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Liquidity and Savings in the Age of M-PESA

*Innovations Case Narrative:
Jipange KuSave*

In early 2010, a team of entrepreneurs experienced in mobile payments and micro-finance started a trial of a radically different savings product called Jipange KuSave (JKS). In Swahili, Jipange KuSave means to plan or organize oneself to save. What made this savings product unique was that it was accessible only via M-PESA, Kenya's hugely popular mobile money service, and was designed specifically to help Kenyans with low, unpredictable incomes save substantial amounts of money.

The idea behind JKS was to "reinvent" microfinance in a market where millions of poor people currently move their money around in digital form rather than in cash. Combining saving and borrowing in a single convenient product, JKS embraced the attributes of mobile delivery, including small low-cost transactions, personalized programs, and rapid customer-initiated progress through a structured "lend-to-save" program.

After nearly 18 months and three trial phases with about 1,000 customers, the JKS product has proven its demand among low-income customers, established scalable operational processes, and shown itself to be profitable. While the initial success of JKS must now be proven with a larger customer base, its success thus far

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Jonathan Petrides set up and led Jipange KuSave in Kenya. He previously worked in the emerging markets telecom practice at McKinsey, with a focus on mobile money.

Stuart Rutherford has worked extensively in microfinance for over three decades and is a practitioner of innovative services through his organization in Bangladesh called SafeSave. Stuart has published widely on the subject of the poor and their money and is regarded by many as one of the leaders in this sector.

suggests that—given the right product design—millions of low-income Kenyans eventually may use their mobile phone to save large sums of money.

This paper shares the experience of designing and launching JKS, a process that highlights the importance of iterative testing, vigilant innovation accounting,¹ rapid customer development, and commercial model validation. It also exposes the innovator's dilemma in trying to provide savings services for the poor:² Can licensed incumbents think beyond the short-term need to win and serve the wealthy few customers who are already banked, and invest in next-generation products like JKS that use technology to open up banking to millions of potential new customers?

PART I: JIPANGE KU SAVE—A MOBILE-CENTRIC FINANCIAL PRODUCT

The Customer Need

An estimated 2.6 billion people worldwide live on less than \$2 per day, with another 1.4 billion living on between \$2 and \$4.³ These statistics mask the dynamics of reality because many households move in and out of poverty. Their disposable income fluctuates, and shocks such as medical emergencies cause unplanned demands on their day-to-day cash. Such households struggle to build sufficient financial resources to allow a permanent shift above the poverty line.

Research that uses financial diaries to track how households manage money has confirmed that people with low, erratic incomes use a variety of techniques to help smooth this cash-flow problem,⁴ from the formal, such as a microfinance loan, to the informal, such as joining a rotating savings scheme.⁵ Although peoples' ability to manage so many financial mechanisms is impressive, the services they most prefer have traits—reliability, flexibility, structure, and convenience—that are not always found in informal schemes. Moreover, informal finance often comes with a high risk of loss and ultimately with higher costs, many of which stem from the simple fact that these are cash based and subject to human error or sometimes fraud.

In Kenya, over 17 million people have embraced the digital money culture by using the mobile payments service called M-PESA, a scheme that was first described in this journal by one of its founders, an author on this paper. Kenya therefore provides a unique market in which to test digital financial services. A new company called Mobile Venture Kenya Ltd. (MVK),⁶ which is dedicated to innovating in the mobile commerce space, contacted the Financial Sector Deepening, Kenya (FSD Kenya) and the Consultative Group to Assist the Poor (CGAP, a division of the World Bank) to test their appetite for researching mobile-based savings products. A proposal was submitted that drew from the work of SafeSave in Bangladesh, where Stuart Rutherford (another contributor to this paper) and his team had been testing unique savings products that address people's need for reliability, flexibility, structure, and convenience. MVK believed that the user benefits of such products could be maximized and profitably scaled using mobile connectivity.

Mobile Money Magic: Moving on from Microcredit

Mobile connections and mobile money provide a potential low-cost and secure channel for financial services, which allows providers to reduce overhead associated with traditional services, such as bricks-and-mortar branch networks, large teams of field officers, and manual data-crunching to manage accounts. These cost-saving opportunities provided by digital money have been well documented in recent years (see various CGAP publications⁷), and many service providers have taken on digital strategies to help reduce costs.

MVK believes that mobile money also opens up a broader agenda by enabling a fundamental redesign of financial products, based on two key factors:

1. The ability to move small amounts of money around instantly, at a relatively low cost, in amounts and frequencies that can be determined by the user as well as the provider. This opens up a potential new business model and a move away from punitive interest charges by allowing transaction-based charging schemes to operate.

2. The ability to customize product terms and features at a much more detailed level. Physical interaction with groups is less of a necessity. Transforming a traditional “one-size-fits-all” microfinance experience into a personalized service offers a much larger addressable customer base where the potential barriers to switching providers could be higher for the customers, allowing the service providers to gain greater value from their customer base.

From P9 in Bangladesh to Jipange KuSave in Kenya

One of the most intriguing savings products currently in operation at SafeSave is P9. Rutherford observed that when times are hard and income is erratic, people search for additional ways to raise funds, such as taking on expensive credit against future earnings. Their repayment obligations then hamper their ability to save money when times are good. P9 addressed this by giving customers small amounts of credit at zero interest, and by placing a portion of the credit into a “forced” savings account. As customers repaid the credit at whatever speed and in whatever amounts they wished, they became eligible for a bigger zero-interest loan. By borrowing multiple times and being forced to save a portion of each loan, they gradually accumulated savings. These savings could then be drawn from for planned investments or to deal with an emergency.

To many outsiders this system appears counter-intuitive—offering a customer small amounts of credit to smooth cash flow while essentially forcing them to build their savings at the same time. But, in cash economies, these mental gymnastics underlie the normal day-to-day lives of many, as they must constantly calculate various credit and debit balances to meet their family’s needs.

The MVK team realized that the principles of P9 might be just as applicable in Kenya as in Bangladesh, and that mobile money transactions using M-PESA could offer a number of advantages over the field staff model, especially flexible, anytime

P9 in SafeSave Bangladesh

SafeSave runs P9 using “collectors”—poor women with little more than a primary school education drawn from the low-income communities they serve. They visit each client each day to collect repayments on the interest-free P9 loans, of which half is disbursed in cash and half placed in a savings account for the client. The product has generated more interest and attracted greater flows of transactions per account than any of the other products SafeSave has launched in its 15-year history.

P9 appeals to a very broad range of clients. Very-low-income households like the chance to save for consumption needs while at the same time enjoying the injection of liquidity provided by the loans, and having the convenience of the daily opportunity to repay as much or as little as they like. Better-off shopkeepers find P9 a particularly easy way to build big chunks of savings, which can then be withdrawn and invested in business expansion. At the same time, the cash element of the loans helps them with routine restocking of their shops.

P9’s unusual structure includes a number of features that poor clients find especially appealing. For example, loans may be “topped-up” to their original disbursed value at any time during the repayment cycle, with 20 percent of the amount thus re-borrowed going into the client’s savings account. Most clients are sophisticated enough to understand that with P9, their savings balance soon exceeds their borrowing balance, and therefore these “top-ups” are essentially withdrawals of savings. Moreover, they appreciate the oddity that, as a result of the 20 percent that goes into savings, their nominal savings balance actually rises when they draw down liquidity, increasing rather than eroding the sense of security provided by their savings.

More about P9, including full transaction data, can be found at sites.google.com/site/trackingp9/

payments and disbursements. Out of this realization emerged a mobile-centric version of P9, which was called Jipange KuSave—the focus of this paper.

JKS works like this: A customer is signed up to achieve a certain savings target, an amount of money that they want to save over a set period of time. This is achieved by taking a series of microloans, a part of which is set aside and accumulated as their savings. To start, the customer first receives a small, interest-free loan of say Ksh 2,000 (US\$20), some of which is held back as savings. The disbursed funds go straight to the customer’s M-PESA account and are available to use as the customer wishes. The saved portion is held back in an account on their behalf. Once the customer has repaid the total loan amount, they qualify for another, larger interest-free loan, say Ksh 4,000 (US\$40). This amount is again split between their M-PESA account as e-money and their savings account. When the customer repays the total amount, they qualify for a third and larger loan of, say, Ksh 6,000, which is also provided as cash and savings, and so on.

In this example, by the time a customer takes the third loan, the amount disbursed into their M-PESA account equates to the balance that has accumulated in their savings account. This is a very interesting inflection point, because the customer is now technically borrowing from their own savings, not strictly speaking from a third party. By the final loan—that is, the loan that brings the savings balance to the client’s declared savings target—the customer’s savings balance can be as high as Ksh 15,000 (US\$150) or more a substantial amount, which is available for any planned investment or emergency.

At the outset, the MVK team had little more than an outline product idea. There were important questions to answer: what will the revenue model be, how much will this product cost to operate, how much should be held back as savings, where will the savings be held, how should the service be priced, who will pay for the communications, and will this be considered a savings or a credit product?

From a regulatory standpoint, because the customer’s savings balance exceeds his/her loan balance for most of the saving cycle, JKS is a savings product and therefore permitted to be offered only by a licensed deposit-taking institution.

Still, the concept was neat and one that the team at MVK felt could be delivered via mobile, namely, a low-cost delivery channel that could offer personalization, direct contact, small transactions, and the framework around which to build a formal, structured proposition. The challenge was to discover (1) if there really was a customer need for a product like this, and (2) if a business model could be found to make it sustainable. FSD Kenya and CGAP responded to this challenge by funding a research project and enabling a trial to take place.

PART II: LAUNCHING A MOBILE-CENTRIC PRODUCT

Key Principles of the Customer and Product-Development Phase

The principles of this work drew heavily from the team’s experience in founding M-PESA and centered on learning through doing:

- The trial was to leverage Kenya’s existing mobile money infrastructure and customer acceptance. There is probably no other market in the world where an entirely mobile proposition could be presented to a customer base that is familiar with mobile money.
- The team had some broad plans to structure a phased trial and decide what to measure to gauge customer acceptance, but they were fully expecting to change those plans during the process, building on aspects that worked and moving away from those that didn’t.
- The team was determined that customers would shape the product, but the challenge with a new product is that you have to discover who the ideal customer is. This can only happen through a process of hypothesis testing, verification, and iteration.
- The ultimate aim was to find a product that would be commercially sustainable. An initial business model was constructed at the concept stage, but this was by

Customer Case Study 1: Smoothing Cash Flow

Mohamed works as a taxi driver in Nairobi and has built up a base of loyal customers whom he drives to and from markets with their merchandise. These markets occur at different times in different parts of the city, and other factors like the weather and the seasonal nature of his clients' business make Mohamed's income variable. Mohamed has some fixed costs he must manage; at the start of each week he hires his taxi car, and once a term he pays school fees for his children. In some weeks, business is good and he manages the car hire easily and tries to put some surplus cash aside for his children's school fees. In one very quiet period, he had to take a short-term loan from a market "day lender" to cover the school fees and it took him several weeks to pay this off, making daily payments. Mohamed knows that he paid back much more than he borrowed and he doesn't want to take more loans like this. However, given his irregular cash flow and lack of documented evidence of income, he cannot get a loan from a bank or MFI. Jipange KuSave worked very well for him. The very first loan helped him in a particularly quiet week to meet the cost of his following week's car hire. Mohamed could also choose when to pay back and he did this after a few busy days on the taxi business. After about a month, he moved to the second loan. He was pleased to see his savings building up and he understood that he could draw new loans in cycles that aligned with school fee payment dates. Although the JKS trial is now completed, Mohamed expressed an interest in building large savings through this type of product, potentially saving enough to buy his own car.

no means firm—all of the variables were driven by assumptions that needed to be tested.

Customer Development Phase I: "Free money . . . that's crazy!"

Once the funding and the basics were in place—including a project team, incorporation of a local company, new M-PESA accounts, and a bank partnership to hold the working capital and customer savings—work commenced to test the basic hypothesis: Does the concept of lending to save using M-PESA make sense to the customer?

Having notified the central bank of the trial, the team acquired its first customers. To start, MVK offered a small, totally unsecured loan of Ksh 2,000 (about US\$20), two-thirds of which was dispersed to the customer and one-third retained as savings. The team set performance targets, two key metrics of which were (1) a repayment rate for the first cohort of at least 85 percent, and (2) at least 15 percent paying back one-third of the loan in the first month. Members of the team had varying views on the likelihood of anybody paying MVK back any amount; the most extreme view was that the idea was akin to holding out a pot of money to strangers and saying, "Here, take some—we trust you to pay it back."

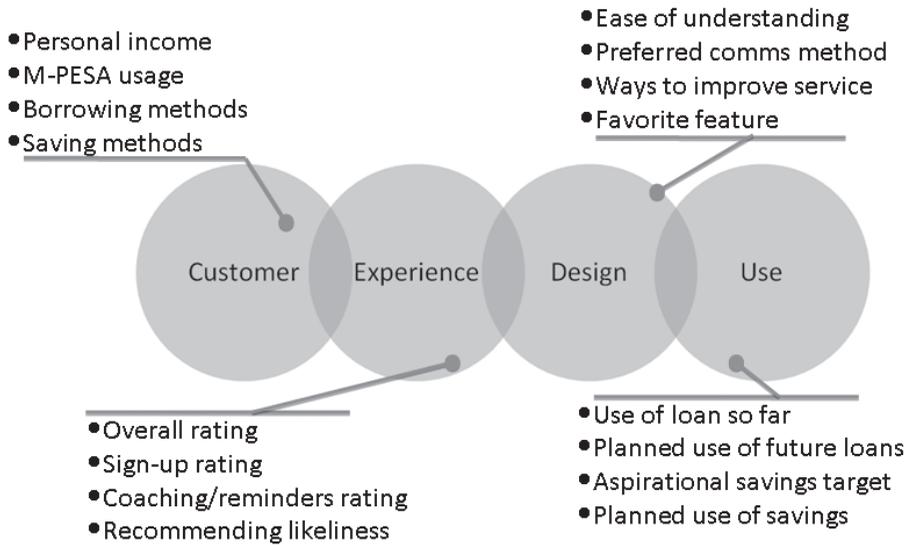


Figure 1. Phase 1 Customer Research

The product concept had been broken down into easy-to-follow schematics for a brochure and selling it proved not to be a problem. Follow-up interviews later showed that customers had a real interest in the product. They were able to report back to the researchers how the product worked and what its value was to them, and many customers were actively introducing the product to their personal networks.

Although no interest was payable on the loans or on the customers' savings, fees were charged to this first cohort to set up accounts and for each loan disbursement. For a small subgroup, MVK required a pre-loan deposit to be built up before the first loan was disbursed, an idea used to test whether the requirement to save first would deter sign-up. It did deter sign-up, not surprisingly, largely because nobody had heard of MVK or JKS and so there was an unwillingness to start with savings coming from the customer. This product design option was dropped from the pilot.

After two months, the results were in and they were mixed. About 77 percent of the base had repaid at least something (this later grew to more than 93 percent) but, to the team's surprise, 25 percent had repaid *more* than one-third of their Ksh 3,000 loan. This was an early indication that even without any customer screening, the product definitely met the needs of some people. For example, 10 percent of the Phase I customer base repaid the first loan entirely within three weeks and had moved to the second loan or beyond. Figure 1 shows the additional research conducted in Phase I.

Customer Case Study 2: Expanding Business

Peter runs a juice stall in a market. He uses his previous day's income to buy fruit first thing in the morning and prepares a range of juice mixes. He has very little surplus cash to branch out or expand his product line, as all his disposable income supports his wife and children. The children are too young for the wife to leave home and find work. On hearing about JKS, Peter took the first loan to buy ingredients for his wife to make small cakes at home, which he then sold with the juice. Within a week he was able to pay the full amount back and take the second loan. He continued to sell the cakes and branched into more juice mixes with the second loan, and even managed to buy some new glasses to serve the juice in. With his saving growing, Peter had set his sights on some major investments in his business, including setting up a permanent juice bar close to the market.

Customer Development Phase II: "So who is the target customer?"

With the basic hypothesis supported, the team set out to test all of the variables that could drive a commercially sustainable savings scheme. Much of Phase II was shaped by direct feedback from the first successful users, especially the group of super performers for whom the JKS product had clearly worked well and who had moved very quickly through several loan cycles and built sizable savings. From JKS's perspective, these were the ideal customers: they were rapidly driving revenue by moving on to new loan steps and quickly becoming net depositors (zero risk).

Setting operating procedures

A critical element of any mobile-orientated service is accurate, real-time information on key performance indicators. Throughout Phase I, the entire customer account management system and means of tracking customer interactions had run on an Excel spreadsheet model. With the intended scale-up of customers, it was critical to make this system more robust and automated. Operating procedures were redesigned and a set of functional requirements was written to provide a blueprint for a web-based account management tool. This information management system automated and tracked much of the day-to-day interaction with customers and generated reports, thus giving the JKS team real-time access to customer details, balances, payments, communications history, etc.

Testing business model assumptions

All the variables in the business model were tested (see table 1), including how customers were originated, with distribution channels ranging from M-PESA agents to customer referrals, what proportion of a loan was retained as savings, and who paid what transaction charges. Six parallel cohorts were run, which combined different product features in six distinct locations across Nairobi and rural Kenya.

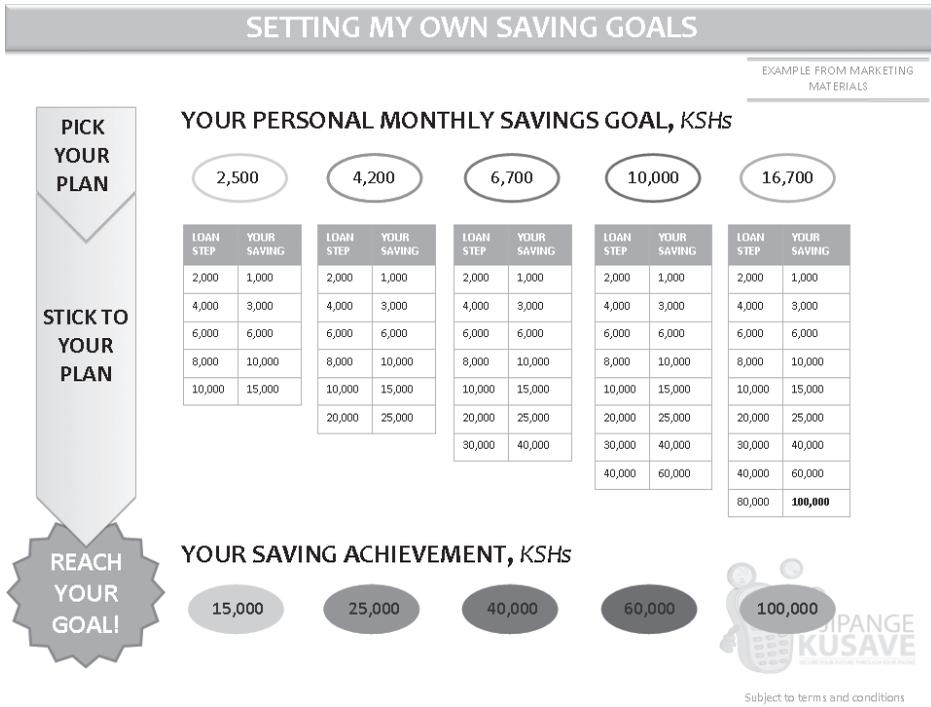


Figure 2. Range of savings targets

While experimenting with when and how fees were charged and how best to interact with the customer through calls and text messages, getting a thorough understanding operating costs was also a key focus in this phase. The team meticulously recorded and monitored time spent on preparing and making phone calls, sending SMS communications, processing payments, looking to identify and track all other activities that incurred time and/or cost and that could be automated. Detailed data on these interactions with the customer base were captured and translated into costs for the business model—direct and indirect, fixed and variable.

Adapting based on results

A wide range of repayment behavior emerged among the test customers, making it increasingly clear that two issues must be addressed if JKS was to become viable. First, the customers liked the structure and responded well to a managed program to help them save, but they disliked having what they described as “too intense” intervention from the JKS team. Second, JKS was not a product that suited everyone. This was no surprise, but it followed that good screening and smart targeting would be important in finding the right customers.

With regard to screening, Phase II data showed a strong performance among certain customer types. For example, older women with two or three dependents were typically good about repaying, and they clearly put effort into planning their

finances. Males under age 30 with no dependents were typically bad about repaying. Using various third-party channels to collect basic information, some screening could be done using demographic data collected when customers signed up, but what proved most effective was instituting a “savings plan call” for all prospective customers. This involved the JKS customer services team holding a structured telephone interview with each customer to gauge their response to predetermined questions about their intention to save, their need for a loan, their reasons for saving, the likely timing of their repayment, and so on. This interview was used to score customer’s potential and determine whether or not they should be offered the first loan, but it also provided a key opportunity to establish the tone of the relationship and set out clear expectations before making a first transaction.

Customers also made it clear that a single savings scheme did not always suit their income or aspirations, so a range of savings targets was developed and became part of the initial savings plan call (the phone interview). In essence, the customer was required to set a savings goal ranging from Ksh 15,000 (about US\$150) to Ksh 100,000 (about US\$1,000), which was to be obtained within one year or less. This goal determined the rate at which customers would be expected to make repayments. This is shown schematically in figure 2 (previous page).

To be clear, the loans in JKS were interest free and there were no penalties for failure to repay, but should the customer simply “disappear” from contact, JKS’s last resort was to claim back any outstanding credit from the accumulated savings. Customers’ rate of repayment influenced the level of interaction they had with the JKS customer service team through calls and text messages, but these interactions were intended to remind the customer of the benefits of reaching the next loan stage and to help them prioritize making repayments to build their savings. The JKS team also introduced small cash incentives (paid to the savings account) for customers who achieved their monthly target, thereby emphasizing the carrot and not the stick. Feedback from the customers showed that they liked this aspect of the structured repayment program.

STABILIZING A BUSINESS MODEL

The results from Phase II allowed the team to firm up some of the assumptions in the business model, and confidence grew in the financial projections that were based on observed customer repayment behavior. One example was that most customers gradually increased the size of their repayments in keeping with the larger loans they were receiving. This had not been part of the initial hypothesis, and in fact this behavior indicated potentially lower operating costs than originally predicted (given reduced total number of M-PESA transactions and associated fees).

Customers had also shown what they were willing to accept:

- A one-time, up-front account activation fee
- A transaction charge for each loan that was a fixed percentage of the total principal of each loan, which was deducted from the cash portion before disbursement

Customer Case Study 3: The Need for Speed

Frederick was a JKS customer through Phase I and remained a customer in Phase II of the trial. He repaid his loans at a rate that was typical of other customers, but after a few weeks of the Phase II trial starting, the customer care team noticed a sudden acceleration in Frederick's repayments as he moved through two loan cycles in three days. When they asked why, Frederick said that his daughter had been awarded a scholarship at a well-regarded secondary school. This was a pleasant surprise, given the competition for places at this school. However, there was a condition that Frederick meet some of his daughter's costs. He had to do this on quite short notice and didn't want to miss the opportunity. He felt that JKS offered the quickest way to find the money because he had enough disposable income to move quickly through two loan cycles, which would allow him to draw down the relatively large amount of Ksh 20,000 to meet all the school costs in one go. This example clearly shows the benefits of being in a structured program where the customer determines the pace. Because of examples like this, the JKS team focused on automating a system of "next loan" notification in an effort to build confidence among their customers that they could drive their own progress and would get a rapid response from JKS. Once the accounting system received notification that an individual had completed a loan step, the next loan could be dispersed within an hour, subject to SMS-based confirmation coming back from the customer. Customers routinely cited the speed of response as a strong attribute of JKS.

- A charge for drawing down savings before the full loan/savings sequence was completed
- Half of their total loan held back in savings
- Zero interest on savings, in exchange for paying zero interest on the loan and no nonrepayment penalties

However, sharing our financial model with some trusted advisors quickly raised an interesting debate. Charging a flat fee for a loan that pays zero interest can be translated into a staggering APR. For example, if a customer pays a 5 percent fee (Ksh 100/US\$1) to take a first loan of Ksh 2,000 (about US\$20), plus M-PESA transaction fees at Ksh 10 per repayment, and if he or she takes one month to pay this back, they are paying an equivalent APR of over 85 percent! By any traditional measure, that is a massive cost.

However, a traditional APR is not relevant in assessing the costs and benefits to customers managing their finances in an informal cash economy. In fact, the flexibility of this product is exactly what these customers need, as it offers a small, unsecured loan (50 percent of which is entirely JKS's risk) that is delivered very quickly and with minimal paperwork to a customer's M-PESA account. If a customer takes six months to pay back the loan in full, the equivalent APR is less than 20 percent—a significantly better deal than any "formal" product they can get in

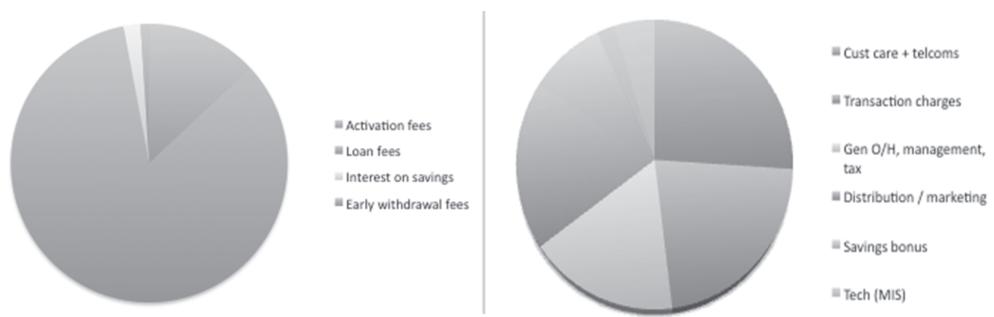


Figure 3. Breakdown of revenue (left) and cost (right), JKS Phase III

Note: From top to bottom, the key entries correspond to pie slices, starting in the top right and continuing clockwise.

the market. Of course, it is important to remember that the customer also builds Ksh 1,000 in savings over the course of the loan, and compared to the available alternatives, a \$1 charge for this rapidly delivered cash was deemed very affordable by more than 90 percent of the customer base.

For a wider perspective on interest-bearing or transaction-charge models, see *Portfolios of the Poor*⁸, but the underlying point here is that the financial service must be relevant to the customer needs and fairly priced to make it commercially sustainable. Transaction-based charging was shown to work for JKS.

CUSTOMER DEVELOPMENT PHASE III: “WHAT’S THE GO-TO-MARKET MODEL?”

The JKS team now had a good idea of the profile of their target customer, had developed a reasonable means of screening for them, and had reasonable confidence that the product would make money. It was time to consolidate the six distinct Phase II cohorts, and to recruit and test the evolved product with a single cohort of users.

So, a final group of customers was recruited, some of them from the Phase II cohorts but many of them new to JKS. By now the team had a good handle on the cost of servicing their customer base and were able to track it using a refined, cloud-hosted customer relationship management and accounting tool. Figure 3 shows the breakdown of the cost and revenue drivers in this phase for a Ksh 25,000 savings plan paid over 12 months.

At the same time, JKS began to appraise the options of how to scale the product quickly in the market. Discussions with representatives of the central bank had made it clear that a deposit-taking license would be required to offer the service, and it would take a long time and be highly capital intensive for MVK to acquire its own license or to acquire a small bank that had one. Therefore, the team focused on developing a suitable banking agency model where a third party could act formally on behalf of a licensed bank to acquire and manage customers but the funds

under management were maintained by the bank. In Kenya, there was no precedent in the regulatory context for an agency model; in fact, draft regulatory guidelines on agency banking were only published in 2010 at the time of the JKS trial.

Results from Phase III began to affirm assumptions made in the revised business model, which stated that to achieve a reasonable return on investment—in this case, a three-year target return on investment of 30 percent—it would be necessary to develop a customer base of around 300,000 over three years, with the bulk of these customers having target savings of either Ksh 15,000 or Ksh 25,000. On paper this was achievable, given the size and growth rate of other microfinance providers in East Africa, but two big issues remained: first, how to get a license to operate, and second, how, with no prior market presence, to build a trusted brand and rapidly increase the customer base.

These two issues were linked: it was not possible to go to scale unless licensed, and building trust was one of the inherent challenges of taking a new product to market. Acquiring customers was manageable on a small scale, but it was a much more complex challenge when trying to deliver large numbers.

ROADBLOCK: VETTING AT LARGER SCALE

With the trial budget now fully exhausted and more than 1,000 customers acquired during the three test phases, plans for a scaled regional trial with about 10,000 customers to build a focused brand presence were developed but are now on ice. This remains an important next step because questions remain about the optimal distribution channel. The MVK team believed that a reasonable model would initially use salaried field officers to attract prospective customers with a basic filter, and a large customer service team could then run controlled interviews over the phone to screen for high-potential customers. On the other hand, there were also signs that JKS could be sold to the employee base of large companies, where it could be offered as a structured employee benefit with the company also contributing, or it could be sold via trusted community groups, such as a church or local cooperative.

After nearly two years of effort, the MVK team has built up considerable evidence that JKS is a product that customers like, its immediate liquidity and convenient savings features solve a real problem, and—most excitingly—it can be delivered to the mass market of low-income customers through the mobile channel.

Nevertheless, finding a partner to conduct a regional trial has been challenging—always the innovator's dilemma! It is not easy to find a licensed operator that is willing and able to allocate sufficient capital, technical resources, and good managers to grow a new business stream that does not sit within core business. At press time, MVK was still searching for an organization with a deposit-taking license to take the lead on regionally launching the business. Taking this next step will help address the remaining questions about the true potential of JKS and, more broad-

ly, about whether the benefits of digital delivery can go beyond cost savings and embrace a potentially rich world of innovative products.

CONCLUSION

In most emerging markets, formal financial services providers have had little success in offering services to people with low, erratic incomes. Today, in most sub-Saharan countries, less than 30 percent of the population is banked. Why has this remained the case for so long? It is because serving this type of customer is not deemed profitable, especially with traditional credit and savings products. Informal schemes have filled the gap, but the digital revolution and the onset of mobile money have changed the landscape as they allow for radical new product innovations. As JKS has proven through consumer-oriented, phased research and testing, it is possible to design products that are commercially viable *and* aligned to needs of the often-ignored low-income market.

The challenge is that only licensed institutions are permitted to take most financial services (and all savings products) to market. In other words, the very organizations that are narrowly focused on serving the most profitable high-income customers, hold the key to unlocking the potential of relevant digital services for the low-income masses—and they are the only entities licensed to so operate. In some ways, this parallels the innovator's dilemma, as it encapsulates the problem incumbents face when having to allocate resources to the next new thing, which typically means serving new customers at lower margins. With a short horizon instilled through a culture of annual performance metrics, it is indeed rational for senior managers in these organizations to avoid pursuing growth in these harder and lower return segments. In markets with lower barriers to entry, change can arise from disruptive new entrants with a focus on these untapped segments; however, as consumer deposits rightly remain a major focus for regulatory protection, innovation in financial services will continue to be inhibited as the changes required rely heavily on the incumbents.

Perhaps what's needed is a new champion of digital money—a licensed deposit-taker, yes, but an entity that can deliberately take relevant, customer-focused, mobile-oriented services to the masses and make a good return on that investment.

Until this occurs, the MVK team will continue to test new mobile-centric financial and nonfinancial propositions across Africa and India. There are many similar products just waiting to be tested and refined, some that go even further in embracing the connectivity made possible by mobile technology. It will be an exciting future if policymakers and regulators stand true to the vision of financial inclusion, if investors continue to realize the potential for major disruptive shifts in the provision of financial services, and if suitable routes to market are created for new providers of relevant financial products.

Acknowledgments

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APPENDIX: THREE PHASES OF IMPLEMENTATION

September 2009–March 2010: Phase I—Hypothesis Testing

- Research high-level concept against perceived customer needs
- Outline a commercial model
- Get regulatory clearance for trial, engage with key partners, recruit the initial team, and create a legal entity
- Prepare basic operating procedures
- Acquire 145 active customers across three locations (urban, peri-urban, and rural)
- Monitor transactions and research customer likes/dislikes

June 2010–January 2011: Phase II—Product Iteration and Customer Discovery

- Adjust product design and launch with 650+ customers across three urban and three rural sites, each cohort having a different set of product attributes, testing:
 1. Proportion of loan saved (1/3 or 1/2)
 2. Loan transaction charge (2%-5%)
 3. Transaction fees (M-PESA) shared or paid by customers
 4. Repayment incentives
 5. Acquisition channels: field officers, M-PESA agents, customer referrals
 6. Customer screening criteria: hone toward target customer profile, test use a “savings call” to filter potential applicants
- Build and run a web-based account management tool that automates key customer interactions and tracks performance and intervention tasks for customer service representatives
- Research options to take to market under regulatory requirement for a deposit-taking license, including potential bank partnerships/agency model

February 2011–August 2011: Phase III—Test Commercial Product and Sales Strategy

- Fix product rules, with clear charges and an overall structure to encourage progress toward a savings goal
- Acquire 200+ customers as a final cohort according to the defined screening criteria, including basic demographics, knowledge of how the product works, and interest in a savings target (finding the “planners”)
- Monitor progress closely with intervention as required

- Find suitable partner to scale-up that has license to operate, or adopt agency model if appropriate

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1. Building a clear hypothesis as to (1) what we want to learn from this iteration and (2) what our hypothesis is as to what will happen; Eric Ries, *Lean Startup*.
 2. Clayton Christensen, *The Innovator's Dilemma*, 1997.
 3. World Bank PovCal stats (2011), using 2005 estimates
 4. For example, Collins, Morduch, Rutherford, and Ruthven, *Portfolios of the Poor*, 2009.
 5. Also called a merry-go-round, whereby participants contribute regularly to a group fund, then take their respective turns to withdraw the total pot once.
 6. MVK is an operating subsidiary of Signal Point Partners.
 7. www.cgap.org/p/site/c/pubs/
 8. See *Portfolios of the Poor*, chapter 5, 'The Price of Money' for a discussion of interest rates as seen from the perspective of the poor.