ROADMAP FOR E-GOVERNMENT IN THE DEVELOPING WORLD

10 Questions E-Government Leaders Should Ask Themselves

The Working Group on E-Government in the Developing World

APRIL 2002

PACIFIC COUNCIL ON INTERNATIONAL POLICY

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Pacific Council on International Policy
Los Angeles, CA 90089-0035
Tel: (213) 740-4296
Fax: (213) 740-9498/9993
E-Mail: pcip@usc.edu
Website: www.pacificcouncil.org

Please direct comments on the report to egovt@usc.edu

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INTRODUCTION

BACKGROUND

Governments around the world are embracing electronic government. In every region of the globe—from developing countries to industrialized ones—national and local governments are putting critical information online, automating once cumbersome processes and interacting electronically with their citizens.

This enthusiasm comes in part from a belief that technology can transform government's often-negative image. In many places, citizens view their governments as bloated, wasteful, and unresponsive to their most pressing needs. Mistrust of government is rife among the public and businesses. Civil servants are often seen as profiteers.

The spread of information and communication technology ("ICT") brings hope that government can transform. And, indeed, forward-looking officials everywhere are using technology to improve their governments.

Defined broadly, e-government is the use of ICT to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information, and make government more accountable to citizens. E-government might involve delivering services via the Internet, telephone, community centers (self-service or facilitated by others), wireless devices or other communications systems.

But e-government is not a shortcut to economic development, budget savings or clean, efficient government. E-government is not the "Big Bang," a single event that immediately and forever alters the universe of government. E-government is a process—call it "e-volution"—and often a struggle that presents costs and risks, both financial and political.

These risks can be significant. If not well conceived and implemented, e-government initiatives can waste resources, fail in their promise to deliver useful services and thus increase public frustration with government. Particularly in the developing world, where resources are scarce, e-government must target areas with high chances for success and produce "winners."

Moreover, e-government in the developing world must accommodate certain unique conditions, needs and obstacles. These may include a continuing oral tradition, lack of infrastructure, corruption, weak educational systems and unequal access to technology. Too often, the lack of resources and technology is compounded by a lack of access to expertise and information.

THE ROADMAP FOR E-GOVERNMENT IN THE DEVELOPING WORLD

This project was motivated by a desire to leverage e-government lessons already learned in the developing world to maximize the chances of success for future projects. The "Roadmap for E-government" that follows highlights issues and problems common to e-government efforts and offers options for managing them.

The Roadmap reflects the collective experiences that a group of knowledgeable e-government officials from the developing world wish to offer to others following the path to e-government. Officials and experts who participated in constructing this Roadmap, collectively called the Working Group on E-government in the Developing World, came from countries in every region of the world—Brazil, Chile, China, Denmark, Egypt, India, Israel, Mexico, South Africa, Tanzania, Thailand, the United Arab Emirates and the United States. Officials came from cities, provinces or countries that have outstanding e-government programs. Their keys to success and insights learned from failures are embodied in the Roadmap.

The Working Group held an initial conference on 6-7 August 2001 in Redwood City, California, in the heart of Silicon Valley. Working Group members continued their dialogue via email over the subsequent months.

The Roadmap presents ten questions that these e-government practitioners from around the world believe are crucial to successfully conceiving, planning, managing and measuring e-government. The Working Group suggests that e-government officials ask themselves these ten questions before they embark on the e-government path.

The Roadmap has two primary audiences: (1) governments and their implementing partners that are new to the e-government road and seek guidance on preparing projects; and (2) governments and their partners currently implementing e-government projects that want to check their approach and progress against the Roadmap.

Lessons learned in Thailand or Mexico are as important as lessons learned by e-leaders like Sweden or the United Kingdom. And for other developing countries, they are often more important, and more relevant.

The Report is a practical tool, meant to be useful and used by e-government practitioners. Thus, it is purposefully brief. It does not attempt to raise all the important e-government issues, nor does it analyze issues in enormous detail. Rather, the Report outlines ten basic questions that any government pursuing e-government should consider.

While it offers lessons drawn from the experiences of members, at times the Report does not "name names" where lessons—especially from failures—were shared in confidence.

The Working Group recognizes that there are no "one size fits all" e-government solutions. Each country—indeed each level of government within each country—has a unique combination of circumstances, priorities and resources. Therefore, the Roadmap is a guide based on experiences to date, not a guarantee of e-government success.

The questions presented touch on all phases of e-government, from establishing a vision to developing management structures, assessing readiness to setting performance benchmarks and measuring success. The Roadmap offers advice on whether and when to include citizens in e-government planning, how to understand an unwilling bureaucracy and the importance of tailoring programs to the technology that is available.

The fundamental theme of the Report is this: **E-government is about transforming government to be more citizen-centered.** Technology is a tool in this effort.

E-government success requires changing how government works, how it deals with information, how officials view their jobs and interact with the public. Achieving e-government success also requires active partnerships between government, citizens and the private sector. The e-government process needs continuous input and feedback from the "customers"—the public, businesses and officials who use e-government services. Their voices and ideas are essential to making e-government work. E-government, when implemented well, is a participatory process.

The Working Group, through the Pacific Council on International Policy, welcomes any and all comments about the Roadmap and, more importantly, case studies or "lessons learned" from the experiences of others in e-government. Please email us at egovt@usc.edu.

It is our sincere hope that some of the advice contained in this Roadmap will help guide officials down the exciting, but sometimes difficult, road of e-government.

The Working Group
April 2002

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MEMBERS OF THE WORKING GROUP ON E-GOVERNMENT IN THE DEVELOPING WORLD

Lubna Al Qasimi
Leader, Dubai E-government Executive Team;
Managing Director, Tejari.com
Dubai, UAE

Jorge Calmon Moniz de Bittencourt Filho
CEO
Bahia Information Technology Agency
PRODEB
Brazil

Chen Liquan
Vice-chairman
Information Committee of Nanhai City
China

Steven Clift
Founder
Democracies Online
USA

Deng Yaohua
Chairman
Information Committee of Nanhai City
China

Stephen Goldsmith
Senior Vice President of e-Government
ACS;
Senior Fellow, Kennedy School of Government
Harvard University
USA

John Gøtze
E-government Coordinator
National ICT Agency
Denmark

Thaweesak Koanantakool
Executive Secretary
National IT Committee
Thailand

Abraham F. Lowenthal
President
Pacific Council on International Policy
USA

Bruce McConnell
President
McConnell International LLC
USA

Perla Ni
Co-Founder
Grassroots Enterprise
USA

Tomás Orozco La Roche
Director of Knowledge Technology
INFOTEC
Mexico

Claudio Orrego
Vice President of Business Development, SONDA S.A.
Former Executive Secretary
State Modernization Committee
Chile

Thomas Parks
Information and Communications
Technology Program
Asia Foundation
USA

Raafat Radwan
Chairman
Cabinet Information and Decision Support Center
Egypt

Jeffrey Rinne
Consultant, Public Sector Group
The World Bank
USA

Joiwind Ronen
Director
Intergovernmental Technology
Leadership Consortium
Council for Excellence in Government
USA

J Satyanarayana
Secretary of E-government for Andhra Pradesh
India

David Sawe
Director
Management Information Systems Division
The President's Office (Civil Service Department)
Tanzania

Abraham Sotelo
e-Government Program Coordinator
Office of the President for Innovation in Government
Mexico

Donald Upson
Secretary of Information Technology
State of Virginia
USA

Ramiro M. Valderrama-Aramayo
E-government Advisor
World Bank Institute,
International Development Bank
USA

Moses Bheki Zungu
Government Chief Information Officer
DPSA
South Africa

PROJECT SPONSOR PARTICIPANTS

MICROSOFT

Graeme Menzies
Manager, Government Leaders Conference
USA

Mauro Regio
Public Sector Industry Manager
USA

ORACLE

Fernando Lezama
Director, Public Sector
Mexico

Mike Mayer
Director, International Projects
Israel

Lucas (Lou) Ventino
Vice President, Global Trade Development
USA

PROJECT DIRECTORS

Nina Hachigian
Director
RAND Center for Asia Pacific Policy
USA

Jeffrey A. Kaplan
International Affairs Fellow
Council on Foreign Relations
USA

Individual members of the Working Group, listed above, do not necessarily agree with every statement in this text. All members of the Working Group do agree, however, that this report draws faithfully upon the Group's discussions and that it offers useful advice on e-government in the developing world. All participants of the Working Group participated in their individual capacity. This report does not necessarily represent the official views of any government, corporation or institution with which members might be associated.

10 Questions E-Government Leaders Should Ask Themselves

1. WHY ARE WE PURSUING E-GOVERNMENT?

Understand that e-government is about transformation; technology is a tool. E-government is about transformation that helps citizens and businesses find new opportunities in the world's knowledge economy. It holds great potential. Yet, if e-government is not part of a larger program for reform—reforming how government works, manages information, manages internal functions, serves citizens and businesses—then it may not produce all the benefits expected from the time and money invested. Use e-government to rethink the role of government. Use it as a tool to further economic development and good governance.

Realize it won't be simple. Electronic government is neither easy nor cheap. Before committing the time, resources and political will necessary to successfully implement an e-government initiative, understand the basic reasons for pursuing (and not pursuing) e-government. E-government is not a shortcut to economic development, budget savings or clean, efficient government; it is a tool for achieving these goals. Especially in developing countries where resources are scarce, rushing forward with ill-conceived e-government plans can be a costly mistake, financially and politically.

E-government, as with all reforms, cannot be achieved simply by drafting a law or issuing an order from political leaders. It requires changing how officials think and act, how they view their jobs, how they share information between departments (G2G), with businesses (G2B) and with citizens (G2C). It requires re-engineering the government's business processes, both within individual agencies and across government.

At the same time, e-government responds to changes outside of government. How a society—its citizens, businesses and civil society—deals with government and with information is changing radically in many places. Citizens are starting to expect government services to equal those services offered by and expected of the private sector. Over time, citizens will likely act more like consumers. Government must adjust to this, and e-government is one tool that can help.

Warning: Computers ≠ Reform. Use e-government and ICT as elements of a larger government modernization program. Simply adding computers or modems will not improve government, nor will only automating the same old procedures and practices. Making unhelpful procedures more efficient is not productive. Focusing only on the computers will not make officials more service-oriented toward government's "customers" and partners. Leaders should think about how to harness technology to achieve objectives for reform. ICT is an instrument to enable and empower government reform.

Treating e-government as a reform process, and not merely the computerization of government operations, will contribute to building an "information society" in which the lives of citizens are empowered and enriched by access to information and the social, economic and political opportunities that it offers. This is rapidly becoming a key national priority for all countries, rich or poor.

New (and old) technologies—the "e" part of the phrase—are simply means for achieving the larger goals of society. Instead of focusing on the idea of "e-government," think about creating an "I-government" or even an "I-society," where the "I" means "intelligent" or "information." Focus on issues such as how government and society process and use increasing amounts of information, and how government can be more responsive to citizen needs and input.

In one municipal government in China, creating an "information society" is seen as the foundation for its e-government plans. This idea defines the city's entire e-government vision—to see its citizens, businesses, schools, public administration and service industries all become information-based. Networks and ICT are to become part of the daily work and lives of the people.

2. DO WE HAVE A CLEAR VISION AND PRIORITIES FOR E-GOVERNMENT?

"E-government" can refer to many different things, and e-government plans come in all shapes and sizes. Thus, be sure to establish a clear vision for e-government.

Define a vision and priority areas. The purpose of government is to further the shared goals of a society. Therefore, begin the planning process by establishing a broad vision of e-government that is shared by all stakeholders (citizens, businesses, officials, civil society groups and others). The broad vision should flow from the large goals or concerns of a society.

There are too many possible reasons and goals for e-government to list them all. However, there are broad categories of goals that are commonly pursued by societies, including for example:

- improving services to citizens;
- improving the productivity (and efficiency) of government agencies;
- strengthening the legal system and law enforcement;
- promoting priority economic sectors;
- improving the quality of life for disadvantaged communities; and
- strengthening good governance and broadening public participation.

Within each category, different objectives might emerge. Given this, each society's vision should also be accompanied by a short list of priority areas for the e-government program. In other words, the broad e-government vision flows from a society's main concerns, and the target areas flow from the e-government vision.

How the broad vision and priority areas for e-government are defined will depend upon the specific conditions and ambitions of a society.

For example, a society's first concern might be to create a more accountable government. Its e-government vision will reflect that. In that case, highest priority might be given to areas such as increasing transparency in the judicial sector or fighting corruption.

Another society, however, might focus its ambition on developing itself into the business hub in its region. Its e-government vision might then highlight facilitating commerce and services for businesses online. Perhaps improving the investment regime or tax system could be priority sectors in this case.

Define a vision that represents the priority objectives of government and the shared voice of all stakeholders.

Warning: Saving money should not be the broad vision that motivates e-government. E-government should not solely be a strategy for reducing the cost of government, though this can be one valuable result. Saving money is an easy way to "sell" e-government to political leaders and the public. However, with few exceptions, e-government applications do not lower costs in the short term for government itself, though they may reduce costs for citizens and business.

E-government must be a shared vision. Encourage stakeholders—government and non-government—to participate in defining the vision. If the public and private sectors are consulted only after e-government plans have been developed and implementation has begun, e-government programs risk being underused or even irrelevant. A shared vision ensures that key constituents and communities will "buy into" and support e-government programs from beginning to end. A shared vision of e-government means a shared stake in the outcome.

Involving key stakeholders—citizen groups, associations, businesses, government officials, NGOs, unions and other civil society groups—does not mean that all decisions on e-government must await broad public or across-government consensus. E-government requires a champion and political leadership (discussed more fully below in Question 4 on political will). However, defining the vision and selecting priority areas need input from stakeholders, and not only a few elite experts or officials.

In many countries, including developing countries, citizens distrust their governments, especially where there has been a history of dictatorship, political instability or large-scale corruption. To ensure that the public and stakeholders will be partners in the e-government effort, it is important to try to build trust in government. Lack of trust by the public can lead to the failure of or serious delay in e-government initiatives.

The mechanisms for receiving input from various stakeholders will vary, but making an effort to include non-government stakeholders in building the vision for e-government will pay off. Governments must give serious consideration about who should help define the e-government vision and how to secure their input. In some places, governments can organize public meetings or conduct polls of citizens (and businesses or officials). In others, citizens and the private sector are included in committees that develop an e-government plan in an open, collaborative way.

Make the vision citizen-centered. Ultimately, e-government must be about meeting the needs of citizens and improving quality of life. Borrowing a lesson from the private sector, e-government must be customer-driven and service-oriented. This means that a vision of e-government implies providing greater access to information as well as better, more equal services and procedures for the public and businesses. Even when e-government projects seek to improve internal government processes, the end goal should be making government serve citizens better. And this means recognizing the diverse roles that citizens have as parents, taxpayers, constituents, employers, employees, students, investors and lobbyists.

> *Egypt's e-government vision focuses on redefining the relationship between government and citizens. Egypt is beginning to make procedures related to government services transparent. For example, procedures for registering births and getting copies of birth and death certificates are now more transparent and accessible (through a telephone hotline and the Internet). In this way, Egypt is beginning to empower people and eliminate the traditional* ad hoc *way in which officials dealt with citizens.*

Communicate the vision. Once the vision for e-government is established, it is crucial that leaders from government and non-government sectors communicate the vision and key objectives across government and to the public. Establish a communications strategy to ensure that people understand the vision, the changes that will occur and the tangible benefits for them from e-government.

To communicate the e-government vision to the broadest possible audience, it is best to use the media most likely to reach target audiences. For the public and businesses, this might mean town meetings, newspapers, TV/radio broadcasts or Web sites. For civil servants, discussing the vision in speeches, department meetings or trainings might be effective. The communication strategy will depend upon the circumstances of each society and the nature of the e-government application.

Corruption considered. To the extent that increased transparency, accountability and predictability (of rules and procedures) are made priorities, e-government may offer a weapon against corruption.

> *Mexico's federal government established Compranet for government procurement as part of its efforts to curb corruption by automating procurement procedures. By facilitating a process of bidding and reverse bidding online, it seeks to make government purchasing more efficient and transparent. The system allows the public to see what services and products the government is spending its resources on and what companies are providing them with these services. There are more than 6,000 public sector tenders logged daily, and more than 20,000 service-providing firms are regular users. Other countries in the region are looking to imitate Mexico's successful Compranet.*

E-government, however, does not guarantee the end of corruption. Officials who master technology-empowered processes can find new opportunities for rent seeking. Under such circumstances, e-government may simply cause an inter-generational shift in corruption toward younger, more tech-literate officials.

One especially sensitive issue, right from the start, is whether fighting corruption should be part of the e-government vision. Each society must answer that question for itself. For countries where corruption is a serious concern, as in many developing countries, this question should be considered when the e-government vision and priorities are discussed. If the answer is "yes," it will be important to decide what forms of corruption the e-government program will address and how it will be accomplished.

Publicize e-government's anti-corruption goals or not? If fighting corruption is included in the vision, the next key question is when to announce the anti-corruption goal to the public. If fighting corruption is publicly announced as a major part of the e-government agenda, it could help build coalitions and public pressure for anti-corruption results. However, publicity too early in the e-government process runs the risk of causing fear and resistance from corrupt officials, who are likely to exert negative pressure even upon their uncorrupt colleagues.

Another option is to not publicize the anti-corruption goals of an e-government program but rather "sell" e-government (especially within the government) as a program to accomplish other goals such as improving government services, increasing attractiveness of the country for investment, reducing costs to the public/business or improving the competitiveness of the local private sector.

Given the sensitivity of these issues, involvement of non-government stakeholders in the discussion is important.

3. WHAT KIND OF E-GOVERNMENT ARE WE READY FOR?

Because every society has different needs and priorities, there is no one model for e-government and no universal standard for e-government readiness. Each society's and government's readiness for e-government will depend upon which objectives and specific sectors it chooses as priorities, as well as the resources available at a given point in time (which might depend on budgets, donors, etc).

The necessary pre-conditions for e-government depend upon a society's most important needs. For example, the level of infrastructure, legal framework and human capital needed for e-government vary with the objectives being pursued. But if requirements vary, how can a government assess readiness for e-government?

Readiness for e-government is not only a governmental issue. Once a vision and priority sectors for e-government are established, it is important to assess how prepared a society is for e-government. Assessing e-government readiness requires examination of government itself—institutional frameworks, human resources (including ICT managers, procurement officers, and others), existing budgetary resources, inter-department communication flows, etc. National infrastructure, economic health, education, information policies, private sector development and other issues are also factors of society's readiness.

Even in developing countries where problems of low connectivity and human resource development (including low ICT literacy) are severe, creativity and careful planning can develop specific applications, services and information that can be delivered in a targeted, useful way to identifiable audiences.

Readiness starts with political will. Though determining the key conditions depends on the goals chosen, political will—"e-leadership"—is a prerequisite for any and all e-government objectives. E-leaders must not only support e-government initiatives with words but also with actions. They must build political support across government, push for change and resources, publicly take "ownership" of the project and commit their time on a sustained basis. To develop such political will, it can be important to demonstrate how supporting e-government can lead to greater electoral support from voters. Political will is discussed more fully in Question 4.

Readiness also rests on information policy. The second most important factor in e-readiness is the government's willingness to share information with the public and across government agencies/departments and different levels within them. Smooth, rapid information-sharing enables government to take a more functional approach to services, as opposed to the usual department-by-department approach. A government's information policies are a key readiness consideration.

Other key factors for readiness. Although readiness depends on e-government priorities, there are certain factors that demand consideration:

- **Telecommunications infrastructure:** Telecommunications equipment and computers, while not the focus of e-government, must be addressed in any e-government plan. The level of telecommunications infrastructure needed will depend on the e-government projects pursued. Significant investment in national ICT infrastructure may be needed for certain e-government applications.
- **Current connectivity and ICT usage by government:** Understanding current ICT usage may indicate the government's readiness to manage information and e-government projects as well as whether the ICT framework meets global standards. In addition, it may help allow e-government efforts to build on previous computerization projects that have been successful.
- **Human capital within government:** Sufficient numbers of skilled, ICT literate personnel (including managers with experience in procuring, evaluating and implementing ICT solutions) are essential. Not everything can or should be outsourced to the private sector. Change management issues must also be addressed as new work practices are introduced.

- **Existing and expected budgetary resources:** It is obviously critical to ensure that the resources needed to fully achieve e-government goals exist or can be generated. Also critical is the control of funds, whether centralized or de-centralized, consolidated in one agency or allocated to many departments.
- **E-business climate:** Current environment for e-business, including the legal framework and information security, is a key criterion for assessing readiness. Establishing protections and legal reforms will be needed to ensure, among other things, the privacy, security and legal recognition of electronic interactions and electronic signatures.
- **Officials' readiness for change:** The corporate culture within government is an important aspect of e-readiness. The level of resistance to change and level of involvement by officials in setting policies and practices will greatly impact how fast or smooth the implementation of e-government will be.

4. IS THERE ENOUGH POLITICAL WILL TO LEAD THE E-GOVERNMENT EFFORT?

Like any government reform effort, political will is required to implement every e-government project. Without ongoing, active political leadership, the financial resources, inter-agency coordination, policy changes and human effort required to plan and implement e-government will not be sustained. Political will exists when senior decision-makers have the resolve to exercise leadership in the face of opposition and setbacks.

Find where e-leaders are emerging. Nothing is more critical to the success of e-government than political will. Behind every successful e-government project is a visionary leader or leaders who push for change even through difficult moments. The right leader has authority, is willing to take risks, is willing to secure funds for the program, will commit time on an ongoing basis, and will publicly endorse and advocate for e-government.

> *MISTAKE TO AVOID: In one African country, the top thinkers on technology from academia and the private sector agreed on 15 pages worth of recommendations to the government about its ICT policy and e-government. However, because the minister in charge was not interested in the project, the recommendations languished and were not implemented. They will likely become obsolete as technologies change and the ICT sector continues growing in an uncoordinated manner.*

Expect opposition and setbacks. E-government programs face many challenges. Like any ICT undertaking, there will be delays and mistakes. Technology will change in middle of the project. Complex government programs require complex software, which will have "bugs." Inside government, the bureaucracy will resist changes in procedures and possibly the increased transparency that e-government provides (see Question 7).

In the face of such problems, sustained progress in e-government will be achieved only if the leadership believes that the benefits outweigh the costs and risks. Therefore, e-leaders must champion the cause of e-government and make

the effort to build political support across government. This also means protecting administrative e-government positions against political patronage; do not treat e-government positions as rewards for political supporters.

Motivate political leaders. The task is to "sell" the concept of an e-government project to potential leaders in a politically appealing way. The benefits of the program to the voting public and other stakeholders need to be obvious to them. After gaining their support, it may be useful to educate leaders to be "e-literate" so they have some basic understanding of the power and potential of technology.

Remember that political will is dynamic. A successful e-government project can create good will among citizens that increases demand for e-government and thus generates further political will among political leaders. Leadership can also be found outside government—among businesses for example. Business leaders can help build momentum for e-government reform and encourage the emergence of e-government leaders.

In some cases, one way to motivate leaders is to push ahead with a more modest e-government initiative and then present political leaders with a complete, successful project that they can publicly take credit for. Of course, this approach can only work if success of the project is almost guaranteed and a sufficient budget is assured.

Sustain leadership. If leaders are asked to take "ownership" of a project—for example by appearing publicly to announce or explain the project—their interest is likely to remain high. Sustained interest is important to keep the momentum of a project moving forward. Making a few speeches or issuing a few executive orders will not suffice.

> *The Chief Minister of India's Andhra Pradesh state, Chandrababu Naidu, has been a champion of e-government for the last six years. He spends at least one hour each day addressing some aspect of ICT or e-government. With his constant attention, the Chief Minister has led in the development of a comprehensive blueprint for e-government. He has also pushed for the introduction and use of computers and e-government applications for agencies while also securing multi-million dollar funding for statewide ICT projects.*

However, even the most enthusiastic politicians will rotate in and out of government. Support from the "customers"—citizens and business—and from the legislative branch can help sustain interest and commitment to e-government even when there is a change in political leadership.

Persevere. If you cannot find or create political will, keep trying. In some places, a motivated, visionary leader may wait years to finally reach political office and launch a major governance reform program that includes e-government. In addition, an e-leader must plan for e-government projects to continue and grow beyond the end of their leadership period (and among other political parties).

Promote. E-government budgets must include funds to promote and publicize projects through various media channels (e.g. radio, posters, public meetings, newspapers). Without promotion, the target audience may not learn about the project or use it. And without a large number of people benefiting from the project, the benefits will not be sufficient to justify the costs. This, in turn, can undermine political will. In contrast, a strong promotion effort can generate public excitement, which can increase political will.

5. ARE WE SELECTING E-GOVERNMENT PROJECTS IN THE BEST WAY?

Picking the right e-government projects, especially the very first ones, is critical. A successful initial project can become the selling point for all future efforts and create the political momentum needed to move e-government ahead. A small success story can become a powerful example that others can imitate.

Like all reforms, it is important to show success early and not spend too much time on developing visions, strategies and work plans. Identify a few high-profile problems and address them with pilot e-government solutions quickly (for example, within a year or less) that will address both the back office operations of government and access/interface with the public.

Do a diagnosis. It can be helpful to start with an assessment of how a government currently uses technology and what ICT resources are available. An ICT "snapshot" might consider: Have any government units already undertaken successful projects of an e-government nature? Why did they work? What are current expenditures on technology? What have been the results? Are different units using compatible platforms? What are key obstacles current projects are facing?

Answers to these questions can provide valuable information about the current state of ICT as well as a map of existing good practices. A diagnosis can be a foundation on which to base future projects that will help prevent duplication of e-government efforts, identify economies of scale in e-government programs (e.g., with government-wide intranets and ICT contracting) and determine a good balance between centralized and decentralized e-government initiatives.

Information gleaned can also become a baseline against which progress can be measured and from which e-government leaders can be held accountable. Especially in developing countries where resources are scarce, a diagnosis can also reveal whether valuable assets, like ICT professionals, are currently being used for the highest priority goals.

The diagnosis itself can be a starting point for building consensus among those charged with implementing e-government. A statement of the problem agreed upon by officials and others can be an excellent basis for further cooperation. E-government leaders must determine how public to make the results of the diagnosis if, for example, they might be discouraging to civil servants.

Shop around. Do not re-invent the wheel. Borrow ideas from other regions or countries that have successfully implemented similar projects, be it online communities or e-procurement. Visit those governments and talk with the officials in charge. This is a relatively low-cost way of learning do's and don'ts for a specific project. Of course, advice from elsewhere will need to be adapted to fit the local context.

Match the project to the vision. The goal and audience of e-government projects should be consistent with the overall e-government vision. Once this requirement is fulfilled, there are a number of additional strategies for choosing a first project. One option is to pick a project that is directly in line with pressing issues of a particular society.

In Chile, the availability of affordable housing is a critical public concern. One e-government project enables poor people to apply online for housing vouchers and subsidies thereby avoiding the time, costs and red tape of applying in person at Housing Ministry offices, which are located only in major cities. During its first 5 months of operation, some 40,000 applicants have been processed through 70 service centers nationwide.

Another option is to make the first project one that directly benefits a large number of citizens, like one that improves the process for administering a government benefit. Yet another option is to start with a project that affects all government units, like procurement or a government intranet, so all government workers have a stake in the e-government process.

Warning: The goals and target audiences must match the available technology and reflect the earlier diagnosis. The technology chosen must be able to deliver the intended services (or information) and reach intended audiences for a given e-government project. For example, it is useless to create a website for important health information for rural communities if those communities have no affordable or regular access to the Internet.

See e-government from the user's perspective. If the target audience for an e-government service has no access to the technology needed to obtain the service, e-government plans must address how to provide that technology. This may be a less immediate issue for e-government projects applied to "back office" support services, which often improve "over-the-counter" services for the public. However, matching the intended services and access to necessary technology and available resources is always a critical issue.

Brazil's Bahia State offers an example of bringing e-government services to communities without access to ICT. Bahia created mobile service centers (trucks equipped with computers) that travel to rural areas to deliver services to more than 400 communities in the State. These mobile units have access to computer networks and databases enabling them to issue ID cards, birth certificates and labor ID cards. Mobile health units use a similar approach bringing health services, information and electronic records for patients to the State's 100 poorest communities. Over five million people have received services to date.

Pick winners. Build on existing capacity, enthusiasm and excellence within your government. An initial diagnosis may reveal certain government units that are more advanced, forward-thinking or capable than others. Start with the best agencies and services—the "strongest links." Base the initial e-government programs—pilot projects—on existing centers of excellence. Sometimes the choice will not be where to begin with e-government, but which existing project to push.

A few pilot projects can provide experiences that show more clearly the potential and challenges of e-government. They can be documented and used to strengthen the vision and planning processes, even if the pilot systems are replaced later with new, better systems. Pilot projects not only solve immediate problems but can also lead to a more systemic e-government effort.

Think ambitiously, but implement discretely. The common advice followed by the private sector in e-commerce—"think big, start small, scale fast"—is equally useful for e-government. Develop a long term, ambitious set of ideas for e-government (whether revealed to the public or not), but begin with a project that can be accomplished. It is risky to start with a series of large, national, cross-agency projects. The e-government plan should be diverse but realistic, and training must be a part of it.

Clarify existing procedures. One way to begin with e-government modernization is simply to make current procedures transparent to the public. Even this can be quite difficult. But documenting professional quality standards and operational procedures can be invaluable to support existing e-government projects, assist in training, and identify other areas for e-government reform.

> *In Tanzania, before procuring a new, integrated Human Resources and Payroll System, the government hired an outside consultant to create a manual describing all existing HR management processes, including all the laws and regulations governing recruitment of new staff, promotions, transfers and termination of employment. The manual not only helped with preparations for procurement of the new system but also now helps identify other "quick win" reforms and serves as a useful training tool to help officials understand changes from the "old" to the new system.*

Ask your customers. Citizens—the ultimate e-government "customers"—are the experts in evaluating what they want and need. Thus, another strategy is to survey citizens or businesses to identify their most pressing needs and how best to address them. Deliver something relevant and useful. Be aware, however, that sometimes government needs to be ahead of its citizens. For example, sometimes citizens will demand a service or an opportunity only after the government begins providing it. (See also Questions 2 and 10)

6. HOW SHOULD WE PLAN AND MANAGE E-GOVERNMENT PROJECTS?

Effective management is vital for the success of e-government, as it is for all government or business operations. Being able to deliver a project on time and within budget, coordinate effectively among government agencies and oversee private sector partners all depends on capable management. Before moving forward with an e-government project, set up management mechanisms at both the national/state level and the project level.

Consider establishing e-government teams within government. E-government initiatives typically involve large commitments of resources, planning and personnel. They are very difficult to manage without defined teams to supervise the e-government process from start to finish. For example, e-government activities within a department should be institutionalized to ensure long-term stability and support of the new paradigm. Such teams must be provided enough budget, human resources and administrative support to carry out their duties.

Ensure the project management team has sufficient authority. Without authority from political leaders, the officials responsible for e-government implementation cannot ensure plans are carried out. Formal legal authority to oversee e-government implementation is also needed. Consider creating a central e-government agency within a ministry or as an independent body. Create teams responsible for project success at both the political level and project management level.

For cross-agency projects, management teams need authoritative representation from each agency necessary for a project's implementation. This will keep open lines of communication and reporting, enable information sharing, and facilitate the establishment of common technology infrastructure, and common policies, standards, and security systems across departmental and agency boundaries.

In Thailand, the government established a National IT Committee (NITC)—a ministerial level coordinating committee—and tasked the National Electronics and Computer Technology Center (NECTEC) to be the lead agency for the country's ICT and e-government efforts. NECTEC was empowered by the Cabinet to be the driving force in Thailand's ICT development and implementation of the national ICT agenda as well as specific ICT projects, training and legislative drafting. It also serves as the secretariat for the NITC.

Develop a work plan to implement the priority e-government projects. Vision and priorities are not enough. A detailed work plan will help steer the agencies and officials responsible for implementing e-government. The work plan should focus on at least six key elements:

- **Content Development:** including development of applications, open standards, local language interfaces, user guides and e-learning materials.
- **Competency Building:** human resources and training programs must be implemented at all levels.
- **Connectivity:** local networks and Internet connections must be applied across the relevant agencies or enterprises.
- **Cyber laws:** to provide a legal framework that supports the objectives of e-government policies and projects.
- **Citizen Interfaces:** a proper mix of delivery channels is needed to ensure that e-government is accessible and affordable for users.
- **Capital:** e-government business plans must identify revenue streams like user charges, subscriptions or budgets that will help achieve financial equilibrium.

Establish mechanisms for the continuing involvement of key stakeholders. The role of stakeholders in e-government does not end once a national vision has been set. They are a valuable resource for e-government. It is important to get feedback—particularly from users—about which elements are succeeding and which ones should be re-thought or re-designed. This is discussed further in Questions 8 and 10.

Governments might consider establishing an advisory board for each e-government project comprised of users and other key non-government stakeholders critical for the implementation of the project. Advisory groups could include private sector partners, non-government experts, former officials or civil society groups.

E-government management is more than implementing projects; it means planning for capacity-building. Training employees at all levels of the bureaucracy, including senior officials, should be an integral part of the work plan. Often the target audience will need some simple training, as well, to utilize any new e-government system. This training should also be part of the management design.

7. HOW WILL WE OVERCOME RESISTANCE FROM WITHIN THE GOVERNMENT?

Civil servants may resist e-government projects, and may refuse to adopt new procedures. This problem may be more severe in developing countries where human resources may be less robust, the economy less stable and other job opportunities less plentiful.

Understand. The first step in addressing this issue is to understand why officials resist. There may be a variety of reasons including:

- fear that the technology will make them obsolete, that they will lose their jobs;
- fear that they will lose power and "turf" that they have created in the current system;
- unfamiliarity with technology and fear that they will look stupid in front of others if they do not use it correctly. Some call this phenomenon "technical shock";
- fear that technology will mean more work for them such as, for example, having to answer constituent e-mail;
- belief that they have nothing to gain professionally from adapting to new technology, and nothing to lose if they refuse; or
- concern that new, automated processes will mean fewer opportunities to receive unofficial payments or bribes in return for using their discretion to help certain parties.

E-government leaders must identify the most likely sources of resistance and devise a plan to overcome them. Numerous strategies can be effective, depending on the specific circumstances.

Seek "buy-in." Involve civil servants, especially those in higher levels of management, in the early stages of the e-government planning process. The best way to achieve "buy-in" is to use the suggestions of officials to improve the content or design of an e-government project. Ensure that officials understand how the e-government project will actually affect their work, and that of their subordinates, so they can help manage workers' expectations.

Warning: While inclusion is important, leaders must be careful that planning does not delay the process to the point where momentum for the project dissipates.

Explain. Explain to workers the goals of the program. Be clear that they are not the "enemy" or the targets of reform. Explain to officials what their new jobs will be. It is vital to manage expectations and respond appropriately to shifting perceptions at all stages while the e-government project unfolds.

Train. Some governments have found that, by first training the leaders of units, they created acceptance of the new system that then "trickled down" through the bureaucracy. If lower level workers are to be retained, they must also receive adequate training in advance of the new system's introduction. If they understand the new methods, they are less likely to resist them. Do not approach training narrowly only to prepare officials for e-government applications. Capacity-building needs to enable officials to handle information, adapt to changes in responsibilities and develop new competencies.

Train officials to become a new kind of "knowledge-based" employee. "Knowledge management," as it is called, is a key element of e-government and should be part of any e-government project.

Evaluate. Hire an outside company—for example, an experienced consulting firm or technology company—to rigorously and regularly evaluate progress on e-government projects, paying particular attention to the relationship between project outputs and objectives. Performance-based management should be promoted.

> *In a country in the Middle East and another in Asia, leaders hired outside companies to independently evaluate progress among different government units on e-government plans. Once the units realized they were being evaluated, they competed against one another to receive the best ranking.*

Force. While offering training opportunities, make it difficult or embarrassing for workers not to switch to the new system.

> *In one country in Asia, a senior official began to announce meetings solely through email, so workers were forced to get online in order to remain up to date and participate in operations.*

Creating an aura of inevitability around changes can be very effective. But it is only possible with adequate political will, as discussed more fully in Question 4.

Solicit. As a way to keep workers involved and engaged, as well as to aid in the management of the e-government project, solicit feedback from them about how the system is working, any problems they have encountered and adjustments that might improve effectiveness.

Reward. Reward those who excel in the new environment. Establish benchmarks and tangible progress indicators for individuals, and then create incentives based on their performance. These might be related to professional advancement or even financial rewards. Try to allow the units who are doing the work to be credited with any cost savings and to use that money to invest in further reforms.

Praise and celebrate. Publicly, even formally, praise those who adapt to the system well. In the Middle Eastern country mentioned above, the region's political leader announced "best employee" awards based on secret evaluations, even without the direct bosses of the employees knowing they were being selected. If you are successful, do not forget to celebrate officials who are early adaptors of e-government! The best way to recognize staff will vary in different cultures, but praise is important.

8. HOW WILL WE MEASURE AND COMMUNICATE PROGRESS? HOW WILL WE KNOW IF WE ARE FAILING?

Because e-government usually involves significant money, human resources, information and political commitment, accountability is critical. In developing and industrialized countries alike, whether democratic or not, the policymakers and agencies responsible for e-government are answerable for money spent, policies set and public services delivered or not delivered once the rollout of e-government begins.

Performance is the key. The test of an e-government project's success is how well the project meets its goals, for example, how well it delivers services, makes information accessible, or increases access to government. Judging both progress and performance means establishing metrics. Accountability requires measurable performance standards.

Set overall performance criteria. The institutions responsible for managing an e-government project must define the standards by which performance will be measured. The parameters or standards to measure e-government performance can be divided into two groups: (i) standards that measure a government's adoption of e-government; and (ii) standards that measure the impact of e-government applications. The following are some common standards used for these two groups:

(1) standards measuring government performance

- volume of transactions handled electronically;
- response time to inquiries;
- length of trouble-free operation of an e-government service starting from its launch;
- number and/or percentage of public services provided electronically;
- number of new services delivered electronically; or
- percentage of territorial area covered by a service.

(2) standards measuring impact of e-government applications

- number and/or percentage of constituents or localities—"customers"—accessing information or services electronically;
- increased convenience or efficiency in delivering information or services (e.g., reduction in number of days to deliver services) resulting from 24/7 availability;
- length of time for procuring goods, service, info (from the government, business or citizen perspective);
- reduction in the cost for citizens; or
- reduction in the cost for government.

This list illustrates only some of the quantifiable criteria that might be used to assess the overall performance of an e-government project. Other standards might be developed that fit with the specific project implemented.

For example, an e-procurement project might be assessed based on the volume of transactions processed, reduction in the time for the procurement process or reduction in the government's administrative costs of procurement.

In contrast, a project providing health information online might be evaluated based on percentage of territory that can access the information, increased use of health services in areas where information is accessible online or increased public awareness (for example, as measured by surveys).

Set benchmarks to measure progress. Benchmarks act as a "reality check" for managers and policy-makers. They offer a way to measure on a regular basis whether or not e-government projects are advancing, sustainable and delivering what they promised. Milestones should be established to track progress. Such benchmarks might be based on:

- specific dates;
- comparisons with other countries/states;
- opinion polls;
- independent surveys (e.g., of customer satisfaction, participation, cost effectiveness);
- measurements of private sector participation or delivery by vendors; or
- the degree of self-financing achieved by a project.

Again, these are only some examples of methodologies/standards that could be used as benchmarks. Benchmarks need to be specific and assessed consistently in order to measure progress accurately.

Consider using benchmarks to keep a "scorecard" that compares readiness and performance among agencies within the government. This creates incentives for agencies, in their effort to win recognition, to pursue e-government projects aggressively. Remember, however, that such scorecards do not measure the success in delivering e-government services unless they are designed to do so.

Warning: Creating a Web site ≠ e-government performance. Setting up a Web site—call it "Webification"—often leads to complacency about e-government. Creating a Web site may be a benchmark, but it does not guarantee performance or customer usage.

It is easy for an agency to believe that just because it creates a Web site it has electronically delivered a service. This might be true in societies that have high rates of Internet penetration, but even then it is only true for ***some*** Web sites. In places where Internet access is cost prohibitive for the average citizen, or not widely available, there is even less reason to tout the creation of general Web sites or assume they actually deliver services just because they exist.

Plan and publicize "quick wins" for e-government. E-government performance can be shown by delivering key services within an e-government initiative. Communicating the success to the public is also important. Steps to achieve "quick wins" include:

- Agreeing on achievable "quick wins" as part of the plan for an e-government project.
- Setting clear, measurable benchmarks for those "quick wins."
- Choosing the "quick wins" that will be used for a publicity campaign.
- Creating incentives for people to meet benchmarks.
- Measuring performance against the benchmarks.
- Once benchmarks are met consistently, communicating to the public about the improved performance or explaining why benchmarks are not met.

9. WHAT SHOULD OUR RELATIONSHIP BE WITH THE PRIVATE SECTOR?

E-government is not something government can do alone. The private sector, in particular, has a key role to play, from the vision/planning process through implementation, monitoring and evaluation. However, the private sector and technology are not there to simply "tax, regulate, sue and control."

Treat the private sector as a partner. Companies are not merely a source of taxes, ICT services or jobs. In both developing and industrialized countries, e-government requires expertise, resources and input from the private sector. Companies can offer valuable lessons in customer service, responsiveness and adaptability to customer needs. Do not view the private sector as merely a place for "outsourcing." Make the private sector a genuine partner in e-government.

Private sector partnerships are especially promising when there is a possibility of creating revenue streams from e-government services or where e-government projects can be replicated for other agencies or governments. However, such partnerships will often require creating a new perspective among officials, particularly among emerging economies. Replace mistrust between government and business with strong working relationships.

Find companies experienced not only in technology applications but also ICT project management so e-government applications can be developed more quickly within government budget cycles. Learn from the e-commerce experiences of companies how to market services and attract/retain customers (*e.g.*, using systems for "customer relationship management").

In countries where the ICT sector is weak, governments can be models for good ICT usage. If government is an intelligent, effective user of ICT, this may help "local" ICT companies to improve their capacities. For example, large ICT contracts and projects might include capacity-building partnerships between local and multinational companies. Early planning to make sure local ICT companies participate in the e-government planning process can be critical.

Everyone needs "return on investment." Try to understand everyone's needs. Government and business need to understand each other, especially each other's need for "return on investment," or ROI. For companies, this primarily means revenues. For government, this means efficient, reliable, robust services (and perhaps a share of revenues), and increased legitimacy and trust from citizens. For officials, this means receiving support, training as well as professional opportunities and rewards for successful adoption of new procedures, work practices and responsibilities. This is important to minimize "brain drain" from officials leaving government to the private sector.

Minimizing "brain drain" requires planning. As highlighted earlier, e-government plans must include significant training for officials. As they gain valuable, new skills, such officials are often in high demand for private sector jobs, especially in developing countries where the pool of highly skilled workers may be limited. The loss of trained personnel can be damaging to e-government projects. To minimize staff turnover, it is important to develop innovative compensation packages and professional perks. Contracts with private sector partners might include clauses designed to prevent contractors from hiring project staff away from government. Similarly, employment contracts might prevent staff from leaving jobs over a given period after receiving training or extra education.

Create realistic business models for e-government projects. Companies need to sell e-government projects to their management, and government needs to "sell" those projects to the public and its officials. The partnership can be stronger if there are people in the government who understand how companies work and people in the private sector who understand the needs of government. A solid, well-designed business plan will help.

Find each partner's strengths. Both government and business need to contribute actively to the partnership, and each should do what they do best. Companies can be a source of cost-sharing, technology and project management expertise. Government needs to promote the use of e-government among the public and officials as well as create a legal framework. Create incentives to help local companies grow and become viable partners in e-government. Commit to improving ICT manpower. Business cannot replace government leadership.

Outsourcing can help relieve the government of limitations in its ICT manpower. However, the private sector cannot substitute for government in all cases; government must retain responsibility for policymaking, certain basic public services, and decisions about access and pricing. The private sector can be a key distribution channel or delivery system for services. It should not, however, define the vision or dictate the policies for e-government.

Develop formal policies on outsourcing. For many governments, outsourcing services to private companies is a new approach. To avoid wasting time and money, establish clear parameters for working with the private sector. For example, a policy should mandate that vendors be carefully evaluated before they are granted contracts. It should make clear that the company is responsible for delivering a certain level of functionality and services, no matter what the technology. Shift the burden to the experts to decide what technology to use. This will lower the risk of buying obsolete or incompatible technology for the government. Last, identify best existing government practices in dealing with the private sector.

Outsourcing requires government to use new types of contracts—with clear benchmarks for performance—that will not only ensure that hardware is installed but more importantly measure the performance of vendors and the quality of services received, especially in developing countries. Government workers will need to be trained on how to negotiate and draft such contracts.

Identify counterparts. When projects are outsourced to private companies, designate officials who will work as counterparts with the companies on an ongoing basis. To implement and manage e-government projects effectively, the private sector needs counterparts. This does not mean that government officials should direct projects. Rather, they should work with the companies to facilitate government cooperation. A key role of government is to develop sound ICT policies, for example rules for concessions, outsourcing and subsidies.

Local or multinational? In countries where the private sector, especially the tech sector, may not be well-developed, this question raises significant issues. How can government access needed ICT expertise and resources while at the same time encourage the growth of a domestic ICT industry?

In the short term, the most viable (and perhaps desired) e-government partners may be multinational companies that have proven experience and capacities to deliver. However, the long-term development of local ICT companies can, and often should, be part of e-government planning.

One effective strategy might be to pair an experienced multinational company with a suitable local company in the development and delivery of e-government applications. This can promote the transfer of technology and skills to local industry while at the same time ensuring that outsourcing produces results.

In one Asian country, a local government wanted to contract with a multinational company to develop e-government applications. National laws, however, prevented government procurement from foreign companies. Restrictive laws that create near-term obstacles to e-government give government added reasons to develop incentives and programs for assisting local ICT companies to grow.

Warning: The private sector does not own the data. Even if private companies contract to develop and manage e-government applications, the government must ensure that such companies do not use the data that they manage, especially personal information collected from citizens and other "customers." This is crucial in order to protect the privacy of individual customers and build public confidence in e-government as a reliable, safe way to access services and information.

10. HOW CAN E-GOVERNMENT IMPROVE CITIZEN PARTICIPATION IN PUBLIC AFFAIRS?

Learn as you go. When it comes to e-government and public participation, all countries are developing countries. All countries, even the most advanced, are learning how to encourage, organize and manage public participation.

Public participation is an important element in many stages of the e-government process, from defining a society's vision and priorities for e-government to determining e-readiness and managing e-government projects. E-government = participation, not automation.

The public—which includes the private sector, civil society groups and individuals—can participate in e-government affairs in many different ways by: (i) commenting on e-government plans themselves; (ii) retrieving information (e.g., accessing information from government Web sites) or offering information (e.g., through public surveys, focus groups or emails); or (iii) participating in dialogues, both public dialogues with the government and citizen-to-citizen (C2C) dialogues hosted by the government.

Include all types of public participation in e-government plans. Offer different types of participation to ensure that different voices are heard. Offer the public opportunities to participate in ways that matter to them. Citizens who choose to participate in public affairs must receive some "return on involvement." If they give their time and effort, they will want something in return. They will need to know that their input is taken into account, for example by acknowledging input that is used or even publicly rewarding especially useful recommendations or assistance from individuals.

Click-and-collaborate. Participation requires collaboration. Being willing to collaborate with the private sector and civil society groups—who may possess much needed expertise and resources—is an important element of readiness. Government must see itself as a facilitator and not simply a director of e-government projects. Lead the e-government effort, but replace command-and-control with click-and-collaborate.

E-government requires moving away from a government-centered viewpoint, but this does not mean that government must step aside entirely. As described in Question 9, there are certain roles that government must play and cannot delegate or outsource.

Citizens are the e-government experts. In the end, e-government is meant to serve citizens. Thus it is critical, especially with projects designed to serve the public directly, to assess their needs and solicit their input. As importantly, all e-government services should be piloted with the full participation of citizens before a government invests in or embarks on a full-scale, nationwide version of the project. Without this pilot-and-citizen involvement scheme, any e-government project can be very risky.

MISTAKE TO AVOID: Without first consulting its citizens, one city in Europe implemented, at great cost, a sophisticated online procedure for registering children for school. No parents used the new system, however, because they registered their children when they went to visit the schools.

Make public input easy. Participation should not be a burden. Technology can be a powerful facilitator, allowing inexpensive and speedy channels of communication. In countries where Internet penetration is low, use traditional methods of soliciting public opinion such as group meetings, surveys, focus groups, and other means.

Make sure that the public can give their input anonymously. This ensures that citizens evaluate government services and effectiveness openly. It is the only way that government will receive the information it needs to evaluate and improve its e-government programs and services, even improve policymaking.

Remember, however, that while citizens are experts, they may not demand a service until someone provides it to them first.

E-government is evaluated through public participation. Access to public services is a necessary part of e-government, but not sufficient. Facilitating, broadening and deepening openness and citizen involvement is fundamental to e-government. Evaluate the effectiveness or success of e-government through participatory dialogue and interaction.

Such participation can either be discreet, one-time participation or ongoing participation by individuals or community groups (*e.g.*, some kind of "citizen steering committees" for e-government projects). The important thing is to ask the public for feedback, and ask regularly. Remember: get constant feedback from your customers. Interactive dialogues create greater accountability.

In South Africa, the government established a process through which the public can comment on draft legislation. Green papers, draft laws and regulations are posted on government Web sites. People can review policy proposals and documents online and submit comments, even before a policy issue reaches the Green Paper stage. This kind of participation allows people to contribute directly to public policymaking. Those interested in seeing South Africa's online consultation process can visit www.gov.za.

Warning: Be prepared for the flood. When e-government enables the public to communicate with government, public participation often turns into a flood of communications, and often complaints. Managing public participation and processing government-to-public contacts are big challenges for e-government.

Make sure you have the resources, personnel, training and clear policies necessary for handling public communications, queries and complaints. Mismanagement of public participation risks alienating the public and creating greater dissatisfaction with government and the e-government programs it seeks to build. It may be helpful to strengthen "offline" systems for handling public complaints, employee grievances and reports by "whistle-blowers" to improve public confidence, even before online communications are offered.

Yet, when e-government includes strong, responsive systems for "customer relationship management," e-government can be an extremely positive experience for citizens with benefits (for government, business and the public) that far outweigh the risks.

CONCLUSION

The Working Group's Roadmap details many of the obstacles local or national governments may encounter along the e-government path. Because e-government is a costly and lengthy process, officials should be aware of these pitfalls before embarking on this journey.

E-government is a process that requires a sustained commitment of political will, resources and engagement among the government, private and public sectors. However, if e-government practitioners ask and answer the ten questions outlined in the Roadmap, they potentially can develop a system of e-government that not only makes current government practices more efficient, but also transforms the very relationship between the public, the private sector and government.

By promoting the larger goals of society and making government more responsive to its citizens—creating a citizen-centered, "user-friendly" government—e-government can be a powerful tool in improving a nation's quality of life.

The power and promise of e-government are open to all, in both the developing and industrialized world.

APPENDIX

E-GOVERNMENT RESOURCES

The following is a small selection of Web sites offering resources on e-government to readers interested in additional information.

1. **http://www1.worldbank.org/publicsector/egov/**

   The World Bank's e-government page includes information and case studies from developing countries on e-government organized by country, sector or objectives as well as links to external studies on e-government, many from developed countries.

2. **http://www1.oecd.org/puma/pubs/**

   The OECD's Web site offers downloadable reports (in PDF format) on various aspects of government, public participation and ICT including, e.g. OECD Public Management Policy Brief No. 8, *The Hidden Threat to E-Government: Avoiding Large Government IT Failures* (2001).

3. **http://www.egovlinks.com/world_egov_links.html**

   This portal offers resources on e-government including reports, news and links sorted by category.

4. **http://www.man.ac.uk/idpm/idpm_dp.htm#ig**

   Two online reports that offer a framework and training materials on e-governance for development are available at this link from the University of Manchester.

5. **http://www.excelgov.org/techcon/index.htm**

   The Web site for the Intergovernmental Technology Leadership Consortium of the Council for Excellence in Government has information on e-government, including public surveys from the US and an award competition.

6. **http://www.digitalgovernance.org**

   Digital Governance is a project that explores and disseminates innovative models by which ICT can be used in developing countries to lead to better governance.

7. **http://sosig.esrc.bristol.ac.uk/roads/subject-listing/World-cat/polcom.html**

   This site of the Social Science Information Gateway, part of UK Resource Discovery Network, offers links to numerous papers, reports, news, governmental and non-governmental organizations addressing e-government.

8. **http://www.hicss.hawaii.edu/diglib.htm**

   The site for the annual Hawaii International Conference on Systems Sciences has a Digital Library with conference papers from all prior HICSS conferences which includes papers, many technical in nature, on various aspects of ICT including customer relationship management, e-commerce and ICT for healthcare.

Neither the Working Group nor its sponsors necessarily endorse the information offered by these sites.

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Pacific Council on International Policy
Los Angeles, CA 90089-0035
TEL: (213) 740-4296
FAX: (213) 740-9498
E-MAIL: pcip@usc.edu
WEBSITE: www.pacificcouncil.org