



# Building blocks of e-government: lessons from developing countries

*Electronic government offers enormous potential for improving public sector performance. This note provides lessons on how national e-government plans can be formulated and what makes individual projects successful.*

E-government is about changing how governments work, share information, and deliver services to external and internal clients. It harnesses information and communications technology to transform relationships with citizens and businesses, and between arms of government. Benefits can include reduced corruption, increased transparency, greater convenience, higher revenues, and lower costs. But case studies show that these benefits do not result solely from the use of information and communications technology. Instead, e-government initiatives should be part of broader reforms to improve public sector performance in:

- *Delivering services to citizens.* E-government can benefit citizens by reducing delays, consolidating multiple services under one roof, eliminating the need for frequent visits to government offices, and containing corruption. In addition, publishing rules and procedures online can increase transparency. Moreover, because poor people bear the largest costs of administrative inefficiency and corruption, delivering services through rural kiosks leads to their economic and social empowerment. For example, 7 million farmers in Karnataka, India, can now obtain printed copies of land titles (needed two or three times a year to secure bank loans) online in 10 minutes at 177 government-run departmental kiosks or at privately operated Internet kiosks. The fee is 15 rupees (about 33 cents). Under the previous titling system two-thirds of

users had to pay bribes of 100–2,000 rupees, but only 3 percent of users of the online system report paying bribes (see <http://www1.worldbank.org/publicsector/bnpp/Bhoomi.pdf>).

- *Delivering services to businesses.* Businesses often face significant administrative roadblocks when interacting with government. Electronic delivery can shorten the turnaround on license applications from several weeks to a few days. Rules can be made transparent and consistent across departments. Transaction costs for both businesses and government can be reduced. And government can benefit from more efficient revenue collection. In Guatemala, for example, 9,000 taxpayers file taxes through BancaSAT, an online platform managed by the Guatemalan Tax Agency (SAT). BancaSAT contributed to a 13 percent increase in SAT revenue between 2000 and 2001.
- *Increasing efficiency.* E-government can lead to higher productivity. Governments can cut staff or redeploy workers in more productive tasks. Data captured by an electronic system often enables more frequent and accurate data sharing across departments, closer monitoring of employee productivity, easier identification of pressure points for delay and corruption, and improved compilation of historical data that can be mined for policy analysis. For example, Karnataka's Department of Public Instruction has realized numerous effi-

E-government initiatives should be part of broader public sector reforms

One of the key questions is countries' readiness to implement e-government

ciency gains from online processing of teacher transfers. Each year the department receives 10,000–15,000 applications from teachers requesting to be transferred. The process used to be riddled with corruption and nepotism, but today requests are prioritized using well-publicized criteria, and teachers are asked to make their choices online—enabling transparency and reducing bribery. Transfers are now processed in a brief period during school vacations, avoiding the year-round disruption caused by the previous system.

### Models for delivering electronic services

Industrial and developing countries take very different approaches to e-government applications. In industrial countries the delivery model is based on self-service through the Internet, while in developing countries it is a hybrid of automated and manual processes.

An increasingly popular model is being used in Bahia, Brazil, where citizen assistance service centers integrate federal, state, and municipal agencies in a single location. The centers are in convenient locations (such as shopping malls and major public transportation hubs), offer tremendous time savings, and deliver services with courtesy and professionalism. The centers also reduce overhead costs for government because most agencies pay much less than they did for previous properties rented to interact with the public. Although business owners must still go to a government office to register a new business, registrations can be renewed in just minutes at a citizen assistance center or over the Internet. (Renewals used to take a day.)

### Orchestrating a national effort

To ensure effective coordination of interdepartmental initiatives, many countries have opted for centralized implementation of e-government efforts. This approach is more likely to succeed in small countries such as Dubai, Jordan, Mauritius, and Singapore. But for most developing countries, where manual processes remain the norm, a centrally driven strategy is complex and

difficult. Thus many countries are trying to decide which strategy is best: central or departmental.

In choosing the right approach, an associated concern is the size of budget allocations. Centrally driven initiatives tend to be expensive. Canada, which has taken such an approach, spent \$210 million on e-government projects in 2002 and expects to spend \$450 million by 2005. And the U.S. Office of Management and Budget, which manages a national e-government initiative, was provided \$20 million in 2002 and a total of \$100 million through 2005. India's national plan for e-government, announced in 2004, is projected to cost \$2.5 billion.

Countries that choose to create a central support agency have to define its role, location, mandate, and size. Central agencies should have a mandate to perform many tasks, including assessing and enhancing readiness, developing a strategy and implementation plan, building shared infrastructure, finding resources for reengineering, application development, and change management, developing guidelines, standards, and best practices, forging public-private partnerships, identifying departmental champions, monitoring progress and impact, and overseeing pilot projects.

### Identifying readiness and moving forward

One of the key questions facing countries is their readiness to implement e-government. Readiness depends on an enabling environment that includes a:

- Mature technical infrastructure in various government departments.
- Civil service willing to reengineer, share information, and treat citizens as customers.
- Deep Internet penetration or presence of many public access points.
- Legal framework that fosters public confidence and supports a government mandate to conduct transactions online.
- Political commitment from departmental champions and managers.
- Demanding, aware citizenry that understands its rights and is willing to express

them—and fight for them in cases of laxity and inefficiency.

Few governments are completely ready on all the above dimensions. But that should not deter governments from starting small—through experimental pilot projects used to bring about changes in public sector performance. An evaluation of e-government projects points to five general lessons.

*Strong project management skills are crucial...*

Project managers should clearly identify goals and benefits. The task is often vast, and not manageable with the resources available to a single government department. Adopting established standards and protocols can minimize the need for customization. If off the shelf software is available, it should be used instead of reinventing the wheel. Systems analysis, which provides the cues needed for reengineering, should be done internally. But design, software development, data preparation, training, and the like can easily be outsourced.

*...As are departmental ownership and capacity building*

No external agency can drive needed changes within a department. External agencies can be useful in mobilizing resources and providing technical inputs. But departments need to have champions who can conceptualize an application and implement it successfully—often by building partnerships with other agencies.

Successful e-government projects typically spend about 10 percent of their budget on training and capacity building. Awareness about project benefits has to be raised among senior civil servants and political leaders. Training is required for project managers, who need to define project deliverables, negotiate with consultants and vendors, and manage outsourced development efforts. Clerical staff need to be trained on specific applications. Supervisors and managers need to be trained on using information. And citizens need to be made aware of online services and how to use them.

*Significant process reengineering is required*

An important aspect of initiating e-government is documenting existing procedures and simplifying them into tasks that can be completed in a few steps without compromising their basic purposes. The process of simplifying documents and workflows, points of approval, and audits is termed *reengineering*. Most e-government projects that have reduced processing times and costs have done so through substantial process reengineering. Such reengineering must precede any effort at automation.

Reengineering modifies processes to reduce steps and the number of necessary employees. This often creates the greatest challenge in e-government implementation: overcoming resistance from civil servants. Automation imposes more regulated workflows, and civil servants often lose the flexibility to deal with applications in any sequence other than the one dictated by computerized workflows—eliminating the power of patronage. Efforts to stall work are easily identified because both the public and supervisors have the capacity to track information and transactions as they move through workstations. Because e-government projects are designed to make decisionmaking more transparent, they should strive to provide benefits and training to civil servants who are losing power and authority.

In Andhra Pradesh, India, Smartgov—an e-government project intended to convert the state secretariat to a paperless, electronic workflow—has been stalled by inadequate effort in managing the process of change. Reengineering and changing work processes across 70 departments in the secretariat have been a challenge even for the country's largest information technology company, which is implementing the project.

*Private partners can play an important role*

The choice of e-government project partners can vary from multinational management consultants to information technology vendors to local companies. Partners may be asked to build a project, to build, own,

Resistance from civil servants can be the biggest challenge to e-government

## The potential of e-government is increasingly being recognized

and operate, or to build, operate, and transfer. Regardless of the specific agreement, partnerships should build local capacity. If private partners are involved, contracts should be fair for both parties—so that the private sector earns reasonable profits and the public sector achieves its goals for efficiency and service delivery.

### *Complete automation is not necessary*

Handling a few critical components electronically can provide significant benefits. For example, in Chile procurement announcements are published on a Website, and registered suppliers receive announcements by email to increase competition. But departments handle bids manually—though once bids have been processed, the results are announced on a Website. Chile has realized significant savings because of expanded supplier choice and increased transparency in supplier selection, even though the core bidding process continues to be manual. A study estimated that gains from this new system would reach at least \$200 million a year—equivalent to 1.4 percent of central government spending or 26.2 percent of spending on public housing in 1997 (Orrego, Osorio, and Mardones 2000).

### Assessing e-government projects

To date the benefits of e-government have been largely anecdotal. A World Bank evaluation of four projects in India hailed as successes (and awarded prizes by international organizations) indicates that two are moving toward failure (see <http://www1.worldbank.org/publicsector/bnpp/egovupdate.htm>). In its first year a computerized system

tripled the revenue from fines imposed on overloaded trucks in Gujarat, India. But as soon as the project champion was transferred, disgruntled inspectors disabled the system.

Still, the potential of e-government in advancing good governance is increasingly being recognized. Many pilot projects have shown that gains can be real and projects can be implemented successfully—overcoming numerous constraints. Widely used services, such as issuance of licenses and certificates and collection of payments and taxes, have been put online successfully. Replication and scaling up of such projects must occur after systematic evaluations are conducted by independent agencies.

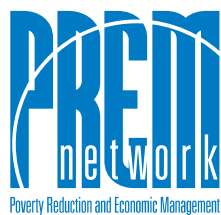
### Further reading

Bhatnagar, Subhash. 2002. “E-Government: Lessons from Implementation in Developing Countries.” *Regional Development Dialog* 24 (autumn).

Orrego, Claudio, with Carlos Osorio and Rodrigo Mardones. 2000. “Chile’s Government Procurement E-System.” World Bank, Washington, D.C. [[http://www1.worldbank.org/publicsector/egov/eprocurement\\_chile.htm](http://www1.worldbank.org/publicsector/egov/eprocurement_chile.htm)].

*This note was written by Subhash Bhatnagar (Consultant, Public Sector, PREM) and Arsala Deane (Consultant, Public Sector, PREM) based on Bhatnagar (2002) and case studies published on the Bank’s e-government Website (<http://www1.worldbank.org/publicsector/egov>).*

*If you are interested in similar topics, consider joining the e-Development Thematic Group. Contact Nagy Hanna (x30346) or Oleg Petrov (x38861) or click on Thematic Groups on PREMnet.*



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