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How M-Shwari Works: The Story So Far

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Contents

SECTION 1

Introduction

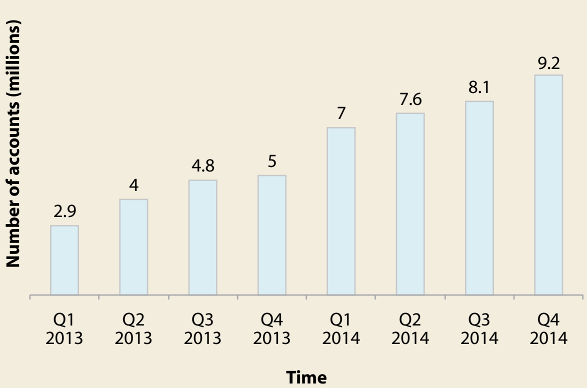
"Shwari" means calm in Kiswahili, yet M-Shwari, a bank account offering a combination of savings and loans, has taken the Kenyan market by storm. Offered as a collaboration between the Commercial Bank of Africa (CBA) and mobile network operator (MNO) Safaricom through its ubiquitous mobile money service M-PESA, M-Shwari has piqued the interest of mobile money watchers looking for the next innovation to drive financial inclusion globally.

M-PESA is rightly lauded as a global success story: It is used by two-thirds of Kenyan adults, has more than 80,000 agents, and processes nearly $20 million in daily payment transactions. Yet M-Shwari represents the next frontier of digital financial services as it demonstrates that mobile money infrastructure can be leveraged to offer higher value financial products at scale. M-Shwari has already brought millions of poor, previously unbanked Kenyans the full benefits of a banking product (including interest, deposit insurance, and access to credit) using M-PESA's unparalleled mobile money infrastructure. M-Shwari is also the first large-scale product that taps into digital information (in this case, telecommunication data) of poor and unbanked customers in an emerging market to make credit-scoring decisions. Figure 1 and Table 1 highlight the impressive growth of M-Shwari since its launch in November 2012.

At the heart of this success is a product that emulates the way low-income Kenyans manage their money. Kenyans constantly balance the need for short-term liquidity with providing a return for the future. The M-Shwari product allows customers to save for the short term while also increasing access to credit options in the future, which makes customers feel that their funds are "working" for them. In addition, the product is easy to figure out and highly engaging as it rewards customers for "good" behavior quickly. The fast, virtual nature of the product does exacerbate the usual challenges of customer education and disclosure but represents an unprecedented new channel of access to short-term loans and secure savings for a swathe of the population who has not had previous access to formal financial services.

FIGURE 1

Growth in M-Shwari Savings Accounts (in millions)



Source: CBA (2014).

TABLE 1 Key M-Shwari Statistics

Total savings accounts	9.2 million opened 7.2 million unique customers 4.7 million active 90 days
Total number of loans	20.6 million cumulative loans since launch 2.8 million unique borrowers since launch 1.8 million active as of December 2014
Deposit amounts	US$1.5 billion deposited since launch US$45.3 million deposit balance as of December 2014
Loan amounts	US$277.2 million disbursed since launch US$17.7 million outstanding as of December 2014
Average savings balance	KES 504 (US$5.56)—all accounts KES 911 (US$10.06)—active 90 days KES 1971 (US$21.76)—active 30 days
Nonperforming loans	2.2% over 90 days

SECTION 2

What Is M-Shwari and How Does It work?

M-Shwari is a combined savings-and-loan product launched through a strategic partnership between CBA and Safaricom. The basic product features are summarized in Table 2. The M-Shwari account is issued by CBA but must be linked to an M-PESA mobile money account provided by Safaricom. The only way to deposit into or withdraw from M-Shwari is via the M-PESA wallet.

Although the exact details of the partnership are not public, Safaricom and CBA each bring comparative strengths to the offering, and they both share in the revenue generated. Safaricom brings its broad reach to the 68 percent of the population using M-PESA, provides access to both its know your customer (KYC) data and customer airtime/M-PESA usage history to enable CBA's account opening and credit scoring, markets the product through above-the-line advertising and promotions, and has incorporated the M-Shwari menu in the M-PESA SIM toolkit. CBA issues the savings accounts and loans and leverages its banking assets: a dedicated management information system, regulatory compliance, data analytics, reporting to the credit bureau, and capital to fund the loan portfolio. Critically, CBA carries the risk and absorbs losses from nonperforming loans (NPLs). M-Shwari is branded as a product run by CBA for Safaricom M-PESA customers.

TABLE 2 Description of M-Shwari

Minimum savings balance	KES 1
Maximum savings balance	KES 100,000 (with just M-PESA KYC) KES 250,000 (with verification of National ID) KES 500,000 (with physical submission of ID) Unlimited (with submission of tax ID)
Savings interest rate	2%: KES 1–10,000 3%: KES 10,001–20,000 4%: KES 20,001–50,0000 5%: Above KES 50,000
M-Shwari Lock Savings interest rate	Earns an additional 1% over the rates above
Minimum loan amount	KES 100
Maximum loan amount	KES 100,000
Loan pricing	7.5% loan facilitation fee (no other interest or fees)
Loan term	30 days (renewable one time, with an additional 7.5% loan facilitation fee applied to the outstanding balance)
Cost to move money between M-PESA and M-Shwari	Free
Cost to move cash in and out of M-PESA	Free to deposit, standard cash-out fees apply

Source: CBA (2014).

M-Shwari Savings Features

The M-Shwari account is a bank account subject to full bank regulations, including being subject to the Kenya Deposit Insurance Corporation (KDIC).[1] The M-Shwari accounts sit on CBA's financial statement and are tracked in a dedicated banking system linked to Safaricom's data and to the bank's core banking system. All deposits and withdrawals into and out of M-Shwari accounts are free to the customer. However, any transactions on the client's M-PESA mobile money account, including person-to-person transfers, transfers to other banks, and cashing out, are subject to M-PESA's standard fees.[2] Even though it is a bank account, the agreement with Safaricom restricts transfers between M-Shwari accounts or with other bank accounts so that all funds move in and out of the account via M-PESA.

As in all bank accounts in Kenya, an M-Shwari account is subject to regulation requiring banks to verify the identity of the customer according to KYC principles. However, in the case of M-Shwari, CBA does this digitally using the existing KYC details from the customer registration of the phone number (SIM) and M-PESA account, which requires physical presentation of an ID. So, for the majority of customers, opening this bank account (for many, the first in their lives) takes less than a minute. Figure 2 illustrates the exact process. M-Shwari's use of this existing identification verification is considered compliant for a small-value (level 0) account by CBA and enables the customer to keep up to KES 100,000 in his or her M-Shwari account. If a customer's identification details can be confirmed by cross-referencing with the Integrated Population Registration System (IPRS) managed by the government (all national IDs are registered in this system covering the majority of the population, and 96 percent of M-Shwari accounts have been identified through this system),

1. KDIC charges banks 0.15 percent of the average balance over a year and insures up to KES 100,000 in case of bank failure.
2. The latest M-PESA tariffs can be found at http://www.safaricom.co.ke/personal/m-pesa/tariffs.

FIGURE 2

Screenshots: M-Shwari Account Opening Process

Source: http://cbagroup.com/m-shwari/

this is a stronger verification and increases the savings limits in the account to KES 250,000. This higher level then also qualifies the customer to borrow from CBA. If customers submit physical copies of their ID at a Safaricom customer care center, the savings limit increases to KES 500,000, and with copies of a personal identification number (PIN) tax ID, there is no limit on the account. The higher limits are useful for those, such as entrepreneurs being paid or paying others with M-PESA, who often exceed the KES 100,000 limit allowed by M-PESA.

To open an M-Shwari account, customers must agree to a set of terms and conditions that is nine pages long and is provided only on a website.[3] Given that a majority of people do not have Internet access through their phone (or otherwise), most customers accept the conditions without accessing the link, and even those who have access seldom read it all. Most of the terms and conditions are standard legal language consistent with many banking documents. However, the terms and conditions also include important information about how the customer's Safaricom mobile phone data will be shared with CBA and gives CBA permission to provide the customer's credit use information to the credit reference bureaus (as all banks are required to do).

The M-Shwari account accrues and pays quarterly interest from 2 percent to 5 percent, based on the average daily balance in the account. These rates are well above the 1.5 percent weighted average reported by the Central Bank in the Kenyan banking sector and are unusual in that interest accumulation does not require a minimum balance.

In addition to the standard savings account, M-Shwari introduced a second savings account in June 2014 called a Lock Savings account. This fixed-deposit account enables

3. The Terms and Conditions can be found at http://cbagroup.com/downloads/Mshwari_Terms_Conditions.pdf.

customers to save a minimum of KES 500 at a higher interest rate (1 percent over M-Shwari rates for amounts equal to or greater than KES 1000) for optional terms of one to six months. Although it is not embedded in the M-Shwari menu, customers can dial a Unstructured Supplementary Service Data (USSD)[4] code to specify their goal and move funds from their regular M-Shwari account into their linked M-Shwari Lock Savings account until they meet or exceed their goal. There are no charges for moving money in and out of Lock Savings but if a customer wants to make an early withdrawal, she has to wait two days and will receive only the regular M-Shwari interest rate. Upon maturity, the funds are automatically shifted from the customer's Lock Savings to her M-Shwari regular savings account. As of December 2014, 103,000 Lock Savings accounts had been opened, with over half active with an average balance of KES 5984, average goal of KES 7656, and 4.5 months goal duration.

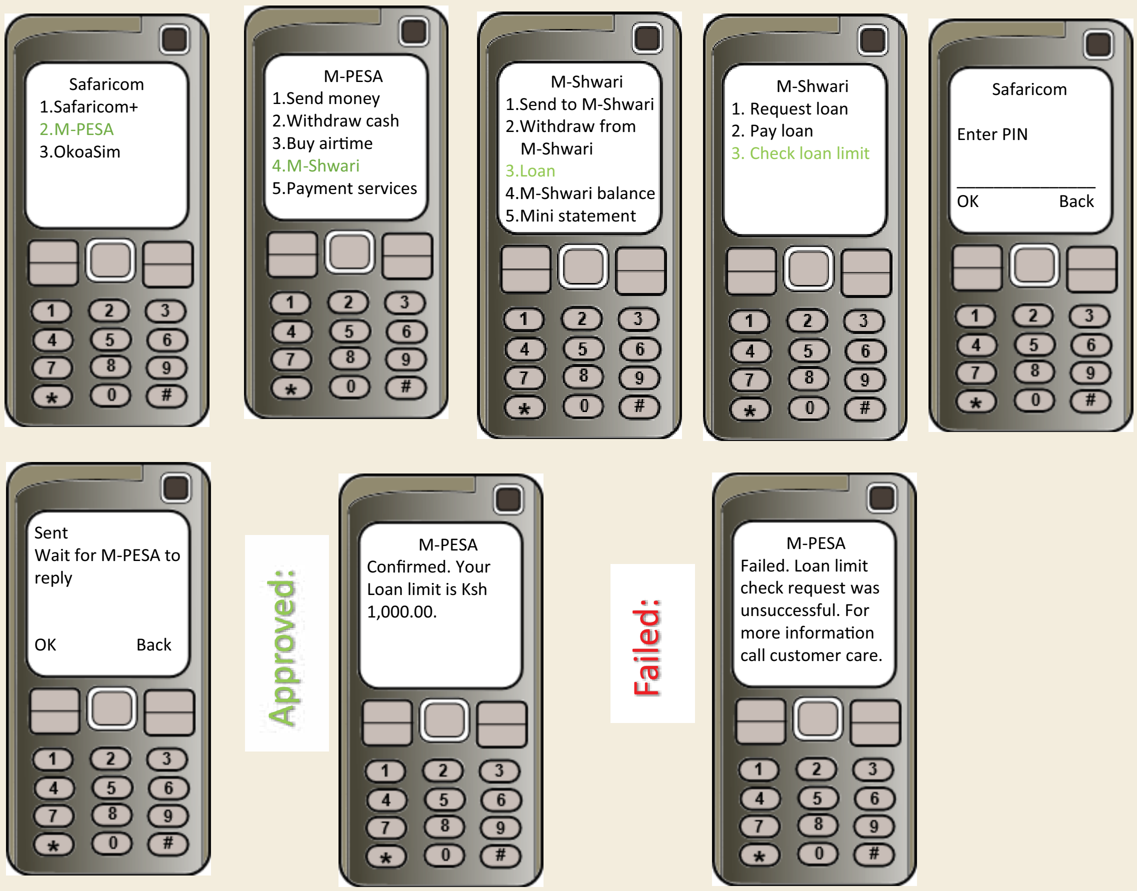
M-Shwari Credit Features

Once a customer has opened an M-Shwari account and deposited at least KES 1, she can access the M-Shwari menu and select Check Loan Limit. Figure 3 illustrates this process. After entering her M-PESA PIN, she will receive a text with her credit limit information or a message explaining she does not yet qualify. Some qualify right away, but others have to demonstrate credit-worthiness through deposit behavior, transacting on M-PESA for at least six months, and/or updating or completing identification requirements before qualifying. There is a lot of guesswork for customers since these requirements are not communicated and are constantly being modified as the credit scoring algorithm evolves.

To request a loan, the customer accesses the M-PESA menu, selects M-Shwari, selects request a loan, enters any amount up to her credit limit, and enters her M-PESA PIN. If approved, the customer receives the funds directly into her

FIGURE 3

Screenshots: Checking Loan Limits



4. USSD is a protocol for communicating with the MNO's computers to enable automated services through a menu.

M-PESA account and is informed of the 7.5 percent facilitation fee that must be paid when the loan comes due by day 30. When M-Shwari was initially launched, when a customer borrowed, an equivalent amount was "frozen" in her M-Shwari savings account to protect against default. However, this early policy was quickly changed and now savings are frozen only if the loan is in arrears for more than a day.

Loans can be repaid at any time including partial payments during the 30-day loan period; however, the 7.5 percent facilitation fee remains the same, even if the loan is repaid early. Customers are informed that early repayment may help increase their loan limit. Some repay early to access another loan because only one loan can be active at any time.

If the loan is not repaid by day 31, the loan is automatically renewed for an additional month, and the customer receives a text letting her know another 7.5 percent facilitation fee has been charged (on the outstanding balance) and the loan is now due on day 60. This text is also the first reminder to the customer that he or she will be reported to the credit bureau if the loan is not repaid. If the loan is not repaid by day 62, CBA sweeps any funds in the M-Shwari account to repay the loan and sends a second reminder to the customer that he or she will be reported to the credit bureau if he or she does not pay. On day 90, CBA sends a third and final reminder that information about the customer's nonpayment will be sent to the credit bureau (as required by law). The customer is reported to the credit bureau 30 days after the final reminder has been sent (120 days overdue) and the account has not been settled. The late repayment will remain in the credit bureau for five years, but once the balance is cleared, the status will change to paid. If the balance is not cleared after 120 days, CBA writes off the loan although it will continue to pursue payment. The latest figures published reported 2.2 percent of the portfolio was nonperforming at 90 days.[5]

Importantly, in the case of nonrepayment, the customer's relationship with Safaricom and the M-PESA service is left largely undisturbed. No M-PESA value can be transferred or applied to repay the loan without the customer's consent. The Safaricom phone line is not affected, and no airtime purchases are used to repay the M-Shwari loan. However, if the customer does not pay by day 60, he or she will lose access to a separate service provided by Safaricom: Okoa Jahazi, a small, short-term advance of airtime when a customer's balance runs out.

Credit Scoring

Since its launch in November 2012, CBA has been assessing credit-worthiness, assigning individual credit limits, and lending to new applicants using an algorithm based on customer use of Safaricom services. As the first of its kind in East Africa (and globally), CBA had very few precedents on which to base the design of the credit scoring algorithm. The development of the original scorecard was based on the repayment performance of Safaricom customers who used the Okoa Jahazi airtime credit product.

The credit-scoring algorithm consists of a set of telecommunication variables from Safaricom's data related to airtime, airtime credit, M-PESA, and length of time as a customer. These were generated through a rigorous credit score development process. Each variable has differing weights and scores based on its predictive power. The telecommunication use history of potential new M-Shwari borrowers is assessed against these scorecard variables and a score is assigned. The cumulative score of all the variables enables CBA to make an informed choice about which new clients to assign an initial credit limit to and which to take a pass on.

Performance of the first scorecard over its initial few months resulted in NPLs of 6.1 percent over 90 days. As the customer base grew and the credit performance could be tracked against actual M-Shwari borrowing performance, CBA initiated the development of an M-Shwari-based scorecard tapping into actual customer behavior on M-Shwari. The effectiveness of this second scorecard reduced NPLs by 2.0 percent.

About a year before the launch of M-Shwari, building on earlier engagements, CBA asked FSD Kenya to help understand the mass market and its needs to inform product design. FSD Kenya commissioned customer research with low-income families to pair with its existing knowledge tools and resource persons to inform product design and marketing based on insights of the target market. This led to additional technical support on developing the credit risk model before and after commercial launch. To learn from customers who had been rejected by the M-Shwari credit-scoring algorithm, CBA worked with FSD Kenya to conduct an experiment (nicknamed Toboa, which means breakthrough in Swahili) to gauge the effectiveness of a new scorecard in assessing the risk profile of the poor who otherwise would have been rejected. Initial insights from the experiment showed that, although this segment of the M-Shwari population was twice as risky, deeper analysis revealed a subset that could qualify for M-Shwari loans by leveraging additional indicators that could assign a credit limit to an additional million customers. This scorecard was implemented in December 2014.

5. Day 90 means 60 days past the due date (90 days since disbursement) not 90 days past the due date. Since the M-Shwari loan term is so short, an even shorter-term measure than the traditional 90-day NPL used for commercial banks in Kenya might provide a better picture of on-time repayment performance. CBA does track this internally, but it is not publicly available.

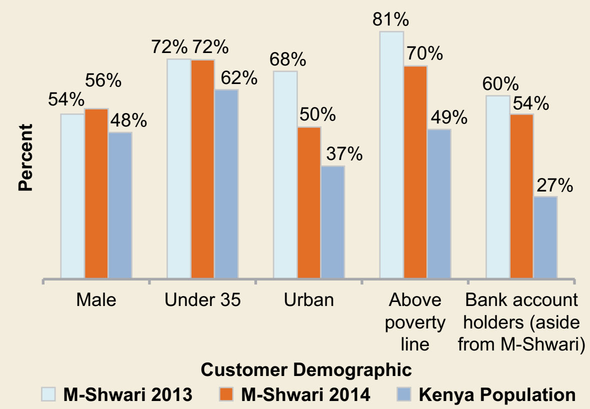
SECTION 3

Who Are M-Shwari Customers and How Are They Using the Product?

Several recent qualitative pieces of research (Mirzoyants-McKnight and Attfield 2014)[6] are starting to shed light on the stories of M-Shwari customers beyond the headline numbers. InterMedia, which conducts the Financial Inclusion Insights (FII) surveys, identified 283 M-Shwari customers from its nationally representative survey and conducted phone interviews with 108 of these in May 2014 to better understand how and why they are using M-Shwari. The Kenya Financial Diaries project carefully tracked all financial transactions of 300 low-income households for one year (September 2012 to August 2013) and examined how the 32 individuals who opened M-Shwari accounts during this time used the accounts. Finally, CGAP conducted in-depth interviews[7] of 15 low-income M-Shwari customers in July and August 2014 in both urban and rural areas. Although limited in sample size, these studies yield rich insights that shed light on who M-Shwari customers are, why they are using the product, and how it is fitting in to their financial portfolios.

FIGURE 4

M-Shwari Customer Demographics: Change from 2013 to 2014 and Compared with General Kenya Population



Source: M-Shwari demographics from FII surveys (Sept-Oct 2013 and Sept 2014). General Kenya population demographics from FII and FinAccess 2013, both nationally representative surveys

Who Uses M-Shwari?

FII has conducted two nationally representative FII surveys and identified M-Shwari customers from the general population. As with M-PESA, early adopters of M-Shwari are significantly more likely to be urban, above the poverty line, and already banked; they are slightly more likely to be men and under the age of 35.

Figure 4 illustrates that the changing demographics of M-Shwari seem to be following M-PESA's trajectory. M-PESA's early adopters were better off and more likely to be banked than the general population, but the poor and unbanked segments quickly followed. In 2008 less than 20 percent of the population outside Nairobi living on less than $1.25 per day used M-PESA, but by 2011 this share had steadily increased to 72 percent (Jack and Suri 2012).

How Are People Using M-Shwari?

Understanding the financial behavior of low-income Kenyans

To understand how and why people are using M-Shwari, it is important to first summarize what we know about the financial behavior of low-income Kenyans. The best source of information on this is the Kenya Financial Diaries, which closely tracked household financial transactions over the course of one year. The Diaries found that households are constantly juggling between two important but somewhat conflicting challenges: ensuring short-term liquidity and making longer-term investments in the future. As households keep a large proportion of their savings invested in illiquid form (such as savings clubs where cash is available only at the end of a cycle), they often do not have money on hand when emergencies arise.

Kenyan households face high levels of volatility both in amount of income (+/− 55 percent volatility in income month on month) and source of income (the median household had 10 separate income sources over the course of the year). Faced with high levels of uncertainty, low-income households place a significant amount of effort into opening or

6. Mirzoyants-McKnight and Attfield (2014) is referred to throughout this paper as the FII M-Shwari Survey in Kenya, May 2014. FII surveys can be found at http://finclusion.org/. The Kenya Financial Diaries report commissioned by FSD Kenya can be found at http://www.fsdkenya.org/pdf_documents/14-08-08_Financial_Diaries_report.pdf. The CGAP interview transcripts are not public.
7. In the rest of this paper, all quotations from M-Shwari customers are from these CGAP interviews unless otherwise noted.

building new opportunities for income and credit when needed—keeping lines of credit open and cultivating relationships that might provide resources when needed. They are active savers, and by and large, Diaries households emphasized savings more than borrowing. In fact, the median household held the equivalent of 129 percent of monthly income in financial assets versus 53 percent of monthly income in liabilities, higher than observed among low-income people in other countries. However, "respondents want to see their money 'working'—providing some immediate benefit—whether that is in buying consumption goods or physical assets, producing immediate returns, enabling them to borrow, or enabling a friend or relative to make an investment today" (FSD Kenya 2014). For most Kenyans, holding money in a bank account does not meet this criterion of "working."

As households earn, they immediately put those funds to use, matching income to immediate spending whenever possible. The median household keeps only about 10 percent of its financial assets in a liquid form.

As a result, many households did not have money on hand when urgent, unexpected needs arose, often forgoing important needs such as medicine. Thirty-eight percent went without a doctor or medicine when needed at some point during the year, and 57 percent had a child sent home from school due to outstanding balances owed. Often, the financial barriers were small, even relative to income. For example Samuel fell ill and went to the hospital. His mother gave him KES 5000, but this covered only the costs of transport and consultation. He could not afford to buy the drugs prescribed, which cost KES 500 (equivalent to 5 percent of his monthly income), and still had the prescription—but no medicine—a week later.

In summary, low-income Kenyans are extremely active money managers, constantly balancing the need for short-term liquidity by ensuring their limited funds are "working" and providing a return for the future. This has often left them scrambling when unexpected needs arise, sometimes with serious consequences. In this context, how have customers used M-Shwari to help them solve some of these problems?

BOX 1

Opening a Bank Account for the First Time

Several Diaries respondents were excited about opening their first bank account. For example, Winnie opened a new account with M-Shwari and managed to deposit 25 shillings. Her interviewer explains, "She is so glad and proud of herself as she has always wanted to own a bank account but has not been able to have one because of her low income. This is a good opportunity for her as the bank is right with her and she does not have to travel to make deposits."

Deposits and savings

As Kenyans place such a priority on ensuring their money is "working," how does the M-Shwari savings account help them meet this goal, and why would customers use M-Shwari rather than the M-PESA wallet? Although the interest rate is high by Kenya banking standards, customers did not mention interest received as a key benefit across any of the three research sources. Instead, the main appeal appears to be that customers can save for short-term needs while also increasing access to credit in the future. The appeal of the credit aspect is not just to qualify for a specific loan in the short term, but using a service that might provide resources when needed, similar to maintaining a friendly relationship with a shopkeeper who might extend a line of credit at some point in the future. In this way, customers saving with M-Shwari are keeping some funds liquid for emergencies or short-term needs while also extending options for future needs, meeting their definition of "working." Customers also appreciate the extra degree of separation from M-PESA. For those funds that they are setting aside, they like the fact that this money is less visible and requires an extra step to access. They feel that this keeps the money safer from potential thieves or prying family members and provides extra discipline for them.

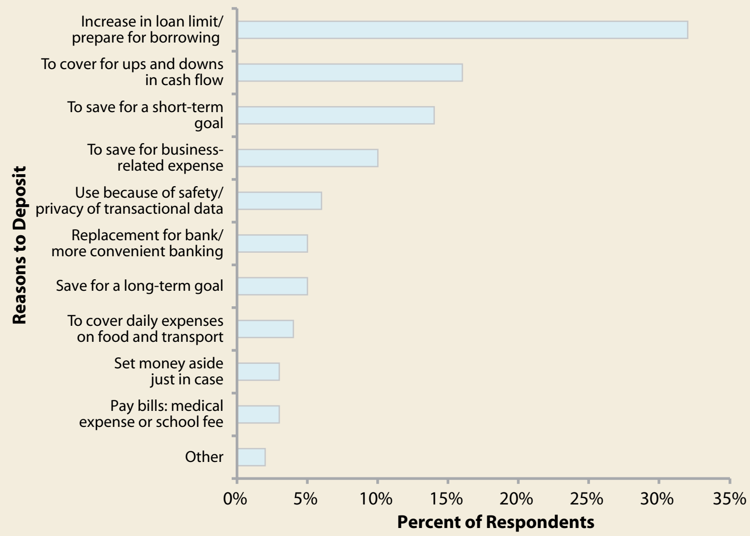
Since the main appeal of M-Shwari savings is that it accomplishes several objectives at once—short-term savings while stretching options for credit in the future—it is difficult to measure reasons for saving through a survey instrument. However, Figure 5 demonstrates that the FII survey did find that the single biggest reason customers deposit into M-Shwari is to increase their loan limit.

Although customers do not understand the details of the credit scoring algorithm, they know that loan limits are in part tied to savings behavior, and they deposit money into their account to maximize their borrowing chances and limits. The FII survey found that 79 percent of active depositors had borrowed money in the past 90 days. Paul in Kakamega convinces his friends to save with M-Shwari for this purpose: "Most of my boys when they see me taking a loan on M-Shwari, they ask 'how do you bank and how will you get the money?' I tell them even if you get 500 shillings or 200 shillings, deposit it to your M-PESA and then send it to M-Shwari banking and then you will reach a point where you will qualify for a loan."

Almost every Diaries household who opened an account applied for a loan. Many were rejected on their first attempt and most gave up after this, often withdrawing all their M-Shwari funds. For example, "Sarah deposited 600 shillings into her M-Shwari account with the hope that she

FIGURE 5

Main Reasons for Depositing in M-Shwari



Source: FII M-Shwari Survey in Kenya, May 2014, N=594.

would get a loan, but since Safaricom refused to lend to her, she decided to send that money to her father." This suggests some M-Shwari deposit accounts may be dormant or empty.

Although there are some "super savers" (such as Catherine, described in Box 2), most savings purposes relate to covering short-term ups and downs in cash flow. Of those who save with M-Shwari, most do so without a specific savings goal, rather they save the minority of their financial assets so that some of these assets are liquid. More than 80 percent of deposits and withdrawals are less than KES 2500, underscoring the small, short-term nature of transactions. Many respondents across all three research sources have used their M-Shwari funds to buy airtime when they have run out of money on M-PESA. Several regularly push extra funds from M-PESA to M-Shwari to access when needed. Faith says, "Yeah when it remains I just push it there. I told you it's when I have KES30 or KES 50 or KES 100 I push it there."

Some customers did express interest in using M-Shwari to save very large amounts for certain goals. One man in Nairobi said, "I want to start a bar business in Kisumu so I want to save KES 150,000 in M-Shwari and my other sources will complement this." There is little evidence so far of customers building large savings through M-Shwari and, from what we know about how poor households accumulate assets in Kenya, M-Shwari may not be suitable for this purpose. It will be interesting to track the success of the Lock Savings account, which was developed with these serious savers in mind.

BOX 2

Super Saver Catherine

A few respondents are using M-Shwari as a significant savings instrument. For example, Catherine works as a casual laborer in the "godowns" of Mombasa and runs a side business selling soap. She opened an M-Shwari account in August 2013. She says she opened it mostly out of curiosity and really likes that it's private and affordable since it's on the phone and you can take a loan when needed. By the end of the study, she had KES 8000 saved in M-Shwari, which was about 47 percent of her total financial assets. About half of this was her own savings, which she shifted over from M-PESA, and the other half was for her informal savings group. She now considers M-Shwari her most important savings device but still sees value in her savings group.

Withdrawing and borrowing

CBA disburses 50,000 M-Shwari loans every day. To put this into perspective, FinAccess 2013 reported that just 700,000 people (3.6 percent of the population) had a personal bank loan and less than half this number (310,000 or 1.6 percent) had microfinance institution (MFI) loans in early 2013, when M-Shwari had just launched. The uptake of M-Shwari loans has been sizeable and clearly fills a gap in customers' financial portfolios. However, the average loan size is small at KES 1280 and the loan term is just 30 days. How is such a small, short-term loan so popular, and what need does it fill?

BOX 3

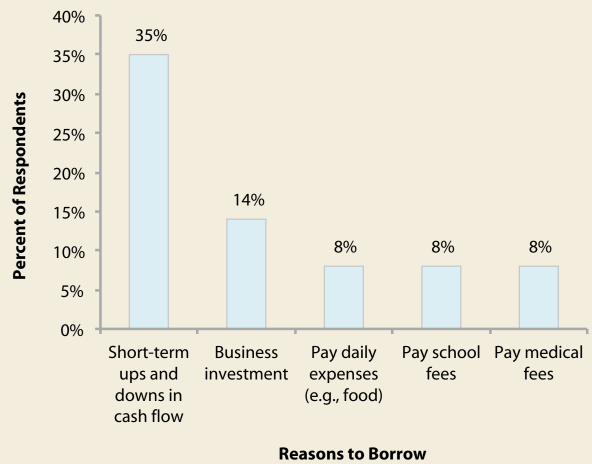
M-Shwari Loans Are Used to Cover Unexpected Short-Term Cash Flow Needs

The following quotes illustrate the range of use cases for M-Shwari loans, particularly in smoothing short-term ups and downs in cash flow:

- "My salary delayed and my house help needed money so what did I do? I borrowed 3,000. I paid the house help with part of it and with another part I paid the motorcycle person who carries my baby to and from school."
- "We can wake up one day and that what we thought we could use is not there. Maybe the kids have flu because they have asthma like me or we don't have bus fare or we don't have fuel and my husband says, 'hey this M-Shwari bank of yours has everything!'"
- "It was at night and I couldn't go to the shop to buy airtime so I just borrowed."
- "M-Shwari for me is just for small savings and borrowing for things like airtime, not major items."
- "When I see something on the streets, I can borrow money faster and buy it."
- "I was buying a screen. On reaching Kakamega the amount was higher than I thought so I took the loan of 3500 so I could top-up and buy the screen."

FIGURE 6

Main Reasons for Borrowing from M-Shwari



Source: FII M-Shwari Survey in Kenya, May 2014, N=52.

As described in Box 3, M-Shwari loans are being used predominantly to manage short-term ups and downs in cash flow and cope with unexpected needs. Loans are used to do small repairs, buy airtime, facilitate impulse purchases, and help cope with emergencies (see Figure 6).

Even when the primary purpose of the loan is for business (15 percent of M-Shwari customers own a business or shop), the loan seems to be used to meet gaps in short-term cash flow rather than for longer-term business investment. One respondent said, "I am in transport business. Not all the time do I have money so I can borrow money to help out my drivers when they are caught by the police." Another respondent in the transport business said, "It was a service day and I was to have my motorbikes serviced. I was not around and the person who does the servicing needed money and for trust I do not give cash to my boys to give the servicing man. At times they can tell you we've done it when they have not. I didn't have money on M-PESA so I just got money from M-Shwari to send to that person direct to do service for three motorbikes."

Finally, M-Shwari is used for emergencies, especially medical emergencies. "It helped me one time when my son was ill and I didn't have any money with me. My son was bleeding a lot from the nose and that time I was back from the market and I had used all of the money. I needed 1,000 and that money helped a lot."

As Ambrocious said when asked which financial device he would go to first in an emergency: "It is the phone. The most effective friend in need it is the phone."

Although many Financial Diaries households just started using the product toward the end of the project, early indications suggested that once customers successfully borrowed, there was a strong chance they became regular borrowers. For example, Rebecca has taken three loans. She borrowed once to take her son to the hospital but later borrowed twice to buy stock for her soap-making business. Raphael has already taken out five loans and used these to help cover the costs of constructing his house upcountry. He has many outstanding loans to various lenders and hopes that with time and larger loan sizes, M-Shwari will offset his debts to informal moneylenders. Repeat loans may reduce one of the key use cases that M-Shwari seems to be most valuable for: unexpected needs and emergencies. If M-Shwari loans become a regular part of the household balance sheet, it may not be available as an additional option when urgent needs arise.

Role of the call center in portfolio management

While M-Shwari loans are too small to justify conducting personal collections visits, a specialized M-Shwari team at Safaricom's call center plays an important role in increasing customer awareness of loan due dates and encouraging customer repayment.[8] Before a loan due date, the team tries to

8. Information on M-Shwari's call center comes from CGAP interviews, May 2014.

call borrowers to make sure they understand the product and its repayment requirements. According to an M-Shwari call center staff member, an important aspect of the approach is to first engage the customer to address any questions she may have about the product or its terms, and in this way help to explain the repayment requirements and related penalties, since customers may not fully understand the terms and conditions.

On the loan due date, consumers will receive a call reminding them the loan is due and will be informed of both the consequences of delinquency and, if they cannot pay the entire loan amount currently, will be encouraged to make partial payments to avoid falling into delinquency and impacting future loan amounts and other benefits such as airtime credit. Call center staff were also observed explaining to consumers the longer term consequences of extended delinquency, such as reporting to the credit bureau. Since many customers are not familiar with the implications of credit bureau reporting, call center staff noted that a person-to-person conversation is important to explain both the credit bureau concept and the issues that could arise with being reported to the credit bureau. These calls complement SMS messages that are sent to M-Shwari borrowers as the loan due date approaches and offer an interesting alternative to traditional treatment of delinquent borrowers that may be useful for similar mobile-phone based, small-value loans offered in the future. The M-Shwari call center team in fact received an internal award from Safaricom six months after this team was launched for helping to drive down NPLs on the M-Shwari product line.

SECTION 4

Why Are Customers Using (or Not Using) M-Shwari?

Benefits

The winning attributes of M-Shwari (summarized in Table 3) are consistent across all three sources of information. First, M-Shwari offers the basic banking services (savings and loans) customers need most but, unlike conventional bank accounts, is easy to use and accessible anytime and everywhere. Second, it is considered to be very secure and the additional separation from the M-PESA account makes it feel safer and more private than M-PESA. Finally, M-Shwari is perceived by customers to be cheaper than most comparable sources of loans.

Pricing

Interestingly, the vast majority of respondents who answered an FII question on pricing felt that the "low cost of loans" was a key benefit of M-Shwari.[9] However, the 7.5 percent M-Shwari facilitation fee converts to an annual percent rate (APR) of approximately 90 percent (flat rate of 7.5 percent times 12),[10] which is about double the Kenya average MFI APR. Why is there such a discrepancy between customer perception and actual cost?

One explanation is that borrowers may not fully understand interest rates or how to calculate APRs. The pricing structure of M-Shwari is unusual, and customers might easily compare the 7.5 percent monthly M-Shwari fee with the APR that banks are required to report in advertising and think that M-Shwari is cheaper. Another explanation may be that low-income people have a complex understanding of the costs of borrowing and may factor in transaction costs, a major feature of the costs of borrowing for the poor. This can include transport costs, time costs (in informal group or MFI meetings), or costs of trying to assemble required paperwork or documents (as well as less tangible costs such as lack of privacy). Transaction costs for most M-Shwari loans is zero,

TABLE 3 Customer Perceptions of Key Benefits of M-Shwari

Feature	Description	Quotes
Accessibility	CGAP interviewees ranked M-Shwari as the second most useful financial product during an emergency (first is M-PESA). As with M-PESA, M-Shwari is available whenever and wherever customers need it, even in the middle of the night when banks are closed and friends and family members are asleep.	"M-Shwari is so convenient for me. It's a direct process, there is no waiting, and there is no holding you. It's instant."—*Helen, Nairobi*
Ease of use	CBA claims that M-Shwari takes just six seconds turnaround time per loan. This can't possibly be beaten by other sources of credit. The product is governed by simple and clear rules, and although customers may not understand the details of the terms and conditions, they can figure out how to use the product on their own.	**Interviewer:** The first time you were activating M-Shwari, is there anyone who did it for you? **Edwin:** "Nobody! I just followed the procedure. When you went to M-PESA menu, there is M-Shwari. It is just logic."—*Edwin, Nairobi*
Privacy	Several CGAP interviewees mentioned that the security and privacy of their funds is the most important feature of M-Shwari. They believe that no one can find out whether and how much a customer saves with M-Shwari, even if they gain access to the customer's phone (unlike M-PESA, which is perceived to be more accessible by others). There are also no social obligations with M-Shwari loans as there are with most other sources of short-term credit.	"It is very easy to lose money on M-PESA to fraudsters but you will never hear someone lost money on M-Shwari."—*male interviewee, Kakamega* "If somebody gets your PIN and your phone, they will rush for M-PESA forgetting that there's something hidden by the name of M-Shwari." —*Ambrocious, Kakamega*
Separation from M-PESA for savings	Customers like that M-Shwari is one degree removed from M-PESA. They use M-PESA so frequently that they often see their balance and are tempted to spend more. Customers like the "out of sight, out of mind" aspect of M-Shwari and enjoy having a vehicle for saving that is considered slightly less accessible than M-PESA.	"You know in M-PESA account you see it but in M-Shwari you are saving. There is difference. . . because with M-Shwari you can't be withdrawing all the time."—*Jane, Nairobi*

9. Of the 24 people who answered the question, "How did the cost of your last M-Shwari loan (i.e., the 7.5 percent loan facilitation fee or interest rate) compare with the cost of other loans you have taken out in the past 90 days?" only one person felt M-Shwari was much more expensive and two thought it was about the same. The other 21 customers said that the cost of their M-Shwari loan was cheaper or much cheaper compared with the cost of loans from other formal and informal institutions.

10. For more information on cost of credit in Kenya, see http://www.cost-of-credit.com/index.php/site/downloads

unless customers need to cash out the funds, in which case there may be some travel time/cost to reach an agent as well as cash-out fees.

If a customer is using an M-Shwari loan to pay for an unexpected emergency (such as an illness), the opportunity cost of not borrowing may be very high and the overall price feels affordable, especially in nominal terms (96 shillings or about $1 for an average loan). However, if M-Shwari becomes a regular way households finance daily expenses, this would be relatively expensive.

Challenges

The biggest challenge according to all three research sources is that customer understanding of the product is low. Although customers can easily figure out the process of opening an account and receiving a loan, they are confused about the terms and conditions related to items such as the price charged, interest rate received, how to qualify for a loan or increase loan limits, and consequences of default. Among CGAP's 15 interviewees, only three had a basic understanding of what the terms and conditions were related to loan pricing and repayment period and only one knew that CBA was involved in the product. For example, when asked about the consequences of late payment or default, one customer mentioned that M-PESA savings would be used to repay loans, which is not true. Among those who have tried to obtain more information, several noted being discouraged by the massive amount of information they have to read. Most could not even access the terms and conditions with their phones. This low level of understanding is an unfortunate result of the very features customers love most: the ease, speed, and accessibility of the product. Box 4 describes one surprising benefit of this low level of customer understanding—a high level of interaction as customers try to figure out the product. There is no easy early solution for how to effectively and transparently convey terms and conditions for a virtual product that is offered instantly (see Box 5).

Although M-Shwari is the most widely used beyond-wallet product in Kenya, only a minority of the two-thirds of the population who are active mobile money users are M-Shwari customers. There may be an opportunity to expand the use cases beyond the narrow but highly effective management of short-term cash flow. Some of the current complaints about M-Shwari include the low loan amounts (approximately one-third of users who had borrowed money were unable to borrow as much as they needed) and the very short repayment period. Customers have the appetite to access larger loans with longer repayment periods while maintaining the current ease of use of the product.

How M-Shwari Is Impacting Financial Portfolios

Early indications suggest that M-Shwari is playing an important complementary role in the financial portfolios of Kenyans. It is offering options that serve similar functions as existing products but in a way that customers value more. The FII survey found that M-Shwari is a significant financial product for a good share of the customers—10 percent of customers store 50 percent or more of their funds in M-Shwari while 20 percent say they receive 50 percent or more of their borrowed funds from M-Shwari. The Financial Diaries did not find any increase in net assets or

BOX 4

Customer Engagement: An Unexpected Benefit of Low Customer Understanding

Interestingly, one common source of confusion—how to qualify for a loan or increase loan limits—has led to a very high level of customer engagement with the product. Many customers enjoy the challenge of experimenting and figuring out "the game." They are rewarded for "good" behavior (increased deposits) relatively quickly in the form of higher loan limits. The nature of the product allows customers a high degree of back-and-forth interaction with the product and gives them a feeling of control that would be difficult to emulate in a traditional bank branch. This enhances the feeling that their money is "working," a feeling they do not get from traditional bank savings products.

Consider Stan, a Diary respondent: "I want to be saving in M-Shwari until I reach the 1,000 loan mark. I think I love the way it operates. Imagine, I do not need to withdraw money from M-PESA. All I do is just play with my money by moving it back and forth. I love to **play that game** between M-Shwari and M-PESA."

Eli, another Diary respondent, also "plays" with transactions to increase borrowing limits. According to the interviewer, "Eli has also learned how to go about the product. To increase his credit rating, whenever he is paid via M-PESA, he first of all takes it all to his M-Shwari account and then withdraws it a few minutes later. He tells me, 'They will look at how much and how many times I deposit, so I have to do it.' He then requests a loan and he is given. His loan limit increased from 2,000 to 2,300."

Customers are constantly speculating about how much they might qualify for and why they might qualify for more or less than someone else. Many seem to enjoy this, especially if they feel they have figured out the system.

BOX 5

M-Shwari and Consumer Protection Challenges

Digital delivery creates opportunities and challenges for disclosing terms and conditions. Challenges arise due to limited space available on the menu or SMS messages through which a customer enrolls in a product. However, there may be an opportunity to take advantage of the personal, real-time nature of the digital channel to improve transparency and customer understanding further. This could include simple, timely SMS messages describing key terms and conditions that customers could store and access in the future.

Another issue new digitally delivered products such as M-Shwari raises is informed consent and data privacy. This includes both (*i*) customers' up-front understanding of the way in which their data are being used to provide targeted financial services and (*ii*) the creation of simple and meaningful ways for customers to exert choice over use of their mobile phone and financial information beyond "take it or leave it" consent approaches.

As M-Shwari breaks new ground in banking the unbanked, improving disclosure and customer understanding as well as ensuring informed consent by customers will be important challenges for CBA and Safaricom to address.

liabilities that can be attributed to M-Shwari. The Diaries found that savings may be shifting slightly from M-PESA and savings in the home to M-Shwari, while loans are shifting slightly from family and friends and moneylenders toward borrowing through M-Shwari.

Of those who are accumulating savings with M-Shwari (versus depositing and quickly thereafter withdrawing), these funds seem to be shifting primarily from M-PESA and secondarily from savings in the home. Super Saver Catherine mentioned in Box 2 still considers her savings group a very important savings device. Unlike M-Shwari, it helps her control her spending and allows her to invest larger lump sums in "development activities" such as her soap business. This seems to be typical. The main competition to M-Shwari as a place to deposit and store money temporarily comes from informal savings groups and banks (remember that more than 50 percent of M-Shwari customers also have another bank account).

M-Shwari is primarily shifting borrowing from family and friends. Customers appreciate the speed with which they can access M-Shwari compared with family and friends as well as the enhanced privacy and reduced social obligations. Consider what the interviewer reports on Eli from the Diaries: "Eli loves M-Shwari and he tells me he has been informing his friends to join since it makes it easier for them to borrow money instead of borrowing from him. One of his friends wanted to buy a ring but was short KES 5000. Eli told him to register, and he was able to get KES 2000 from M-Shwari. Therefore he could borrow less from his friends."

SECTION 5

Conclusion—The Broader Implications of M-Shwari

M-Shwari is a "first" in several important ways. It is the first successful formal banking account layered on a mobile wallet already used by two-thirds of the population. It is also the first scaled loan product targeting the mass market using nonfinancial digital data to score them. It has done this primarily by meeting a critical need that Kenyans have for short-term liquidity. Reliable, private, and easy access to small amounts of liquidity when needed has been a huge gap in the financial portfolios of most Kenyans, and M-Shwari seems to meet this need better than the alternatives. M-Shwari also offers customers a unique reciprocal relationship with a financial institution, rewarding them for "good" behavior quickly. It is easy for customers to test and experiment, which leads to high levels of engagement. This brings many opportunities for customer interaction and learning. Together, these attributes bring customers liquidity when needed but also makes them feel that the savings they have in M-Shwari are "working."

Providers around the world are scrambling to create similar products; Vodacom Tanzania and CBA launched a similar product called M-Pawa in May 2014. However, it will not be easy for others to copy M-Shwari's success for three reasons. First, Safaricom controls 79 percent of voice traffic and 96 percent of all mobile text messages in Kenya. This gives it an extraordinarily rich database from which to mine information on customers and a strong brand. Second, M-PESA is actively used by two-thirds of the Kenyan population, providing an enormous platform from which to offer a value-adding product like M-Shwari. Finally, Kenya has a fairly sophisticated and widespread national ID system so that KYC requirements are not a major barrier. Other providers will need to be even more creative and customer-responsive to create a successful product without these conditions in place. In fact, M-Pawa in Tanzania has seen much slower growth in its first months when compared with M-Shwari. This slower growth could have been influenced by Vodacom's lower market share, more difficulties in getting KYC data since there is no national ID, and differences in market response to promotions.

M-Shwari is already a very important product in the digital finance world, but the dynamic nature of the product means the story is just beginning. As the story progresses, it will be interesting to track a few of the following questions.

How will "big data" and the increasing digitization of data change financial service offerings, especially for the poor? As Chen and Faz (2015) discuss, increasingly big banks, credit card companies, and entrepreneurs are tapping into the vast new flood of digital information to aid credit-scoring decisions. Until M-Shwari, applying this to the poor and unbanked segments of an emerging market seemed distant. M-Shwari is the first large-scale loan product using a person's mobile operator data to initiate a financial service to make an initial credit-scoring decision. This allows M-Shwari to reach very large tracts of the population with an early offer and uses customers' subsequent borrowing track record to further extend their credit history. What other data will lenders be able to use in the future to target this customer segment? How will this impact MFIs and other providers who rely on loan officers to gather data first-hand and on groups to help make credit decisions?

What consumer protection implications do digitally delivered financial products raise? The fast, virtual nature of the product is appealing to customers but makes the usual challenges of customer education and transparency even more difficult. How will providers like CBA and Safaricom educate customers not only in the process of how to use the product but in the terms and conditions, such as the implications of being reported to the credit bureau? How can customers understand the way in which their data might be used and be given more choices on consenting to this?

What are the broader market implications as others try to replicate this digital lending success? A tremendous amount of work went into this product, following many lessons learned by Safaricom. Both Safaricom and CBA have been cautious and managed risks carefully, but this is likely just the beginning of many copycat digital loan products. How effective will digital lending be for amounts that are higher proportions of a borrower's balance sheet? What happens when inferior copycat digital lenders appear with inferior algorithms or looser terms and conditions? Although M-Shwari's default rate is currently relatively low, these are important questions to ask to avoid the risk of a race to the bottom or widespread over-indebtedness. Better credit information sharing and stronger market conduct regulation may be needed to avoid these scenarios.

M-Shwari has clearly tapped into an unmet need that Kenyans have for a tool to help manage short-term ups and downs in cash flow, especially small liquidity gaps. It demonstrates how a strong partnership, trusted brands, and an easy yet effective product can be a winning combination.

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