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ACCOUNTABILITY POLICY BRIEFS

Delivering Services the Smart Way

E-governance can improve service delivery by connecting citizens directly with service providers. In recent years, central and state governments in India have been experimenting with technologies such as smart cards to help deliver large scale social sector programmes more efficiently. This policy brief examines the use of smart cards in India and explores the potential of these cards to make service delivery more efficient and accountable.

Summary

- Growing at 45% annually, the smart card industry in India is predicted to reach $6 billion by 2010. Health care, transport, social security and defence are just some of the sectors where smart cards are being used today.

- Experiments with smart cards have been made to issue driver's licenses in Gujarat, to monitor the public distribution system in Kerala and to improve milk supply by cooperatives in Rajasthan. Biometric smart cards are also being used to distribute wages and register the attendance of job card holders under the National Rural Employment Guarantee Act and to enrol beneficiaries under the Rashtriya Swasthiya Bima Yojana;

- Experience with smart cards shows that they have the potential to bring services closer to users and beneficiaries by connecting clients directly with service providers. Smart cards can be beneficial because they can help with:

    o Beneficiary identification and targeting under social sector programmes;

    o They are portable and easy to use and offer secure paperless transactions;

    o By providing access to information at the point of service delivery they can help streamline the process of service delivery;

    o Smart cards can record details of transactions at different stages in the service delivery chain making data management and records keeping easier;

    o They provide onsite verification of the identity and entitlements of beneficiaries which can help prevent fraud, corruption and leakages in social sector programmes.

- Smart cards are not a substitute for efficient service delivery by governments and service providers. In the absence of well designed and implemented programmes smart cards are not sufficient tools to ensure accountability in service delivery.

Central and state governments in India have increasingly been experimenting with e-governance technologies such as smart cards to help deliver social sector programmes more effectively and transparently. Growing annually at the rate of 45% the Indian smart card industry is predicted to reach $6 billion in 2010.[1] This policy brief examines the use of smart cards in India and explores the potential of using these cards to make service delivery more accountable and efficient.

In recent years, the government has dramatically increased spending on welfare programmes. However, leakages in service delivery, corruption and mismanagement have dogged the effective implementation of these programmes. In this scenario, central and state governments are turning to e-governance technologies such as smart cards for service delivery solutions (see Box 1). The government's interest in smart cards stems from the hypothesis that e-governance technologies can improve service delivery by linking citizens directly with service providers to cut out middlemen and corruption in large scale welfare programmes.

Box 1. Experiments with E-Governance Technologies in India

Bhoomi (Karnataka): The state government of Karnataka has pioneered a unique computerised land record system known as "Bhoomi" under which 20 million records of landownership of 6.7 million farmers have been computerised. Instead of paying customary bribes, farmers can now pay a fee of Rs 15 at computerised Bhoomi kiosks to get a copy of their land rights. Bhoomi has revolutionised the management of land records in Karnataka and has helped reduce bribery and corruption in the system by reducing the discretion of government officials administering the system. It has been estimated that Bhoomi has saved farmers more than Rs 800 million in bribes and 1.32 million days in waiting time (APDIP, 2005). The system has also helped simplify the process of land record keeping.
(Source: http://bhoomi.karnataka.gov.in/)

E-Seva (Andhra Pradesh): E-Seva, the brain child of the Government of Andhra Pradesh, is an online service that offers citizens access to a range of government services from E-Seva centres set up across the cities of Hyderabad, Secunderabad and Ranga Reddy district. The objective of E-Seva is to provide online "citizen services" which include online payment of utility bills (such as water, electricity, sewage and property tax etc), issuing certificates, licences and permits, access to transport, reservation and police services etc. In total, there are 46 E-Seva centres which provide citizens with 66 government to citizen (G2C) and business to consumer (B2C) services. E-Seva has greatly reduced the amount of time taken to access government services. *(Source: http://esevaonline.com/)*

Gyandoot (Madhya Pradesh): An initiative of the Government of Madhya Pradesh, Gyandoot is an intranet based initiative that links governments and citizens. Initiated in Dhar district in 2000, it is a community operated initiative that provides information to rural communities while simultaneously linking the district administration and the people. 'Soochanalayas' have been installed in 20 village centres and connected with the District Rural Development Authority in Dhar. Through this network, people can get income, domicile and caste certificates, access to information about agricultural commodity rates; find out about public grievance redressal and even read the local Hindi newspaper. Users have to pay a service charge for each service which is displayed at the kiosks.
(Source: Administrative Reforms Commission, 2008 and http://www.gyandoot.nic.in/)

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[1] www.ajaymahajan.in

Smart Cards

Smart cards are one component of e-governance technologies. Basically, smart cards are pocket sized electronic devices that can store a range of data safely and securely. They have the potential to improve service delivery by connecting clients directly with service providers and thereby reduce the discretion of public authorities and officials. In large social sector programmes, smart cards can help improve accountability and transparency in key service delivery areas in a number of ways:

- **Beneficiary Identification:** Smart cards are useful for beneficiary identification and targeting under social sector programmes as they can store a range of information including the name, address, photographs and entitlements of beneficiaries. Using smart cards can potentially reduce targeting errors and ensure that entitlements are properly distributed;

- **Secure Transactions:** Smart cards offer secure transactions as the information stored on them can only be accessed by beneficiaries and authorised personnel;

- **Ease of Access and Usage:** Smart cards are portable and easy to use. They offer cashless and paperless transactions and services;

- **Streamlining Processes:** The cards enable access to information at the point of service delivery reducing the need for expensive communication and data networks;

- **Data and Record Keeping:** Smart cards can record details of transactions at different stages in the service delivery chain which helps create a record and audit trail for monitoring and evaluation purposes;

- **Monitoring and Evaluation:** Smart cards enable governments to track, monitor and evaluate how schemes are being implemented at various levels. The unique selling point of smart cards is that they offer on-the-spot or onsite verification of the identity and entitlements of beneficiaries which can help prevent fraud and corruption.

Experiences with Smart Cards

Smart cards have been used in a number of countries in the banking, transport, communication and security systems sectors. In Europe, France has one of the most successful healthcare smart card systems in the world. Under the 'Sesam Vitale' program, citizens are issued smart cards that link them to the government's health insurance system. The transition from paper based to electronic transactions has greatly simplified the process of health insurance payments and reimbursements and has reduced the cost of delivering services. Previously, the French Government took up to 2 months to process claims and reimburse citizens, with the introduction of smart cards and e-transactions; the process now only takes a few days. Currently, over 50 million French citizens use the Sesam Vitale card (Smart Card Alliance, undated). Elsewhere in Russia, the "Moscow Social Card" is an integrated benefits and payment card available to all individuals receiving aid from the state including students, pensioners and public employees etc. With the card, individuals can access public services such as transport, health, medical insurance and other government services. The card can also be used to withdraw money from ATMs, banks and post offices at over 45000 locations where cards are accepted worldwide.

In developing countries, smart cards are largely used for identifying beneficiaries and for delivering benefits under government schemes. In Egypt, the "Family Card Project" covers 12 out of 17 million families in the country. The card offers beneficiaries with access to subsidies, medical, transportation, education facilities and other services (E-Gov India, 2008). An all in one smart card known as "MyKad" is in operation in Malaysia. The card gives citizens access to a range of government and private sector applications. The card can store important data such as identity numbers, passport information, health information and driving licenses. MyKad also offers users access to ATM and government services online. In 2005, smart cards were issued to all Malaysians above the age of 12 as national IDs (Planning Commission, 2007). Similar experiments with smart cards have also been made in China, Russia and Italy.

Despite their growing popularity, smart cards have also come under criticism. In the UK, the government has been debating the introduction of a national identity card system to enable easier citizen access to public services and to combat problems of national security, terrorism and identity fraud. Critics of the scheme however argue that the utility of such ID cards will depend on how well the scheme is enforced. While in theory the cards will make it easier to establish citizens' entitlement to public services, in practice, departments across all public services will need to develop measures to check and verify individual identity. Currently, there are up to 4 different systems for checking entitlements to public services. Without proper enforcement, the ID card scheme runs the risk of making it more difficult for citizens to access services. (UK Home Affairs Committee, 2004).The lesson is clearly that the success of any smart card scheme depends greatly on how well it is implemented.

Smart Cards in India

Central and state governments have been experimenting with smart cards in sectors such as health care, transport, social security and defence. Though there is little documentary evidence of the use of smart cards in India, there have been some interesting experiments:

State Government Experiments

Andhra Pradesh and Madhya Pradesh: In 1998, with the support of UNICEF, a village level drinking water management project was initiated in 4 districts – Chittoor and Vizag in Andhra Pradesh and Rajgarh and Raisinha districts in Madhya Pradesh. Under the project, Panchayat officials use smart cards to record information on the construction and maintenance of bore wells and tube wells in the region. The data ranges from information on well structure, quality of water, water levels, updates on maintenance and upkeep etc (Parth, 2001).

Gujarat: The state government has one of the largest smart card driving license systems in the world. In 1998, in the wake of a growing number of traffic accidents and violations, motorists were issued with smart card driving licenses. Each card has a photograph of the driver, signature, name and address as well as digitised imprint of his/her fingerprints to prevent misuse of the license by others. In addition, the card carries a record of the motorists' past violations. Information about motorists' is accessed by the traffic police through hand held terminals (Parth, 2001). Across the state, some 2 million people have been issued smart card based licenses and vehicle

registration certificates and other states are now thinking of adopting the Gujarat model (Planning Commission, 2007).

Kerala: The state government has initiated a pilot smart card project to monitor the distribution of supplies under the public distribution system. The system involves the installation of smart card readers at ration shops. Card holders can swipe their cards at the ration shops to get a bill. No transaction can take place without a bill (Kumar, 2001). Unfortunately, there is little information available about the actual impact of using smart cards, though anecdotal evidence suggests it has been successful in reducing pilferage of supplies at various stages within the system.

Rajasthan: Smart cards have been used by a dairy cooperative in Rajasthan to improve milk collection and supply by cooperative members. The Jaipur Dairy All-Women Cooperative has been using smart cards to secure payment transactions to cooperative members and to maintain accurate records on milk supplied by individuals. The Cooperative uses "milkometers" with integrated smart card readers to ensure a transparent system of milk testing and pricing. The smart card "enables the cooperative to establish the correct ID of the milk producer, exact date of transaction, volume of milk, fat content (in 1%) and prevailing rates as well as the total value of the transaction" (Parth, 2001: 152). The system also allows cooperative members to tally supplies with payments. With the smart card system, women members now have control over the wages they earn as the cards act as electronic passbooks. In this instance, smart cards have helped empower women cooperative members financially.

Delhi: The Government of Delhi has recently launched "Mission Convergence" (Samajik Suvidha Sangam")[2] to streamline the delivery of services in the national capital region using e-governance technologies. The project envisages the convergence of all citizen services into a single window for easier access by beneficiaries. Key components of the programme include the setting up of a computerised data bank, computer systems at each delivery point and the provision of e-benefit cards to beneficiaries. The e-benefit card is a biometric smart card which will be issued to individuals to provide them with easy access to a number of government services. Departments covered by the programme include – Health and Family Welfare, Education, Women and Child Development, Social Welfare, Food and Civil Supplies, Labour etc (Delhi Government, undated).

Central Government Experiments
At the centre, smart cards are increasingly being used to deliver wages, pensions, rations and even health benefits under flagship programmes such as the National Rural Employment Guarantee Act (NREGA) and the Rashtriya Swasthiya Bima Yojna (RSBY).

National Rural Employment Guarantee Act (NREGA)[3]
Under the NREGA, several state governments including Bihar, Andhra Pradesh, Karnataka and Tamil Nadu, have been experimenting with smart cards to streamline processes for registration of workers and distribution of wages to reduce corruption and leakages in the system. Smart cards have the potential to provide beneficiaries with

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[2] For more information log on to http://www.sss.delhigovt.nic.in/home.html
[3] For more information log on to http://www.nrega.net/ict/ongoing-ict-projects

a hassle free mode of accessing their wages and benefits by eliminating middlemen and intermediaries in the service delivery chain. In Andhra Pradesh, the state government has tied up with Mumbai based company Financial Information Network and Operations (FINO) – to provide biometric smart cards to disburse social security pensions and NREGS wages in 259 villages in Andhra Pradesh (Hindu Businessline, 2008a). Under the programme, job card details of workers are collected from the Gram Panchayat or Mandal and biometric smart cards are issued to eligible persons. Smart card transactions are recorded in standalone computers set up at each point of transaction. Information provided by the Gram Panchayat on the wages due to workers is uploaded on to these machines. Close to 2.5 lakh people have been covered under the scheme in Andhra Pradesh and FINO has issued some 70,000 smart cards (Hindu Businessline, 2008b). Previously workers had to wait up to 2 – 3 weeks to receive payments from the post office or bank, with smart cards, workers can withdraw cash with a single swipe of their cards (Shinde, 2009).

In Uttar Pradesh, the Rural Development Department has piloted the use of a biometric smart card attendance system in 10 villages in 2 blocks of Unnao district. Under the system, along with a job card, workers are issued a smart card which has details of the worker's name, picture, age, village, panchayat and block etc. The cards are enabled with a microprocessor and integrated chip which carries the biometric record of the cardholders thumb prints. By punching their cards into a biometric machine integrated with a thumb impression recorder and a GPS device – the worker's attendance details, information on the site name and village name etc are immediately recorded and then wirelessly transmitted to a server. The system eliminates the need for manual input of data as the information is recorded and wirelessly transmitted. This in turn helps mitigate the problem of ghost and fake muster roll entries. Till date, the scheme has covered close to 2000 workers and there are plans to expand the initiative to all 820 blocks in the state (Indian Express, 2010).

Rashtriya Swasthiya Bima Yojna (RSBY)[4]
Launched in 2008, the national health insurance scheme or Rashtriya Swasthiya Bima Yojna (RSBY) provides health insurance to families living below the poverty line (BPL). The RSBY is the first social welfare programme to make extensive use of ICT technologies to prevent corruption and misuse. Under the scheme, all beneficiaries are issued biometric smart cards that contain the finger prints and photographs of family members. Each state government provides a list of BPL families to the Ministry of Labour and Employment; the list is then used by insurance companies for enrolment under RSBY. As of 31 December 2009, there are 88,87572 smart cards active and operational in the country. Anecdotal evidence suggests that cumulatively, 1404 hospitals [including 360 public hospitals] have been empanelled to provide services. The transition to an e-enrolment system through smart cards has brought to light the many problems with the BPL identification system including the poor quality of BPL data from states. Kerala and Tripura have already ordered a fresh BPL survey following public outcry over large scale exclusion of beneficiaries under the scheme. A number of

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[4] For more information log on to www.rsby.nic.in

states are now considering using RSBY smart cards to piggy back other welfare schemes, as the cards provide a dependable means of beneficiary identification.

Lessons and Challenges

E-governance technologies such as smart cards can improve service delivery by putting citizens at the centre of service delivery and giving them an opportunity to tailor services to their needs (UNDP-APDIP, 2005, 2007). Smart cards in particular have tremendous scope in sectors and services which require one on one interaction between citizens and service providers. In this context, smart cards offer two distinct advantages. Firstly, by cutting out the middleman, smart cards connect citizens and service providers, bringing services closer to end users. For example under the NREGA, a number of state governments have introduced a system of wage payments through banks and post offices to prevent corruption. However, social audits have revealed that bank and post office passbooks can also be manipulated. In Jharkhand, social audits found evidence of forged signatures on withdrawal slips to access money in beneficiary accounts. In such a scenario, smart cards can reduce the scope for corruption and misuse of funds under social sector programmes by linking citizens directly to their benefits. In so doing, smart cards also strengthen accountability in service delivery by making service providers directly responsible to beneficiaries.

Secondly, by creating a record and audit trail of services and transactions smart cards help create a feedback loop that connects citizens directly with policymakers. For example, under the RSBY, the information stored on smart cards can be used by government and health care providers to track and monitor the quality of services as well as the nature and incidence of diseases. In the long run this will help the government develop better responses to health emergencies and crises. Smart cards can also help governments to monitor and oversee the activities of service providers. In Andhra Pradesh, the wage payment system has been linked to a complex MIS system that enables officials to monitor the flow of funds and wages down to individual workers.

Smart cards clearly have the potential to revolutionise the way we think about service delivery. But, the success of this technology depends on how well it is designed and implemented. From an implementation perspective there are important questions that governments need to consider as they embrace smart card technologies:

- How will beneficiaries of smart cards be identified? Beneficiary identification has been a major problem in most social sector programmes. As we have seen under the RSBY, poor quality BPL data has led to a series of errors in the targeting of benefits with many beneficiaries being excluded from coverage under the programme. How will governments ensure smart cards do not fall prey to the same inclusion and exclusion problems?

- What will be used as the basis of identity? Voter ID cards, PAN cards, ration cards and BPL cards all have their own verification and reliability problems.

- What will be used as the basis for targeting and issuing smart cards?

- Can we even be sure that the information gathered will be accurate?

- Who will be responsible and accountable for the actual implementation and monitoring of smart card projects?

- How will the poor access and use smart cards given the problems they already face in accessing their benefits?

Currently, we just do not have enough data or information to give concrete answers to these questions. There is no research or concurrent analysis about how smart cards are being implemented in large scale programmes like the NREGA and RSBY. Little is known about how smart card projects are designed, developed and managed. In light of the large sums of tax payers money being invested in these technologies and the fact that lucrative contracts are being awarded to private companies – much more research is needed on smart cards and their impact of service delivery and accountability.

Conclusion

Smart cards are changing the ways in which governments are delivering services and citizens are accessing them. And as they become the new buzz word in service delivery, it is important to remember that they are not a substitute for efficient service delivery by governments and service providers. The Government of India has been issuing voter ID cards, ration cards and PAN cards for a number of years, yet, discrepancies such as ghost entries, missing beneficiaries, multiple cards continue to exist. In the absence of well designed and implemented programmes smart cards are not sufficient tools to ensure accountability in service delivery. To be successful, smart cards need to be dovetailed with holistically planned schemes that have clearly defined mechanisms for beneficiary identification, targeting, monitoring and evaluation and citizen oversight. Thus, even before governments go in for smart card technologies, they need to work towards improving the design of government schemes and programmes to ensure that smart cards do not become just another scheme with its own leakages and problems.

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References

Delhi Government (undated) *Operational Guidelines: Mission Convergence,* accessed online at http://www.sss.delhigovt.nic.in/pdf/1.pdf

E-Gov India (2008) *E-India 2008: Towards Joined up Government, Conference Report 2008*, accessed online at http://www.eindia.net.in/2008/egov/eGovConferenceReport08.pdf

Hindu Businessline (2008a) "NREGS: AP Sets Example with Biometric Smart Cards", http://www.thehindubusinessline.com/2008/02/26/stories/2008022651252300.htm

Hindu Businessline (2008b) "FINO's Smart Card covers over 10 Lakh Customers in Two Years", http://www.thehindubusinessline.com/2008/05/02/stories/2008050250640400.htm

Indian Express (2010) "Wiping Flaws by Swiping a Smarter 'NREGS' Card", http://www.indianexpress.com/news/Wiping-flaws-by-swiping-a--smarter--NREGS-card/562998

UK Home Affairs Committee (2004) *Identity* Cards, Fourth Report of Session 2003-04, Volume 1, House of Commons, Accessed online at http://www.publications.parliament.uk/pa/cm200304/cmselect/cmhaff/130/130.pdf

Kumar, Vipin (2001) "Ration Thru Smart Cards", *Business Line*, Internet Edition. Accessed online at http://www.hinduonnet.com/businessline/2001/09/21/stories/1421603a.htm

Parth, Shubhendu (2001) "Smarter Cards", *Dataquest*. Accessed online at http://dqindia.ciol.com/content/archive/100211201.asp

Planning Commission (2007) "Entitlement Reform for Empowering the Poor: The Integrated Smart Card (ISC). *Report of the Eleventh Plan Working Group on Integrated Smart Card System*", January. Accessed online at http://planningcommission.nic.in/aboutus/committee/wrkgrp11/wg11_smtcard.pdf

Shinde, Shriram (2009) "Hassle Free Banking", *Sakaal Times*, Pune.

Smart Card Alliance (undated) Sesam Vitale, Accessed online at http://www.smartcardalliance.org/resources/pdf/Sesam_Vitale.pdf

UNDP – APDIP (2005) "Pro-Poor e-Governance in Asia and the Pacific: Making public service delivery work better for the poor", *UNDP - APDIP Concept Note*, Author Lars Bestle, accessed online at http://www.apdip.net/projects/e-government/APDIP-eGov-ConceptNote.pdf

UNDP-APDIP (2007) "Pro-poor Public Service Delivery with ICTs: Making Local Governance Work towards Achieving the Millennium Development Goals", *APDIP e-note 11*, Author, Lars Bestle, accessed online at http://www.apdip.net/apdipenote/11.pdf

Websites
http://www.nrega.nic.in
http://www.nrega.net/ict/ongoing-ict-projects
http://www.sss.delhigovt.nic.in/home.html
http://www/rsby.nic.in
http://bhoomi.karnataka.gov.in
http://esevaonline.com/
http://www.gyandoot.nic.in/
www.ajaymahajan.in

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