E-Government Cost and Financing

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Module Overview

- Objective
- Global context
- Cost of e-Government
- Funding e-Government
- Conclusions
Objective of Module

To provide participants with an overview of:

- the calculation of costs involved in e-Government applications
- the sources and modalities of funding of e-Government projects.
- the considerations to be taken when embarking in a new e-initiative
Global Context
Major Conferences and Outcomes

2000: Millennium Summit, Millennium Declaration
2002: Financing for Development, Monterrey Consensus
2005: World Summit on the Information Society, Second Phase, Tunis Agenda for the Information Society; Tunis Commitments
Global context:
World Summit on the Information Society

- Objectives of the Summit
  - To reduce the digital divide
  - To harness the potential of ICT to drive economic and social development

- Participants
  - First Phase, Geneva, December 2003
    - 11,000 participants, of which 41 Heads of State / Govt
  - Second Phase, Tunis, November 2005
    - 25,000 participants, of which 47 Heads of State / Govt
The Financing Issue in the WSIS Context: Geneva Phase

• The Geneva phase of the World Summit on the Information Society articulated a digital solidarity agenda in its plan of action with a focus on “putting in place the conditions for mobilizing human, financial and technological resources for inclusion of all men and women in the emerging Information Society”
The Financing Issue in the WSIS Context: Tunis Phase

Tunis Outcome on Financing Strategies:
• Reaffirmation of Geneva Agreement that ICTs are a key tool in national development strategies
• Recognition that Financing of ICT deployment is vital to meeting the Millennium Development Goals
• Plan of Improvement of existing financing mechanisms
  – Plan of Creation of Digital Solidarity Fund
“We put ‘e’ in front of ‘government’ to recognize that a public administration is in the process of transforming its internal and external relationships with the use of modern information and communication technology (ICT).

(…) e-government at its best can be viewed as the process of creating public value with the use of modern ICT.”

Source: E-government at the Crossroads, UNDESA, 2003
Public value

What is of value to you as a citizen?
Public value is...

...value created by government through provision of services, the passing of laws and regulations and other actions.
Public value and e-Government

How much public value does e-Government create? How do we measure public value creation in e-Government?

Low usage of e-government services on-line (less than 10 per cent of the population) seem to indicate that on-line services are of little use to the great majority of the population in the world.
What do government spend on ICT?

• Making an authoritative pronouncement on the financial cost of e-government is not easy. Verifiable, systematic, comparable data are difficult to come by.

• It is quite remarkable how little attention case studies on e-Government pay to cost aspects. Usually the focus is on expected benefits.

• The issue of IT projects failure and or their unintended outcomes is not peculiar to the public sector, but common in the private sector too…

Source: UNDESA WPSR 2003
The cost of ICT in the Private Sector in the 90s

- Only 18% applied rigorous methods to calculate costs and benefits
- Costs were significantly underestimated
- Up to 40% of relevant costs were outside traditional ICT budget estimates
- 65% of ICT managers failed to identify full cost of IT
- At least 22% of expenditure on ICT was wasted
- Between 34-40% of ICT projects realized no benefits

Source: various Surveys
Rate of failure of e-Government projects

• Very high in countries with developing economies (estimated 60-80 per cent)
• Also very high in industrialized countries (estimated 60 per cent)...

...where here failure is define as missing goals, budgets, and/or deadlines.

Source: UNDESA WPSR 2003
Governments spending on ICT: Selected Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Spending on E-government (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>1.0 (one per cent)</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.8 (eight tenth of one per cent)</td>
</tr>
<tr>
<td>US</td>
<td>0.5 (one half of one per cent)</td>
</tr>
<tr>
<td>Taiwan, Province of China</td>
<td>0.4 (four tenth of one per cent)</td>
</tr>
</tbody>
</table>

Source: Mimicopoulos, 2004
## Government Spending on ICT
### The UK

<table>
<thead>
<tr>
<th>IT Government Spending in the UK, in Pounds</th>
<th>2004</th>
<th>2006/7 (estimates)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>12 bn</td>
<td>16 bn</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td>2 bn</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>2.6 bn</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Local government</strong></td>
<td>3 bn</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Defence</strong></td>
<td>1.9 bn</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Source: Kable, 2004
Costs versus benefits issues

“On current trends, e-government [in the UK] will never remotely cover its costs”

- High cost versus uncertain returns
- Low public takeup of e-services
- Citizens’ concerns about privacy and security issues
- Many more…

Source: Kable, 2004
Knowing the cost of ICT initiatives is part of good governance

- To show where tax payers’ money goes: Public accountability in use of public resources (time of public employees, and taxpayers’ money)
- To assess and measure impact
- To justify investment
- To engage in innovative funding models (e.g. with private sector parties)
- For transparency in use of public resources
- To prevent possible unintended outcomes of IT projects
The reality of cost measurement

- Systematic data are lacking
- Data are not comparable
- Countries may not be willing to disclose absolute figures, but percentages
- Need to compare spending levels (flows) AND installed bases (stocks) among countries
The need for aggregate data on e-Government expenditure

- To contextualize investments
- To assess and compare level of expenditure on e-government across countries
- To inform decisions about allocation of resources
- To compare public and private sector
- To assess financial impact on government, and on citizens and businesses
- To assess/measure developmental impact
Basic components of e-Government expenditures

- **Tangible and visible costs (some 60%)**
  - Hardware acquisition, development, maintenance
  - Software acquisition, development, maintenance
  - Telecommunication networks
  - User service provision (call center, help line)
  - Performance measurement and quality control
  - Research and development

- **Intangible and hidden costs (some 40%)**
  - Re-organization (internal, inter-institutional)
  - Change and change management
  - Human resources training

*Source: PPP in e-Gov, KPMG*
Basic components of e-Government expenditures

• According to a conservative estimate, for $1 spent in hardware and software, there is at least $1 of intangible investment in broadly defined “organizational capital”

Source: EU eGov economics project, 2006
Example: The Italian Tax Agency

The time line: 1998-2001

The problem:

– Huge number of taxpayers
– 1700 offices dealing with taxes
– Twelve tax return handling centers with a backlog of 20,000 cases to deal with
– 44,300,000 paper forms to be managed
– 3,200,000 tax litigation pending cases

Source: EU eGovernment Economics 2006
### Example: the Italian Tax Agency

#### The cost:

<table>
<thead>
<tr>
<th>Costs of organizational change</th>
<th>Million of Euros</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware and software</td>
<td>29.0</td>
</tr>
<tr>
<td>Telecommunication and call centres</td>
<td>22.5</td>
</tr>
<tr>
<td>Costs of organizational change</td>
<td>42.0</td>
</tr>
<tr>
<td>Total cost</td>
<td>93.5</td>
</tr>
</tbody>
</table>

#### Cost structure

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware, software, development, maintenance, telecommunications, call centres, help line</td>
<td>55%</td>
</tr>
<tr>
<td>Reorganization costs</td>
<td>18%</td>
</tr>
<tr>
<td>Labour relations costs *</td>
<td>15%</td>
</tr>
<tr>
<td>Human Resources</td>
<td>12%</td>
</tr>
</tbody>
</table>

* Two years pay incentives for staff involved in paper backlog elimination; Incentives for staff transfers out of handling centres;
The results:

<table>
<thead>
<tr>
<th>Type of cost savings</th>
<th>Millions of Euros</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closure and disposal of ten tax return handling centers</td>
<td>20</td>
</tr>
<tr>
<td>Elimination of data acquisition costs</td>
<td>20</td>
</tr>
<tr>
<td>On-going reduction of 6,000 human resources</td>
<td>40</td>
</tr>
</tbody>
</table>
Funding

- Taxation
- Service charges
- Subsidies
- Assessed Contributions
- Voluntary Contributions
- Borrowing
- Fundraising
  - Donors
  - Grants
  - Foundations

Source: © Ed Gelbstein 2006
Models of e-Government Funding

• Vertical Funding
• Horizontal Inter-Institutional Funding
• Centralized Ad-Hoc and Innovation Funds
  – Central Innovation Funds
  – Alternative Funding Models
    • Public-Private Partnerships (PPP)
• Leasing/renting capital assets;
• Reliance on private infrastructure
• Loans

Source: EU, 2006
Alternative Funding Models: Public Private Partnerships (PPP)

- Commercially and profit-driven
  - Benefits-funded: a project that will generate incremental new revenue out of which private partner is compensated
  - Shared savings: the measurable savings achiever will partially go to pay the private partner

- Service benefits driven
Financing ICT for Development: International Actors

• Multilateral Development Banks (MDB)
  – the World Bank Group (WBG)
  – the European Bank for Reconstruction and Development (EBRD)
  – the Asian Development Bank (ADB)
  – the African Development Bank (AFDB)
  – the Inter-American Development Bank (IADB)
  – the European Investment Bank (EIB)
## International Actors in the Financing ICT for Development Arena

<table>
<thead>
<tr>
<th>MDB</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBG ($ m)</td>
<td>$479</td>
<td>$ 81</td>
<td>$ 89</td>
<td>$417</td>
<td>$505</td>
<td>$3,171</td>
</tr>
<tr>
<td>AfDB ($ m)</td>
<td>$387</td>
<td>$78</td>
<td>$340</td>
<td>$350</td>
<td>na</td>
<td>$1,155</td>
</tr>
<tr>
<td>ADB($ m)</td>
<td>$45</td>
<td>$30</td>
<td>$16</td>
<td>$24</td>
<td>$56</td>
<td>$202</td>
</tr>
<tr>
<td>EBRD (€ m)</td>
<td>€ 88</td>
<td>€ 211</td>
<td>€ 206</td>
<td>€151</td>
<td>na</td>
<td>€ 656</td>
</tr>
<tr>
<td>EIB (€ m)</td>
<td>€376</td>
<td>€93.5</td>
<td>€64.4</td>
<td>€63.1</td>
<td>n.a.</td>
<td>€597.1</td>
</tr>
<tr>
<td>IADB</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

**Source:** TFFD Report
International Actors in the Financing ICT for Development Arena

- **UNDP & UNDESA:**
    - UNDP (Chair), World Bank and UNDESA (collaborators)
    - 25 members, 5 observers
    - Output: report on “Financing ICTD”

- **ITU, UNCTAD, UNESCO, and many other…**

- Donor countries (via ODA)

- Private Sector (via FDI)

- Private sector led Initiatives and Foundations
Global Partnership Example: UNPAN
Global Partnership Example: UNPAN

- International partners
  - UNDESA (Coordinator)
  - CIIAP
  - IIAS
  - UNCRD
  - INSTRAW

- Regional partners
  - Africa
    - AAPAM
    - OFPA
    - IDEP
    - CAFRAD
    - CPSI
    - ECA
  - Arab States
    - ARADO
    - ESCWA
  - Asia & Pacific
    - EROPA
    - RCOCI
    - CGG
  - Europe
    - NISPAcee
    - UNTC
    - CAIMED
    - ECE
  - Latin America & Caribbean
    - CARICAD
    - CLAD
    - ECLAC
  - North America
    - ASPA
    - IPAC/IAPC
    - IPMA-HR
    - ICCE

Source: UNDESA
Global Partnership Example: UNPAN

- Tangible and visible costs (some 40%)
  - Hardware acquisition, development, maintenance
  - Software acquisition, development, maintenance
  - Telecommunication networks
  - User service provision (call center, help line)

- Intangible and hidden costs (some 60%)
  - Staff time
  - Performance measurement and quality control
  - Re-organization (internal, inter-institutional)
  - Change and change management
  - On-line and on-site training seminars
  - Coaching
Partnership Example: UNPAN

- **UNDESA Development Account**
  - Phase I (1999-2005): US$ 1,500,000
  - Phase II (2006-2007): US$ 550,000

- **Contributions**
  - UNDESA (coordinator): central hardware + software; development and maintenance; technical training; technical support; content provision
  - Partners: physical infrastructure; some local hardware; connectivity costs; staff time; research and development; content provision

- **Future steps:** to involve Member States as partners through the Permanent Missions to the UN
Networked government

In the networked government, the state is but one actor in an informal network of organizations in which the sum total of the organizational efforts in the network contributes to some form of activity that the state wants done and that would not necessarily happen in the free market state.
Networked Government

Benefits:
- various interested parties and experts participate in the process and thereby make it more democratic and representative;
- the interaction among various public, private, and nonprofit agencies is likely to lead to improved efficiency
- new resources are introduced with the aid of new participants;
- boundary-crossing networks expand social capital through forming exchange relationships based on trust and reciprocity

Things to watch:
- transparency and accountability;
- need for sound governance;
- development of network management skills in the public sector
- access
Main Conclusions

At its best, e-government can be viewed as the process of creating (adding) public value with the use of ICT.

- E-government development is a rewarding, but at the same time complex, prone-to-failure and costly undertaking.
- E-government should never be developed because it can be done. It should be developed because it is meaningful to do so.
- Governments around the world are not actively pursuing all the options for funding e-government that are available to them.
Main Conclusions

• Resorting to Public Private Partnerships is not a tactical choice for government to reduce costs, but should become a strategic direction in developing, financing and managing eGovernment. In this respect this strategic drive will be the contribution of eGovernment to the shift from traditional hierarchical Government to networked Governance.
“The information society [also] depends on networks. The internet is the result of, and indeed functions as, a unique grand collaboration. If its benefits are to spread around the world, we must promote the same cooperative spirit among governments, the private sector, civil society and international organizations”

H.E. Mr. Kofi Annan at WSIS in Tunis
Selected Sources

E-government funding activities and strategies, United Nations, 2004
Crossing the Executive Digital Divide, Ed Gelbstein, 2005

For more information please log on to <www.unpan.org>
Thank You!

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