



Mobile Money for the Unbanked

Platforms for Successful Mobile Money Services

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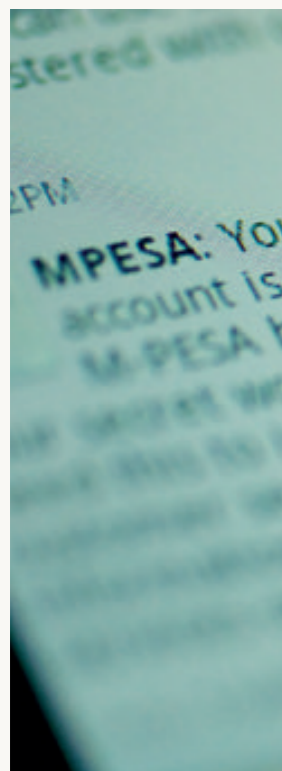
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Executive Summary

IN THE EARLY DAYS of the mobile money industry, mobile money platforms lacked sufficient functionality and capacity. A number of high-profile mobile money services were unable to scale up their platform and meet the capacity demands of mounting numbers of customers, bringing their growth to a screeching halt. Many others found their platforms had inadequate functionality to meet their strategic and operational vision of mobile money. This became clear when the second round of RFPs for mobile money platforms was recently issued: half of GSMA's 14 "mobile money sprinters"¹ are in the process of migrating or are planning to migrate their platforms.

Many MNOs agree that mobile money platforms were selected in haste during the first wave of deployments and that, in the rush to get the service to market, not enough time was devoted to the RFP process. The result has been unsuitable platforms, badly defined roadmaps, and uneasy relations between MNOs and their vendors. Vendors, for their part, did not always have the expertise or resources to turn around developments in a timely fashion, compounding the problem.

There is no magic formula to driving an industry forward. Only time, experience and growing consumer demand will produce mobile money services and platforms that deliver comprehensive functionality and stable solutions. Mobile money continues to grow: today 100 new services are planning to launch all around the world. This paper is based on extensive research of mobile money service providers and platform vendors, and aims to help service providers identify the functional and technical features they require for a platform to meet their business needs. The paper reviews what makes mobile money a unique type of service for MNOs, identifying the main features of a mobile money platform and the important functional and technical aspects to consider when entering the mobile money industry. Finally, there are guidelines for MNOs seeking to issue and evaluate an RFP for a mobile money platform.

HALF OF GSMA'S 14 "MOBILE MONEY SPRINTERS" ARE IN THE PROCESS OF MIGRATING OR ARE PLANNING TO MIGRATE THEIR PLATFORMS

¹ Sprinters are the world's most successful mobile money services, see Claire Pénicaud (2013), "State of the Industry: Results from the 2012 Global Mobile Money Adoption Survey," GSMA Mobile Money for the Unbanked Programme.



PART 1:

Introducing mobile money platforms

MOBILE MONEY IS MORE COMPLEX THAN VAS

More and more, mobile network operators (MNOs) are seeing mobile money as a revenue stream in its own right and not just as a way to generate indirect revenues from churn reduction. This new perspective was revealed in the GSMA 2012 Global Mobile Money Adoption Survey, in which four mobile money sprinters – the fastest growing providers in the industry – reported that mobile money accounted for more than 10% of overall MNO revenues. Fast growing mobile money services that the MMU have worked with while researching this paper all reveal a change in MNO mind-set; mobile money is now being treated internally as a service and no longer as a product. The industry is maturing, and the survey revealed a clear shift in the way mobile money sprinters are approaching mobile money. These MNOs are realising that, unlike airtime, mobile money is not a stand-alone product that they can

simply sell and walk away from. Instead, they are beginning to treat mobile money as a unique service that requires much more attention. It is not simply a value-added service (VAS) or intelligent network (IN) extension, but an entirely new line of business that leverages an MNO's distribution networks and demands extra care and attention such as additional and dedicated resources to succeed.

THE EVOLUTION OF MOBILE MONEY PLATFORMS

Most early mobile money platforms were simply more advanced airtime recharge platforms. This was true of mobile money pioneers Utiba, Telepin, Comviva and eServGlobal; with only Fundamo's offering being a service-specific development. An airtime platform consists of a core transactional engine which allows the initial loading of the recharge amount and then



the debiting of that amount through voice, text or data usage. An advancement of this simple platform was airtime sharing or transfer among friends.

However, mobile money services are of course vastly different:

- When mobile money is spent, it is not “used up” like airtime. Rather, the person who receives the transfer, in turn transfers it to another person, business, or other payment recipient. Therefore, a mobile money platform has many more use-cases, many more stakeholders and the frequency of transactions takes on a different aspect.
- Mobile money transactions are sensitive and must be completed fully, correctly, and quickly. A traditional VAS is not as sensitive and it is acceptable for a conventional SMS to be delayed, but a mobile money transaction request or response carried over SMS must always be delivered on time. Agents cannot and will not hand over cash until they have received an SMS confirming that the “cash-out” transaction has been completed successfully. Nor can an agent afford to wait several minutes for the SMS to arrive whilst the queue in the store grows longer and customers grow impatient.
- VAS nodes are more straightforward; there is no need for multiple distribution levels, numerous interfaces to other core elements, or financial regulations governing what is and what is not allowed.
- The core technical requirements for a mobile money platform are essentially the same across different markets, but some customisation is necessary because local regulations and consumer propositions vary.

MOBILE MONEY PLATFORMS: THE NEED FOR INVESTMENT

Another issue with first generation mobile money platforms was the level of upfront investment required. When many mobile money services first launched, there was little evidence of how much revenue mobile money would generate and there was a fear of capital expenditure (CapEx) exposure. This led mobile money services to opt for

more basic platforms that allowed them to get their service to market quickly. However, the downside of this approach was that each new change request was costly and the functionality that was inadvertently omitted from the platform became costly and time consuming to add on an on-going basis. The result was that early platforms were often unable to offer stability or grow alongside consumer demand.

THE EVOLUTION OF A SERVICE

MNOs are beginning to have the realisation that

Wow, I am now a Payment Service Provider and not a product seller....! I'll need to send a bill.

Vincent Kadar, CEO, Telepin



PART 2:

Technical features of a mobile money platform

MATCHING FUNCTIONALITY WITH BUSINESS STRATEGY

The importance of making the right technology choices from the outset cannot be overstated. Mobile money technology is the building block upon which everything else depends: distribution, business processes, and organisational structure. When the technology performs properly, it exists in the background and delivers functionality based on the mobile money service strategy. Ultimately, it is a sound commercial strategy that determines the success of the service, not the technology.

A top-down strategy should be followed from the very start and should take into account the customer proposition, the desired product mix, and how the service will be delivered alongside the core MNO business. For MNOs new to mobile money, it is important to remember that they

are responsible for holding and moving customers' money around, and that mobile money customers are quite often interacting with financial services for the first time and depend on it performing exactly as they expect it to.

The section on figure 1 details the technical elements that must be considered when launching a mobile money service and developing an RFP for a mobile money platform. It is important that the platform choice and the RFP process are not rushed and that the decision is sound and reflects the overall business strategy.

INITIAL PLATFORM DECISIONS

The first decision a service provider needs to make is where the platform will sit. The hosting environment is where the service is physically housed. Traditionally, MNOs prefer to host their platforms in their own data

THE CORE TECHNICAL REQUIREMENTS FOR A MOBILE MONEY PLATFORM ARE ESSENTIALLY THE SAME ACROSS DIFFERENT MARKETS, BUT SOME CUSTOMISATION IS NECESSARY BECAUSE LOCAL REGULATIONS AND CONSUMER PROPOSITIONS VARY.

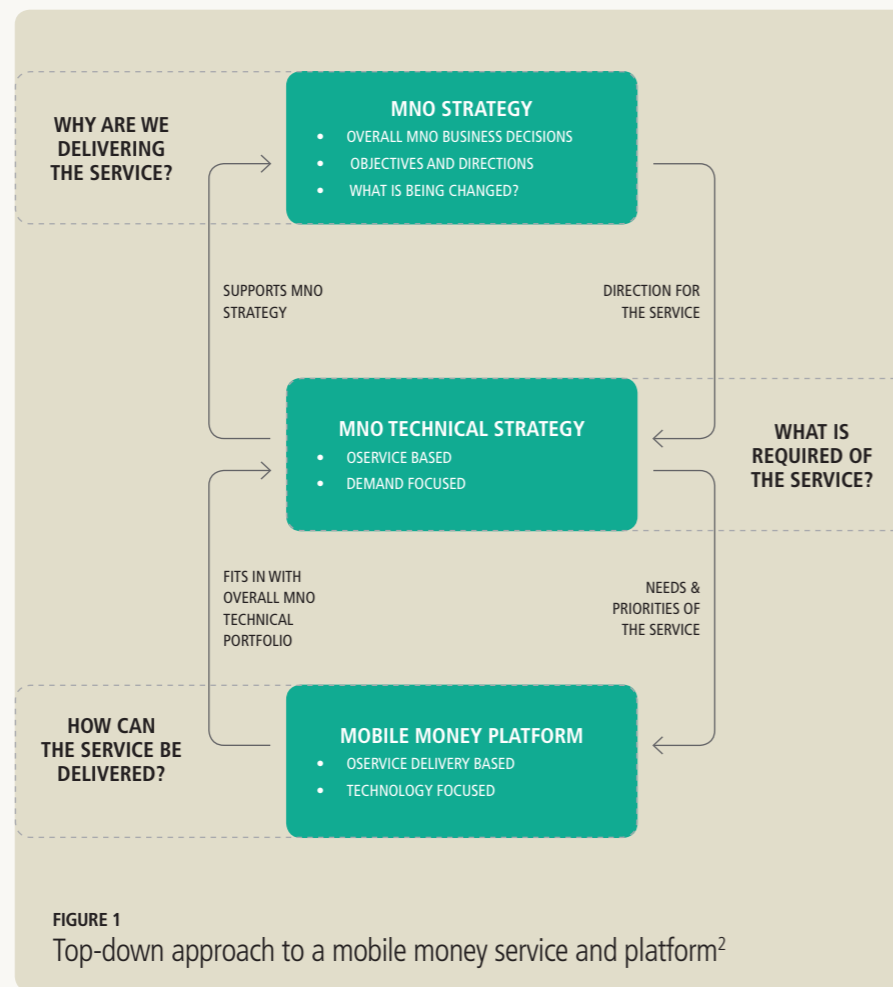


FIGURE 1
Top-down approach to a mobile money service and platform²

centre, but given the emergence of cloud-based services and Software as a Service (SaaS), platforms can be hosted externally and linked back to an MNO's data centre. Hosting decisions are critical: smaller MNOs may choose an externally hosted solution to reduce set-up costs, whereas larger MNOs that are part of a group may prefer in-house hosting. The costs and benefits of both options are presented in Table 1.

REGARDLESS OF WHICH HOSTING SOLUTION AN MNO CHOOSES, IT MUST CONSIDER A NUMBER OF OTHER KEY PLATFORM ISSUES:

- **Platform redundancy:** This is especially necessary for a mobile money platform where financial value is stored and moved. The switchover from live to back-up node must be seamless.
- **Disaster recovery:** The rapid recovery from a failover or outage is critical and must be integrated into any service design.

- **Service-level Agreement (SLA):** Any contract with a vendor should include details governing items such as functionality definitions, connectivity, user / vendor responsibilities and obligations, technical support arrangements, escalation procedures, platform availability, and penalties for non-compliance. These last two items are especially important and provide recourse for the MNO if there is a service outage. (In early deployments this part of contractual discussions was often rushed.) In return, the vendor will require an SLA with the MNO for signalling and SMS / USSD delivery. These issues are equally important in the case of a third party supplier that provides the links to an externally hosted solution; the mobile money service provider would have their own contract with this supplier.
- **Capacity planning:** The most successful mobile money services have

experienced periods of rapid growth that have strained the capacity of their platforms. In late 2011, Uganda's MTN Mobile Money suffered lengthy downtime as a result of necessary service upgrades, proving how vulnerable capacity is to weak components.³ Service usage must be forecasted and included in the capacity planning for a mobile money platform, and all supporting services and vendors should be aware of these figures.

- **Change request management:** Mobile money is a young and dynamic industry and it is inevitable that many changes will be made to the service over its lifetime. Change requests are a source of frustration to both MNOs and vendors since they incur delays and expense and divert resources from more strategic developments. The better the RFP and its evaluation, the fewer changes will be needed. Indeed, if a strong MNO-vendor part-

nership is established during the RFP process, managing future changes will be less challenging.

- **Roadmap:** The roadmap must be driven by commercial requirements to provide added functionality, capacity improvements, and operational cost savings. Gathering detailed requirements and documentation are extremely important in this nascent industry where there are few best practice standards to be emulated.
- **Platform environments:** It is common for telecommunications vendors to provide both a live platform and a staging platform. The live platform handles traffic while the staging platform is used to test software upgrades and patches. Due to the sensitive nature of transmitting customer funds, each maintenance window should run through the entire testing suite prior to going live. Top-performing

TOP-PERFORMING MOBILE MONEY SERVICES HAVE AN ADDITIONAL, THIRD PLATFORM THAT THEY USE FOR TRAINING

	IN-HOUSE DATA CENTRE	HOSTED SOLUTION
COST	INITIAL CAPITAL EXPENDITURES ARE GREATER, OPERATING EXPENSES ARE USUALLY LESS	MINIMAL CAPITAL EXPENDITURES BUT OPERATING EXPENSES ARE USUALLY GREATER
EXPERTISE	NEED TO DEVELOP IN-HOUSE EXPERTISE TO SUPPORT THE PLATFORM	NOT AS CRITICAL SINCE THE EXPERTISE COMES FROM THE VENDOR ITSELF
SCALABILITY	LIMITED BY FLOOR SPACE, INTERNAL PROCESSES, AND COMPETING SERVICES	CAN BE MUCH FASTER TO DEPLOY EXTRA CAPACITY
GROUP-WIDE REDUNDANCY	MORE DIFFICULT TO HANDLE IF MULTIPLE MARKETS EVEN WITH THE SAME VENDOR	MUCH EASIER TO ACHIEVE AS THE HOSTING USUALLY ORIGINATES FROM A LIMITED NUMBER OF HUB LOCATIONS
LATENCY	LINKS ARE ALSO IN-HOUSE AND CAN BE EASILY DISTRIBUTED TO LIMIT FAILURE POINTS. LATENCY IS MUCH LESS THAN IN THE CLOUD	LINKS TO THE HOST MAY REPRESENT POINTS OF FAILURE (E.G. NON-DISTRIBUTED THIRD PARTY SUPPLIER) AND ADD EXTRA LATENCY
CONSISTENCY	VERY DIFFICULT TO ACHIEVE IF EACH MARKET ISSUES ITS OWN RFP (EVEN WITH A SINGLE VENDOR) DUE TO DIFFERENT RELEASES AND WARRANTIES	EASIER TO ACHIEVE WHERE ALLOWED. SOME MARKETS CANNOT SUPPORT CLOUD-BASED SOLUTIONS DUE TO REGULATORY CONSTRAINTS THAT PREVENT DATA FROM CROSSING NATIONAL BORDERS (E.G. INDIA, PAKISTAN)
GROSS REVENUE	USUALLY NOT SHARED WITH THE VENDOR - TRADITIONAL MNO MODEL	QUITE OFTEN SHARED WITH THE VENDOR - THIS IS AN EMERGING MODEL AND SUITABLE FOR SMALLER OPERATIONS

TABLE 1
Costs and benefits of in-house and external hosting

² Adapted from John Ward and Joe Peppard, 2002, Strategic Planning for Information Systems, Fig. 3.8, p. 154.

³ "MTN announces mobile money instabilities" The Independent, 23 November 2011, <http://www.independent.co.ug/ugandatalks/2011/11/mtn-announces-mobile-money-instabilities/> (accessed May 5, 2013).

⁴ "Unstable Network Worries Mobile Money Clients", Uganda Radio Network, 3 December 2011 <http://ugandaradionetw.com/a/story.php?5=38799> (accessed 5 May 2013).

mobile money services have an additional, third platform that they use for training. This has proven vital to the success of the service as staff can become familiar with the functionality of the service in a safe and controlled environment. Fundamo recommends three platforms as standard.

INTERFACES TO OTHER PLATFORMS

The mobile money platform does not exist as a stand-alone unit; it must connect to other MNO core elements in order to access the GSM technology and to external platforms to provide full commercial functionality. Figure 2 shows the typical interfaces that a mobile money platform requires.

INTERNAL MNO INTERFACES

The most common way a customer or agent accesses a mobile money service is through STK or USSD interfaces. Airtime top-ups are among the most common transactions in the majority of mobile money services,

which involves linking to the IN or other mediation platform. In markets where literacy levels are low, some mobile money services incorporate connections to an inter-

HOSTING DECISIONS

“Some CTOs have had some badly delivered centralised GSM services in the past so there may be an initial reluctance to go for a hosted solution. People in this role are very conscious of the trade-off between wanting to have control of platforms versus having to develop the expertise in-house required to manage the platform.”

Mobile Money Vendor Management & Business Strategy Manager, African Group MNO

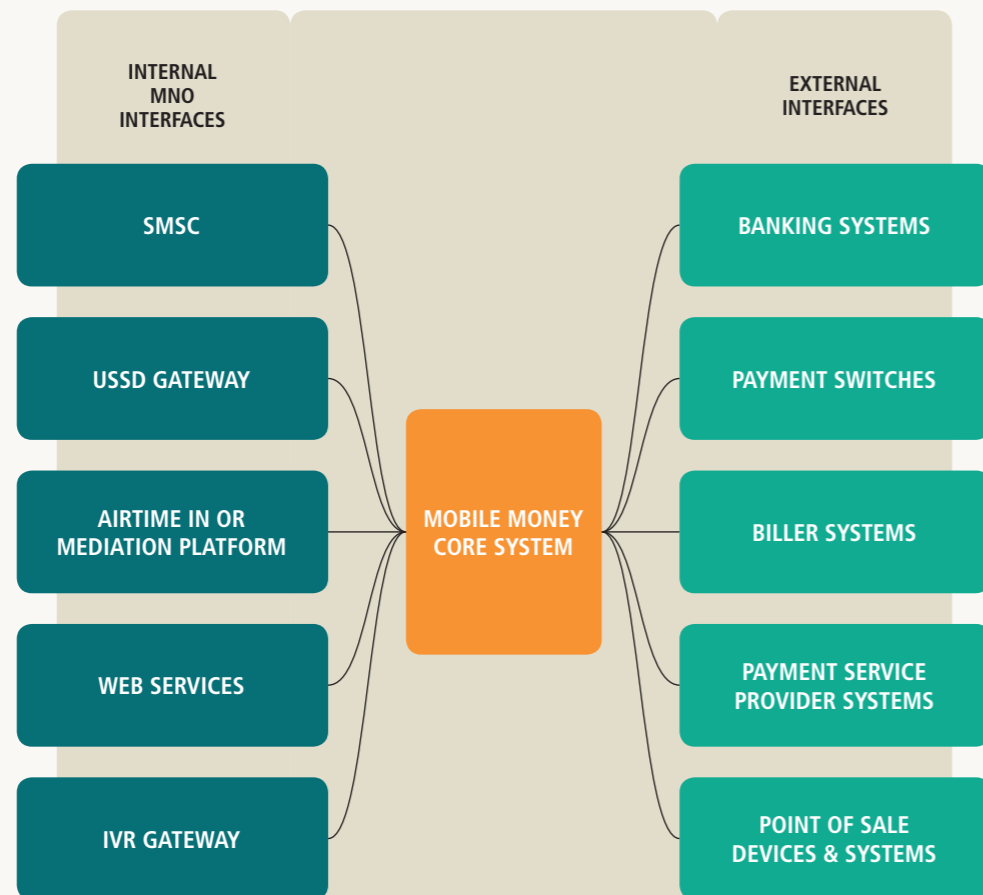


FIGURE 2 Mobile Money Interfaces

active voice response (IVR). In addition, customer care, back office staff, operations, and provisioning teams must have access to various parts of the platform. A web-based interface typically provides the best results.

The capacity of all platforms and the bandwidth of the links to these nodes must be evaluated, especially since several competing users might access them simultaneously. Whereas some service outages have been the result of platform inadequacies, others have been the result of congestion between these interfaces and other MNO platforms. Prioritising the delivery of mobile money messages to and from these systems is recommended due to the sensitive nature of a service that moves customers’ money.

EXTERNAL INTERFACES

Banking systems: A mobile money service is typically in partnership with a bank since e-money is always backed by funds in a bank account. Ideally, matching money in the bank with e-money in the system should be automated. A facility to interface to other banks may also be needed, for example, to facilitate cash-out via an ATM network or to make transfers between bank and e-money accounts.

Payment switches: In many markets, switches route transactions between conventional payment services. They may be internationally recognised (such as Visa and MasterCard), they may be national switches, or they may be specific to one or more banks, money transfer organisations, and/or payment service providers (PSP). Transactions with some organisations require connecting to a payment switch and paying the switch provider a processing fee.

Biller systems: One of the most popular mobile money services is bill payments, often a utility bill such as power or water. This may require connecting directly to the payment system of each utility provider.

Payment Service Provider (PSP) systems: In some cases, bill payment functionality is facilitated by the mobile money platform connecting to an external payment service provider (PSP) platform, which then connects to multiple biller systems.

Point of Sale (POS) devices: In some markets the retail infrastructure, even for the poor, makes extensive use of electronic tills

with sophisticated POS devices. For both agent activities (cash-in/cash-out) and for merchant payments in store it may be necessary to interface with the merchant POS.

PLATFORM EVOLUTION

What differences are you noticing in this second round of RFPs?

“Two points to highlight: These RFPs are based on consumer requirements and behaviour gathered during the past five to seven years in several markets, and are demanding more flexibility of the platforms to enable new services and integrate into a more complex ecosystem with the addition of third party players, financial services institutions and payment networks, both for closed and open loop transactions.”

Jesus Luzardo, EVP Global Sales Mobile Financial Services, Utiba



implementing each type. Platform designers recommend that all customer and agent transactions be chargeable—configurable as both a percentage and a fixed fee—even if the charge is set to zero for many of them. For the MNO to access the revenue earned by the mobile money service, the platform must collect transaction fees and airtime discount fees when money moves through the system. Building in this feature from the start can be very beneficial if the mobile money service becomes taxable, as happened with Safaricom’s M-Pesa in 2013.⁵

Customer activities

CUSTOMER TRANSACTIONS

Customers need access to a range of transactions they can either conduct themselves or have conducted on their behalf by an agent, business, or other service provider.

Registration: Depending on local regulation, registration may involve collecting

KYC documentation, but typically it requires an agent to send instructions to the mobile money service to create an account for the customer. In some markets, self-registration is permitted to access the basic service, but users usually need to bring KYC documentation to an agent to access higher transaction limits and richer functionality. Tiered KYC is also common in markets without self-registration and different transaction limits are allowed depending on the level of customer information received. Platforms should accommodate these different profiles while ensuring there is an easy-to-understand checklist for agents to follow (who are often inexperienced in this area). In some markets, the MNO is also permitted to bulk register existing subscribers.

Cash-In/Cash-Out: The chief task of an agent is to provide cash-in and cash-out services to registered customers. Most markets allow agents to enable cash-out for unregistered recipients of funds, who nor-



PART 3: Functional Layers

MATURE SERVICES AND VENDORS AGREE THAT IT IS PREFERABLE TO LAUNCH A NEW MOBILE MONEY SERVICE WITH A LIMITED SUITE OF FUNCTIONALITY

THE TRANSACTIONAL functionality of mobile money systems must support three types of activities:

- **Customer activities** – these may be performed by a customer or a business, but they have an impact on the customer’s mobile money account.
- **Agent activities** – agents perform two distinct functions: serving customers and administering their business
- **Operator activities** – performed by the MNO offering the service

Mature services and vendors agree that it is preferable to launch a new mobile money service with a limited suite of functionality. This makes it easier for both customers and agent assistants to understand the service, why it’s needed, and especially how to use it. Additional functionality can then be rolled out in a structured fashion over time depending on how the service evolves.

FOCUSSED FUNCTIONALITY AT LAUNCH

“If we look at the number of production units in the field, it is the clients with the crystal clear service offering that are the most successful in the market. These ones have high growth rates and are slowly building on their initial solid core offering. It seems to be a challenge to get the right product definition in the market.”

Martin Slabber,
Product Manager, Fundamo

The functionality required to support each type of activity is described in detail in the next section. These functions are explained from a service design perspective and include the specific considerations for



FIGURE 3
High-level Mobile Money System Requirements

⁵ “Kenyan Government Begins Mobile Payment Tax” available online at <http://www.paymentsjournal.com/Page.aspx?id=15470> (accessed 20 May 2013)

mally receive a voucher they can exchange with an agent for cash. Many mobile money services are also connected to one or more local ATM networks to allow cardless cash withdrawals. This service is not generally available for vouchers, as it would require them to be in the same denominations available at that ATM.

Send money: This is often the launch proposition. Some systems require the sender to choose between sending funds to another mobile money account and sending a voucher. As it is unlikely that the sender will know this, it is recommended that a single “send” option is presented to the customer and the system decides whether it needs to perform a transfer or create a voucher.

Buy airtime: Mobile money should be able to top up airtime or another mobile phone on the same network using a mobile money account.

Business payments: While businesses can be customers of the mobile money service themselves, they also initiate and receive customer payments. Third party customer-to-business (C2B) payments can be split into two types: the transfer of funds to a business, such as payment of a utility bill or an MFI loan instalment, and payment in person in a retail environment. Businesses also make payments to individuals (B2C), such as government welfare payments, MFI loan disbursements, or salary or expenses payments from an employer.

Bill payments: Some billers accept a connection directly to their account management system, but many use third party PSPs to integrate multiple payment mechanisms on their behalf. The advantage of using a PSP is that they can incorporate many billers in a single integration; the disadvantage is that they expect a portion of the transaction fee.

In-store merchant payments: Merchants will expect to receive SMS confirmation that a transaction has been completed before the customer leaves the shop. In more developed markets the merchant may use an online POS and may require the transactions to be conducted with this POS. (These retailers may require similar integration to perform agent cash-in and cash-out transactions.)

Bulk payments: To enable this feature, businesses will normally be given access to a set of web screens from which they can administer bulk payment instructions, much as they would administer payroll. In some systems the MNO has to perform batch payments on behalf of the business, but this becomes expensive and time consuming as the service becomes more popular.

Bank transfers: As a service matures it may choose to link the mobile money service to customer bank accounts, either directly or by using a switch. Interconnection between mobile money and a bank allows value to be transferred without having to visit an agent. This functionality also helps agents to manage their e-money float and liquidity more easily.

EVOLUTION OF MOBILE MONEY

As mobile money services evolve there are opportunities to offer enhanced products, such as loans, savings, and insurance. These products can either be offered directly or via third party specialists that are paid for using the mobile money platform. The platform itself thus becomes an enabler for these new services. An example of this is Kenya’s M-Shwari service. The handset menu usually has a specific item for transferring funds between a customer’s mobile money and savings accounts. This utilises the same underlying bank transfer functionality allowed by the platform interface to banking systems.

CUSTOMER ADMINISTRATION

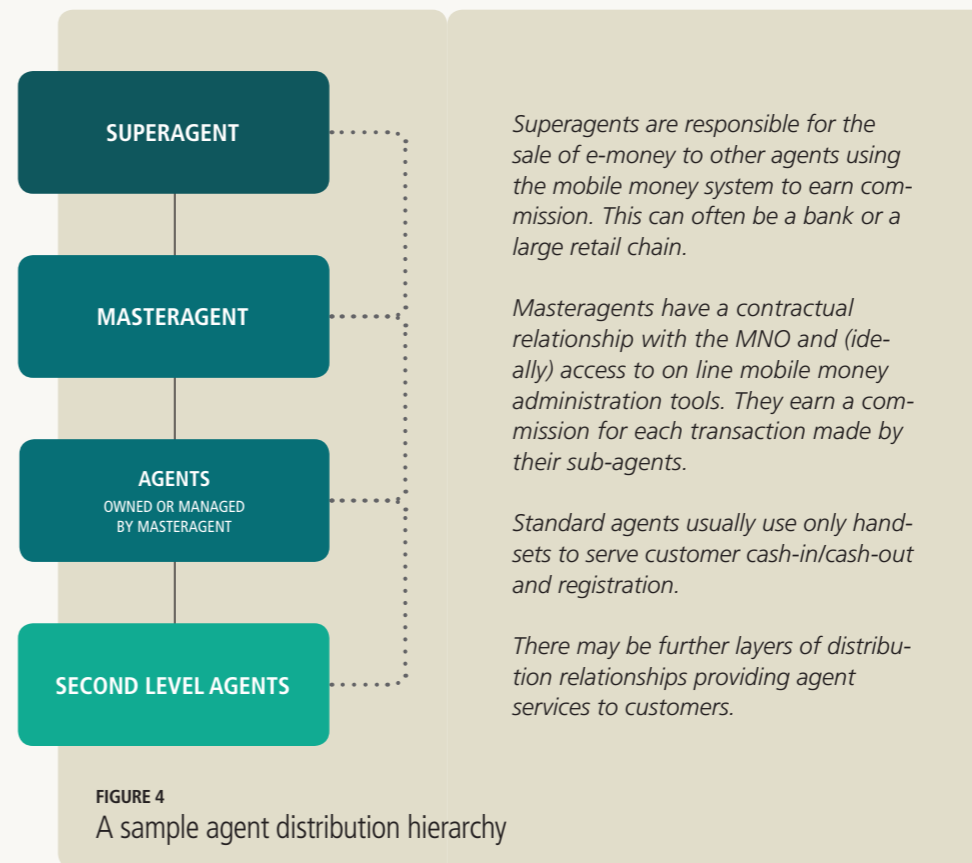
For security purposes, all handset users need to be able change their PIN. They also need the ability to check their account balance and request a mini statement. If possible, they should be able to set a security question (memorable date, secret word, etc.) to assist with identification if they need to call customer service.

Agent activities

AGENT HIERARCHIES AND ADMINISTRATION

Ideally, a good quality agent distribution network has various distribution layers that are created and administered correctly in the platform. These layers limit the number of direct relationships that an MNO has with individual agents, making the distribution network easier to manage. In some markets, independent retailers may also provide wholesale services to other

THE PLATFORM ITSELF THUS BECOMES AN ENABLER FOR THESE NEW SERVICES. AN EXAMPLE OF THIS IS KENYA’S M-SHWARI SERVICE



independent stores, creating further layers of relationships.

Every mobile money service has its own structure and a vendor should be flexible enough to accommodate different models. Accommodations should also be made when the distribution model changes over time. A sample hierarchy is shown in Figure 4.

The main consideration in all these relationships is how the commission will be split. Integrating all these parties into the mobile money service depends on the ability of the platform to support multi-distribution layers and the transfer of money between layers.

AGENT TRANSACTIONS

Registration, cash-in, and cash-out can all be performed by an agent. In some markets, agents can also perform over-the-counter (OTC) versions of send money or bill payments on a customer’s behalf.

AGENT ADMINISTRATION

Agent access to the platform: The functionality offered to the agent infrastructure depends on the vendor. Whereas customers are usually restricted to accessing the service via

their handset, it is preferable to allow businesses limited access to their mobile money accounts online. Ideally, master agents have online access to a web interface from which they can administer their e-money accounts

MORE DETAILED RFPs

“Platforms have added even more flexibility recently. The second round of RFPs from MNOs shows that there are clearer ideas from clients and they are much more focussed on tight distribution systems and advanced financial transactional capability.

Four or five years ago the platforms were only barely evolved airtime platforms without a service-oriented architecture. Now the service has evolved to become better and more functional.”

Goulven Bescond,
Product Director, eServGlobal

(e.g. float management, statement access, and report generation). Some platforms also allow normal agents to have online access to generate reports and statements.

Agents with handsets need the same access to functions as those for customers: PIN change, statement, and balance enquiry. However, since they serve customers directly and need to manage their business more efficiently, agents require some additional tools.

Multiple assistant IDs: As with many retail organisations, every agent staff member should have their own identity within the store system. Agent (and merchant) stores should be able to identify multiple assistants using unique ID codes and one or more handsets associated with a specific store. The agent store manager should be able to create and remove assistants as their staff turns over.

Agent assistant administrative activities: Agents need to use their handset to access transaction summaries for specific periods, reconciliation, mini statements, and PIN changes.

MNO activities

MNO TRANSACTIONS

Operators administering the service at the MNO have a range of tasks to perform. A key financial transaction is converting cash into e-money (and vice versa) as cash is deposited into (or withdrawn from) an underlying bank account. This is called “bank reconciliation”. Other examples include transferring funds between mobile money accounts, making agent commission payments, and allocating funds to an agent account. All financial transactions, including bank reconciliation, should be performed using a “maker/checker” procedure (common in conventional banking systems) in which one person creates the transaction and another approves it. Mobile money services generally require this, so vendors need to support this feature.

MNO ADMINISTRATION

Back office: This team is responsible for setting up new agents and for on-going administration. It is preferable that the system can accept the upload of spread-sheets to create multiple agents in bulk as this will save a lot of operator time. Among the

many sales administration tasks are creating additional agent handsets (accounts) in the system and closing non-performing agent accounts. This team also needs to create detailed reports on agent activity (transactions by agent, product mix, float levels, etc.) to help manage agent performance.

Customer service: Customer service staff need access to customer and business (including agent) account statements in order to assist with queries, freeze the account if the phone is lost or stolen, and reset PINs. Ideally, customer care screens would be integrated into an MNO’s core service screens. In most MNOs, transactions performed in error can be reversed following suitable approval; this task may be assigned to customer service or the finance team.

REPORTS

For commercial, operational, and regulatory reasons it is essential to have a strong suite of reports for all mobile money activities. All of the data supporting these activities should be recorded, high quality, reliably reported, backed up, and made readily available. Each market is likely to have slightly different regulatory reporting requirements and these must be defined as part of the platform specification requirements. Most regulators require customer registrations to be screened against watch lists and politically exposed person lists and transactional behaviour to be monitored for suspicious activity. As both business and regulatory requirements are likely to evolve over time, it is important that new reports can be created relatively quickly and at little or no extra cost. The ability to create new reports quickly (by adding or dropping fields) can give vendors a competitive advantage.

The regulations governing mobile money have been inherited from the financial world, which allows mobile money reports to be stored for much longer time periods than traditional GSM reports such as CDRs. This can create challenges for the data warehouse and require additional capacity.

Configuration: It is expected that configuration changes will be required on a regular basis in order to, for example, support promotional activities and accommodate changes in tariff and account limit regulations. Making these changes through vendor change requests can be a lengthy

and costly exercise, so it is recommended that the vendor provide a configuration tool that allows MNO operators to make simple changes. These changes should also be subject to maker/checker procedures.

Access control: It is important that operators have distinct roles and only perform transactions that fall within their area of responsibility. There must also be logs and reports of all operator activities in order to detect fraud. Access to the live service—by both MNO and external operators—must be strictly controlled. As with any financial service, the risk of fraud is high and it is mandatory for user access to be granted through a formal process. It is recommended that access is only granted to approved PCs, such as through an SSL certificate download. Service operators will also need to train employees on internal procedures and access rights and responsibilities.

FRAUD AND RISK

The importance of high quality security and fraud risk detection measures for a financial service like mobile money cannot be overstated. It is recommended that risk reviews are performed on a regular basis and cover all aspects of the service, from CFT and AML to IT security to building access. As with most other MNO platforms, building access is important; local access ports are common on mobile money platforms. As mentioned earlier, platform access control is a primary way to minimise the risk of fraud. To enable AML activities there must be a record of every transaction and operator activity, including who performed it, when, and the accounts involved. Customer KYC information must be stored and be accessible upon demand. Access should be given to auditors for suspected fraud investigations.

ALL FINANCIAL TRANSACTIONS, INCLUDING BANK RECONCILIATION, SHOULD BE PERFORMED USING A “MAKER/CHECKER” PROCEDURE



PART 4: RFP Development & Evaluation

CREATING AN RFP

The preceding sections have outlined the technical and functional requirements that should be considered when preparing an RFP for a mobile money system. Each element of the RFP should be categorised based on business need.

In the rush to get services to market in the early days of the industry, MNOs and vendors kept RFP processes and specifications to a minimum. However, candid reports from MNOs that entered the industry in a hurry have revealed the shortcomings of this strategy. It is now clear that care must be taken to ensure that the business model, commercial strategy, and product roadmap are all sound and central parts of the RFP. This is just as important as technical compliance checks and identifying how a requirement will be met during the evaluation process.

Once the RFP process is complete, vendors need to feel that they are long-term part-

THE IMPORTANCE OF RFP TEAM SELECTION

“The background of the person chosen to do the RFP and build the relationships with vendors must have the correct profile – experienced in vendor relations and negotiations. However the evaluation must be objective and based on vendor response and the evaluation team must be made up of range of technical and commercial people.”

Imad Chishti, Telenor Pakistan

GROUP-WIDE RFPs VS. INDIVIDUAL MARKET RFPs

The good news for vendors is that a number of group-wide RFPs have been issued from major players in the mobile money industry. While revenues from individual markets can be higher, winning a group-wide contract can help a vendor to develop expertise, grow in stature, and raise revenue to invest in research and development.

Undoubtedly there are complications for a vendor attempting to satisfy the various requirements of multiple markets with just one or two platforms in centralised hubs. The last mile can become a huge hurdle as the nuanced differences across markets can be difficult to fit into extension layers, and Open APIs may be required. Quite often, group procurement and operating company (OpCo) technical teams have differing opinions, so vendors need to manage the relationships carefully.

As for MNOs, there are a number of different strategies for dealing with these various requirements:

- In some cases, a unique requirement from an OpCo needs to be kept separate and outside the main RFP.
- In other cases, hardware and platform levels are decided upon at the group level, but the unique requirements of each OpCo are satisfied by software extensions.
- In still other cases, the RFP includes all of the requirements from all markets so that the list is complete and no features are absent.

ners with the MNO. Like MNOs, vendors analyse risks and long-term goals, and if they suspect that their clients do not have a long-term commitment to the partner-

ship, this can have a negative effect on the relationship.

EVALUATING AN RFP

Once RFP responses have been received, they must be evaluated using a top-down strategy that maps the consumer proposition, the desired product mix, and service delivery. The evaluations must be carried out by both technical and commercial teams.

A proven approach for evaluating an RFP response is to use an internal scorecard that categorises requirements according to business need, identifies them as mandatory or optional, and then prioritises the requirements in each category. It is important to limit the vendor shortlist to a realistic number. Reports from MNOs indicate that three to five vendors provide consumers with suitable options.

Vendors on a shortlist must be investigated and asked how they will comply with each requirement. In turn, the MNO must provide a credible explanation of how a feature will be implemented (vendors often ask MNOs for additional clarifica-



THE ROLE OF THE GROUP VS. THE ROLE OF THE OPCO

The OpCo would not be too concerned with regional or global group policy or if we have a strong alignment with the OpCo. The role of the Group is to facilitate our OpCo to achieve business success. With this in mind, the governance and decision-making become easier.

For example, at the group level we query each RFP response:

- How are change requests going to occur and be prioritized?
- Can the change request be redeployed across to a different OpCo?
- Does the solution fit into our framework?

Khuen How Ng, Millicom Group



tion on ambiguous specifications). This is a critical phase in a developing vendor-client relationship.

Today it is common practice to request a visit to a live deployment and to meet with current clients. If this is not possible, a demonstration should be given on a test, development, or virtual platform. Ideally, MNO staff should be able to access this platform for several days so they can check how well it meets their list of requirements.

One of the major complaints heard from MNOs is the time and cost involved with change requests and platform developments. Visiting a vendor's headquarters and interviewing existing clients will provide an MNO with valuable information about their ability to turn around change requests. Given the relative infancy of the industry, few vendors have a large staff, so it is important to carefully evaluate whether the vendor has the capacity to manage both new and existing clients. A balanced SLA agreement as part of a wider contract will provide recourse for an MNO.

TODAY IT IS COMMON PRACTICE TO REQUEST A VISIT TO A LIVE DEPLOYMENT AND TO MEET WITH CURRENT CLIENTS.

RUSHED AND POORLY EXECUTED RFP PROCESSES

What mistakes did you make in the first round RFP that you hope to correct in the second round?

First mistake was that we were hooked on the quick salesman speech. We needed to shop around a bit more and speak to current active customers (at the time) of the vendor. We should have noticed that the vendor had no other wallet-based deployments and very little experience working with MNOs.

Mobile Money Manager,
The Americas

Most MNOs use a shortlist and a second round of responses and clarifications to select a vendor, although some MNOs have created a second shortlist. A final consideration for MNOs should be the vendor's policy and experience with system migration. Does the incoming vendor have a plan for how to proceed with a migration,

DELAYED AND PROTRACTED MIGRATIONS

- It's not easy to match the set-ups and parameters in the back-end platform, one for one.
- Customers are already used to a particular USSD flow. Changing some of the flows requires thorough analysis to align customer perception.
- Parameters such as chart of accounts in the different platforms are usually not set up in the same formats. This is one of the key problem areas and yet it's core for the business – from a revenue perspective.

Mobile Money Manager, Africa

a history of (successful) migrations, and a solution for dealing with uncooperative incumbents? Some of the mobile money services interviewed for this paper reported delayed and protracted platform migration.

The timescale for finishing the vendor selection process and getting a platform to run live traffic can take anywhere from 12 to 24 months, depending on the number of markets that the platform will serve.

TIME TO MARKET

- 0-3 months to get the RFP out
- 3-6 months to choose the vendor
- +3 months to pin down the details of the contract

The more people you have in the process... the time is not linear, it becomes exponential.

Mobile Money Vendor Management
& Business Strategy Manager,
African Group MNO



PART 5: Conclusion

THE FIRST STEP in selecting the best platform for an MNO's business needs is to build an understanding of what is required from the business. Most importantly, MNOs need to understand that mobile money is much more than a value-added service. Care must be taken to research the sensitive nature of a mobile money service and understand the technical requirements and functional layers of the platform needed to run it.

The next step is to create a comprehensive, detailed, and documented set of functional requirements based on the business strategy that can then be formulated into an RFP. There will naturally need to be some compromises in determining the best vendor fit, so it is important to ensure that all essential requirements are met and that there is a roadmap in place to add functionality as required. It is also essential that any RFP response be evaluated by both MNO technical and commercial teams, and that the evaluation is comprehensive.

As MNOs face declining revenues from traditional core telecommunications services, they are likely to move further into the financial services domain. In order to succeed they need to assign mobile money the same priority as a traditional GSM service. Choosing the right mobile money platform is the first step in this process.

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