



Asia-Pacific Telecommunity

APT REPORT

ON

**E-GOVERNMENT IMPLEMENTATION IN
ASIA-PACIFIC DEVELOPING COUNTRIES
AND ITS CHALLENGES AND OBSTACLES**

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Introduction

Information and communication technologies (ICTs) have the potential to justify service delivery failures in traditional governments. ICTs created a networked structure for quality delivery of services, efficiency and effectiveness, decentralization, transparency and accountability. E-government has emerged as a popular catch phrase in public administration to cover all of these functions.

Definition of E-government

The use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees

Definition (World Bank)

E-Government refers to the use, by government agencies, of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management.

It is evident that E- government is not merely the computerization of a government system but a belief in the ability of technology to achieve high levels of improvement in various areas of government.

There are four broad types of E-government:

-Government to Customer (G2C) includes information dissemination to the public which normally is basic citizen services such as license renewals, ordering of birth/death/marriage certificates, filing of income taxes, as well as citizen assistance for such basic services as education, health care, hospital information, and libraries.

Singaporeans are currently able to access about 1,600 e-services pertaining to business, health, education, recreation, employment, and family.

-Government to Business (G2B) transactions include various services exchanged between government and the business community such as dissemination of policies, memos, rules and regulations. Other specific business services offered include obtaining current business information, downloading application forms, renewing licenses, registering businesses, obtaining permits, and payment of taxes. Also on a higher level, G2B services include e-procurement such as an online government supplier exchange for the purchase of goods and services by government.

In China they created an integrated data communications system connecting foreign trade companies, banks, and the customs and tax authorities. The system aims to speed up customs clearance and strengthen the authorities' ability to collect tax and duty payments.

-Government to Employee (G2E) services encompasses G2C services as well as specialized services that cover government employees only; such as the provision of human resource training and development that improve the bureaucracy's day-to-day functions and dealings with citizens.

As of October 2002 Mississippi state government employees could view their payroll and tax information records online through a secure, Web-based, self-service application called Access Channel for Employees (ACE).

-Government to Government (G2G) services take place at two levels: at the local or domestic level and at the international level. G2G services are transactions between the central/national and local governments, and between department-level and attached agencies.

124 heads of government came to Italy in December 2000 to sign the United Nations Convention against Transnational Organized Crime. In putting the convention into effect, the UN designed the “Global Program on Transnational Organized Crime” (www.uncjin.org/CICP/cicp.html) to improve information sharing and further enhance international cooperation. The goal is to establish a network of data providers and national focal points in the field (i.e. law enforcement agencies, governments, NGO institutions, research centers and other relevant international organizations) to create a global database and reporting center for all Member States.

The Internet is indeed the most powerful means for delivering e-government. However, it is not the only, or the most appropriate, means. Developing countries in particular need to take some constraints—from the infrastructural to the financial—into account when considering the best strategy for adopting e-government. Existing electronic service delivery channels must be put to use to provide the broadest access possible. The Philippine Bureau of Internal Revenue (BIR) has introduced an electronic payment confirmation scheme using SMS (short messaging system on mobile phones) to guard against “fixers” who issue fake receipts to taxpayers. Called *e-Broadcasting*, the system provides taxpayers with direct confirmation within 38 hours that their payment has been received by the BIR’s authorized agent banks.

Using Intelligent Intermediaries

Developing countries aiming to use ICTs for good governance should opt for “intelligent intermediaries” in the early phases of e-government. “Intelligent intermediaries” are e-government models that incorporate human beings as intermediaries between citizens and the information infrastructure in order to provide the public with the widest possible points of access to government services. Realistic e-government projects will use such intermediaries at the onset, given limitations in the physical infrastructure of developing countries and the lack of access points for the general public to acquire government services.

The Stages of E-Government

Emerging: An official government online presence is established. A government web presence is established through a few independent official sites. Information is limited, basic and static.

Enhanced: Government sites increase; information becomes more dynamic. Content and information is updated with greater regularity.

Interactive: Users can download forms, e-mail officials and interact through the web.

Transactional: Users can actually pay for services and other transactions online.

Seamless: Full integration of e-services across administrative boundaries.

Models for Implementing E-government

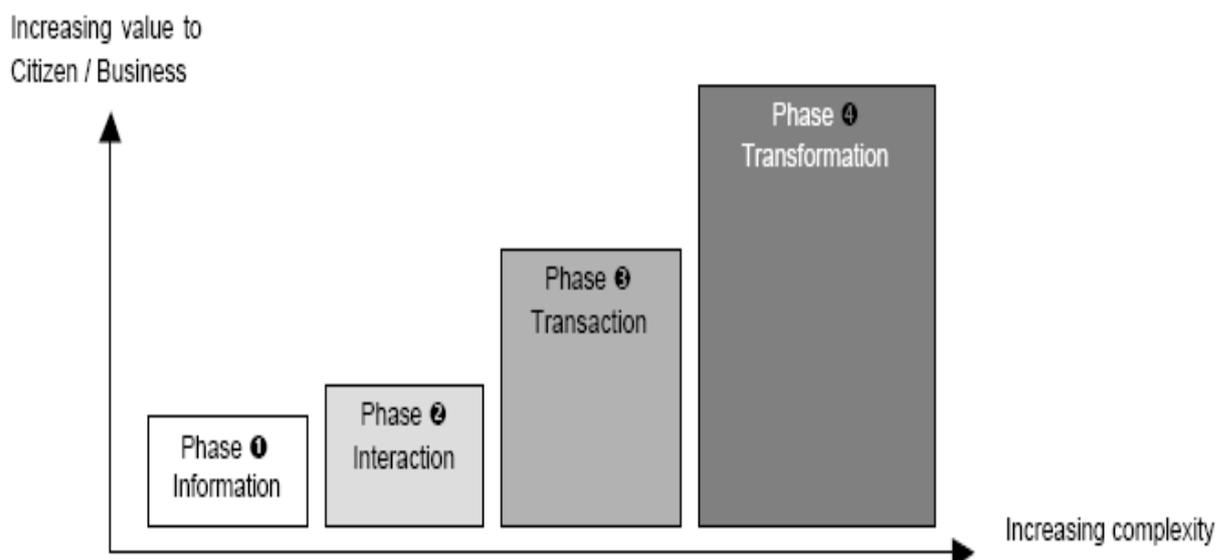
E-government stage models are developed by:

- Institutions (e.g. United Nations 2001; Gartner Group Deloitte and Touche, 2001)
- Individual researchers (e.g. Hiller and Bélanger, 2001; Layne and Lee, 2001; Moon,2002)

Gartner Group

Gartner Group (Baum and Di Maio, 2000) proposed a four-stage model involving web presence, interaction, transaction, and transformation further discussed as follows:

1. **Web presence** – in this stage, agencies provide a web site to post basic information to public; (immediate action is initiated toward the creation of a virtual environment on the Internet in order to provide the public with access to information)
2. **Interaction** – in this stage, users are able to contact agencies through web sites (e.g. e-mail) or do self-service (e.g. download document); (providing a web site with search ability, and to providing the public with access to various forms and sites)
3. **Transaction** – in this stage, users (including customers and businesses) can complete entire transactions (e.g. license application and procurement) online; (implies the online execution of public services such as the payment of accounts balances and receiving licenses.)
4. **Transformation** – in this stage, governments transform the current operational processes to provide more efficient, integrated, unified, and personalized service; (the transformation stage is seen at the regional and national levels, consisting of integration among internal and external applications, in order to provide full communication between the governmental offices and non-governmental organizations)



United Nation Model

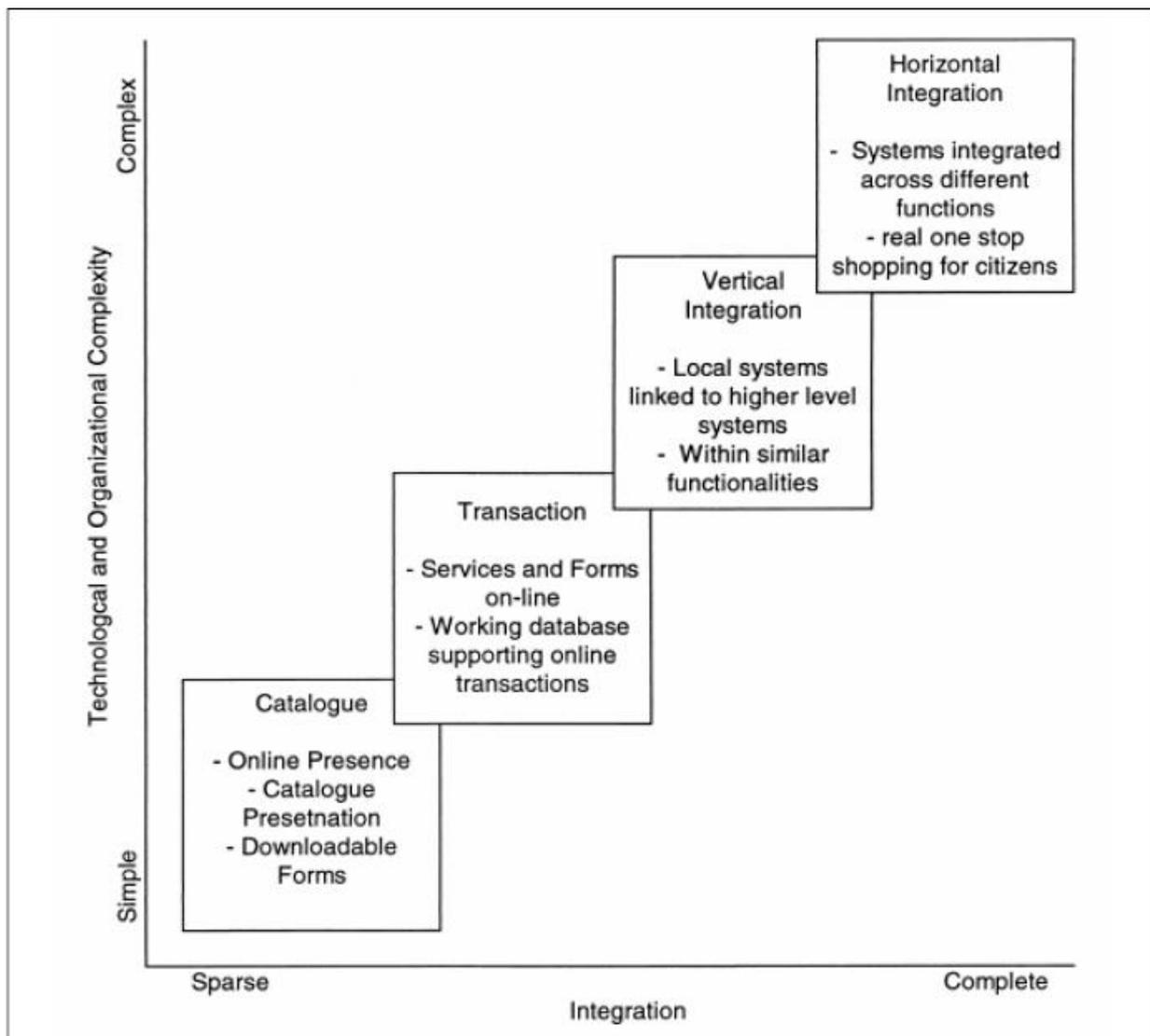
- 1- **Emerging:** An official government online presence is established. A government web presence is established through a few independent official sites. Information is limited, basic and static.
- 2- **Enhanced:** Government sites increase; information becomes more dynamic. Content and information is updated with greater regularity.
- 3- **Interactive:** Users can download forms, e-mail officials and interact through the web.
- 4- **Transactional:** Users can actually pay for services and other transactions online.
- 5- **Seamless:** Full integration of e-services across administrative boundaries.

Layne and Lee's four-stage model (2001)

Based on technical, organizational, and managerial feasibility, Layne and Lee (2001) regarded e-government as an evolutionary phenomenon and proposed a four-stage model:

1. **Catalogue.** This stage delivers some static or basic information through web sites.
2. **Transaction.** This stage extends the capability of catalogue and enables citizens to do some simple online transactions such as filling government forms.
3. **Vertical integration.** This stage initiates the transformation of government services rather than automating its existing processes. It focuses on integrating government functions at different levels, such as those of local governments and state governments. Integrate Central and local administration. If a citizen conducts a transaction with an administration the transaction information will be upward or downward to the appropriate counterparts.
4. **Horizontal integration.** This stage focuses on integrating different functions from separate systems so as to provide users a unified and seamless service. (Layne, Lee 2001).

As an example when a citizen moves his/her home, the basic residence record could be propagated to different functional service branches of government such as medical assistance and local election department so that the citizen does not have to fill out a personal record form for each department or administration. Typically, integration of heterogeneous and resolving conflicting system requirements across different functions are major stumbling blocks for any government to reach this stage.

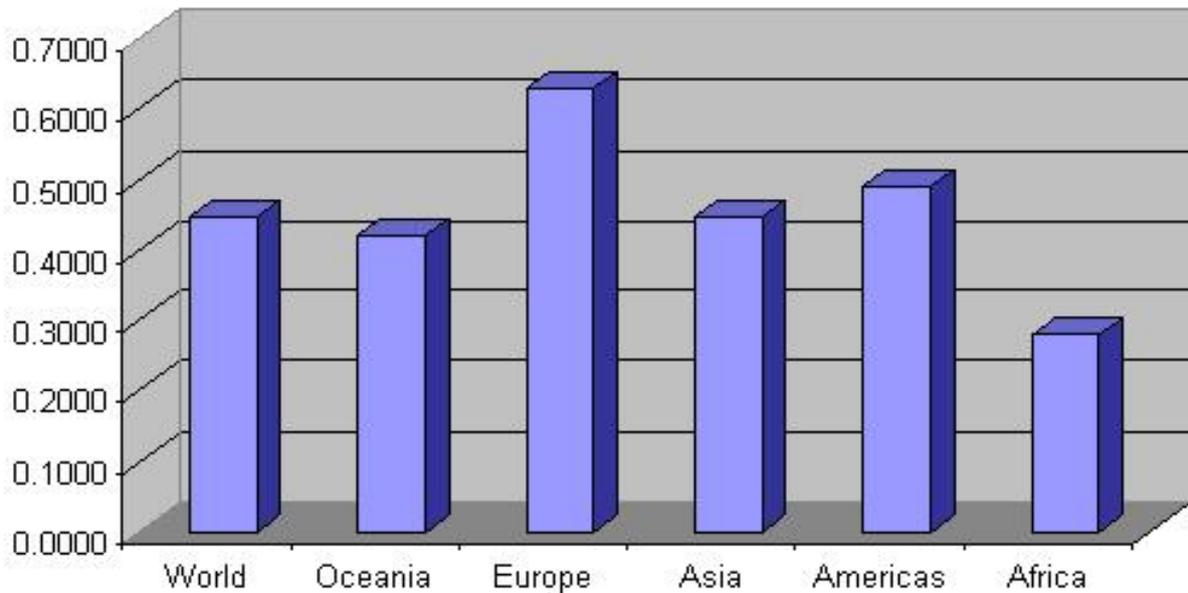


E-government Readiness Index

The state of E-government in a country is evaluated by E-government Readiness Index. This index is a composite index comprising of the Web measure index and the Telecommunication Infrastructure index. Furthermore, the Telecommunication Infrastructure index is a composite weighted average index of six primary indices based on basic infrastructural indicators, which define a country's ICT infrastructure capacity. These are:

PC's/1000 persons, Internet users/1000 persons, Telephone Lines/1000 persons, Online population, Mobile phones/1000 persons, and TV's/1000 persons.

Regional Average of e-Government Survey



E-government Challenges

Political:

- Cyber laws not available
- Slow decision making process
- Hierarchy in organizations

Social:

Examples of some of the social challenges related to e-governance are people, (level of) education, employment, income, digital divide, rural areas vs. cities, rich vs. poor, literacy, and IT skills.

Economic:

Economical challenges related to e-governance are funding, cost-savings, business models, e-Commerce, and spin-offs of e-governance.

Technical:

Technology will be a bottleneck for e-governance in developing countries. Technological challenges involve software, hardware, infrastructure, telecom, IT skilled people, maintenance, safety and security issues.

1- ICT infrastructure (*e-readiness, computer literacy, telecommunication equipment*)

ICT infrastructure is recognized to be one of the main challenges for e-Government. Internetworking is required to enable appropriate sharing of information and open up new channels for communication and delivery of new services. For a transition to electronic government, an architecture, that is, a guiding set of principles, models and standards, is needed. Many developing countries suffer from the digital divide, and they are not able to deploy the appropriate ICT infrastructure for e-Government deployment.

2- Privacy

A critical obstacle in implementing e-government is the citizen's concern on privacy of their life and confidentiality of personal data that they are providing as part of obtaining government services.

3- Security

A basic task to fulfill is payment of fines, taxes, etc. Transaction security is an obvious requirement.

Recommendations

- Designer must consider compatibility with future technologies.
- Implementation, operational and maintenance costs must be low.
- Significant process reengineering is required

An important aspect of initiating e-government is documenting existing procedures and simplifying them into tasks that can be completed in a few steps without compromising their basic purposes. The process of simplifying documents and workflows, points of approval, and audits is termed *reengineering*. Most e-government projects that have reduced processing times and costs have done so through substantial process reengineering. Such reengineering must precede any effort at automation. Reengineering modifies processes to reduce steps and the number of necessary employees. This often creates the greatest challenge in e-government implementation: overcoming resistance from civil servants. Automation imposes more regulated workflows, and civil servants often lose the flexibility to deal with applications in any sequence other than the one dictated by computerized workflows—eliminating the power of patronage. Efforts to stall work are easily identified because both the public and supervisors have the capacity to track information and transactions as they move through workstations. Because e-government projects are designed to make decision making more transparent, they should strive to provide benefits and training to civil servants who are losing power and authority. In Andhra Pradesh, India, Smart e-government project intended to convert the state secretariat to a paperless, electronic workflow—was at one time stalled due to inadequate effort in managing the process of change. Reengineering and changing work processes across 70 departments in the secretariat was a great challenge even for the country's largest information technology company that was implementing the project.

- Private partners can play an important role
- The choice of e-government project partners can vary from multinational management consultants to information technology vendors to local companies
- Complete automation is not necessary
- Solution to implement e-government should differ from country to country and based on the situation of a country
- Emphasize on training and capacity building