ID Systems in Developing Countries: How to Frame the Business Case?

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Many Countries are Strengthening ID Systems

**Main Drivers:**

- Security especially post 9/11: KYC, SIMs, travel
- New technology, including biometrics
- Need to improve administration of major programs and shift to e-government and services

**Two Questions:**

1. **Socioeconomic Assessment:**
   Will the new systems support development, inclusion and the realization of social and economic rights?

2. **Financial Assessment:**
   How to provide for sustainable financing?
Issues

• Identity: public good or private good?
• Modelling the costs of an ID system
  • Up-front investment and steady-state
• Three financing models
  i. Budget funding
  ii. Mixed funding (budget/commercial)
  iii. Commercial funding
• Two examples: RENIEC and NADRA
• Estimating benefits: social, economic, financial
• Towards sustainable financing
The Reality: Partly Public Partly Private

• Public good: a platform for
  • Economic and social inclusion
  • Economies of scale and scope
  • Network externalities
  • Continuous updating through use cycle
    • Every use strengthens system

• Private good:
  • Strong ID reduces business costs to banks
  • Pricing – priority services
    • Helps to ensure that provider is accountable to users
Modelling Costs

Costs depend on many factors:
• Scale, terrain, population density, formal wages, technology and features
• Aadhaar is lowest-cost system to date
  • Scale economies
  • Standards-based procurement
  • No cards

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Cost Per Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment: (Investment)</td>
<td>Capturing biometric and biographic identifiers</td>
<td>$3 - $6 (Aadhaar low-cost $1.16)</td>
</tr>
<tr>
<td>Register Maintenance</td>
<td>Database management: cleaning, updating, checking</td>
<td>+15% - 25% per year</td>
</tr>
<tr>
<td>Authentication: (Investment)</td>
<td>Issuing smartcards (if used) or other credentials</td>
<td>$1 - $5 per card +$0.50 for digital certificates</td>
</tr>
<tr>
<td>Authentication: Maintenance</td>
<td>Maintenance</td>
<td>+$0.05-$0.10 per year</td>
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Investment and Steady-State Costs

Assume some costs within the ranges

- For a LIC, income per head $670, population 40 million
- Full registration of people over 18; 50% of population under 18
- Investment (setup) costs: $7 per person or $140 million or 0.5% of GDP
- Steady state with 5% annual enrollment: $1.42 per person registered or $29 million = 0.11% of GDP

ROI of 20% would require benefits around 0.2% of GDP

These are orders of magnitude rather than precise estimates

- The dollar costs will be higher in MICs and HICs because of the higher cost of labor
- But cost should be lower relative to GDP because of the lower relative cost of technology and better communications and logistics
- Costs do not include POS devices which are assumed to be covered by users
Three Financing Models

• **Model 1. Budget allocations**
  - Most common model. ID usually provided by government department: MOI or MOJ.
  - May include charges for services (passports, driver’s license, etc.)

• **Model 2. Mixed: commercial finance with subsidy** to cover enrollment of low-income groups and basic services

• **Model 3. Commercial: cross-subsidy** to cover service to low-income groups

Models 2 and 3 may or may not include charges to other government agencies for ID-related services
Model 2: RENIEC, Peru

• Population 30 million, GDP/head $6,600
• ID coverage at 98.8% -- 99.2% for adults, 97.8% for children
• RENIEC budget $130 million, or $4 per head or 0.065% of GDP
  • 15% provided by state to cover service to poor
  • 85% covered by charges to businesses and individuals
    • $40 million from banks for authentications (30 cents)
    • implies spread of some 0.06% for KYC
• No charges to other government entities for own purposes
  • But – “you charge, we charge”
• Over 1 billion queries, 284 million from private sector
  • Some verify documents
  • Some involve biometric authentication
RENIEC: Variable Enrolment Costs by Geographic Region

At registry office: $10

Using mobile registration:
- Coastal region: $22
- Highlands: $42
- Jungle: $80

NOTE: Costs modest relative to GDP/head at $6,600
Model 3: NADRA, Pakistan

- Population 180 million, GDP/head $1,130
- 106 million adults; ID coverage almost full (100 million)
- NADRA budget $120 million or $1.2 per person registered or 0.06% of GDP, financed by charges:
  - Charges to businesses (bank ID verifications average 25 cents)
  - Charges to individuals for expedited service (passports, cards)
  - Foreign contracts (Kenya, Sudan, etc)
  - Charges to other government departments for ID services
    - Projects include BISP program, disaster and flood relief, border security, voter roll
    - No budgetary allocation. Services to poor funded by cross-subsidy
- Direct biometric verification in only a small minority of cases
Price Regulation

**ID Agencies are monopolies. Service prices must be regulated**

- **RENIEC:** service prices regulated by INDECOPI, a separate independent agency.
  - Price largely based on cost of providing the service.
- **NADRA:** four levels of pricing decision:
  - Management Committee makes a proposal to NADRA Authority Board.
  - Board approves and sends proposal to Ministry of the Interior.
    - Board of 7-9 people includes Chairman of NADRA, representative of the Ministry and independent members appointed by the PM and representing using sectors.
  - Ministry notifies Committee on the Interior and Narcotics of the National Assembly.
  - Committee can request review of charges.
- Both of these cases suggest advantages from having a dedicated autonomous agency to provide identity management services.
Modelling Benefits of Unique ID

Relatively little hard data on benefits but indications that they can be substantial

- **Budget savings**: typical public spending on salaries, pensions, transfers and subsidies around 10-15% of GDP in poor countries
  - If accurate ID saves only about 1% in fraud and leakage will cover steady-case costs of ID program
  - Most estimates of saving or potential savings are larger than this
    - India Aadhaar: PAHAL and large prospective savings in other PDS programs
    - Nigeria: savings from payroll and pension management

- **Budget revenue**: Strengthen tax administration through linking asset, travel, occupational registers
  - Argentina link 13 registers at cost of $10 million: savings $104 million
  - Pakistan: identification of 3.5 potential million taxpayers versus only some 800,0000 actual taxpayers
Benefits contd.

• **Time savings:**
  • Unique ID enables “pull” payments mechanisms through mobile money
  • Informal estimate: Estonia eID could save representative adult 40 hours/week through e-services and e-government
    • Valuing workforce saving at the average wage: 0.64% of GDP

• **Other indications of value of unique foundational ID**
  • When state fails to provide strong ID businesses provide own costly schemes
    • Nigeria: BVN; Tanzania: Synthetic IDs for SIM registration
  • Avoiding costly one-off biometric voter registrations: often $5 - $10 and more.
    • Kenya 2012: equipment $97 million or $7 per registered voter.
  • These costs are sufficient to set up a permanent ID system.
Benefits versus Costs

• Estimates suggest that a robust ID system should be a very good investment
  • Decker-Gelb: payback period for typical transfer program 1-3 years
• Yet in some countries the ID system(s) are unduly fragmented or do not provide sufficient services to warrant their costs
  • Nigeria: $2 billion spent so far on various systems?
• Governance of identity management critical to help ensure that supply is responsive to demand
  • RENIEC: oversight by Users Committee
  • NADRA: NADRA Authority Board includes representatives of using sectors
  • Several countries: Social Council or similar body
• Need adequate user feedback and grievance process
• Far more analysis needed on implementation of programs that use ID to hold systems accountable
  • Process monitoring as well as impact monitoring
Business Models for ID Systems

• Financing can involve a mix: budgetary funds, service charges, PPPs

• Minimize costs
  • Lessons from Aadhaar model even for card-based systems
    • Technology, organization, standards-based procurement
  • Some costs must be funded upfront
    • Data center, enrollment kits, training....

• Roll out foundational system by function, to generate savings and revenue
  • Payroll and pension management, bank and mobile KYC, tax administration
    • Plough back savings into the ID system
  • Can include fee-for-service to other government agencies

• Engage with donors to help reach poor and excluded groups
  • Pay-per-enrollment – performance-based support (Dominican Republic)

• Look for PPP opportunities

  The more business the ID generates the more financially secure it will be
THANK YOU