



Mobile Payments in a Developing Country

Global Payment Strategies 2009

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Agenda

- Overview of Bangladesh, its economy and financial system
- Current Payment System in Bangladesh
- Future Payment System
- Legal and regulatory framework
- Integrating Mobile Payments



Bangladesh – a Snapshot



Bangladesh, a deltaic region, is situated in the north-east of South Asia. It is guarded by the Himalayas in the north, the Bay of Bengal in the south, the Gangetic plains of Indian West Bengal, and the almost impassable forest of Myanmar and India to the east.



Bangladesh – a Snapshot

Independence	:	1971
Land area	:	133,910 sq km
Population	:	130.5 million
Currency	:	Taka (BDT)
USD/BDT	:	68.50 (appx.)
GDP per capita	:	447 USD (2006)
GDP growth rate	:	6.63% (2005-6)
Rate of inflation	:	8.05 % (2007)
Major industries	:	Share in GDP
Ready made garments	:	22.0%
Migrant worker	:	9.5%



Bangladesh – Financial Sector

Central Bank	:	Bangladesh Bank
State Owned Commercial Bank	:	4
Specialized Banks	:	5
Private Commercial Bank	:	29
Foreign Commercial Bank	:	10
No. of Bank Branches	:	6412
Non Bank Financial Institutions	:	29
Payment Service Providing Companies <i>Formal:</i> All Banks, Post offices, Micro Finance Institutions <i>Informal:</i> Courier services, Bus Transport Companies, Mobile phone operator		



Current Payment System

Instruments	Channels	Operators
Cash	Manual	
Cheque	Manual	Bank
Demand Draft	Manual	Bank
Pay Order	Manual	Bank
Money Transfer	Manual	Bank, Post offices
Telegraphic Transfer	Telephone	Bank
Government Advices	Manual	Government offices
Income tax return order	Manual	Income Tax Authority
ATM	LAN/WAN	Bank, Third party
POS	LAN/WAN	Bank, Third party



Payment System Modernization

- **Project Title:** Remittance and Payments Partnership (RPP)
- **Commencement:** October 2006
- **Fund :** DFID Grant
- **Executing Agency:** Bangladesh Bank, Department of Currency Management and Payment Systems
- **Goals:**
 - Modernize the payment systems infrastructure
 - Generating new and better remittance products through Challenge Fund grants
 - Educating banks, policy makers, migrants and their families about remittances



The Bangladesh Automated Clearing House - BACH

- New Payment Systems
 - Bangladesh Electronic Funds Transfer Network (BEFTN)
 - Traditional Automated Clearing House (ACH) applications
 - Bangladesh Automated Cheque Processing System (BACPS)
 - Improve automation of paper check clearing
 - Introduction of electronic cheque presentment (Image exchange, etc)



BACPS Initiatives

- Established standardized cheques for automation
 - Cheque size
 - Paper quality design
 - Image quality
 - MICR Line – 53 character, (E13B font)
 - Bank routing numbers
- Orientation workshop for designated BACH Project Managers
- Submitted a National Strategy to the National Payment Systems Committee (NPSC)
- Formed BACH Implementation Group in each Bank



BEFTN Initiatives

- Batch bank-to-bank transfers
 - Real-time batch processing
- Traditional ACH Applications
 - Credit transfers (payroll, pension, remittances)
 - Debit transfers (utility, loan, insurance, payments)
- Final settlement of transactions



Legal & Regulatory Framework

Payments Systems Regulatory Support

- Article 7 A (e) of the Bangladesh Bank Order (BBO) states that one of the Bank's functions shall be "To promote, regulate and ensure a secure and efficient payment system, including the issuance of bank notes".
- Article 82(1) of the BBO, Empowers the Bangladesh Bank to issue regulations.
- Regulatory goals
 - promote the safety and efficiency of the payment and settlement systems
 - safeguard the interest of consumers in its oversight of the payment systems.



Legal & Regulatory Framework

- Regulatory Framework
 - Bangladesh Payment and Settlement Systems Regulation 2009
 - Oversight and monitoring of payment and settlement system
 - Bangladesh EFT Consumer Protection Regulation 2009
 - Mobile Payment Guidelines
 - Contract law is the legal framework



The Current State of Modernization

- Platform Implementation
- Teams formed
- Coordinating the teams
- Training
- Challenge Fund projects
- Regulation development



The Future Mobile Payments Network

- Three types of mobile payment
 - Person to Person (A)
 - Domestic remittances
 - Point-of-sale (small merchants)
 - Person to Banked Person/Organization (B)
 - P2P
 - Bill Payment
 - Point-of-Sale
 - Banked Person/Organization to Person (C)
 - Credit disbursements to un-banked (Payroll, Pension, International Remittances)
 - Send cash to un-banked customer in rural area
 - Funds transfer to/from one banked customer to another



Mobile Payments: Financial Services for the Unbanked

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Bank Vs Mobile Penetration

Bank Penetration

- Banks – 48
- Branches – 6629
- Bank Account Holders –13%
- Online Branches – 1000 (15%)
- ATMs – 749
- POSs – 6944

Mobile Penetration

- Mobile Operator – 6
- Subscribers– 30%
- Customer Care Points –1769
- Airtime dealer – 20,000 appx.

The Unbanked Challenge

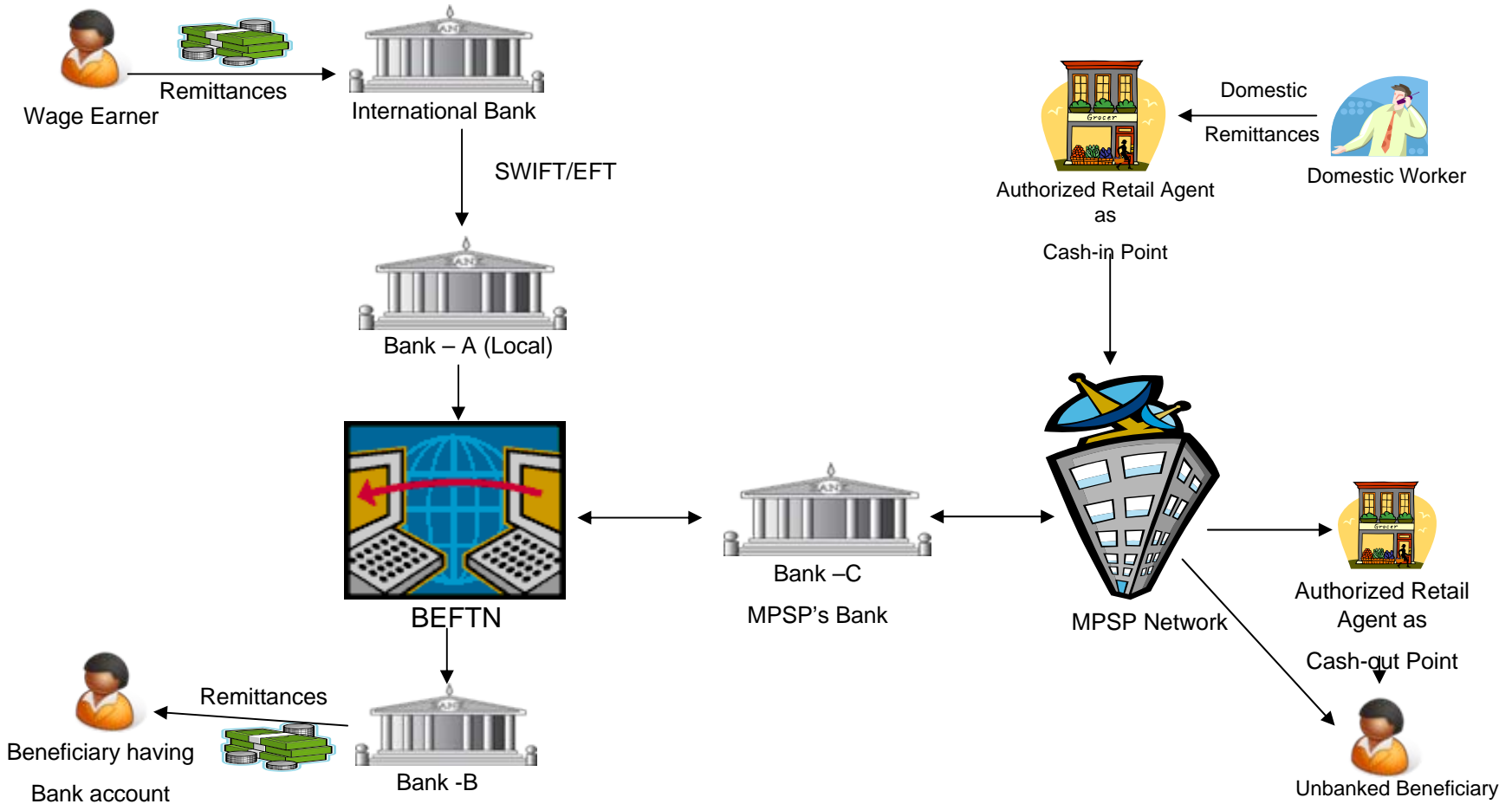
- Issues for banks
 - No interbank EFT network
 - Low number of branches in rural areas
 - High cost to put branches and ATMs in rural areas
 - Limited operating hours
 - Limited reach of individual banks in rural areas
 - Security concerns
 - Low Internet penetration
 - Typically higher fees

M-Payments – Key Concepts

1. Broad distribution channel for banks
2. Access for a very large segment of the population.
3. Introduction of financial services to unbanked population.
4. Ability to introduce new services to the market quickly
 - Electronic disbursement of local leg for international remittances
 - Local Remittances
 - Utility bill payment (GrameenPhone introduced in Dhaka & Chittagong)
 - Payroll distribution (e.g. Garment workers)
 - Point-of-Sale purchases
 - Person to Person transfers

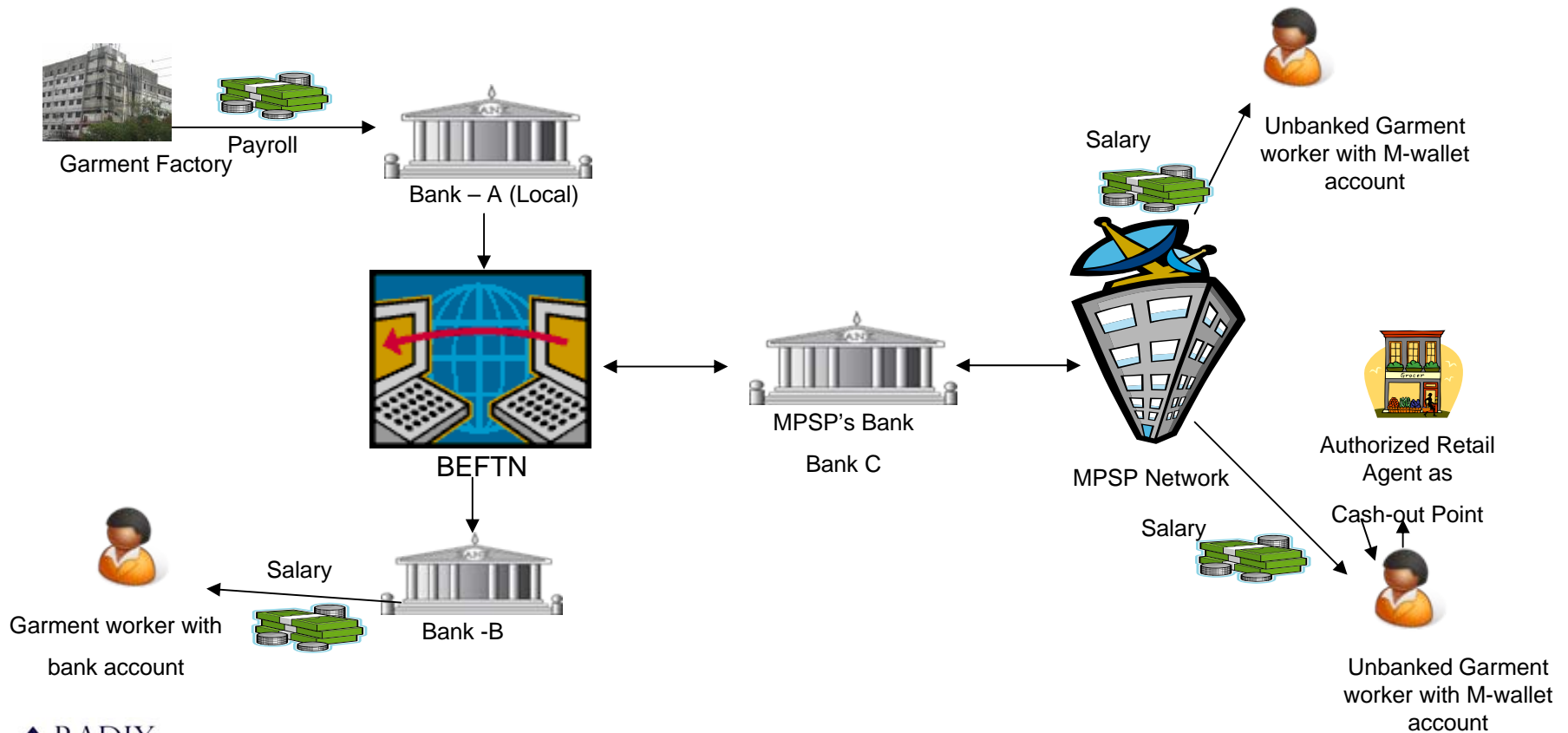
M-Payments – Key Concepts

International and Domestic Remittances



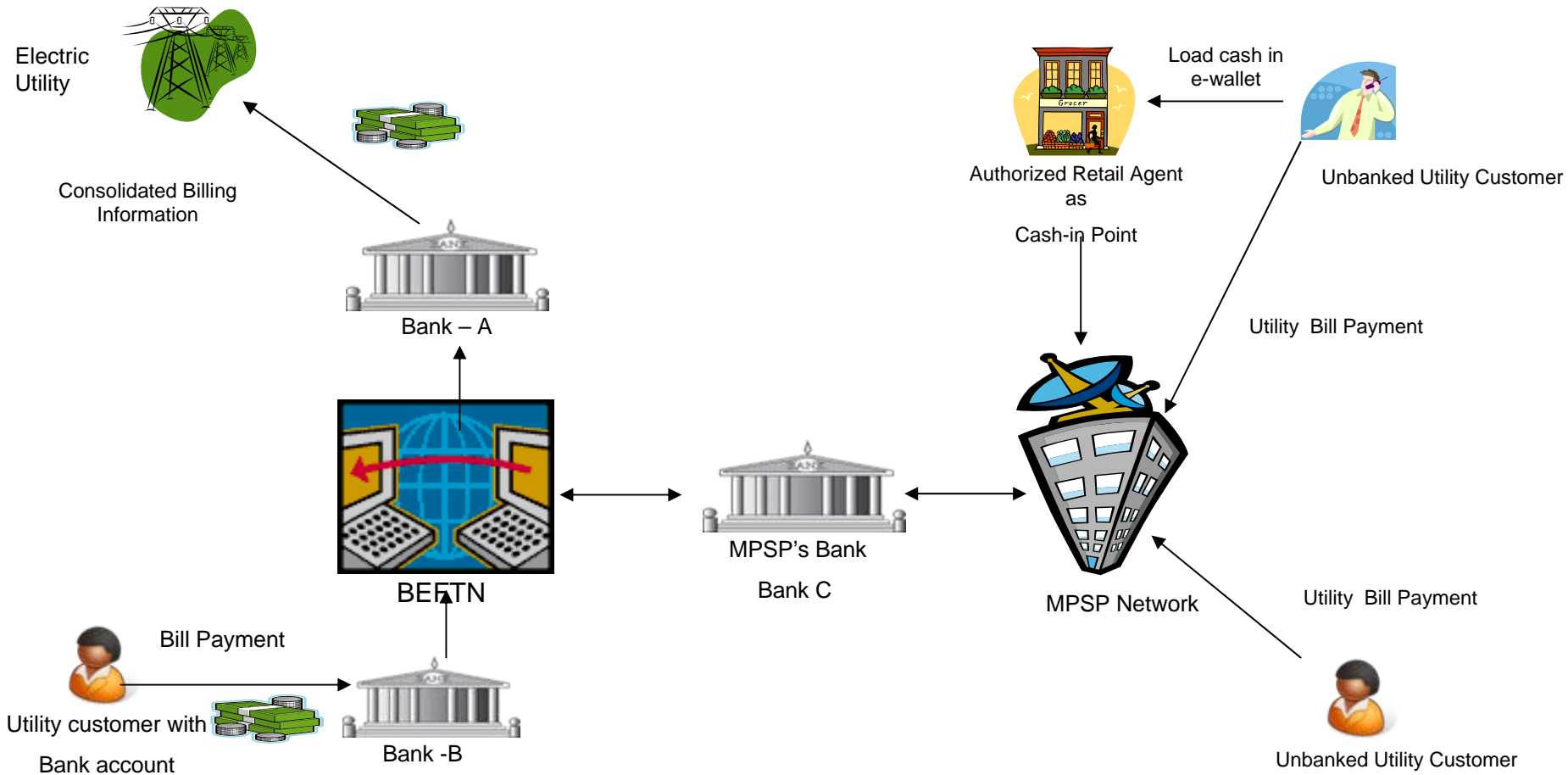
M-Payments – Key Concepts

Payroll

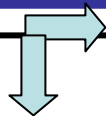


M-Payments – Key Concepts

Utility Bill Payment



Mobile Payment: Models



Models Key Issues	Bank Led	JV (Bank + Telco or Third Party)	Telco Led	Third Party Providers
Who holds the Deposit	Bank	Bank	Bank	Bank
Whose brand dominates	Bank	Bank and/or Telco	Telco/MPSP	MPSP
Cash-in/out Points	Bank	Authorized Retail Agents	Banks/MFIs Post Offices Authorized Retail Agents	Authorized Retail Agents
Who carries the payment instruction (wallet accounting)	Telco	Telco	Telco	Third Party (MPSP)
Who owns the customer	Bank	Bank/Telco	Telco	Third Party (MPSP)
EXAMPLES	FNB (South Africa)	MTN and SMART	M-PESA G-CASH	Obopay PayPal

Cross Country References

Country	Model	Lead Bank /Telco	Mode of Actions
THE PHILIPPINES	SMART (Bank led)	Banco D'Oro Smart Telecom	<ul style="list-style-type: none"> Conventional ATM, POS are used through debit card Payment via value chain, account management Banks sign up accounts Accounts are managed by Mobile Network Operator, banks have real-time access to account information Core processing system lies with Mobile Network Operator but bank's delivery channel is used
	G-Cash (Telco led)	Globe Telecom	<ul style="list-style-type: none"> Cash in cash out, technology and delivery channels are managed by Telco
KENYA	M-Pesa (Telco led)	Safaricom	<ul style="list-style-type: none"> Safaricom is primarily a payment provider for the Microfinance Institution - FAULU Payments are conducted via airtime agents
SOUTH AFRICA	MTN (Bank led)	Standard Bank, MTN	<ul style="list-style-type: none"> Clients open bank accounts through remote interactive process Mobile money starter packs are available via MTN agents and bank branches Core system lies with Mobile Network Operator but bank's delivery channel is used
INDIA	Bank led	mCHEK Airtel State Bank of India, ICICI and Citibank	<ul style="list-style-type: none"> Mobile payment is restricted to bank account holders, residents of India and transactions in Indian rupees No interbank network available Banks can make multilateral agreements to create mobile switches.
PAKISTAN	Bank-led	UBL	<ul style="list-style-type: none"> Account Holder can initiate transaction via mobile with the help of an Interactive Voice Response (IVR.) Conventional ATM, POS are used as delivery channel.

Risks of Bank Led Models

- Operational risk
 - Technical Error/Failure, Redundancy/Downtime
- Anti Money Laundering
 - Customer due diligence (KYC)
- Consumer Protection
 - Consumer protection initiatives
 - Consumer education
- Authorized Retail Agents
 - Cash-out liquidity
 - Cash-in and Cash-out procedures
 - Physical security of Authorized Retail Agents (Vault, Guard etc.)
 - Trained personnel in Authorized Retail Agents

Risks of Telco Led Models

- Financial Risk
 - Capital adequacy of the Non-Bank (PSP)
- Operational risk
 - Technical Error/Failure, Redundancy/Down time
- Liquidity risks
 - Cash-out availability
- Anti Money Laundering
 - Customer due diligence (KYC)
- Consumer Protection
 - Consumer protection initiatives
 - Consumer education
- Retail Agents
 - Cash-in and Cash-out procedures
 - Physical security of Authorized Retail Agents (Vault, Guard etc.)
 - Trained personnel in Authorized Retail Agents

Risks of Third Party Models (PayPal & Obopay)

- Financial Risk
 - Capital adequacy of the Third-Party
- Liquidity risks
 - Cash-in cash-out by relatively inexperienced and remote retailer
- Technical risks
 - Technical Error/Failure , Redundancy/Down time
- Anti Money Laundering
 - Customer due diligence
- Consumer Protection
 - Consumers' rights should be protected
 - Consumer education
- Agent Risks
 - Cash-in and Cash-out procedures
 - Physical security of Authorized Retail Agents (Vault, Guard etc.)
 - Trained personnel in Authorized Retail Agents

Risk Management

Mobile Payment Service Provider

- A separate entity if MPSP is an MNO
- Licensed, Regulated and Supervised by Bangladesh Bank
- Minimum capital requirement – Tk 350 million
 - Additional capital at discretion of Bangladesh Bank
- Minimum liquidity requirements – Tk 150 million
- Float Management: GDA (Guaranteed Deposit Account)
 - Legal agreement between MPSP, Bank
 - Protect consumers' funds from insolvency
 - Invested in low risk financial instruments
 - Extensive reporting on transactions and account balance
 - Continuous oversight by Bangladesh Bank
- Technical and operational standards – similar to a bank
- MPSP must connect to banks & National Payment Systems

Risk Management

Mobile Payment Service Provider

- Price controls
 - Maximum fee 2% of amount – option by Bangladesh Bank to reduce as necessary
 - Minimum fee of no more than 10Tk
- Accreditation of Authorized Retail Agent
 - Standards and agreement approved by Bangladesh Bank
 - All financial liability assumed by MPSP
 - Legal agreements between MPSP and Authorized Retail Agent approved by Bangladesh Bank
 - Performance of Authorized Retail Agent monitored by Bangladesh Bank
- Consumer Protection
 - Dispute resolution, privacy and security, financial penalties for non-performance by Bangladesh Bank
- KYC compliance by Authorized Retail Agents & MPSP
- Limits on transaction and wallet amounts

M-Payments Bank Benefits

- Expansion of Foreign Exchange inflows
 - Increasing revenue
 - Improving balance of trade for Bangladesh
- Unbanked does not mean “Un-Bankable”
- New opportunities for bringing more customers into the banking system
 - Serving as cash-in/cash out points
 - Unbanked becoming more comfortable with financial services
- Linked to National Payments System
- New distribution channel for business applications
 - Payroll for banked and unbanked workers
 - Improve bill payment services for banked customers
 - Bill payment consolidation for utilities, insurance companies
 - Point-of-Sale transfers from merchant wallet to bank account

M-Payments Social Benefits

- Increases availability of financial services to all citizens of Bangladesh especially the unbanked population.
- Increases international remittances through formal channels
 - Lowering costs, improving efficiency and safety
- Facilitation of domestic remittances
 - Safe and convenient method for urban workers to send money to families in the villages
- Utility bill payments
 - Eliminates long waiting time in queues
- Payroll
 - Faster, convenient, and safer way of being paid
- Point-of-Sale purchases
 - Reduces need to carry cash
- Person-to-person payments

Policy Recommendation for Bangladesh

1. Approval of Regulatory Framework for a Non-Bank MPSP
2. Mobile Payment Network and National Payment Network will provide benefits for the Bangladesh economy and for the entire population
3. Comprehensive regulation for MPSP operations which is not restrictive
4. Opportunity exists for bank and non-bank led models
 - All must demonstrate safety and soundness in all aspects
5. Mobile payments have been very successful in countries with high unbanked populations
6. Comprehensive regulation in Bangladesh will create a very strong foundation for the introduction of M-Payments
7. Risks will be managed and mitigated by Bangladesh Bank
8. Opportunity exists for Bangladesh Bank to lead the world in applying the proper level of regulation for M-Payments
9. The reward and benefits for the economy and people of Bangladesh will be immense (Increased flow of fund, enhance economic growth)



Thank You