

Cover Story

Banking at your fingertips

Mobile Banking, a new form of electronic commerce engendered by the growth of wireless communications in Africa, is becoming the preferred mode of delivering financial services to the unbanked. But as *Zachary Ochieng* found out, there are still policy and regulatory challenges to grapple with.

The world is witnessing an unprecedented technological revolution as consumers adopt more sophisticated life styles with the changing times. One such technological revolution is Mobile Banking, also known as M-banking or SMS banking.

Mobile banking is the way to go

Studies conducted by various think-tanks reveal that mobile banking is the way to go. A 2008 survey conducted by the UN Economic Commission for Africa (ECA) revealed that the number of cell phones was more than that of bank accounts across East Africa. The survey also found that only half of South African adults had a bank account, but a third of those without an account owned a mobile phone. The survey further revealed that FinMark, a British-backed non-governmental organisation that looks at how financial markets can help the poor, estimated that at least half of all bank accounts in South Africa could be administered through cell phones within the next five years. This underscores the importance of using cellphones to reach the unbanked rural poor.

Worldwide, there are fewer than one billion bank accounts, but more than three billion cellphones, according to a report by SPIDER (the Swedish Programme for ICT in Developing Regions).

Make payments at the physical point of sale

According to the German mobile operator Mobilcom, mobile banking will be the "killer application" for the next generation of mobile technology. And according to a study by the financial consultancy, Celent, 35 percent of online banking households will be using mobile banking by 2010, up from less than 1 per cent today. Upwards of 70 percent of bank centre call volume is projected to come from mobile phones. Mobile banking will eventually allow users to make payments at the physical point of sale. "Mobile contactless payments" will make up 10 per cent of the contactless market by 2010.

Journey towards virtual banking

In Kenya, two banks with humble beginnings are among those that have deployed a robust technology to facilitate mobile banking. These are the award-winning Equity Bank and Family Bank. Equity was the first bank in this country to launch a mobile banking platform known as Eazzy 24/7 in April 2006.

"We have relied heavily on technology. Our number one success factor is the use of a robust IT platform. It has helped us deliver our financial services to the very remote areas and has given us a competitive edge", said Equity Bank CEO Dr James Mwangi, adding: "Eighty- one percent of our transactions are currently being carried out on an e-platform. By October, Equity will be the only company in Africa using a level 4 data centre".

As it is, the rollout of Eazzy 24/7 was the first phase of the bank's journey towards virtual banking. Eazzy 24/7 then rolled out "Benki yangu mkononi" (My bank in my hands).

"The objective of this a product was to ensure that we brought in convenience, affordability and accessibility to our customers. For us, the cellphone is the nearest bank that a customer

should have. Since this product had 18 functionalities including request for a banker's cheque, balance enquiries, among other transactions, the sky was the limit for us", said Dr James Mwangi, Equity Bank's CEO.

But it was not a smooth ride for Equity.

"Unfortunately we had to rely on a telecom company in our quest to exploit convergence of banking and telecoms. The main challenge was that no telecom had configured a system that was competent enough, so our first host was Vodacom South Africa. We have since moved on as the telecoms come on with mobile banking facilities, which to us is the best thing that ever happened for the financial service providers", Dr Mwangi told CIO in an interview at his offices.

The second phase, which is still work in progress, involved seeking a USSD (Unstructured Supplementary Service Data) gateway, which would enable the bank move to a robust banking system, to drive itself in a more integrated manner. But the challenges still persist.

"Again the telecoms didn't have USSD functionalities which would allow banks to rely more on cellphone capability. The telecoms have had challenges because this is not their core business, so they have not been ready", Dr Mwangi added.

According to the CEO, there is also the challenge of banks and telecoms trying to outdo each other, regarding who should do what.

Win-win situation

"My feeling is that a win win situation will be the most ideal, where telecoms provide infrastructure and the banks provide the banking service and each learns on each other's experience. At the moment it has been the other way round, with the system and the infrastructure, as well as products being rolled out by telecoms", said Dr Mwangi.

Since the transaction eventually ends up in cash, Dr Mwangi argues that the challenges can be minimised if the banks are allowed to play a role, given their capability to manage liquidity. Still, all is not lost. He believes there will soon be a phase three, which will come when both telecoms and banks sit down and agree to do business together, where one focuses on where they are good and where they have a competitive advantage, hence a win-win situation.

Complementing Product

Indeed, contrary to fears expressed by other banks to the effect that Safaricom's M-Pesa and Zain's ZAP are eating into their core business, Dr Mwangi sees M-Pesa as a complementing product, which banks need to partner with.

"The telecoms are not doing banking. When they want to do banking, they will have to interface their systems with banking ones. Those who should be complaining are the traditional money transfer services such as Western Union, Moneygram and Postapay. Equity would not naturally be affected by this because it is also branchless and offers mobile facilities".

According to Dr Mwangi, M-pesa has instead boosted Equity Bank's business. Being M-Pesa's leading agent, Dr Mwangi said that many customers come to withdraw money from

M-Pesa in the bank, then quickly open bank accounts and request for ATM cards for security reasons.

“We have seen an upsurge in account opening particularly in the rural areas. That has helped us maintain very good relationships with telecoms. There is none we are not working with because they also now realise these are complementing products. That is why I said phase three will come when there is a complete convergence”, said Dr Mwangi.

Mr Keriri Muya, Family Bank’s Head of IT concurs. The bank, which introduced SMS banking three years ago recently partnered with M-pesa to launch *Pepesha Pesa*, a product that allows the bank’s customers to repair their loans via M-Pesa.

Friendly business number

Safaricom allocated the bank a friendly business number, 222111, which enables the bank’s customers to send money any time for loan repayment.

“This has saved time in service provision during banking hours. Inhouse, we have a very robust system, which is able to transfer these funds to the customer’s account almost instantly. After the credit has gone into the customer’s account, the customer receives an SMS alert”, said Steve Mararo, Family Bank’s ICT manager.

Partnering with Safaricom

“When we realised that M-Pesa had over seven million customers, we decided to ride on their back. Interestingly, Kenya has more mobile phones than bank accounts. But partnering with Safaricom has offered a channel through which we have managed to get more people open bank accounts with us, given our status as a *mwananchi* bank”, added Kevin Kihara, the bank’s Relationship Manager.

All said and done, partnering is the way to go. According to Dr Mwangi, the cost of creating infrastructure on which mobile banking can ride on is enormous. For traditional banks, they would have to change their legacy systems.

“For us, we are very lucky that we had a modern IT platform that converged and connected well. The cost of firewalls and risk mitigation is another challenge. This completely changes your way of doing business. So, naturally, your risk exposure and risk basket completely changes. But the biggest challenge that we would have to go through is legal and regulatory framework since mobile banking came without a proper regulatory framework in place”, said Dr Mwangi.

According to Family Bank’s Keriri, one challenge was regulatory approval from the Central Bank of Kenya (CBK). It took a lot of time before the bank eventually got a nod from CBK.

“The other challenge that we are facing is when our customers fail to indicate their correct account numbers”, with the money ending up in wrong accounts”, said Keriri.

But the major challenge, according to Keriri, occurs when the M-Pesa system is down. As it is, customers expect their accounts to be credited immediately as soon as they send money to the bank via M-pesa. However, Keriri hastened to add that Safaricom has been very supportive by alerting them whenever the system is down.

However, the benefits that accrue to both the customer and the bank as a result of mobile banking cannot be gainsaid. Both the bank and customers have easy access to the accounts,

leading to a reduction in operating costs. Customers are able to carry out their transactions from wherever they are, without necessarily paying a visit to the bank.

“Mobile banking enables banks to move away from brick and mortar, onto electronic channels. The cost of delivering financial services eventually goes down, since mobile banking allows banks to decongest branches. With the mobile phone, every customer has his/her own branch. We as Equity don’t need to continue building more branches the way we used to do. The huge cost that goes with brick and mortar has substantially been reduced”, said Dr Mwangi.

According to Dr Mwangi, the introduction of mobile banking products has also made their customers more knowledgeable. Above all, it has enabled the bank penetrate a niche market in very remote areas. Like Equity, Family Bank did not have to train its customers on how to use the *Pepesa Pesa* facility since they were already familiar with the M-Pesa menu.

The Equity CEO says mobile banking is the way to go, given its affordability and convenience.

“Am seeing us delivering financial services and information to the last mile and mobile banking is the vehicle that will do it. It is favoured in East Africa because East Africa is a region that has remote and sparsely populated areas. Most of those areas would not have been able to economically support a brick and mortar branch”.

Know Your Customer

On the recent directive by President Mwai Kibaki on the mandatory registration of SIM cards, Dr Mwangi said that is something the country had overlooked, but which should now be implemented in tandem with the Know Your Customer (KYC) concept in financial services.

Dr Mwangi says the landing of the fibre optic cables along the East African coast couldn’t have come at a better time, as it will lead to very efficient growth of the delivery channels. because you would have a very efficient channel supporting the delivery channels.

“The availability of the fibre optic cables would ensure the cheapest and reliable connectivity that would then be reflected in the rollout of mobile financial services, which would then be more affordable. Internet banking would also become a reality”.

The future is mobile banking

There is no gainsaying that the future is mobile banking, considering the rate at which technological innovations are unfolding.

“When one considers that there are only 6 million bank accounts and yet we have 18 million mobile subscribers in Kenya, one realises that mobile banking in this region will be as revolutionary and as powerful as the invention of the steam engine and the light bulb in the Industrial Revolution”, says Family Bank CEO Mr Peter Kinyanjui.

Family Bank sees the century-old and colonial obsession with gold plated high-street branches being banished to history.

“In the future, the bank branch will be found in every Kenyan’s pocket allowing 24/7 access to financial services. Family Bank believes without a doubt that the future of mobile banking is here with us and banks must adapt, or like dinosaurs, face extinction”, says Mr Kinyanjui.

Growth of the EBITDA

Indeed, mobile banking has contributed to the growth of the EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation) of a number of banks. According to Mr Kinyanjui, mobile banking was first seen as a customer service measure to enhance customer convenience and ease of banking.

“Today it is a core part of Family Bank’s strategy, with e-banking driving not only the bottom-line but also crucially deposit mobilisation. While we are studying the full impact of our e-banking strategy, it is safe to say that Family Bank on its mobile banking solution, *Pepesha Pesa*, is transferring and receiving over Kshs 5 million (US\$ 67,000) a day”, says Mr .

Not to be left behind are M-money services that are becoming increasingly popular. The justification in embracing M-money stems from the numerous benefits it offers to consumers. Mr Joe Divanna, Managing Director of Maris Strategies Limited, a UK-based financial services think tank argues that the key benefit of M-money services such as M-Pesa and ZAP, both offered in Kenya, is simply to provide a low-cost, safe mechanism for people (more specifically the unbankable population) to send money from point to point.

In South Africa, there is the WIZZIT initiative, a startup mobile banking provider that offers a transaction banking account accessible via mobile phone and debit card. The WIZZIT technology is not tied to a specific telco and works on Vodacom, MTN and Cell-C networks developed on a USSD platform.

The company operates as a division of the South African Bank of Athens, targeting 16 million people (48 percent of adults) who are unbanked or who have difficulties in having access to formal financial services. Since its launch in December 2004, WIZZIT has an estimated 250,000 customers.

In Tanzania, E-Fulusi Africa (T) Ltd, a mobile wallet provider, in November 2007 launched MobiPawa, a mobile phone bank account that enables a mobile phone on any network in Tanzania to transfer money easily and securely across the country.

“We at E-Fulusi are proud to have premiered this technology in Tanzania. Through opening MobiPawa accounts on mobile phones, users will immediately enable their handsets to transfer money in a fast and secure manner, through the use of either SMS or GPRS facilities that are already on their handsets”, said Nadeem Juma, E-Fulusi Africa’s Managing Director.

As it is, the entire region is poised to adopt mobile banking. In February, Monitise, a provider of mobile banking technology, formed a partnership with E-Fulusi Africa. Under the partnership, the two companies will work together to provide a fully integrated service that will help bring banking services to the currently unbanked population in East Africa. Monitise East Africa will initially offer services in Uganda, before eventually expanding into neighbouring countries, including Burundi, Democratic Republic of Congo, Ethiopia, Kenya, Rwanda, Tanzania and Zambia.

Economic Development

“This is not a trivial point because this is the first step in moving people from the informal economy to the formal economy, which in turn, increases the overall formal economy. Migrant remittances are vital for economic development and in most countries (especially in Africa), as much as 80 per cent of remittances are handled through informal channels, the hawala network (also informal but very sophisticated and well established) or via semi-criminal networks. Thus, money transfer services are an integral part of economic

development simply because it enables people that do not qualify for bank accounts a means for cost-effectively moving money”, Mr Divanna observes.

Mr Russell Southwood, CEO, Balancing Act Africa predicts that within the next three years, there will be several million subscribers to M-money services in all the five East African Community member states. According to Mr Southwood, the benefits of M-money are numerous.

“Besides allowing customers to make payments without carrying huge sums of cash, money transfer services are more or less instant, allowing payments to be made to parents in the village and in time will allow the same between families from the international diaspora”, says Mr Southwood.

Mr Bjorn Soderberg, CEO, Southcliff, a Swedish financial consultancy firm says M-banking in East africa has a bright future.

Market is ready

“The regulatory doors are open and in Kenya the market has shown that it is ready. It may be less spectacular in the other East African countries but with an enabling regulatory environment, these countries will most likely take off too”, Mr Soderbergt observes.

He said banks have to work extra hard in the face of emerging competition from mobile phone operators.

“The future is mobile banking and the recent audit and subsequent clean bill of health given to M-Pesa should serve as a wake up call that new technologies are here to serve the unbanked population”, Soderberg stated. He said M-banking, both telco-led and bank-led was the best option, given that majority of the African population was unbanked. For instance, only 19 per cent of the Kenyan population is banked, while in Tanzania, only 9 per cent of the population has bank accounts. At least 51 per cent of South Africans have bank accounts.

Everyone has or aspires to have a mobile phone.

Still, even the bankable population is not left out when it comes to M-banking. The distribution cost of banking services in Africa via branches, the ATM network and the Internet is some of the highest cost on the planet. M-banking provides a low-cost means of providing services that in many cases simply mirror what is already available through existing channels, however, in convenient technology (everyone has, or aspires to have a mobile phone).

Dr Bitange Ndemo, Kenya’s Information and Communications Permanent secretary argues that besides being able to offer banking services to majority of the unbanked, M-banking ensures efficiencies in the transfer of the money, including security in terms of carrying large sums of cash in electronic format.

The Central Bank of Kenya governor Prof Njuguna Ndungu noted that for people in rural areas, transport is a major component of cost in terms of financial services, and is beyond what is charged as ledger fees.

“The future is going to focus on cost -effective banking services that rely technological advancement. We therefore welcome the continuous innovation in the banking fraternity as it will facilitate the delivery of accessible, affordable and safer financial services to Kenyans, especially those in rural areas”, said Prof Ndungu.

With the landing of the fibre optic cables, things could only get sweeter. According to Dr Ndemo, the cable will enhance connectivity speeds, lower the cost of transactions and improve efficiencies in the banking and telecommunications sector. Mr Divanna concurs:

“The landing of the fibre capacity is perhaps one of the most significant events in strengthening the financial services infrastructure and the economic development of the nation. The increased capacity and improved services levels will enable banks reach out and provide services to a wider number of citizens”.

But challenges still abound. According to Mr Divanna, two key challenges are on the horizon for M-banking: customer education and social exploitation. Customer education cannot be overlooked or underestimated. M-banking provides an opportunity to reach the unbanked, youth market, technical professionals, and a variety of niche markets. In this first generation of M-banking services, the focus is on how to use the technology to gain access, not how to use banking responsibly.

Says he: “We must remember banking services are financial tools that we use to facilitate our lives and M-banking is a power-tool. Do you give someone an electric saw without showing them how to use it? Therefore, the next big challenge for M-banking is to teach people how to use M-banking in the context of using banking products and services to make their life better”.

The second challenge is to thwart the temptation to use M-banking to exploit the un-educated, Mr Divanna adds: “For example, during my last visit to Kenya there were scattered reports of people sending money to loved ones and when the recipient went to the agent to redeem the money they were told that there wasn’t enough cash available to fulfil their transaction and the remaining balance could be redeemed in merchandise (conveniently marked up) available from the agent”.

Challenge to the industry

Although these incidents appear to be isolated cases, Mr Divanna argues, it does present a challenge to the industry to increase its ability to self-regulate. “Customers need a means to report agents that may be acting in a manner not in adherence to the intent of the money transfer provider. Providers in turn need a means to investigate and correct agents that act to exploit their position in the distribution network such as licensing agents and subsequently revoking their licence”.

Then there are also regulatory challenges to grapple with. As Mr Southwood puts it, these include negotiating different regulatory frameworks for telecoms and finance, particularly the KYC (Know Your Customer) regulations in banking.

But as the SPIDER report notes, telecommunications regulators seem to generally take the position that mobile operators already are licensed to transfer information over mobile networks, and that this license also includes financial information. Regulatory risks pertaining to telecommunication regulation is hence small, given that the operator in question looks after its general license commitments.

So far policy makers and regulators have taken on a “wait and see” approach to existing M-banking initiatives. The attitude seems to be carefully positive, but regulators will eventually have to clarify the rules of the game. It is not an easy task, as the issue is highly complex on one hand and the M-banking evolutionary pace and curve are difficult to predict on the other hand.

Perhaps regulators could learn from the Tanzanian experience. The *MobiPawa*, is being regulated by the Bank of Tanzania (BOT) and supervised by the Tanzanian Communication Regulation Authority (TCRA).

Regulatory challenge

Equity Banks' Dr Mwangi calls for sobriety in addressing the regulatory challenge.

“The Central Bank cannot regulate telecoms and telecoms cannot regulate banks. They have to agree that here are two separate institutions. What needs to be done is to create a clear boundary between banks and telecoms. Ideally for instance, the banks would own the mobile or e-banking products and telecoms own infrastructure on which these products are launched or delivered and there would be no conflict”, Dr Mwangi argues.

Family Bank's Mr Kinyanjui shares the same sentiments.

“We believe an integrated regulatory regime would be best, with the telecom regulator ensuring technical integrity of mobile payment platforms and the Central Bank holding the line on financial and prudential matters. What is needed, however, is clear guidelines on consumer protection and competition with the authorities ensuring that the state of mutual dependence between the mobile network operators and the financial service providers benefits the end customer”, he says, adding: “Indeed, issues of access, price and service availability must be standardized and codified into a unified regulatory regime between the two regulators. This regime should then guide and govern the relationship between the mobile network operators and the banks”.

Opinion sharply divided

Still, expert opinion is sharply divided on who should regulate M-money services. Whereas Dr Ndemo argues that regulation of money supply is a preserve of the Central Bank, with telecom operators only serving as channels of distribution, the Communications Commission of Kenya (CCK) chairman Eng. Philip Okundi argues that the responsibility of regulating M-money services such as M-pesa and ZAP rests with CCK.

“We as regulator have already licensed M-Pesa and ZAP. We believe that although this is not banking in the traditional sense, we see that with the growth of communication, it has become quite evident that we can create a service which can be related to banking. As all banks move towards electronic banking, then of course they come into our domain. But traditionally banks have been licensed by CBK”, said Eng. Okundi.

Political and economic hot potato

However, the CCK chairman was quick to add that it is no longer relevant to ask who should regulate what but whether the service being provided is in conformity with the law. The issue of regulation, it would appear, is a political and economic hot potato that regulators are not comfortable talking about. When CIO posed the question on regulation to the CBK governor Prof Njuguna Ndungu soon after he presided of the re-launch of Kenya Commercial Bank's *KCB Connect* mobile banking product, he was non-committal on who should regulate mobile money services.

“The banks are providing a platform for mobile operators that are licensed by CCK. The Central Bank regulates banks, and we talk to each other. We are all covered sufficiently well. That's all I can say”, Prof Ndungu explained. It may, however, be recalled that early in the year when a section of commercial banks felt jittery about M-Pesa, the then acting Finance

minister John Michuki ordered CBK to carry out an audit, which subsequently gave M-Pesa a clean bill of health.

Eng. James Rege, chair, Parliamentary Committee of Energy, Information and Communications argues that the Central Bank has a right to know how much money has been deposited by customers using M-money services. On the other hand, he says CCK should take M-pesa to task over the frequent breakdown of its money transfer system that has inconvenienced customers in the recent past.

Point of great debate

According to Mr Divanna, the issue of regulation will be a point of great debate simply because it falls into a grey area. Technically, money transfer schemas do not need a banking licence (thus do not need banking regulation) because they do not take deposits. Banks that take deposits have a fiduciary responsibility of trust that is expressly implied by their banking licence. Mr Divanna poses: “If someone places funds into a money transfer system and elects to transfer only 50 per cent of the funds today and 50 per cent tomorrow, is the system by default a de facto temporary deposit?” Hence, the issue is not clearly defined by most financial services / banking regulatory agencies simply because this type of technological advance was not anticipated when most legislation was written.

“At this juncture in the development of this innovation in banking services and money transfer one could argue that we should give the industry an opportunity to self-regulate before we introduce a layer of regulations, that would, by definition stifle the growth of the industry. A prudent move would be for regulators to get involved with the industry to assist in establishing clear benchmarks from which the industry could improve its self-regulation (proactive light touch approach)”.

Mr Divanna argues that if the industry is unable to provide high quality services then the regulators should amend the financial services regulations to provide customers with assurances in the conduct of providers.

“If we think about this issue in a global context, the use of money transfer systems is similar to minting airline miles, airline loyalty points and any other systems, which has representative value. Issued airline miles appear as a liability on the balance sheets of air carriers and they have a redeemable value in various conversion schemas, yet they do not fall under banking regulation. However, regulators have a responsibility to the public to safeguard the public trust in the banking system, which is why they need to play an active role in understanding how M-banking services influence customers and social behaviour”.

Global context

He adds: “In a global context, we must remind ourselves that East Africa is at the vanguard of this technical innovation and its application within the banking system and general public. There is no precedent for these implementations in the world, and like all pioneers, we will learn from a series of successes and failures before we integrate the innovation into society”.

Be that as it may, it cannot be gainsaid that sky is the limit for M-banking. In the last 4 years, banks across the globe have invested billions of dollars to build sophisticated Internet banking capabilities. As the trend is shifting to mobile banking, there is a challenge for CIOs and CTOs of these banks to decide on how to leverage their investment in internet banking and offer mobile banking, in the shortest possible time.

Financial access and inclusion

With the World Bank's Consultative Group to Assist the Poor (CGAP) estimating that almost three billion poor people world-wide lack access to the basic financial services, and with only 18.2 percent of the adult population in Kenya having a bank account, the potential for financial access and inclusion using the mobile phone should be embraced by all.

“With the National Vision 2030 calling for the raising of savings and investment rates from 17 to 30 percent of GDP, all market participants including the CCK, CBK, the mobile network operators and the financial sector should collaborate to ensure that Kenya becomes the global hub for innovation in mobile banking and mobile payments to better the lives of many using a simple tool that will have extraordinary impact”, Family Bank's Mr Kinyanjui concludes.

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