

## Regulatory Issues Around Mobile Banking

*New initiatives to bank the poor are straining the world's financial regulatory systems.*

by

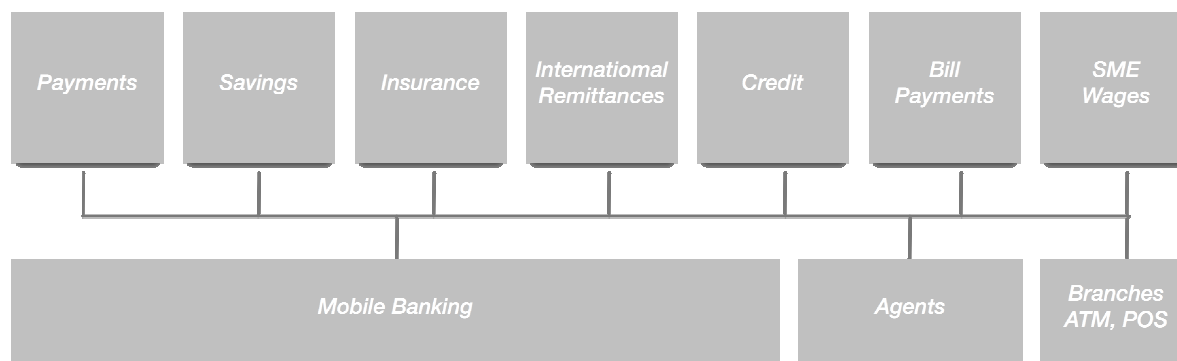
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The rise of the mobile phone in emerging markets, particularly Africa and large parts of Asia, has been well documented, as has its use in an increasing number of initiatives as the means of increasing the availability and variety of financial services in many of these emerging economies. The UN Department of Economic and Social Affairs estimates that in Africa there are 300 million reachable adults with no current access to formal financial services, and there are a variety of mobile services springing up to address their needs. Rather than true mobile banking, most of these initiatives offer a subset of banking, though with the aim of evolving towards full banking services in the future, and are variously known as "branchless banking", "2G (second generation) banking", "mobile payments", "mobile money transfer" or "mobile banking" - which term is used depends on the audience. For the purpose of this paper, we will use the term "mobile banking", whilst acknowledging the limitations of the term.



The financial services that may be delivered through the mobile channel are, in essence, no different to those delivered through conventional banking channels and the agent channels emerging in a number of developing markets. However, since the mobile channel can reach a mass market beyond conventional banking networks, the particular types of financial services offered across mobile will be optimised to serve that mass market: microfinance rather than traditional bank credit, ad hoc bill payments (for example, 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 that are traditionally outside the scope of financial regulation, and with whom the financial regulator has traditionally had little or no contact. This has naturally led to concern amongst regulators, and, for good or bad, threatens to disrupt the regulation of the financial sector in many of these countries.

This paper explores relevant issues by building on Consult Hyperion's experiences from two directions: firstly, our involvement in the conception, development and deployment of M-PESA and other branchless banking initiatives; and secondly, conversations with a range of financial regulators from around the world.

## THE ROLE OF THE REGULATOR

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

There is a third role for the regulator, though, that is particularly important for emerging economies; that of promoting a country's social objectives, by attempting to ensure that suitable financial services are available to as many of his fellow citizens as possible, and that the range and sophistication of those services increases in step with the country's needs. This third role is what we generally refer 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 about whether or not the entire population has a bank account? However, whilst there is a grain of truth in this particular world view, it has the shortcoming that 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 the existing financial service providers, and protecting them against more innovative or more efficient competitors.

## REGULATORS' ISSUES WITH BRANCHLESS BANKING

In conversation with financial regulators around the world, some common themes have emerged when discussing their concerns about branchless banking. It will come as no surprise to learn that the most frequently raised is that schemes such as M-PESA, with no direct bank involvement, should not be allowed - instead, schemes should always be led by a bank. As one regulator has 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 has also been 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 they are familiar with the levers available to them to influence those institutions' operations. Of course, there is no reason why any other institution should not be able to provide similar satisfactory mechanisms, but this is a question of familiarity.

Finally, some regulators were concerned about the effect that the failure of a branchless banking scheme would have on customers, and the wider economy. This is a legitimate concern, and indeed it is one that has been raised by representatives of a number of established branchless banking schemes, when they look at some of their competitors' new offerings. We believe there is scope here for a new market opportunity for some of the global and national insurance organisations, and would hope to see them examining this market in the near future.

## THE M-PESA EXPERIENCE

Following its remarkable success, it seems unlikely that an audience such as this will be completely unfamiliar with M-PESA. To briefly summarise: M-PESA 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 their mobile phones. They can also use their M-PESA account as a safe place to store small amounts of money (an aspect that rather exercises some commentators, but which is very 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.

M-PESA was developed and deployed by Vodafone, in partnership with Safaricom, the leading Kenyan mobile operator. It's been live for almost two and a half years, and, at last count, M-PESA had more than 7 million registered customers, who were transferring US\$2 million a day between themselves. A substantial business, indeed.

We at Consult Hyperion are very proud of our role in the conception and development of M-PESA. With our background in payments in general, and payments security in particular, we were involved from the earliest stages in conceiving the ideas and helping those ideas become reality. Our involvement has continued, in undertaking reviews of the security of the latest versions of the M-PESA service.

Notable by its absence from the list of partners in M-PESA is any member of the Kenyan financial community, with the exception of the Commercial Bank of Africa (CBA), who provide commercial banking services to M-PESA. This absence has caused something

approaching outrage in some of the regulators we have spoken to. This was not for want of trying. The M-PESA team spent many hours, over a period of weeks, talking to as many high-profile members of the Kenyan financial community as possible, in the hope of recruiting a partner. Perhaps they were suspicious of becoming involved with a mobile operator, or perhaps they felt that the proposal was too radical, and doomed to fail. Whatever the reason, no suitable financial sector partner could be found, and so eventually Vodafone and Safaricom decided to go ahead without one.

This clearly posed a problem with regard to financial regulation.

M-PESA's approach to financial regulation, right from the start, was one of engagement. The very first, tentative moves towards M-PESA consisted of meetings with as many interested parties as possible - and, of course, the regulator was one of those, and his views diligently sought. But this was not a one-off process, and the team were very keen to ensure that the regulator was regularly kept abreast of developments. In this regard, the team were very fortunate to have 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 to that end was willing to explore new ideas, and listen to potential new market entrants.

Of course, the M-PESA team were aware that no regulator is completely happy to act alone, and that they generally consult amongst their peers when a new development is proposed. It is for that reason that the team engaged with other regulators, such as the

UK's Financial Services Authority (FSA), explaining the ideas behind M-PESA and what we were trying to achieve. The team were trying to create a feeling of normal progression, of sensible development, around M-PESA, and diminish any view of it as dangerously avant garde.

But talking is not enough to satisfy any responsible financial regulator. Coming from the payments world, one of our priorities as members of the M-PESA team was to endeavour to ensure that M-PESA would meet the exacting requirements of that sector - and there is a lot that the branchless banking sector can learn from card industry initiatives such as the Payment Card Industry Security Standards Council (PCI - SSC). So there are a lot of concepts borrowed from the card industry that are embedded in M-PESA, such as 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 the M-PESA servers, a security focus on business processes, etc.

This was all backed up by a remarkably 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', one of our consultants was given the task of going through the then-draft Kenyan Anti Money Laundering legislation, with the aim of ensuring that all of the necessary controls and reporting mechanisms were in place, and that all of the necessary management functions were filled and processes in place - steps which helped to ease the relationship with the regulatory authorities, by bringing a familiar structure to the relationship.

All of this was not intended merely to convince the regulator to allow M-PESA to launch - though, of course, it helped, and M-PESA was launched under a special licence - rather, it was done primarily because the team felt that, although M-PESA is not a fully-regulated financial institution, to behave like one is 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, and towards that of a quasi-financial institution.

An issue that causes problems for many emerging branchless banking schemes is that of the know your customer (KYC) regulations, which require that every new customer's identity be verified before they are able to use the service. The M-PESA team were lucky in Kenya - there is an established national ID card scheme in place, and so M-PESA is able to rely on that (as an aside, many have suggested that the Kenyan ID card scheme is less than perfect. It doesn't matter; it's a national ID scheme, and the Kenyan Government stands behind it, and that's sufficient). The advantage this confers on a scheme becomes obvious when the difficulties experienced by schemes launched in other countries without ID cards are examined, 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 of these are based around the view that only a bank 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, an issue addressed in detail by my colleague Neil McEvoy in his recent paper in the GSMA's MMU Annual Report.

In Kenya, the 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, the false accusation was made that M-PESA itself is nothing more than a ponzi scheme). This move was very unpopular amongst ordinary Kenyans, as can be seen from numerous Kenyan media reports and blogs, who commonly appeared to view it as an attempt by the banks - who, the majority of ordinary Kenyans appear to feel, were never interested in providing services to them anyway - to shut down M-PESA. Consult Hyperion were asked to contribute to the response to this audit by carrying out a new audit of security countermeasures and procedures, and we 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.

We understand that it is only a matter of time before M-PESA is brought under the full regulatory umbrella of Kenya's laws, and it is likely to be regulated as an electronic money issuer. This is expected to be some way short of full regulation as a bank - after all, M-PESA doesn't offer credit, and it certainly doesn't lend out (multiples of) its customers' funds. Europe's approach, in creating a separate regulatory category of Payment Institutions and separating the regulation of payment services from the regulation of credit institutions, might be a very useful model in this regard.

In what might be perceived as a quid pro quo, Kenya's banks will be allowed, like M-PESA, to offer their services through agents, rather than the current situation of being required to limit their services to their own fully-fledged branches, with all of the substantial costs that entails. Again, this is nothing new - it is an approach that 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 the banks grasp this opportunity, then this will have a significant benefit for ordinary Kenyans - especially if, rather than seeing M-PESA as a competitor, they can begin to view it as an opportunity. After all, if they chose to offer their services - loans, savings accounts etc - to M-PESA customers via the mobile phone, then they would instantly have access to more than 1,100 access points - M-PESA agents - across Kenya, with cash handling and movements in and out of their accounts being carried out by M-PESA, potentially saving the banks significant sums of money.

Meanwhile, in India, the development of the branchless banking sector has been 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 something of 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 at least put on hold. We understand some relaxation of these regulations may be on the way, and this is to be welcomed. The Indian situation may be contrasted with 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 (rightly) seen as key 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, with funding from 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 the issues around areas such as branchless banking. Results from their Global Policy Forum next week in Nairobi will be watched with interest.

## PRINCIPAL TECHNICAL ISSUES

There are one or two technical issues around 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 doing end-to-end encryption for branchless banking - using the SIM. Since the SIM is 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, rather than accepting this unsatisfactory status quo:

- **Relaxation of SIM controls.** There is an argument 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 the mobile operator, and some portion of its

capabilities made available, through the mobile operator, to third parties.

- **Relaxation of security.** Without access to the SIM, comprehensive security is not possible. But it is not acceptable that only mobile operators should be able to deploy branchless banking solutions. So 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.

In fact, these are not purely technical issues. Instead, 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 regulatory issues around branchless banking and its regulation can be summarised as:

- **The risk of a high profile failure.** If a high profile scheme were to fail, that would inevitably sully the reputation of all branchless banking schemes, and may set back the sector by years.
- **Non-bank institutions leading schemes.** Provided a scheme can demonstrate that it can offer the regulator suitable visibility and the necessary levers, why must it be bank-led? After all, I trust my mobile operator not to lend out my money to a destitute South Carolinian, but I can't necessarily say the same of my bank. And a mobile operator can offer facilities such as geographical traceability of transactions that a

bank could never – after all, I’m using my mobile phone, so the mobile operator knows exactly who I sent the money to, and where they were when they received it!

- **Suitability of KYC Regulation.** KYC requirements are undoubtedly holding back the branchless banking sector. Whilst they are, in some form, absolutely necessary, consideration should be given to whether or not their current application is appropriate. For example, if I send \$20 once a week to my relatives up-country, is it really necessary that I undergo the same KYC checks as someone who wants to send \$10,000? Perhaps a more limited form of KYC could be applied to the poorest customers – up until the time when they reach a certain transaction threshold, at which point full KYC would apply. It is difficult to see, for example, how such a relaxation would increase the risk from terrorist attacks.

The regulators in general, and the AFI in particular, need to give due consideration to these issues. In their consideration, they also need to be convinced that branchless banking schemes are trustworthy:

- 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, and that KYC/AML controls are 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 here for one or more large insurance organisations, though we understand the

concerns they have about entering this nascent market. Hopefully a means of addressing this market need, and opportunity, will be found in the near future.

We hope the AFI forum makes progress on some of the issues raised in this document.

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 might expect a wide variety of mobile financial service providers springing up to deliver financial inclusion on this "platform", given regulatory stability, foresight and imagination.

## REFERENCES

1. McEvoy, N.A. *Capabilities of mobile operators from the perspective of a financial regulator in the GSMA's Mobile Money for the Unbanked Annual Report*. (July 2009)