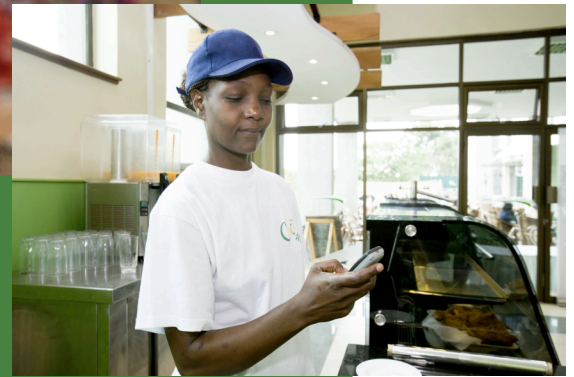


M-Money Channel Distribution Case – Kenya

SAFARICOM M-PESA



In early 2007, the leading mobile operator in Kenya, Safaricom (part of the Vodafone Group) launched one of the most successful implementations of a mobile money transfer service, M-PESA. The product is called M-PESA since “Pesa” is the Swahili word for money and the “M” is for mobile. The service has grown rapidly since launch, and is currently used by over 8 million subscribers.

M-PESA is a SMS-based system that enables users to deposit, send, and withdraw funds using their mobile phone. Customers do not need to have a bank account and can transact at any of the country’s over 11,000¹ agent outlets. Registration and deposits are free and most other transactions are priced based on a tiered structure to allow even the poorest users to be able to use the system at a reasonable cost. Transaction values are typically small, ranging from USD 5 to USD 30.

The service was initially developed by the Vodafone Group which owns a 40% stake in Safaricom and the 6 month pilot phase of the project was partly funded by the UK Department for International Development. The current arrangement between Safaricom and Vodafone Group is a revenue share model where Safaricom controls the on-the-ground operation of the product and Vodafone Group manages the development and delivery of the technical service. An M-PESA Holding Company Limited was registered for the launch of the service and is controlled by directors that are independent of Safaricom Limited. This company acts as a trustee for M-PESA customers and holds all funds from the M-PESA business in trust to ensure that those funds are safeguarded at all times.

M-PESA was the first product of its kind to be introduced in Kenya and is generally viewed as a successful implementation that should be used as a model for other developing countries. This paper discusses the methodology employed by Safaricom and the Vodafone Group during the implementation of M-PESA.

¹ Company Information as of March 2009

Anchor Product or Products

National remittance is the main product offering of M-PESA. Safaricom positioned the product as a fast, safe and easy way to 'send money home'. The service also enables airtime purchase, bill payment, ATM withdrawal and purchase of goods and services.²

Mobile Phone Penetration

Medium – by the end of 2008, mobile penetration in Kenya was 39% or over 15 million subscribers. The subscriber base is expected to rise to 29.28 million, or 66.7 percent penetration, by year-end 2013.

Literacy Levels

High – literacy levels in Kenya are over 90% for males and over 80% for females³

Access to Finance

Medium – In Kenya 38% of people didn't use any form of financial service; formal, semi formal or informal prior to the launch of M-PESA while only 19% of the population had access to formal financial services.⁴ The country has approximately 4 or 5 million bank accounts for a population of 31 million.

Demand for Services

High – due to lack of other competitive money transfer services and the need to reduce dependency on cash for security reasons. Also, national money transfer is a common practice in Kenya especially amongst urban migrant workers wishing to send money back to their families in the villages. Prior to M-PESA many people would have to resort to sending money with someone (possibly a stranger) who was travelling to their village.

Regulatory Environment

Conducive – The Central Bank of Kenya is actively involved in the regulation of mobile money services in Kenya. They have taken an open approach to allowing telecom operators to offer mobile money services without the requirement for bank partnership.

Technology Adoption

Prepared – prior to the launch of M-PESA many Kenyans were familiar with the basic operations of a mobile such as texting and making voice calls. In Kenya, 83% of the population 15 years and older have access to mobile phone technology.

² Pyramid Research: http://www.pyramidresearch.com/downloads.htm?id=18&sc=PR031609_CIRK.

³ CIA – The WorldFactbook

⁴ FinAccess, 2006

Marketing Campaigns

M-PESA has benefited directly from closely binding its product brand to Safaricom's strong corporate brand.⁵ At the time of launch, Safaricom was the only operator offering mobile money services and heavily invested in consumer education through aggressive above the line marketing campaigns. M-PESA's marketing campaigns have proven successful since today most Kenyans know that M-PESA can be used for money transfers.

Ecosystem

Safaricom has developed an extensive agent network nationwide. Currently, there are over 11,000 active cash-in/cash-out points servicing M-PESA. Several large institutions such as Kenya Power and Light Commission (KPLC), Kenya Airways, and Nakumatt Supermarkets also support the product. Safaricom is now carefully extending its agent network with a focus on under serviced or high volume locations.

Competitive Environment

Low – M-PESA was the first mobile money transfer service to be launched in Kenya. The lack of competition enabled Safaricom to capture the market and lead the way. Safaricom's main competitor, Zain, launched Zap in early 2009 as a competitive response to M-PESA.

⁵ Mas, Ignacio and Morawczynski, Olga. 2009. "Lessons from M-PESA." Innovations. MIT Press

Suitability of the Platform

From the outset of the project, Vodafone Group had determined that this product would target the unbanked and therefore the technical platform would need to serve the unique needs of these customers. This included the ability operate in the absence of a consumer bank account and a consumer interface that is compatible with the most basic of phone models. At the time of implementation, most off-the-shelf platforms were largely designed for developed economies and therefore the functionality and experience of these products would not be suitable for M-PESA. As a result of this, Vodafone Group reluctantly made the decision to build their own service even though they knew this option would likely cost more and take longer. The initiative was outsourced to Sagentia which is a British software development firm specializing in new product innovation.

In the end, this decision proved to be well worth the effort. The unique design of M-PESA and its ability to service its target customers along with Vodafone's control over all aspects of the platform is one of the key reasons the service has been so successful.

Trust in the Service

Although Safaricom has an extremely trusted brand in Kenya, initially customers did not easily trust that their money would be deposited by the agents servicing the product. When SMS receipts were delayed or lost, customers would often accuse the agents of fraudulent activity and quickly lodge a complaint with Safaricom. Over time this has improved and customers are now getting used to transacting with agents.

About 4.3% of users have reported that their money was transferred to the wrong recipient and only 1/3 of these users have managed to recover these funds. Although customers perceive this to be the fault of Safaricom, in most cases it is a result of user error. Nonetheless, this type of situation reduces the customer's trust in the platform so Safaricom is working to proactively address these cases and assist users in the return of their funds.

Microfinance Integration Complexity

The initial service scope included integration with microfinance institutions to facilitate loan disbursements and repayments. During the pilot phase of the project, Vodafone Group partnered with Faulu Kenya, a local MFI that lends small amounts to several thousand small business owners, who then repay a few dollars a week into the Faulu bank account. The normal structure for doing so is to form groups of about 20 borrowers who meet each week and submit cash to the group treasurer and he in turn takes the money to a local bank. This may involve a lengthy bus journey and therefore reduces the treasurer's productive working time. M-PESA seemed like an excellent fit for facilitating these payments and could make a significant difference in the lives of these customers.

In practice, a number of obstacles were identified in integrating with Faulu's back-office processes. Many of their reconciliation methods were manual and paper based and reconciling M-PESA transactions in parallel with their existing systems only seemed to add complexity and additional work for Faulu back-office staff. Furthermore, Faulu was not able to maintain a stable internet connection (even though Vodafone provided a dedicated satellite and mast for them), and this was a key requirement for processing back-office transactions. Finally, closer to commercial launch of the service, Faulu became extremely cautious about the stability of the system and the security of its money.

Eventually, Safaricom decided to proceed with a full commercial launch of the service without the microfinance capabilities and Vodafone Group later once again pursued development of a microfinance module for M-PESA with their launch of a similar service in Afghanistan.

Agent Training and Management

One of the key outcomes of the M-PESA pilot was that Safaricom realized how important agent training and management would be to the success of the service. During focus groups conducted with trial participants, their major complaint about the service was the lack of agent availability, understanding of the service and the agent's inability to maintain float liquidity.

During the pilot, Safaricom resources were tasked with refining the training modules and conducting numerous visits to the agents to ensure they understood the importance of their role in providing the service. Despite this effort, agent training and management still needed to be improved.

Safaricom realized that their in-house training team of 4 would not be sufficient for the national launch and so they added a line to the commercial launch budget to outsource agent training and management to a local training firm.

Service Availability

In the early days of the product, system outages were common and SMS transaction receipts were often delayed or lost. Since money transfer is such a sensitive service and building trust in the product is paramount, the team had to find a way to improve service reliability. Redundant connections were installed on the back-end and the team began investigating the possibility of an upgrade to the Safaricom SMSC.⁶ After numerous attempts at troubleshooting the service, the SMSC was finally upgraded and various processes were implemented at Sagentia to proactively identify and treat service outages.

Pricing Structure

As shown in Figure 1, Safaricom is using a tiered fee model where users are charged according to the amount of money they transfer or withdraw. Although this model is useful in ensuring that customers of any demographic can affordably use the service, it can also cause confusion – especially for customers that are less financially literate. Furthermore, the transaction fees are automatically deducted from the user's account when sending money, the customer must be sure to have enough funds to cover the amount they wish to transfer plus the transaction fee. To counter this effect, Safaricom has developed a clear pricing guide that is posted in each agent outlet and ensures that all agents clearly understand the pricing structure so they can explain it to users if necessary.

⁶ SMSC stands for Short Message Service Center and is a network element in the mobile telephone network which delivers SMS messages

Figure 1: M-PESA Tiered Transaction Fee Structure

| Transaction Type | Transaction Range | | Charge (KShs / USD) |
|---|-------------------|------------------|---------------------|
| | Min (KShs / USD) | Max (KShs / USD) | |
| Value Movement Transactions | | | |
| Deposit Cash | 100 / 1.30 | 35,000 / 453.37 | 0 |
| Send Money to a Registered User | 100 / 1.30 | 35,000 / 453.37 | 30 / 0.39 |
| Send Money to an Unregistered User | 100 / 1.30 | 2,500 / 32.38 | 75 / 0.97 |
| | 2,501 / 32.40 | 5,000 / 64.77 | 100 / 1.30 |
| | 5,001 / 64.78 | 10,000 / 129.53 | 175 / 2.27 |
| | 10,001 / 129.54 | 20,000 / 259.07 | 350 / 4.53 |
| | 20,001 / 259.08 | 35,000 / 453.37 | 400 / 5.18 |
| Withdraw Cash by a Registered User at an Agent Outlet | 100 / 1.30 | 2,500 / 32.38 | 25 / 0.32 |
| | 2,501 / 32.40 | 5,000 / 64.77 | 45 / 0.58 |
| | 5,001 / 64.78 | 10,000 / 129.53 | 75 / 0.97 |
| | 10,001 / 129.54 | 20,000 / 259.07 | 145 / 1.88 |
| | 20,001 / 259.08 | 35,000 / 453.37 | 170 / 2.20 |
| Withdraw Cash by a Registered User at an ATM | 200 / 2.59 | 2,500 / 32.38 | 30 / 0.39 |
| | 2,501 / 32.40 | 5,000 / 64.77 | 60 / 0.78 |
| | 5,001 / 64.78 | 10,000 / 129.53 | 100 / 1.30 |
| | 10,001 / 129.54 | 20,000 / 259.07 | 175 / 2.27 |
| Withdraw Cash by an Unregistered User | 100 / 1.30 | 35,000 / 453.37 | 0 |
| Buy Airtime | 20 / 0.26 | 10,000 / 129.53 | 0 |
| Information Transactions | | | |
| Show Balance | | | 1 / 0.01 |
| Change PIN | | | 20 / 0.26 |
| SIM Replacement | | | 20 / 0.26 |

Source: Company Information, 2010

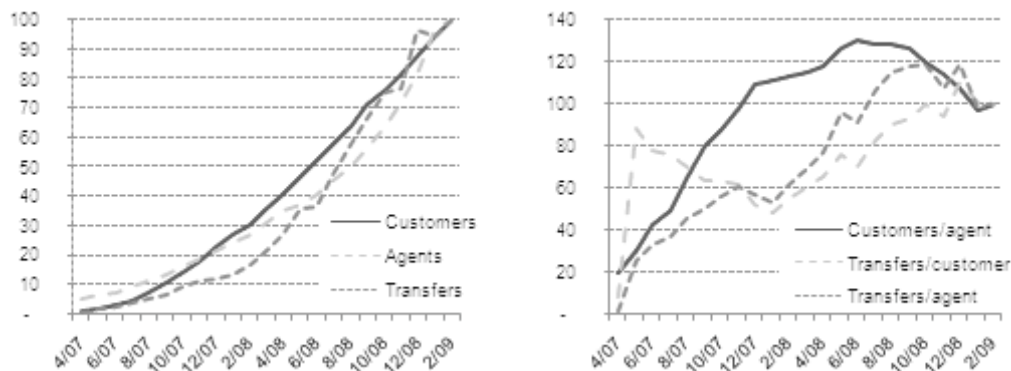
Simplicity

During the pilot phase of the project, Safaricom tested a number of features amongst its trial users and identified one that would be considered a ‘killer application’ – national remittance. The company then focused on building a simple value proposition message around this feature and developed a clear advertising campaign that would deliver this message nationwide. The ‘send money home’ campaign resonated with users and positioned M-PESA as a simple, fast and easy way to move money across the country.

Scaled Roll-Out

Safaricom has been able to consistently scale the number of agents relative to the growth in number of customers and transactions flowing through the system. For the first six months of the operation of the service, the main target for Safaricom was customer growth which easily exceeded growth of the number of agents and transaction value. After that however, the number of customers per retail agent has roughly remained constant and this has enabled a steady growth of profits for the agents. The left side of Figure 2 shows the evolution of agents, customers and transactions, while the right side shows the growth of the key ratios between these variables.⁷ Although Safaricom pursued rapid roll out of the agent network and recognized this as the key to meeting its customer acquisition targets, it was careful not to flood the market with too many agents whose profitability could not be maintained or increased over time. This careful planning resulted in an incentivized and committed agent network.

Figure 2: Scaling agents with customer growth



Monthly Growth in the Number of Registered Customers, Number of Authorized Retail Agents, and the Value of P2P Transfers (Index Numbers, February 2009=100).

Source: Safaricom, 2009

Open Network and Viral Registration

Customers that have registered for M-PESA can send money to non-registered mobile phone users on any network. This capability spurred initial subscriber growth since it enabled early registrants to use the system even when there were few other customers registered. Customers pay a higher transaction charge when sending money to a non-customer than to a customer and the fee structure is designed this way to maximize subscriber growth. This type of fee structure has created a type of viral registration since it provides an incentive for customers sending money to convince recipients to register for the service.

⁷ Mas, Ignacio and Morawczynski, Olga. 2009. “Lessons from M-PESA.” Innovations. MIT Press

When it comes to receiving money, unregistered customers can withdraw the amount received for free (since the sender paid a higher transaction fee to send the money to an unregistered user) while registered customers pay a withdrawal fee of at least Ksh 25 (Figure 1). The reason for this difference is that the sender typically has significant influence over the recipient and therefore the fee structure must make it worthwhile for them to encourage the recipient to subscribe (making future transfers for the sender cheaper) – even with the existence of a cash withdrawal fee for the receiver. Safaricom’s plan to stimulate growth via this pricing structure has worked well, as many rural cash recipients reported that their urban relatives, the senders, persuaded them to sign up for M-PESA.⁸

Market Share

Safaricom is the leading mobile operator in Kenya with over 77% of market share in September 2009 and the most extensive coverage nationwide. Other players include Zain with 14% share, Orange with 6%, and Essar with the remaining 3%.⁹ Safaricom’s dominant position in the market has enabled them access to large base of willing subscribers and this undoubtedly facilitated the rapid uptake of the service.

Technology

The choice of bearer channel used to deliver mobile money transaction receipts in an important decision in the launch of the service since it impacts usability and security. Safaricom chose to use the SIM Toolkit (STK) with SMS delivery. With STK the user has an application on the SIM card which is accessed from the phone’s menu. This offers very high levels of security and usability but does require the SIM card to be swapped. Recognizing that the SIM swap process can be a nuisance for users, Safaricom made sure to streamline the process as much as possible prior to launch and by preparing agents to quickly and effectively complete the procedure.

⁸ Mas, Ignacio and Morawczynski, Olga. 2009. “Lessons from M-PESA.” Innovations. MIT Press

⁹ IHS Global Insight, March 2010

Regulations

Regulatory policy for mobile money transfer services did not exist in Kenya prior to the launch of M-PESA. During the pilot phase of the project, Vodafone Group approached the regulator but at that time the project was too small scale for them to take an interest. As the commercial launch approached, the Central Bank of Kenya began to take a more active interest and several product demonstrations and meetings were held to clarify the unique concept of M-PESA to the regulator. The M-PESA team had done enough due diligence to provide the Central Bank with confidence in the service and eventually the bank confirmed that it had no objection to the service launching. The product was officially launched ten days after receiving this confirmation.

M-PESA is not regulated under a full banking license, so it is essentially operating outside of the traditional banking regulatory environment, but it has been audited by the Central Bank and has received their approval for operation. This is in accordance with the European Mobile Payment Directive, which establishes the role of payment service providers in the financial system. Banks in Kenya are aggressively lobbying the Central Bank to either require M-PESA to adhere to full banking regulations or to halt the service. Safaricom is keen to see the Central Bank implement official regulatory policy that will open up the market for deposit-taking, clearing systems, and know-your-customer rules to incorporate the activities of mobile operators.

The cash collected through M-PESA in exchange for electronic funds is deposited in bank accounts that are held by Safaricom. Since the funds are held in regular current accounts, M-PESA deposits in the banking system are insured under the Deposit Protection Fund managed by the Central Bank of Kenya. However, this deposit insurance only covers up to a maximum of Kshs 100,000 and this means that M-PESA deposits are practically uninsured in the case the bank goes under.

Safaricom and Vodafone have maintained a strong relationship with the Central Bank of Kenya and it is possible that the fact that the Kenyan government owns 35% of Safaricom has made it easier for the regulation to be approved.

Market Research

Prior to the M-PESA pilot, very little research was conducted to feel out the market opportunity. However, during the pilot extensive field research was conducted with trial participants to better understand their needs and reactions towards the product. A formal research study was conducted by MicroSave¹⁰ through interviews with the participants of the trial.

Key findings from this research can be summarised as follows:

- Users were happy with the product and were eager to see it expanded to other areas so they could transact with friends and family
- Prior to using M-PESA, participants were carrying multiple SIMs and were switching amongst them. With the introduction of M-PESA, users were switching SIMs less often
- Users indicated a willingness to pay for the service and cited lack of other competitive money transfer offerings as a key reason for this
- Most customers chose to use the English version of the menu since it was easier to understand (based on this feedback, Safaricom altered the Swahili language menus to be less complex)
- Almost all users complained about service provided by the agents. Hours offered by agents were limited and agents often had insufficient float.
- Agents complained about lack of space in their stores and worries about security as a result of having to keep increased cash float on site

¹⁰ MicroSave was established in Africa in 1998 to address the mono-culture prevalent in East and Southern Africa. For more information visit: www.microsave.org

- The ‘killer application’ of the service was found to be national money transfer although airtime purchase also proved to be popular
- Users identified the benefits of the service as: increased security – not having to carry cash, ability to safely and quickly send money back to family – especially for urban migrant workers, and the ability to buy airtime credit at any moment.

As a result of the interviews conducted during the pilot, Safaricom was able to focus on an effective value proposition for the service and to identify agent management as a key area for improvement.

Pilot Implementation

The M-PESA pilot officially started on October 11, 2005 and ended on May 1, 2006 (although many trial users continued to transact on the system after this date). The pilot consisted of 8 agent stores and nearly 500 trial participants transacting in 3 geographically disperse locations – Central Business District (CBD), Mathare and Thika.

The initial obstacle in the pilot was gaining the agent’s trust and encouraging them to process cash withdrawals. Many agents were hesitant to remove cash from their till based on instructions from a text message. Vodafone countered this problem by providing separate M-PESA cash floats for the agents to transact from. Transactions processed from this float were also carefully recorded in a paper log to help agents keep track of their balances outside of the system.

Another obstacle encountered was the ongoing need for training. The pilot required agents to understand almost all aspects of the system so that they could assist customers with their transactions. Safaricom provided resources to assist with weekly agent visits and consistent refresher training on the system.

Initially, usage of the system was limited and users were only transacting at their weekly Faulu group meetings. However, once Vodafone introduced the ability to buy airtime using M-PESA, transaction volume increased rapidly. A 5% discount was offered on any airtime purchased through M-PESA and this served as an effective incentive. By the first of March 2006, 50.7 million Kshs had been transferred through the system.

The successful operation of the pilot was a key component in Vodafone and Safaricom’s decision to take the product full scale. The learning from the pilot helped to confirm the market need for the service and although it mainly revolved around facilitating loan repayments and disbursements for Faulu customers, it also tested features such as airtime purchase and national remittance.

Marketing Strategy

Safaricom has invested a large amount in marketing and customer education and this is no doubt one of the key contributors to the success of the service. The product is aggressively advertised through both above the line and below the line methods. The initial TV and radio advertisements of the product played on the emotional aspects of national money transfer since they depicted a working son sending money back to his parents in the village. Safaricom also launched with a catchy advertising jingle that resonated with the local culture while explaining the benefits of the product. Safaricom’s ad campaigns proved successful since 42% of Kenyans first heard about the product through adverts while 30% heard about it through TV and radio commercials. A further 25% of users then responded to word of mouth as they heard about M-PESA from friends and family members.¹¹

Branding is an important component of the marketing strategy. M-PESA has benefited directly from closely associating the product brand to Safaricom’s strong corporate brand, which is associated with people’s idea of a modern Kenya and plays on nationalistic sentiments. A distinct M-PESA sign is distributed to each retail shop and retail agents are required to display prominent corporate branding. Some even paint the entire store “Safaricom green” to make it easier for customers to locate the service.

¹¹ FSD Kenya, M-PESA Study, 2007

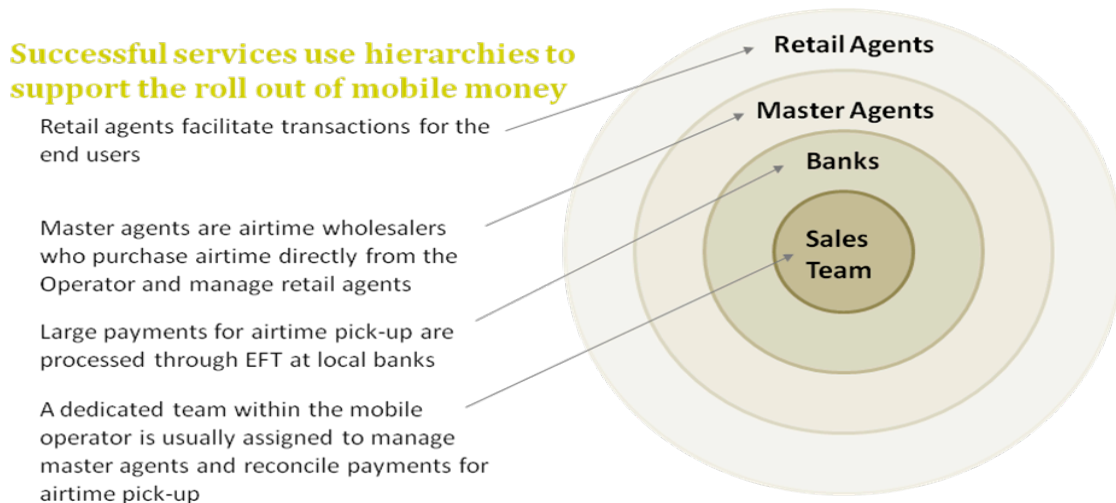
Since Safaricom is the dominant mobile operator in Kenya with over 79% market share, M-PESA was a fundamental part of their strategy to increase stickiness and reduce churn through value-added-service offerings. The launch of M-PESA encourages users to keep the Safaricom SIM in their handset and reduces their willingness to switch to the competitor. For this reason, the operator did not hesitate to invest heavily in the marketing campaign and to support the product from even the highest levels within the organisation.

Network Development

Safaricom relies on its extensive airtime distribution network to build out the agent network. The entire network follows an agent aggregator model as illustrated in Figure 3.

At the top of the hierarchy are master agents who are mostly Safaricom's own dedicated airtime resellers, but can also include large organizations such as Group 4 Securicor, branches of Equity Bank, and some larger supermarket chains such as Nakumatt. The next level in the hierarchy is made up of retail agents that are attached to and managed by approximately 300 master agents. A single agency agreement is signed with a master agent who in turn recruits multiple outlets to act as M-PESA retail agents. This approach has allowed Safaricom to very quickly increase the number of M-PESA retail agents by signing agreements with a limited number of master agents.

Figure 3: Agent Aggregator Model



Source: Paradigm Solutions & Consulting, 2009

Master agents that resell airtime are required to become exclusive to Safaricom (i.e. they are not allowed to sell products of other mobile operators), which gives Safaricom more control over the services they provide. In the aggregator model, Safaricom and its master agents are targeting social places with high traffic such as eateries and entertainment spots.

A recent tweak to the aggregator model has enabled the integration of M-PESA services into the banking system. In this model, bank branches manage cash and M-PESA float balances for a group of non-bank M-PESA retail agents but do not serve a customer facing role. However, customers are able to transfer funds between their bank accounts and their M-PESA accounts, usually through ATMs.

Within each M-PESA master agency, there are two key roles:

Head Office – At the head office level, managers have the responsibility for ensuring each of their stores have enough float to carry out M-PESA transactions. The head office is able to view the accounts of all of its stores or retail agents. Head offices can also collect the commission that accrues in the commission account and deposit it into their bank account.

Store – Multiple stores or retail agents can belong to a head office and these locations are customer facing. A store can register customers, accept cash deposits, and process cash withdrawals.

Within the team that runs M-PESA, there are resources dedicated to identifying new master agents and facilitating the process of registering them. Safaricom then works with an external training firm to manage the extensive agent network.

Selection Criteria

Since Safaricom currently has over 11,000 retail agent outlets nationwide, it pursues a strict set of guidelines to ensure that the growth of retail agent outlets continues to meet customer subscriber levels and needs. Safaricom requires that master agents:

- Are able to conform to branding and merchandising requirements
- Can maintain a float of 100,000 Kshs per store (approx. USD 1,290)
- Employ staff with a minimum KCSE¹² to handle the service
- Are able to provide technical equipment including: 1 Computer with at least 512 MB with Windows 2000 and ancillary equipment approved by Safaricom, Internet connectivity with good connection speeds, 1 printer for printing downloaded reports, a telephone line either landline or mobile for contact and official email address
- Non Safaricom airtime dealer outlets are required to be registered limited liability companies with at least 3 outlets able to offer M-PESA services
- The companies should have a presence in at least 2 provinces outside of Nairobi (with exception of the Head Office)
- Companies should provide at least 2 people to handle head office operations on a day to day basis (but not on a full time basis)

Since Safaricom does not have a direct contractual relationship with the retail agents, they do not specify requirements for these individual outlets. The master agents are responsible for ensuring that the retail agents in their hierarchy meet any requirements to enable the master agent to continue to provide quality service to end users and to comply with the regulations set out by the Central Bank of Kenya and Safaricom.

Roles & Responsibilities

M-PESA retail agents are responsible for registering new customers and facilitating cash deposits and withdrawals. Retail agents often play a key support role for customers as well, since they are able to quickly and easily contact M-PESA Customer Care.

Retail agents are required to follow strict KYC and AML practices during new customer registration and to validate a customer's identity during each transaction using the national ID card presented by the customer. Transaction limits are set at 35,000 Kshs (approx. USD 450) per day for cash deposits, transfers and withdrawals and at 10,000 Kshs (approx. USD 130) for airtime purchases.

Retail agents are also required to record transactions in a paper log book. For each transaction, the agent enters: the MPESA balance, the date, agent ID, transaction ID, transaction type (customer deposit or withdrawal, agent cash rebalancing), value, customer phone number, customer name, and the customer's national ID number. Most of this information is copied from the confirmation SMS that the agent receives. Customers are then asked to sign the log for each transaction, which helps to discourage fraud. The log book is branded by Safaricom and all retail agents use the same format.

Value Proposition

The value proposition for M-PESA agents is quite clear and includes the following characteristics:

¹² KCSE stands for the Kenya Certificate of Secondary Education, which is taken at the completion of Secondary Education in Kenya

Revenue: Revenue on M-PESA transactions is on average 4.3 times greater than that of airtime commission earned by agents. For master agents with a large number of M-PESA outlets this translates into a significant opportunity. In the case of one retail agent in Kisumu, M-PESA is extremely profitable due to his prime location. This agent processes 256 transactions per day and makes on average a profit of USD 27. However, when compared to smaller outlets the benefits are not so obvious. Another retail agent in Musoli loses on average USD 0.40 per day in M-PESA transactions since his costs to maintain the float and manage staff exceed the commission he earns on transactions.¹³

Increased Footfall: Retail agents also earn additional revenue since M-PESA drives traffic into their place of business and this serves as an opportunity for them to increase their bottom line.

Branding: Safaricom has an extremely strong brand presence in Kenya and retail agents feel that co-branding with Safaricom has an overall positive effect on their business.

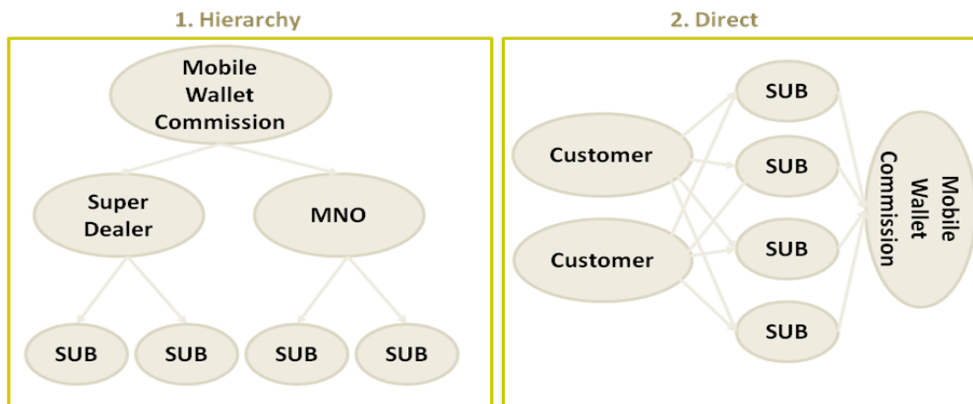
Commission Structures

Incentivizing the agent network is an essential component to ensuring their co-operation and ongoing commitment to delivering quality service. The operator must recognize that the cash-in/cash-out points are the face of the product and customers need to have a good experience at these points in order to earn their trust and continued use of the service.

Initially, implementing an attractive agent commission model can be costly but as the volume of transactions increases, the investment pays off. There are two types of commission models that are typically used in mobile money services (Figure 4). Commissions in the Hierarchy model are set by the operator and trickle down through agent network on each transaction. In the alternative model, known as the Direct model, the cash-in/cash-out fees are recommended rather than set. This allows the customer to negotiate transaction fees with individual retail agents.

¹³ Pickens, Mark and Rotman, Sarah and Mas, Ignacio and Morawczynski, Olga, 2009. "Agent Economics: M-PESA". CGAP

Figure 4: Commission Models Used in Mobile Money Implementations



Source: Paradigm Solutions & Consulting, 2009

M-PESA uses the Hierarchy model and master agents typically get around 30 percent of the total agent commissions paid by Safaricom, with the retail agents getting the remaining 70 percent. Each master agent is also responsible for paying M-PESA commissions to the retail agents. To help the master agents manage retail agents' liquidity and commissions, Safaricom provides a website where they can access information on all the transactions made by their agents. The system contains tools that enable master agents to move electronic value around their own retail stores.

In a study conducted by CGAP, they found that M-PESA generates 4.3 times more gross revenue than airtime commission, however, when you factor in the costs of running M-PESA (such as maintaining liquidity which makes up 30% of agent costs), the ROI on the service is actually much lower than airtime (97% for M-PESA versus 373% for airtime).¹⁴ This indicates that the ability to drive a large volume of transactions is important and that there is an opportunity for Safaricom to increase the value for agents by addressing key issues such as liquidity management.

¹⁴ Pickens, Mark and Rotman, Sarah and Mas, Ignacio and Morawczynski, Olga, 2009. "Agent Economics: M-PESA". CGAP

Agent Commissions

| Transaction type | Transaction range KShs / USD | | Agent commission KShs / USD |
|--|------------------------------|-----------------|-----------------------------|
| | min | max | |
| VALUE MOVEMENT TRANSACTIONS | | | |
| Deposit Cash | 100 / 1.30 | 2,500 / 32.38 | 10 / 0.13 |
| | 2,501 / 32.39 | 5,000 / 64.77 | 10 / 0.13 |
| | 5,001 / 64.78 | 10,000 / 129.53 | 15 / 0.19 |
| | 10,001 / 129.54 | 20,000 / 259.07 | 20 / 0.26 |
| | 20,001 / 259.08 | 35,000 / 453.37 | 40 / 0.52 |
| Withdraw Cash | 100 / 1.30 | 2,500 / 32.38 | 15 / 0.19 |
| (registered or non-registered user) | 2,501 / 32.39 | 5,000 / 64.77 | 25 / 0.32 |
| | 5,001 / 64.78 | 10,000 / 129.53 | 35 / 0.45 |
| | 10,001 / 129.54 | 20,000 / 259.07 | 60 / 0.78 |
| | 20,001 / 259.08 | 35,000 / 453.37 | 70 / 0.91 |
| Commission per M-PESA customer registration | n/a | n/a | 0 |

Commissions are inclusive of VAT & with-holding taxes where applicable

Liquidity Management

Liquidity management is a significant concern in the telecom operated mobile money model. When customers are unable to make transactions due to agents' lack of liquidity, the service is less useful and this can lead to a deterioration of trust and reliability in the entire system.

Safaricom uses an agent hierarchy (Figure 3g) to facilitate liquidity management. Master agents buy and sell M-PESA electronic value from the retail agents, giving the retail agents the means to balance their relative positions in M-PESA electronic value and cash on a day-to-day basis. Master agents create accounts in banks that are located near their retail agents, and the retail agents usually visit the nearest bank branch daily to either deposit or withdraw cash from their account. In other cases, the master agents will physically collect or drop off cash to retail agents. In this way, master agents help to balance out the net cash requirements of the various agents within their hierarchy and thereby provide ways to move money from retail agents in areas with net cash in (i.e., they experience more deposits than withdrawals) to retail agents in areas with net cash out. Safaricom mandates that each master agent be present in at least two provinces to increase the chance that the net cash requirement will balance out at the master agent level.¹⁵

Agency head offices can also transfer float between stores as another mechanism to manage cash floats. In this case an agency operator makes a transaction from one store's float account to another store's float account. The M-PESA system authorises the transaction if funds are available and the rules on both accounts can be met. An agency manager then finalises the transaction after checking the transaction details and the second store's float account receives the funds after the transaction has been finalised.

Despite Safaricom's sophisticated agent structure, liquidity remains to be one of their top concerns. In a field study conducted by FSD Kenya in 2008, 20% of users reported that they could not withdraw money

¹⁵ Mas, Ignacio and Morawczynski, Olga. 2009. "Lessons from M-PESA." Innovations. MIT Press

from an M-PESA agent and 70% of these users stated this was because the agent lacked funds.¹⁶ An agent in Malaha, a small village in Western Kenya, commented, “almost every day I ride my bicycle to Kakamega to top-up my float. This takes me almost three hours. I have to leave at 6am because I want to be there when the bank opens. I must then come back again and serve my customers”. When asked if there was any other means of transport to Kakamega, the agent shook his head. He said that he was several kilometres away from the main road. He also said that he could not afford to pay the 200 Ksh (USD 2.50) fee for the matatu (shared taxi).¹⁷

¹⁶ Pulver, Caroline, 2009. “The Performance and Impact of M-PESA”. FSD Kenya

¹⁷ Rosenberg, Jim, 2008. “Why has M-PESA become so popular in Kenya?”

Agent Training

Safaricom provides two forms of agent training. The first is the initial training session when a new agent is brought on board. This session is in depth and covers all aspects of the operation of the platform and the requirements for AML and KYC compliance. The team that manages M-PESA has a dedicated department to provide current training materials and to facilitate training sessions. The second form of training happens in the field and is provided by an external agency that has been hired by Safaricom to travel around the country and provide refresher sessions for master and retail agents.

Master agency head office and retail agents are provided with different training material that is specific to the role they are required to fill. Head office staff are required to attend a 1 day training program in the Safaricom offices. For a sample agenda of this 1 day training program please refer to Appendix A.

Vodafone and Sagentia have developed extensive documentation and resources that assist the local on-the-ground teams at Safaricom and the external agency to develop training modules. Each function within the system is documented with screenshots and step-by-step instructions for operations. Vodafone has also provided a training system that mirrors the production system so users and staff can practice operations before they perform them on the live system.

Network Management

Safaricom's use of the agent aggregator model has reduced the complexity of agent management since they do not have to deal directly with thousands of outlets spread out across the country.

Safaricom uses an external agency management firm with over 50 staff supporting the product to train and manage master and retail agents. However, Safaricom also relies heavily on their internal sales force to monitor the training programs and adherence to service policies through monthly on-site visits. Each retail agent (and subsequently their master agent) is rated on a variety of criteria, including their ability to manage cash floats, visibility of branding, and the quality of record-keeping and processes followed. The agents are scored on each item with either pass or fail. Agents are not penalized on the basis of these scores; instead, the intent is to trigger appropriate conversations with the agent when something is not working well and to motivate the agents to make improvements.

The external agency supporting M-PESA is mandated to:

- Train Agents: Effectively train staff in new agent outlets on how to successfully operate M-PESA and on AML procedures.
- Deliver Point of Sale Material: Responsible for the delivery of all resource materials including agent tills, transaction log books and registration forms.
- Brand Outlets: effectively provide and put up merchandising materials in all the M-PESA shops including stickers indicating the agent number, notices to customers, tariff posters and signage.
- Manage Inventory: monitoring of float and SIMEX¹⁸ availability
- Visit Shops: visits to all the M-PESA shops in the country to follow up on issues that can affect M-PESA operations.
- Provide Marketing Assistance: supervise and manage M-PESA marketing activities to ensure value addition to both the customers and Safaricom as an organization. These activities include road shows, promotions, conferences etc.

Risk

Safaricom has invested a significant amount of resources in mitigating risk and the possibility of fraudulent transactions. Michael Joseph, the CEO of Safaricom claims that "Suspected or actual fraud stands at less

¹⁸ SIMEX are SIM cards without associated phone numbers. When customers lose their SIM but wish to keep their old number the SIMEX card is used to transfer the customer profile

than 0.006 per cent of all recorded transactions with a downward trend,"¹⁹ The number of attempted fraudulent transactions has been rising since the launch but most have been unsuccessful. In a recent case, fraudsters sent themselves fake M-PESA messages indicating that the recipient can withdraw up to Ksh 35,000 (approx. USD 450) and then visited an agent to withdraw the funds. The message looked exactly like the authentic M-PESA confirmation message, but the code provided in the message was false and this helped the agent detect the fraud and report it to Safaricom.

When developing the platform, Vodafone also invested heavily in implementing security features to preserve trust in the system. Every transaction is traceable and tools have been provided to Safaricom to monitor suspicious activity. Customers use a PIN when processing transactions and are required to repeat a secret password when they call customer care. All transactions are securely encrypted by the SIM application toolkit so there is little risk of interception when the messages are being transmitted.

Reconciliation between the M-PESA system balance and the bank account where cash is held is done through a careful procedure that requires multiple members of the M-PESA team to validate and sign off daily.

In early 2008 the Central Bank of Kenya announced that they would be performing a full audit of the M-PESA system and Safaricom welcomed this with open arms. After months of closely following M-PESA procedures and monitoring transactions, the Central Bank was satisfied with the operation of the system.

Staff Requirements

Safaricom has developed an impressive local team to manage M-PESA operations. The team consists of over 20 individuals from Finance, Customer Care, Product Management, Sales and Marketing that are dedicated to ensuring M-PESA runs smoothly. In addition to the Safaricom team, the external agency hired to manage the agent network regularly relies on over 50 staff to train and visit agents.

Vodafone Global Services has also developed a wide-scale team that is dedicated to supporting M-PESA in countries where it has already launched as well as the on-going development and roll out of the service in other countries. Vodafone still relies on a team from Sagentia to support the technical maintenance of the platform.

Customer Training & Support

Although many Kenyans were familiar with the basic operations of a mobile phone, such as texting and making voice calls, the concept of using a mobile for financial transactions prior to the launch of M-PESA was completely foreign. Access to financial services is minimal in rural areas of Kenya and therefore financial literacy amongst the majority of the population is low.

During the pilot phase of the project, this issue became clear since numerous training and refresher sessions were required to familiarize the trial participants with the service. For those users who were unfamiliar with mobile phones, the training required was even more extensive. The first half of any training session was taken up by explaining the concept of a menu, instructing them on how to find the M-PESA menu and by practicing the steps required to enter and exit the application, etc.

This early experience with the product translated into a key learning for Safaricom and the company allotted a portion of the marketing budget to consumer education and awareness campaigns. Simple brochures have been drafted with color illustrations and clear instructions to familiarize customers with the operation of M-PESA. Safaricom has also used its external marketing resources to run road shows and consumer education campaigns in the rural areas of Kenya. Furthermore, the product has been positioned as a way of transferring money, so as not to confuse it with a traditional banking service.

¹⁹ Kinyanjui, Kui, March 2010. "Technology Savvy Fraudsters Prey On M-Pesa's Runaway Success". Business Daily, Kenya

In order to support the service, Safaricom provides a dedicated M-PESA call center where users can reach an agent 24/7 for any queries related to the service. Customer care agents usually spend most of their time taking calls from customers who need help understanding their transaction history or who would like to confirm that their transaction was processed (even though they have received an SMS receipt from the service).

Although users are generally satisfied with their M-PESA experience, 67% of users say customer service needs to be improved. They would like customer care to be faster at answering their calls, quicker to resolve issues and overall more accessible.²⁰

²⁰ Pulver, Caroline, 2009. “The Performance and Impact of M-PESA”. FSD Kenya

Appendix A

Head Office Training Guide

| | |
|--|---|
| Agency Head Office Web Training (1) | <p>Introduction to M-PESA Agencies</p> <p>Role of an agency store within M-PESA</p> <p>Description of a typical Agency Organisation structure: tills, assistants, stores, head office.</p> <p>Description of what a Store's job is – customer withdrawals/deposits, customer registration</p> <p>Demonstrate customer-assistant interaction</p> <ul style="list-style-type: none">✓ Send Money (Transfer)✓ Send Money (Unregistered)✓ Cash Voucher✓ Withdrawal✓ Deposit <p>Introduction to the Web</p> <ul style="list-style-type: none">✓ Role-play with handsets in previous section - view transactions created on the web. Focus on Float account balance (for a cash deposit, float account balance increases; for a withdrawal, float account balance decreases).✓ NB: First screen they see is the agency store's account and the transactions just done <p>Familiarisation with the Web Site</p> <ul style="list-style-type: none">✓ How to Log In✓ Overview of the Navigation Menu items✓ Overview of the Home Page items (brief at this point! More detail later)✓ View the Agency Organisation structure |
| Agency Head Office Web Training (2) | <p>Managing float levels</p> <p>Describe float management process that agents are required to perform. Describe the fact that float accounts have warning limits and critical limits when the float account balance is too low or too high, and that Agency Head Offices must keep the float balance between the limits for each store.</p> <p>Demonstrate:</p> <ul style="list-style-type: none">✓ Moving money between float accounts by web✓ Moving money between float accounts by handset✓ Show the transactions in the account statement in both situations. Also show the SMS that the primary till receives when float management has happened.✓ Use a customer phone to do a large deposit at one store and a large withdrawal at another store. This will ideally move both store floats over their warning limits.✓ Demonstrate the warning flags that appear. Possibly extend further and hit the critical limits. Explain what will happen if they don't take action immediately here (that Finance team are also monitoring this) <p>Paying money into the M-PESA bank account, when the head office must top up their overall float rather than transferring between stores.</p> <p>Demonstrate (without confusing too much!) how finance see the transaction in the bank account and will transfer M-PESA funds to the Agency Head office</p> <p>Explain that they are responsible for distributing the funds to their stores appropriately to keep the float correct.</p> <p>Withdrawing money from the M-PESA bank account</p> <ul style="list-style-type: none">✓ How to request a withdrawal (NB: to do this, they will have to do 2 transactions. 1 – move money to HO M-PESA account, 2 – request withdrawal)✓ What will happen when Finance team receive that request (timescales) <p>Commission Payments</p> |

- ✓ When will they be paid (M-PESA management team make this payment monthly?)
- ✓ Where will they be paid to (all store commission paid to head office M-PESA account)
- ✓ What can I do with the commission payment (use it to top up my float, request a cash withdrawal.) In the future, commission can also be used to purchase airtime.

Agency Head Office
Web Training (3)

When will a Head Office need to contact Customer services?

If HO aren't able to do float management themselves. For example, there is no network coverage (so Head Office terminal can't be used) and the HO also have an internet connection problem (so can't use the website).

- ✓ Role-play a call with BSR. Demonstrate how it will work. Explain a possible short delay (because 2 personnel are required: one to request the transaction, the other to confirm). BSR should be able to estimate the time required.
- ✓ Explain text sent to the Store Primary till when the float management transaction confirmed, exactly as when the Agency does it themselves.

HO wants to request a change in their warning/critical float limits.

- ✓ Is a demonstration necessary here? Possibly to warn them that these requests will not be automatically actioned, merely entered as a request, and that the request will later be actioned/rejected by management team.

If HO aren't able to request a withdrawal themselves

- ✓ Similarly to float management via BSR, Withdrawals can be requested via BSR. Once requested, the actual withdrawal will happen in the same way as if the Head Office had requested it themselves.

When will M-PESA contact you?

- ✓ When the float for any one of your accounts reaches a critical limit the finance team will be alerted. They will contact you directly and will advise on the correct course of action. However you should not wait for them to contact you, rather manage your float correctly before critical limits are reached.

34 Wrap-up session – Questions, Review, repeat of demonstrations