Introduction – The Purpose of Transforming Government – E-Government as a Catalyst in the Information Age

In the industrial age, the innovation of railways and airlines completely changed society and business by opening up distant markets in a previously inconceivable way, allowing companies to reach new customers and suppliers. With governments providing regulations and stability to the new infrastructure, the carriage of freight by rail and plane boosted economic efficiency, added to national growth and benefited everyone.

Just as railways were the new public utility of industrial age, the Internet is the backbone infrastructure for the emerging information age. The impact of the Web is today being felt throughout the new and old economies, helping manufacturing and service industries drive down costs across their supply chains, redefine business relationships, enter new markets and create additional revenue streams. Government must also adapt to keep pace with the transformation from the industrial age to information age. Rather than rely on centralized mass-produced public services delivered through vertical 'stovepipe' channels that were characteristic of the industrial society, citizens and businesses today expect governments to improve public services, improve efficiency and make cost savings, boost competitiveness and create wealth in the new economy.

Like in the industrial age, in many instances it will be up to Government to lead the transformation to the new information age. Public sector organizations will have to adjust their relationships with citizens, businesses, employees and other public agencies – indeed, the government is in a unique position to be a catalyst for change. To this end, the information society is prompting many organizations to adopt e-government initiatives, seeking the opportunity to:

- *Deliver electronic and integrated public services.* More than just offering services online instead of in-line, organizations can provide value-added and integrated services. Rather than visiting several different offices, or several different Web sites, to obtain a government permit, citizens and businesses can complete all transactions from a single point of access, available 24 hours a day, 7 days a week.
• **Bridge the digital divide.** Governments can help make access to new technology available to the less fortunate in society as well as provide computer literacy education, especially to the young and elderly people. This can be achieved, and should be accomplished, in different ways through a variety of programs.

• **Achieve lifelong learning.** The idea that education doesn't end when a person finishes school can today be realized through widespread e-learning. An ensuing society of knowledge workers will continue to access sophisticated and personalized education tools online.

• **Rebuild their customer relationship.** Rather than providing services in a uniform way to all citizens, governments can use new technology to treat citizens as individuals and provide personalized services. Citizens become more in charge of their relationship with government and re-gain their trust and confidence in the public sector.

• **Foster economic development.** Governments can help businesses, especially local SMEs, to move online and assist them to use online tools. This may, at times, require consulting or financial incentives. By being online, businesses can leverage the advantages of being local, such as being close to customers, while they grow and expand their markets worldwide. It also helps to develop local skills and increase employment prospects.

• **Create a more participative form of government.** Ultimately, e-government can lead to direct democracy. Already, at the local level, municipalities are supporting online debates, discussion forums and Internet voting to support their decision-making processes.
Three Perspectives of E-Government

Citizen Perspective
Citizens increasingly expect governments to perform more like commercial entities. If they can buy plane or theater tickets over the Internet, they will want to renew their vehicle registration or pay taxes the same way. They want convenient, instant access to public services 24 hours a day, 7 days a week. They want the ability to access services from home, work or any other geographic location. And they don't want any limitation on how they can access services – PC, WebTV, mobile phone or wireless device.

Citizens also are not interested in which layer of bureaucracy or which public official is responsible for a specific government program or public service. To provide citizens with personalized services, governments must make all information and services available from a single integrated source. Through portals and one-stops shops, the Web can be used to create a single face to the public, hiding the internal complexity of government.

Also through a single access point, citizens can better articulate their expectations and needs from government. It reinforces their participation in local community life and the democratic process since they can interact with government and access public information, official documents and administrative proceedings. For those who don't have time to go to city hall or committee hearings to participate in public debates, they can instead send an email or contribute to an online discussion forum.

Business Perspective
When governments create new efficiencies, they also create a healthy business climate and provide advantages to local firms over those in other jurisdictions. Companies everywhere are conducting business-to-business e-commerce in order to lower their costs and improve inventory control. The opportunity to conduct online transactions with government reduces red tape and simplifies regulatory processes, further helping business to become more competitive. Rather than drive to a government office to fill in paper forms, a contractor, for example, will find it easier to apply for building permits and schedule inspections over the Internet.

Governments can further create a healthy business environment by ensuring the right infrastructure is in place to make it easy for companies to go online. Companies operating in jurisdictions with high-speed bandwidth Internet connection at a reasonable price will have advantage over others that don't. And with the right level of consulting and financial support, local companies can conduct online transactions, leveraging their high-speed connections to create new business opportunities.
The delivery of integrated, single-source public services creates opportunities for business and government to partner together. The accounting industry and tax office, for example, could build on their existing relationship and work together to provide added value services for citizens and businesses filing online tax returns. Partnering with private sector can also help government establish a Web presence sooner and cheaper. The most important e-government projects are funded by Public Private Partnerships where there is a shared approach to the provision of services, and to the risks and rewards involved.

**Government Perspective**
Governments are able to change citizens' perceptions of poor quality of public service and regain public trust and confidence by putting the citizen at the center of any service improvement initiative. Rebuilding the customer relationship requires the provision of services in an altogether different way, without long waits and cumbersome procedures. Customer-centric organizations achieve greater success both within the government and in serving the public. They are able to provide easier public access to services, increase service volume and reduce employee time spent on non-customer activities.

Recognizing that a single person rarely performs an entire public service process, citizen-focused organizations combine customer relationship management (CRM), workflow and Internet technologies to empower government employees as knowledge workers. Employees must be able to use case management tools, understand any given situation and the governing laws and regulations, and then they must be able to deal with the case and take decisions. This involves having concurrent access to files on their 'electronic desks', ensuring a uniform processing of cases, shorter response times and less burdensome administrative duties.

Knowledge workers must be able to work as team and move smoothly between different documents and databases on a variety of back-end systems. Disparate legacy networks are characteristic of the traditional stovepipe approach to government, resulting in single services and single systems. The difficulties of integrating service delivery across agencies can be overcome through the exploitation of open technologies, developing new integrated service processes on the Internet to virtually mirror agencies and, finally, through proper business process re-engineering of government organizations.
E-Government Features and Success Factors

Electronic Government delivers public services in a way that citizens and businesses want them, using the Internet and other technologies as enablers. In the fullest sense, e-government is the infrastructure that governments today are building to transform the way they complete their missions. Previously, public sector IT infrastructures were built to be used internally within individual departments and agencies. Now governments can extend their infrastructures out to the wider community so that the key values of e-commerce – "faster, better, cheaper" – can also be applied to government services.

The transformation to e-government begins with different agencies embracing the Web. Initially, organizations developed Web sites to promote their services and provide general administrative information such as business hours, contact people and phone numbers. Often the information was scanned reproductions of already printed materials, so-called "brochureware".

More recently, organizations have been providing comprehensive and dynamic material with database searches and e-mail reply services. Increasingly, agencies are looking to deploy a greater variety of interactive services, enabling citizens and businesses to log on to a government Web site and submit forms, book appointments, look for jobs, and so on. The next step is to provide financial and legal transactional services, so citizens and businesses can purchase licenses and permits, file tax returns, pay parking fines and apply for social benefits. This requires enhanced security and authentication, which will lead to the greater use of digital signatures and the development of a Public Key Infrastructure.

Agencies will then want to collaborate to deploy portals to allow citizens to jump between services without having to authenticate themselves again. Through collaboration, government databases can become interactive and interface with each other. Information and services can be aggregated and presented to citizens as life events or specific subject areas. At this point, the volume of online transactions reaches a critical mass and, rather than Web sites mirroring the bureaucracy, organizational structures will reflect government's citizen-centric online presence.

This transformation will lead to a fundamental rethinking of government's structure and role. The citizen will now be in charge, with public services and information provided when, where and how people want them. Citizens will be able to personalize their government portals, and they will be able to access services from their favorite commercial Web sites and public portals. By easily interacting with government and accessing public information, official documents and administrative proceedings, citizens will be better informed and more willing to participate in the government process, leading to digital communities and participative democracies.
The following features characterize organizations that are successfully implementing e-government projects:

- **Open and pervasive.** Government is open because online services are based on Internet standards, and because they are available to everyone, anywhere, on any device. Because the knowledge society must be all-inclusive, governments take steps to prevent a situation where online services are available only to some people or some businesses, or only to specific areas or communities.

- **Customer-oriented.** Governments that embrace Internet technologies are better able to put the citizen at the center of their thinking. Using techniques such as CRM, organizations can track customer data information and analyze it to provide quality, personalized services. With added value services and two-way information flows, more citizens will be attracted to use online services.

- **Integrated Services.** Government's business processes are not restricted to a specific office but they cut across all agencies and jurisdictions so there is a completely integrated system. The stovepipe approach is overcome and citizens do not see the intricacies of a government's departmental organization; they just see the service that's being delivered. So by browsing a government Internet portal, citizens can easily renew their driver's license without having to deal with the complex organizational structure of the department of motor vehicles, or they can buy a permit to build a swimming pool in their backyard without having to go to the public works department.

- **Public Private Partnership.** Many government organizations lack the in-house expertise and project management skills to undertake major e-government initiatives. As they come under pressure to meet service expectations of citizens, governments are increasingly partnering with the private sector to quickly and efficiently implement solutions such as government portals. Governments may want to explore new procurement models, like self-funding models in which contractors are given revenue opportunities through service subscriptions or a share of cost reductions. A government service network further includes added value services provided by private companies whose services are integrated with the government portal.

People have high expectations of government, and so the speed of execution of e-government projects is important. Surveys everywhere show that people think e-government should be given a high priority, and the response from citizens and businesses any time a public service is put online is almost always
overwhelmingly positive. E-government is highly visible and it makes a positive impact on all of society.

E-Government is comprised of three enabling sets of new technology tools: infrastructure, solutions and the exploitation of public portals. An e-government infrastructure is built from the bottom up, benefiting everybody by enabling the implementation of specific applications to address specific problems and issues. So while the widespread adoption of the infrastructure is important, real value comes when solutions are built to sit on top the infrastructure. So when providing Internet access and email accounts, the most positive impact will come from the applications and services that can be accessed with these communication tools.

Industry has developed a wide-range of award-winning applications that governments can deploy to give value to citizens and business. In the area of administration and finance, there are electronic procurement, tax filing and permitting solutions. In human services, there are job searching, integrated case management and integrated service delivery applications. Healthcare features telemedicine, teleradiology and claims processing. Public safety organizations can set up gun registries, most wanted lists and crime statistics. Courts and criminal justice agencies can have e-filing of court documents, video arraignment and ticket adjudication. The transport sector benefits from motor vehicle and driver's license registration, traffic flow and intelligent transportation systems.