owners use MM much more than the national average, and that many report significant benefits. The main benefit these entrepreneurs reported was increased efficiency, because of time saved and improved logistics. Most find MM much easier than banks: the locations are more accessible, customer service is better, transactions are quicker, and it's much easier to sign up for an account. That said, agents often didn't have the float to meet the larger transaction sizes that SMEs require and some reported having to visit two or three agents to get the cash or float they needed. The authors also believe that SMEs may help “diffuse” MM by prompting cus-

tomers and suppliers to sign up—yet another reason they may be of high value to mobile network operators as early adopters. Our data also support this claim.

In a more recent study, Ignacio Mas and Amolo N'gweno⁵ investigated how businesses in Kenya use the M-PESA product, focusing on medium and large businesses rather than on micro and small businesses. They found that formal businesses were very slow to adopt MM. In discussions, such businesses identified multiple barriers to integrating MM more fully into their payment systems. They say MM is hard to integrate into corporate IT systems, and it is impossible to move money quickly between bank accounts and M-PESA accounts; they also see challenges with adapting legacy paper-based processes to a new system. Also, the system offers no options for paper receipts or transaction confirmation, and has no way to handle misidentified transactions. And, without any arbitration process, they fear fraud and transaction reversals. The product's existing features are limited: web interfaces are inflexible, application program interfaces (APIs) are inadequate, and they experience too much system downtime. Finally, Safaricom does not target its sales, marketing, and services to this segment.

Given all these barriers, most formal businesses rely on checks, bank transfers, and cash to make payments. The authors do note that many small and informal businesses—like those our survey focuses on—do not have ready access to these options, so they use MM more frequently out of necessity.

This is the point of departure for our survey; we seek to understand how this segment uses MM and to diagnose the barriers to greater use and integration.

OUR SURVEY: SAMPLE SIZE, DATA, SECTORS, CONNECTIVITY

Our goal in this study was to collect data to answer three questions: Do SMEs leverage MM for business purposes, and if so, how? What challenges do they face in doing so? And how can commercial providers better serve this important market segment?

Our survey team approached 1,000 SMEs throughout Kenya: 600 in Nairobi, 200 in Mombasa, 100 in Nakuru, and 100 in Kisumu. SMEs were selected at random from Mocality.com, a database of over 160,000 Kenyan SMEs. By necessity, our sample focused on urban and semi-urban businesses that had registered with Mocality. Thus our sample is biased toward larger, formal businesses and away from the large pool of informal single-person businesses that dominate the landscape in much of Africa. Nevertheless, 50 percent of our sample was small businesses engaged in various lines of work (e.g., airtime vendor, salon, restaurant, etc.); 13.6 percent of them, or 127 respondents, were one-person businesses. The remaining 50 percent were medium-sized businesses. We received quality responses from 932 businesses.

The 932 Kenyan SMEs in our sample had a total of 13,000 employees. The average number of employees per business across all cities was 14.3, with a median of 5; 13.6 percent were sole proprietorships. The mean was significantly higher than the median because several businesses employed over 100 people. Though

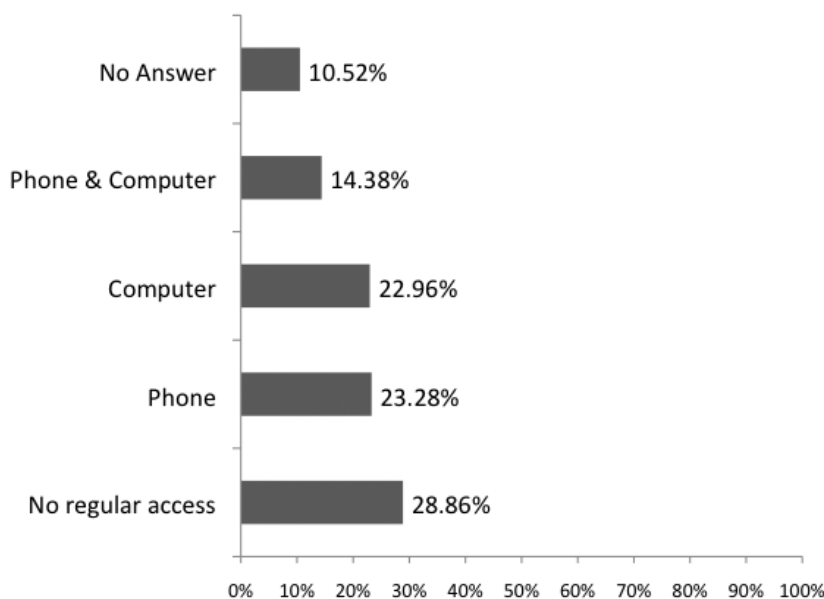


Figure 1. Do you have regular access to the Internet?

small by definition (under 50 percent had five employees or fewer), the SMEs in our sample were likely larger on average than a fully representative national sample, given that we did not sample in rural areas and may have missed many informal, one-person businesses since we used the Mocality database.

The SMEs in our sample were highly connected. Of the SMEs that responded, 94.1 percent own a mobile phone, compared to the national average of 74 percent.⁶ As Figure 1 shows, Internet connectivity was also high; 60.6 percent of respondents have regular Internet access via either a mobile phone or a PC. The fact that the SMEs in the sample were highly connected highlights the opportunity to reach them with properly-designed mobile and Internet-enabled services.

The SMEs in our sample did a significant volume of business daily, a total of about Kenya Shillings (KSE) 49M (US\$515,000). Though most of them have only a few employees—or only one—their average daily revenue was KSE 56,825 (\$600) with a median of KSE 10,000 (\$105). Of the 617 respondents who were willing to supply revenue information, the sum of revenues was KSE 36.7M (\$390,000) per day. This high turnover indicates many payments and much cash moving in and out of businesses.

Services and retail were by far the dominant business activities. Of these businesses, 50% classified themselves as services, 33% as retail or trading, 12% as manufacture, and 5% as other. Thus this sample is biased more toward services and retail than the Kenyan economy as a whole; over 20% of the Kenyan GDP comes from industry or manufacturing. This is to be expected for a sample of SMEs, as manufacturing firms tend to be larger. These are businesses with large unmet needs for payment services, especially in the retail sector.

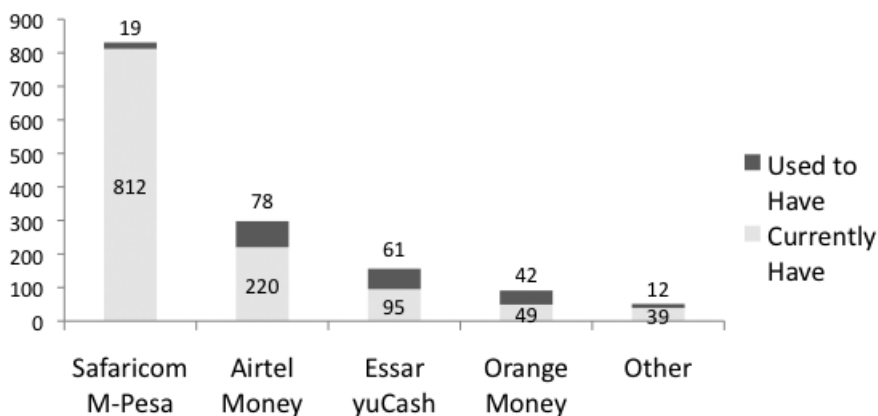


Figure 2. Do you use any of the following MM services?

How Has Mobile Money Spread to Small and Medium Enterprises?

In our sample of SMEs, rates of MM adoption are extremely high. All but one of the 865 SMEs that responded to the question on MM usage had used MM; four had used it but stopped. Thus 99% of those who responded had at least one active MM account. Additionally, 67% of respondents reported using MM for business purposes while the others reported personal uses. Of the users, 72% had one account and 28% had more than one. Figure 2 shows which services they reported using.⁷ While Safaricom is clearly the leader in total numbers, it also seems to have a lower churn rate, as evidenced by the smaller proportion of users who are former users.

Many businesses used MM quite intensively. A total of 80.3% of respondents claimed to use MM at least once a week; 25.1% use it every day, 43.8% use it a few times a week, and 11.4% use it once a week. Data from Safaricom in 2010 showed that the average M-PESA user was making two transactions a month;⁸ this indicates that SMEs are quite intensive users of the MM service compared to the rest of the population. That said, many were still making many of their payments in cash, as Table 1 shows. This indicates that MM still has some way to go to displace cash significantly within Kenyan SMEs.

MM usage by SMEs may promote viral adoption. Most respondents said they use MM either because customers ask to pay with it (47.8%), or because sales agents or suppliers ask to be paid with it (38.6%)—and many (13.7%) indicated that requests from both customers and suppliers were a factor. Most of those who responded “other” indicated that convenience and safety were their paramount reasons for choosing MM over other methods. The fact that customers value the ability to pay with MM and that SMEs’ business partners prompt each other to take up the service shows it spreads virally up and down the supply chain. This indi-

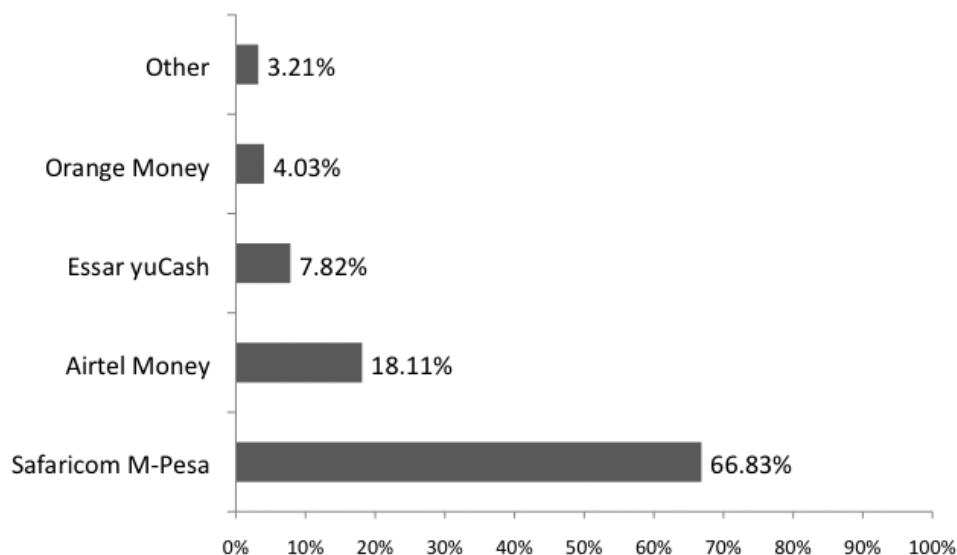


Figure 3. Which (if any) do you use for business?

icates that MM operators may wish to target SMEs to encourage the viral adoption cycle.

SMEs are more frequent adopters and more intensive users than other customers and they appear to promote viral adoption to their customers and along the supply chains. Thus, SMEs would appear to be a very important segment for MM schemes to target.

How Do Small and Medium Enterprises Currently Use Mobile Money?

The idea that MSMEs use MM should come as no surprise, since they have a lot to gain from its use. As our data shows, they need to pay and be paid frequently, sometimes in quite large amounts or over long distances. This implies that they could lower their costs and save time with a cheaper and more convenient way to pay electronically. They also need to manage their working capital to get the most from it, which means turning it over as often as possible: speeding up the cycle from cash to inventory to receivables and back to cash, but replacing cash with electronic value. SMEs also find it useful to have a record of transactions, as they often do not keep formal records but do deal with many customers and suppliers. Thus they often hold many ledgers, receipts, and debts in their head.

MM is gaining ground against cash for many types of payments

While cash is still king for all types of receipts and payments, MM has made significant progress, especially in the areas of paying suppliers and paying bills: two areas where more sophisticated counterparties may ask or even require MM payments, as compared to employees and customers. Differences in the level of adop-

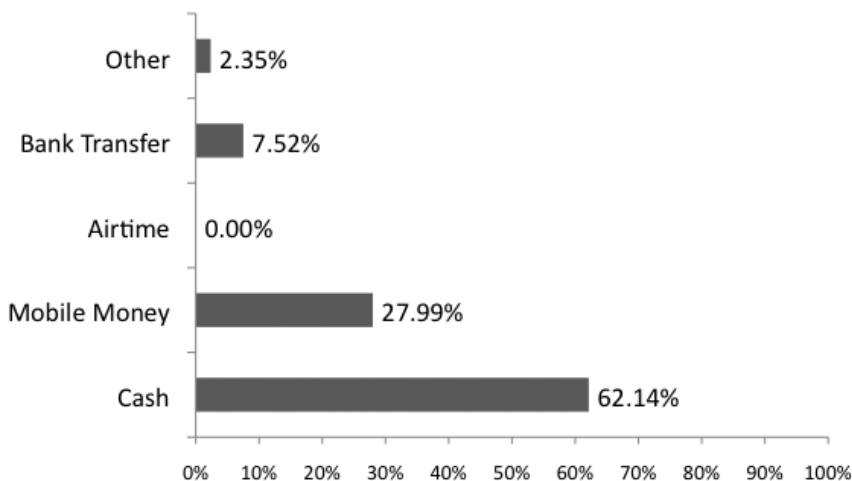


Figure 4. How do Customers pay?

tion for bill-paying between Mombasa and Nairobi illustrate this trend. Respondents in Mombasa use MM the least (24.22%) and those in Nairobi use it the most (34.15%). The fact that SME owners in Mombasa use MM to pay suppliers suggests that bill providers there may have less access to corporate MM accounts than their counterparts in Nairobi where penetration in the corporate sector is greater.

Cash, MM, and bank transfers are the most common ways businesses pay bills, at 38.21%, 30.8%, and 26.95% respectively, as shown in Table 1.

Respondents across all cities prefer to use cash and MM to pay suppliers, with bank transfers accounting for only 18.34% of responses. Conversely, it appears that cash and bank transfers remain the most popular methods for paying employees, with only 11.39% of respondents using MM. Paying rent is the one area where cash does not dominate all other forms of payment; here, bank transfers are the most common way to pay, across all four cities.⁹

Given the potential benefits of converting their various payment streams to electronic forms of payment, it is no surprise that SMEs are converting to MM, despite the lack of convenient interfaces, ways to track transactions and manage records, and limited pricing options. Being able to receive MM payment from clients more quickly allows them to more quickly convert receivables to cash; similarly, being able to arrange delivery and pay over the phone increases efficiency on the other end by moving cash into inventory more quickly and making arrangements at lower cost. At the same time, because business owners can more quickly order more supplies, they can reduce the inventory they hold and not wait to run

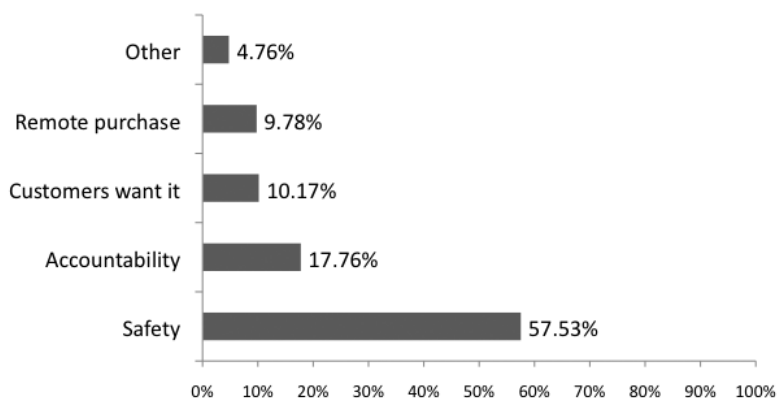


Figure 5. What is the main benefit of receiving mobile payments?

out before ordering more, which also speeds turnover. In this sense they are moving toward the just-in time style of production practiced by many larger firms.

Mobile Money penetration for retail payments is surprisingly high

As expected, cash remains king at the point of sale: 62.14% of respondents across all cities said their customers use cash. Nevertheless, 28% of respondents across all cities claim that customers pay them with MM. While these respondents receive payments in other forms, it is striking that so many report receiving some payments via mobile, especially given the lack of a convenient interface for retail payments and pricing geared toward money transfer.

Mobile Money is safer and helps with record keeping and tracking

When asked about the benefits of accepting MM, respondents across all cities said safety was the paramount benefit, followed by better accountability, as the SMS receipt leaves a paper trail. This paper trail helps reduce leakage and error, whether by employees or customers, and makes business owners more confident that their books are accurate. This point is especially salient for businesses that sell services, which cannot be easily accounted for in the same way that payments can be tracked against inventory for retail and manufacturing businesses.

Barriers to Adoption

MM is becoming a prominent method of transaction for business purposes. Still, it is clear that several impediments, especially tariffs and the user interface, prevent MM from becoming even more prominent.

As Figure 6 shows, tariffs are the biggest impediment to more businesses adopting MM. The high cost of person-to-person transfers and the lack of differ-

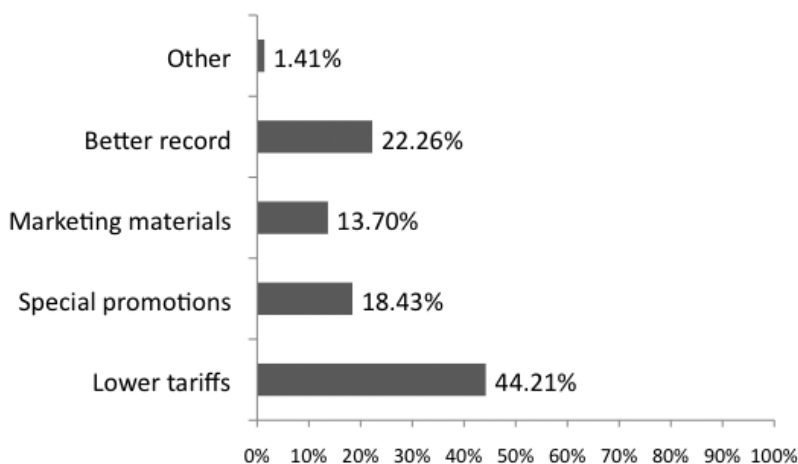


Figure 6. What would make it easier to accept mobile payments?

entiated pricing for different types of bulk users or for different types of transactions (e.g., in-store retail payments) is a significant barrier to market growth. The customer and/or business pays a variable tariff, depending on the kind of transaction: e.g., Send Money, Buy Goods, or Pay Bill. If a business sells inexpensive goods, the relative tariff is either prohibitively high to the customer, the margin less the tariff is prohibitively high to the business, or both. Thus, the existing tariff structure is not compatible with most common transactions—the small, frequent payments for daily servings of fast-moving consumer goods.

A second barrier is the lack of a user-friendly interface to facilitate business uses and record-keeping. While M-PESA has a limited interface where users can check their transaction history, it is very basic and lacks the kind of record management and other functionality that would make it easy for businesses to use it. So, while many MSMEs do report relying on their SMS history from M-PESA as a crude form of electronic record-keeping, the lack of functionality here is a clear barrier.

These two barriers were echoed in two recent studies on new financial products that leverage the MM platform in Kenya. Both found that pricing and poorly performing APIs are significant barriers to developing products that leverage MM.¹⁰

Only 17 respondents (1.94 percent) said they do not accept MM because no agent is nearby. This is not to say that agent service is not a major concern of SMEs; instead it shows how successfully Safaricom has blanketed the Kenyan landscape, with over 30,000 agents. Other services, in Kenya and abroad that have significantly fewer agents have experienced significant churn among SMEs (see Figure 2).¹¹

We asked the respondents who do not accept MM or who discourage their customers from paying with it for their reasons. Across all cities, 38.47 percent of

Mini-case: Dennis, furniture business

Dennis is 35 years old. He is one of the five partners who operate Sakaki Enterprise, located at the Githurai 45 roundabout. Githurai is a mixture of slums and suburbs in the eastern part of Nairobi. Sakaki makes and sells furniture—sofa sets, tables, chairs, etc.—at prices that range from KES 3,000 to KES 30,000 (\$34.76 to \$347.60). Dennis says their business operates with mostly cash. They use no accounting software, and they keep their records in paper notebooks.

Sakaki relies heavily on M-PESA for most of its transactions. It buys raw materials every week from the Gikomba market, using M-PESA. “We usually pay the supplier with M-PESA in advance so that he can deliver the raw materials to us once or twice every week,” says Dennis. Dennis pays the suppliers between KES 10,000 and KES 20,000 (\$116 and \$232) every week using M-PESA. Sakaki also pays its employees with M-PESA. This is very convenient for Sakaki; it saves them time.

Many of Dennis’s customers ask to pay with M-PESA, especially those who buy furniture worth KES 20,000 or more. Dennis says that Githurai is a very insecure area and that paying with M-PESA is the best option for his customers and for Sakaki too.

Dennis says that the greatest challenge he and his partners face is lack of capital to expand and grow their business.

Thanks to Peter Gakure-Mwangi

respondents said, “I prefer cash,” and 28.54 percent said the tariffs are too high.

The responses above were corroborated by those to our Question 11—“What would make it easier for you to accept MM?”—to which 44.21 percent of respondents chose lower tariffs. It is worth noting that 22.26 percent of respondents said they would like an electronic record of MM transactions. If respondents use individual MM accounts to accept business payments, this response makes sense as few MM systems enable users to access a transaction statement.

How can mobile money schemes and service providers best reach small and medium enterprises?

Our analysis and discussions with SME owners have uncovered a few possible ways that commercial players could target SMEs as an MM user group. To drive adoption, MM players need to understand the unique needs of SMEs that tend to be intensive users, in terms of both volume and number of counterparties.

To manage their relationships and higher volume, SMEs need good tools for records management and tracking. Paper record-keeping remains the status quo for many SMEs in Kenya. The electronic record associated with an MM transaction presents a unique opportunity to incentivize SMEs to adopt electronic record-keeping for the first time. Specifically, electronic records allow SMEs to reduce the

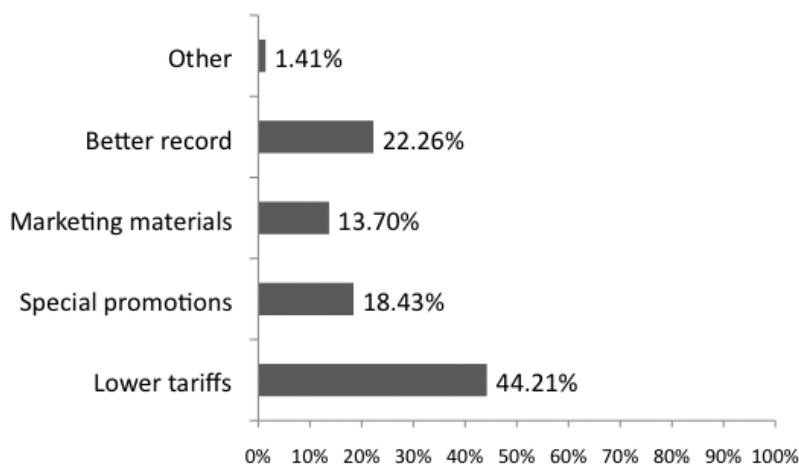


Figure 7. Why do you NOT accept mobile payments?

“cost of cash”: security, counterfeit and leakage risks, transport, customer anonymity, etc.

Because SMEs have varied needs, mobile operators can avoid the cost of providing these record-keeping tools by offering data interfaces such as application programming interfaces, which can be leveraged by the software community. The challenge will lie in finding the market-appropriate tools and processes that nudge an SME to adopt an electronic method to replace existing mental or paper records. Our findings indicate that a significant step driving adoption would be to improve both the content of the transaction record, by including the source and purpose of payments, and to improve access to the record in the form of an online or SMS-based interface.

In addition to better record-keeping, SMEs need a set of features that motivate them to adopt MM. These features include the ability to manage the reversal of transactions and to accept retail payments with fees that are at or below credit card rates, and flexible and speedy bank settlement options.

Perhaps more than anything, SMEs need to be offered a platform to change their consumers’ perspective on MM. Customers are still forced to inquire whether an SME accepts MM payments. To reach scale, they must be able to assume that every merchant does so—just as many merchants now assume that every individual has an MM account.

When the two-sided payment market is in place, Kenya will be well on its way to becoming a cash-light society. Consumers will not be forced to convert MM value into cash in order to transact with businesses. Similarly, businesses will be able to use their electronic value to pay their suppliers and avoid the need to deliver cash payments in person. Along the way, these different payments will be bet-

ter managed and tracked by all of the parties in the payment value chain because of the electronic records associated with these transactions.

Fast forward. Imagine a Kenya where MM has fully saturated the SME value chain: merchants use it to pay suppliers, suppliers use it to pay employees, employees use it to pay merchants, and so on. That is the “endgame” for MM providers: a system whereby MM is issued, cycled, and retained within a closed loop. The same ubiquity that made M-PESA the preferred way to send money home would then become the impetus for using MM on a daily basis for (mostly) frequent, small transactions. Operators would benefit from a virtuous circle resulting in higher average revenue per user, consumers would benefit from increased security and convenience, and merchants would benefit from increased business intelligence and accountability.

To achieve the endgame, our results indicate that operators will need to keep a close eye on cost and convenience and should focus on developing tools in-house and through partnerships that offer market-appropriate solutions to SMEs.

CONCLUSIONS

SMEs are a valuable market segment for mobile operators and their service providers but they have special needs.

First, SMEs may be especially valuable as nodes in driving the viral uptake of the MM product or product features. As we noted above, they tend to adopt MM because their customers and/or suppliers do. And because they are just as often customers and suppliers of other small or large firms, they are likely to be strong propagators of the product along the value chain.

Similarly, because SMEs are often in the retail business, they also represent an opportunity to begin to drive customers to adopt MM for retail payments; for that to happen, it will have to become a ubiquitous form of payment that is both convenient and affordable.

Businesses want to use MM, and many do. But, many more would do so if the tariffs were lower and if the service quality and product features associated with M-PESA fit the special needs of SMEs. Mas and N’gweno¹² list seven ways the M-PESA platform could be improved to serve business better: features to assure verification of the sender/receiver, easier process for reversing payments sent to the wrong number, a paper receipt option, secure APIs to allow business integration, easy sweeping of funds to/from bank accounts, an integrated interface for paying and receiving and records management, and efficient dispute resolution.

Most of these features would be useful for MSMEs too. In addition, MSMEs have special needs that should be taken into account. In particular, an MM offering for merchants should incorporate ways to access these features through limited interfaces like web and smartphone, rather than integrating them into back-end IT systems that few MSMEs have.

Given that a majority of the Kenyan economy operates informally, at low margins, for small value purchases, the tariffs alone are a significant impediment to more MSMEs adopting MM. In order to take MM to the next step—retail and value chain payments—it is imperative that tariffs be reduced.

Businesses also want marketing materials in order to educate customers that they can pay with MM—in the same way that VISA, MasterCard, and Amex provide stores with logos and other signage to show which merchants accept their cards. Mobile operators are particularly adept at marketing and should launch campaigns to encourage people and organizations to pay with MM.

At the heart of any successful business lies a strong record-keeping system. Mobile operators should recognize that they can help businesses grow through better communication and better payments, and also by enabling them to improve their accounting. Many MSMEs could benefit from even rudimentary Internet- or smartphone-based record-keeping and customer relationship management systems to manage payments and cash flow. Such functionality could induce them to take up mobile payments.

Smart regulations are required to protect existing players and allow new ones to flourish.

Regulators have enabled innovation to flourish in Kenya. Now, many of the payment innovators are well established and it is time to level the playing field. Regulators should facilitate healthy competition between MM providers and encourage new market entrants by reducing barriers to entry. They should be especially careful to ensure that MM players do not abuse their control of the communications channels (voice, SMS, or USSD) that facilitate mobile financial transactions and thus disadvantage other entrants, like banks, that could also offer financial products and services over the network.

Additionally, regulators and policymakers should take a market-level view of encouraging the transition to electronic “cash light” by engaging with operators and other players around issues of pricing, service quality, and the platform functionality to enable the widest range of uses, and thereby greater innovation.

New and unique business models will need to be tested to serve the Kenyan market. These models will be tested by banks, mobile operators, and third parties, and no party should be given an unfair advantage over the others.

Empowering SMEs empowers the economy: SMEs are major drivers of employment and economic activity.

M-PESA revolutionized the Kenyan market and inspired a global industry. It has slashed the transport and opportunity costs associated with domestic remittances, lowered the cost of distributing airtime, and helped millions access basic financial tools for the first time.

Mini-case: Juma, shopkeeper

Juma is 34 and operates a mini shop (*duka*) at Dandora Phase 2 estate. Dandora is a populous low-income estate in the Eastlands area of Nairobi. He runs the shop with his wife and they have two small children.

Juma serves an average of 30 customers each day; most are neighbors. He sells mostly foodstuffs like milk and bread, and detergent in small packets. His most common transaction size is KES 200 (\$2.30).

Juma says that very few of his customers ask to pay him with M-PESA. “My customers always pay me with cash. They mostly buy small quantities of things like sugar, soap, and bread, so there is no point in them paying with M-PESA.”

But Juma says that some customers pay with M-PESA. “The customers who pay me with M-PESA are only the ones that I know and trust. Some take goods on credit and they pay with M-PESA at the end of the month.” However, Juma says that he cannot turn away a customer who has only M-PESA and has no cash at hand. He says he would accept M-PESA plus an additional withdrawal amount. “But in a case where I don’t know the customer, I have to withdraw the money immediately, or just hope that the customer will not reverse the transaction.”

He explains, “I pay my supplier with M-PESA in advance so he can deliver the goods to my shop. That way I don’t have to leave my business to go and buy things. It saves me a lot of time.” Juma says for other products like milk and bread, he has an arrangement in which the supplier delivers the goods but he only pays for them at the end of the day, after selling them. He uses M-PESA to make the payment. “Initially the suppliers used to come to my shop to collect the money but nowadays I just ‘M-PESA them.’”

When I ask Juma what one thing he needs most to expand his business, he tells me it is capital. “I would love to expand my business but I do not have the capital to do that.”

Thanks to Peter Gakure-Mwangi

As our survey found, most businesses and consumers want to use MM more regularly. They find it to be safer, more efficient, and convenient than other payment channels.

Most mobile operators define an “active user” as someone who uses MM several times a month. By facilitating the broader payment ecosystem, from utility and value chain payments to payments at the point of sale, MM providers could enable customers to use MM several times a day. This would give customers the potential to benefit from lower transport and opportunity costs, as well as increased security.

Moving informal cash-based transactions to an electronic medium will also benefit financial institutions and governments. Consumer transactions can be fed into credit reference bureaus, enabling banks to properly assess the credit worthi-

ness of customers and adjust interest rates accordingly. Governmental bodies would be able to pay workers and welfare recipients more efficiently and at lower cost.

Cash is the enemy of financial inclusion. By fostering the widespread use and acceptance of MM, financial services will continue to become more accessible and affordable for consumers at the base of the pyramid.

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 5. Ignacio Mas and Amolo N'gweno, "Why Doesn't Every Kenya Business Have a Mobile Money Account? A Study of the Business Uses of Mobile Money in Kenya," paper presented at 8th Research Colloquium, hosted by FSDK, Nairobi, April 2012. Available at http://www.fsdkenya.org/pdf_documents/12-04-20_Business_uses_of_M-PESA.pdf.
 6. Pew Research Center, *Global Digital Communication: Texting, Social Networking Popular Worldwide*. Available at <http://www.pewglobal.org/2011/12/20/global-digital-communication-texting-social-networking-popular-worldwide/>.
 7. Non-users may have been less likely to respond to a question about whether or not they use MM; this would imply an actual rate of usage among SMEs somewhat lower than 99 percent but it would still be quite high.
 8. Ignacio Mas and Dan Radcliffe, "Mobile Payments Go Viral: M-Pesa in Kenya." Available at http://www.microfinancegateway.org/gm/document-1.9.43376/Mobile%20Payments%20Go%20Viral_M-PESA%20in%20Kenya.pdf.
On rent, Nakuru is a significant outlier: 22.47 percent of respondents chose "other" and wrote in "cheques" when asked to explain.
 9. See Jake Kendall, Bill Maurer, Phillip Machoka, and Clara Veniard, "An Emerging Platform: From Money Transfer System to Mobile Money Ecosystem," *Innovations* 6, no. 4 (2011): 49-64; Mukesh Sadana, George Mugweru, Joyce Murithi, David Cracknell, and Graham A. N. Wright, "Analysis of Financial Institutions Riding the M-PESA Rails." Available at http://www.microsave.org/research_paper/analysis-of-financial-institutions-riding-the-m-pesa-rails.
 10. For example, Bångens and Söderberg document the frustrations many Tanzanian SMEs face in getting quality service from agents.
 11. Mas and N'gweno, "Why Doesn't Every Kenya Business?"