राष्ट्रीय इ-गवर्नेंस योजना
National e-Governance Plan

Mobile Technologies and Financial Inclusion - Opportunities for Innovation

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Outline

- Introduction: Mobile Technologies & Financial Inclusion
- Financial Inclusion – Policy Framework
- Key Drivers for Mobile Based Financial Inclusion
- Mobile Governance Policy Framework
- E-Pramaan (E-Authentication) Framework
- Issues and Challenges

Financial Inclusion

- FI vital for sustainable economic growth and inclusive development in India
  - ~40% of the population has no access to financial services
  - In rural areas, only ~20%have access to banking services
- Over 75 million no-frills accounts, mostly under NREGA

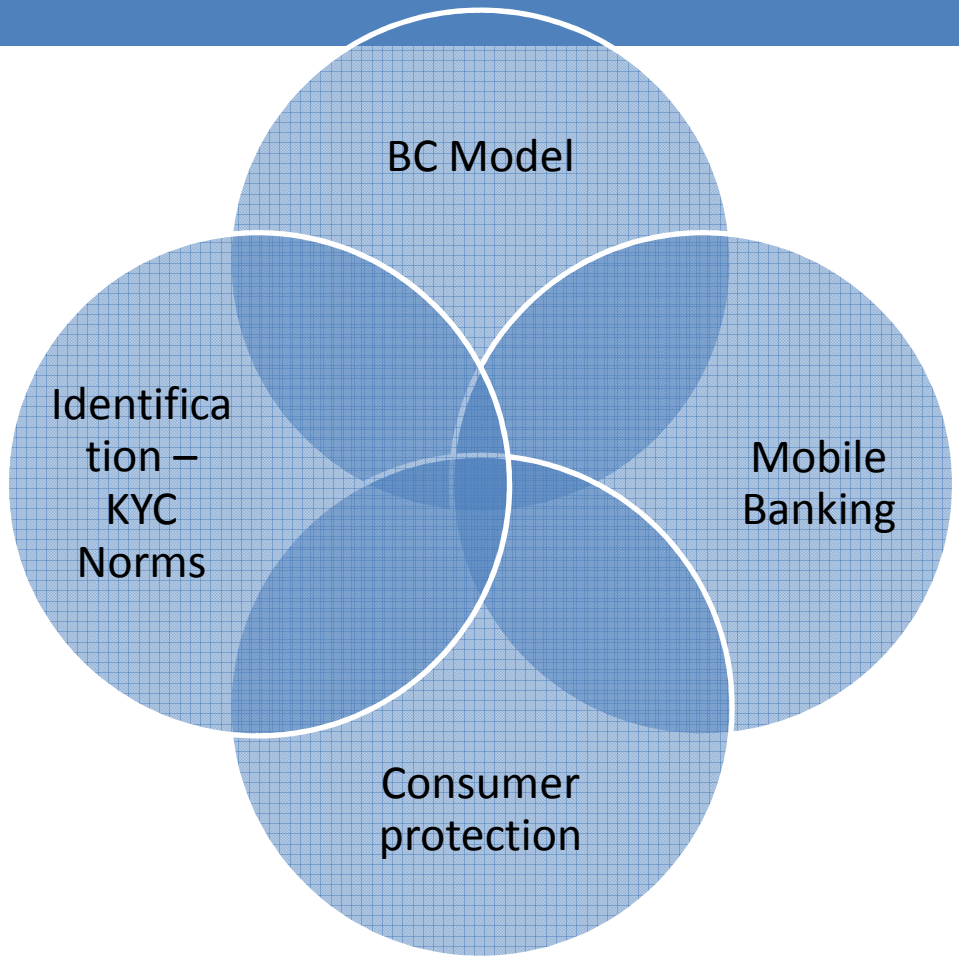
Role of Mobile Technologies in FI

- ICTs, esp. mobile technologies, critical for facilitating FI:
  - Drastically reduce costs, making low value transactions viable
  - Enable real-time transactions
  - Dramatically expand access points
  - Bridge the last mile gap
  - Displace Cash

Mobile Technologies and FI – Contd.

- Role of mobile technologies in FI:
  - Remote authentication of users (OTP, e-signatures, biometrics)
  - Increase transparency, reduce rent-seeking opportunities
  - Address information asymmetries at the BOP, lower demand side barriers
- However, ICTs also pose challenges for regulators due to security, privacy, and money-laundering concerns

Financial Inclusion - Policies



Financial Inclusion - Policies

- Policy Initiatives for FI:
  - IMG Recommendations:
    - Mobile linked “No-frills” Accounts to be operated through M-PIN or biometrics
  - Reserve Bank of India:
    - Relaxation of norms for appointment of BCs
    - Simplified KYC rules
    - Removal of cap on daily transaction for mobile payments
    - Remittances through mobiles to persons not having Bank A/Cs

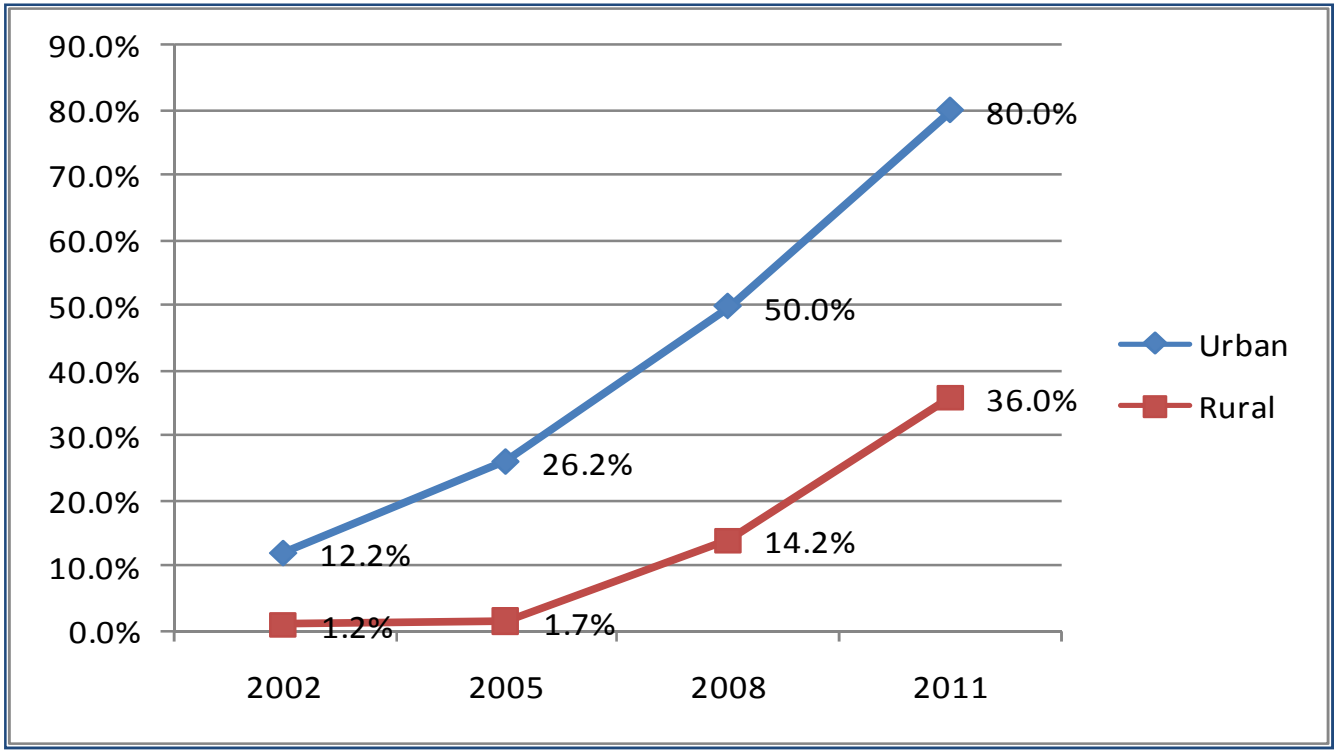
Financial Inclusion - Policies

- National Payments Corporation of India (NPCI):
    - Interbank Mobile Payment Service (IMPS):
        - Based on M-PIN and MMID
        - Allows SMS Banking
    - RuPay Debit Card: To drive FI by lowering costs & eliminating cash transactions
- Basically a “Bank-led” model so far – little diversification of providers with the exception of mobile wallet by a few TSPs

Financial Inclusion - Policies

- National Payments Corporation of India (NPCI):
    - Interbank Mobile Payment Service (IMPS)
    - RuPay Card: To drive FI by lowering costs & eliminating cash transactions
- Basically a “Bank-led” model so far – little diversification of providers with the exception of mobile wallet by a few telecom providers
- Issues:
    - Interoperability of BCs
    - Authentication of beneficiaries (Aadhaar may address this)
    - Security
    - Variety of mobile devices and platforms (need for open standard architecture)
    - Customer education and awareness
    - Demand side concerns

The Mobile Growth Story in India



Exponential growth after 2005

Faster growth in rural areas, though a late starter

Rural penetration expected to cross 45% by end of 2012

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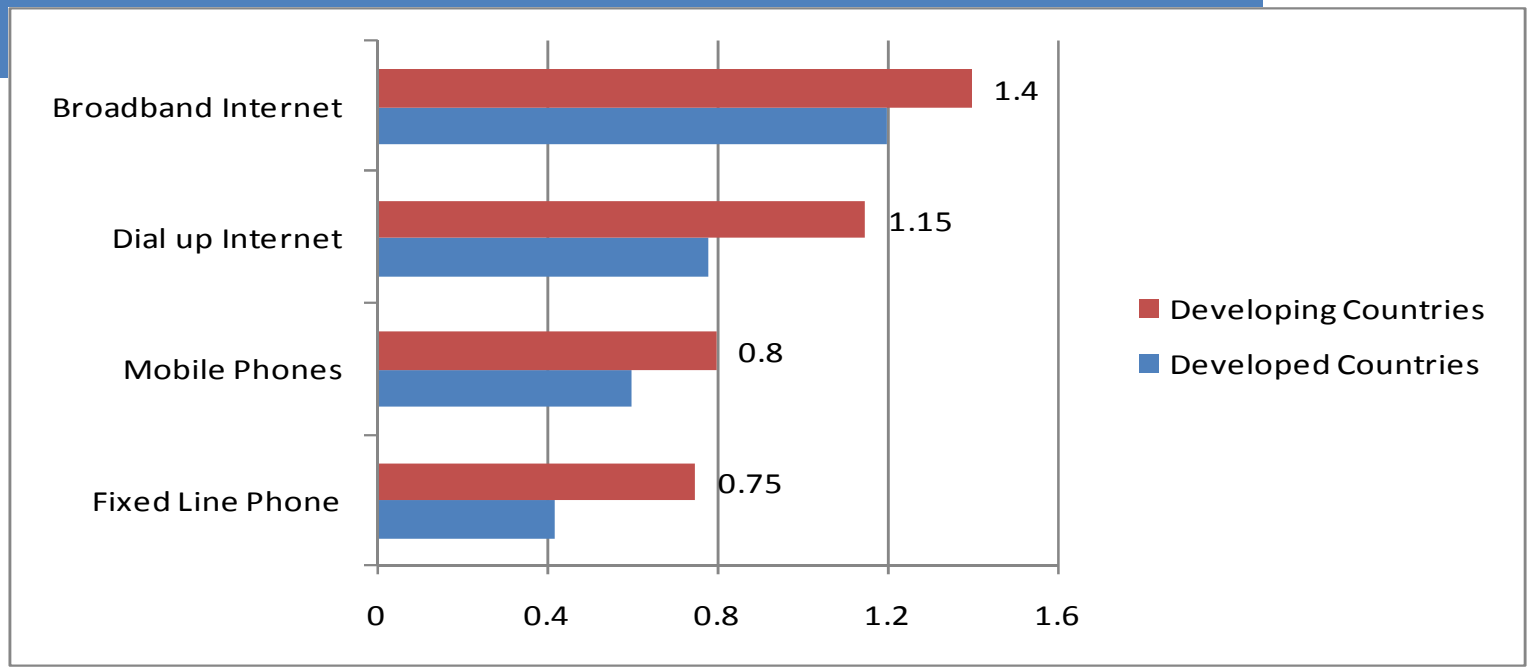
Impact of ICTs on Economic Gro



Statistically Significant Association - 10% growth in Mobile penetration boosts GDP Growth by 0.8% - World Bank

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Key Drivers for Mobile Based FI

- Much higher penetration compared to computers/internet - ~900 mil. mobiles compared to just ~13 mil. Broadband connections
- Low cost of handsets and low tariffs – Ideally suited for rural markets
- Successfully used to provide e-Gov, e-Commerce, and financial services in many countries
- Common Service Centres (CSCs) and BC network can exploit mobile technologies for FI – NREGA, old age pensions
- 3G – Huge opportunity for innovations in applications for m-Gov, FI

Mobiles - for payment of wages, fees, operation of bank accounts, micro-credit, etc. with appropriate applications in vernacular languages – G2C and B2C key demand drivers

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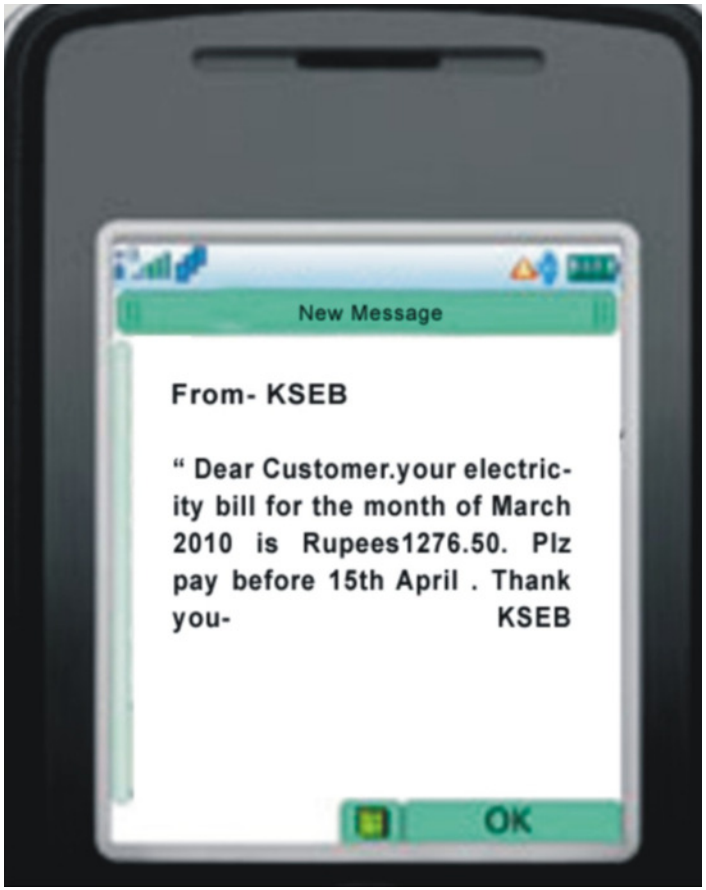
Financial Services on Mobiles

1. Mobile payments (bills, remittances)
2. Payment of fees for e-Gov services
3. Operation of bank A/Cs
   - Deposits
   - Withdrawals
   - Transfers
4. Micro-credit
5. Ideal for BC model



DEIT's Mobile Governance Policy Framework

- Framework for Mobile Governance notified by DEIT in Feb. 2012
- **Mobile Governance Framework – Major Policy Initiatives:**
  - •Web sites of all Government Depts./Agencies to be made mobile-compliant
  - •Open standards to be adopted for mobile applications
  - • Uniform Short Codes for M-Gov: 51969 and 166
  - •All Govt. Depts. to develop and deploy mobile applications for providing their public services

M-Gov: Implementation Strategy

- **Creation of Mobile Service Delivery Gateway (MSDG):**
  - Central Hub for all mobile transactions
  - Ensures seamless interoperability for mobile transactions
  - Also integrates a Mobile Payment Gateway
- **Creation of a Mobile Governance Innovation Fund by DEIT**
- **Creation of Knowledge Portal and Knowledge Management Framework**
- **Creation of Facilitating Mechanism to ensure:**
  - Compliance with standards for mobile applications & interoperability
  - Implementation of short and long codes across multiple TSPs

MSDG Delivery Channels

- **MSDG Service Delivery Channels:**
  - SMS
  - IVR (Including the Auto Dialer tool)
  - WAP (Wireless Application Protocol)
  - USSD (Unstructured Supplementary Service Data)
  - Cell Broadcast (CBC)
  - Sim Tool Kit (STK)/Dynamic STK, 3G-Video
  - Others (WiFi/WLan etc.) – web based access technologies

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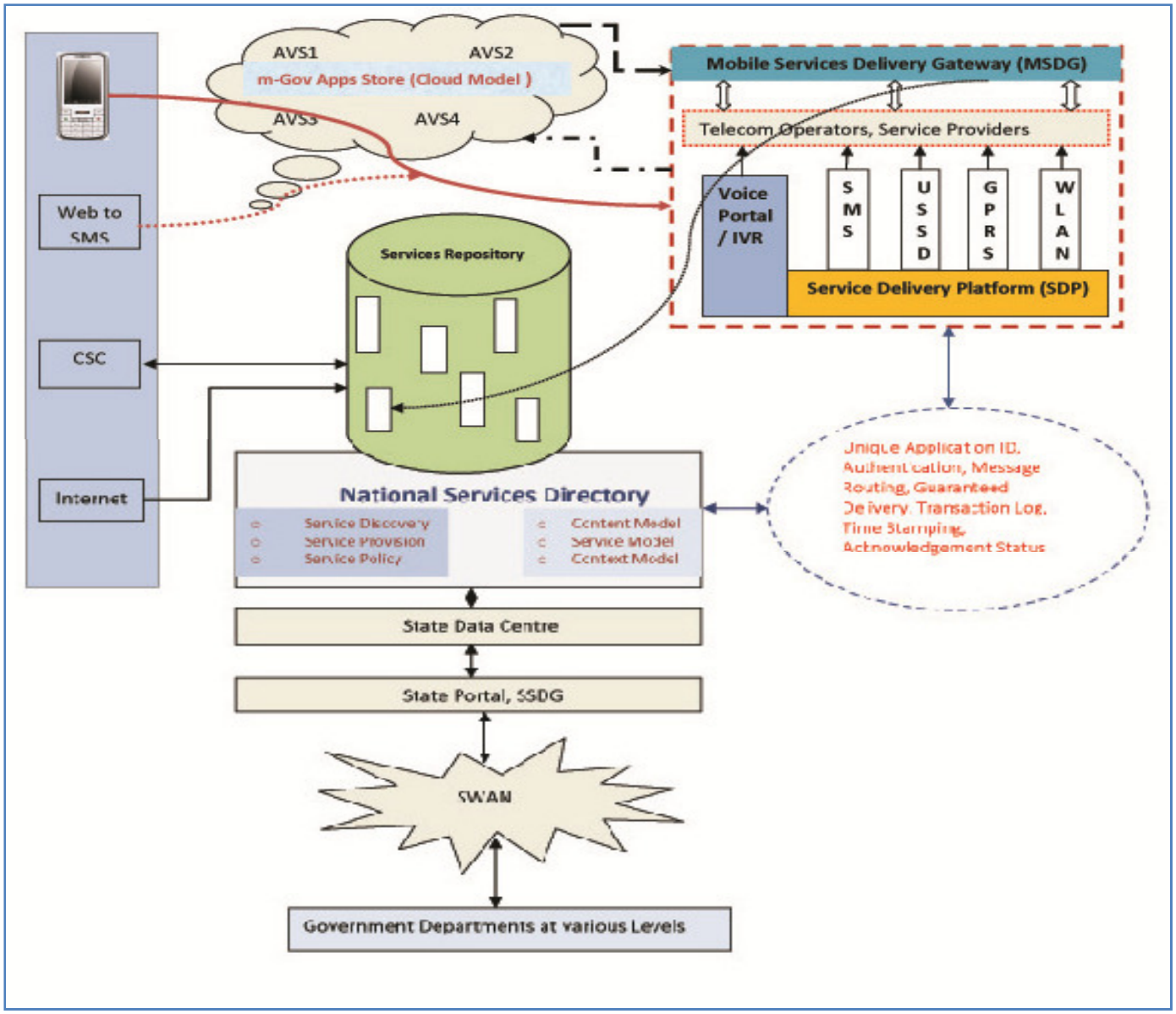
Mobile Service Delivery Gateway



Mobile Governance – Current Status

- Mobile Service Delivery Gateway (MSDG) being developed by CDAC
  - Device and Technology agnostic solutions for SMS, USSD, IVR, GPRS, CBC, STK
  - SMS Gateway launched in July 2011
  - 68 Depts.' services currently live on MSDG
  - Mobile App Store launched: 2 live and 33 generic Applications (http://mgov.gov.in/wordpress/appstore/)
- MSDG with all its channels proposed to be developed by 31.12.2012
- 125 Depts. proposed to be integrated with MSDG for deployment and delivery of mobile based services
- MSDG enabled for Integration with all Mission Mode Projects (MMPs)

National E-Pramaan (E-Authentication) Framework

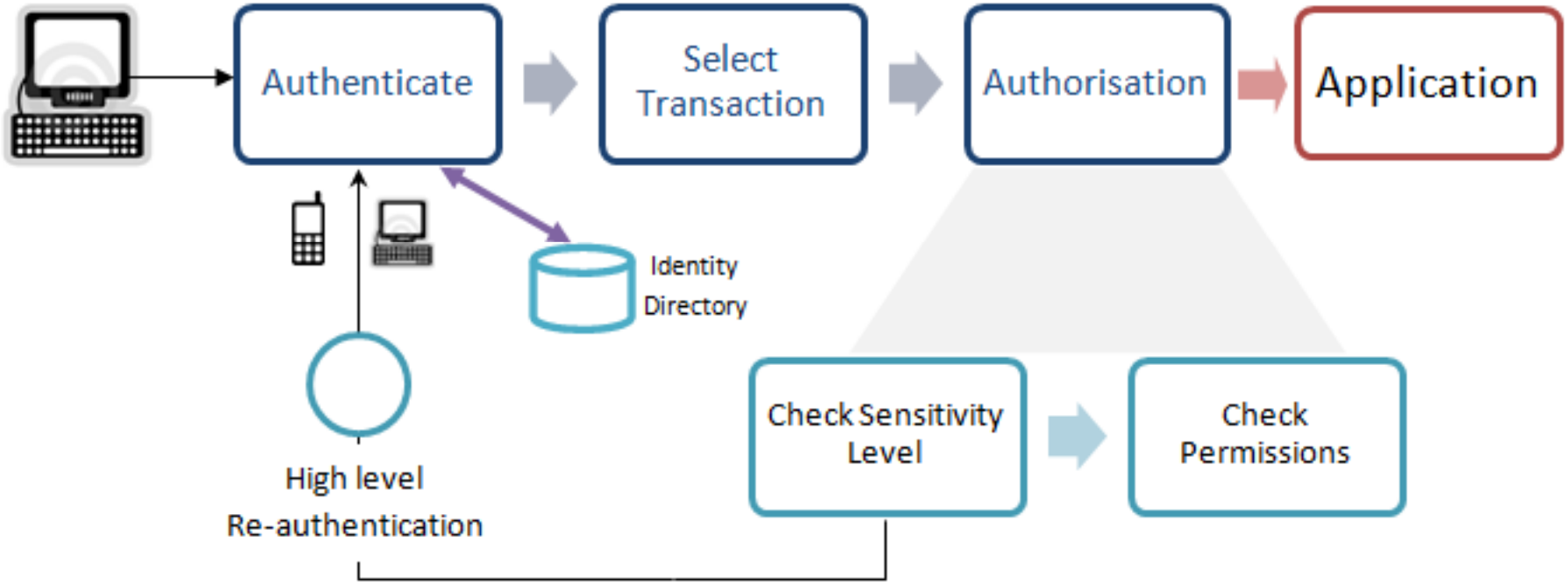
- At present, no common mechanism for e-authentication across all depts.
- E-authentication aims at building trust in online transactions and encourage use of electronic mode for Govt. service delivery
  - Help eliminate paperwork and offline verification

❑ **E-Pramaan Framework:**

- E-Pramaan Framework covers both web and mobile based authentication
- Defines four types of e-authentication based on application sensitivity levels
  - Username/password, OTP, Digital Certificate/ Mobile PKI, Biometric
- Incorporates and uses Aadhaar Authentication – Expected to drive FI

The National e-Pramaan Framework (NeAF) provides a set of guidelines for e-Authentication of e-Gov users and for authenticating Govt. websites

E-Pramaan: Web Based Authentication



E-Pramaan: Current Status

- E-Pramaan Policy Framework to be finalized by June 2012
- PoC for both Web and Mobile Based e-authentication completed
- Pilot on e-Pramaan under development - to be implemented by June 2012
  - For both web and mobile based authentications

Issues and Challenges

- Localization is a major challenge
- Interoperability of transactions, BCs
- Security, Authentication
  - Aadhaar, E-Pramaan may address this
- Variety of mobile devices and platforms
  - Need for open standard architecture
- Lack of demand drivers – Need for M-Gov and B2C services
- Standards for mobile applications
- Multiplicity of Telcos – providing services seamlessly to the user

Issues and Challenges – Contd.

- For Govt./public agencies - developing appropriate business models (PPP, revenue sharing, etc.)
- Scalability of services on mobile platform
- Appropriate technologies (WAP, SMS, USSD, GPRS)
- Limitations of available handsets & technologies (most phones have only basic features)
- Regional disparities in mobile penetration
- User education and awareness

Fortune at the Bottom of the Pyramid?

Thank you.
Questions? Comments?