Chapter 5

Regulatory Issues around Mobile Banking

By Paul Makin[1]

The rise of the mobile phone in emerging markets, particularly Africa and large parts of Asia, is well documented, as is its use in a growing number of initiatives to increase the availability and variety of financial services in emerging economies. This chapter explores relevant issues by recounting the experience of the IT consultancy firm Consult Hyperion in the conception, development and deployment of M-PESA, a mobile payment service in Kenya and Tanzania, as well as their conversations with a range of financial regulators from around the world.

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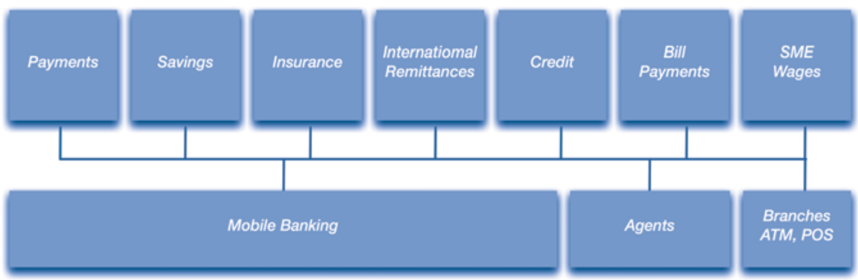
The United Nations Department of Economic and Social Affairs estimates that in Africa there are 300 million reachable adults with no current access to formal financial services; a variety of mobile services are springing up to address their needs. Rather than true mobile banking, but with the aim of evolving toward full banking services in the future, most of these services offer a subset of banking known as "branchless banking", "2G (second generation) banking", "mobile payments", "mobile money transfer" or "mobile banking" – the term used depends on the audience. For the purpose of this chapter, the term "mobile banking" is used.

Figure 5.1: Mobile banking, current and potential services



Source: Consult Hyperion.

Financial services delivered through the mobile channel are, in essence, no different than those delivered through conventional banking channels and agent channels emerging in a number of developing markets. However, as the mobile channel can reach a mass market beyond conventional banking networks, financial services offered across mobile will be optimised to serve that mass market: microfinance rather than traditional bank credit, and ad hoc bill payments (*e.g.* school fees) in addition to regular utility payments and low-cost saving products.

Many of the mobile initiatives are partially – in some cases wholly – led by non-bank organisations traditionally outside the scope of financial regulation and with whom the financial regulator has had little or no contact. This has naturally led to concern amongst regulators and, for better or worse, threatens to disrupt the regulation of the financial sector in many of the countries concerned.

The role of the regulator

The financial regulator plays a crucial role in the economy of any country. The regulator stands between ordinary citizens and financial chaos by attempting to ensure the financial stability of an economy, and that those institutions wishing to offer financial services do so in a responsible manner. So in addition to the regulator's role in maintaining financial stability, they also have key responsibility for consumer protection.

There is a third role for the regulator, however, that is particularly important for emerging economies: promoting a country's social objectives by attempting to ensure that suitable financial services are available to as many citizens as possible, and that the range and sophistication of those services increase in step with the country's needs. This third role is generally referred to as "extending the reach and depth of financial services".

Quite reasonably, many regulators tend to view this third role as substantially subservient to the first two. After all, the reasoning goes, if economic growth is threatened, who cares whether or not the entire population has a bank account? While there is a grain of truth in this view, it can lead to a tendency towards conservatism, with the unintended consequence of raising the barrier to entry for new market entrants, effectively closing the door behind existing financial service providers and protecting them from more innovative or efficient competitors.

Regulators' issues with branchless banking

In Consult Hyperion's conversations with financial regulators around the world, common themes regarding branchless banking emerged. Many felt that payment schemes such as M-PESA, with no direct bank involvement, should not be allowed – that such schemes should always be led by banks. As one regulator put it, without a trace of irony, "in view of the recent global financial crisis, we feel that only a bank provides the necessary stability".

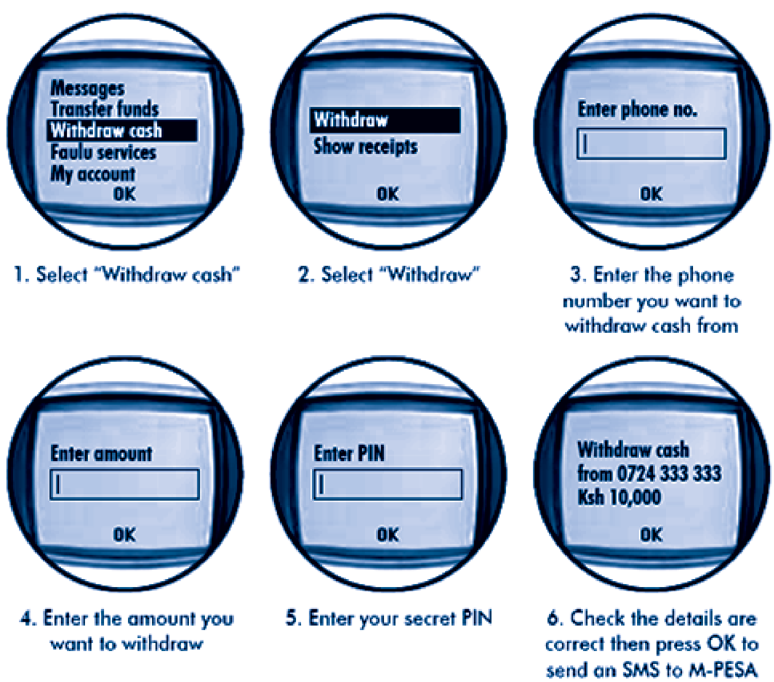
A lack of familiarity with non-bank institutions was also raised. Generally, regulators feel comfortable with their existing relationships with the banks and other financial institutions they regulate. They know what figures and reports to look at and are familiar with the levers available to influence those institutions' operations. There is no reason why any other institution should not be able to provide similar satisfactory mechanisms, but for the regulators it is a question of familiarity.

Finally, some regulators are concerned about the effect that the failure of a branchless banking scheme could have on customers and the wider economy. This is a legitimate concern, and indeed one that has been raised by representatives of a number of established branchless banking schemes when looking at some of their competitors' new offerings.

The M-PESA experience

M-PESA (M for mobile, PESA the Swahili word for money) is a money transfer service, initially deployed in Kenya, which allows ordinary Kenyans to send money across the country (or indeed face-to-face) cheaply and reliably using mobile phones. M-PESA accounts can also be used as a safe place to store small amounts of money (an aspect that perturbs some commentators but is desirable to those with no access to a true bank account). This is a clear example of "extending the reach of depth of financial services", with obvious benefits for ordinary Kenyan citizens.

Figure 5.2: M-Pesa in action



Source: workshop presentation by David Birch, Chair, Digital Money Forum and Director, Consult Hyperion.

M-PESA was developed and deployed by Vodafone, in partnership with Safaricom, the leading Kenyan mobile operator. It has been live for almost two and a half years and, at last count, had more than 7 million registered customers who were transferring USD 2 million per day between themselves.

However, absent from its list of partners is any member of the Kenyan financial community, with the exception of the Commercial Bank of Africa (CBA), who provide commercial banking services. This absence caused near outrage in some of the regulators Consult Hyperion spoke to.

The M-PESA team did contact as many high-profile members of the Kenyan financial community as possible in the hope of recruiting a partner. Whether it was because these institutions were suspicious of becoming involved with a mobile operator, or perhaps felt that the proposal was too radical and doomed to fail, no suitable financial sector partner could be found. Eventually, Vodafone and Safaricom decided to go ahead without one. This clearly posed a problem with regard to financial regulation.

The first, tentative moves towards M-PESA consisted of meetings with as many interested parties as possible – the Kenyan regulator being one of them. In this regard, the team felt fortunate to interact with a regulator who was not only careful to ensure that his responsibilities to the Kenyan economy in general, and to the financial sector in particular, were fully satisfied, but who also viewed the aim of "extending the reach and depth of financial services" as a high priority, and was willing to explore new ideas and listen to potential new market entrants.

Aware that regulators generally consult their peers when a new development is proposed, the M-PESA team also engaged with other regulators such as the UK's Financial Services Authority. Their goal was to create a feeling of normal progression and sensible development in order to diminish any view of the service as dangerously avant garde.

There is much that the branchless banking sector can learn from card industry initiatives such as the Payment Card Industry Security Standards Council – so several concepts borrowed from the card industry are embedded in M-PESA. Some of these are true end-to-end encryption (with all confidential data being held within the only secure storage on the mobile handset, the SIM), the use of hardware security modules (HSMs) at M-PESA servers and a security focus on business processes. This is backed by a comprehensive set of reporting and management tools which allow detailed views and reporting of every aspect of every transaction, both individually and en masse.

In an attempt to ensure that M-PESA was "covering all the bases", a consultant was tasked with going through the then-draft Kenyan anti-money laundering legislation to ensure that all the necessary controls and reporting mechanisms were in place, and all the necessary management functions filled and processes respected – steps which helped to ease the relationship with the regulatory authorities by bringing a familiar structure.

These efforts were not intended merely to convince the regulator to allow M-PESA to launch – though of course they helped, and M-PESA was granted a special licence. Rather, the team felt that although M-PESA is not a fully-regulated financial institution, to behave like one was the only responsible approach. It had the added benefit of preparing M-PESA for any future regulatory developments, and the not inconsequential effect of changing the mindset of staff away from that of a mobile operator towards that of a quasi-financial institution.

An issue for many emerging branchless banking schemes is "know your customer" (KYC) regulations which require that every new customer's identity be verified before they are able to use the service. Fortunately, an established national ID card scheme already existed in Kenya. The advantage of an existing ID card scheme becomes obvious when examining the difficulties experienced by initiatives launched in countries without them, such as M-PESA's own launch in Tanzania.

Regulatory developments

The success of branchless banking schemes in general, and M-PESA in particular, has driven some recent developments in regulation. Some are based on the view that only banks should be allowed to offer such services, which suggests that some regulators do not understand how the same regulatory environment can apply to non-bank institutions. To some degree this view is based on a lack of visibility of, and familiarity with, the capabilities of mobile operators.[1]

Kenya's finance minister recently launched an audit of M-PESA in order to verify that it cannot be used by money launderers and pyramid schemes (indeed, a false accusation had been made that M-PESA was nothing more than a Ponzi scheme). This move was very unpopular amongst ordinary Kenyans, who appeared to view it as an attempt by banks – who, some felt, were never interested in providing services to them anyway – to shut M-PESA down. Consult Hyperion were asked to contribute to the response by carrying out a new audit of security countermeasures and procedures, and were again able to certify that M-PESA offers bank-grade security and controls to its customers. At the end of the process, M-PESA was given a clean bill of health, and continues to operate.

It is only a matter of time before M-PESA is brought under the full regulatory umbrella of Kenya's laws, and it will likely be regulated as an electronic money issuer. This is expected to be some way short of full regulation as a bank – M-PESA does not offer credit or lend out (multiples of) customers' funds. Europe's approach in creating a separate regulatory category – "payment institutions" – and separating the regulation of payment services from that of credit institutions could be a very useful model in this regard.

In what might be perceived as a quid pro quo, Kenya's banks will be allowed to offer their services through agents rather than being required to limit them to their own branches, with the substantial costs this entails. Again, this is nothing new: this approach has reaped substantial benefits for both banks and customers in a number of countries, with Brazil having a particularly high profile in this regard. If banks grasp this opportunity it will have a significant benefit for ordinary Kenyans, especially if they can begin to see M-PESA as an opportunity rather than a competitor. If banks chose to offer their services – loans, savings accounts, etc. – to M-PESA customers via mobile phone, they would instantly have access to more than 11 000 access points across Kenya, with cash handling and movements in and out of their accounts carried out by M-PESA, potentially saving the banks significant sums of money.

Meanwhile, in India, the development of the branchless banking sector has stalled. Around a year ago, the Reserve Bank of India introduced regulatory changes for the sector which, as well as requiring that schemes be operated by a bank, also introduced a requirement for end-to-end encryption (something only a mobile operator can offer using current technology), thus creating an insoluble problem. This effectively closed the door for all new market entrants, and a number of schemes that were close to launch were cancelled or put on hold. The Indian situation may be contrasted with that of Mexico, where the central bank has said that agents, including banks and retailers, can open mobile banking accounts for their customers because agent networks are seen as key to financial inclusion given the scarcity of branches in rural and semi-urban areas.

The establishment of the Alliance for Financial Inclusion (AFI) at the end of 2008, funded by the Bill & Melinda Gates Foundation, is a positive development. As a forum for financial regulators and others representing emerging markets, it presents an opportunity for policy-makers to review issues around areas such as branchless banking.

Principal technical issues

There are one or two technical issues concerning branchless banking solutions that impinge on their regulation. These revolve around security and concern the mobile handset's SIM and end-to-end encryption, essential for bank-grade security of transactions.

As technology stands today, there is only one way of providing end-to-end encryption for branchless banking: using the SIM. As SIMs are under the control of the mobile operator, this effectively means that only a mobile operator-led scheme can offer full security. There are two means of resolving this situation:

- **Relaxation of SIM controls.** It has been argued that the SIM will, at some point in the relatively near future, achieve the status of a public utility. This would imply that complete control of the SIM should be taken away from mobile operators and some portion of its capabilities made available, through mobile operators, to third parties.
- **Relaxation of security.** Without access to the SIM, comprehensive security is not possible – but it is unacceptable that mobile operators should be the sole purveyors of branchless banking solutions. Perhaps the lower security of SIM-less schemes should be accepted, subject to suitable controls such as a maximum number of customers, a smaller maximum transaction size and enhanced server-based controls.

These are not purely technical issues. They demonstrate the intricate connections between issues of public policy and technical minutiae, and that neither should be fixed without consideration for the other.

Principal regulatory issues

The principal issues around branchless banking and its regulation can be summarised as:

- **Risk of a high-profile failure**. If a high-profile scheme were to fail, the reputation of all branchless banking schemes would inevitably be sullied and the sector could be set back by years.
- **Non-bank institutions leading schemes**. Provided a scheme can demonstrate regulator-suitable visibility and necessary levers, why must it be bank-led? After all, one trusts a mobile operator not to lend their money to an unidentified third party – the same cannot

necessarily be said of banks. What's more, a mobile operator can offer geographical traceability of transactions that a bank never could. A customer sends money over his or her own phone, so the mobile operator knows exactly to whom it was sent and where and when it was received.

- **Suitability of KYC regulation**. KYC requirements are undoubtedly holding back the branchless banking sector. While they are, in some form, absolutely necessary, consideration should be given to whether their current application is appropriate. For example, should someone sending USD 20 once per week to relatives up-country be subjected to the same KYC checks as someone who wants to send USD 10 000? Perhaps a more limited form of KYC could be applied to the poorest customers, up to a certain transaction threshold, at which point full KYC would apply. It is difficult to imagine how a relaxation in this type of regulation would increase the risk of terrorist attacks.

Regulators in general, and the AFI in particular, need to give due consideration to these issues. They also need to be convinced that branchless banking schemes are trustworthy, *i.e.*:

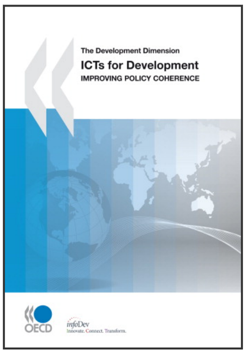
- that the appropriate reporting channels are in place and that the regulator will have access to the necessary levers;
- that a scheme is fully auditable, with KYC/AML controls in place;
- that a scheme is properly secure and presents little risk to customers.

With regard to this final point, there is a clear market opportunity for one or more large insurance organisations, though concerns they might have about entering such a nascent market are understandable. Hopefully a means of addressing this market need, and opportunity, will be found in the near future.

Analysts Gartner project that the mobile payment industry will experience steady growth from the current 73m users worldwide to almost 200m users worldwide in 2012. One can expect a wide variety of mobile financial service providers springing up to deliver financial inclusion on this "platform", given regulatory stability, foresight and imagination.

Notes

1 McEvoy, N.A. (2009), "Capabilities of Mobile Operators from the Perspective of a Financial Regulator", in GSMA's Mobile Money for the Unbanked Annual Report, July.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