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Scoping Study on Payment Systems in Nigeria:

Supply Side Key Findings

August 2010

Introduction

- The Nigerian retail payments market has been evolving in line with the global payments evolution

- Retail payments and instruments are significant contributors to the broader effectiveness and stability of the financial system, in particular consumer confidence and increasing the formalization commerce activities

- Innovations in the application of new technology and business models have implications for the efficiency and safety of retail payments. New technology and new participants in the retail payments markets, for example non-bank providers will support the wider financial inclusion agenda

Objectives of the Scoping Study

- The focus of the study was retail payment instruments
- The objectives of the study were to:
  - Document the Nigerian retail payment system regulatory environment
  - Scope the supply of retail payment services in Nigeria - identify the various activities performed by banks and non-banks in the provision of retail payment services
  - Scope the demand for payments services (both formal and informal)
  - Assess potential business models and distribution networks that promote financial inclusion
  - Identify global payment systems developments and implications for financial inclusion in Nigeria
- The report covers both formal and informal payments
  - Formal payments: the payment is registered and goes via the national clearing and settlement system, such as card-based transactions, cheques, online payments
  - Informal payments: the payment is unregistered and remains outside the clearing system, e.g., cash, goods instead of money, etc.

Project Methodology

- In depth interviews were conducted by with suppliers and the regulator of payment services in Nigeria. 21 in-depth interviews were conducted in December 2009 and January 2010 by Developing Markets Associates with senior officials of:
  - 6 Commercial Banks
  - 2 Microfinance Banks
  - 6 Payment Service Providers
  - 2 Mobile Network Operators
  - 2 Development Institutions
  - The Central Bank of Nigeria
  - Other non-bank FSP: The Post Office & Moneygram

- The in-depth interviews addressed the retail payments industry in terms of the current issues, potential payment related innovations to promote financial inclusion and the regulatory environment

- The in-depth interviews were supported with desk research

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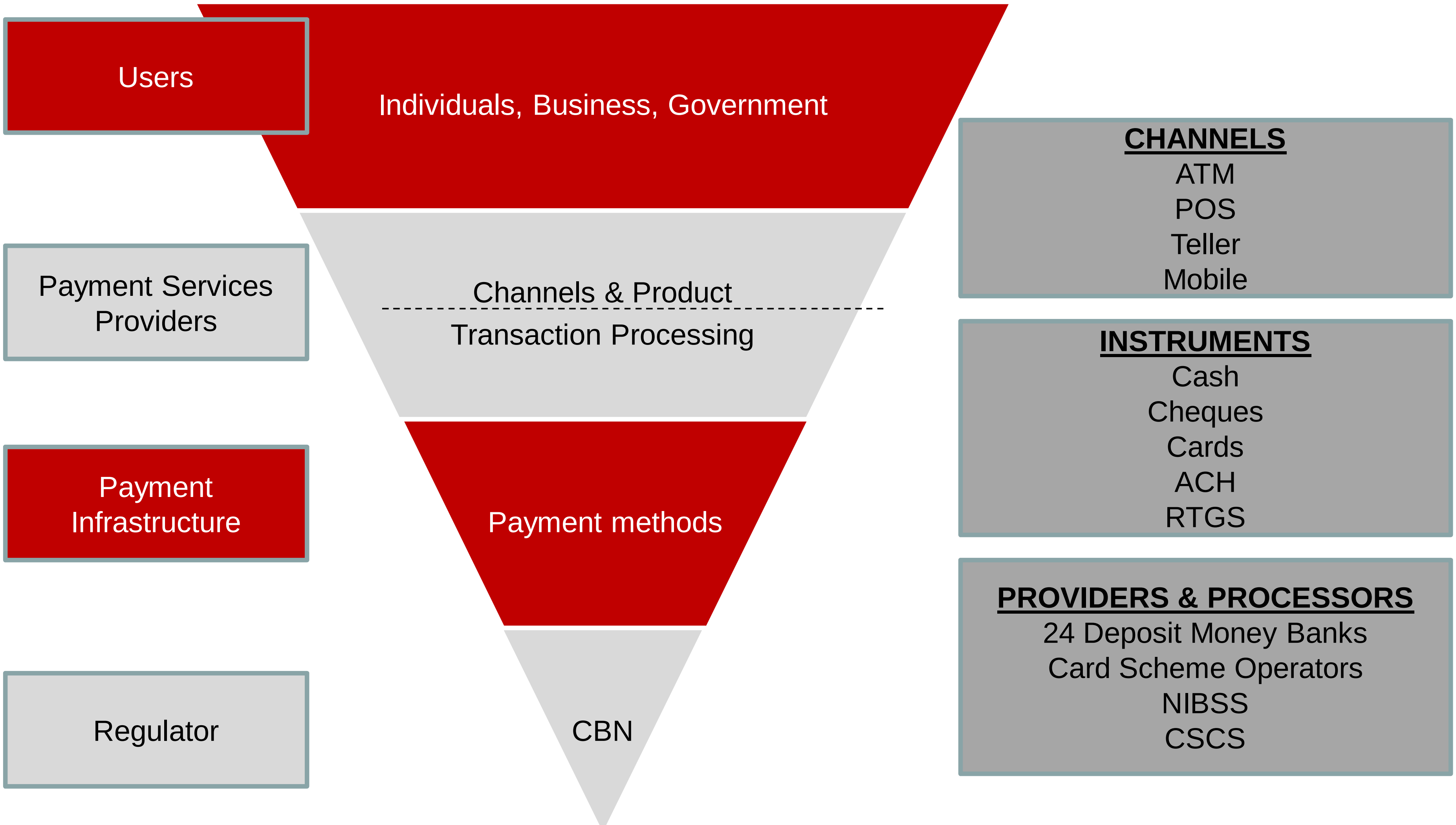
Nigerian Payments Instruments & Channel Overview

Payments Landscape in Nigeria



Retail Payments Overview

- Retail payments usually involves a consumer on at least one side of the transaction. Retail payment systems generally have higher transaction volumes and lower average values than wholesale payments systems. Consumers generally use retail payments in one of the following ways:

  - ***Purchase of Goods and Services*** - payment at the time the goods or services are purchased. A variety of payment instruments may be used, including cash, cheques, debit cards, credit cards or prepaid cards
  - ***Bill Payments*** - payment for previously acquired or contracted goods and services. Payment may be recurring or nonrecurring. Recurring bill payments include items such as utility, telephone and mortgage/rent bills. Nonrecurring bills include items such as medical bills
  - ***P2P Payments*** - payments from one consumer to another. The vast majority of person-to-person payments are conducted with cheques and cash, with some transactions conducted using electronic P2P payment systems
  - ***Cash Withdrawals and Advances*** - use of retail payment instruments to obtain cash from bank branches or Automated Teller Machines (ATMs). For example, consumers can withdraw cash from their bank accounts or can use Personal Identification Number (PIN) - based debit cards to withdraw cash at an ATM

Risk in Retail Payments

											during transaction													
		pre-transaction									**stage 1**						**stage 2**			**post-transaction**				
		customer acquisition; provision of front-tend infrastructure									fraud & risk management services, transaction authorisation						preparation clearing & settlement			statements, reconciliation, retrieval, reporting				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Credit and Liquidity	liquidity																							
	credit																							
	Settlement agent credit risk																							
Operational	Malfunctioning																							
	Data security risk & fraud																							
	Counterfeit & fraud																							
Compliance (industry & regulation)																								
Illicit use (AML, TF)																								

- Risk materialization in retail payments does not have great systemic relevance but may have impact on public confidence and acceptance of payment instruments
- There are vulnerabilities along the entire payments process and robust risk review needs to go beyond settlement
- Risk control becomes more challenging due to multiple players involved in retail payments
- Regulators must balance the trade off between competition, cooperation/efficiency and risk

Payment Instruments and Channel Overview

- Cash continues to be the predominant method used for transactions in Nigeria. The domestic cheque system remains the second most important payment medium in the national payment system

- This report focuses on retail payment instruments and channels excluding cash and cheques, namely:
  - Cards
  - ATM
  - Point of Sales (POS) Terminals
  - Mobile phones

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Cards

- Financial institutions issue debit cards to consumers to allow consumers to make withdrawals at ATMs, and for making POS transaction payments at participating retailers

- Card based payments which include debit cards, credit cards and prepaid/cash cards are gaining popularity. The deposit money banks and payment service providers are trying to promote the use of debit cards and prepaid/cash cards for (ATM), Point of Sale (POS) and online/web-based transactions. Card based payments are more prevalent in urban areas due to insufficient infrastructure and distribution channels in rural areas

- The market is dominated by the domestic card network Interswitch. However, since 2008, Visa and MasterCard have been more active in the Nigerian card market. With some banks migrating from the Interswitch card network to the Visa or MasterCard network

- In December 2009 the number of debit cards issued was estimated at over 20m. This shows significant growth since 2006 when the number of debit cards issued was estimated at 4.2m. The volume of transactions processed per month have also shown significant growth with over 100m transactions conducted in December 2009 on the Interswitch network alone

- However, it is estimated that **over 50% of the cards issued are inactive** which represents a significant opportunity to improve the volume and value of transactions conducted in the banked population, in addition to the opportunity with the untapped unbanked market

ATMs

- There has been a strong steady growth of ATMs penetration in recent years (CAGR for ATMs over the last 5 years is 79%)

- In December 2009, the number of ATMs deployed nationwide was estimated at approximately 10,000 units, which represents significant growth from 2006 when the number of ATMs deployed was estimated at approximately 1,500 units

- In 2009, the Central Bank mandated that all off-site ATMs deployed by banks are to be handed over to one of the licensed Independent ATM Deployers (IADs). Banks can only manage ATMs located at bank branches. CBN policy aims to reduce multiple ATMs in a single location

- Concerns have been raised about the lack of sufficient capital of the IADs, which may have a negative impact on the number of active ATMs and in turn reduce customer access

- ATMs have been deployed predominantly in urban areas and thus have not improved financial inclusion in the rural areas. Infrastructure challenges (electrical supply and communication links) makes the deployment of ATMs largely inappropriate for rural areas

- In order to increase ATM transaction flows - IADs and banks should consider partnering with retail outlets/ local shops to serve peri-urban and rural customers and further the financial inclusion agenda

POS Terminals

- Debit cards issued in Nigeria can be used to withdraw cash from ATMs and for transactions using POS terminals at participating retailers

- In December 2009, the number of POS machines deployed nationwide was estimated at over 11,000 units as compared to about 2,800 units in 2006. This shows that banks and their Independent Sales Organization (ISO) which provide third party services to install and operate ATM & POS terminals for financial institutions are actively deploying POS terminals

Deployed vs. Active

- In December 2006 and 2009, the number of active POS machines were 25% and 23% respectively

- Reasons cited for inactivity include network and infrastructure failure and merchants resistance to the use of POS terminals due to the charges

- In addition to payments of goods and services, Banks and Non-bank Financial Services Providers need to develop strategies to enhance the usage of POS terminals, such as being used as an alternative channel for financial inclusion and deposit mobilization for the mass market segment in urban and rural areas

Summary

	Feb-10
No of Banks on the Network	24
No of Debit Cards Issued	20,910,344
No of CashCards Issued	1,999,886
No of ATMs Live	10,003
No of POS Terminals Deployed	11,455
NO of Transactions switched interbank	26,088,634
Total No of Transactions(Network)	87,202,611
Switch Availability	99.99%

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Mobile Phones

Mobile & SMS Banking

- Most deposit money banks in Nigeria offer mobile and/or SMS banking services

- Mobile Banking enables customers' (typically with Java enabled mobile phones) to access their card linked accounts through their mobile phones. It allows customers to carry out basic banking transactions including but not limited to:
  - Balance enquiry
  - Statement request
  - Transfers between own accounts
  - Third party transfer
  - Airtime purchase

- SMS banking services are messages that the bank chooses to send out to a customer's mobile phone, without the customer initiating a request for the information. Typically messages could be:
  - Messages alerting debit or credit transactions in the customer's bank account
  - Marketing messages on product and services

The Regulator and the Nigerian Payments System

The Central Bank of Nigeria

- The Central Bank of Nigeria (CBN) has primary oversight of the payments system by virtue of the CBN Act, as amended in 1999

- The CBN, as with many other central banks, designs payments systems oversight based on criteria provided by the Bank for International Settlements. These criteria can be broadly categorised as:

  - ***Safety*** – managing the risks at each stage of the payments system and across all the different products and services
  - ***Security*** – providing confidence to the various stakeholders in the payments system market that the system can be trusted and is able to withstand external threats
  - ***Soundness*** – demonstrating the capability and ensuring the payment systems function in a non-disruptive manner
  - ***Efficiency*** – providing measures to assure that the payment systems are cost-effective, reliable and promote financial and economic stability
  - ***Accessibility*** – that the payment system and the various products within it can be accessed and used by all segments of the population
  - ***Authorisation*** – creating regulations that allow entities to provide services and ensuring that regulations are adhered to by providers in the market

Financial Sector Strategy 2020 (FSS2020) & Payment Systems Vision 2020

- Retail payments and instruments are significant contributors to the broader effectiveness and stability of the financial system, in particular consumer confidence and increasing the formalization commerce activities

- CBN's Financial Sector Strategy 2020 (FSS2020) has three broad objectives:
  - To strengthen the domestic financial market
  - To enhance integration with other foreign markets
  - To build an international financial centre

- Nigerian Payment Systems Vision 2020
  - The objective of the Nigerian Payment Systems Vision 2020 as defined by the FSS 2020 is to develop a national payment system that is "***Nationally Utilised and Internationally Recognised***". The development of the payment system has the long term vision to reduce ash dependence in making payments

FSS 2020 ICT initiatives

The ICT initiatives listed below, aim to increase the delivery of financial products and services to unbanked individuals and rural communities

Initiative	Deliverable	Actions	Timeframe	Action to date
Promote mobile device usage for person-to-person transactions	Efficient and effective mobile device transactions	Make mobile phone services available and affordable to all; banks to generate products and services with mobile phones with additional features like language translation and transaction notifications	2007-2009	• June 2009, guidelines issued • April 2010, RFP for mobile payments licensed issued
Create more ATMs and Internet based products and services for financial services	Enhanced use of ATMs and Internet for financial services	Increase availability of ATMs to include rural areas; provide accessible and reliable Internet facilities	2007-2009	
Automate Nigerian Postal Service (NIPOST)	Automated NIPOST	Increase number of NIPOST offices in rural areas (at least one per local government) with available internet service; automate and connect all NIPOST offices nationwide	2007-2009	
Facilitate the establishment of other service delivery channels such as kiosks, Point of Sales (PoS), etc	Available and accessible financial services	Establish service delivery channels such as kiosks, Point of Sales, etc		

Source Financial System Strategy (FSS) 2020 Compendium of Initiatives

Payment Systems Vision 2020

Seven User Focused Initiatives to Drive National Usage of the Payment System

Payment Systems Strategy - Working Groups

To deliver the strategy, the CBN constituted 10 Working Groups

Working Group	Activities
Cheques & ACH	To review clearing and settlement and draft recommendations on improvements. Develop a draft bankers code of conduct and recommend a public awareness campaign
Consumer Bill Payments	To review the current processes and controls around electronic bill payments; implement changes that would create a more robust service; review consumer protection rights; agree a practical pre-notification of debit; encourage banks to offer electronic bill payments; encourage all billers to support electronic payment of bills
Legal	To articulate a legal framework for the Nigerian Payments System; provide legal support services to other working groups. Legal have already submitted a draft payment systems bill and is working in alliance with the National Assembly
Cards	To look at the infrastructure for cards in the context of end users, service providers, the central bank, regulators and the international community. To develop guidelines for card based payments that conform with international best practice
Real Time Gross Settlement	To set up an effective feedback mechanism for participants on CIFTS operations; promote, organise and provide regular training, seminars and conferences; ensure that all system upgrades/enhancements are in line with or meet international best practice; review the CIFTS Rules and regulations

Payment Systems Strategy - Working Groups

Working Group	Activities
West African Monetary Zone	To recommend the changes required to align the Nigerian payments initiatives/ systems to those of the WAMI or arguments for the retention of Nigerian initiatives
Tax	To develop a robust framework for the payments of taxes through electronic means to improve tax collection
Person-to-Person	Responsible for achieving P2P payments over the mobile phone. To oversee the implementation of the M-Payments Regulatory Framework; periodic reviews of the m-payments infrastructure and solutions; encourage the use of m-payments by the unbanked
Salary & Pensions	To ensure that all businesses/organisations with more than 50 employees make salary/pension payments electronically. To integrate with the pension deduction, tax collection and deduction at source by December 2009. Have developed guidelines for the e-payment of all government salaries and pensions
Securities & Settlement	To oversee the settlement of all market-side securities trades that will use the RTGS payments system. For exchange traded securities, the net positions will be generated by CSCS and directly submitted to CIFTS. To pay dividend and coupon payments for all securities via a direct deposit – which will be mandatory by 2011

Regulations Affecting Different Payment Types

Cheques	• Cheque payments for more than N10m are no longer authorised (CBN Circular 5/11/09) – reduces risk and instability in the payments system by removing potential for fraud • Working Group has recommended cheque standardisation (e.g. in processing and MICR line), use of uniform bank account numbering and reduction of return codes as well as a Banking Code of Conduct
Card Based Electronic Payments	• Guidelines on Electronic Banking in Nigeria first published by the CBN in 2003, amended on several occasions since. Sets out framework of operation for all forms of e-payments • 2010 Guidelines on Stored Value/Prepaid Card Issuance & Operation - imposes limits on transactions of N20k per day and N750k per quarter, again to reduce risk and counter money laundering • All banks must hand over their off-site ATMs to a nominated consortium (CBN Circular 26/6/09) • All cards must be EMV compliant by September 30, 2010
G2P/P2G	• Draft Guidelines on E-payment of all Forms of Taxes at all Levels of Government published in 2009 • Draft Guidelines on E-payment of Salaries and Pensions in Nigeria in 2009 - states that salaries and pensions (for organisation>50 people) must be paid electronically
Mobile Payments	• M-payments are governed by the CBN's Regulatory Framework for Mobile Payments in Nigeria, covering infrastructure, business rules, technology and compliance • Recommends three models: bank focused; bank-led; and non-bank led. Different levels of KYC for different customers, with prescribed transactions sizes, volumes, and frequency. • Nigerian Communications Commission (NCC) has mandated under the Nigerian Communications Act 2003 that as of 1st May 2010 all new SIM cards must be registered, and a draft Bill is in the National Assembly to deal with registering current customers
Remittances	• All receipts of international remittances must be paid to a bank account or a reference provided by a bank account holder (CBN circular 7.5.10). This regulation could result in several outcomes increase and encourage account opening, make it harder for unbanked to access international remittance services due to absence of sufficient KYC ID to open an account, or increase informal international remittances

Suppliers of Payment Services in Nigeria

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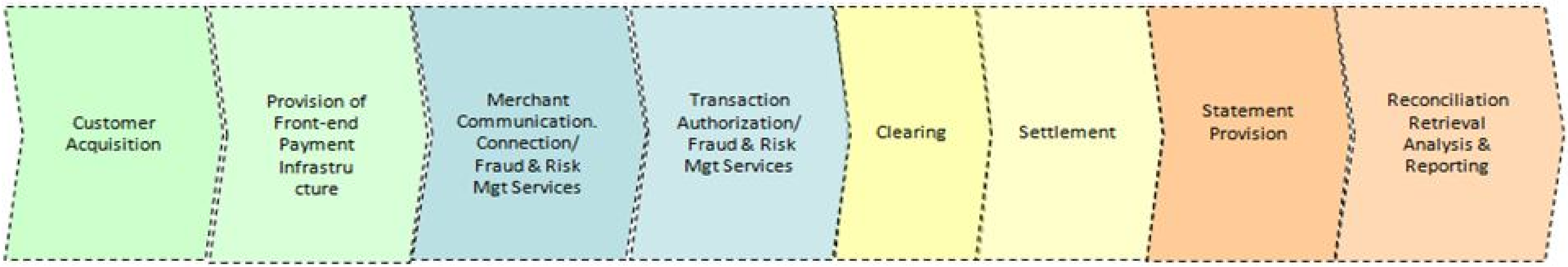
Banks

The Retail Payments Processing Chain: Banks Role



Pre Transaction | **During Transaction** | **During Transaction** | **Post Transaction**

Banks

- 24 deposit money banks currently operate in the Nigerian market

- Banks are the leading suppliers of payments services in Nigeria, offering:
  - Accounts: current, savings
  - Cards: credit, debit, prepaid
  - Cheques
  - Online payments
  - Money transfer: larger banks offer international transfers, either through their own networks or as agents of the major RSPs
  - Mobile banking

- Banks are the principal providers of accounts, instruments and services to end users in retail payment markets globally and Nigeria is no exception

- The use of traditional branch networks is not sufficient for the provision of these services. Hence banks have invested in technology driven channels such as POS, ATM, Mobile banking to serve their customers

- Banks can participate across the entire payment processing chain

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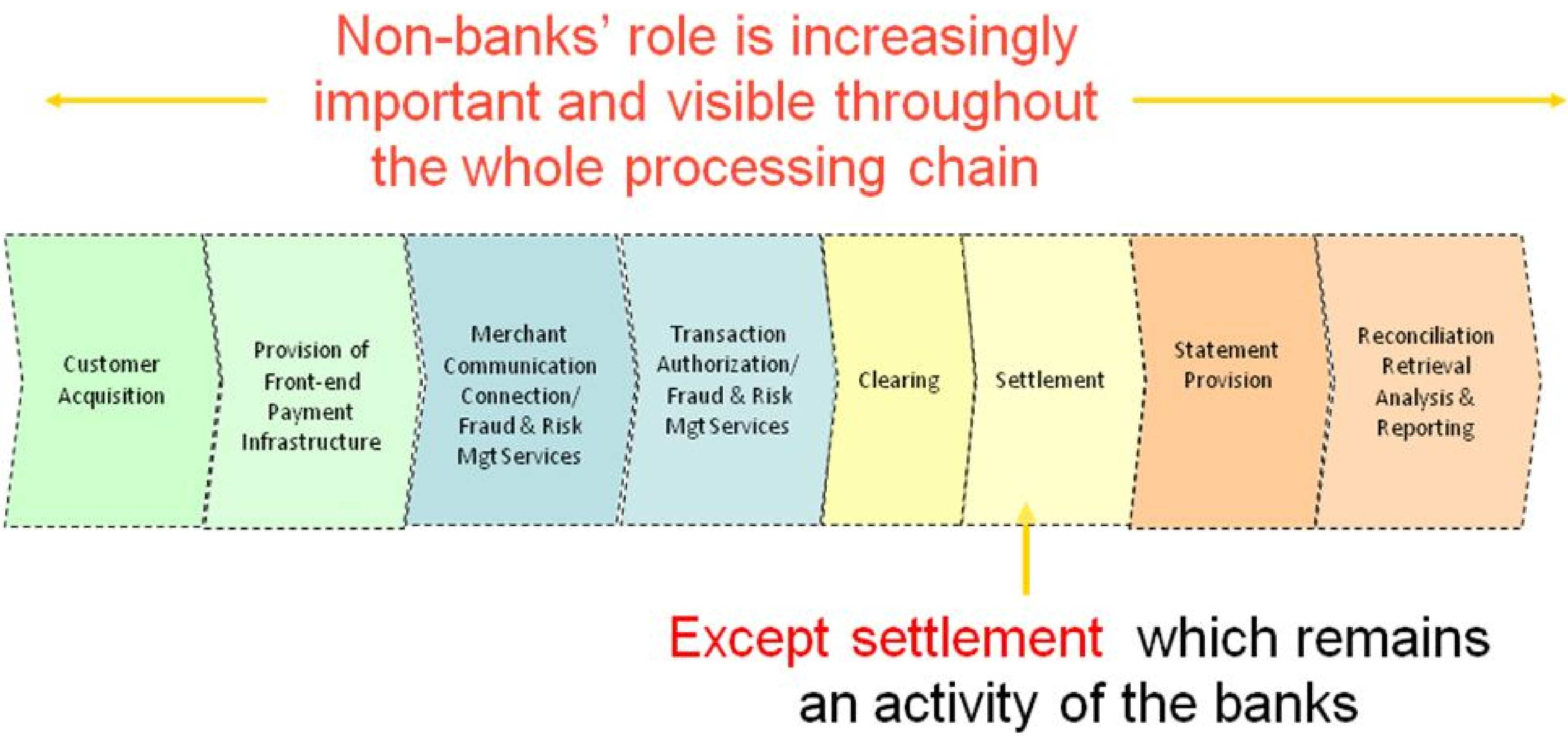
Non-Bank Providers

The Retail Payments Processing Chain: Non-Banks' Role



Non-bank providers are set to play an increasingly important part of the Nigerian payments system in coming years, offering targeted payment solutions, such as:

- Prepaid cards
- A network for processing payments
- Provision of remittance and bill payment services

Non-Bank Providers
Mobile Network Operators (MNOs)

- As at April 2010, there were around 86m mobile subscribers of which 70m were active (NCC)
- This represents a teledensity of 50%
- CBN mobile payments guidelines does not permit MNOs to offer mobile payments services, either alone, or as the lead partner in a consortium
  Implication: replicating Safaricom's M-PESA model is not currently permitted in Nigeria

Future Role:

- Large customer base will be attractive to authorised payment providers
- MNOs will be key partners in m-payment consortia, licenses anticipated to be issued by CBN in mid-2010

GSMA map showing mobile network coverage (2010)

Non-Bank Providers
Nigerian Postal Service (NIPOST)

- As part of the FSS 2020 strategic initiatives to increase the delivery of financial services to the unbanked and rural areas, the network connectivity of NIPOST branches and increased presence in rural areas were seen as critical enablers for the use of the NIPOST network in the provision of financial services

- The Information and Communications Technology (ICT) driven initiatives primarily targeted at rural dwellers include:
  - Deploying VSAT to major post offices across the country
  - Using modern mobile technology to reposition the post office and make it the people's access portal to the global e-economy
  - Post and allied financial services such as Pay@Post, SureSavings, Mobile Money and Home Delivery of migrant remittances, expected to take-off in 2010

- To achieve this objective, in 2007 NIPOST developed a strategic alliance with NETPOST. NETPOST is to establish modern communications connectivity between post offices across Nigeria and thus enable NIPOST to modernize its existing operations and services as well as introduce new services to the public

- The NIPOST-NETPOST partnership seeks to bridge the digital divide by providing Nigerians with greater access to the Internet through the provision of nationwide services at affordable prices via the post office in the form of e-mail and e-post

- Through NETPOST, Nigerians will be able to perform financial transactions through the various Internet centres located in the post offices. IT training will also be available at these sites

International Comparators

Which Countries and Why?

Brazil

Kenya

- These countries have instituted significant reforms to their payments system
- They all have relatively high levels of unbanked people who live in rural areas, and have had to address this as part of their payment systems reform processes
- Important lessons for Nigerian payment regulators and providers can be garnered from these countries

Brazil: Banking Correspondents

- **Issue:** Reaching poor people in rural areas is often prohibitively expensive for financial service providers. Transaction numbers and volumes are usually insufficient to cover the cost of a branch
- **Banking correspondents:** are non-bank entities that act on behalf of financial institutions to provide transaction, payment, and banking services. Currently, pharmacies, supermarkets, convenience stores, lottery outlets, post offices, and other retail outlets can operate as banking correspondents
- **Approach:** banks are allowed to contract local supermarkets and pharmacies as correspondents to manage operations in villages. Currently, these banking correspondents have helped to extend financial services to every municipality in the country
- **Channels employed:** banking correspondents process transactions with point-of-sale (POS) card readers that connect with the bank's server using dial-up or other data connection
- **Correspondent role:** the clerk at the retail or postal outlet collects and disburses cash and depending on regulations in the local municipality, can also open bank accounts for new clients and complete credit applications
- **Correspondent incentive**: the financial institution pays the correspondent a commission which serves as supplementary income to their primary business and also results in increased foot traffic into their stores
- **Correspondent concerns:** top concerns include low remuneration, liquidity management (and associated risk), network availability (GPRS downtime)
- **Customer benefit:** low income customers can have access to quality, low-cost banking services

Brazil: Banking Correspondents

Financial institutions role

- Prospecting for new correspondents
- Hiring (contracting) selected outlets to be correspondents
- Installation/maintenance of technical infrastructure needed for correspondent's operations
- Training correspondent staff that will operate systems at stores. Includes both technical (systems functionalities) and business training (characteristics of financial products and services)
- Help-desk and remote assistance to retail stores through PBX, to solve problems related to systems operation
- Technical support and on-site repair and replacement of malfunctioning equipment
- Provide supplies and consumables

Financial institutions incentives

- Correspondents enable a bank to increase POS coverage without incurring the high cost of building branches
- Lower set-up and operational costs, these savings can be passed on to clients
- Increased customer base and market share
- Low-cost solution in areas with potentially less number and volume of transactions
- Increased revenue from additional clients
- Improved indirect branch productivity by reducing congestion in branches

Challenges in establishing a banking correspondent network

Acquiring low-income customers as banking clients and establishing a banking correspondent network are not easy tasks. The main challenges financial institutions face in establishing and managing a correspondent network include:

- Selecting appropriate correspondents, and effectively managing and growing the network
- Managing cash liquidity within the network
- Acquiring and retaining clients through a correspondent network

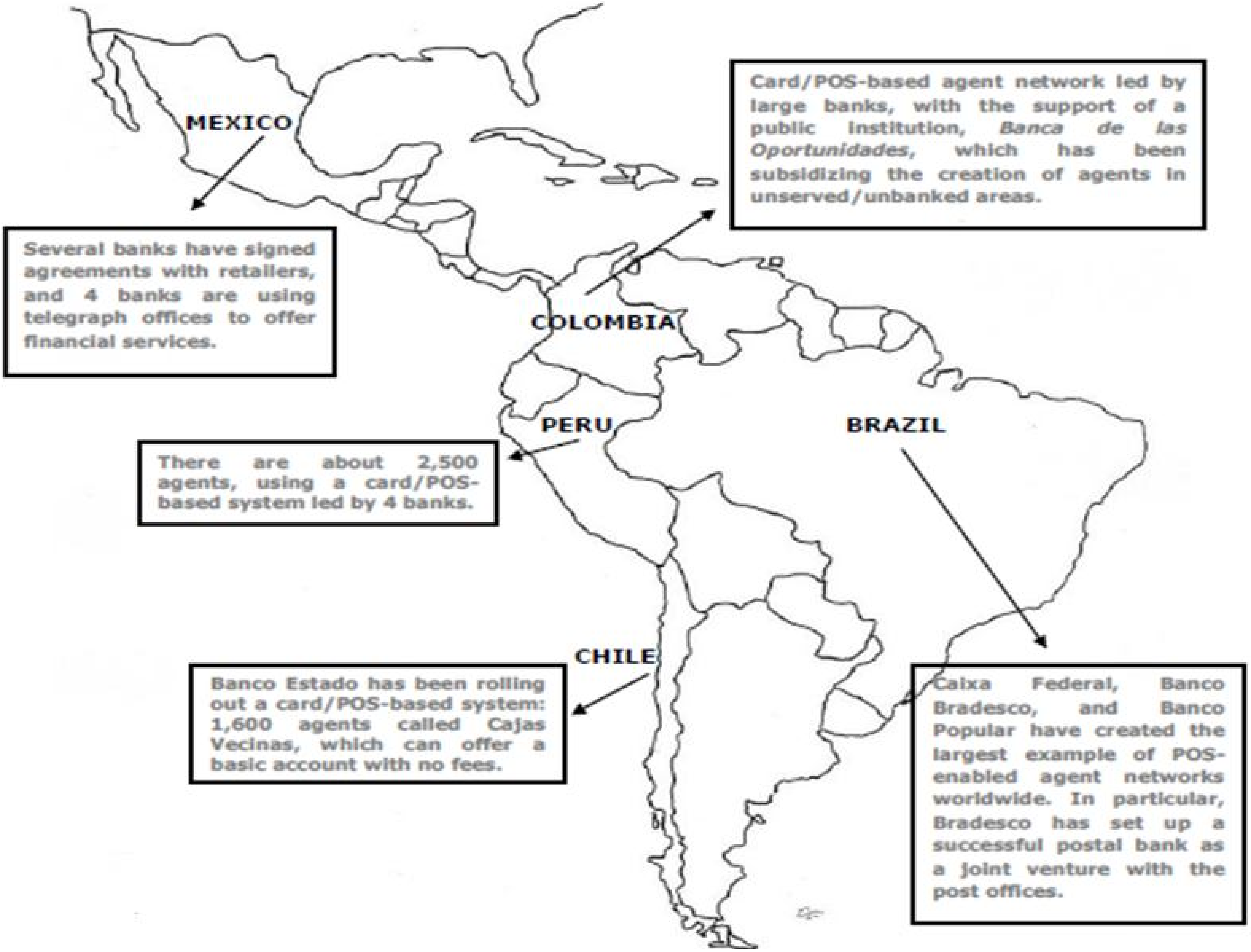
Source: CGAP Branchless Banking Agents In Brazil: Feb 2010

Brazil: Banking Correspondents

- **Performance to date**
  - 149,507 banking correspondents specializing in credit (payroll loans, credit cards, auto loans, etc)
  - 50,000 of these correspondents are authorized to open accounts and collect deposits
  - Every municipality in Brazil is now reached by banks
  - 1 in 4 municipalities served only by correspondents (Kumar 2007)
  - Rural correspondents tend to carry out more deposits and withdrawals as a percentage of total transactions (38%) than urban correspondents (8%), which suggests correspondents are playing an important role in providing access to bank accounts in rural areas
  - The increase in credit to consumers in past 5 years is mainly due to correspondents, which are the primary way mass market consumers repay. Brazilian banks have ramped up consumer lending, going from US$ 54bn (2003) to US$ 252bn (2009)
  - Brazil's (Bolsa Familia) program reaches 12.4 million households - a quarter of the country's population. Currently, recipients receive their government-to-person (G2P) welfare payments through electronic benefit cards which can be used to withdraw cash at banking correspondents
  - Caixa Economica is migrating 12.4 million Bolsa Familia recipients to conta facile (easy account), a financially inclusive account that includes a Visa-branded debit card that can be used at more than 20,000 ATMs, stores accepting debit cards, and merchants acting as correspondents of the bank for bill payments, deposits, and withdrawals. As at October 2009, the bank had converted 2 million recipients to conta facile
- **Unique features supporting widespread use of agents in Brazil**
  - More than a decade of regulatory changes to expand the role of bank correspondents
  - 1 in 4 households receive a monthly G2P payment

Source: CGAP Branchless Banking Agents In Brazil: Feb 2010; Microfinance Gateway: Technology Series, Part 1: Banking Agents; CGAP FN58 December 2009

Agent Banking Experiences in Latin America



Source: IDLO A New Agent Model for Branchless Banking in Columbia

Kenya: Mobile Payments

- **Issue:** Unmet market demand for low-cost money transfers

- **Mobile payments:** M-PESA is an electronic payment and store of value system on a mobile phone that can be used to: (*i) deposit and withdraw* money at an M-PESA "agent"; (*ii) send and receive money; (iii) buy prepaid* airtime via SMS and *(iv) pay bills*

- **Channel**: To access the service, customers must first register at an authorized M-PESA retail outlet. They are then assigned an individual electronic money account that is linked to their mobile phone number and accessible through a SIM card application on the mobile phone. Agents include Safaricom dealers, M-PESA agents and other retailers with distribution networks, such as petrol stations

- **Agent role:** The agent opens accounts, provide cash-in and cash-out services for P2P and P2B transfers

- **Agent incentive**: The financial institution/mobile money operator pays the agent a commission for customer registration and for every transaction each customers conducts i.e. cash-in and cash-out transactions and bill payments

- **Agent concerns:** Top concerns include low remuneration, liquidity management (and associated risk), network availability (GPRS downtime)

- **Customer benefit:** customers can deposit and withdraw cash from their accounts by exchanging cash for electronic value at a network of retail stores known as agents. Once customers have money on their phones, they can transfer funds to other M-PESA users and non-users, pay bills and purchase airtime

Kenya: Mobile Payments

- **Financial institutions role**
  - Primary role is providing pool accounts and settlement
  - Offer cash-in and cash-out services

- **Financial institutions incentives**
  - Float income and transactional income
  - Mobile payments is a vehicle for delivery of a broader range of financial services e.g. merchant bill collections, salary payments
  - Once agent banking regulations were enacted by the Central Bank of Kenya in May 2010, banks were permitted to use a wide range of retail outlets for transaction services (cash in & out) and product promotion (receiving account applications, though applications must be approved by a bank staff)

- **Challenges in establishing a banking agent network**

  Acquiring low-income customers as banking clients and establishing a banking agent network are not easy tasks. The main challenges financial institutions face in establishing and managing agent networks include:
  - Selecting appropriate agents, and effectively managing and growing the network
  - Managing cash liquidity within the network
  - Acquiring and retaining clients through an agent network

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Kenya: Mobile Payments

- **Unique features supporting widespread use of Mobile Payments in Kenya**
  - ENVIRONMENT:
    - Strong underlying demand for domestic remittances: Kenyan migrant population
    - Poor quality of available financial services prior to M-PESA (sparse bank branch network, informal remittance services e.g. bus lacked security/ reliability, Kenya Post remittance services slow costly and prone to liquidity shortages)
    - Mobile operator with dominant market share
    - Enabling regulatory environment
  - SERVICE DESIGN:
    - Simple user interface
    - Remove adoption barriers (free to register, free to deposit, no minimum balance, send money to anyone on or off the Safaricom network)
    - Simple and transparent pricing
    - Built trust in the retail agent network
  - M-PESA IMPLEMENTATION STRATEGY:
    - Attaining critical mass quickly through an aggressive customer and agent acquisition, building customer trust in the new system by ensuring reliability at all contact points: network, agent, access to account
    - Aggressive national launch with 750 agent stores in all 69 Kenyan districts with significant marketing investment for both above-the-line marketing i.e. TV and Radio and below-the-line marketing activities to explain the product
    - Scalable distribution channel i.e. develop a channel structure that can support thousands of customers nationwide: consistent agent management & incentives, efficient liquidity management, Safaricom retains control over training and monitoring of all retail outlets

Source: Mobile Payments Go Viral, I. Mas and D.Radcliffe, Bill & Melinda Gates Foundation

Kenya: Mobile Payments

- **M-PESA performance as at January 2010 :**
  - 9 million registered customers, of which the majority are active. This corresponds to 60% of Safaricom's customer base, 23% of the entire population, and 40% of Kenyan adults
  - 16,900 agents, of which nearly half are located outside urban centers
  - US $320 million per month in person-to-person (P2P) transfers. Although transactions per customer have been rising, they remain quite low, probably still under two transactions per month
  - US $650 million per month in cash deposits and withdrawal transactions at M-PESA outlets. The average transaction size is around US $33, but half the transactions are less than US $10
  - US $7 million in monthly revenue (based on the six months to September 2009). This is equal to 8% of Safaricom revenues
  - 19% of Safaricom airtime purchases are conducted through M-PESA
  - There are 27 companies using M-PESA for bulk distribution of payments. Safaricom distributed dividends on its stock to 180,000 individual shareholders who opted to receive their dividends into their M-PESA accounts, out of a total of 700,000 shareholders
  - Since the launch of the bill pay function in March 2009, there are 75 companies using M-PESA to collect payments from their customers
  - At least two banks (Family Bank and Kenya Commercial Bank) are using M-PESA as a mechanism for customers to either repay loans or withdraw funds from their banks accounts

Source: Mobile Payments Go Viral, I. Mas and D.Radcliffe, Bill & Melinda Gates Foundation

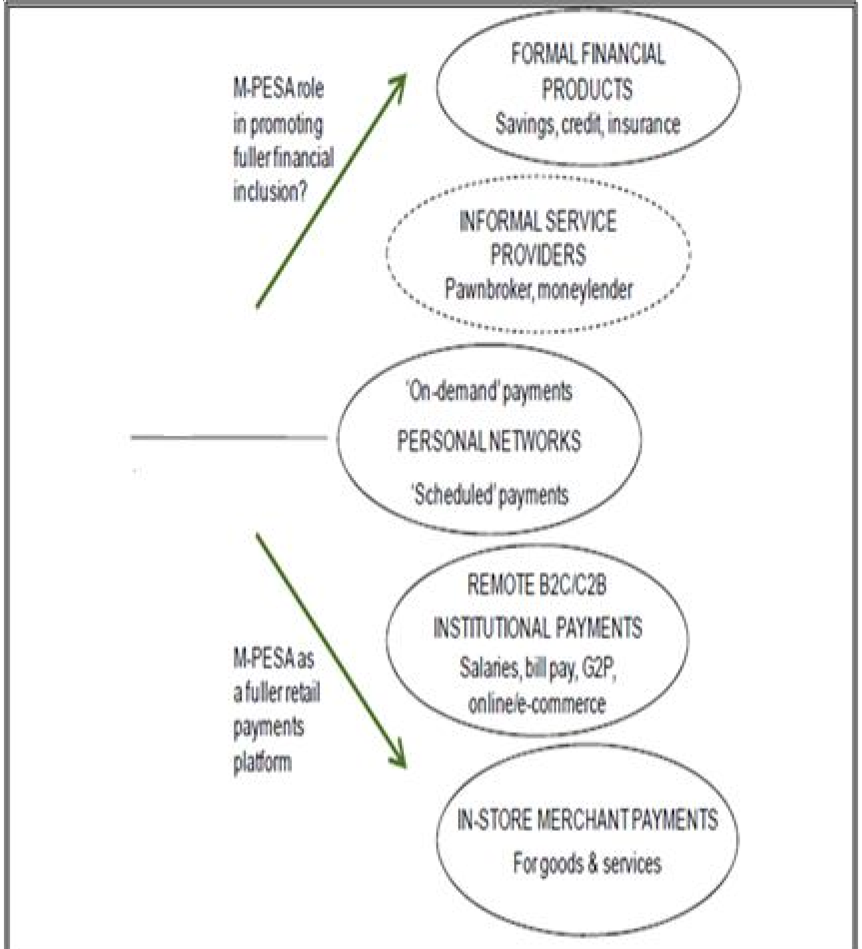
Kenya: Mobile Payments

Mobile Payments to become a vehicle for delivery of a broader range of financial services

M-KESHO Overview

- In May 2010, Safaricom and Equity Bank launched M-KESHO, a co-branded suite of financial products that will be based on the M-PESA mobile payments channel
- M-KESHO accounts have no account opening fees, minimum balances or monthly charges
- M-KESHO accounts pay interest, and are linked to insurance and limited emergency credit facilities
- M-KESHO customers will be able to transact at any of the 17,000 retail outlets that accept M-PESA
- Customers will be able to open accounts at either Equity Bank branches or at a subset of some 5,000 M-PESA agents at which Equity Bank will place a bank representative
- Within 3 months of launch 400,000 M-KESHO accounts were opened

Potential Range of Transactions Supported by M-PESA



Source: EFInA Study Tour Branchless Banking in Kenya, July 2010; Mobile Payments Go Viral, I. Mas and D.Radcliffe, Bill & Melinda Gates Foundation

Profile of Profitability of Agent Network

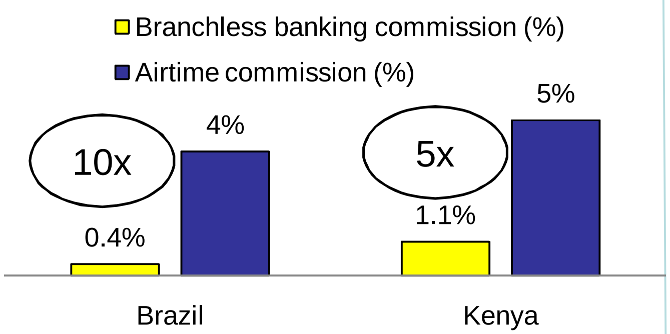
Brazil vs. Kenya

	Transactions/day	Commission/day (US$)	Commission (%)	Profit/day (US$)
Brazil	157	40.44	0.4	5.17
Kenya	87	16.11	1.1	5.01

1

The average M-PESA agent makes a profit of USD 5.01 per day. In Brazil, non-Banco Postal agents earn roughly the same USD 5.17

2



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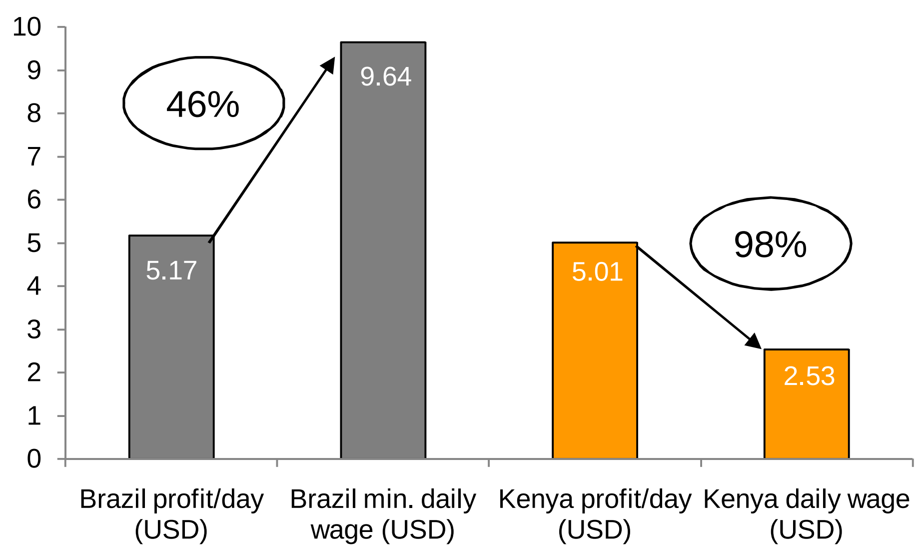


In Kenya, income from mobile payments is significantly higher than the minimum daily wage whereas in Brazil it is approximately half the daily minimum wage.

Brazilian correspondents report that foot traffic from being a correspondent is substantial: nearly three-quarters report having more customers in their store due to the presence of a branchless banking correspondent - the average increase is 37 percent.

Source: CGAP 2010

Business Models

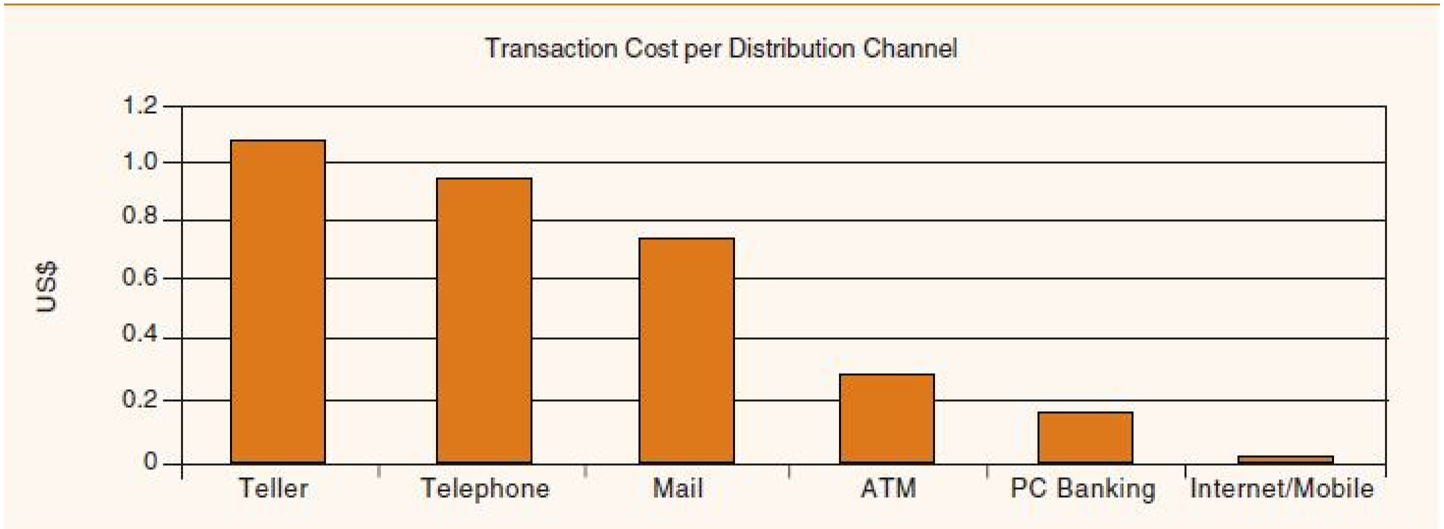
Using Payments as a Tool for Financial Inclusion

- To promote financial inclusion, transaction costs per channel must be low

- Deployment of alternative channels (excluding bricks and mortar) is key to ensuring the profitability of financial institutions

- The following business models will be considered:
  - Extending ATM networks and services
  - Branchless banking models:
    - Mobile Payments Models
    - Extend POS terminals and services

Transaction cost per Channel in the USA



Source CGAP Focus Note No: 32

Extending ATM Networks & Services

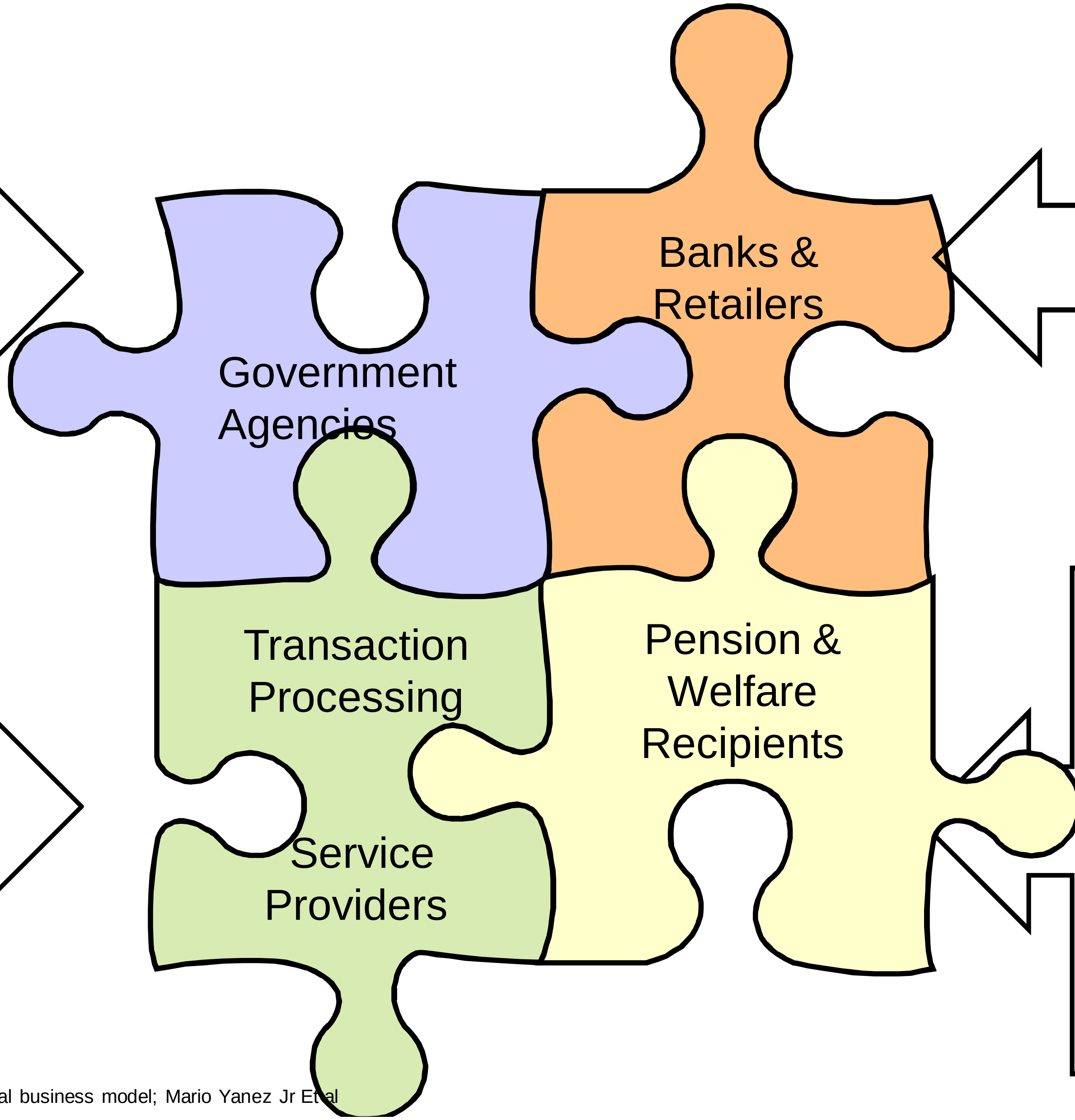
- The issue: to ensure the profitability of financial institutions ATM networks there must be a large volume of transactions per machine as this in-turn increases the average revenue per machine
- ATM profitability is currently limited due to high operational costs associated with power, compliance and security and maintenance of out dated legacy hardware and software and more recently card fraud
- In Nigeria, the ATM is currently deemed as simply a cash dispensing machine. In light of the fact that card usage on channels such as the POS terminals is low, the ATM is still an important channel for serving customers. However, in the advent that payment card transactions take off then there will be a reduced need for consumers to withdraw cash frequently. Another key driver for a decline in cash withdrawals at the ATM will be consumers unwillingness to pay ATM surcharges
- Consumers continue to view ATMs as an essential banking channel which often replaces the in-bank experience. The number of ATM locations offered by a financial institution represents a significant competitive advantage (this may change in light of the CBN regulation preventing banks from deploying their own ATMs in off-site locations)
- Financial institutions will have to take important decisions regarding their ATM network some responses will include:
  - Removing unprofitable machines
  - Delaying/foregoing upgrades on their machines
  - New services to increase the use and profitability of ATMs e.g. cheque depositing, and bill payments
  - Transforming the ATM from a cash dispenser to a customer relationship management and marketing tool for:
    - Brand reinforcement
    - Cross-sell opportunities
    - Advertising
    - Retention of ATM users
  - **New Business to drive transaction volumes:**
    - Card-linked services to drives transaction volumes at ATMs such as:
      - Payroll services to large scale blue-collar employers e.g. factories
      - Government social payment /welfare payouts (G2P)
      - Pension payouts

Extending ATM Networks & Services

Proposed ATM Business Model for G2P payouts

- Reduce cost of service provision
- More efficient and timely delivery to constituents

- Increase revenues
- Offer new biometric services



- Expand customer base
- Increase revenue
- Reduce transaction cost

- Receive benefits in a faster, more convenient, & secure way

Source: ATM & Biometrics A socio-technical business model; Mario Yanez Jr Et al

Extending ATM Networks &Services

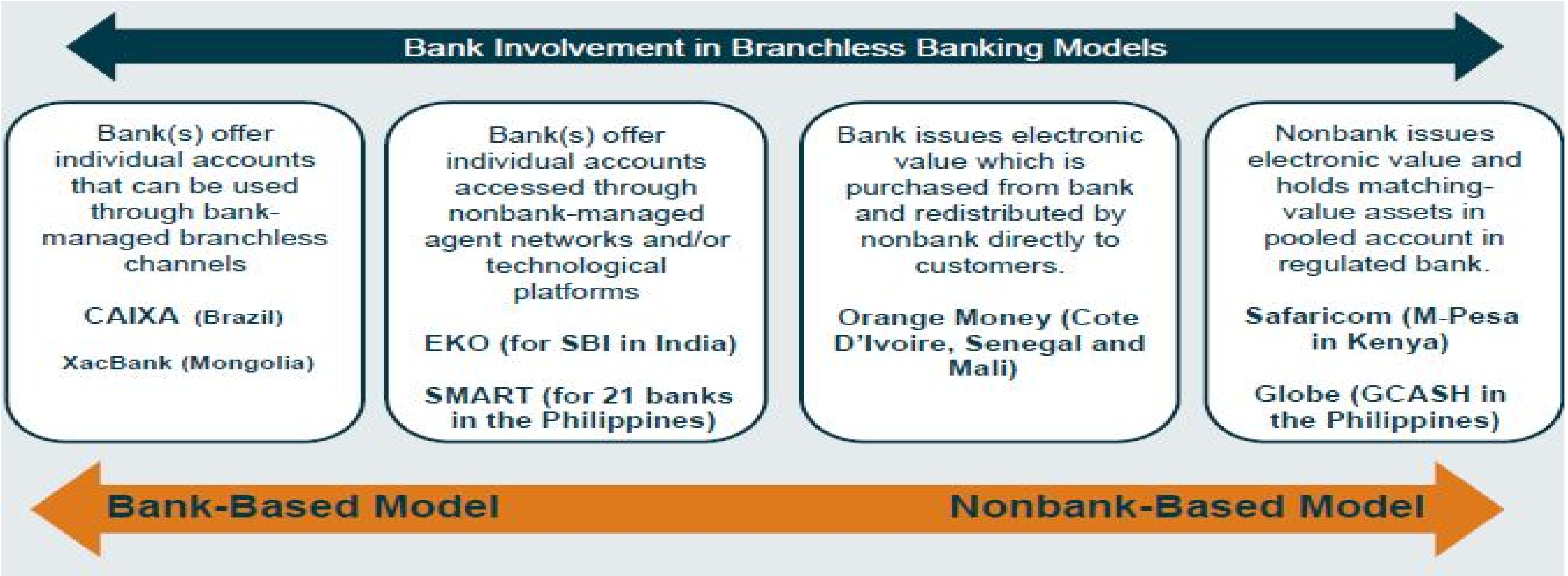
New Customer Target

Welfare and Pension Payments through Biometric-equipped bank ATM networks

Benefits	Potential Barriers	Solutions
• Governments reduce its cost and provide more efficient and timely service to its constituents • Banks and other financial institutions could increase the volume and reduce their ATM unit transaction costs; increase their revenues by charging the government agencies for the service and expand their potential customer base • Transaction processing services companies would increase their revenues with a higher volume of transactions and the provisioning of biometric database and verification services • Pension and welfare recipients could receive their benefits faster in a more convenient and secure form	• The capture and storage of biometrics by other than a government agency maybe considered illegal • Government may not want to outsource public functions to private industry • Segment of the population who are technophobes	• Use smartcards to store the biometric templates • Educate consumers on the usage of technologies • Emphasize the advantages of biometric technologies, particularly the benefits of added security on transactions • Provide awareness of the biometric enrolment process

Source: ATM & Biometrics A socio-technical business model; Mario Yanez Jr Et al

Branchless Banking Business Models

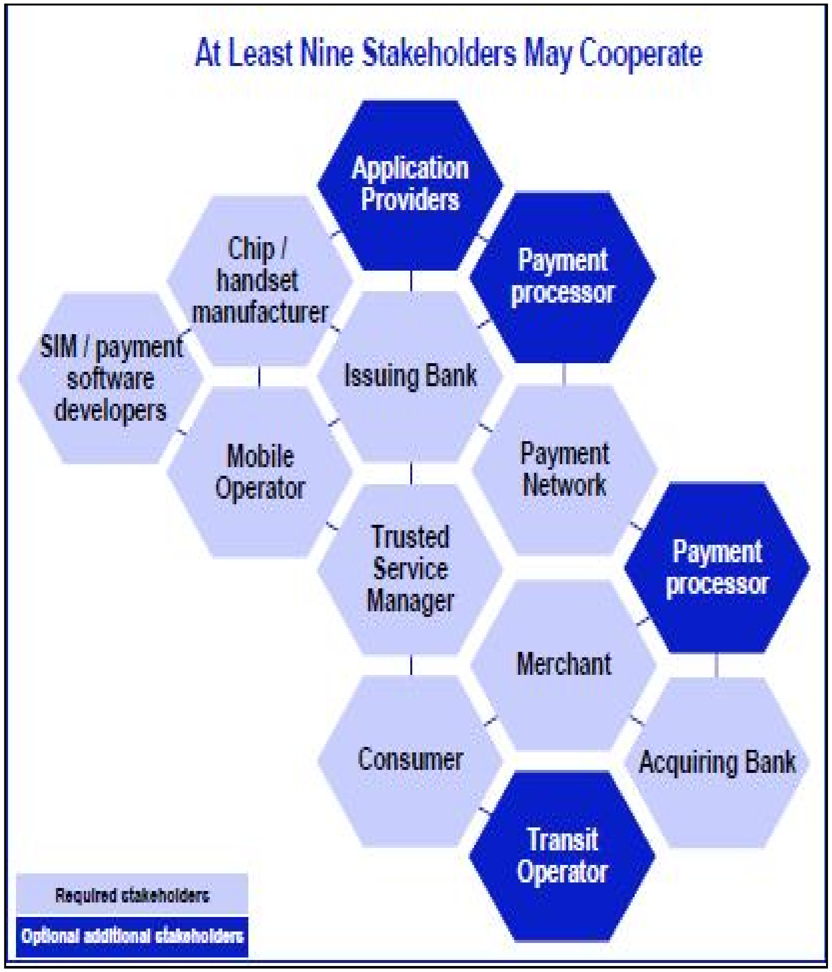


- While the distinction is often made between bank-based and nonbank-based models of branchless banking, the reality is both banks and nonbanks typically play roles in any branchless banking scheme
- In a bank-based model, customers have a direct contractual relationship with a licensed financial institution (even though a customer may deal exclusively with nonbank agents who conduct transactions on the bank's behalf)
- In a nonbank-based model, the customer does not have a direct contractual relationship with a licensed bank, and instead exchanges cash for electronic value recorded in a virtual account on the server of a nonbank, such as an MNO or an issuer of stored-value cards

Source: CGAP Focus Note 63 July 2010

Branchless Banking - Mobile Payments Model

- In areas where POS, ATM and bank branches are non-existent, using mobile phones may provide a lower cost channel to expand access to financial services
- In the basic mobile payments model, customers have “mobile wallets” otherwise known as stored value accounts on their phones to make bill payments, store value and transfer money
- For Nigeria with an estimated 70 million* active GSM mobile phone subscribers, the use of the mobile phone for payments and financial services holds great potential. As there is network coverage in rural areas, using mobile phones as a channel could potentially outstrip the penetration of cheques and card-cased retail payments



* Nigerian Communications Commission (NCC); Smart Card Alliance: Proximity Payment Scenarios July 2008

Branchless Banking – Mobile Payments Model

- Bank-led models, mobile network operator-led models and collaboration models, all have their advantages and disadvantages. Research has found that different models work differently in different environments, especially when contrasting developed and developing countries

- **Bank-led Model:** In developed countries mobile banking and payments form only a part of the broader service offering. Most people have a bank account and a mobile phone in these countries, In the bank-led models banks provide services to their own customers using mobile phones as another delivery channel. Convenience and speed are the key drivers

- **MNO-led Model:** In developing countries, where most of the population is unbanked but mobile phone penetration is very high, mobile payments is led by mobile network operators (MNOs). Their extensive networks of agents give mobile network operators a clear advantage

- **Non-Bank Independent Service Provider Model:** an independent service provider provides secure mobile payments between customers or between customers and merchants

- **Collaboration Model:** Banks, MNOs and third-party mobile payments solutions providers can partner to meet customer needs without causing concerns about regulatory matters

- CGAP, the Consultative Group to Assist the Poor, estimates that mobile financial services to poor people in emerging economies will reach $5 billion by 2012

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Branchless Banking – Mobile Payments Model

Bank-Led Model

- In the bank-led model, the customer account relationship sits with the bank. The bank acts as both the acquirer and issuer. They can benefit from the float and interest income

- This model is most common in developed countries, the mobile phone enables convenient access to transactional and informational services. It is used as a new channel for providing existing banking services

- This service can be provided to customers on any mobile network. So no MNO partnerships are needed, they are just providing mobile connectivity services (However, the bank could pay a fee to have their application on the mobile operators SIM)

- Mobile payments has provided new opportunities for the bank-led model. For example, mobile technology enables businesses to make and receive payments, authorise invoices and initiate payments using a mobile phone. Banks can collect transaction based fees on these transactions

- For savings, transfers, P2B or B2B payments the mobile channel offers real-time payment collection, convenience and the opportunity to reduce operational overhead costs for the bank

Branchless Banking – Mobile Payments Model

MNO-Led Model

- In developing markets, the MNO-led mobile payments models are aimed at the very large numbers of unbanked people. The schemes thrive because MNOs have networks of local agents, that can handle cash-in & cash-out in remote areas, far outstripping the physical presence of banks

- MNOs have the advantage of having a large customer base, brand equity and over-the-air/SIM-tool-kit application (this is the fastest and easiest approach to installing an application on the mobile phone since customer initiation of an application download is not required)

- The challenges associated with managing agents include liquidity management, training agents on banking issues such as KYC & AML

- In countries where registration processes and security measures are not robust, regulators are starting to become concerned about the MNOs-led models from the perspective of security of customer funds, the potential for money laundering and terrorism financing risks

- Regulators are reviewing how to minimise any possible impact that the MNOs–led models could have on financial systems. The Central Bank of Nigeria regulations states that the 'Lead' in a mobile payments model is responsible for ensuring that the various solutions and services meet all of the Central Bank's regulatory requirements. Furthermore, mobile network operators are prohibited from being the lead in mobile payments business models in Nigeria

Branchless Banking – Mobile Payments Model

Non-Bank Independent Service Provider Model

- The Independent Service Provider Model is an innovation created by payments industry newcomers who are trying to find ways to process payments without using existing wire transfer and bank card processing networks

- The Independent Service Provider Model deploys a mobile payments application for the mobile phone. They provide a transaction routing service for banks, merchants and customers. They use the mobile phone to eliminate the existing payments ecosystem (POS terminals, the ISOs and acquirers that deploy them, and the processors) and payment networks that route and settle the transactions

- Revenue earned by the Independent Service Provider can take the form of transaction fees for cash-in and cash-out services or licensing fees from merchants or end-users for downloading software. There is also the opportunity to earn customer marketing revenue from merchants and issuers

- The Independent Service Provider Model is attractive to merchants looking to decrease the costs of processing credit and debit payments, to underbanked customers who cannot obtain a traditional bank card, and to customers seeking to send money to friends and family overseas (cross-border remittance). Some also see the potential for the independent service providers to play an intermediary role for merchant loyalty programs

- In addition to encountering the same obstacles that banks and mobile operators face with mobile payments they must also overcome the following challenges:
  - Lack of an existing customer base
  - Lack of an established brand
  - Invest a large amount of capital to overcome the aforementioned obstacles
  - Acquiring a significant number of merchant locations
  - Providing significant revenue to the banks to encourage them to drive transactions
  - Resolving disputes and charge-backs

Branchless Banking – Mobile Payments Model

Collaboration Model

- In the collaboration model, MNOs, banks and mobile payments solutions providers seek to work in partnership to drive adoption and acceptance

- Roles and value delivered by each party must be predefined. Activities across the value chain are distributed between partners, which permits them to focus on their core competencies

- In most cases, the MNO provides the network delivering the services to customers and they often also own the customer relationship. The Bank tends to manage the funds, the accounts and KYC requirements

- This model can assist financial institutions in acquiring new customers

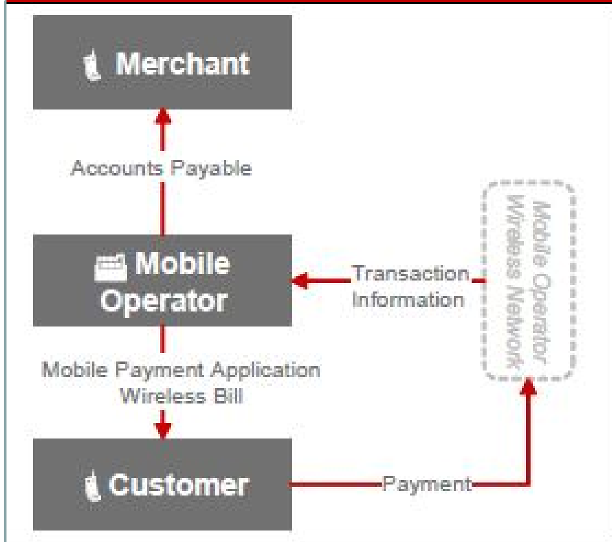
- Potential issues:
  - Customer interaction and ownership. Both parties are keen to maintain the interaction with the customer for purposes of retention, cross and up selling
  - Revenue sharing – who owns the float?
  - Branding and marketing of the new payment system
  - Business objective alignment: MNOs main interest in a highly competitive mobile market tends to be customer retention, rather than revenue generation from mobile payments services. While for banks, new customers and revenue generation is top priority

- Key Success Factors
  - All parties must be committed to making this work 'getting it right the first time'
  - Reliability and trust are key for retaining customers
  - Defined business case for all stakeholders

Branchless Banking – Mobile Payments Model

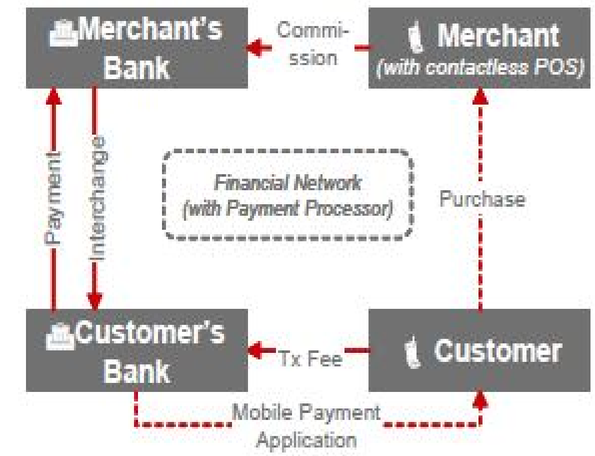
Summary

MNO Centric Model

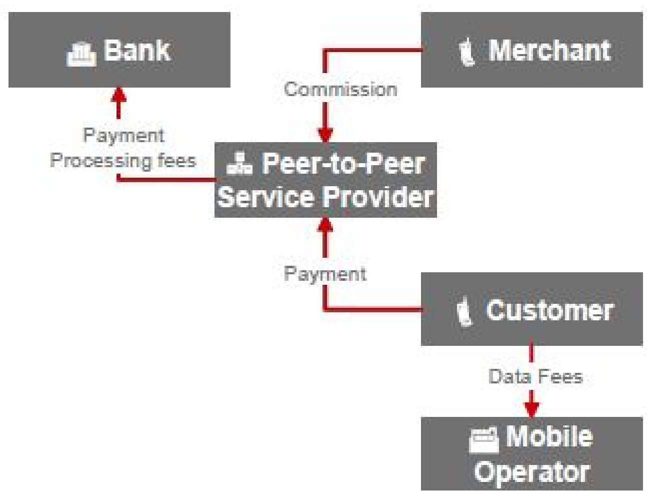


Not permitted in CBN Mobile Payments Regulatory Framework

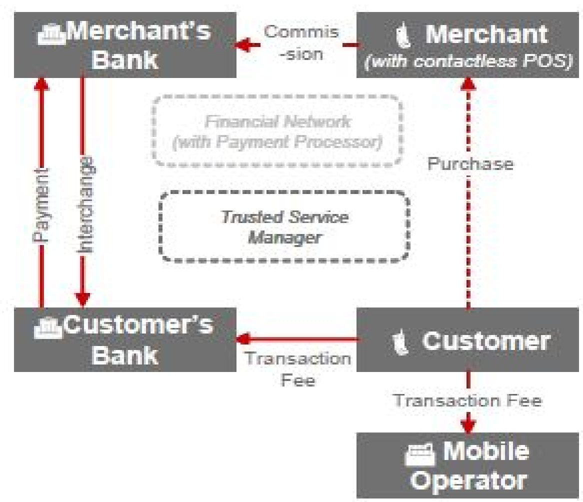
Bank-centric Model



Non- Bank Independent Service Provider Model



Collaboration Model



Source: Smart Card Alliance: Proximity Payment Scenarios July 2008

Branchless Banking – Extending POS Terminals

- POS acquisition and deployment was seen as a strategy for banks to revamp their retail business and shore up their bottom line. Rolling out POS terminals served to increase the acceptance level of cards and also increase transaction-based revenue. However, currently in Nigeria only 20% of POS terminals deployed are active

- The primary use of POS terminals is for card based transactions. Value added transactions can be a revenue generating business opportunity for both the bank and the merchant. Some value-added services include:
  - Mobile air time top-up, pre-paid utility vouchers, long distance calling cards, internet broadband vouchers and other similar cash-enabled voucher systems
  - Withdrawal of cash from POS terminals
  - Payment of utility bills
  - Money transfers for P2B and P2P transactions

- POS deployment should be seen as a strategy to develop a large merchant network which can bring in SME business (merchant acquiring business)

- Bank/Financial Services providers benefits through:
  - Automating basic transactions
  - Reducing processing costs (staffing , infrastructure, equipment, and security for storing and transporting cash)
  - Providing customers added convenience
  - Gaining new customers in areas where branch set up is too costly
  - Generating additional revenue

Branchless Banking – Extending POS Terminals

- A POS device is typically used to handle payments transactions. POS terminals can also facilitate non-bank agents (retail outlets) in rural and urban areas to carry out financial transactions in a seamless manner. This will help the banks tremendously in their ability to provide financial services to the low income segment through low-cost non-bank branch channels
- The non-bank agents tend to be based in retail outlets and can answer customer enquires, explain product features, provide deposit collection and withdrawals services, collect account opening forms, etc. The table below describes three potential strategies for deploying POS systems, their uses and examples of banks that have employed each strategy
- Agents offering banking services through the POS devices expect to increase foot traffic and therefore sales of their primary business and also to earn additional revenue through commissions
- Key success criteria for using POS devices, is a quick account opening process and a card issuance strategy coupled with consumer education to increase the uptake and usage of cards

Using POS Devices for Banking

Strategy	Business Operations	Services Offered	Examples
Build merchant acquiring business	▪ Issuing bankcards ▪ Placing card readers with merchants	▪ Purchases ▪ Cash back	▪ Corporation Bank (India) ▪ AgroInvest Bank (Tajikistan)
Deliver basic banking services	▪ Issuing bankcards ▪ Placing card readers with merchants	▪ Purchases ▪ Balance inquiry ▪ Withdrawals/disbursals ▪ Deposits/repayments ▪ Account opening ▪ Money transfers	▪ CERUDEB (Uganda) ▪ Lemon Bank (Brazil) ▪ WIZZIT (South Africa) ▪ Teba Bank (South Africa) ▪ CARD (Philippines) ▪ RBAP (Philippines) ▪ Botswana Savings Bank (Botswana) ▪ Fundacion Social (Colombia)
Expand market coverage	▪ Issuing bankcards ▪ Placing card readers with merchants ▪ Partnering with MFI "service agents" for loan appraisal and monitoring	▪ Purchases ▪ Balance inquiry ▪ Withdrawals/disbursals ▪ Deposits/repayments ▪ Account opening ▪ Money transfers ▪ Insurance products ▪ Loan appraisals	▪ Caixa Economica Federal (Brazil) ▪ Banco Popular (Brazil) ▪ Banco Postal (Brazil)

Source CGAP Focus Note No: 32

Conclusions

Conclusions

- Non-bank providers are set to form an important part of the Nigerian payments system in coming years by offering innovative payments solutions leveraging technology

- For current providers of payment services, the increasing presence of non-banks in the retail payments system will have the following impact:
  - More innovation
  - Increased competition
  - Better access for end users

- Financial education, transparency, building trust will be key to increasing uptake by consumers

- Due to the increasing presence of non-banks in the retail payment systems, the Regulator will need to:
  - Evaluate the current regulatory framework
  - Explore possible trade offs between efficiency and risk
  - Understand the risk profile of new payments solutions
  - Understand the complexities of payments technologies and third-party business linkages
  - Assess the potential implications for Central Bank's oversight

Conclusions

- Banks and other financial services providers will not aggressively target the low income unbanked/underbanked population as a viable customer segment until they find ways to serve these customers profitably through low cost channels that can handle large volumes of transactions such as:
  - Automated Teller Machines (ATMs)
  - Point of Sale (POS)
  - Mobile phones
  - Non-bank agents at retail outlets

- A non-bank payments channel will be profitable only if it serves a critical mass of customers at each outlet and delivers a wide range of services to customers. Key factor is not only customer acquisition but customer retention and number of transactions

- Key factors in driving customer uptake and usage of technology based channels are:
  - Perceived value added
  - Consumer education
  - Usability: easy to use and reliable
  - Trust

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Lessons for Nigeria

- Key to the development of a secure and efficient Nigerian retail payments industry is coordination, communication and cooperation:
  - Between bank and non-bank participants in the industry
  - Between bank and non-bank regulators/authorities
  - Between payments providers and regulators/authorities

- Collaboration between providers reduces risk and enhances potential outreach

- Pilots are an important and effective way to explore new products/services and appropriate regulation and should be encouraged. Pilot should run for long enough (at least 6 months) for real trends to emerge

- Success may not be achieved straight away, don’t expect to get it right first time - others didn’t! The key is how to manage and overcome challenges and market failures – look at these as learning opportunities, rather than roadblocks