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**M-PAYMENT INFRASTRUCTURE AND  
ITS ICT APPLICATION: SOME  
REGULATORY ISSUES.**

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# *Agenda.*

- 1. Background and Basic definitions.*
- 2. Mobile Money Models: Two distinct Models.*
- 3. Infrastructure and Regulation.*
- 4. Multi-Regulators Enviroment.*
- 5. Issues: Strong Customer Protection ..*
- 6. Issues: Openness and Certainty.*
- 7. Interoperability.*

## *Agenda ...2*

- *Development of MM Services and Education of Consumer.*
- *Final Comments ....*

# Background and Basic Definitions <sup>[1]</sup>

- The two terms: Mobile Payments (m-payments) and Mobile Banking (m-Banking) are used extensively in the literature of Mobile Money (MM).
- Both terms are embedded within the broader domains of e-Banking and e-Payments.
- m-Payments may be defined as financial transactions undertaken using mobile device (e.g. a mobile phone).
- m-Banking includes m-payments since a mobile device can be used to access broader range of banking services through a bank account.

# Two Distinct Models ...

- Mobile phone is utilised as an additional channel for a bank account through which services may be delivered (Additive Model).  
OR
- Mobile phone is linked to financial products that are made available to customers who belong to unbanked group of people (Transformative Model).
- **THOSE GROUP ARE** largely low income people.



# Characteristics of Transformational Models ...

- A Transformational Model has the following characteristics:
  1. Uses Existing mobile communications infrastructure linked to financial products to reach unbanked people.
  2. Is Driven by New players; such as Telcom operators, targeting different markets from those of traditional banks,
  3. It may strengthen the power of new networks for cash transactions, such as Telecom agents for credit top-ups; in addition to existing merchant POS or ATM networks of banks.
  4. Cost less than fees for conventional banking services due to low overhead and large volume.

# Enablement ...

- Mobile Banking will in fact be Transformational in a country with enabling environment.
- *Enabling environment refers here to the set of conditions which promote a sustainable conditions of market development.*
- Enabling environment allows widespread access; and, therefore, transformational models are more likely to succeed.

# Infrastructure .....

- It is obvious that infrastructure availability is a needed before an m-payment scheme can be implemented.
- Both Technology infrastructure as well as financial infrastructure are needed.
- Telecom network is used as a transport carrier for the m-payment services.
- For the Financial Infrastructure, Settlement and reconciliation among participants in the m-payment operation are needed.



# Regulation ....

- Regulation is needed to balance between different actors on the market offering the same or similar services.
- The regulation of m-payment is more complex as it needs hybrid sort of regulation: regulating the financial activity as well as Telecoms network operation. Such regulatory Body does not exist!
- It is the beginning of a new era of Regulation: Telecoms does not just provide channels .... It provides channels with various content!

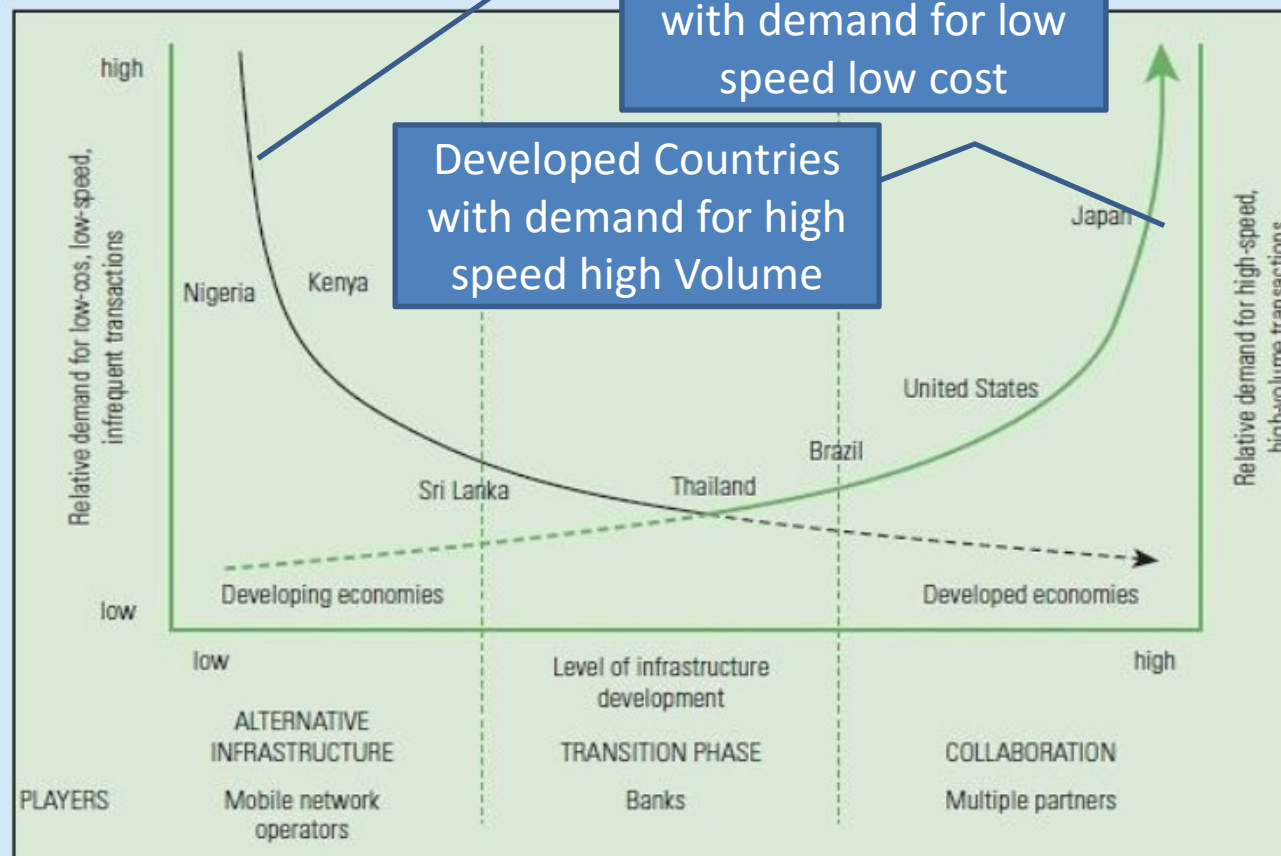
# Which Business Model to adopt?

- Three main business models have emerged, depending on regulatory regime, culture, and population size:
  1. Bank centric
  2. Mobile operator-led (MNO-centric model) or non-bank-based
  3. Partnership

# Empirical Findings ....

- From collected data, the World Bank showed where each model is more likely to occur and depicted that in the figure below:

## Mobile Money Demand Curve



Developing Countries with demand for low speed low cost

Developed Countries with demand for high speed high Volume

Source: World Bank: Maximizing Mobile. Report on Information and Communications for 2012.  
<http://www.worldbank.org/ict/ic4d2012>.

Black curve: MM demand for developing countries with demand migrating from low speed, low cost to high speed, high volume (Red) and increasing competition from banks and financial institutions.

# Which Regulatory Authority is in Charge?

- It was obvious from the first time experience of MM that Financial Regulator and Telecoms Regulator are both involved.
- The cross-regulation between the two authorities is evident!
- How to resolve it?



# What is new in this Experience?

- Mobile money has flourished both in developed and developing countries but each with its own way of development and in various forms in response to structural characteristics.
- We already have exposed the issue: Which Business Model to adopt? In fact how will we cope with cross-Regulation between at least two sectors: Financial and Telecoms!

# Multi-Regulators Environment ...

- In some countries, it sits in the cross-junction of 5 Regulators: (bank supervisor, payment regulator, telecommunication regulator, competition regulator, anti-money laundering authority).
- A number of new services, that will emerge and become popular under the Umbrella of Broadband services, will require Multi-Regulatory policies.

# New Trend in Regulations ...

- From the literature and documented experience, some special issues will be highlighted and reflected in this presentation to show the emergence of a new trend in Regulation .....

# Elements of Mobile Money.

- Mobile money (MM) in developing countries is more than just technology.
- A main success factor is the existence of a well-developed agent network in order to achieve scale.
- Agent Network provides vital cash-in and cash-out services, as well as for building trust for first-time users of formal financial services; in particular, in rural areas.
- The main motivation for agents is the commission they receive for the work they do, i.e converting cash into e-money and vice versa.

# Consumer Protection ....

- The reach of MM services to consumers in rural and remote areas is a critical success factor.
- Banks have learned through this experience to utilise agents to deliver bank's services in remote areas.
- Protection of consumers has become a paramount issue for Regulators (in both the financial services and the Telecoms sectors).



# Stronger Consumer Protection...

- MM is widely used among the poorest in countries with a regulatory framework that supports interoperability<sup>[2]</sup>.
- However, stronger consumer protection seems to be associated to lower usage among the poorest.
- One possible explanation is that stronger consumer protection regulation increases the cost of providing MM services, thus reducing its usage among the poorer.

# Generalization .....

- The degree to which a certain regulatory issue can be pursued is determined by two guidelines characteristics under which we can categorize regulatory principles.
- These TWO are Openness and Certainty  
.....

# Openness and Certainty<sup>[1]</sup>

- Openness in Regulation allows access of the market for new entrants to the sector.
- A regulatory principle is said to be supporting certainty if it does not allow arbitrary legislative changes to affect the sector.
- The above two characteristics are the main yardstick that can guide us to determine the success degree of Regulation of MM in a society.

# Openness and Certainty ....2

- Porteous[1] listed six principles that come under the two relevant dimensions: Openness and certainty.
- They provide enabling legal and regulatory environment for market players and end users.
- Three of them supporting Additive Model of m-Banking and three supporting the Transformative Model.

# Interoperability .....

- Interoperability refers to the ability of the customers to switch between MM providers.
- Coupled with Number Portability (NP), the customer can be allowed to switch between operators as well as between MM providers.
- Added to this, a new entrant to the market is allowed to use a MM platform (e.g. m-Payment platform) established by another MM provider.



# Uses of m-Payment ...

- The initial take-off of m-Payment was closely linked to two services: fund transfer to friends and relatives and cash withdrawal.
- MM services have been extended to cover various financial services:
  - Formal financial products (microfinance, savings, credit, insurance),
  - Informal service providers (moneylenders),
  - Personal networks (on-demand, scheduled payments, sending and receiving money),
  - in-store merchant payments (goods and services), and
  - remote B2C/C2B payments (salaries, pensions, loan disbursements, bill payments, online/e-commerce).

# Uses of m-Payment ....2

- Significant impact of MM application comes as a result of Governments using mobile money transfer services for making payments to citizens (e.g. salaries and pensions) and to collect revenues such as taxes.
- For example, payment of salaries in Afghanistan, Tax collection in Tanzania, ...etc.

# Educate Consumers ....

- Additional role is needed: educating the consumer to use the application for various purposes.
- This increases the burden on Regulator(s) of the activity: whether it's a Telecom Regulator, Financial Regulator, Bank's Supervisor, .....etc.

# Intra-Regulatory Experience ...

- Spread of experience among regulators through MM activity is evident:
- In a survey conducted in Mexico and Colombia indicated that expanding banking networks through banking agents increases usage of banking services among the more educated unbanked.
- The results suggest that expanding infrastructure alone without financial education may not significantly increase financial inclusion!.

# Development of MM services ...

- The development of MM services can appear at very different stages of financial sector development, but it requires a vibrant and competitive Telecoms sector.
- Fostering competition among Telecom Network operators will foster the development of alternative services as margins in the industry decline.



# Development of MM services ...2

- Services offered by MM providers will differ depending on the degree of economic and financial development with pre-paid mobile services and transformational mobile money services being more prevalent in developing countries.
- Basic mobile communication technologies can already support a variety of transactions including P2P and retail payments.

# Final Comments ....

- *The state of the technological infrastructure should be good to enable making the MM services, and in particular, m-Payment network stable.*
- *Mobile Network service Providers need to continuously improve on the stability of m-Payment network and addresses the errors commonly found in the m-Payment service transactions.*

# Final Comments .... 2

- *In addition, proper sharing of liability between the m-Payment Agents, mobile service provider and the customer should be clearly delineated to ensure fair and smooth operation of m-Payment agents.*
- Information technology (IT) infrastructure investment and management have become strategically important to mobile service providers since they face constant changing business and technological environments..

# Final Comments: Multi-Regulator issues.

- The complex overlap of issues poses the threat of coordination failure across regulators; especially in environment where legislation or regulatory approaches are inconsistent or contradictory.
- This failure may be one of the biggest impediments to the spread and growth and of new mobile and m-Payment, at least of the transformational sort.

[1] **Porteous, D.** (2006). The Enabling Environment for Mobile Banking in Africa, Bankable Frontier, commissioned by the Department for International Development. Available: <http://www.bankablefrontier.com/assets/ee.mobil.banking.report.v3.1.pdf> [last accessed 15 October 2015].

[2] *Eva Gutierrez, Sandeep Singh*, “What Regulatory Frameworks Are More Conducive to Mobile Banking?”, The World Bank Publication, Latin America and the Caribbean Region, Finance and Private Sector Development, October 2013.





*Many Thanks.*