e-Government of Korea:
Development Journey and Outcomes

May, 2013
Contents

I. Korea’s e-Government in Brief

II. Best Practices of e-Government

III. Towards a Smart Government

IV. Suggestions: Success Factors
I. Korea’s e-Government in Brief
1. History of Korea’s e-Government

- **Inception** (1978-1996)
  - Building Administrative Networks (1987-1996)
  - Implementing Administrative Computerization (1978-1987)

- **Foundation** (1996-2000)
  - Promoting Informatization

- **Launch** (2001-2002)
  - 11 major tasks for e-Government Services

- **Diffusion** (2003-2007)
  - 31 major tasks for e-Government Services

- **Maturity** (2008-2012)
  - Expansion of integration of e-Government

**Major Tasks for e-Government Services**

- 11 major tasks for e-Government Services
- 31 major tasks for e-Government Services
- Expansion of integration of e-Government
2. Organization

☆ MOSPA: Ministry of Security & Public Administration
☆ NIA: National Information Society Agency
3. Role of Organizations

Ministry of Security & Public Administration (MOSPA)
- Establish e-government policies
- Construct government-wide infra.
- Coordinate & evaluate e-government initiatives

Respective Ministries
- Formulate and implement action plans for e-government projects

National Information Society Agency (NIA)
- Provide technical support for carrying out e-government projects
4. Current Status of Korea’s e-Government

I. Korea’s e-Government in Brief

Phase 1: Foundation
- Consolidation of internal administrative procedure and establishment of common basis
- Selective public service reform

Phase 2: Service Advancement
- Advancement of internal administrative procedure
- Expansion of integrated civil service

Level 1: Emerging
- Limited web presence

Level 2: Enhanced
- Regularly updated contents and information

Level 3: Transactional
- Visa, passport, birth records obtained online
- Taxes & fees paid online

Level 4: Connected
- Connected online service provided by agencies
- Converged public/civil services
5. 2012 UN e-Government Survey

**e-Gov Development Index**

- **(Total)**
  - '08: 6th (0.82)
  - '10: 1st (1.00)
  - '12: 1st

**Online Participation Index**

- **(Total)**
  - '08: 1st (1.00)
  - '10: 1st (1.00)
  - '12: 1st

**Online Service Index (Web Index)**

- 1st (1.00)

**Telecommunication Infra. Index**

- 13th (0.64)
- 7th (0.83)

**Human Capital Index**

- 7th (0.99)
- 6th (0.94)

**Best: 1st out of 193 countries**
6. World’s Recognitions

Achieving the World’s Best e-Government

International Awards
- KISS (Immigration)
  UN Public Service Award ('07)
- Invil (Village)
  UN Public Service Awards ('11)
- KONEPS (Procurement)
  WCIT Global Award ('06)

Model Case Selection
- HTS (Tax)
  OECD e-Tax Best Practice ('06)
- e-People (Petition)
  ‘Online Politics Trophy Top10’ ('06)
- uTradeHub
  ‘World Advanced’ in APEC Report ('05)

International Certifications
- KIPOnet (Patent)
  WIPO IT Standard ('06)
- UNIPASS (Customs)
  ISO 9001, 20000('06)
- KONEPS (Procurement)
  UN/CEFACT Int’l Standard ('05)
7. IT and Economy

**Domestic IT Sector Growth**

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2008</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>(%)</td>
<td>12.6</td>
<td>6.8</td>
<td>13.7</td>
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</table>

**Contribution to GDP Growth**

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2008</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>(%)</td>
<td>20.9</td>
<td>24.3</td>
<td>17.8</td>
</tr>
</tbody>
</table>

**Trade Balance**

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2008</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>(unit: USD 1 bil.)</td>
<td>16</td>
<td>54</td>
<td>78</td>
</tr>
</tbody>
</table>

(Source: Bank of Korea)

(Source: Bank of Korea)
II. Best Practices of e-Government
1. Governmental Information Data Center (GIDC)

II. Best Practices of e-Government

- Separately managed information systems are consolidated by establishing NCIA
  - Information systems of 47 government agencies integrated and managed together

Seamless & Flawless Operation Achieved

- Stable integrated IT management for 24/7
- Monthly system failure time:
  '04 (67 min) → '11 (4.77 sec)

IT Management Improved

- 67% of employees licensed for ITIL (IT Infra. Lib.)
- Number of systems managed per person:
  1.8 → 13

Security Environment Consolidated

- 8-layer protection / 4-step analysis against intrusion
- Cyber attack / intrusion detection system equipped
- Dual system for natural disaster relief
2. On-Nara BPS (Business Processing System)

- Integrated online management of public processes
- 87 central government agencies and local governments are currently using On-Nara BPS

Policy accountability improved
- All decisions & opinions recorded in e-Document cards
- History management of all the edited documents

Government efficiency enhanced
- Online administration of all policy making process
- All officers are now using On-Nara BPS (2011)
To minimize required documents and office visits by expanding Gov’t information sharing to the entire public sector and financial institutions
- change from register & provider-centered, to customer-tailored Gov’t info. sharing
- prevent misuse of critical information and promote Gov’t info. sharing among agencies

Expansion of Gov’t Info. Sharing
- Expanding shared info.: 92 types → 120 types
- Expanding # of agencies:
  - public: 85 agencies → 438 agencies (‘11)
  - private: 17 agencies → 30 agencies

Consolidation of private info.
- Developing ‘One Screen Service’ to show only needed info. of citizens to public officials
- Developing Gov’t info. relay system to improve the management of Gov’t info. relay service
World’s top-level custom administration being achieved through process-innovation and informatization since 1992

- Ex/import declaration, in-port, freight management, drawback, etc.

**Time reduction**

- Export: more than 1 day → within 2 minutes
- Import: 2 days → 1.5 hours

※ United Nations Conference on Trade and Development (UNCTAD) recommends 4 hours

**Passenger flow acceleration to advanced level**

- 40 minutes (Before) → 25 minutes (After)

※ International Civil Aviation Organization (ICAO) recommends 45 minutes

- Logistics: US$ 2.4b / year
- Business: US$ 6m / year
- Customs broker: US$ 4.1m / year
- Saving 130 workforce /year
5. E-Patents : KIPOnet

- Patent administration is informatized including application, examination, certificate service, etc.

Service available 24 hours 365 days
- Both domestically and internationally
- Real-time processing information provided

Online Processing System for PCT
- World’s 1st to establish online processing system for PCT
- World’s 1st to exchange online documents with WIPO

Examination period for Patent applications is shortened to 9.8 months through enhanced efficiency.
Personnel expense savings are 1.75 million dollars saved from using the efficient KIPOnet system.
Bidding procedures are now processed online in a one-stop process. In 2009, over 70% of Korea’s total public procurement (122 billion USD) was conducted through KONEPS. Users: 191,000 businesses and 41,000 agencies.

Enhanced Efficiency

- Information on all public biddings
- One-time registration for bidding for all agencies and bidding documents submitted online
- Saves USD8.1B worth of transaction costs annually

Enhanced Transparency

- Bidding and contract information open
- Real-time checking of procurement processing
- Reduced face-to-face meeting by work procedure automation

Korea received UN Public Service Award (PSA) in 2003 and was introduced as a best practice model for transparency enhancement by OECD.
Number of documents and visits have decreased through online civil services
- Civil information inquiry, petition & application, document inquiry and issuance, etc.

Civil information inquiry and application

- Online information services for up to 4,969 inquiries

- Online application statistics:
  - Online business registration, tax payment and its certificates, factory registration, etc.

Online document inquiry and issuance

- Issuance statistics:
  8 inquiries (2005) → 1,208 inquiries (2010)
8. e-Government Standard Framework (eGovFrame)

II. Best Practices of e-Government

- **eGovFrame** is the pre-implemented core functions via standardization of design patterns and source code.

**Concept of eGovFrame**

- **eGovFrame** outcomes
  - eGovFrame is applied to over **361 projects**, which estimated **1.1 billion dollar budget**.
  - Thus, globally eGovFrame is applied to **11 e-Government projects in 7 countries** ranging from public administration, custom to education services.

**Open Ecosystem**
- Founded **open community with large and SMEs**
- Established **public-private cooperation center**

**Open Sourcing**
- Developed with **11 large and SMEs and shared knowledge**
- Utilized **40 Open Source Software (OSS)**

**Open Innovation**
- Opened **664 thousand code lines & IPRs**
- Carried out free training courses and **2,245 SW developers are certified (as of May 2013)**

**Open Outputs**
- Collected **extensive opinions from over 500 stakeholders**
- Over **20 public-private meeting**
III. Towards a Smart Government
1. Realization of a Smart Government

**Smart Government**

An advanced government promoting use of public services and active citizen participation, anytime, anywhere through integration of smart devices and government services.

**Via ‘Smart e-Government 2015’**

**ICT**
- mobile devices
- cloud computing
- machine-to-machine services

▶ active use of Smart ICT needed

**Culture & Society**
- evolving population
- changing values
- “network society”

▶ active response to social change needed

**Environment & Energy**
- global warming & atmospheric change
- energy crisis

▶ resolution needed
2. Five Agendas

Identification of five agendas to actively respond to changes in the informatization paradigm and the future society environment, and upgrade the existing e-Government

**Changes in the ICT paradigm**
- Ranked first in U.N. e-Gov assessment
- Rapid expansion of the mobile environment
- Convergence with other areas and intelligent paradigm

**Environmental changes of the future society**
- Low-birth rate and aging society
- Climate change (global warming)
- Increased new demand such as social welfare and disaster prevention

**Limitations of existing e-Government**
- Supplier-oriented and government-driven services
- Poor operational efficiency and increased security needs
- Insufficient accompanying growth with domestic IT companies

**Results**
- Realize the world’s best mobile e-Government.
- Establish a safe and sound society.
- Promote smart work that balances work and life.
- Provide personalized services by communicating with the people.
- Build strong e-Government infrastructure.
3. Prospects for the implementation of smart e-Government

**Indi-**

**Prospects**

**Use the desired customized service at any time and place**

**Enter-**

**Improves enterprise competitiveness using customized services**

**Society**

**Lives a safe and protected life**

**Public servant**

**Smart-work whereby work is harmonized with life**

**User-oriented multiple channel integration service**

**Smart-work business environment**

**Link with the related agencies**

**Administrative agencies**

**Public agencies**

**Medical care, welfare, education, employment agency**

**Enterprises**

**e-Government Infrastructure**

**Integrated security system**

**Integrated authentication**

**Sharing service**

**Integrated computing center of autonomous bodies**

**Cloud computing basis**

**National Computing & Information Agency**

**Pan-governmental architecture (EA)**

**DB**
IV. Suggestions : Success Factors
**Success Factors**

**1 Strong Government Leadership**

- Leadership from the President
- Strategic and sustainable plans for 20 years
- Nationwide change management program
- Aligned e-Government projects with Performance Evaluation

**2 Customer Oriented e-Government Services**

- e-Government initiatives with the most potential to impact everyday lives of citizens such as resident registration, vehicle, customs clearance, employment, statistics management, etc... were given first priority, which became the foundation for e-Government

* Korea's e-Customs, e-Procurement, and e-Patent solutions grew to become globally recognized brand products
Sustained Investment in e-Government Budget

- 1% of the national budget was invested into e-Government construction every year
- Created and utilized the Information and Telecommunication Promotion Fund to build early e-Government

  * Appropriated 10% of the informatization budget for e-Government support projects by MOPAS in order to effectively implement multi-ministry horizontal projects (2004)

IT Governance

- Established supervisory committees to drive e-Government directly under the President or Prime Minister
- Assigned CIO for central and regional e-Government and created dedicated support structures
- Appropriate laws were enacted during each phase ensuring a positive enabling environment for e-Government

Success Factors

5 Change Management of Public Officers in a Changing e-Government Environment

- Overcame issues such as public officers' fear of workforce reduction due to e-Government deployment, and resistance in using information systems through sustained change management education
  
  * electronic system user training, public officer e-capacity development, informatization contests and so forth

6 Performance-based Program Management

- Clear goals, objectives, short and long-term plans, with expected expenditure, income streams and deadlines
- Qualitative, Quantitative Performance Index (KPI) for nationwide level and each project level
- Designation of an officer or organizing body in charge of project performance