UNITED NATIONS ESCAP / APCICT

e-Government Applications

United Nations Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT)

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Summary

As ICT has become an essential part of everyday life, e-Government has also become an integral component of government transformation. However, despite much progress made during the last decade, e-Government has yet to deliver on all of its promises. This briefing note aims to assist government leaders in better understanding what e-government is, and discusses three different types of e-government models - Government-to-Citizen (G2C), Government-to-Business (G2B) and Government-to-Government (G2G). It also provides a step-by-step guide to implementing e-government programmes, with key issues to consider.

High-level officers from central and local governments of Myanmar strengthening their ICT capacity through e-Government Applications workshop co-organized by UN-APCICT/ESCAP and Civil Service Selection and Training Board (CSSTB), in Pyin Oo Lwin, Myanmar (April 2010)

This briefing note is drawn from the third module of the Academy of ICT Essentials for Government Leaders (Academy). The Academy is a com- prehensive ICT for development training curriculum that aims to equip policymakers with the essential knowledge and skills to fully leverage opportunities presented by information and communications tech- nologies (ICTs) to achieve national dev- elopment goals and bridge the digital divide. More information on the Academy is available at http://www.unapcict.org/academy.

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Module 3 - e-Government Applications
Examines e-government concepts, principles and types of applications. It also discusses how an e-government system is built and identifies design considerations.

The APCICT Briefing Note Series aims to provide at-a-glance information on key information and communication technology for development (ICTD) agendas for high-level policymakers and stakeholders. The series includes: 1) highlights of conventional research papers, assessment and survey reports and publications; 2) policy considerations drawn from the Academy modules; and 3) key challenges and lessons learned based on analyses of best practices and case studies.

1 What is e-Government?

A variety of e-Government definitions can be found in literature. In brief, e-Government can be broadly defined as the use of ICTs to transform government operations in order to improve efficiency, effectiveness, and service delivery.

e-Government is not about business-as-usual, but rather a focus on using digital technologies to transform the structures, operations, and most importantly, the culture of government. e-Government should be value-driven and not technology-driven. The promised benefits of e-government do not come simply from digitizing information and putting it online. Instead, the challenge is to understand how the use of new ICT tools can be used to leverage a transformation in the culture and structure of government towards providing citizen-centric services.

e-Government is not a single event or a short project, but a long-term evolutionary process of transforming government to focus on citizen services. Thus, it is necessary to establish a high-level e-government roadmap (top-down design) with a bottom-up detailed implementation plan. In the top-down design, the roadmap should include long-term strategic plans, as well as corresponding annual plans. The bottom-up detailed implementation plan should focus on delivering services that are based on the needs of citizens and businesses. It is important to include key services and prioritize them in the roadmap tasks.

Generally, the more online service availability and the higher the user uptake of these e-government services, the greater the impact of e-Government. Thus, e-Government requires a critical mass of e-citizens and e-businesses to have a sustainable impact beyond internal efficiency and tran- sparency of government. The success of e-government depends on strong demand and support from the majority of the population shifting of citizens away from traditional channels and moving them towards an e-Government channel. Some of this demand will come from a stronger

awareness of the opp- ortunities offered through efficient online government service delivery.

2 e-Government Models

In terms of contact with citizens and visibility, e-Government primarily consists of two parts: front-office and back-office. The front-office part is comprised of online service delivery to citizens and businesses, through the Internet or other digital means. The back-office part is comprised of internal government administration and information sharing both within and between governments. Government-to-Government (G2G) services require collaborative partnerships and use of ICT to perform cross-agency work. Developing G2G applications as a way to deliver Government-to-Citizens (G2C) or Government-to-Business (G2B) services occurs when two or more government entities are required to complete a particular transaction for citizens or businesses. In this briefing note, Government-to-Citizens (G2C) and Government-to-Business (G2B) services are categorized as front-office, and Government-to-Government (G2G) as back-office. Some of the most commonly offered e-government services are shown in Table 1.

G2C services	G2B services
income tax	employees' social contributions
job search services	corporate tax
social security	VAT declaration and notification
personal identification	registration of new company
car registration	statistical data submission
building permits	customs declaration
declaration to the police	environment-related permits
public libraries	public procurement

Table 1. G2C and G2B Service

2.1 Innovating Citizen Services (G2C) and Business Services (G2B) - Front-Office Delivery

G2C services include information dissemination to the public along with basic citizen services, while G2B consist of various interactions and transactions between the government and businesses. ICT-supported or electronic G2C services are characterized by a government-wide information sharing system that falls under G2G and Web-based applications. These allow citizens to access information and other services using a single-window online portal. Such a portal can provide the following citizen services:

- Processing and issuance of various permits/authorizations and certificates
- Information on legislative / administrative notices and relevant laws
- Payment services, including tax refunds and social welfare payments
- Government administration participation, including requesting public hearings and casting electronic votes

Electronic G2B service delivery consists of a one-stop single-window service for businesses. The services covered include corporate/civil/administrative affairs, industrial information, and electronic transaction services. Effective electronic G2B delivery requires the following ICT applications:

- An integrated e-procurement system -i.e. a single-window government procurement system in which all procurements-related processes such as registration, tender, contract, and payment are done via the Internet
- An e-customs system that would streamline customs administration in the import and export industry while establishing effective smuggling interdiction
- e-Commerce to support the buying and selling of goods and services online

2.2 Innovating the Way Government Works (G2G) - Back-Office Delivery

Electronic G2G delivery aims to reform government internal work processes to improve efficiency. More specifically, reforming government work processes using ICT is expected to have the following outcomes:

- Reporting systems of central and local governments are connected, resulting in increased accuracy
- There is information sharing among agencies to improve efficiency

A few examples of G2G services in the Republic of Korea include the following:

- Integrated National Finance Information System consisting of real-time management of national fiscal activities by interconnecting 23 independently operating finance-related systems in various government agencies.
- Local e-Government Information System consisting of standardization and z affairs for 232 local governments such as resident registration and real estate, finance, and tax at the city, county and district levels.
- Education Information System and e-Learning, which brings together schools, provincial offices of education and their sub-agencies in a nationwide information network.
- Government e-Document Exchange, which includes preparation, approval, distribution, and storage of all governmental documents.

Noeleen Heyzer, Under-Secretary-General of the United Nations and Executive Secretary of ESCAP, Mun Patanitai, ICT Minister of Thailand, and Xuan Zengpei, Director of ESCAP's Information and Communications Technology and Disaster Risk Reduction Division, preside over the First Committee Session on ICT, organized by the ESCAP Information and Communications Technology and Disaster Risk Reduction Division (IDD). (November 2008)

3 Key Considerations

In this section, the following three key issues are discussed: 1) the benefit of successful e-government implementation; 2) critical success factors and risk factors of e-government deployment; and 3) strategic planning.

3.1 Benefits of Successful ICT Implementation in Government

On the whole, e-Government can offer a number of befits, including better quality government service, higher efficiency, less costs, a lower administrative burden on citizens and businesses, shorter processing times, increased citizen participation, and enhanced transparency. Table 2 shows the beneficial changes to government work processes through the effective use of ICTs.

From
Paper-based government work processes
Department-oriented procedures
Many government contact points and personal (face-to-face) visits to government offices
Department-level information resource management, with a lot of duplication and redundancy among different departments
To
Electronic-based document processes
Service-oriented procedures
Many government contact points and personal (face-to-face) visits to government offices
A single contact point and online access, making personal visits to government offices unnecessary
Government-wide information resource management using a common standard and characterized by convergence

Table 2. Changes in government work processes from e-government

3.2 Critical Success Factors

There are five critical success factors that government leaders should consider in implementing e-government:

I. Vision, objectives, strategy

A long-term plan with a clearly articulated vision and strategy is vital to the implementation of e-government. An important concept in e-Government strategy is the "whole-of-government" approach. It intends to organize e-services not according to the silos of individual ministries and departments, but according to the needs of citizens and businesses, cutting across organizational boundaries. The "whole-of-government" approach can help safeguard collaboration, while avoiding redundant investments in infrastructure and applications development. In general, successful e-government requires :

- A clear leadership vision
- Strong support from citizens
- Agenda setting

II. Law and regulations

The application of ICTs to government often encounters legal or regulatory issues because laws designed for the paper world can hinder e-services. It is important to ensure that laws are updated or newly enacted to recognize electronic documents and transactions. The following laws need to be in place for e-government to succeed :

- Law on privacy and related issues
- Law on cyber security
- Law related to changes in business processes and information systems
- Law regarding the government information technology architecture and establishing an integrated computing centre

III. Institutional structure

The effort required in this area should not be underestimated. Institutional structure is important in that it helps to ensure collaboration within government and facilitates participation from the private sector. A well designed institutional structure is required to ensure collaboration and expedite implementation. The following are important in effective organizational change :

- Strong and committed leadership
- Planning - IT management and change management
- Budget preparation and budget execution
- Coordination and collaboration
- Monitoring and performance measurement
- Setting up technology support organization
- Government-private sector-citizen partnership

IV. Business process

The ultimate goal of e-Government is to transform government. Thus, successful e-Government is about changing business processes through the strategic use of ICTs. Critical to the success of e-Government is the understanding that ICT should be applied after eliminating inefficiencies through streamlining and consolidating offline processes. The existing way of doing business may not necessarily be the most appropriate or effective. One of the tools used to carry out business process innovation is Business Process Reengineering (BPR). This involves redesigning the work flow within or between department levels to increase process efficiency (i.e. to eliminate inefficiency in the work process).

V. Information technology

Information technology changes rapidly. Factors to consider when choosing technology and vendors are :

- Level of application technologies required
- Network infrastructure
- Interoperability and standardization
- Technical and human resource capabilities
- Some general principles to follow in making technology decisions are to adopt open standards, stable and sustainable technologies rather than cutting-edge technologies.

3.3 Risk factors in e-Government deployment

It is widely believed that e-government implementation in many countries has failed to meet high expectations. One study shows that 35 per cent of e-government programmes around the world have failed, 50 per cent are partial failures, and only 15 per cent can be considered successful. Factors leading to failure of e-government deployment in developing countries include:

- Lack of agreement within the public administration system ; Internal resistance by government
- Inadequate plans and strategies ; e-Government is introduced in a piecemeal and unsystematic fashion
- Lack of adequate human resources ; Insufficient institutional and human capapacity building
- Absence of an investment plan
- Shortage of IT and system suppliers
- Immature technologies and overemphasis on technology or technology-oriented deployment
- Rapid implementation without adequate testing and preparation, and without adequate input from key local stakeholders

Deploying e-Government can be risky and difficult, requiring change. Thus, governments need to guide and control implementation of e-Government, rather than just focusing on applying ICT to put services online. Governments have different strategies to build e-Government depending on their capacities and their level of readiness.

3.4 e-Government Strategic Planning

A sound strategy is essential for effective e-government implementation. A strategic plan provides a roadmap for an organization to move from its current state to its desired medium-or long-term future state. Strategic planning is a process of defining strategy and consists of five steps as shown in Figure 1.

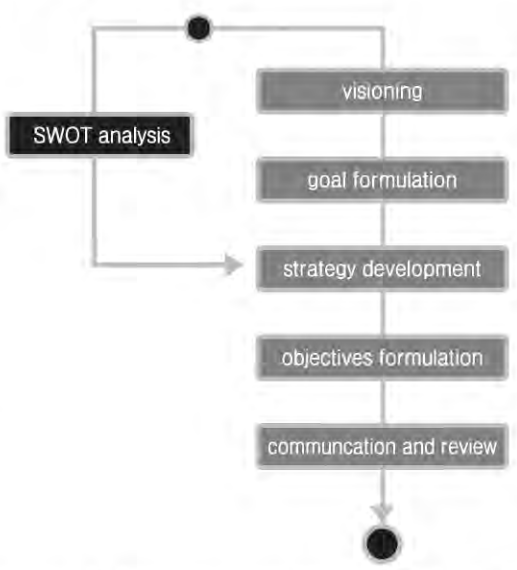

Figure 1. Five steps in the strategic planning process

Step 1: Analyse the present environment.

A SWOT analysis can be used to identify the internal and external factors that are favourable or unfavourable in achieving a

particular e-government aim or goal. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. To help decision makers identify priority areas for action, based on their level of maturity and national development strategies, it is important to examine key dimensions of the e-government environment.

Step 2: Articulate a vision statement.

A vision statement is a statement that articulates what an organization aspires to be. It is future-oriented and serves to inspire members of the organization towards reaching the organization's future desired state. A vision statement should be clear. While stating an inspiring ideal, it should also express realistic, achievable aspirations. In addition, it should be aligned with the organizational culture and values.

Step 3: Refine the vision into goals.

Goals are long-term (3 to 5 year) directions or targets based on the vision.

Step 4: Determine strategies to address the findings of the SWOT analysis and achieve specified goals.

Strategies can include specific managerial tasks and measures to achieve a specific goal established in the e-government roadmap. For example, a strategy is the construction of a comprehensive master plan stating how the Government will achieve its objectives. Strategy implementation is the process by which strategies and policies are put into action through the development of programmes, budgets and procedures.

Step 5: Formulate concrete and measurable objectives from strategies.

Objectives are the end results of a planned activity. These should be specific and measurable statements of what is to be accomplished at specific moments. In contrast to an objective, a goal is an open-ended statement of what one wants to accomplish with no quantification of what is to be achieved and no time criterion for completion.

An e-Government strategy performs several functions. First, it communicates a shared vision of e-Government across government agencies. Second, it provides a starting point for collaboration between ministries and departments on e-Government efforts. Third, the strategy constitutes a reference for the government agencies to use when prioritizing and managing investments on information technology.

Participants observe "Improving Public Services through ICT"presentation as part of the Project Inception Regional Workshop co-organized by UN-APCICT/ESCAP, the Asian Development Bank and National Information Society Agency in Incheon, Republic of Korea. (December 2009)

4 Guidelines

To conclude:

1. e-Government is not a single event in a short period of time but a long-term evolutionary process of transforming government to focus on citizen and business services.
2. The more the availability of online services and the more widespread the adoption and use of e-Government services, the greater is the impact of e-Government.
3. e-Government will only be successful if there is strong demand and support for it from the majority of the population. Therefore it is important to know what types of services citizens and businesses need.
4. A multi-channel single window common service delivery infrastructure, including "physical" citizen service centres and other public access points such as telecentres, call centres, Web portals, and mobile portals needs to be developed.
5. Based on the needs and expectations of citizens and businesses, compelling online and mobile contents, and killer applications that are user-friendly should be provided with the strategy of "thinking big, starting small, and scaling fast."
6. It is suggested that critical and risk factors be fully understood to avoid or minimize mistakes or failure in e-government implementation.

UN- APCICT / ESCAP

APCICT, a regional institute of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), was established and inaugurated on 16 June 2006 in Incheon, Republic of Korea. The role and mission of APCICT is to strengthen the efforts of the 62 ESCAP member and associate member countries to use ICTs in their socio-economic deve-lopment through building the human and institutional capacity for ICT. In pursuance of this mandate, APCICT's work is focused on three inter-related pillars - Training, Advisory Services and Research. The Briefing Note Series is part of the research pillar. Also under the research pillar is a Case Study Series that provides analyses and compilations of best practices and case studies on different aspects of ICTD and capacity building in the Asia Pacific region.
http://www.unapcict.org

ESCAP

ESCAP is the regional development arm of the United Nations and serves as the main economic and social development centre for the United Nations in Asia and the Pacific. Its mandate is to foster cooperation between its 53 members and 9 associate members. ESCAP provides the strategic link between global and country-level programmes and issues. It supports Governments of countries in the region in consolidating regional positions and advocates regional approaches to meeting the region's unique socio-economic challenges in a globalizing world. The ESCAP office is located at Bangkok, Thailand.
http://www.unescap.org

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