Mobile Money
for the Unbanked

Annual Report 2012

The GSMA
Mobile Money for
the Unbanked Team

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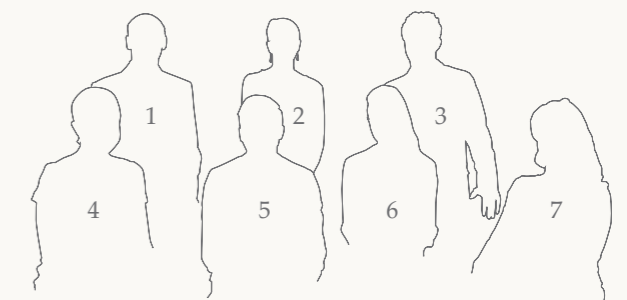
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Introduction

Author: Seema Desai, MMU Director

Mobile technology is the sharp tool needed for carving a path towards financial inclusion

In Africa and South East Asia, the number of GSM mobile connections has doubled in the last four years. In Southern Asia, it has more than tripled within the same timeframe[1]. As more people in emerging markets are connected, the potential for mobile technology to improve people's lives consonantly increases.

It is a well-established fact that mobile money represents the biggest opportunity to increase financial inclusion in emerging markets. That was true four years ago, when a handful of mobile money deployments were advancing a new frontier for financial inclusion. And it's true today, when there are over 130 live deployments around the world. In many markets, mobile penetration far outstrips the level of access to formal financial services and mobile technology can connect the unbanked with those financial services they need to manage their daily lives.

Fig 1: Mobile money = an opportunity to replace cash

So far, the most popular use case for mobile money has been domestic person-to-person money transfers. This replaces risky, slow and inconvenient cash transactions with a much safer, cheaper and more convenient means via the mobile channel.

A recent Gallup survey conducted by the Bill & Melinda Gates Foundation looked at the size of the domestic remittances market in sub-Saharan Africa. The survey found that 31 percent of all adults (approximately 79 million people) across 11 sub-Saharan countries used only informal, cash-based modes to move money domestically – such as informal money carriers, sending money by bus or travelling friends, or simply carrying cash themselves to deliver it in person.

This data highlights a massive opportunity for mobile money to replace cash for domestic remittances. With more than 2.5 billion adults around the world lacking access to a formal bank account[2], mobile money offers a potential solution for accessing other financial services too. Bill payments, social welfare payments, salary payments or micro-insurance products are examples of much-needed financial services that might be delivered more effectively via mobile.
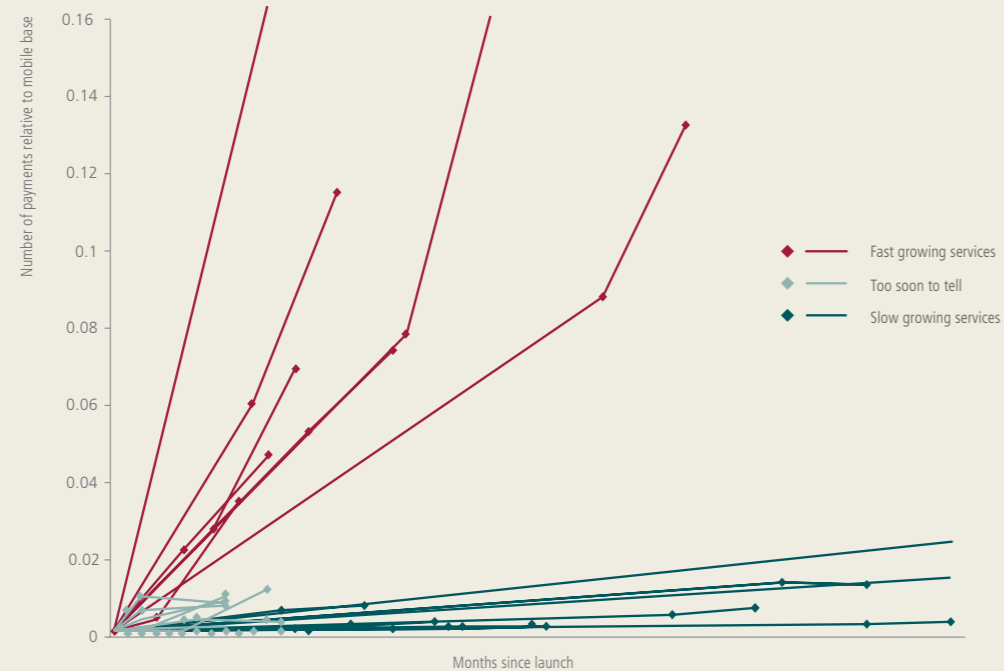

1 GSMA Wireless Intelligence
2 World Bank

In some markets, mobile money exists at scale, but in many markets, there is still a way to go before deployments reach their full potential

Mobile money providers in markets such as Uganda, Kenya, Tanzania and Pakistan have millions of customers and together they are adding hundreds of thousands of new customers each month. But if we take a global perspective, as MMU did in our mobile money adoption survey[3], we see that the industry overall has some way to go until the opportunity for financial inclusion via mobile is fully realised. Of the 52 deployments that we surveyed, only 11 deployments had over 1 million registered customers and the proportion that had over 1 million active customers was significantly smaller.

MMU's research shows that mobile money is a two-tier landscape; a small number of deployments are growing fast, while others are growing much more slowly. Those fast-growing deployments have a number of commonalities in their approaches to mobile money. They also show some diversity, providing examples of how mobile money should be adapted in different markets. However, the die is not yet cast as to whether all of these deployments will blossom into successes over the longer term, since some of them are still fragile and face challenges that need to be overcome if they are to sustain their growth into the future. Those slower-growing mobile money services also have barriers which they need to address if they are to re-orientate their performance onto a faster-growing trajectory. Using data from 45 mobile money deployments,

Fig 2: Mobile money is a two-tier landscape

Number of payments relative to mobile base

♦ Fast growing services
♦ Too soon to tell
♦ Slow growing services

Months since launch

this chart shows the rate at which transaction volumes in proportion to an operator's mobile base have grown over time. Each line represents a mobile money service and includes data points for three moments in time: the month the service was launched, December 2010, and June 2011.

This chart shows that there is no such thing as an "average" deployment, and instead, there are three distinct groups of deployments; those that are growing fast, those that are growing much more slowly, and those that are still too young to assess. What do the fast-growing deployments all have in

common? They all emphasise either bill payments or P2P transfers as their main service. And there is a strong geographic skew with six of the eight services in East Africa. Their models vary- some are wallet-based while others offer services "over the counter".

Three of the eight fast-growing services belong to operators with less than 25% mobile market share – which dispels the myth that presupposes only dominant mobile operators to be able to successfully offer mobile money services.

What will it take to go faster? In many markets, there are still barriers blocking progress which must be overcome

There are four barriers that need to be overcome to effectively reach the unbanked with mobile money:

Operational challenges
In many markets, deployments are still building their foundations from which they can scale. Typically, they face issues on how to build, incentivise and manage their agent network, or how to acquire customers and drive mobile money usage. Some best practices already exist within the industry, and these must be replicated or adapted effectively by more deployments.

Lack of enabling regulation
The regulatory environment in some countries limits the commercial viability of mobile money i.e. licensing requirements that do not allow non-banks to offer financial services, onerous customer registration/KYC ("know your customer") procedures, or regulations around mobile money agents which make it difficult to effectively scale an agent network and offer an adequate footprint of cash-in/cash-out points for customers. More dialogue is needed between financial regulators and non-banks, to ensure that regulation adequately controls risks but does not hamper financial inclusion.

A need for further learning
There are aspects of mobile money where no best practices exist yet and the industry still has much to learn, e.g. the development of more sophisticated financial products, or new business models for delivering a broader range of mobile financial services. Further creativity, coupled with adequate financial investment and resources, is required to properly pursue new opportunities.

Under-investment
As margin pressures have increased on mobile operators' core business, mobile money is still perceived as risky relative to other investment areas and so operators have often failed to allocate sufficient investment. More proof-points are needed for the mobile money business case and more appropriate expectations need to be set around what investment is required and how long it will take for mobile money to grow and become profitable.

MMU is committed to helping the industry achieve its goal of greater scale and sustainability

With the support of the Bill & Melinda Gates Foundation, The MasterCard Foundation and the Omidyar Network, MMU will continue our work to help the industry overcome these barriers.

MMU is building out the library of best practices that we have been developing over the last three years, and this annual report contains MMU's research that has been produced over the last 12 months[4]. How to design and implement agent training, how to manage fraud & risk and how to build successful organisation structures at each stage of a mobile money deployment are all areas in which mobile money managers have indicated that they need support. In response, MMU has gathered insights and best practices from existing deployments and adjacent industries to promote tried-and-tested methods for addressing these issues.

MMU's research also looks ahead to "second generation" challenges. We believe that in the future, mobile money services will chose to open up to external parties in ways that create value for customers as well as commercial value for each entity involved in providing the service. Our research provides a framework for examining how interoperability could create such value, what examples exist today and how we expect the industry to move forward.

The industry has come a long way and continues towards its goals. MMU will continue its support by identifying and sharing best practices, engaging directly with deployments, training practitioners, convening the industry for discussion and facilitating dialogue with regulatory bodies and standard setters. We look forward to more opportunities to help the industry achieve greater scale and fulfil the potential of mobile technology for financial inclusion.

Description of contents of the Annual Report 2012

Title	Description	Purpose
1. Expanding the Mobile Money Ecosystem: Considerations for Interoperability	This short note takes a broader approach to interoperability and grounds the discussion in the market efforts to date. It presents the main points to consider in this debate, and some high-level opportunities going forward.	To broaden the view on interoperability in the context of mobile money and to highlight the direction the market is currently driving towards.
2. The Case for Interoperability: Assessing the Value that the Interconnection of Mobile Money Services Would Create for Customers and Operators	This publication investigates the value of interconnecting mobile money wallets in a market. Using data from the market and examples from other industries, an evaluation of the potential gains and costs for customers and MNOs is made.	To evaluate the business case for interconnected wallets among mobile money providers and to examine if, and how, the business case can create value for customers and the mobile money providers.
3. Emerging Practices in Mobile Microinsurance	This paper demonstrates how the mobile platform, including mobile money, can be used as a tool to reduce the costs of microinsurance and to help it to scale.	To outline the opportunities for leveraging the mobile channel, including mobile money, to deliver microinsurance, and to share examples of attempts to do so from around the world.
4. Organisational Design to Succeed in Mobile Money	This publication examines at the organisational structures that can enable success in mobile money. The top considerations are traced as a deployment moves from the pre-launch project stage, to growth stage, and then maturity.	To share the emerging best practice accumulated by the industry on how to structure, motivate and staff mobile money organisations.
5. Managing the Risk of Fraud in Mobile Money	This publication is a look at how mobile money operators build and execute risk management strategies. The focus is around managing the risk of fraud and the paper highlights the potential risks of fraud in mobile money and addresses key tactics to manage them.	To assist mobile money providers as they continue to review and enhance their approaches to risk management in mobile money.
6. Designing and Delivering Agent Training for Mobile Money for the Unbanked	Well trained agents are more likely to drive transaction volumes, educate the customers on how the service works and deliver error free transactions. This publication outlines five areas of best practice in agent training and provides examples of training curriculum and trainers' KPIs.	To help mobile money service providers design and deliver effective training to their mobile money channel.

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Chapter 1
Expanding the Ecosystem of Mobile Money: Considerations for Interoperability
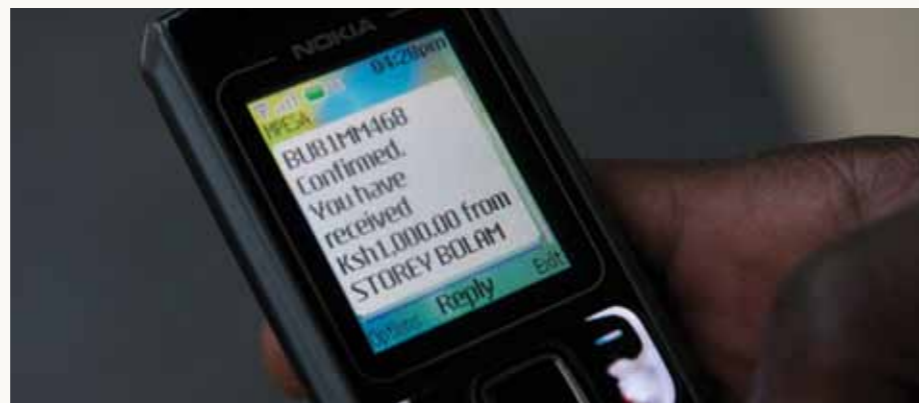
Author: Gunnar Camner

Introduction

In this note, we discuss interoperability in broad terms as the interconnection of mobile money services with external parties, with the aim to create value for both customers and commercial players. Interoperability is increasingly cited as a solution to increase transaction volumes and extend the range of financial products offered through the mobile phone. While interoperability is seen by some as a "silver bullet" for greater financial inclusion, it is not a given that interoperability will lead to that goal. To successfully implement interoperability, consideration must be given to the current state of the market. This note serves to promote discussion within the industry about how to evaluate opportunities for interoperability and how more of these opportunities could be realised.

Some important considerations on this subject are as follows:

- The objectives of implementing interoperability and the benefits that could be achieved from it must be established before deciding which assets (e.g., the agent network or mobile money platform) should be interconnected or shared in a market.
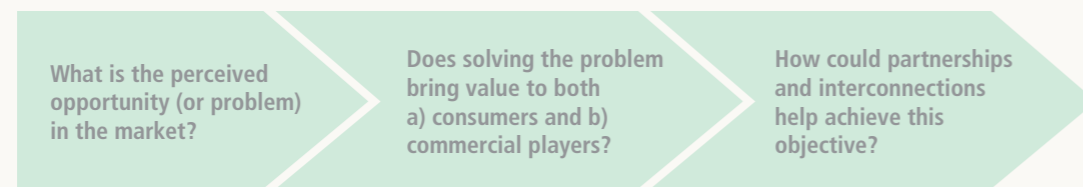
- The strategic and financial incentives for interoperability need to be identified to ensure that there is appropriate value for all players.

- These incentives are more likely to become available after the foundations of a mobile money deployment, such as a functioning agent network and an active customer base, have been established. Most deployments today are still occupied with building this base.

- More established mobile money providers have recognised the opportunity for interoperability and are already pursuing some form of interconnection with financial institutions and other external parties. As more deployments mature, the number of external connections and partnerships can be expected to increase through market forces.

- The maturity of mobile money deployments within a market need to be carefully considered in any discussion of mandated interoperability. Prematurely pushing the market towards interoperability has the potential to negatively impact further investments and financial inclusion.

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Chapter 1

Focus on the objectives and incentives for interoperability

Opportunities for interoperability arise where interconnections with external parties can create greater value for customers and service providers than a single mobile money service provider can create alone. The emphasis on value for the enterprises involved, as well as for the consumer, is an important point to bring to the interoperability debate. Once an opportunity for interoperability has been identified, it needs to be strategically or financially compelling for all parties involved to jointly pursue it. Given that mobile money service providers are making significant investments into developing the infrastructure for mobile money, external parties who want to use those assets need to bring appropriate incentives to motivate service providers to connect with them.

Focusing prematurely on which assets a mobile money deployment should share with other parties, or which components it should interconnect with its peers, can potentially have unwanted implications in the market. For example, many mobile money providers are still investing heavily in recruiting, training and branding their agent networks as distribution is a competitive element of their service. If these assets were to be shared by their competitors, the competitive aspect in distribution would disappear and there would be less incentive for individual players to invest in increasing access to their service.

What is the perceived opportunity (or problem) in the market?

Does solving the problem bring value to both a) consumers and b) commercial players?

How could partnerships and interconnections help achieve this objective?

What are the objectives that interoperability can help achieve?

The three objectives presented below highlight areas where partnerships and interconnections can contribute to a greater mobile money ecosystem. These objectives are not exhaustive; however, they provide examples of objectives that might be met through greater interoperability.

Product innovation beyond domestic remittances and airtime top-ups. These two basic transactions make up almost 95% of mobile money transactions, according to the 2011 Mobile Money Adoption Survey.[1] By inviting banks, microfinance institutions and third parties to innovate using mobile money and its infrastructure as part of their solutions, providers could make a greater range of consumer financial products and services accessible for their customers.

Enabling cost-efficient payments to and from the unbanked population. Distributing physical cash to the unbanked (e.g., through salary payments or government welfare programs) remains expensive and insecure. Governments,

employers and other large bulk payers should be able to use mobile money as a cost-efficient and reliable payment channel to reach this population. Industry collaboration in a country could have the potential to facilitate these large bulk payments more efficiently. Mobile money is also available for companies that want to accept payments from customers without bank accounts or easy access to a physical bank branch.

Replacing cash with electronic means of payment in day-to-day transactions. The current dominant use case for mobile money is still a money transfer followed by a complete cash-out. By providing tailored solutions for retailers, and establishing interoperability with existing and future retail payment infrastructure, operators can enable more frequent and proximate transactions using stored value on the mobile phone. This would make the service less reliant on cash conversions, provide convenience for customers, reduce costs for operators and increase the relevance of e-money.

Direction of the market today – have mobile money providers been slow in capturing these opportunities?

Mobile money providers are already beginning to pursue interconnections with external parties. More than two-thirds of deployments worldwide are connected to bill payment partners and around 50% have some form of bulk payment functionality.[1] Connections to financial institutions are increasing across deployments.

Despite these efforts, transactions that require no external interconnection – airtime purchases and domestic remittances – account for almost 95% of mobile money transactions globally.[1] Have mobile money providers been too slow to capture the opportunities offered by greater interconnectivity? Given the youth of mobile money and the complexity associated with offering these services, the current pace might be well justified.

Mobile money is a young industry, with over two-thirds of all deployments launched during or after 2010.[1] The youth of the industry is important in the context of the operational complexity involved in launching a mobile money program. Agent networks need to be built from scratch and nurtured to profitability. Customers, many of whom have never before used an electronic account, need to be taken through a complex journey. Technical platforms need to be customised to match the specifics of each market. Fraud and risk procedures and customer care facilities needs to be put in place. A handful of markets have demonstrated that these challenges can be successfully overcome, however many are still working hard to clear these hurdles.

Allowing mobile money operators to build a solid foundation and teach customers how to use the service before laying on more advanced interconnection is essential. Ensuring the reliability and availability of the service takes precedence for operators. A strong foundation is necessary not just for the success of the individual deployment, but for positive network effects following interoperability as well.

The GSMA Mobile Money for the Unbanked team previously investigated the value of interconnecting mobile money wallets in a market, enabling transfers between different service providers to originate and terminate in a mobile money account. This differs from the current scenario, where customers receiving transfers through service providers other than their own are given a code and required to cash-out the money. Although interconnected mobile money wallets seem attractive, the value for consumers and enterprises had not been strong enough to be pursued in any market. This was due, in part, to a lack of markets with multiple established deployments and unarticulated benefits for customers at the time of the study.[2] While this has not happened yet, the incentives to pursue similar implementations may become available in the future.

How will the industry achieve these objectives in the future?

So far, operators have had an incremental approach towards connecting to external parties, where the commercial deals and technical integrations are negotiated on a case by case basis. This allows greater control for the operator, as specific business rules and pricing can be tailored for each connection. However, due to the capacity constraint of operators, not all players who want to access the platform are granted it. In some markets, operators have brought in aggregators to help handle their business development with third parties to address this constraint. An open question is whether, going forward, operators will chose control or openness around managing connections to third parties.

To accelerate the connection process and reduce development costs, technology platforms will have to enable flexible and efficient technical connectivity, most likely by establishing common and standardised APIs. Making them available to developers, financial institutions and businesses allows these players to incorporate mobile money into their business solutions and apply it to the more niche, or long tail, opportunities in the market that a single provider has difficulty to cater for.

1 "State of the Industry: Results from the 2011 Global Mobile Money Adoption Survey" by Neil Davidson and Claire Pénicaud, 2012. (http://www.gsma.com/developmentfund/state-of-the-industry-results-from-the-2011-global-mobile-money-adoption-survey/)

2 "The Case For Interoperability: Assessing the value that the interconnection of mobile money services would create for customers and operators" by Neil Davidson and Paul Leishman, 2012. (http://www.gsma.com/developmentfund/wp-content/uploads/2012/06/mmu_interoperability.pdf)

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In other industries, the use of conventions and standards has created an enabling environment for third party companies to add value, as they could develop solutions for an industry and not only for individual deployments. In the card payments industry today, standards, such as EMV (chip and PIN) and common protocols, have allowed external players to add value to the industry. While card companies are not interoperable with each other, they are so with the same third parties. One example is the point-of-sale device, which can initiate transactions with different card payment networks due to same security processes (EMV), size of the card, etc. This example illustrates that interoperable environments can be accomplished in more ways than connecting platforms.

Conclusion

The road to financial inclusion through mobile money has so far been market-led, and this should continue to be the case when it comes to interoperability. As an increasing number of mobile money deployments become successful and reach maturity in their markets, more focus will go towards pursuing greater connectivity with partners, third parties and financial institutions. Sharing assets is likely to happen when it creates customer value and also makes commercial sense for the stakeholders involved. As such, regulatory and top-down interventions regarding interoperability that have strong commercial implications are encouraged to be made with caution and in dialogue with the industry to achieve the intended results and avoid unwanted ones.

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Chapter 2
The Case for Interoperability:
Assessing the Value that the Interconnection of Mobile Money Services Would Create for Customers and Operators

Authors: Neil Davidson and Paul Leishman

Introduction and summary

In just a few short years, the mobile money industry has undergone a remarkable spurt of growth: compared to 2007, when just a handful of trailblazing services had launched, it's now possible to find two or more deployments in many Sub-Saharan African and South Asian countries. Some of the services launched in recent years have achieved impressive traction with users: in a recent survey of 52 mobile money service providers, the GSMA identified 11 that have more than 1 million registered customers.

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Yet the majority of these remain in an untenable sub-scale position. One theory is that customers, particularly in fragmented mobile markets, would be more inclined to adopt and use mobile money services if mobile network operators (MNOs) interconnected their competing platforms that, today, are so-called "walled gardens". In an interconnected environment, a customer affiliated with one operator's mobile money service would have the ability to send money electronically to the wallet of a customer affiliated with another operator's service.

Arguments in favour of domestic mobile money interconnection are typically supported with analogies to other industries where interconnection is purported to have been a catalyst for growth. The success of payment card networks, like those offered by Visa and MasterCard, is often cited as evidence that interconnection must be a keystone for any successful networked industry. Ironically, mobile operators themselves are also often credited for having the foresight to interconnect their voice and SMS platforms with competitors.

Superficially, these analogies make sense: mobile money services, just like card networks and mobile telephony, are platform-mediated network businesses that are subject to network effects, meaning the value of a network to any given user depends on the number of other users with whom they can interact. So it stands to reason that by connecting consumers across different platforms, network effects would grow stronger. But as we explore in this article, the design features and customer behaviour that characterise many mobile money services weakens the case for interconnection.

In this article, we ask whether there is a case for interconnecting mobile money services. To answer the question, we start by evaluating the extent to which customers are likely to value the ability to transact across networks. We conclude that in many markets, few customers will find the ability to transact across networks to be a feature for which they are willing to pay a premium. As such, when we make estimates about the aggregate new revenues to which implementing interconnectivity will lead, we find that they are unlikely to be significantly large to justify the investments that interconnection would require, let alone large enough to entice

operators to divert their capital and attention from other critical projects.

That domestic mobile money interconnection is a feature of questionable value to consumers and expensive to implement will be of interest to regulatory authorities. In some markets the prospect of mandating interconnectivity has been raised, presumably in the context of promoting customers' interests. But in this article we suggest that it is not obvious that imposing interconnection would create welfare gains for customers. Indeed, it might have the opposite effect, if mobile operators must raise prices or curtail investment in other areas in order to implement interconnectivity.

We conclude by citing a range of other ways to allow customers to transact across network boundaries that, while less costly and complex than interconnection, would still create significant value for consumers. And we encourage a broader conception of interconnection — that is, with financial institutions, other payment networks, and mobile money services in different countries — and briefly discuss the benefits to consumers that these might bring.

Scope and terminology

In the context of mobile money, the interoperability taxonomy is extensive. The Consultative Group to Assist the Poor (CGAP) has proposed a framework that distinguishes between several different types of interoperability:[1]

- **Platform-level interoperability**, which permits customers of one service to send money to customers of another service[2]

- **Agent-level interoperability**, which permits agents of one service to serve customers of another service

- **Customer-level interoperability**, which permits customers to access their account through any SIM

These three forms of interoperability entail mobile money services in one market interworking with each other. An additional proposal for interworking amongst such services is the provision of **common interfaces**, in which two or more mobile operators, in one country,

each offering commercially and technically independent mobile money services, offering a single interface to third-parties (i.e. to simplify the provision of bulk payments, merchant payments, etc.).[3]

Of course, it is also possible for mobile money services to interwork with other platforms outside their country and industry. Such forms of interworking include:

- **International mobile money interconnection:** two mobile operators, in different countries, each offering two commercially and technically independent mobile money services, interconnecting their respective technical platforms to enable a customer affiliated with one service to send money from his mobile wallet to the mobile wallet of a customer affiliated with another service

- **Interconnection with financial institutions:** one mobile operator, in one country, operating its own commercially and technically independent mobile money service, interconnecting its technical platform with the technical platform of a traditional financial services provider to enable interaction between the two platforms (i.e. the ability for a customer to send money from a mobile money account to a bank account, etc.)

- **Interconnection with other payment networks:** one mobile operator, in one country, operating its own commercially and technically independent mobile money service, interconnecting with a separate payment system (i.e. connecting with the Visa or MasterCard payment networks)

The focus of this article is **platform-level interoperability**, which we will call **domestic mobile money interconnection**. By this we mean two or more mobile money service providers, in a single country, each offering commercially and technically independent mobile money services, interconnecting their respective technical platforms to enable a customer affiliated with one service to send money from his mobile wallet to the mobile wallet of a customer affiliated with another service. These providers need not be mobile network operators, but for simplicity we assume throughout this article that they are.

In this article, we'll use the term **cross-net transfer** to refer to a transfer from a customer on one mobile money network to a customer on another network, as opposed to **on-net transfers** — transfers between two customers on the same mobile money network — or **off-net transfers** — transfers from a registered mobile money customer to an unregistered one.

Superficially, the case for mobile money interconnection is simple. Customers value the ability to transact with other customers. (At the extremes, customers would find mobile money rather uninteresting if they were unable to transact with anyone else, and they would find it especially interesting if they were able to transact with everyone.) Interconnection would increase the number of potential transaction partners for customers, which should make using mobile money more attractive. This should increase transaction volumes, which in turn

should improve the performance of the payments business for mobile operators — so long as the new revenues are larger than the costs associated with interconnection.

If the story were this simple, however, mobile operators would have already interconnected their payment services. At the time of writing, there are 25 countries with more than one mobile payment services; in none of these, however, has interconnection been undertaken. Why might this be the case?

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Case study: Instant messaging

In the 1990s, a proliferation of instant messaging (IM) platforms emerged to allow customers to chat with each other using clients installed on their desktops. These platforms were, like mobile money services, walled gardens; if two customers were affiliated with different IM services, they could not chat with each other. This state of affairs persisted for years. Why didn't the providers of IM platforms interconnect?

First, in instant messaging, the cost for customers of affiliating with multiple instant messaging platforms is extremely low. People didn't mind having multiple clients on their desktop because they were generally provided free and because Windows offered a perfectly acceptable way of switching between them.

Second, even if providers gave customers a way of chatting with all of their counterparts in one interface, it's not exactly clear how to monetise that. Customers didn't pay for IM. So it wasn't obvious that industry profits would increase after interconnection.

Third, there was a chance that interconnection would not just fail to generate new revenues for the industry, but that it would actually erode the profitability of the service with the largest number of users. That's because with

interconnection, the player with the largest market share loses the ability to capitalise on network effects flowing from its user base as a competitive advantage — which for an IM service can be a key competitive differentiator. So that player might reasonably question why it should take a step that would likely shrink its market share. Such a step could make sense if the overall size of the market — measured not just in users, but in profits — was going to grow significantly with interconnection. Apparently, it was never obvious that such growth would result.

The instant messaging case study illustrates that interconnection of platform-mediated businesses is not inevitable. It also hints at conditions under which interconnection is likely to occur.

The more expensive it is for customers to affiliate with more than one service, the more they are likely to value interconnection. At the other extreme, when it is very inexpensive to affiliate with multiple services, customers are likely to find interconnection to be of limited value.[4] Of course, the degree to which customers value interconnection is a key driver of the commercial prospects for doing so, because as customers' willingness to pay increases, the ability of the industry to justify the costs of interconnection does, too.

What value would interconnection create for customers?

In January 2012, there were 25 countries in the world with more than one mobile money service that could, in theory, be interconnected to allow customers to transfer money across network boundaries. The 2011 Global Mobile Money Adoption Survey suggests, however, that the number of markets where two or more mobile payment services have achieved meaningful customer adoption is much smaller: based on a survey that was completed by 52 mobile money service providers in 35 countries, just 3 mobile money markets were designated genuinely competitive.

But while there are only a small number of countries where interconnection could be implemented today, this number is sure to grow in the future. So focussing on markets with more

than one viable mobile money service, what is the problem that interconnection will solve? And how big a problem is it?

Today, a customer of one mobile money service cannot send money from his account to an account held by someone else on another network. When customers face this problem today, what workarounds do they have at their disposal? And how much worse (in terms of expense or hassle) are these workarounds?

First, at low cost, customers can affiliate with multiple mobile money services.

In the developed world, most mobile accounts are post-paid, so affiliating with multiple networks implies a doubling of monthly costs. For this reason, it is uncommon for customers to affiliate with more than one mobile network at a time.

In most of the developing world, the situation is different. Since opening a new pre-paid mobile account is very inexpensive, and cost is tied directly to consumption, customers routinely maintain connections with multiple mobile operators, behaviour which is often referred to as "multi-SIMing". In this way, they can avail themselves of promotions that different mobile operators offer, and select the account that offers them the best rates or coverage depending on their requirements for each call. (A parallel in the developed world would be the way that many customers have a wallet full of payment cards, and choose among them based on their features: loyalty rewards, interest rates, foreign exchange fees, and so on.) A June 2010 survey indicated that 43% of mobile money users in Uganda were multi-SIMing, while the proliferation of dual-, tri-, and even quad-SIM phones around the world provides anecdotal evidence for the trend.[5]

In markets with more than one mobile money service on offer, customers adopt the same strategy. The same survey of mobile money users in Uganda showed that 12% of Zain Zap users and 22% of UTL M-Sente users had also used MTN MobileMoney.[6]

Relative size and overlap of mobile money customer bases July 2010, Uganda
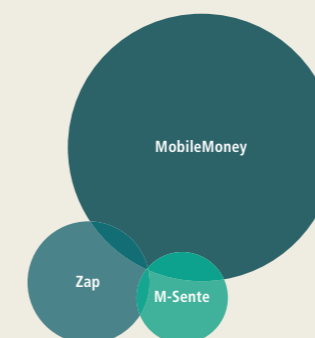
Source: Survey data collected for "Mobile Money Use in Uganda: A Preliminary Study" by Ali Ndiwalana, Olga Morawczynski, Oliver Popov and operator supplied data.

The ability to multi-SIM reduces the latent demand for cross-net transfers, since a customer who wants to transact with a customer of another network can affiliate with a second network cheaply and easily.

Second, many mobile money services make it possible for unregistered customers to transact with those who aren't affiliated with their network, and vice versa. Put metaphorically, the walls surrounding mobile money walled gardens have cracks.

■ In many cases, operators make it possible for registered mobile money customers to send money to customers who have not registered for mobile money (indeed, in most cases, they need not even have a phone): when they initiate the transfer, they are issued a secret code which they can convey to the recipient and which can be used to collect the transfer at an agent. We call this transaction type an off-net transfer. End-to-end, off-net transfers are usually more expensive than on-net transfers

■ In other cases, operators make it possible for customers who have not registered for mobile money (again, often including even customers who don't have a phone) to send money: they do so by visiting an agent, who initiates the transfer on their behalf. We call this transaction type an over-the-counter (OTC) transfer

These capabilities are important, because they mean that customers are not restricted to transacting only with customers affiliated with their own network — or indeed any network at all. They are powerful because, even in countries where mobile money has been adopted rapidly, the proportion of mobile account holders from all mobile money networks is still much smaller than the number of adults who might want to send or receive money.

In June 2010, just 2.6% of the Ugandan adult population were active MTN MobileMoney users.[7] As such, customers with MobileMoney accounts were able to make on-net transfers to just 2.6% of their potential counterparties. Had interconnectivity been in place, that same customer would have been able to transact with 3.3% of the adult population — the proportion with any mobile money account. In relative terms this is a significant increase, but in light of the fact that MTN MobileMoney customers could already send money to 100% of the population by making an off-net transfer, it seems small by comparison. Moreover, were just one of the mobile money providers in the country to offer an OTC send capability, anyone would be able to send using mobile money, too.

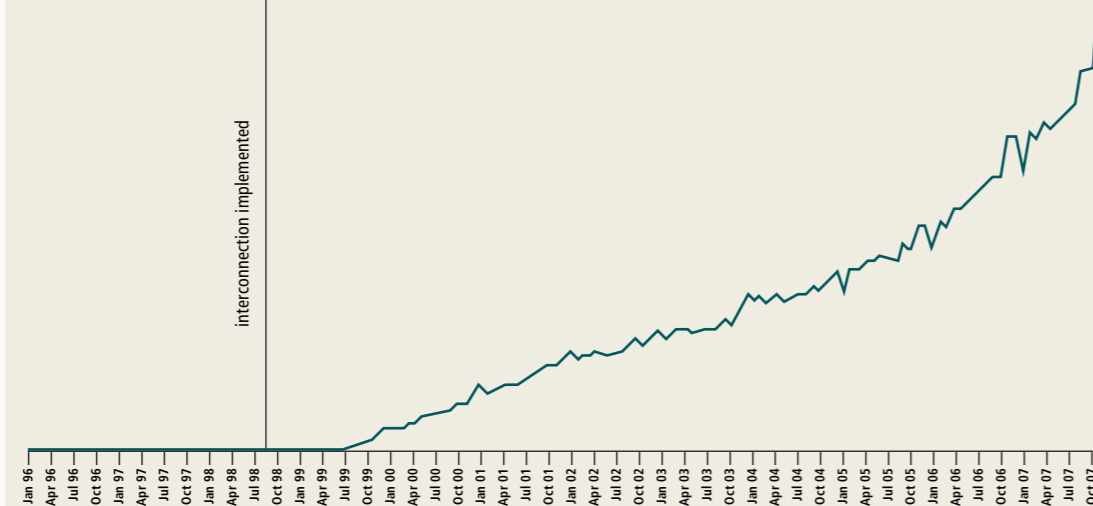4 The cost of affiliating with multiple services can be financial and non-financial (i.e., time spent registering for a service, managing multiple accounts, etc.).

5 "Mobile Money Use in Uganda: A Preliminary Study" by Ali Ndiwalana, Olga Morawczynski, and Oliver Popov (http://mmublog.org/wp-content/files_mf/m4dmobilemoney.pdf), with additional survey data supplied by the authors.
6 Ibid.
7 Source: MTN Uganda, CIA World Factbook

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Case study: the origins of SMS interconnection in the UK

When UK operators introduced SMS in the early 1990s, services functioned within their own walled gardens: Cellnet customers could SMS other Cellnet customers, but not Vodafone customers, and vice versa. This state of affairs lasted for months before interconnection agreements were struck, first bilaterally between Cellnet and Vodafone, and later with Orange and T-Mobile. The graph that accompanies this story shown below illustrates one of the mobile industry's greatest successes: in short order, SMS volumes increased exponentially.

Why was the interconnection of SMS platforms followed by such dramatic growth?

In part, the answer lies in the differing construct of the "walls" that enclose each service in a non-interconnected state. Without interconnection, there was no way for customers of different operators to exchange SMS messages. And there was certainly no way for customers with no mobile phone to send or receive them. But mobile money is fundamentally different. Even without interconnection, customers can often use the off-net or OTC transfer features described above. So even though mobile money services function within a walled garden environment, just like SMS initially did, in this case there are sizeable cracks that enable mobile money customers to connect across networks.

SMS volumes, UK

interconnection implemented

Jan 96 Apr 96 Jul 96 Oct 96 Jan 97 Apr 97 Jul 97 Oct 97 Jan 98 Apr 98 Jul 98 Oct 98 Jan 99 Apr 99 Jul 99 Oct 99 Jan 00 Apr 00 Jul 00 Oct 00 Jan 01 Apr 01 Jul 01 Oct 01 Jan 02 Apr 02 Jul 02 Oct 02 Jan 03 Apr 03 Jul 03 Oct 03 Jan 04 Apr 04 Jul 04 Oct 04 Jan 05 Apr 05 Jul 05 Oct 05 Jan 06 Apr 06 Jul 06 Oct 06 Jan 07 Apr 07 Jul 07 Oct 07

Source: Mobile Data Association

What value would interconnection create for operators?

We now turn to the implications of the fact that decent workarounds to the lack of cross-net transfer functionality exist. The only scenario in which it would be commercially sensible for mobile operators to invest in interconnection is one in which they collectively have more to gain than to lose. At minimum, the new revenues that stem from introducing the ability for customers to transact across networks must be greater than the costs of interconnection.

Interconnection is not free
Resourcing

First, interconnection is likely to make significant demands on the time of senior management, given the important strategic questions it raises. It will also almost certainly necessitate new hires in order to implement. Interconnection will require devising, negotiating, and implementing a host of business rules and service-level agreements.

Infrastructure

It is outside the scope of this article to explore the technical requirements of interconnection, although these are complex. We will also skip over the difficult question of who should own and operate the technical infrastructure that will enable cross-platform payments. But we do need to understand the scale of investment that is required.

We can assume that to enable interconnection, participating operators will need to invest in a payments switch or in setting up bilateral realtime payment instruction interfaces and settlement procedures. It has been reported that the Central Bank of Nigeria invested N500 million, or about US$3 million, to setup a national payments switch for its banks, although we understand that significantly less expensive implementations are possible.[8] Still, payment switches are costly in part because of the very stringent operational requirements to which they are subject. Switches must be extremely reliable and operate in realtime, often at high volume.

In addition, each operator will need to integrate with the switch, a task that will often be carried out by the vendor of their mobile transaction processing platform, with some support from the operator's technical staff.

Foregone revenues

Finally, mobile operators may expect to experience lost revenue in their core business on account of interconnection. Mobile operators have invested in mobile money in large part because they expect mobile money users to spend more and be more loyal, and we have evidence to suggest that these effects can be substantial.[9] In an interconnected world, however, the churn-reducing, ARPU-uplifting power of mobile money as a is likely to be diluted, since customers will find switching networks more tolerable. These lost revenues can be considered costs of interconnection.

Ultimately, customers must pay for interconnection — but which ones?

Operators will look to recoup the costs of interconnection (and earn a profit for themselves) with new revenues. Principally, they will expect net-new cross-net transfers to generate these revenues — otherwise, operators would find themselves subsidising customers who make use of interconnection with revenues from those who don't.

We specify that these transactions must be net-new, because if the outcome of interconnection is simply a conversion of on-net transfers to cross-net transfers, or off-net transfers to cross-net transfers, no growth will actually have occurred — indeed, value will have been destroyed since implementation of interoperability is costly.

Below we consider two segments to assess the likelihood that customers will begin making large numbers of net-new transfers. In our analysis, we assume that the end-to-end cost of sending money cross-net will be greater than the cost of sending money on-net but less than the cost of sending money off-net.[10]

Segment 1: Existing customers of mobile money services

With the advent of interconnection, existing customers may start making cross-net transfers. This has the potential to occur when a sender and his counterparty have both previously registered for mobile money, but with different mobile money service providers. If affiliations with payment networks were random, we might expect this situation to arise frequently. But there are two forces which drive customers to affiliate with the same network as their transactional counterparties.

1. First, mobile operators create significant financial incentives in the core business for people who want to call each other frequently to affiliate on the same network; it is usually cheaper to call on-network than off-network.[11] Since customers have a smoother path to registration for a mobile money service offered by Operator A if they already use Operator A for core mobile services, and if we assume that there is some correlation between the people a customer wants to talk to frequently and the people a customer would want to transact with, customers will find themselves to some extent naturally grouped on the same mobile network with those they want to transact with — even before mobile money is launched.

8 "E-Payment: Banks, Others Shun N500M Central Switch," Nigerian Best Forum, 10 March 2011 (http://www.nigerianbestforum.com/generaltopics/?p=95560).
9 "Is there Really any Money in Mobile Money?" by Paul Leishman (http://mmublog.org/wp-content/files_mf/moneyinmobilemoneyfinal.pdf).
10 We assume that operators will have to make cross-net transfers cheaper than off-net transfers in order to drive adoption of cross-net transfers. And we assume that they will make cross-net transfers more expensive than on-net transfers to (1) generate revenues that can be used to pay for the costs of interconnection and (2) create an incentive for customers to affiliate on their own network.
11 The cost structure for off-net calls is almost always higher than the cost-structure for on-net calls.

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2. A reinforcing dynamic applies in mobile money. Mobile operators intentionally create significant financial incentives for the senders and recipients of transfers to affiliate with the same mobile money network. As an example, for an average-size transfer, MTN Uganda charges $1.44 for an off-net transfer and $0.31 for an on-net transfer.[12] Transactional partners with any degree of price sensitivity who transact more than once will find it most economical to pay the upfront cost of registering for a new SIM and wallet (cost: less than $2) in order to take advantage of lower per-transaction costs.

Customers who don't bother to align on the same network are likely to transact rarely.[13]

Finally, recall that we are seeking to identify sources of net-new transactions; simply replacing an off-net transfer with a cross-net transfer does not count. As such, these pairs of customers must, in the world without interconnection, either be foregoing making transfers altogether or using another mechanism to do so. This implies that their willingness to pay for a mobile money transfer must fall between the cost of a cross-net transfer and the cost of an off-net transfer.

Segment 2: New customers to mobile money

New customers may sign up for mobile money because cross-net transfers are now available to them. What would their profile be? A customer who only occasionally sends to others and whose counterparties are affiliated with more than one network might be compelled to register for mobile money in an interconnected world. (Customers who regularly send to others will presumably have taken the step of registering for mobile money already; customers who meet this description but need only to send to affiliates of one network will find their decision unaffected by the introduction of interconnectivity, since they might today sign up for the same mobile money service that their transaction partners already use.)

Interconnection's P&L

To recap, here are the profiles of customers who are likely to begin availing themselves of the cross-net transfer functionality that interconnection would make possible:

- Pairs of customers who have each affiliated with a mobile money service, but who, because they need to transact only very occasionally with each other, have not taken the step of affiliating with the same network, and who today, rather than using the off-net transfer functionality, opt to forgo making a transfer or use a non-mobile-money mechanism to do so

- Customers who occasionally want to send or receive money to or from affiliates of more than one mobile money service, but who today, rather than using the off-net transfer functionality, opt to forgo making a transfer or use a non-mobile-money mechanism to do so

How large are these segments of customers for any given market? It's impossible to know without undertaking a nationally-representative quantitative survey. Even harder to answer definitively is the question of how many new transactions they are likely to make with the introduction of interconnection. But intuitively, the prospects are underwhelming. By definition, these segments are composed of customers who need to transfer only very occasionally. They are also customers who consider off-net transfers too expensive, but who would be willing to absorb the cost of signing up for a new service in order to make occasional cross-net transfers.

Do these forecasts justify interconnection? That is, will the gross profit from processing cross-net transfers be larger than interconnection's cost? And will it be so much larger that operators will be confidently able to deem interconnection a priority — above all other prospective initiatives they might otherwise undertake to bolster growth of their mobile money service?

Foregoing interconnection, even when it is offered

At best, it is unclear whether interconnection of mobile money services stands to create as much value for customers as it would cost to implement. Customers can already affiliate with multiple mobile money services, allowing them to send money inexpensively to customers of any mobile money network. In fact, in countries where a mobile money service provider allows customers to send off-net transfers

to unregistered users, or allows customers unaffiliated with their network to make transfers over-the-counter, substantially more customers can transact with each other already than interconnection would permit.

For this reason, it would be risky to confidently forecast that the volume of cross-net transfers will be large. Even in an interconnected world, price-sensitive customers who send or receive money with any regularity are likely to continue to multi-home in order to gain access to the best value money transfer they can arrange based on the affiliation(s) of the recipient.

For a clue to how customers will react to the introduction of interconnectivity in mobile payments, we need look no further than the core mobile business. As discussed previously, in emerging markets where prepaid accounts are most common, customers are likely to carry more than one SIM card. Often, it is much cheaper to make on-net calls as compared to off-net calls, so customers collect SIM cards so they can do as much of their calling on-net as possible. In other words, price-sensitive customers in many markets eschew interconnection regularly — even when it is in place.

Some ways forward

The commercial case for interconnection is not clear cut, because it is not obvious that enough customers want interconnection badly enough to justify investing in it. What other next steps make sense?

Encourage uncomplicated ways for customers to transact across network boundaries

Implementing interconnection between mobile money systems will be very complicated. But as we have seen, simple solutions can give customers many of the benefits that interconnection would.

- In some markets, onerous SIM- and mobile money registration requirements make it more difficult for customers to multi-SIM, which in turn makes it more difficult for them to transact with customers not already on their network. Telecommunications and financial regulatory authorities should bear this consequence in mind when developing guidelines for registration.

- In some markets, mobile money service providers are prohibited from allowing customers to send money to unregistered customers or allowing unregistered customer to send money over the counter in an effort to deter money laundering and/or terrorist financing. Financial regulators should consider customer due-diligence procedures that can be applied to unregistered customers when they transact.

- In some markets, operators have not considered the benefits of allowing customers to send money to unregistered customers or allowing unregistered customers to send money over the counter. It is not obvious that offering this functionality is always desirable — for one thing, the knock-on effects of mobile money adoption on core mobile usage are probably diluted when these options are provided to customers — but they are worth evaluating.

Consider interconnection more broadly

There are a range of tangible benefits that can be unlocked for customers when mobile operators interconnect with other platforms:

- Introducing the ability to move money between a mobile money account and an account offered by a bank that is already connected to the broader financial system would unlock a host of transactional features that are not currently available to mobile money customers. It could also provide account holders with an opportunity to earn interest on their balance in countries where regulators forbid paying interest on mobile money accounts.

- Connecting mobile money platforms with other payment networks, like the ones operated by Visa and MasterCard, would allow mobile money account holders to buy goods and services at merchants affiliated with those networks — and offer the payment networks a new source of transactional growth.

- Connecting mobile money platforms from different countries could unlock net-new transaction volume for each in cases where a significant remittance corridor exists.

12 It's common for operators to impose a higher fee for off-net than on-net transfers. First, this creates an incentive for recipients to affiliate with the sender's network. Second, the sender's network is subject to additional costs for providing off-net transfers (i.e. SMS termination rate of recipient network). Source of tariff: MTN.
13 An alternative explanation for this behaviour would be low price sensitivity— probably found most frequently at the upper end of the income distribution.

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Refrain from ex-ante imposition of interconnection

Financial regulators from countries in which mobile money services have been launched may be tempted to impose interconnectivity among mobile money services. It is already widely understood that doing so has the potential to deter investment in mobile money. This is principally because interconnection will dilute the potential of mobile money to reduce churn and increase usage of mobile services, which as we have discussed previously is a key driver of investment in mobile money by mobile operators. Given the positive network effects that accrue to successful mobile money platforms by virtue of the large size of their network of users, mandating interconnectivity could, perversely, deter the very mobile operators which have the appetite to make major investments in their mobile money services in order to reach scale.

This paper raises another consideration. Mandating interconnectivity would presumably be undertaken to promote customers' interests. Our research suggests the importance of clarifying whether the lack of interconnection does in fact manifest itself as a pain point for a significantly large group of customers. Given that the "walls" in the walled gardens of mobile money are, as we have seen, porous, it is not obvious that imposing interconnection would create significant welfare gains for customers. Indeed, it might have the opposite effect, if mobile operators must raise prices or curtail investment in other areas in order to implement interconnectivity.

Chapter 3
Emerging Practices in Mobile Microinsurance

Author: Camilo Téllez

Introduction

Microinsurance is insurance for people with low incomes, giving poor people the ability to manage risks in their lives.[1] It is not, however, widely available. Why is insurance easily accessible to those in the developed world, but not the poor — whose demand for insurance, given how close they live to the economic brink, is arguably greater? The answer is simple: transaction costs. The cost of selling and underwriting insurance and of administering a claim does not decrease in proportion to the value of the policy. Using traditional channels and processes, insurance companies simply cannot write policies with values below a certain floor without pricing them unrealistically. Moreover, microinsurance is a low-cost, high-volume business; therefore, scale is crucial.

The mobile platform, including mobile money, can be used as a tool to reduce the costs of microinsurance and to help it to scale. The objective of this paper is to outline the opportunities for leveraging the mobile channel, including mobile money, to deliver microinsurance, and to share examples of attempts to do so from around the world.[2] We hope that readers from both the mobile industry and the insurance industry will find in these pages new ideas for collaboration that will make risk-management tools available to those who most need them.

1 Protecting the Poor: A Microinsurance Compendium, edited by Craig Churchill (available at http://www.microinsurancecompendium.org/)
2 The mobile channel can equally be used to reduce the cost of delivering traditional (i.e., not micro-) insurance, but we will not discuss these uses here.

What is microinsurance?

Microinsurance aims to cover lives and protect the assets of low-income individuals and families from natural disasters, illness, death, accidents and crop failure amongst others. By doing so, it enables low-income individuals to manage their risks better by providing them with a safety net that can stop them from falling back into poverty. It often refers to the subset of insurance products that are characterised by low premiums and low coverage limits, on the assumption that these suit the needs of low-income people.

Mobile microinsurance has been defined as "any type of microinsurance product which leverages the mobile channel, regardless of the existence of a mobile money platform to improve a part of the insurance value chain which can include: product design, pricing, marketing and sales, policy administration and claims payment."[3]

At the time of writing, figures released by Lloyds and the Microinsurance Centre estimate that there are over 135 million people worldwide who are covered by microinsurance. The total market size is vastly larger, amounting to 1.5 to 3 billion policies.[4]

The role of intermediaries

Besides MNOs and insurance companies themselves, there are a number of niche players emerging as specialists in bridging the gap between insurance companies and mobile network operators. Companies like MicroEnsure, Trustco, and Bima have been instrumental in building some of the innovative propositions described in this note.

The promise of mobile microinsurance

Depending on the implementation, leveraging the mobile infrastructure for microinsurance can benefit operators, insurers, and customers in a variety of beneficial ways.

Figure 1

ARPU: Average revenue per user

3 "M-Insurance: The Next Wave of Mobile Financial Services?" by Jeremy Leach (available at http://www.microensure.com/news.asp?id=47&start=5)
4 Insurance in Developing Countries: Exploring Opportunities in Microinsurance, Lloyd's 360° Risk Insight (available at http://www.lloyds.com/~/media/Lloyds/Reports/360%20Other/InsuranceInDevelopingCountries.pdf)

What are MNO assets that can be leveraged to provide microinsurance?

Assets controlled by MNOs can help insurers reach customers in low-premium environments. MNOs have large physical and virtual networks with the potential to reach significant numbers of clients, including the unbanked, at low cost.

Figure 2, below, summarises the ways that insurers can leverage the MNOs' communication channels, retail distribution networks, and payment mechanisms; in this section, we discuss each of these assets in turn.

Figure 2

The microinsurance value chain

Relevant mobile infrastructure	Product design and pricing	Marketing	Sales	Client enrollment	Policy administration	Claim processing	Claim payment
Communication channels ■ Voice ■ Regular and premium SMS ■ USSD		Insurers can promote their services using mobile communication		Customers can self-enrol over the air	Insurers can handle routine customer inquiries over the air	Customers can submit claims over the air	
Retail sales and distribution ■ Airtime dealers ■ Mobile money agents			Airtime dealers and mobile money agents can educate customers about microinsurance	Airtime dealers and mobile money agents can distribute and accept enrolment forms			
Payment mechanisms ■ Pre- and post-paid airtime accounts ■ Stored-value mobile money accounts ■ Over-the-counter mobile money payment points				Customers can pay premiums with airtime, mobile money, or over the counter			Insurers can disburse payouts into mobile money accounts or over the counter
Transactional data ■ Airtime ■ Mobile money	Insurers can use transactional data to model risk and price policies						
Brand		Co-branding can build confidence in microinsurance among the low-income segment					

Communication channels

MNOs control a range of communication channels that can support the promotion and sales of and enrolment in insurance policies. They can also allow insurers to handle routine customer enquiries and account management. Finally, they can be used to streamline claims handling, which is one of the most important parts of the value chain to client.[5]

Voice is the most obvious of these channels, and it is widely used by insurers today to communicate with clients. SMS is more complex to implement — typically requiring integration with an SMS aggregator — but it can be an extremely cost-effective channel for, for example, reminding customers when premium payments are due, because sending such reminders can be entirely automated. The USSD (Unstructured Supplementary Service Data) protocol allows for secure, interactive sessions that can be suitable for policy enrolment and administration, and it is accessible on even very low-end handsets. However, insurers must typically negotiate directly with mobile operators in order to gain access to this channel.

In 2011, MTN Ghana, Hollard Insurance, MicroEnsure, and MFS Africa launched an microinsurance product called "mi-Life," which is available on MTN's MobileMoney platform. As the name suggests, "mi-Life" provides users with the opportunity to buy life insurance via their mobile phones via the USSD channel. The same interface used to purchase the insurance can then be used to change its attributes, tailoring the insurance package to suit the consumer's needs. Through their handsets, users are able to initiate claims, queries and make premium payments. Premium payments are deducted from their m-wallets on a monthly basis, and customers are notified via SMS. Once the premium is paid, the insurance cover lasts one month, until the next monthly premium is deducted.

The partnership between MTN and other parties reduces the costs of insurance by lowering transaction costs and by leveraging their extensive distribution network; a larger number of customers are reached. mi-Life policies in Ghana are underwritten by Golden Life Assurance Company with support from Hollard International.

Retail sales and distribution

Insurance providers can leverage the existing distribution network of airtime dealers and/or mobile money agents as a low-cost sales channel. These agents can help explain a product to customers who might not be familiar with insurance, in addition to serving as a channel for notifications, claims handling and even disbursement.

Using existing airtime retailers and/or mobile money agents network may build trust in insurance, since customers are often familiar with these retailers already.[6] However, caution is required. In order for customers to understand exactly what they are buying, the sales channel needs to be appropriately trained. MNOs have learned the hard way that the agent training for the provision of a mobile money service can be a challenge. Finding the right incentives is also complex. If agents are overcompensated for selling policies, they may resort to unsavoury tactics to do so; if their compensation is insufficient, on the other hand, they probably won't bother investing the time it takes to educate customers about the product.

In some countries, there are rules which specify who is allowed to sell insurance. This can restrict the ability of insurers and MNOs to exploit third-party retailers as a sales channel.

Payment mechanisms

Collecting premiums is a major challenge for the microinsurance industry. Customers in the target market often have irregular and unpredictable cash flows and poor access to traditional payment mechanisms. Exploiting new channels for premium collection can result in higher renewal rates, particularly when used to extend flexibility for poor customers with irregular incomes.

The mobile infrastructure offers four ways to collect premiums from customers — and, in some cases, to disburse payouts, too.

Stored-value mobile money accounts

In dozens of low-income countries, mobile operators have launched mobile payment services for their customers.[7] Customers can use these accounts to make payments for their insurance policies, just as higher-income customers would use a bank account. Disbursements can be made into these accounts, too. Of course, it is only an option in countries with live mobile money platforms.

5 Insurance and Technology to Better Serve Emerging Customers: Learning to Improve Access and Service, Zurich Financial Services Group (available at http://www.zurich.com/internet/main/SiteCollectionDocuments/insight/Insurance_and_Technology.pdf)
6 "Driving Customer Usage of Mobile Money for the Unbanked" by Neil Davidson and M. Yasmina McCarty (available at http://mmublog.org/wp-content/files_mf/drivingcustomerusagefinallowres.pdf)
7 GSMA Mobile Money Deployment Tracker (available at http://www.wirelessintelligence.com/mobile-money/unbanked/)

syngenta M-PESA Kilimo Salama
("Safe Agriculture") is a
weather-index microinsurance product designed
to protect farmers from the risk of drought and
of excess rain. It was launched in partnership
between UAP Insurance, the Syngenta Foundation
for Sustainable Agriculture (SFSA), and Safaricom.
Kilimo Salama policies are sold by independent
stockists of agricultural inputs across Kenya.[8] These
stockists use a scanner attached to a smartphone
that allows instant, paperless registration. Stockists
collect premiums and transfer these through
M-PESA to the insurance company. Automated
weather stations then monitor rainfall: if the
weather stations' measurement shows that there
is a payout due,these are sent automatically to
farmers via M-PESA.

This type of insurance is also being adapted for
natural disasters, such as typhoons affecting
coastal communities using a wind speed index,
where an insured's location is recorded via
GPS and pay-out is triggered depending on the
recorded wind speed and distance from the storm.

Over-the-counter agent payments

Just as insurers can leverage airtime dealers
and mobile money agents as a sales channel,
they can also be tasked with collecting premium
payments from customers.

Pre- and post-paid mobile accounts

In a number of countries, MNOs and insurers
have made it possible for customers to pay for
their policies using their existing pre- or post-
paid mobile account. The advantage of this
payment mechanism is that it is available to
every customer with a mobile phone.

In the context of the base of the pyramid, this
payment mechanism may still need to be
combined with a physical sales channel, since
customers with no previous experience with
insurance will most likely benefit from more
personalised sales attention.

No fee (i.e., loyalty based)

Finally, insurers may opt not to collect premiums
from customers at all, turning instead to MNOs
to cover the cost of insurance on behalf of
their customers.

Loyalty programmes are structured marketing
efforts that reward, and therefore encourage,
buying behaviour — behaviour that is valuable
enough to the MNO to justify subsidising the
cover.[9] In countries where customers tend to have
more than one SIM card, loyalty programmes can
be designed to reduce churn. Alternatively, when
qualifying for insurance is tied to certain levels
of expenditure (e.g. top ups), these schemes can
actually cause customers to spend more, having
a positive effect in ARPU.

These types of models tend to renew every
calendar month, as long as the customer fulfils
the aforementioned requirements. When they
don't, the insurance benefit is forgone. A key
success factor for such programmes is that
customers become aware of the potential benefits
of the insurance cover they are receiving.

tigo Tigo Ghana provides a loyalty-based life
insurance cover for prepaid subscribers
and any one member of their families.
This insurance is underwritten by Vanguard
Life with support from Bima and MicroEnsure.
Registered subscribers who spend GHS5 (US$3)
in a calendar month receive an insurance cover
for themselves and for a registered family
member in the event of a natural death. The more
the customer spends, the higher the insurance
cover they receive — up to GHS 1,000 (US$562).
Once a subscriber registers to be insured, Tigo
sends the customer an SMS at the beginning of
each month so they know the level of insurance
they have acquired. In the event of a natural
death, the subscriber's family member registered
on the insurance plan is required to report it
along with the deceased's death certificate to
redeem the policy. The insurance cover for a
particular month cannot be rolled over if not
claimed in that month.

A key advantage of loyalty-based insurance
products is that they can extend the benefits
of insurance cover to customers who would
otherwise be unwilling to pay for it. By
demonstrating the value of insurance to
customers without requiring an upfront financial
contribution from them first, loyalty-based
insurance policies can build awareness and
understanding of insurance as a concept —
increasing the likelihood that customers will
purchase policies themselves in the future.

Globe GCASH Globe in the Philippines has piloted
the Hospital Benefit Plan, a loyalty-
based hospital insurance scheme
specially designed for all qualified recipients
of GCASH remittances. For every remittance
made, regardless of the amount remitted to the
beneficiary in the Philippines, the beneficiary is
entitled to a thirty-day cover for free. All sickness
and hospitalisation charges are covered, except
for those related to cancer, pregnancy, injuries
caused while driving under the influence, and
certain other exclusions. The insurance coverage
remains valid for thirty days thereafter and
is cumulative: as such, the more frequently
remittances are sent, the more coverage the
person receives.

Transactional data

One of the major challenges faced by insurance
practitioners when designing and pricing new
products is the lack of historical data. The real
time rendering of insurance and mobile-transac-
tion information (airtime or mobile money usage
patterns, geo-tagging, etc.) can dramatically
improve this process and give insurers access to
reliable data to find patterns necessary for better
understanding their customers, ultimately allow-
ing them to design more appropriate products
for them.

Collecting and analysing mobile-transaction
histories is also relevant for the marketing of
insurance, given its potential to help identify
customers who have low risk profiles or a need
for a particular insurance product. Record
keeping can be improved, thereby eliminating
redundant processes and reducing fraud. And
for claims settlement, the readily available data
reduces the amount of documentation necessary,
making the process more efficient.

Brand

Brand recognition and trust are important in
any industry. Trust in the insurance provider
is particularly essential because a prospective
customer will not purchase a policy unless he
is sure that, in the case of a legitimate claim, a
payout will be made. (This is one of the reasons
that microinsurance has diffused more slowly
among low-income consumers than microcredit.)
Under the right conditions, MNOs can lend their
substantial brand power to give credibility to the
claims of an insurance provider. For example, in
a recent survey in Ghana, 70% of respondents
said they would rather purchase insurance from
an MNO than from an insurer — presumably
because of the low visibility of insurance
providers among the low-income segment.[10]

8 "Fact sheet: Kilimo Salama ("Safe
Agriculture"): Microinsurance for Farmers
in Kenya," Syngenta Foundation (available
at http://www.syngentafoundation.
org/__temp/Kilimo_Salama_Fact_sheet_
FINAL.pdf)
9 "Loyalty Programs and Their Impact
on Repeat-Purchase Loyalty Patterns:
A Replication and Extension" by Byron
Sharp and Anne Sharp (available at http://
byronsharp.com/resources/6076.PDF)

10 "Mobile life insurance launches
in Ghana—Interview with MFS Africa
& Hollard Insurance," Developing
Telecoms (available at http://www.
developingtelecoms.com/mobile-life-
insurance-launches-in-ghana-interview-
with-mfs-africa-a-hollard-insurance.html)

The global landscape of microinsurance products

This sample of microinsurance schemes is not exhaustive, but it provides a picture of the range of approaches that are being tested around the world. As a general note, many of these products are still in pilot stage, and, at present, they tend to focus on the simplest kinds of insurance, such as life and accident.

Country	MNO	Insurer	Partners	Name	Product description	Mobile use
Bangladesh	Banglalink	Jiban Bima			Life insurance product	Premium collection via mobile
Ghana	MTN	Golden Life	MFS Africa, Hollard Insurance, MicroEnsure	mi-Life	Life insurance product available to MTN MobileMoney subscribers	Initiation of claims, queries, and premium payments through MTN MobileMoney platform
Ghana	Tigo	Vanguard Life	Bima, MicroEnsure	Family care insurance	Life insurance product for Tigo prepaid customers having a minimum usage, covering themselves and a registered family member	Registration via SMS and airtime-based premium payment
Honduras	Tigo	Seguros Ficohsa		Seguro Medico via Celular	Accident insurance covering for medical expenses	Registration via SMS and airtime-based premium payment
India	Airtel	Reliance Life Insurance Company Ltd	mChek	Free Group Term Life Cover	Life cover valid for a period of 6 months from the date of subscription	Cover based on the usage over the past 6 months. Registration via SMS
India	IDEA Cellular	Birla Sun Life Insurance		Group term insurance cover	Life insurance product offering one-year coverage to 18 to 35 year old people	Registration via mobile phone after downloading a particular dialer tone and providing personal details (age, etc.) over SMS
India	BNSL	MS General Insurance Company Ltd		BNSL Personal Accidental Insurance Scheme	Loyalty-based accidental insurance worth Rs 50,000 (US$944)	Free insurance for all subscribers of postpaid mobile services. SMS Registration
India	Bharti Airtel	Bharti Axa Life (Bharti stakes sold to Reliance in June 2011)		BEAM	General and life insurance	Premium collection and payments via mobile
Indonesia	Telkomsel	Takaful Safari Insurance, Jiwasraya Staco Insurance			Accident insurance worth up to Rp 100m (US$11.200) available during the Idul Fitri holiday season	Policies can be bought through T-Cash
Indonesia	Telkomsel	Commonwealth Life		Advanced Comm Care	Accident insurance available to T-Cash customers	Registration via SMS and T-Cash

Country	MNO	Insurer	Partners	Name	Product description	Mobile use
Kenya	Safaricom	UAP Insurance	Syngenta Foundation for Sustainable Agriculture	Kilimo Salama	Weather index insurance product designed to insure maize and wheat farmers against drought and excess rain	Premium collection and disbursement through M-PESA. Mobile scans for product
Kenya	Safaricom	Britak			Personal accident insurance product	Enrolment and premium payment through M-KESHO
Kenya	All MNOs offering mobile money services in Kenya	CIC Insurance Group		CIC M-Bima	12-year endowment product providing a savings element with a life and disability cover. The client is encouraged to save money; he receives savings interest and an immediate life insurance cover	Premium collection through mobile money platforms (M-PESA, Airtel Money, Yu-Cash...) and weekly SMS reminders for premium collection
Kenya	Safaricom		MicroEnsure, FrontlineSMS: Credit ChildFund	Akiba Sure	Combined life insurance and savings product to benefit children in the event that a guardian passes away. The two-year term product is based on savings contribution levels ranging from 10-60 KES/day (US$0.10-0.60), with a savings payout at the end of the life of the policy in the event a claim has not been made	Uses FrontlineSMS: Credit's PaymentView software to monitor incoming M-PESA payments via SMS, track customer progress towards savings requirements and prompt targeted SMS messages and reminders
Kenya	Safaricom	GA Insurance Ltd	Chamgamka, Microhealth Ltd	Changamka	Flexible savings and health m-insurance product designed to support families save towards the cost of childbirth	Top-up smart cards via M-PESA
Kenya		Kenya Oriental Insurance Ltd		Safari Bima	Personal accident cover	Subscription with a scratch card via SMS
Namibia (also Zimbabwe)	Econet	First Mutual Life	Trustco	Ecolife	Life insurance for prepaid customers of Econet having a minimum usage	Registration via SMS
Pakistan	ZONG	Adamjee Life		ZONG Insurance	Accidental death or disability insurance caused by an accident or terrorism	Subscription to one of three different plans via SMS. Daily deductions of Rs 2-5 (US$0.02-$0.05) for annual cover of US$1130-$3390

Country	MNO	Insurer	Partners	Name	Product description	Mobile use
Philippines	Globe	Oriental Insurance		Hospital Benefit Plan	Accident and Hospital insurance to the recipients of remittances through GCASH	Based on the number of remittances received via GCASH mobile money platform
Philippines	SMART	Philamlife		Aksitext	Life insurance product offering accidental death benefits to SMART customers. Pay US$0.24 and get 15 days accident/death cover of US$240	Registration via SMS and airtime-based premium payment
South Africa	Clickatell	Metropolitan Insurance		Cover2go	Accidental death and funeral cover	Registration via SMS and airtime-based premium payment
South Africa	Various	Hollard Insurance	Take it Eezi (Sharedphone)	My Funeral Card	Funeral insurance product	Payment through the Take it Eezi payment system (a special SIM card inserted into a cell phone interface). SMS reminders for premium collection
Tanzania	Airtel	Real Insurance			Life Insurance available to Airtel Money customers	Facilitates payment of Real Insurance premiums over mobile money platform available to Airtel Money customers
Tanzania	Tigo	Golden Crescent	Bima, MicroEnsure	Tigo Bima	Life insurance product for Tigo prepaid customers having a minimum usage, covering themselves and a registered family member	Registration via SMS and airtime-based premium payment
Tanzania	Vodacom		Comprehensive Community Based Rehabilitation in Tanzania (CCBRT), UNFPA		Non-traditional insurance. Charitable pay-outs to women suffering from obstetric fistula to facilitate travel to hospital	Pay-outs via M-PESA
Thailand	DTAC	Muang Thai Life Insurance		DTAC Lifecare	Postpaid life insurance product	Registration via SMS and airtime-based premium payment
Thailand	True			TrueMove	Life insurance product covering accidental death and medical expenses. Covers no more than 10 days of the trip	Available to postpaid customers travelling abroad and roaming. Subscription by calling *9399 ext 5 within 7 days prior to departure
Thailand	AIS	CIGNA Insurance			3-month personal accident coverage with accidental medical reimbursement of up to Bt 5,000 (US$162)	Available to GSM Advance customers nationwide. Subscription via mobile by calling *101. No charge of premiums

Further reading

Protecting the Poor: A Microinsurance Compendium, edited by Craig Churchill
Available at: http://www.microinsurancecompendium.org/

The Role of Cell Captive Insurance in the Development of the South African Microinsurance Sector, by Derek Pead and Lynn Witten
Available at: http://www.cenfri.org/documents/microinsurance/Alchemy_Cell%20captives_final%20draft30072010.pdf

Insurance and Technology to Better Serve Emerging Customers: Learning to Improve Access and Service, Zurich Financial Services Group
Available at: http://www.zurich.com/internet/main/SiteCollectionDocuments/insight/Insurance_and_Technology.pdf

Insurance in Developing Countries: Exploring Opportunities in Microinsurance, Lloyd's 360° Risk Insight
Available at: http://www.lloyds.com/~/media/Lloyds/Reports/360%20Other/InsuranceInDevelopingCountries.pdf

Insurance in Emerging Markets: Sound Developments; Greenfield for Agricultural Insurance, Swiss Reinsurance Company
Available at: http://media.swissre.com/documents/sigma1_2007_en.pdf

"M-Insurance: The Next Wave of Mobile Financial Services?" by Jeremy Leach
Available at: http://www.microensure.com/news.asp?id=47&start=5

The Landscape of Microinsurance in the World's 100 Poorest Countries by Jim Roth, Michael J. McCord, and Dominic Liber
Available at: http://www.microfinancegateway.org/gm/document-1.9.29195/40285_file_15.pdf

The Demand for Microinsurance in Pakistan by Elizabeth McGuinness and Volodymyr Tounytsky
Available at: http://www.microfinanceopportunities.org/docs/Demand_for_Microinsurance_in_Pakistan.pdf

"Weather Index Insurance: The Case for South Africa" by Shadreck Mapfumo
Available at: http://www.microfinancegateway.org/gm/document-1.9.29543/43854_file_Weatherinsurance_SA.pdf

"The Landscape of Microinsurance In Africa" by Michal Matul, Michael J. McCord, Caroline Phily, and Job Harms
Available at: http://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_124365.pdf

"Micro-Insurance: Extending Health Insurance to the Excluded" by David Dror and Christian Jacquier
Available at: http://www.microinsurancenetwork.org/file/extendinghealthinsurance_to_the_excluded.pdf

"Access to Insurance and Financial Sector Regulation," by Arup Chatterjee (forthcoming)

Chapter 4
Organisational Design to Succeed in Mobile Money

Author: Philip Levin

The importance of organisational design in mobile money

In an attempt to understand why certain mobile money programs prosper, Mobile Money for the Unbanked (MMU) has researched and developed best practice publications on a range of operational areas – including building well-functioning agent networks, driving customer usage, and fostering effective bank partnerships. However, these best practice guides presuppose that the mobile network operator organisation itself is properly structured and sufficiently resourced to deliver in these areas.

An emerging hypothesis is that underperformance in these operational areas is due in part to inadequate organisational structures and resourcing. MMU has undertaken analysis of high performing mobile money deployments across geographies and interviewed senior executives from different corporate cultures to understand the key success factors and pitfalls in organisational design. The interviews revealed that different deployments have independently arrived at similar conclusions on a number of organisational design principles. Some of the higher-level findings include:

- **The complexity of the mobile money business necessitates a degree of organisational commitment** not typically required by other VAS or supplemental products.

- **It is advisable to create an independent mobile financial service business unit, reporting to the CEO or CCO**, rather than manage mobile money within the VAS or GSM sales and distribution teams.

- **Creating a dedicated sales and distribution team for mobile money is recommended**, rather than using the GSM sales and distribution team.

- **Mobile money KPIs must be in place not only for the mobile money team but also for other senior executives**. The cross-functional demands of mobile money require buy-in and support from many parts of the organisation.

- **Organisational design must keep pace with a moving target, the natural evolution of a mobile money program**. Management will need to anticipate expanding headcount and skills requirements at least six to twelve months in the future.

This paper attempts to consolidate these and other lessons from the field to equip operators to succeed in mobile money.

- **The first part of the paper** focuses on creating the right organisational DNA for mobile money, describing the challenges facing senior management and the guiding principles on how best to address these challenges.
- **The second part of the paper** examines how organisation structures evolve over time. Organisations need to be structurally nimble to match the natural evolution of the service; operators slow to respond will find themselves without the necessary skills and resourcing to drive growth.

Part 1:
Creating the right organisational DNA for mobile money

The nature of mobile money services presents operators with three core organisational challenges.

Challenge 1: Handling the inherent complexity of the mobile money business relative to a typical VAS or supplemental product

Mobile money represents an extension of the MNO business into the realm of financial services. This is a space with new competitors, a more complex customer journey, and new business risks. MNOs cannot hope to win in the space if mobile money is treated as a side project. Indeed, the most successful mobile money deployments to date have made mobile money a strategic priority, at the CEO level and throughout the organisation. How to create the right focus at every level of the organisation for such a new and complex service, especially alongside a well-understood and profitable core business, can be a substantial challenge for senior leadership.

Challenge 2: The strain mobile money can cause on external teams and support functions

Offering mobile money requires both a well-staffed mobile money team as well as extensive support from external functions such as finance, marketing, revenue assurance, risk and call centre. Mobile money may put strain on these functions and will require them to take on new and challenging responsibilities. Senior management will have to motivate these support functions to see mobile money as a priority and not an additional burden on top of their existing responsibilities.

Challenge 3: Justifying and maintaining investment in a new business that initially contributes a small amount of revenue relative to existing business lines

Like any new business line, mobile money requires upfront investment to achieve long-term benefit. Organisations that think of mobile money as an add-on product and "quick win" can be frustrated by the short-term financial results. The first few years of mobile money are focused on nurturing two important constituencies: customers and agents. Both constituencies need to be educated on the benefits of the service in stages and will only become fully productive over time. Until this point, the effort required to win in mobile money will feel disproportionately high to the immediate financial returns.

How to address these challenges

Consideration 1: Placement of the mobile money team

Whether or not mobile money should be its own business unit or managed by an existing team is perhaps the most fundamental organisational design question facing the C-level.

Some MNOs have approached mobile money as a supplementary product and managed it as a value added service (VAS), within the product or marketing team. Mobile money is then launched and grown through the typical product marketing machinery. Others have incorporated mobile money into the GSM sales and distribution team, recognising distribution capability as a critical functional need of a mobile money program. Under this approach, the sales and distribution team is given KPIs for mobile money alongside their core GSM KPIs.

There is now clear evidence that the approaches outlined above do not create environments in which mobile money will flourish; **rather, running mobile money as its own business unit seems to be far more effective**. Of the *eight* fastest growing services in the world, as identified by the 2011 GSMA Global Mobile Money Adoption Survey, *seven* have set up separate business units for mobile money, some within the auspices of a more general mobile financial services team. Leaders of a few successful services confided in MMU that they might have grown even *faster* had they had created a separate business unit from the outset.

What is the problem with managing mobile money with a non-dedicated unit? The challenges mentioned above provide some clues. Mobile money's complexity requires focused effort (challenge #1) and the slower build up to profitability inherent in the business model (challenge #3) can result in inadequate prioritisation from non-dedicated staff with competing responsibilities.

- Organisations that have tried to manage mobile money from the sales and distribution team have found prioritisation and focus to be lacking: For anyone with joint responsibilities for the more immediately lucrative voice businesses, mobile money will too often fall to the bottom of the priority list.
- Organisations that have tried to manage mobile money as a VAS from the product marketing team have found that there simply is not enough "sales muscle" to drive the service. The cross-functional needs of mobile money (challenge #2) prove difficult for a product manager with limited influence over the rest of the organisation, especially sales and distribution.

Consideration 2: Setting the right expectations within the organisation

Expectations around mobile money's short-term financial contributions relative to established business lines (challenge #3) need to be properly managed to avoid a handful of potential pitfalls.

Budgeting for mobile money is notoriously problematic when the organisational expectations are not set properly. The mobile money business model needs to be justified to C-level executives, particularly the CFO, quantifying the two to three year investment needed to succeed in the business and a reasonable time frame for expected returns. Once the investment level is quantified, protections need to be put in place to ensure that budget remains where intended. Otherwise there will be a temptation in yearly budgetary reviews to divert resources to more immediately profitable businesses, possibly depriving mobile money of needed headcount and stifling its longer term growth. To whatever degree possible, mobile money budgets need to be ring-fenced. This can be especially difficult where mobile money budget exists outside of the core mobile money team, for example the mobile money ATL component of the general marketing budget.

Talent management is the second area that can be adversely affected if the right expectations are not set. High calibre staff will need to be attracted to a program which may be seen as risky relative to other internal opportunities. Senior management can avoid this trap if the right KPIs and targets are set and proper recognition is given for achieving objectives – which might not all be financial – in the first few years.

A view from the C-Suite: Maarten Boute of Digicel Haiti

Maarten Boute was the CEO of Digicel Haiti during the launch of its mobile money service "Tcho Tcho."

Q. How is mobile money different from the core GSM business?
A. The business model is completely different from the core GSM business. With GSM, you can just stick a phone in someone's hand and they will start using it. Mobile money requires a slower growth path with more education for the customer.

Q. Where should mobile money sit within the organisation?
A. Mobile money needs the mentality of an independent company and should be separated from the core business. It should report directly to CEO or CCO.

Q. Why can't mobile money be managed as a VAS?
A. Two reasons: First, if you put the mobile money product manager next to the other product managers, his business would not stack up financially in the short term. Second, product managers don't have the strength to go across and drive participation from other departments.

Q. How do you get support functions properly motivated?
A. The support functions need mobile money incentives and KPIs. They need to be convinced of the churn benefits to the core business that mobile money brings.

Part 2:
Evolving mobile money organisations

The needs of mobile money programs undergo a natural and substantial shift in their first few years of operation. As the needs of mobile money programs evolve, so too must the organisational design requirements to best support those needs.

The Stages of a Mobile Money Program: Project, Growth & Maturity

Well before the first subscriber is registered, mobile money begins its life as a **project**. Development and implementation of the platform technology is a core activity at this stage, along with designing operational processes and obtaining regulatory approvals.
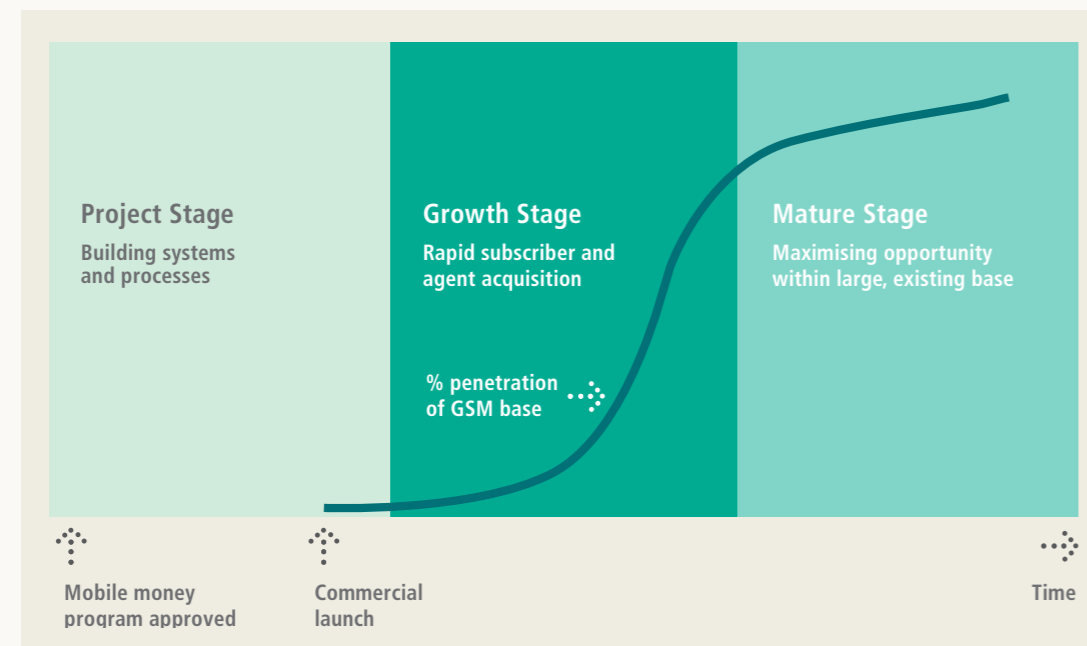
After launch, the focus of the organisation shifts to field activities. In the **growth stage**, improving the technology and operational processes are still

important, but the larger share of team resourcing is allocated to sales and distribution. Activities such as agent recruitment, agent training and customer registration take place largely on a one-to-one basis and the resourcing implications are significant.

Over time, mobile money services achieve a widespread distribution network and penetrate a significant portion of the MNO's base, what is termed the **mature stage**. At this point, mobile money begins to stand on its own two feet financially and establishes itself as a viable product offering contributing significantly to the company's overall financial performance. As of the time of publishing, a few deployments worldwide have reached this stage.

This part of the paper will highlight a handful of important organisational considerations at each of the three stages.

The natural evolution of mobile money

Project Stage
Building systems and processes

Growth Stage
Rapid subscriber and agent acquisition

Mature Stage
Maximising opportunity within large, existing base

% penetration of GSM base

Mobile money program approved

Commercial launch

Time

The Project Stage
Role of the group structure

At the project stage, the deepest mobile money experience often resides at the group level, making their contributions particularly valuable. There are three operational areas where group can provide substantial support to the opco: Firstly, the group brings best practice know-how from launching mobile money in other markets. Secondly, the group can assert influence in managing and negotiating with the technology vendor. And finally, group can provide valuable support is assessing the regulatory environment, and if necessary, bringing in appropriate resources to interface with the regulator.

Beyond operational support, the group plays another valuable role in early-stage deployments: Advocacy. Young mobile money programs can struggle to capture the divided attention of busy senior executives and required resourcing, particularly in cross-functional areas. Group intervention, with a strategic imperative, can focus executive attention on the fledging program. In some cases, group functions can also provide budgetary supplements to the opcos where internal resourcing is scarce.

Choice of mobile money leadership (project stage)

During the project stage, mobile money deployments often have a project manager and a senior-level **project sponsor**. The project sponsor

is not meant to actually do the project work, but rather clear any internal blockages and retain the buy-in of other top executives. The project sponsor should be empowered to marshal resources and make decisions that involve trade-offs between the project and the core business. The CMO can be well-placed for this role.

The **project manager** on the other hand, will be required to do the heavy lifting to coordinate the various work streams. The skills required for this role include the ability to manage cross-functional teams, deliver complex technology implementation projects, and establish creditability with senior executives. The project manager can either be sourced from within the business or hired externally, but externally sourced candidates will have to quickly establish relationships across a range of cross-functional groups within the organisation. Financial service subject matter expertise (particularly with regard to controls and regulatory compliance) is helpful but can also be supplemented with external consultants from the banking or card industries.

Enabling responsive and well-informed governance

Mobile money impacts the full operations of the organisation quite early on in the project stage, introducing new risks across various parts of the business. As a result, it is important that cross-functional project governance be established during the project stage (see below).

Best practice in project stage governance

Patrick Crooks, a consultant who has worked with a number of project stage mobile money deployments, recommends the following approach to project governance:

1. A **project board** should be constituted comprising senior management and ideally chaired by the CEO of the MNO
   a. Project board composition should include the CMO, CSO, Head of Technology / Information Systems. The Regulatory Lead, CFO, Head of Risk / Fraud / Revenue Assurance, Customer Service, and a senior representative from the partner bank (if relevant) might also be included.
   b. The board is accountable for the overall project success, and should approve all plans, resources and deliverables, and sign off on material exceptions or risks. It is also responsible for communication with senior stakeholders.
2. The project should have a clear matrix of who needs to be consulted and any key decisions or changes, and who needs to sign off on these.
3. There should be clarity as to whether the normal MNO committee processes will be followed for sign off of capex, technology, pricing etc. or whether the project board will make those decisions. Ideally, it would be the project board as the normal MNO committees are unlikely to have the level of cross-cutting expertise required at this stage.

The Growth Stage

As the mobile money service graduates from the project stage to the growth stage, resources allocation migrates away from refining the product design and towards bringing the product to market. The growth stage requires a laser focus on sales and distribution and mobile money staffing must reflect that.

Choice of a mobile money leader (growth stage)

Given the shift in focus, **the right leader for the project-stage might not be the same for the growth stage**. While the skills for a project stage leader mentioned above (e.g. ability to influence the wider organisation, deliver technology projects, etc) are still relevant, the ability to run a sales organisation becomes paramount. Cross-pollination from other industries (i.e. banking, retail finance and fast moving consumer goods) can be valuable, provided the person has a sales and distribution background.

Distribution function: Build separately or leverage the core GSM sales team?

Distribution (agent recruitment and management) is the "make-or-break" function during the growth stage and the one that will consume the majority of available resourcing. The primary decision to be made with regard to this function is whether it will be "insourced" to the operator's core GSM sales and distribution team or built as a dedicated, independent structure. Within many MNOs, there is a desire to leverage the existing resources and relationships of the core GSM business. However the results often disappoint. The relationships and resources that exist within the core business are less valuable for mobile money than they may at first appear for two reasons:

1. Deployments relying on the core GSM sales team to build a mobile money agent network have reported that this task can get insufficient attention. Early stage mobile money revenues will never stack up to core GSM revenue in the initial few years and will likely represent a small portion of their overall KPI. Developing and motivating new mobile money agents can be an intricate and time-consuming venture. It is unlikely that an existing core GSM sales staff will prioritise mobile money over the simpler and more established business of selling airtime stock.

2. A core GSM sales team is likely to lean on existing core GSM distributors as a basis for a mobile money agent network. This might seem like an obvious place to start. However, a number of advanced deployments have reported difficulty in motivating distributors accustomed to the airtime cash cow to invest appropriate energy or capital into mobile money. The core GSM sales team will be less inclined to look outside of the airtime distribution network, where they might actually find more motivated mobile money agents.

For these reasons, **successful mobile money deployments typically set up separate, parallel structures for mobile money distribution**. These structures recruit a blend of existing GSM distributors alongside new, dedicated mobile money agents. Typically, the core GSM distributors become more interested in the business as customer bases (and potential revenues) grow. At that point – generally a few years after launch – the core GSM sales function can be better leveraged.

Roles within the distribution function

The distribution function will likely consume the majority of mobile money headcount in the first few years and encompass several sub-functions:

- **Sales**: These are the individuals responsible for recruiting and driving activity within the channel. Sales staff are often assigned individual regions and held responsible for the overall performance of mobile money within that region. This is a feet-on-the-street position with the majority of time spent in the field pushing agents to perform.
- **Back office**: This team is responsible for the administrative support of the agent network, including commission payments, financial reconciliations, and validation of customer and agent KYC. They will also respond to live support queries from mobile money agents and masteragents.
- **Monitoring, training, and quality control**: Aside from sales, the other type of field-based role relates to the training, maintenance and provisioning of the agent network. Relative to the sales function, these activities are more routine in nature and can be handled by more junior staff or outsourced to external vendors. Responsibilities include distribution of business tools (e.g. registration booklets, signage), initial training, retraining for new services and handlers, and routine agent quality checks.

Three principles of distribution team responsibility allocation

Principle 1: Sales people should spend their time selling, not supporting

Within the distribution function, the sales team are likely to be the most experienced and well paid. Their time should be reserved for the highest value work, which is identifying new agents and motivating existing ones. Having a sales person fielding routine agent support requests or handling administrative functions is a poor use of scarce resourcing. Likewise, monitoring and quality control which is more formulaic and routine can generally be handled by more junior staff.

Principle 2: Sales and monitoring functions should sit with different individuals

The priority KPI of a sales person ("sign up more agents") is naturally at odds with the priority KPI of someone involved in monitoring ("maintain high level of customer experience"). A sales person is unlikely to discipline or terminate an agent that is not complying with the basic quality and compliance standards. For example, a sales person would have little motivation to report an agent who was flaunting KYC requirements if that agent was delivering strong volumes.

Principle 3: Subscribers are supported at the general call centre. Agents are supported through a dedicated call line

No matter how well-resourced, call centres are bound to experience congestion at times. Subscribers will tolerate this congestion within reason. However, agents feel they should be treated as business partners not customers, and will be far less tolerant of delays and IVR menus. If agents feel they are not being properly supported, they will be less likely to invest their time and capital in the mobile money business.

Other mobile money functions – Build, insource, or outsource?

Outside of distribution, a successful mobile money program will have to build or source capacity in a few other functional areas. Decisions need to be made as to which functions should be 1) built within the mobile money team 2) "insourced" to another part of the organisation or 3) "outsourced" to an external contractor.

- **Marketing**: Common practice among leading mobile money deployments is to **insource marketing to the core marketing team, but create stronger-than-usual linkages to the mobile money group**. The marketing lead will need to be well-versed in the mobile money service and have a deep appreciation of the multi-step customer journey. One marketing manager described co-locating with the mobile money team for a period of time to fully understand its marketing needs. Other organisations have forced this linkage by instituting dual-reporting structures for the marketing lead to both the mobile money head and CMO.

- **Business development**: Common practice among leading mobile money deployments is to **build the business development function within the mobile money team**. Given the mass market nature of the product, the existing corporate business development machinery within the MNO is unlikely to be well-placed to develop mobile money partnerships. Sometimes business development begins as a side role of the mobile money manager, but as services grow business development becomes a sufficiently important function to justify dedicated resourcing.

- **Regulatory engagement**: While most MNOs have a dedicated telecommunications regulatory liaison, this person may not be trained or equipped for working with financial services regulator. In some cases, this person will be trained (sometimes by a group regulatory resource) to take on engagement with the financial services regulator; in other cases, the mobile money manager becomes the regulatory lead. Either way, the person responsible for engaging with the regulator needs to have the proper skills and knowledge to do so.[1] In addition, someone will need to have ultimate responsibility for ensuring regulatory compliance, particularly AML/CFT.

■ **Customer and agent support (call centre)**:
Common practice among leading mobile money
deployments is to **insource customer support
to the call centre and build agent support**.
The customer support requirements imposed
by mobile money are quite significant. In the
first few months of launch, customers flood
the call centre with general inquiries about
the service. As the subscriber base grows, PIN
reset and other transactional requests become
quite frequent. Generally all call centre staff
are trained to answer general mobile money
inquiries, but more-sensitive requests such as
PIN resets are handled by a specially trained
mobile money team within the call centre.

Agent support is typically dealt with through
a dedicated support line. Some deployments
house this hotline in the back office of the mobile
money team. Others house it within the call
centre. In either case, the function needs to be
newly built within the organisation.

Functional capacity will need to be built
or sourced for other areas such as business
intelligence, product design, fraud & risk[2],
compliance and IT. Where these functions are
located and whether they require dedicated
resourcing will largely depend on the stage of
the deployment and structure of the rest of the
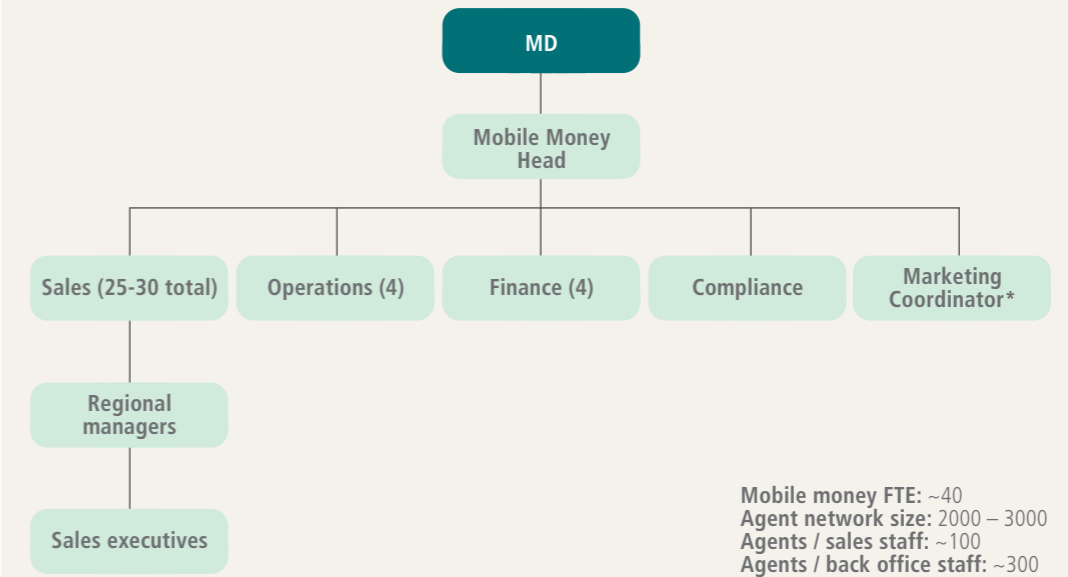MNO's organisation.

As many of these functions outlined above are
insourced to other business units at the MNO,
**buy-in and incentives at the executive level
become important for this coordination**. MMU
research has found that many senior executives,
including CEOs, now have mobile money KPIs.

Headcount

If you ask a mobile money head about his or
her organisational challenges, you are bound
to hear complaints around headcount and the
never-ending "fight" for staff. You will often find
multiple roles being played by single individuals,
overstretched distribution team trying to triage
issues on an ever-expanding agent network, and
backlogs of administrative work. Right-sizing a
quickly growing mobile money program can be a
significant challenge.

Below are some benchmarks to help operators
size their teams relative to other successful
deployments. These benchmarks come in two
forms: First, we have given scaling factors to
help determine how many of each type of staff
are needed as the program grows. Second, the
structures of actual mobile money organisations
are provided anonymously as a reference.

Benchmarks for sizing mobile money teams

Role	Scales with...	Benchmark ratio	Rationale
Sales	# of agents	50-150 agents per sales person	Sales staff are able to visit about 50 agents per week. Maintaining this ratio allows an agent visit every 1-3 weeks, which is the minimum for a young network. Masteragent structures[3] can lighten these requirements by providing their own sales push.
Back office	# points of contact (either agents or masteragents)	100 – 200 points of contact per back office staff	Agent support needs are frequent. In deployments with no masteragent structures, all agent queries will all come to the back office. Introduction of a masteragent structure will reduce the number of points of contact.
Call center capacity	# of registered subscribers	300 – 400 monthly inbound calls per 1000 registered subscribers	

East African mobile money service
Growth stage

This service houses all mobile money staff under a business unit reporting directly to the CEO.
Marketing has a dotted line reporting relationship back to the GSM Head of Marketing. The
deployment maintains adequate ratios of sales staff to agents (100 agents per sales staff) but falls
slightly short of recommended back office staff ratios to agents (300 versus a recommended range
of 100 – 200).

Southern African mobile money service
Growth stage
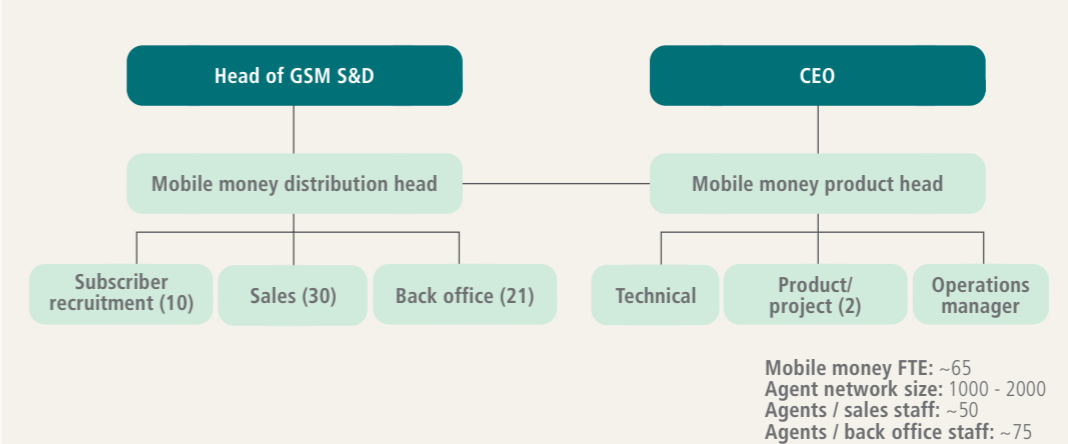
This service splits the mobile money team between a distribution function and a product
function. Importantly, despite having the mobile money distribution structure housed within the
core GSM sales and distribution team, the individuals are completely dedicated to mobile money.
The deployment maintains strong ratios of agents to sales staff (50 versus recommended range of
50 – 150) and agents to back office staff (75 versus a recommended range of 100 – 200).

2 See MMU publication "Managing the
Risk of Fraud in Mobile Money" For more
information on how MNOs can manage
mobile money fraud
3 See MMU publication "Managing
a Network of Mobile Money Agents"
for more information on masteragent
structures

The Mature Stage

To date, few mobile money deployments have entered the mature stage. Nationwide distribution structures take significant time to build and even for the captive GSM base, customer acquisition can be time consuming. However at some point, these tasks will feel largely complete. Alongside this operational success, mobile money programs will begin to see an equal amount of financial success. Five years from launch M-PESA in Kenya now accounts for 15.8% of Safaricom's revenue.[4]

Organisations should gradually reorient their structures to fit this new reality as it appears. Below are a few areas to consider:

Potential to reintegrate mobile money distribution into core GSM units

When the overlap between core GSM and mobile money distributors becomes large and mobile money revenue begins to compete with traditional GSM products, the logic for keeping a separate mobile money distribution structure begins to erode. Core GSM will now have sufficient incentive to push mobile money to achieve their sales targets. It will no longer make sense for distributors to have two separate points of contact within the MNO.

In 2010, Safaricom integrated M-PESA into the Consumer Business Unit and Enterprise Business Unit, which drive the consumer and business sales respectively. Strategic decisions are still made by the separate Financial Services Business Unit.

A shift to partnership and product evolution focus

In the mature stage, the challenge of sales and distribution is replaced by a new challenge of maximising opportunities from an existing base. Money programs will generally look outward for these new opportunities – new products, new partners and B2B opportunities. With this shift in focus comes the need for more resourcing in business development, business intelligence and corporate sales. These activities will attract more headcount and consume more managerial time.

Conclusion

Organisational structure is one area where the mobile money industry has arrived at best practice through trial and error. Seasoned operators have identified the importance of establishing separate business units for mobile money, creating separate sales and distribution teams to drive the mobile money business, and adequately aligning the other MNO functions to create an environment whereby mobile money can flourish. The hope is that newer deployments can benefit from these lessons and be able to trace, from project inception to maturity, the organisational requirements to succeed.

4 As reported publicly in Safaricom's 2012 Annual Results Presentation reflecting March 2012

Chapter 5
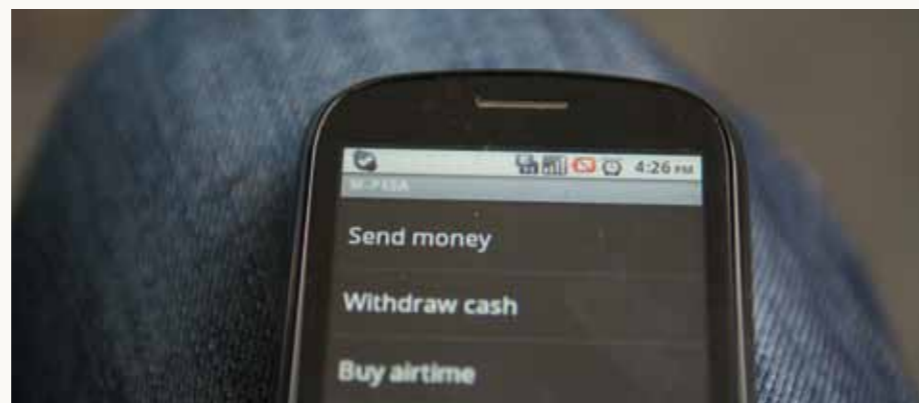# Managing the Risk of Fraud in Mobile Money

Authors: Lara Gilman and Michael Joyce

Executive summary

Risk management is a key component to the commercial success of any business. Effective risk management underlies sustainable commercial growth because it protects two key commercial assets: reputation and revenue.

Mobile operators are familiar with managing risks on the GSM side of the business and those that have launched mobile money are aware that mobile money carries different kinds of risk – particularly the risk of fraud. This paper outlines a framework to managing fraud and risk. The four key elements of that framework are: (i) determine risk appetite; (ii) identify and assess risks; (iii) establish effective controls; and (iv) monitor and review the risk management strategy.

In our research, MMU found that operators are aware of the need to develop a robust risk management strategy for mobile money. This paper will highlight some effective practices that operators use to manage the risk of fraud in order to assist mobile money providers as they continue to review and enhance their risk management strategies.
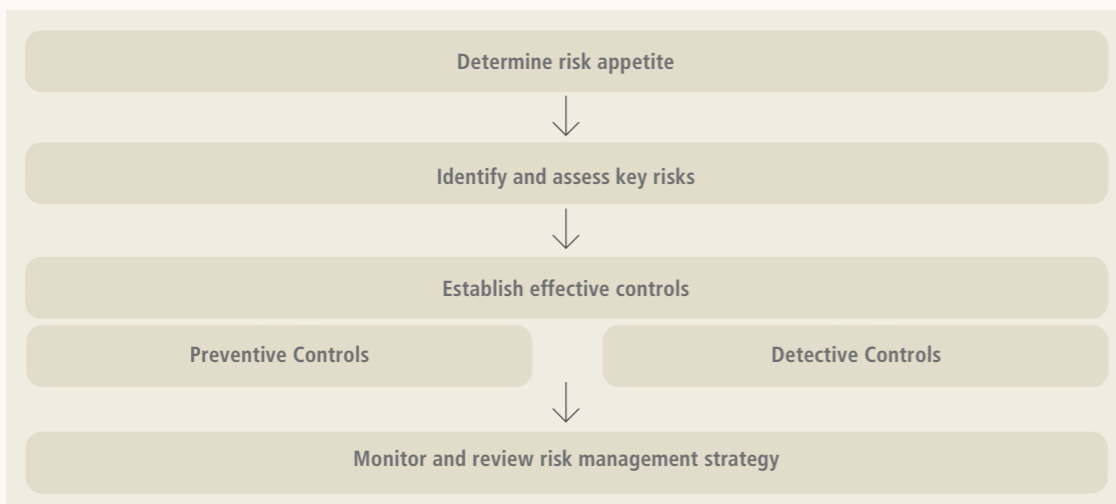
Introduction

Managing risk in mobile money is a challenging task, especially when it comes to the risk of fraud. Fraud not only results in financial loss to customers or a mobile money provider, but it also damages the reputation of the service to the customer and risks the reputation of the industry as a whole. As such, mitigating the risk of fraud is a primary objective in a robust risk management strategy.

In practice, MNOs, banks and third parties recognize that risk management is an essential pillar to the sustainable commercial success of a mobile money deployment. As MMU has addressed in other publications, mobile money is anything but a quick and easy value-added service (VAS). Operators with effective risk management strategies are aware of the complicated nature of mobile money and have invested dedicated resources to manage the fraud and revenue assurance activities.

However, specific risk management strategies vary from operator to operator. Strategies are affected by numerous factors including stage of development, organisational structure, number of product offerings, regulatory environment and local market context.

While the structure of managing fraud may differ, there is a common framework that is widely agreed to be the foundation to any risk management strategy in mobile money. The framework is composed of four elements that mobile money deployments use to manage risk: determine risk appetite, identify risks, establish controls and monitor effectiveness. The diagram below is a visual representation of the framework and is a guide for topics covered in this paper.

- Determine risk appetite
- Identify and assess key risks
- Establish effective controls
  - Preventive Controls
  - Detective Controls
- Monitor and review risk management strategy

This risk management framework is not far from ISO 31000:2009[1] or SOX[2] standards which are global guidelines on risk management. As such, it could apply to many industries but our focus is how it is used in the mobile money context in order to highlight how operators mitigate the risk of fraud in mobile money. Other risks including compliance, business continuity, health and safety, and physical theft are beyond the scope of this paper and will not be specifically addressed.

Determine risk appetite: the foundation of risk management

To successfully prioritise and control the risk of fraud, mobile money operators need to understand their risk appetite, which is a way of expressing what costs they would be comfortable to carry. Every risk will have a cost, as will any control. A mobile money deployment that is more conservative may be inclined to avoid risk and be more willing to accept slower growth or higher operational costs. Alternatively, a deployment that is more focused on rapid expansion and innovation will be more open to accepting a greater risk exposure. What is important is that mobile money managers and those responsible for commercial growth have guidance on appropriate levels of risk when developing commercial strategies or exploring new service offerings.

In the same way that the risk appetite of mobile money deployments may vary, so too do the methodologies used in determining risk appetite. Some operators may attempt to define a quantitative risk appetite (for example, for less than a certain percentage of transactions to be subject to frauds or complaints). Others may use a qualitative scale, such as defining risk appetite levels as averse, minimalist, cautious, open, or hungry.[3]

Support for developing risk appetite could originate from a number of players. We have seen some deployments that rely on their bank partner for guidance on an appropriate risk appetite level. Other deployments use more group level support while some deployments develop their risk appetite through the fraud and revenue assurance team that manage the GSM side of the business. While this step in the process may be somewhat conceptual, it is an important one in order to be in a position to create effective and relevant controls.

Identify and assess key risks: understanding the potential of fraud

Orange Group: The first steps to managing risk in mobile money

Prior to the launch of Orange Money, Orange Group knew that they had to look at this new service with a fresh eye. While the commercial and marketing teams evaluated the direct and indirect potential benefit of launching mobile money, the corporate fraud and revenue assurance team needed to identify and assess the risks of a complicated new service. For Orange, the most important objective was to protect the interests of Orange Money customers from fraud, while also ensuring the service remained accessible and easy to use. Orange recognised that a robust risk management strategy would be foundational to building trust with customers.

The team's first step in understanding how to manage risks in mobile money was to analyse the vulnerabilities of the service. In addition to relying on the wealth of their own experience from the GSM business, the fraud team sought support from outside experts and proxy industries, such as other financial and payment services. Building up a portfolio of potential frauds, Orange was better equipped to develop processes and thresholds to mitigate the risks of mobile money.

The benefit of creating a strategy from scratch is that it allows the operator to tailor the strategy to the requirements of the service. Mobile money is inherently complicated requiring controls and processes beyond the GSM business. For any new deployment, the prospect of building a strategy from scratch may seem slow but it is necessary. The first step to building that strategy is to identify and understand the vulnerabilities in the mobile money service.

In order to build an effective risk management strategy, operators need to identify the vulnerabilities in the operations of its deployment. The risk identification process is often conducted by those responsible for the risk management of the business as a whole, such as a revenue assurance team. For example, we have seen at least a couple of MNOs who have created a review process for any new product for their mobile money service. As part of the review, any new product or pricing must be reviewed by all stakeholders in the business including sales, marketing, distribution, finance and security and revenue assurance. The security and revenue assurance team identify and evaluate the probability of risk and estimate the impact. While this is not the only model in the industry, it is important to note that the responsibility for identifying risks has been clearly designated to a specific team.

So, where are some of the key risks of fraud in mobile money?

There are risks that exist in every mobile money service around the world, such as the potential theft of customer information or manipulation in e-money reconciliation. However, as fraudulent activity varies from deployment to deployment, it is more relevant to look at risk identification from a payment ecosystem perspective. In other words, where in the mobile money process might actors or participants be at risk or capable of committing fraud? The key players who need to be considered are the customer (transactional risk), the agent (channel risk) and the employee (internal risk).

Potential frauds in mobile money

Transactional	Channel	Internal
■ **Vishing/Smishing**: Use of phone calls or SMS to gather personal details such as account numbers, PINs or personal identification details.	■ **Split transactions:** Agents split cash-in transactions in order to earn multiple commissions (only applies to tiered commission structure).	■ **Internal fraud:** Employees colluding for unfair personal financial gain.
■ **Advance Fee scams**: Customers duped to send funds under fake circumstances or promises.	■ **False transactions:** Agents transferring customer funds to personal account.	■ **Identity theft:** Employees accessing and exploiting customer information without authorisation.
■ **Payroll fraud**: Non-existent or "ghost" employees receiving funds.	■ **Registration Fraud:** Creation of accounts for false, invalid or duplicated customers for the purpose of obtaining extra registration commissions.	
■ **Reversal Requests**: Customer requests to reverse transactions that were in fact successful.		
■ **False transactions**: Sending fake SMS to make customers believe a transaction was successful. Often accompanied by a reversal request.		

By looking at each player, operators can identify and assess the vulnerabilities in the system. For example, customers are often the victim of fraud because they have not adequately protected their PIN. Within the channel, agents could exploit the system by splitting transactions for unfair gain. While this may not be characterised as fraud in a legal sense, operators often treat it as fraud since it has the same effect for the revenue line of the business. Internal risk, or the risk of an employee defrauding the company, is critical to understand because the financial and reputational exposure can be huge even if the likelihood may be low. Mobile money deployments with effective risk management strategies have been

meticulous in reviewing any of the vulnerabilities, especially the e-money reconciliation process, which could enable employees to defraud the company. Identifying the risk of fraud from the perspective of all the stakeholders involved provides the mobile money operator an end-to-end understanding of the risks that need to be managed.

Once the risks have been identified, they should be compared to the established risk process. Any risks which fall outside the risk appetite of the company will need further investigation and controls will need to be put in place to manage or reduce these risks until they are acceptable to the business.

Questions to consider when identifying and assessing operational risks in mobile money

- ■ What are the most complex parts of the process?
- ■ Are there any large value, high-risk transactions that happen regularly?
- ■ Are there any authentication mechanisms that are easily faked?
- ■ How could someone abuse the system?
- ■ How could someone disrupt operations?
- ■ What frauds are prevalent in the country apart from mobile money? How common are they?
- ■ What is the general level of criminal activity and the strength of law enforcement in the country?
- ■ What is the likelihood of the risk?
- ■ What is the potential impact on the business (financial and reputational)?

Establish effective controls: mitigating the risk of fraud

With the key risks identified, the next step for a mobile money operator is to establish effective controls, which is a cost-effective action or policy to manage specific risks. A successful control will underpin, but not block, sustainable commercial growth.

Using controls to mitigate risk in mobile money

Controls in mobile money are either preventive which reduce the likelihood of fraudulent activity or are detective which monitor and report trends or activities that have already happened. In Table 1, we have outlined the key controls as they affect most mobile money deployments.

While this is not a comprehensive list, each of these controls addresses at least one specific risk associated with mobile money. For example, controlling access rights helps to reduce the risk of theft of customer information, while monitoring and analysing suspicious transactions increases the visibility of fraudulent activity.

Table 1: Examples of controls in mobile money

Preventive Controls	Detective Controls
■ Control access rights to protect customer information	■ Monitor and analyse suspicious activity
■ Segregation of duties to reduce error or fraud on high risk procedures (e.g: e-money reconciliation)	■ Monitor activity on system access
■ Threshold limits to reduce risk associated with AML/CFT	■ Create robust customer recourse and escalation procedures
■ Customer awareness campaigns to increase customer education and protection	■ Monitor agent transaction activity
■ Agent training on acceptable practices and terms and conditions	■ SMS alerts to customers
■ Employee training on roles and responsibilities	■ Management review of high-value transactions

Preventive controls are generally held to be stronger than detective controls, especially if these controls can be implemented as technical features of the mobile money system. If controls such as segregation of duties, access rights or network hardening are deployed, it is important for these controls to be implemented robustly, with proper documentation, review and testing. If the controls are in place but are easily circumvented (for example, if segregation of duties is in place but users commonly share passwords to get around it), risks of fraud still remain.

The size of the deployment and availability of resources can have an impact on whether a deployment relies more on preventive or detective controls.

For example, in smaller deployments where resources may be more limited, there may be more emphasis on monitoring activity especially considering that the volume of activity tends to be lower. Larger deployments, such as Telenor Pakistan's Easypaisa, with higher transaction volume and multiple product offerings, have developed a more balanced approach and rely heavily on both preventive and detective controls. All mobile money deployments should continue to review the effectiveness and relevance of controls, particularly as the deployment grows both in customer base and volume of transactions. Controls that are suitable for a smaller and younger deployment will need to be reviewed as the deployment grows commercially.

Telenor Pakistan Easypaisa: Using controls to manage agent arbitrage

Tiered commission models allow agents to derive greater benefit out of low value transactions, which is critical in mobile money deployments where low value transactions drive the business. Easypaisa decided to pursue a tiered pricing model to take advantage of these commercial benefits. However, tiered commission models are inherently riskier than percentage-based models with more opportunities for agents to "game" the system through splitting transactions to earn multiple commissions.

Rather than abandon the benefits of the tiered commission model, Easypaisa implemented a preventive and a detective control to mitigate the risk. Both controls required Easypaisa to conduct analysis on customer activity. They discovered two helpful facts to create controls suited to the specific requirements of their service. Firstly, normal customer behaviour was to deposit at least 50 Rupees into their Easypaisa account at any one time. Secondly, the team determined that

over a 15 day period, any account making more than 45 cash deposits (average of three deposits per day) was abnormal and often linked to suspicious activity.

Identifying "normal" vs. "abnormal" behaviour meant that the Easypaisa team was able to create controls that could be effective but not excessive. Knowing that customers deposit at least 50 Rupees meant that Easypaisa could create a minimum deposit that would not detract from the customer experience but would make it more difficult for agents to split transactions. Equally, by understanding the patterns of "abnormal" behaviour, Easypaisa could develop a detective control where they created reports to highlight any accounts performing more than 45 cash deposits at the same agent point in a 15 day period. By creating these controls, Easypaisa was able to take advantage of the commercial benefits of tiered commissions while managing their level of risk exposure.

Tools to ensure successful controls: data, communication and clearly defined internal procedures

There are three tools that mobile money deployments use in order to effectively implement controls:

1) Reliable and relevant data and dashboards.
2) Clear reporting and communication channels between stakeholders, including customers.
3) Internal procedures that define how to escalate awareness and action upon detection of suspicious activity.

Data is an important asset when it comes to managing and monitoring fraud in mobile money. Monitoring transactional activity is a key benchmark in an effective strategy, but there is no one single dashboard that will be able to be adopted by all mobile money deployments. Reliable data comes from working with back office teams and/or platform providers. Looking again how Easypaisa manages agent arbitrage, they needed to uncover locally relevant facts that they could use to determine normal and abnormal behaviour.

Safaricom M-PESA: Communication as a preventive control – a look at customer awareness

One of the top priorities for Safaricom's M-PESA is mitigating the risk of scams against customers. Rather than attempt to only use detective controls, Safaricom relies heavily on a preventive control to reduce risks of scams against customers. Safaricom has found the most effective preventive control is raising customer awareness through clear communication. To reach M-PESA customers, Safaricom uses a multi-pronged approach. SMS blasts, radio announcements in local dialects, local skits and newspaper ads are all part of their customer awareness campaigns. Increasing customer awareness through clear communication has been vital to Safaricom's success in managing fraud against M-PESA customers.

Communication, internal and external, is the second tool that mobile money deployments need to use to enforce effective controls. Depending on the number and complexity of controls that have been established, there might be numerous stakeholders in the process. Internally, mobile money managers, back office support, customer service, and finance and revenue assurance teams are some of the common stakeholders that need to be aware and encouraged to communicate any anomalies or suspicious activity to relevant internal parties.

External communication to agents and customers is equally important for an effective preventive control. Creating awareness among customers about how to avoid the risk of fraud is a critical preventive control to reduce prevalence of customer scams, as we see in the case of M-PESA.

Finally, when a fraud or suspicious activity is detected, **internal procedures need to be in place in order to ensure suspicious activities are escalated appropriately**. Internal procedures need be comprehensive so that information is shared and appropriate action follows. When a customer calls to complain that funds in their account have disappeared, the customer service centre needs to know how to escalate that complaint.

Equally, if the complaint regards a specific agent, there also needs to be a process in place around agent discipline. In severe cases, if any agent has accessed a customer's accounts by stealing his or her PIN, often some mobile money operators will block the agent account immediately pending further investigation. For more minor offences at the agent level, operators will typically give an agent a warning before taking action.

When controls aren't an option: transfer, tolerate or terminate risks.

If a risk isn't acceptable, an operator may make a decision to transfer the risk. Insurance is one form of risk transfer, but the more relevant one for most mobile money operations is outsourcing. The use of third parties (such as agents, cash handling companies or business process operators) may reduce the risk for an operator. However, many regulations may stipulate that the bank or operator responsible cannot transfer some forms of liability.

UBL Omni: When to tolerate and when to control risks

In Pakistan, UBL, wanted to find ways to encourage its mobile money customers using Omni over-the-counter (OTC) to move to e-wallets. Due to amended regulation, UBL was able to allow new Omni customers to conduct two transactions prior to the account verification, allowing for certain transactions to be completed by SMS authentication. UBL decided to implement the new option as a way to reduce barriers for customers to trial the e-wallet.

The fraud and risk team recognised that there was an additional risk of fraudulent activity by allowing customers to transact under certain circumstances without a PIN. The team decided that the commercial benefit outweighed the risk and tolerated the risk at launch by allowing certain lower value transactions. They monitored the activity and within the first week, they discovered there were a few complaints from some customers. These customers complained that transactions had been completed from their accounts without their knowledge.

As a response, the fraud and risk team decided to implement an additional control. Within a week, they had restricted the allowable transactions such that disbursal codes were mandatory in lieu of a PIN.

UBL was able to tolerate the risk at launch because they knew they had the capabilities, due to their technology, to react quickly if the perceived risk impact increased. What is equally important is that while UBL decided to tolerate the risk, they closely monitored activity to ensure they were immediately aware of any impact.

Alternatively, there are cases where a deployment may choose to tolerate a risk. Sometimes a good option is to accept that a risk will occur since the cost-benefit analysis of preventing the risk indicates that the cost or customer impact is too high. If this decision is taken, it should be monitored closely in case the cost-benefit equation changes.

Terminating a risk is another possible route when a practical and effective control is not possible. If a particular product or service is creating many possibilities for loss or fraud, customer issues or other problems, the best option is sometimes to discontinue that product. It may be necessary to "grandfather" a particular pricing scheme or otherwise manage change for those affected.

Monitor and review risk
Management strategy: ensuring
long-term effectiveness

Monitoring the controls and reviewing the risks over time is crucial in maintaining an effective risk mitigation strategy in mobile money.

Questions to be addressed in the monitoring process

- What new fraudulent activities are happening? Is there a trend?
- Are all controls adequately designed and executed?
- Are employees and managers aware and understand their roles and responsibilities?

Monitoring requires strong management support and adequate internal resources

Firstly, it is important that the risk management process has detailed involvement of management. Many mobile money operators have a dedicated Risk Management Committee consisting of Senior Management from different parts of the business. This may also involve representation of the Board of Directors or banking partners. It should have a standing agenda to review the current risk profile, the effectiveness of controls and be on the lookout for any new or emerging risks. It may also have a role in the approval of new or changed products or services. Throughout the risk management process, it is important that management has validated the risk assessment and risk acceptance decisions.

One of the most common forms of monitoring used by mobile money deployments is an annual internal audit. This is a comprehensive review to ensure all processes and controls are performed in a timely manner and completed by a team that is not directly involved with the mobile money service. Often the internal audit team sits at the group level or may be part of the finance and revenue assurance team. Mobile money providers may rely on the same internal audit team that conducts the risk audit on the GSM side of the business. The latter option may be more attractive for smaller deployments due to the cost synergies. However, operators that use this approach need to ensure the GSM audit is appropriately adapted for mobile money.

Beyond the standard review of an internal audit, there are also more creative ways that we have seen mobile money deployments manage the monitoring process. WING in Cambodia monitors reconciliation via peer review. Reconciliation manipulation is arguably one of the highest risks in mobile money requiring a number of preventive and detective controls including clear segregation of duties and monitoring system access and activity. At WING, managers who are not directly involved in the process do the reconciliation as a random spot-check. There are two benefits to this process. First, managers become more familiar with the necessary steps to perform the reconciliation and therefore are more capable to identify if there any irregularities reported. Second, the manager acts as an outside monitor reducing the risk of collusion between those who regularly conduct the reconciliation.

Monitoring is critical to the success of risk management because mobile money deployments will evolve and with more product offerings or simply a growing customer base, controls will need to be reviewed to ensure on-going effectiveness. Equally important is that while the deployment changes, so too does the sophistication of fraudsters. Operators need to ensure adequate resources to regularly review both the effectiveness of controls and the market for potential new trends in fraudulent activity. Regular reviews coupled with active management involvement are both necessary for operators to ensure long-term sustainability of effective risk management.

Fraud and risk are key questions that must be addressed by any mobile money operator. They are the concern not only of the operator, but also the concern of the customers, the agents and the regulators. Our research has shown that there are many tactics that operators can use to identify, prioritise, control and monitor the risk of frauds. By ensuring that frauds are managed according to this framework, operators can protect themselves, their customers and agents and help contribute to a successful mobile money business.

Chapter 6
Designing & Delivering Agent Training for Mobile Money Deployments

Authors: M. Yasmina McCarty and Gerald Rasugu

Benefits of training an agent network

The ability of mobile money agents to smoothly deliver cash and e-money to customers has major bearing on the success of a mobile money service. The 2011 GSMA Global Mobile Money Adoption Survey found that the agents of the eight fastest growing mobile money deployments had significantly more activity (up to 64.8 transactions per active agent outlet per day with an average of 28.5) compared with the agents of other services (average of 3.8 transactions per active agent outlet per day).

To drive high level agent performance, training is one of the more powerful levers available. Well trained agents are more likely to drive transaction volumes for the operator, educate the customers on how the service works and deliver error free transactions. Indeed one mobile money manager went so far as to say that it is only through well trained agents that mobile money revenues can be ensured.

"Agent training" goes beyond just training agents! All members of the mobile money distribution channel require training.

Agent training best practice

Looking across effective mobile money agent networks, there are five areas of best practice in agent training:

- **All members of the mobile money distribution channel require training** Business owners, shop handlers, agent management teams, Master Agents, foot soldiers, etc. are all important members of the distribution team who need to have a complete understanding of the mobile money product.
- **Centralised training is effective at the beginning of a deployment but will likely need to evolve to regional decentralised training as the agent network grows** Mobile money services have the option of centralised trainings at headquarters, regional training programs in key hubs or training agents on site at their place of business. The maturity of the mobile money service and stage of development of the agent network determines the optimal model.
- **Agent training is not a onetime event** Agents will need refresher courses on a periodic basis and will need training on new products. Agent training should be thought of as an ongoing part of a mobile money service.
- **Dedicated trainers with clear KPIs for performance management is necessary to deliver effective agent training** The choice to use in house trainers or to outsource training all together depends on the size of the distribution network, the quality of the training resources, and the oversight the mobile money manager has over training.
- **Training curriculum must go beyond the practical "how to" of executing mobile money transactions** It importantly must also cover the business case for how to make money on mobile money, the company guidelines for agent behaviour and regulatory compliance requirements. Trainees should be evaluated at the conclusion of the training with a pass/fail assessment and on an ongoing basis at their point of business.

This article has primarily been written with wallet based MNO led services in mind. However, the topics covered here are likely to have relevance for mobile money services powered by banks and third-party players as well as money services offered over-the-counter.

Depending on the distribution structure of the mobile money service, there are a number of individuals who will need to be trained on mobile money. Education levels, literacy and numeracy will significantly vary across each of these groups and will need to be taken into consideration in designing training curriculum and training format.

Business owners

The business owner is the person in-charge of one or multiple outlets which will be offering mobile money. Critically, he or she is the person who has put up the capital to invest in the mobile money business. As such, it is important that he or she is trained on the service their outlets will offer and is bought into the business case of mobile money. The owner should understand its benefit to customers and see the value mobile money brings to the business as a whole, including increased foot traffic and opportunity for incremental sales on their other products. This will give the owners the confidence to push their outlets to drive the business. Additionally, he or she will better manage their business and better handle their staff. Included in business owners' trainings should be skills to manage their handlers, including basic book keeping, end of day reconciliations, etc.

Handlers

Handlers are the individuals who directly interact with customers and facilitate transactions at the points of business. All new handlers will need to be trained before offering the service. Financial services agents are tasked with the responsibility of not only providing service to customers but also educating them and carrying out the business in the stipulated manner. As such, not only are they seen as the face of the company by the customer, but are expected to be experts in the subject matter.

With that in mind, training the handlers before offering the service is mandatory. In some deployments, it's the handlers training that will determine whether or not the agent outlet is allowed to start offering service. Handlers are normally put through rigorous training and by the end of the training given an exam which they are expected to pass to satisfy the service provider of their readiness. Poorly trained handlers contribute to poor customer experience at the retail outlet, resulting in low customer uptake/usage and increased incidences of fraud.

Operators will benefit from encouraging the business owner to take care when recruiting the handler. Handlers must be willing to be trained and have effective communication skills already. As they are required to be dedicated on the service, continuous up-skilling of the staff is essential. Many deployments face challenges of high turnover of handlers, which results in the frequent training of new handlers. There really is no other way around it.

Some deployments are considering certifying trained, competent handlers in an effort to manage this high turnover, as many of them move from one agent to another. With the certification in place, re-training may not be required.

Foot soldiers

A number of mobile money services use foot soldiers/mobile agents to register customers and/or aide the customers in performing their first cash-in. Given the profile and incentive structure of foot soldiers, there tends to be high churn, making training an expensive proposition.

But as with handlers, there is no way around it. If a mobile money service uses the foot soldiers/mobile agents as new customers' first interaction with the mobile money service, they must be adequately trained. This is probably a shorter training than the full agent training, but must convey (a) how to explain to a new customer the key benefits of using mobile money; (b) how to register customers; (c) how to teach customers to use the mobile money interface, taking special care with clients who may not have high levels of literacy; (d) how to answer the FAQs new customers may have.

Agent Network Management Teams (ANMTs)

The team which manages the agent network is essential in scaling the agent network while ensuring the agents provide consistently high quality service. These may be (a) employees of the mobile money service provider who add mobile money as part of their other duties (common with MNOs whose sales and distribution teams double up managing airtime resellers and mobile money agents); (b) employees of the mobile money service providers who directly manage the agents, on an exclusive basis; (c) specialised third parties outsourced on contractual basis; (d) large retailers with established retail network.

The ANMTs generally play various roles which may include identifying, training and managing agents. Given their mandate typically goes far beyond training, their knowledge of the service must be exceptional. Critically, they are expected to not only be aware of the "how to" of the service but also the benefits of mobile money, the business case for doing mobile money and basic business principles in order to guide the business owner and handler.

Master Agents, aggregators and distributors

Deployments which use Master Agents, aggregators and/or GSM/airtime distributors in their distribution model will need to train these additional layers of the channel. As Master Agents have the responsibility of recruiting and managing agents, they will need to be trained beyond the traditional "how to" of the service. Their training will need to include the recruitment process, so as to ensure quality agents are brought on board, and the critical aspects of managing cash and e-money, as liquidity management will be the key success driver for Master Agents.

Given Master Agents are in frequent contact with the mobile money agents, it is tempting to pass the agent training responsibility to them. However, they are unlikely to be reliable resources for agent training. As further discussed in the section of selecting and managing trainers, the incentive structure of Master Agents, aggregators and distributors is typically not aligned against this objective.

The use of centralised, decentralised or onsite training models depends on the maturity of the mobile money deployment

The model for agent trainings varies significantly by the stage of maturity of the mobile money deployment. Centralised training schemes tend to be more common prior to the launch of a mobile money scheme; Regional and onsite training schemes are more common once mobile money deployments are live. Additionally, the content of the training curriculum tends to evolve over time, as more and more people in the market gain greater awareness and understanding of the service.

Training new agents pre-launch is ideally done as centralised, group training

It is typical for mobile money services to have a centralised approach to agent training at the launch of a mobile money deployment, whereby agents are required to attend a mandatory training session held at a centralised location. Training agents in a centralised place may be costly but it helps build a sense of belonging and ensures buy-in, which can be incredibly valuable at such an early stage when the service has not launched. Several considerations for centralised trainings are relevant:

- Proximity of the training centre in relation to the retailers' outlets;
- Compensating the retailers who may be forced to close their shops to attend the initial training, which may generally last for one day;
- Expenses related to providing meals/ refreshments and in some instances accommodation.

Group trainings are useful especially if prospective agents are aggregated from the same area, as there's ease of sharing between participants and relevance to their markets. In certain circumstances, the trainer may use the local/native language to make the training effective, and people from the same locality are more likely than not to understand this language.

In addition, distance from the training centre has an impact on number of agents recruited for the service. For instance, in the Philippines, the guidelines set by the Central Bank (Bangko Sentral ng Pilipinas) required all agents to go to the capital city Manila for training. This was expensive and significantly restricted the number of retailers that could become agents. The Central Bank later relaxed this rule, with positive effects on the growth of the distribution network.

Pre-launch training has to be timed in such a way that there is not a huge time lag between the training and service launch to avoid the need for re-training agents, which entails additional expenses. Depending on how many agents the mobile money service is starting with at launch, getting them all trained may take one to two weeks. Ideally, pre-launch training should be done at least two weeks in advance, giving the service provider sufficient time to distribute any collateral, business tools that agents may require. Some providers may

actually want to distribute the collateral one to two days before service launch to counter against competition, but the fact is that by the time the training takes place, it is very possible that the service is already public information.

Post-launch, training of new agents is best done through a decentralised approach

Once the mobile money deployment has launched, new agents joining mobile money will need to be trained and existing agents may also seek to improve service delivery or gain a better understanding of the service.

Because potential agents may already be aware, or even better, have already become users of the service, post launch training may be easier and faster than pre-launch training. Some of the challenges initially encountered in conceptualising mobile money, which may sometimes take painstakingly long to explain, may have been overcome.

After the launch of a service, there is normally pressure to quickly scale up agent numbers to popularise the service. **With that in mind, decentralised regional training is optimal as this allows more agents to be trained faster**. This may entail setting up training centres in important hubs that would have been identified such as the initial remittance corridors or areas identified as requiring agents due to perceived customer demand for the service.

The benefit of decentralised training for retailers is that they are encouraged to attend as these trainings will be within close proximity, allowing them to quickly return to their businesses. However, for the service provider, this approach likely means additional resources.

Moving to the regional training approach is typically done by establishing centres that can be used on a consistent and continuous basis. Alternatively, training centres in the regions can be hired as needed as has been done by many service providers. This will be informed by the service provider's agent acquisition strategy. Putting in place a long term plan may in the end be more cost effective, as established trainers in the regions will have been identified and with a sense of continuity, may have lower turnover.

Some examples of cost-effective regional training hubs are as follows:

- One MNO offering mobile money initially tried to do agent training in the capital city with follow-up visits to the shop as required. But as the footprint of agents spread across the country, this was no longer feasible. Two years after launch, they set up regional training centres with standing training sessions. This allowed both new and old agents to come in for trainings at any time. Former teachers from that locality were trained up to become the local trainers and are paid just for the training sessions they provide, saving money over trainers having to come from the capital each time.

- Training centres can be developed from existing infrastructure. For instance, one MNO uses space available at its retail centres/shops as a training centre, by installing the necessary training tools. With this, there is no extra overhead in terms of rental payments, which is a huge cost saving.

- Another mobile money service provider entered into an agreement with an MFI with a national infrastructural presence to use its centres for training agents. They have gone even further to identify champions within the MFI responsible for delivering the training.

Agent training is not a one time event

Ongoing training

Mobile money service providers will need to keep in touch with the agents during the nascent days of the service. Agents will want assurance that they are "doing it right," as it is their money which is at stake. For this reason, existing agents must be visited consistently and this visit should be exploited by the service provider to (a) enhance the agents' business through re-training; (b) identifying further training needs; (c) motivate the agent on the business case of mobile money. This also helps in relationship building, critical for the success of the business.

Refresher trainings

Agents should always have the option to get access to refresher trainings. This is a critical aspect for agents of mobile financial services. These refreshers may be done centrally or onsite. With active agents, onsite trainings are more effective as they address the specific issues an agent may be facing. However, centrally planned

trainings are still beneficial for agents since it gives them time to share common experiences gathered in offering the service.

In most cases, ongoing training and refresher trainings are undertaken at the same time especially when done onsite.

Trainings for new services

As the service develops and new features are added, agents need to be kept informed and up-skilled. SMS blasts and memos are a timely way to update agents on minor changes to the product, but the most effective communication and awareness is built when agents are visited and introduced in person to new services. Where possible, a technical simulation of using the new service should be done so agents can become familiar with the new feature. The new services training can also be undertaken at the same time with refresher trainings, since more often than not the same resource is used to train agents.

Safaricom's M-PESA in Kenya uses its quarterly agent forums which are held regionally to introduce and sensitise agents on new services. In other instances, onsite visits are used to introduce the new services mainly focused on creating awareness and addressing FAQs by providing relevant brochures. Some new services may involve a select number of agents (e.g. M-KESHO) and this makes regional centralised trainings more appropriate.

Recourse for agents in breach of trainings

Agents are required to provide the mobile money service according to the service provider's guidelines and generally are also required to adhere to legal and regulatory requirements. Training of agents before they start offering the mobile money service should be compulsory. Several deployments have been effective in ensuring that agents only start offering services after they have been adequately trained. This they do by providing business tools only after successful completion of the training by the agent.

Compulsory training will reduce agent infractions and give the operator recourse against agents when they are in breach of stated guidelines. For agents in breach of guidelines, mobile money providers may choose to give them the opportunity to be re-trained, at the conclusion of which, they are given a second chance to continue offering services.

Effective training hinges on well designed and well managed trainer KPIs

To achieve high quality training programmes, there must be someone in charge, responsible for developing the training strategy and organising the delivery of the programme. The training manager may or may not be a dedicated resource at launch, but over time with large distribution networks, dedicated resources will likely be required.

Master Agents and Agent Network Management Teams are not adequate resources for training agents

Some mobile money programmes will look to save costs by using existing resources already working in distribution to train others in the channel. Unfortunately this proves ineffective. The incentives and KPIs of master agents and sales teams are ultimately to drive sales, growth, transaction volumes, etc. They typically do not have KPIs on quality assurance or compliance. As such, they cannot be counted on to deliver the full scope of training.

In-house vs. outsourced training

Some mobile money programmes are in the fortunate position of having a trainer or training department in another part of the company which can be leveraged for training mobile money agents. Other MNOs will look to outsource this part of the mobile money business, given the time required to design and deliver quality training.

Both resourcing strategies can be effective. The choice depends on which option has qualified talent, which option is cost effective and which option gives the mobile money manager greatest oversight. Mobile money training programmes will need to be dynamic to incorporate market feedback on where there are gaps in customer understanding and the introduction of new products. As such, it is quite important that the mobile money manager has influence to evolve the training curriculum and training model as required.

Whichever trainer is used, they will need to acquaint themselves with the processes and regulatory requirements of the mobile money service and be sensitised to the nuances of the needs of the mobile money agents. Field visits to both urban and rural areas are vital in building deep understanding of how the business works, the agents role in delivering the product and what type of training is required. Focus should also be placed on product demos. **This so-called training of the trainers is an essential precursor to any trainer being deployed in the classroom and should be undertaken by a senior mobile money team member.**

KPIs

As with any area in the mobile money business, well designed KPIs and incentives are essential to high quality training. **KPIs for the trainers should include the training outputs i.e. number of agents/handlers trained and the training outcomes i.e. agents providing high level of customer service thanks to the training.**

See Annex 1 for a sample KPI for a Head of Training for mobile money at one particular MNO.

Ongoing monitoring of agents is essential to determine training effectiveness and identify future training needs

Agent trainings need to be tracked in terms of who has been trained, when they were trained, what products they were trained on and whether they attended refreshers. But to fully evaluate the effectiveness of the training, one must assess customers' experience registering and conducting transactions.

Almost all mobile money services have individuals regularly visiting the agents, either for sales purposes, for monitoring purposes or some combination thereof. These individuals will naturally uncover training gaps in the agent network and identify where more support is required. It is essential this information is regularly provided to the training team and incorporated into subsequent trainings.

If there are consistent training gaps identified by the field staff, the training programme and/or trainers will need to be improved.

Effective training curriculum covers much more than just the basic "how to" of conducting mobile money transactions

Training curriculum varies across mobile money deployments and across the different members of the distribution chain which need to be trained, but the key considerations in designing the curriculum are as follows:

■ **Expect four to six hours for training sessions** A thorough agent training will typically last around six hours for a new deployment. As the deployment matures, trainees are more aware of the service and trainers are more experienced in delivering training, this may reduce to four hours. Beyond the length of the curriculum itself, the duration of the training will also depend on (a) the novelty of mobile money in this particular market; (b) the literacy and numeracy level of the trainees; (c) the complexity of the service, internal processes, compliance procedures, etc. Adequate time should be allocated to the handset demos and trainee practice transactions.

■ **The resources and equipment for the training must include handsets** PowerPoint, flipchart, fliers, brochures, manuals, video presentations, etc. can all be useful resources in delivering effective training. But having handsets available for demos is essential. Additionally it is advisable for trainees to have access to dummy handsets or be able to use their own handsets on dummy accounts to practice transactions during the training.

■ **Low agent to trainer ratio is necessary for effective training** As with any classroom like environment, there is a limit to how many individuals can be trained effectively at once. This is particularly of importance with mobile money because the handset demonstrations and practice on dummy handsets is quite important and requires low trainer-to-trainee ratio. A ratio to target would be one trainer to approximately 25 agents.

■ **Training should cover how to make money on mobile money** Agents should leave a training not only knowing how to perform mobile money transactions but also how to earn from mobile money. Calculations should be shown on how many transactions need to be done each month to generate healthy commissions and examples should be shown of how to work the float frequently to increase return on capital.

■ **Training should conclude with meaningful assessment** Whatever the format of the final assessment, it is recommended that the exam be pass or fail. Trainees which do not pass should be required to return for another training session. It is also important to ensure the person marking the exam does not have incentives to ensure agents pass.

See Annex 2 for a sample Agent Training curriculum.

ANNEX 1: KPIs for head of training

Potential frauds in mobile money		
Objectives/Deliverables	Activities to meet the objectives	Measurement Criteria
Ensure Mobile Money Team (Internal & External Customers) are adequately trained and updated on new info	■ Develop training process for the mobile Money team (agents, staff, corporate, etc.) ■ Clear communication to agents and mobile money team on training calendar	■ Number of agents trained vs. target (target is derived from number of agents recruited and available for training) ■ Availability of detailed and documented training process ■ Adherence to the developed training process
Identification, Set up & Monitoring of Regional Training Centers	■ Appoint regional trainers for each region ■ Manage regional trainers ■ Attend x number of regional trainings in each region per quarter	■ Number of operational training centers set up vs. target ■ Number of regional trainers per region vs. target ■ Number of regional trainings attended vs. target ■ Quarterly review of regional trainers' effectiveness
Assess Quality of Agent Training	■ Visit x number of agents per month to assess quality of service offering using a predetermined template ■ Continuous review of agent training curriculum to enrich with up-to date info ■ Certification of agents	■ Accuracy of agent training curriculum and availability of up-to-date versions ■ Relevance of agent training material ■ Number of agents certified vs. target
Undertake Training Needs Analysis	■ Evaluate current training gaps within the agent network and suggest improvements ■ Evaluate training gaps within the mobile money team (internal staff) and recommend appropriate actions ■ Review training needs based on business and technology changes ■ Incorporate feedback from sales team and regional trainers on areas training improvement	■ Accuracy of training needs identified ■ Alignment of training with business and technology changes ■ Submission of bi-annual training needs analysis report
Reporting & Administration	■ Monthly/weekly reports on trainings undertaken ■ Monthly/weekly trade visit reports ■ Prepare training plans in advance ■ Evaluate/Assess trainees on completion of training ■ Facilitate training in all the regions	■ Accuracy of reports (up to 100%) ■ Number of reports sent monthly ■ Timeliness of reports ■ Availability of at least one month training plans ■ Average percentage pass mark attained by agents

ANNEX 2: Training curriculum

Following is an overview of the elements for a mobile money agent training, outlined for agents, both business owners and handlers. For training Agent Network Management Teams, Master Agents, aggregators, distributors, etc., additional elements may need to be included. Education levels, literacy and numeracy vary across each group of trainees; curriculum, training materials and training format needs to be adjusted accordingly.

1) **What is mobile money?** This is especially important for new launches or markets where mobile money is new

2) **How to make money on mobile money** The business case needs to be made for the business of mobile money

   ■ What is a mobile money agent? What are the roles & responsibilities of an agent?

   ■ Why become a mobile money agent? Benefits of becoming an agent

   ■ Agent commissions and opportunities for revenue – show calculations how agents can develop mobile money into a strong revenue stream, especially with balancing product mix

3) **The mobile money ecosystem** Outlining actors (agents, aggregators, super agents, master agents, etc.) and their roles in delivering mobile money

4) **How mobile money works** Step by step guide on how mobile money works for agents, including step by step screen shots.

   ■ Agent interface - This session should include practical demos, either through a training platform with multiple handsets where agents can practice, through dummy accounts or agents are given their SIMsv/tills so they can practice transactions.

     ■ Introducing agent menu/interface + customer menu/interface

     ■ Agent registration - steps for registering till, pin creation, changing pin, etc.

     ■ Float management

     ■ Customer registration for Mobile Account/e-wallet services only

     ■ Cash-in

     ■ Cash-out for registered users

     ■ Cash-out for non-registered users

     ■ Processing bill pay

     ■ Balance check

     ■ Call helpline

   ■ Customer interface - Agents should be familiar not just with their agent menu but also the customer interface and how it works for the customers. Training on the customer interface would again include screen shots, practical demos on the handset and agent practice on handsets.

     ■ Customer registration, if relevant

     ■ Cash-in

     ■ Cash-out for registered users

     ■ Cash-out for non-registered users

     ■ Processing bill pay

     ■ Balance check

     ■ Buying airtime

     ■ Change pin

     ■ Calling helpline

   ■ Compare & contrast agent account vs. customer account

5) **Security for mobile money**

   ■ Agent PIN and importance of keeping it confidential

   ■ Consumer protection – customers must be taught to maintain their own PIN and not share with anyone else

   ■ Filling up log book as required

   ■ Process and recourse for transactions sent to wrong numbers

   ■ Protection against fraudsters

   ■ ID verification for customer transactions

6) **Customer service**

   ■ Importance of customer education when registering customers

   ■ Sales strategies to register new customers

   ■ Customer service support routes available to the customer for resolving mobile money issues

7) **Agent obligations**

   ■ Branding & merchandising

   ■ Penalties for failure to comply (grave irregularities)

   ■ T&C from MNO/Service provider

   ■ Service provider support

   ■ On-going training availability

   ■ Monitoring

   ■ Periodic evaluations

8) **Liquidity management**

   ■ What is liquidity/float management

   ■ Components of Liquidity Management

     ■ Upfront capital

     ■ Float planning

     ■ Rebalancing of float

     ■ Review of float levels

     ■ KPIs for agents

     ■ Float monitoring (and monitoring tools)

9) **KYC/AML/CFT**

   ■ What is KYC and service provider policy on KYC

   ■ What is AML/CFT and service provider policy AML/CFT

   ■ Money laundering risks for financial service (mobile money)

   ■ What agents can do to prevent money laundering and the financing of terrorism

Glossary

Agent

A person or business that is contracted to facilitate transactions for users. The most important of these are cash-in and cash-out (i.e. loading value into the mobile money system, and then converting it back out again); in many instances, agents register new customers too. Agents usually earn commissions for performing these services. They also often provide front-line customer service — such as teaching new users how to initiate transactions on their phone. Typically, agents will conduct other kinds of business in addition to mobile money. The kinds of individuals or businesses that can serve as agents will sometimes be limited by regulation, but small-scale traders, microfinance institutions, chain stores, and bank branches serve as agents in some markets. Some industry participants prefer the terms "merchant" or "retailer" to describe this person or business to avoid certain legal connotations of the term "agent" as it is used in other industries.

Aggregator

A person or business that is responsible for recruiting new mobile money agents. Often, this role is combined with that of a masteragent, and the two terms are sometimes used interchangeably.

Anti-money laundering/combating the financing of terrorism (AML/CFT)

A set of rules, typically issued by central banks, that attempt to prevent and detect the use of financial services for money laundering or to finance terrorism. The global standard-setter for AML/CFT rules is in the Financial Action Task Force (FATF).

Bearer

The mobile channel through which instructions are communicated between a customer's handset and a mobile money application platform. Mobile network operators provide the 'bearer channel' in any deployment, sometimes for a fee to compensate them for the cost of data traffic. The most commonly used bearer channels are USSD, SMS and GPRS.

Cash in

The process by which a customer credits his account with cash. This is usually via an agent who takes the cash and credits the customer's mobile money account.

Cash out

The process by which a customer deducts cash from his mobile money account. This is usually via an agent who gives the customer cash in exchange for a transfer from the customer's mobile money account.

E-money

Short for "electronic money," is stored value held in the accounts of users, agents, and the provider of the mobile money service. Typically, the total value of e-money is mirrored in (a) bank account(s), such that even if the provider of the mobile money service were to fail, users could recover 100% of the value stored in their accounts. That said, bank deposits can earn interest, while e-money cannot.

Float

The balance of e-money, or physical cash, or money in a bank account that an agent can immediately access to meet customer demands to purchase (cash in) or sell (cash out) electronic money.

Formal financial services

Financial services offered by regulated institutions as opposed to informal financial services, which are unregulated. In addition to banks, remittance service providers, microfinance institutions and MNOs can be licensed to offer certain financial services.

G2P

Government to person

Informal financial services

Financial services offered by unregulated entities. Examples of informal financial services are susu collections in Ghana, loan-shark lending, savings groups, etc.

Interoperability

Interoperability is the integration of mobile money services with external parties and platforms, with the aim of creating customer value and commercial value.

Know Your Customer (KYC)

Rules related to AML/CFT which require providers to carry out procedures to identify a customer.

Liquidity

The ability of an agent to meet customers' demands to purchase (cash in) or sell (cash out) e-money. The key metric used to measure the liquidity of an agent is the sum of their e-money and cash balances (also known as their float balance).

Masteragent

A person or business that purchases e-money from an MNO wholesale and then resells it to agents, who in turn sell it to users. Unlike a superagent, masteragents are responsible for managing the cash and electronic-value liquidity requirements of a particular group of agents.

Mobile banking

When customers access a bank account via a mobile phone; sometimes, they are able to initiate transactions.

Mobile Money

A service in which the mobile phone is used to access financial services.

Mobile Money transfer

A movement of value that is made from a mobile wallet, accrues to a mobile wallet, and/or is initiated using a mobile phone.

Mobile payment

A movement of value that is made from a mobile wallet, accrues to a mobile wallet, and/or is initiated using a mobile phone. Sometimes, the term mobile payment is used to describe only transfers to pay for goods or services, either at the point of sale (retail) or remotely (bill payments).

Mobile wallet

An account that is primarily accessed using a mobile phone.

Over-The-Air (OTA) registration

A term used to describe creating a mobile money account for a customer via the mobile network and without the need to update any physical hardware in the phone.

P2P

Person to person.

P2B

Person to business.

Point of Sale (POS)

A retail location where payments are made for goods or services.

Platform

The hardware and software that enables the provision of a mobile money service.

Regulator

In the context of mobile money, this typically refers to the regulator who has supervisory authority over financial institutions within a particular country — usually the central bank or other financial authority.

Savings

Traditionally, the storage of a customer's money by a bank within an interest-bearing account. It is sometimes used more loosely to describe any store of money, such as the balance of electronic money within a mobile wallet.

Superagent

A business, sometimes a bank, which purchases electronic money from an MNO wholesale and then resells it to agents, who in turn sell it to users.

Unbanked

Customers, usually the very poor, who do not have a bank account or a transaction account at a formal financial institution.

Underbanked

Customers who may have access to a basic transaction account offered by a formal financial institution, but still have financial needs that are unmet or not appropriately met. For example, they may not be able to send money safely or affordably.