

# e-Governance using mobile platform

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# Presentation Structure

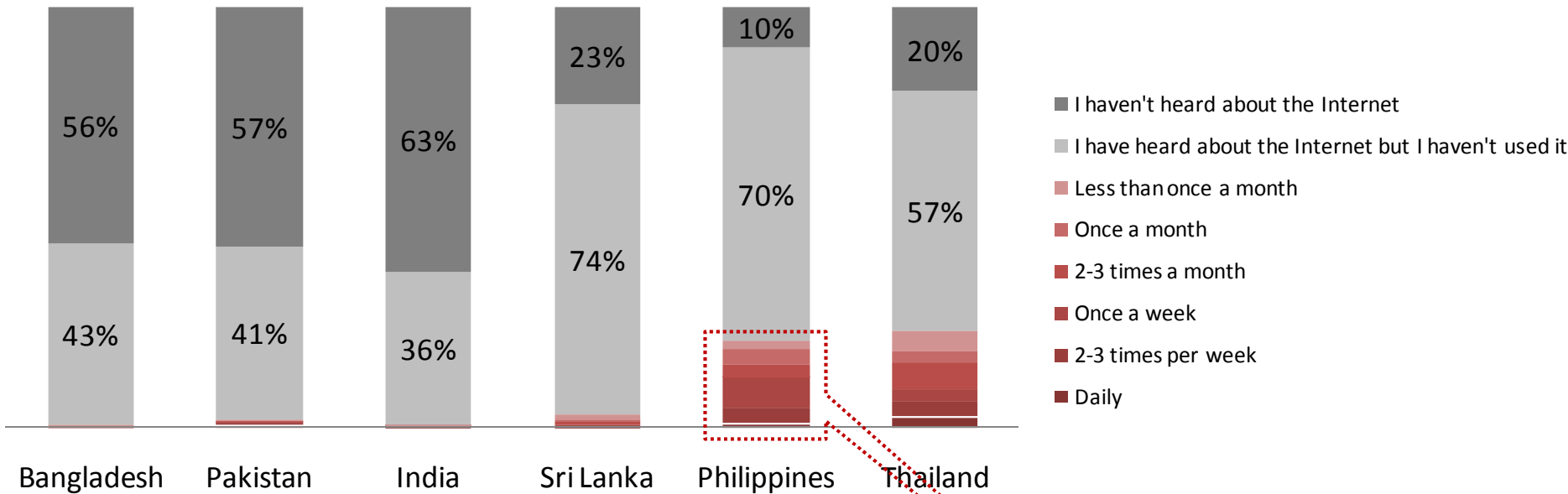
- The advantages of m-Government
- Potential role of mobile platforms in delivery of government services
- Case study on payment of pensions to rural citizens of Andhra Pradesh in India
- Challenges in promoting m-Government in developing countries
- Next steps

# Why m-government?

- M-government can complement/substitute for Internet kiosk based delivery of government services
  - Use of personal mobiles by clients for accessing m-Government services (receiving alerts, making enquiries/applications, making payments)
  - Use of mobiles/laptops/netbooks and accessories by agents to provide transactional services (mobile bank branch)
- Mobile platforms can provide as much functionality as an Internet Kiosk at a lower investment and operational cost
- Penetration of mobiles is higher than Internet by orders of magnitude, particularly for the BoP

# Internet use & awareness among the poor in Indo-Gangetic Plain in 2008, acc. to large-sample survey

Internet use (% of BOP teleusers)



	Bangladesh	Pakistan	India	Sri Lanka	Philippines	Thailand
Use the Internet	0.6%	2.2%	0.8%	3.2%	20.7%	23.0%

Among BOP teleusers

# Advantages of mobile platform over Internet kiosk

- Integrates camera, radio, data access, voice, text communication-modes that are typically used by government
- Can be integrated with a number of devices such a biometric identifiers, smart cards, small printers in a wireless mode
- Can connect with back-end servers over GPRS/3G and be integrated with existing ICT applications
- Can be operated with erratic/no power supply and without fixed-line telecom access
- Requires less training to operate than a PC
- Personalized information can be targeted to a specific user
- Costs of ownership and operation are affordable
- Improved convenience: anytime, anywhere

# Role of mobiles in government-service delivery

Nature of government services	Role of Internet kiosk	Role of mobile
<b>Issuing documents to citizens</b>		
Issue of certificates/ licenses (Birth and death certificate, ration card, electoral card etc.) on request from citizen	Suitable as a primary mode of service for receiving applications, verifying support documents and delivery of printed certificates. High speed, full-functional scanners and printers can be used. Operator assistance is available	Not suitable as a primary mode of service delivery. It can complement by sending alerts (SMS) to registered applicants about collection of documents and allow tracking of application
<b>Invoicing and receiving bill/tax payments</b>		
Issue of demand notice (electricity, phone and water bills, notice for property tax, land revenue) from government agencies  Receiving payments against bills/notices	Notices cannot be delivered to individual customers  Payments can be collected	Can deliver an abstracted bill with amount due and last date to registered individuals  Payments can be made if a suitable m-pay system is implemented

# Role of mobiles in government-service delivery

<b>Delivering information to citizens</b>		
Push-down messages (e.g., alerts and warnings re riots, natural disasters, traffic updates, etc.) from government to citizens	Not suitable for instant communication or targeted to individuals. Suitable for placing large amounts of information in the public domain.	A convenient mode of sending alerts to registered or even all users: small amounts of information anytime, anywhere.
Bottom-up enquiries (on employment opportunities, agricultural product prices, filing health and crime reports, electoral voting, filing complaints/grievances) requested by citizens	Can allow live search of data bases for detailed information but requires operator assistance, in most cases.	A convenient (access from anytime, anywhere) mode to do menu based search for information. Back end operator assistance can make search more effective.
<b>Disbursing payment</b>		
Disbursement of government funds under schemes such as NREGS, social security, pensions, welfare, etc.	Can be used for opening bank accounts, depositing monthly disbursement into accounts and making cash payments from accounts by a bank agent at the kiosk.	Can be used for opening bank accounts, depositing monthly disbursement into accounts and making cash payments from accounts by a bank agent. Normally mobile equipment can be located closer to the client.

# A Little World (ALW) & Zero Mass Foundation (ZMF) Case on disbursement of pensions

- The central piece of the electronic bank branch operated by a matriculate self-help group (SHG) member is a special mobile phone, a biometric reader and a strip printer.
- The project is advancing financial inclusion
  - ZMF, acting as an agent for a bank, opens accounts for rural pensioners by capturing photo, 10 finger prints and data on a mobile
  - Government pays pension to the recipient's account every month. SHG member disburses pension in villages in an efficient, convenient and transparent manner without the bribery or fraud that existed in earlier manual systems.
- ALW provides the technology
- ZMF organizes camps to open accounts, hires and trains staff to operate branches; maintains and manages cash
- Project has achieved a significant scale of serving **1.6 million pensioners** in a short period
- Provides convenience to poor pensioners
- The application can eliminate payments to phantom pensioners

# An e-bank customer service point at a village in Andhra Pradesh



1.6 million  
Customers

6,100 Customer  
Service Points

9,200 Villages

127 Districts

# Close up of the equipment



# Specifications of technology components

- The Point of Transaction (POT) terminal consists of 3 components: Reader (designed in India), Printer and RFID Smart Card, which communicate through NFC protocol
- POT terminal can handle transactions both in online and offline mode. The POT communicates with the back-end server through GSM/GPRS. Communication is secured through VPN.
- Standards: Bio-Metric - ISO 19794; Smart Card - ISO 14443.
- An ALW data center in Navi Mumbai serves as the back-end using banking software MIFOS and MLS for financial switch. Interface to banks has already been established.
- Fingerprint image (without compression) and the template are stored in the enrollment system.

# Conditions for replication

- The mobile-enabled financial inclusion program can become the delivery mechanism for all government disbursements and bill/tax collection from BOP since delivering monetized benefits to different stakeholders outweigh the costs.
- Needs an orchestrator to align incentives and policies so that private partners can make a reasonable surplus from a project:
  - Partner charges a fee of Rs 5 from the citizen who saves Rs 20.
  - Partner is paid a fraction (10%) of the savings that accrue through savings of payments to phantom pensioners
  - Commission determined as a fair estimate of costs of running an efficient system plus a surplus
- Requires coordination between Central Bank, Commercial Banks, Government Departments making payments to citizens, IT Departments in Government, Mobile Service Providers, Technology Providers (ALW), and NGOs (ZMF)

# Next steps: Policy implications

- Define a clear role for m-government in delivery of government services
- Create conditions for economic viability of modes through a subsidy regime that is technology neutral
- Provide venture funding for innovations in mobile-based applications
- Increase penetration of mobiles within BOP through appropriate incentives
- Enable legislative recognition of mobile documents and transactions, privacy and data security