A SUCCESS MANTRA FOR MOBILE BANKING IN INDIA

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ABSTRACT

Across the developing countries, millions of people rely on informal economic activity and local level networks to earn their living. Most of these populations are from bottom of pyramid and they don't have access to basic financial services/ banks as access to them is costly and very limited. However, the outstanding growth of mobile sector worldwide has created a unique opportunity to provide social and financial services over the mobile network. With over 4 billion mobile cellular subscriptions worldwide, mobile network has the ability to immediately offer mobile banking to 61% of the world population.

The paper starts with an overview of existing system of M-banking and then examines the M-banking regulations in India and of the countries where (e.g. the Philippines, Kenya, South Africa) M-baking/payment system is already in practice or a success. The concerns of financial regulators and policy measures taken so far are discussed in light of the discussions in international forums.

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The key questions this paper aims to answer are-

- What is mobile banking in India?
- Regulations set by India's central bank 'RBI'
- Role of Telecom companies and role of Third party payment processors
- Key Issues for Mobile Banking in India
- Different kinds of Mobile Banking services available in India
- What are the practiced models of M-banking/payment systems?
- Which M-banking/payment models have drafted or enacted in India?
- Which M-banking/payment models have are enacted in the countries where it is a success
  - o Kenya
  - o The Philippines and
  - o South Africa

. What constitutes a proportionate regulatory approach?

The answers to the above questions helps to identify a way forward which can expedite adoption of M-banking/payments service in India successfully and quickly.

INTRODUCTION

What is mobile banking in India?

Mobile phones for doing banking activities are explored as a new channel in India. The rapid growth of the mobile users i.e.400 Million mobile subscriber mark (Source: TRAI, June 2009) and strong mobile network infrastructure made this channel an important platform for extending banking services. Banks have now started exploring the feasibility of using mobile phones as an alternative channel of delivery of banking services. Few banks have started offering information based services like balance enquiry, transaction enquiry, location of nearest ATM/branch etc. Acceptance of transfer of funds instruction for credit to beneficiaries of same/or another bank in favour of pre-registered beneficiaries have also started by few banks.

Regulations set by India's central bank 'RBI'?

1. Only banks, which are licensed and supervised in India, and have a physical presence in India will be permitted to offer mobile banking services.

2. The services shall be restricted only to customers of banks and holders of debit/credit cards issued as per the extant Reserve Bank of India guidelines.

3. Only Indian Rupee based domestic services shall be provided. Use of mobile banking services for cross border transfers are strictly prohibited.

4. Banks may also use the services of Business Correspondent appointed in compliance with RBI guidelines, for extending this facility to their customers.

5. The guidelines on "Know Your Customer (KYC)", "Anti Money Laundering (AML)" and Combating the Financing of Terrorism (CFT) from time to time would be applicable to mobile based banking services also.

6. Only banks that have implemented core-banking solutions would be permitted to provide mobile banking services.

7. Banks shall file Suspected Transaction Report (STR) to Financial Intelligence Unit – India (FID-IND) for mobile banking transactions as in the case of normal banking transactions.

Registration of customers for mobile service

1. Banks shall put in place a system of document-based registration with mandatory physical presence of their customers, before commencing mobile banking service.

2. On registration of the customer, the full details of the Terms and Conditions of the service offered shall be communicated to the customer.

Inter-operability

1. Banks offering mobile banking service must ensure that customers having mobile phones of any telcos network operator is in a position to avail of the service. Restriction, if any, to the customers of particular mobile operator(s) is permissible only during the initial stages of offering the service, up to a maximum period of six months subject to review.

2. The long-term goal of mobile banking framework in India would be to enable funds transfer from account in one bank to any other account in the same or any other bank on a real time basis irrespective of the mobile network a customer has subscribed to. This would require inter-operability between mobile banking service providers and banks and development of a host of message formats. To ensure inter-operability between banks, and between their mobile banking service provider's banks shall adopt the message formats like ISO 8583, with suitable modification to address specific needs.

Clearing and Settlement for inter-bank funds transfer transactions

To meet the objective of a nation-wide mobile banking framework, facilitating interbank settlement, a robust clearing and settlement infrastructure operating on a 24x7 basis would be necessary. Pending creation of such a national infrastructure, banks may enter into bilateral or multilateral arrangement for inter-bank settlements, with express permission from Reserve Bank of India, wherever necessary.

Customer Complaints and Grievance Redressal Mechanism

The customer /consumer protection issues assume a special significance in view of the fact that the delivery of banking services through mobile phones is relatively new.

Transaction limit

1. A per transaction limit of Indian Rupees (Rs.) 2500/- shall be imposed on all Mobile Banking transactions. Subject to an overall cap of Rs. 5000/- per day per customer.

2. Banks may also put in place monthly transaction limit depending on the bank's own risk perception of the customer.

Board approval

Approval of the Board of Directors (Local Board in case of foreign banks) for the product as also the related security policies must be obtained before launching the scheme.

Approval of Reserve Bank of India

Banks wishing to provide mobile banking services shall seek prior one time approval of the Reserve Bank of India, by furnishing full details of the proposal.

Technology and Security Standards

Information Security is most critical to the business of mobile banking services and its underlying operations. Therefore, technology used for mobile banking must be secure and should ensure confidentiality, integrity, and authenticity.

1. The technology deployed is fundamental to safety and soundness of any payment system. Banks are required to follow the Security Standards appropriate to the complexity of services offered.

2. Banks are required to put in place appropriate risk mitigation measures like transaction limit (per transaction, daily, weekly, monthly), transaction velocity limit, fraud checks, AML checks etc. depending on the bank's own risk perception, unless otherwise mandated by the Reserve Bank of India.

3. Authentication: Banks providing mobile banking services shall comply with the following security principles and practices for the authentication of mobile banking transactions:

a) All mobile banking shall be permitted only by validation through a two factor authentication.

b) One of the factors of authentication shall be mPIN or any higher standard.

c) Where mPIN is used, end to end encryption of the mPIN shall be ensured, i.e. mPIN shall not be in clear text anywhere in the network.

d) The mPIN shall be stored in a secure environment.

4. Proper level of encryption and security shall be implemented at all stages of the transaction processing. The endeavourer shall be to ensure end-to-end encryption of the mobile banking transaction. Adequate safe guards would also be put in place to guard against the use of mobile

banking in money laundering, frauds etc. The following guidelines with respect to network and system security shall be adhered to:

a) Implement application level encryption over network and transport layer encryption wherever possible.

b) Establish proper firewalls, intruder detection systems (IDS), data file and system integrity checking, surveillance and incident response procedures and containment procedures.

c) Conduct periodic risk management analysis, security vulnerability assessment of the application and network etc at least once in a year.

d) Maintain proper and full documentation of security practices, guidelines, methods and procedures used in mobile banking and payment systems and keep them up to date based on the periodic risk management, analysis and vulnerability assessment carried out.

e) Implement appropriate physical security measures to protect the system gateways, network equipments, servers, host computers, and other hardware/software used from unauthorized access and tampering. The Data Centre of the Bank and Service Providers should have proper wired and wireless data network protection mechanisms.

5. The dependence of banks on mobile banking service providers may place knowledge of bank systems and customers in a public domain. Mobile banking system may also make the banks dependent on small firms (i.e. mobile banking service providers) with high employee turnover. It is therefore imperative that sensitive customer data, and security and integrity of transactions are protected. It is necessary that the mobile banking servers at the bank's end or at the mobile banking service provider's end, if any, should be certified by an, accredited external agency. In addition, banks should conduct regular information security audits on the mobile banking systems to ensure complete security.

6. For channels, which do not contain the phone, number as identity, a separate login ID and password shall be provided to ensure proper authentication. Internet Banking login IDs and Passwords shall not be allowed to be used for mobile banking.

Role of Telecom companies (Telcos)

Telcos industry should provide the KYC and customer history for Banks to offer the services to the customer and full responsibility for fraud management at their outlet as per Telecom Regulatory Authority of India (TRAI) guidelines. In order to ensure Mobile Payments reaches the critical customer mass, KYC documents required offering financial products should be made similar to Telco's KYC guidelines. Distribution network of Telcos should be used to provide the services of Mobile Payments to maximum possible locations across the country. External low-cost hosting at Telco should be explored – Banks will not have to reinvent the technology platform & billing systems for such an offering.

Role of Third party payment processors

External low-cost hosting at Third party payment processors should be encouraged to have a truly cross-bank, cross-carrier payment system. Policies enabling audit and governance of such a model to be framed including a centralized settlement mechanism Third party processors should have the responsibility of Fraud management and should have systems and process in place to check and control frauds.

Key Issues for Mobile Banking in India

Some of the key Business, Technology and Regulatory issues that need to be addressed to achieve the vision laid out are as follows:

Business and Technology Issues

1. Among the un-banked, what segment is the most viable?

2. What is their customer profile and desired product attributes?

3. What products and services are most important to this segment and will drive quick adoption?

4. What partnerships are required in order to make this vision possible e.g. between banks, telcos, system Integrators, payment processors, etc.?

5. What investments are required in order to make this vision possible in different stages e.g. technology development, infrastructure and support services development, system integration and educating the consumers?

6. What special factors must be considered for rural India? For e.g. cell phone sharing, language compatibility, familiarity with new technology, infrastructure support, ensuring liquidity and cash management at the cash in/cash-out outlets, etc.

Regulatory Issues

1. What is the role of regulator RBI, TRAI and the Government of India in the Mobile Payment Cycle?

2. Where does the actual mobile phone account reside i.e. who holds the cash?

Different kinds of Mobile Banking services available in India

Mobile Banking Ability to access your bank a/c via your mobile phone to conduct the following transactions:

- Balance Enquiry
- Mobile top-up
- Fund transfer to another Bank account
- Utility bill payments
- Mobile Commerce
- Ability to use your mobile phone (linked to your bank account, credit/debit card) to pay for goods & services: for example - Pay for travel (rail & air)

- Remittances

Ability to transfer funds from your bank account to a beneficiary, who does not have a bank account. For example - You have a bank account and would like to send your relative (in another town) some money. You access your bank account through your mobile phone & transfer funds to a particular mobile phone number. You also receive a PIN number, which you communicate to the beneficiary, who then goes to an ATM, input the PIN & receives the money. The beneficiary could also go to a designated post office/agent and receive the funds

Miscellaneous

Set Alerts – on account activities or passing of set thresholds, place orders for the new cheque books, cheque status, stop cheques , blocking of lost/stolen credit/debit cards, locate – ATMs, branch locations, drop boxes based on the zip code. Loans – access to statements, Amortization Schedule, Income Tax Certificate provisional, Income Tax Certificate Final, Reset Letter, Loan Agreement copy, welcome letter, interest certificate, place and track the service requests, mutual funds / equity statements, portfolio management services, real-time stock quotes, personalized alerts and notifications on security prices

And, what detracts value perceptions for mobile banking services in India?

Mobile Banking

1. Concerns linked with security if mobile phone is lost.

2. Fear of hidden costs & actual expenses being higher than those indicated

3. Credibility of the banks & fraudulent behaviour Private Banks: hidden costs, higher rates, selfish

motive Govt.Banks: slow, poor infrastructure, not trustworthy

Mobile Commerce

1. Concerns linked with upgradation to Credit/Debit card

2. Perceived as maintaining minimum balance and increase in expenses

3. Need clarity on list of goods and services covered

4. Mode of verification and authentication

Remittances

1. Concerns linked with safety and security so trust & credibility of banks are crucial.

2. Need assurance of foolproof system – low faith in systems

3. Insecurity if ATMs not working or Post Office is shut

Mobile Banking Usage Trend in India

Usage *(India)*	Unique Users *(In millions)*
Used mobile banking	43.7
Checking account balance	39.97
View last three transactions	28.15
Status of cheques	21.06
Payment reminders	20.92
Request a cheque book	19.11

Table-1 Source: The report has been prepared by Vital Analytics (sample size: 6,653), Bangalore based research firm that tracks current and Future mobile trends in India.]

Around 43 million urban Indians used their mobile phones to access banking services during quarter ending August 2009, a reach of 15% among urban Indian mobile phone user. Checking account balances is the most popular banking service used by urban Indians with almost 40 million users followed by checking last three Transactions, 28 million and status of cheques with 21 million users. Other services used by them are payment reminders and request a chequebook. ICICI bank remains as country biggest private lender on mobile screen as well with 17.75 million users. HDFC accounts for second most subscribers with 9.1 million subscribers followed by State Bank of India with 6.13 million subscribers.

Recharging pre-paid card or paying monthly phone bill is the most popular M-commerce activity used by almost 98 million urban Indians. Other services include Payment of insurance premiums/home phone bills and purchasing flight/train ticket.

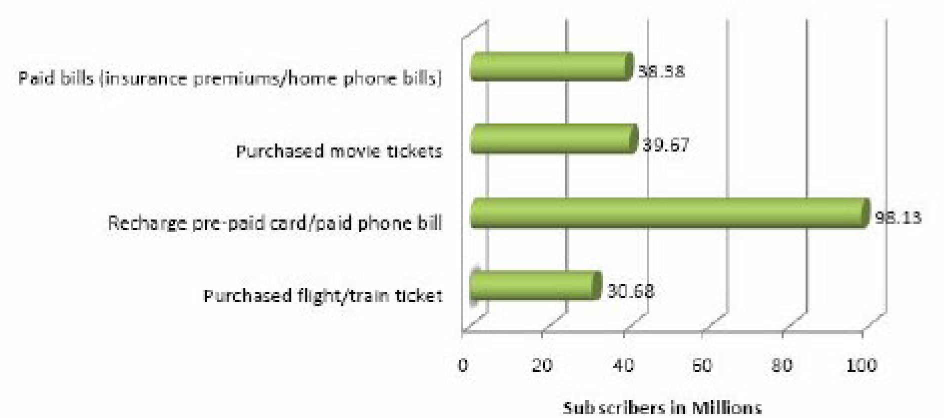

Table-2

Mobile banking model

Introduction and success of M-banking depends on three key determinants- policy, regulation, and profitable/sustainable business case for all actors and client uptake. Primarily, policy and regulation sets the foundation stone of the M-banking model. According to CGAP5 there are two models of mobile banking. Both the model use retail agents (e.g. merchants, supermarkets or post offices) to deliver financial services outside traditional bank branches but these models of m- banking systems differ primarily on the following questions –

- Who will establish the relationship (account opening, deposit taking, lending etc.) with the end customer? The answer can be a Bank or a Non-Bank/Telecommunication Company (Telco).
- What is the nature of agency agreement between bank and the Non-Bank?

i. Bank-based model - Every customer has a direct contractual relationship with a licensed and supervised financial institution (whether account-based or involving a one-off transaction) even though the customer may deal exclusively with a retail agent who is equipped to communicate directly with the bank (typically using either a mobile phone or a point-of-sale (POS) terminal)

ii. Non-bank-based model- Customers have no direct contractual relationship with a licensed and supervised financial institution. Instead, the customer exchanges cash at a retail agent (or otherwise transfers, or arranges for the transfer of funds) in return for an electronic record of value.

Following table shows the comparison of key issues under those M-banking models-

Key issues	***Model***	
	Bank based	***Non-bank (NB) Based***
Who regulates	Financial regulator	Telco & Financial regulator
Scope	Additive	Transformational
Who holds the deposit	Bank	Bank
Cash in-out points	Bank	Telco/NB
Dominant brand	Bank	Telco/NB
Who has access to the service	Limited to account holders	Limited to subscriber/ universal access
Carrier/gateway	Any	Telco
Who owns the customer	Bank	Telco/NB
Examples	MTN (S-Africa), other SMS banking services	G-Cash, Smart, Celpay (Zambia), M-PESA

Table-3. Source: CGAP-Notes on Regulation of Branchless banking in India, January 2008

Successful models of M-banking

The question for South Asian regulators is to what extent the M-payment or banking should be regulated. We can take the practical examples of the regulatory regimes of Kenya, the Philippines & South Africa and learn from their successful examples.

Tested model: Kenya

Vodafone and Safaricom's16 mobile money transfer service in Kenya M-PESA was launched in September 2007. When this non-bank based model was launched, Vodafone were aiming to add 200,000 subscribers in the first year. Two years later with 6.3 million17 subscribers, there are more M-PESA customers in Kenya than there are bank accounts.

Following results from a survey done by (FSD, 2009) shows the impact of M-PESA to the life of Kenyans (figure 1,2,3,&4).

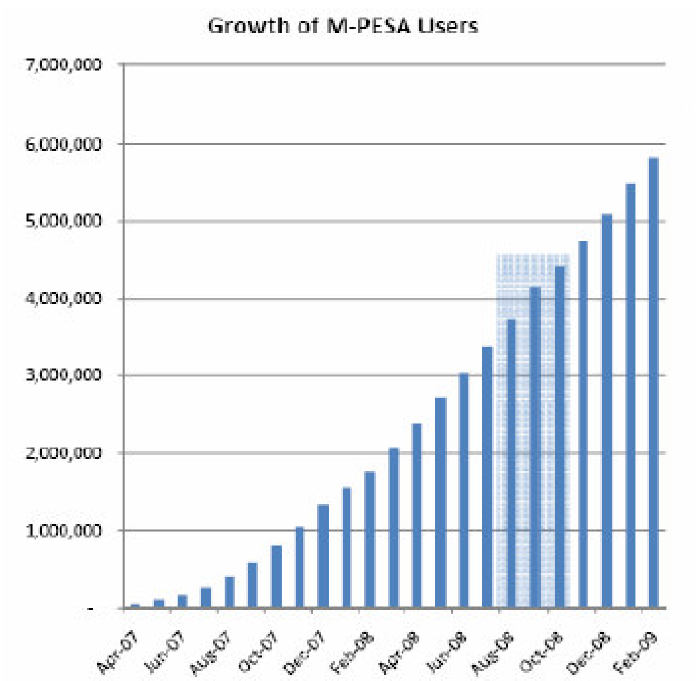

Figure-1: Growth of M-PESA (Safaricom, 2009)

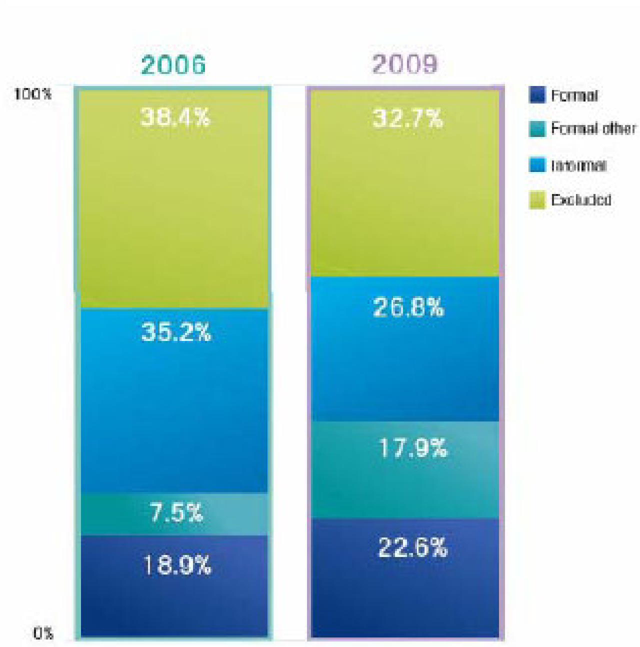

Figure 2: Financial access scenario (Fin Access, 2009)

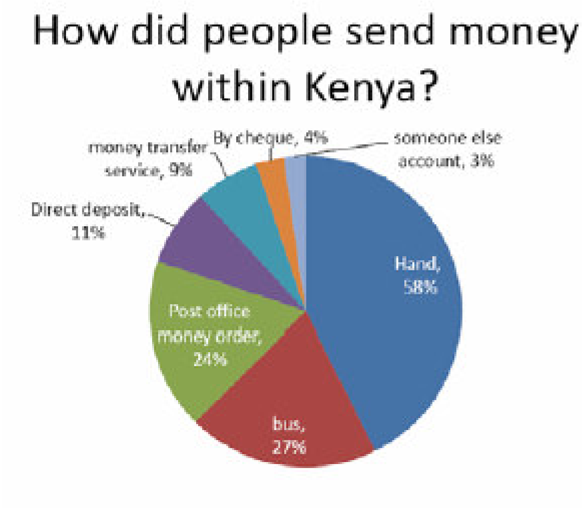

Figure-3. Money transfer scenario 2006 (FSD Kenya,2009)

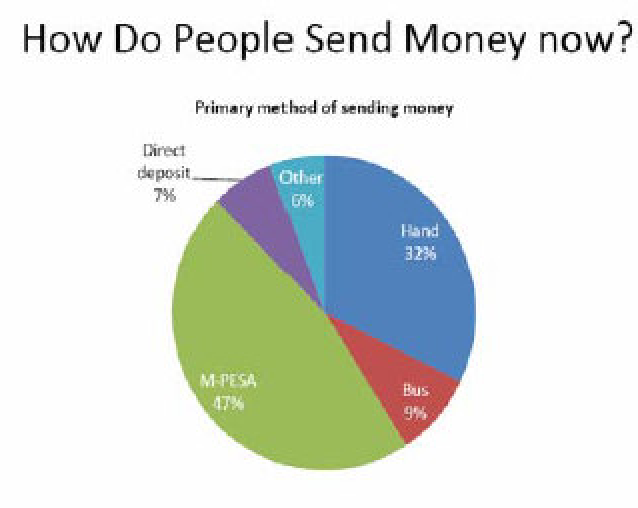

Figure 4: Money transfer scenario 2009 (FSD Kenya,2009)

Regulation

Prior to the launch of M-PESA services in Kenya, Safaricom sought authorization from the Central Bank of Kenya (CBK) to undertake the money transfer service. In evaluating the proposal, the CBK considered the request on the basis of safety, reliability and efficiency of the service (Sirken,2009). Two CBK departments had been involved in this effort. The Financial Institutions Supervision Department (FISD) is responsible for the prudential regulation of banks and deposit-taking MFIs. Its primary concern regarding M-PESA was whether the operator (Safaricom) is stretching or even breaking the rules for the business of banking. By contrast, the National Payment System (NPS) Division of the Banking (which focuses on the integrity, effectiveness, efficiency, and security of the payment system) viewed M-PESA as a payment service provider. The NPSD were more willing than the FISD to permit experimentation with the non-Bank based model of M-banking. (CGAP, 2007). Interestingly, in Kenya telecommunications regulations require that a mobile network operator offer only the telecommunication services listed in its license and M-banking falls under the definition of telecommunication service in the law . hence, Safaricom stand was should therefore the service should be listed in the license agreement. However, the primary regulator with respect to a mobile network operator's M-banking activities will be the banking regulator (i.e., CBK)

(CGAP, 2007). Precautionary measures were put in place to ensure that the services did not infringe upon the banking services regulatory framework as provided for under section 2(1) of the Banking Act. Specifically, the proceeds from issuing e-money are held by M-PESA Trust Company Limited in trust for the clients in a pooled account with the Commercial Bank of Africa. Any interest earned on this pooled account cannot benefit Safaricom (without triggering the definition of "banking business"); use of interest proceeds is currently under consideration. Safaricom shall cover customer claims against M-PESA TRUST COMPANY arising from negligence or intentional wrongdoing by the trust company or by Safaricom. In addition, caps on the maximum account balance (about US$ 750) and maximum transaction size (about US$ 530) provide CBK with additional comfort because they limit the risks of money laundering and the amount any individual customer could lose in case of insolvency." (CGAP, 2007)

Legal & regulatory issues: Kenya

Model	Non-bank based
KYC	Account opening (both on site and remotely) while maintaining adequate "know your customer" (KYC) standards. Domestic and international transfers of funds are not subject to specific KYC rules.
Maximum limit of transactions	KES 50,000 per M-PESA account per day and a transaction limit of KES 35,000 per day in order to mitigate against settlement risk
AML/CFT	AML bill 2007
E-money issuance	Kenya has no laws, regulations or policies dealing directly with e-money
Payment system	There is no law in Kenya expressly governing the payment system.

Table-4 Source: CGAP-Notes on Regulation of Branchless banking in Kenya, November 2007

Audit Order

Then acting Finance minister, John Michuki, in 2008 ordered an audit of M-PESA operations citing money laundering concerns. The purpose of the audit note was to provide insights as to how this innovative money transfer service has developed, how it has enabled the transfer of funds to the un-banked and how the Central Bank of Kenya (CBK) continues to oversee its operations in order to ensure their safety and efficiency. The issues and risks that had been raised over M-PESA, Mr Kinyua said, have been mitigated through a number of measures, which CBK and the Communication Commission of Kenya (CCK) monitor regularly.The central bank has proposed and formulated the enactment of the National Payment System Bill that will strengthen its mandate as an oversight body over all payment systems including money transfer.

The 16 points audit finding states that M-PESA service Does not accept from members of the public money or deposits that are repayable on demand or at the expiry of a fixed period or after notice;Does not employ money held or any part of the money for purposes of lending and investment or in any other manner for the account and at the risk of the person so employing the money.

In M-PESA, money collected by agents is deposited in a trust account in one of the leading commercial banks in Kenya. This trust account provides the legal protection for the beneficiaries. The money in this trust account is not under the control of Safaricom and cannot be employed for purposes such as lending, investing or in any other manner for the account. Legal protection of the money in the trust account is provided for in the trustee deed. Various legal instruments pertaining to this service, including the trustee deed have been presented to the Central Bank and reviewed accordingly. Further to this, the Central Bank of Kenya under the Banking Act regulates funds in the trust account deposited in the designated commercial bank. The Trustee holds funds on behalf of all M-PESA System participants under a Declaration of Trust (the Trust Deed). A number of critical issues and risks have been reviewed during the audit that could compromise the safety, efficiency, integrity and effectiveness of the M-PESA system.

These risks have been mitigated through a number of measures which the Central Bank and the Communications Commission of Kenya (CCK) monitors regularly. The Central Bank of Kenya has continued to oversee the service in line with its 'Oversight Policy" ' Framework document" on payment systems in Kenya.

The Philippines

The Philippines has been proclaimed one of the leaders in mobile banking with its Smart Money and G-Cashinitiatives. Their non-bank-based/Telco model allows person-to-person transfers, purchase of goods from merchants and bills payment.

The BSP (central bank of the Philippines), has practiced a flexible but hands-on role in the emergence of mobile banking in the Philippines. In 2000, BSP issued two circulars requiring banks wishing to offer services via electronic channels to seek prior approval from BSP before offering them to the public. Pursuant to the circulars, five commercial banks (each having applied individually) have entered into partnerships with Smart, the largest MNO, to use the Smart Money mobile payments platform for account opening, marketing, data processing and other functions. Meanwhile, rural banks seeking a similar partnership with GCash follow a different path.

The general banking law of 2000 allows micro-finance as a legitimate banking activity. The law gives "full authority to regulate the use of electronic devices, such as computers, and processes for recording, storing and transmitting information and data in connection with the operations of a bank including the delivery of services and products to customers by such entity." (CGAP,2008). The Philippines also adopted an Electronic Commerce Act in 2000 (the "E-Commerce Act'), which recognizes the validity of electronic transactions and electronic signatures and provides the basis for the prosecution of electronic crime, giving a degree of security to private sector actors concerned about repudiation of transactions, legal standing of electronic records, and standards for prosecution of e-commerce crimes. Both of the above laws cover mobile and electronic banking risk management, security procedures, internal controls, anti-money laundering regulations, know your client requirements and consumer protection. The BSP

also created a core IT supervisory team to effectively supervise and remain abreast with the latest development in mobile and electronic banking.

Legal & regulatory issues: Philippines

Model	Non-bank based	
	SMART money	G Cash
KYC	Formal ID card,	
Maximum limit of transactions	Daily limit: PHP 50,000 (approx. USD 1,100)	Single transaction limit: PHP 10,000 (approx. USD 220) Daily limit: PHP 40,000 (approx. USD 880) Monthly limit: PHP 100,000 (approx. USD 2,200)
AML/CFT	Comply with the Anti-Money Laundering Act(AMLA)	
E-money issuance	Electronic Commerce Act in 2000	
Payment system	No law/regulation for the national payment system	

Table-5 Source: CGAP-Notes on Regulation of Branchless banking in the Philippines, May 2008

South Africa

The South African government has taken an active role in creating regulations to facilitate the development of bank-based M-banking. Currently it has two M-banking models WIZZIT and MTN Mobile Money – both of which involve non-banks and banks working in partnership. For both, the bank account application is fully integrated with the mobile phone, enabling the customer to use the mobile phone itself as a payment instrument.

SARB (Central bank of South Africa) issued two documents impacting M-banking-

1.Position Paper on Electronic Money, which stated that only banks would be permitted to issue electronic money. Stored value payments products in South Africa can therefore only be operated by banks.

2.Bank Circular 619 allowing banks to open mobile phone-operated bank accounts (within certainTransaction and balance limits) without having to undertake face-to-face KYC (know your customer) Procedures.

Legal & regulatory issues: South Africa

Model	Bank based
KYC	South African Identity number
Maximum limit of transactions	ZAR 1,000 per day
AML/CFT	The Financial Intelligence Center Act (FICA) and its regulations govern anti-money laundering.
E-money issuance	Only banks can issue
Payment system	Regulated by National payment systems act

Table-6 Source: CGAP-Notes on Regulation of Branchless banking in South Africa, February 2008

Comparison of Regulatory framework

Among the above three M-banking models of Kenya, Philippines and South Africa (SA), SA has relatively less impact compared to others. A study states "South Africa's position is surprising: experiments began there comparatively early and several well known pioneering models such as Wizzit and MTN Mobile Money emanate from there, but the role that non-banks can play in issuing e-money is circumscribed by the current guidance note on e-money which has frustrated some potential innovators. To further enhance its environment, South Africa would have to amend its position, for example by creating a category of regulation for non-bank e-money issuers, or 'narrow banks,' a step that has in fact been suggested".

Above overview of regulatory frameworks in different countries highlights that the successful cases of M- banking or payment are in those regimes where non-bank based models has been introduced. That is why, most of the countries are adopting the liberal model i.e. non-bank based model, According to a study Number of countries where non-banks have found accommodation has been larger than where it is prohibited'. (Rasmussen, 2009), but in india the regulation are very strict for mobile banking, if india want to get more success they should follow the non-bank based model.

CONCLUSION

Mobile phones are now also being started for banking transactions in India. With around 400 million mobile subscribers and strong mobile network infrastructure, India is on its way to increasing the reach of Mobile Banking services to urban as well as rural bank customers. Different stakeholders responsible for the success of mobile banking services are regulators such as RBI, TRAI; Banks; Telcos and Third Party Payment Processors. Guidelines set by the RBI provide that Mobile Banking be done only in Indian currency (Rupees) by licensed and physically present banks in India. The services shall be restricted only to customers of Banks and holders of Credit/Debit cards holders. The guidelines for KYC, AML, CFT shall be followed and banks with core banking solutions are allowed to carry out this business.

Challenge regarding M- banking to policy-makers and regulators is two-fold: Firstly, to encourage banks and mobile operators to develop solutions that are not proprietary, and secondly, to allow access to potential new entrants that can disrupt the lucrative business models of the banks and mobile operators. The key challenge is to do this while at the same time ensuring high levels of security and trust. "Just like convergence forced the integration of broadcasting and telecommunications, so mobile banking is forcing the convergence of the financial and telecommunications sectors. Unfortunately, the convergence of two such heavily regulated industries means that this potential is unlikely to be met unless policy-makers lay the ground rules for innovation."

Overall, Mobile Banking in India is slowly picking up.

REFERENCES

1. Comninos, A., Esselaar, S., Ndiwalana, A. & Stork, C., (2008). Towards evidence-based ICT policy and regulation M-banking the unbanked, (Policy Paper 4)

2. DFID (2009, February 12). Douglas Alexander sets out how branchless banking can help the poorest people. Retrieved September 26,2009, from http://www.dfid.gov.uk/Media-Room/Speeches-andarticles/2009/Douglas-Alexander-sets-out-how-branchless-banking-can-help-the-poorest-people

3. Kumar, Anjali, Nair,A., Parsons, A., & Urdapilleta, E,. (2006). Expanding bank outreach through retail partnerships: correspondent banking in Brazil, Working Paper No. 85. Retrieved September 25, 2009

4. Lyman,T., Ivatury & Staschen (2006). Use of agents in branchless Banking for the Poor: rewards, risks, and regulation. Retrieved September 25, 2009, from CGAP

5. Porteous, D. (2006). The enabling environment for mobile banking in Africa. DFID.

6. Philippines regulator shares experience of mobile banking with Nigeria's bankers. Retrieved September 25, 2009, from Aitec Africa:

6. Ratha, D., Sanket & Vijayalakshmi, K.M. (2009). Remittance flows to developing countries are estimated to exceed $300 billion in 2008. Retrieved September 24,2009, from the Migration, remittance and development blog:

7. Rosenburg, J, (2008). How do you price a mobile banking service. Retrieved 5 December,2009

8. Sirken. (2009). Ministry of finance audit findings on M-Pesa money transfer services. Retrieved September 25, 2009, from the Kenya political blog:

WEBSITE:

1. http://siteresources.worldbank.org/INTTOPCONF3/Resources

2. http://www.cgap.org/portal/binarycom.epicentric.contentmanagement.servlet.ContentDeliveryServlet/Documents/FocusNote_38.pdf)

3. http://www.aitecafrica.com/news/view/79

4. http://peoplemove.worldbank.org/en/content/remittance-flows-to-developing-countries

5. http://technology.cgap.org/2008/08/25/how-do-you-price-a-mobile-banking-service/

6. http://kenyapolitical.blogspot.com/2009/01/ministry-of-finance-audit-findings-on-m.html

7. http://www.dfid.gov.uk/Media-Room/Speeches-andarticles/2009/Douglas-Alexander-sets-out-how-branchless-banking-can-help-the-poorest-people