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e-Government Applications

APCICT Briefing Note No. 3 e-Government Applications

Summary

e-Government presents a tremendous impetus to move forward in the 21st century, with the potential to bring about higher quality and more cost effective government services, and better relationships between citizens and government. 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). This briefing note also provides a step-by-step guide to implementing e-government programmes, with key issues to consider.

This briefing note is drawn from the third of nine core modules of the Academy of ICT Essentials for Government Leaders (Academy). The Academy is a comprehensive ICT for development training curriculum that aims to equip policymakers with the essential knowledge and skills to fully leverage opportunities presented by ICT to achieve national development goals and bridge the digital divide. More information on the Academy is available at <http://www.unapcict.org/academy>.

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1. What is e-Government?

e-Government or electronic government can be defined as government activities taking place over electronic communications among all levels of government, citizens and the business community. These include: acquiring and providing products and services; placing and receiving orders; providing and obtaining information; and completing financial transactions. In a broader sense, it is the application of information and communication technologies (ICTs) for enhancing the performance of government functions and services through the utilization of digital technologies.

e-Government is not about business-as-usual, but rather, a focus on using ICTs as tools 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-governments do not take place simply by digitizing information and placing 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 better services to citizens.

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 of each country. It is important that the services are prioritized and included in the roadmap tasks. A few examples of popular services include: payment of income tax and corporate tax, registration of new companies, application of personal documents such as passport and driver's license, and employment search services.

Generally, the online accessibility and widespread use of these e-government services will yield a greater impact. Thus, e-government requires a critical mass of e-citizens and e-businesses to generate sustainable impact beyond internal efficiency and transparency of government. The success of e-government is dependent on strong demand and support from the majority of the population. This demand will first come from a stronger awareness of the opportunities offered through an efficient government service delivery. Citizens and businesses also need to be motivated to use e-government services through the provision of compelling, relevant and accessible digital content.

2. Types of e-Government Model

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 in the form of services both within and between governments. 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 e-Government's most commonly offered services are shown in Table 1. Each service can be grouped into either G2C or G2B.

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 services

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 transactions consist of various services exchanged between government and business. ICT-supported or electronic G2C services are characterized by a government-wide information sharing system and new Internet-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. A few examples of these electronic transaction services are procurements, bids and awards, along with payment services for various taxes and public charges. 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:

- **Integrated National Finance Information System** comprised 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 232 local government administrative affairs, such as resident registration and real estate, finance, and tax at the city, county and district levels.
- **Education Information System and e-Learning** that brings together a nationwide information network among schools, provincial offices of education and their sub-agencies.
- **Government e-Document Exchange** that includes preparation, approval, distribution and storage of all governmental documents.

Digitizing document processing in government agencies and moving to paperless government operations is a key G2C initiative. e-Document exchange is expected to ensure efficiency, security and reliability in administration.

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

Table 2 shows a transitional effect of the beneficial changes to government work processes that come from effective ICT-supported reform.

From	To
Paper-based government work processes	Electronic-based document processes
Department-oriented procedures	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
Department-level information resource management, with a lot of duplication and redundancy among different departments	Government-wide information resource management using a common standard and characterized by convergence

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

These changes improve efficiency, transparency and accountability in government by reducing transaction times and removing redundant layers of bureaucracy. In addition, e-government helps build trust between government and citizens through direct interaction between government offices and citizens. The information is made universally available.

3.2 Critical Success Factors

The following five critical success factors will help government leaders in deciding which factors will be of critical importance for successful e-government implementation:

I. Vision, objectives, strategy

A long-term plan with a clearly articulated vision and strategy is vital to the implementation of e-government. A quick fix or piecemeal approach will not work. The more effective approach is to think big and have a 'big picture' (top-down design). During the implementation process, it is important to start small and prioritize tasks (bottom-up design). In sum, successful e-government requires:

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

II. Law and regulations

It is important to plan for sufficient time and direct efforts toward legislative changes that may be required to support the implementation of new processes. The following laws need to be in place for e-government to succeed:

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

III. Organizational structure

The effort required in this area should not be underestimated. Organizational restructuring typically makes up between 30-50 per cent of total effort. Change in organization structures must be well planned and implemented in a systematic manner. The following are important in effective organizational change:

- Strong leadership with commitment
- Planning - IT management and change management
- Budget preparation and budget execution
- Coordination and collaboration
- Monitoring and performance measurement
- Government-private sector-citizen partnership

IV. Business process

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). BPR 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

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.¹ 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 capacity building
- Absence of an investment plan
- Shortage of IT and system suppliers
- Immature technologies – Overemphasis on technology or technology-oriented deployment
- Rapid implementation without adequate testing and preparation, and lack of input from key local stakeholders

The most important challenge to overcome is realizing that there is no one solution to fit every situation. Asia and the Pacific are characterized by vastly different political, economic, social and governance contexts, which require different approaches.

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. The strategic planning process 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 to achieving a particular e-government aim or goal. SWOT stands for Strengths, Weaknesses, Opportunities and Threats.

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

¹ National Information Society Agency, "Bridging Asia through e-Government" (Asia e-Government Forum 2007, Seoul, Republic of Korea, 20 September 2007).

reaching the organization's future desired stated. 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 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.

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 services that are available online and the more widespread the use of these services are, the greater the impact of e-government will be.
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. Develop 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.
5. Encourage the development of relevant, compelling, user-friendly online and mobile content.
6. It is suggested that critical and risk factors be fully studied to avert mistakes or failure in e-government implementation.

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.

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 development 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.

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