Mobile Government: Towards anytime, anywhere public service

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Agenda

- Objectives
- Research Questions
- What is Missing and how I hope to tackle this
- My literature review thus far:
- The challenge for the government.
- Digital Government History.
- What is e-government (e-Gov).
- What is m-government (m-Gov).
- Why m-Gov.
- Transition from e-Gov to m-Gov
- Conclusion.
RESEARCH OBJECTIVES

The early research objectives are:

- Investigate successful e-government technological infrastructure models.
- Evaluate m-government business models in the context of e-government.
- Explore what makes successful m-government services.
- Discover ICT solutions for m-government and develop a methodology to ensure successful transition from e-government to m-government.
- Develop m-government business models.
- Develop successful m-government strategies.
What is currently missing?

- Early days for M-government - what is missing:
  - ICT solutions for m-government
  - a methodology to ensure successful transition from e-government to m-government.
  - m-government business models.
  - Successful m-government strategies
How I hope I will solve the situation.

- First step is the finalization of the Literature review.
- Classification of e-government models and any existing m-government models
- Series of surveys and interviews to devise a model that might assist states or councils to transition to m-government.
- Develop m-government strategies
The challenge for Government

- Responsive, integrated private sector information systems lead citizens to expect the same from public bodies and agencies.

- Citizens and businesses demand faster delivery of public services and better insight into the status of their requests.

- Effective service delivery requires the sharing of information among information systems of public agencies and requires cross-agency business processes.

Source: 1- Kim, Y et al. ‘Architecture for Implementing Mobile Government Services in Korea’
2- Intel Corporation, ‘Mobilizing e-Government Initiatives: Maximizing ICT Investment to Improve Services with Industry Standard Solutions’
Digital government history in U.S.A

- 1993, the US National Performance Review emphasized on IT as a tool to reform government.
- 1995, amendment to Paperwork Reduction Act included setting IT standards.
- 1996, the Clinger-Cohen Act made agencies responsible for developing an IT plan.
- 1996, President Clinton issued Executive Order 13011 calling for an alignment of technology goals with strategic organizational goals.
- 1998, Paperwork Elimination Act, acquiring alternative IT for use by executive agencies such as digital signatures, electronic filing of most forms.
- 2000, Clinton endorsed the concept of federal government-wide portal and (FirstGov.gov) was launched.
- 2002, E-government strategy was issued setting forth e-government principals: citizen-centric, results-oriented, and market-based.
- 2002- present E-government and few mobile government applications.

What is E-government?

The transformation of internal and external governmental business processes toward customer-centricity based upon service delivery opportunities offered by new communication technologies (such as web-based technologies) to better fulfill the purposes of government to improve efficiency, effectiveness, transparency and accountability.

It is all about COMMUNICATION

“In today’s world all communication devices need to **compute**, and all computers need to **communicate**.”

We need an effective communication infrastructure for delivery of services. Potential users need to have the appropriate device.

What is M-government

The delivery of government information and services to government departments, citizens and businesses via wireless media and mobile devices such as mobile phones, PDAs and laptops in order to empower citizens.

Why m-Government?
Mobile is different

- Ease and convenience, anytime/anywhere
- From ‘push’ to ‘pull’ (user initiated)
- Automatic customization (based on phone number)
- Flexible and robust billing
- Personalization.
- Makes other media ‘interactive’

Source: Hession, E. ‘From e-government to m-government’ Presentation to joint IPA/ICS Conference 10 December 2004
# Technologies behind the move to mobile government

<table>
<thead>
<tr>
<th>RADIO BASED</th>
<th>CELLULAR PHONE BASED</th>
<th>MOBILE DEVICE BASED</th>
<th>NETWORK BASED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two way radio</td>
<td>Mobile voice</td>
<td>Notebook, Computer</td>
<td>Wireless LAN WiFi</td>
</tr>
<tr>
<td>Short Message Service SMS</td>
<td>Tablet Computer</td>
<td></td>
<td>Voice over IP</td>
</tr>
<tr>
<td>Wireless Application Protocol WAP</td>
<td>Personal Digital Assistant</td>
<td></td>
<td>Wireless Sensor Networks (MOTES)</td>
</tr>
<tr>
<td>General Packet Radio Service GPRS</td>
<td>Bluetooth</td>
<td></td>
<td>Satellite</td>
</tr>
<tr>
<td>Universal Mobile Telephone Services (3G) UMTS</td>
<td></td>
<td>Global Positioning System GPS</td>
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<tr>
<td>CDMA (Code Division Multiple Access)</td>
<td></td>
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<tr>
<td>EDGE (Enhanced Data for GSM)</td>
<td></td>
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<tr>
<td>CDMA2000 1xEV (Evolution)</td>
<td></td>
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<tr>
<td>I-mode</td>
<td>Pager</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Radio Frequency Identification (RFID)</td>
<td></td>
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</tbody>
</table>

Source: Goldstuck, A. 2003, Government unplugged: Mobile and wireless technologies in the public sector, Page 12 – 13, Centre for Public Service Innovation in partnership with Technology Research, Pinegowrie, South Africa
Government users demand wireless devices

- A reader survey reported in Government News (2004) showed that 86% of agency managers said their agencies:
  - use wireless communications technologies for agency business and continuity of operations.
  - 78% expected their agencies to expand the use of wireless communication in the future.

Generations are defined by technology

Howard Rheingold, futurologist says "Each generation has a defining technology – the baby boomers were defined by the television . . . We will have a cohort of people around the world who have mobile giving them togetherness. And we can expect this identification to have consequences for how we constitute and carry ourselves politically."

M-Government Survey

“I would find it easier to request information about public services by sending a text message rather than sending an email or visiting a web site.”

Source: Hession, E. ‘From e-government to m-government’ Presentation to joint IPA/ICS Conference 10 December 2004
Mind the Gap

Mobile to PC Penetration

- Source: Forrester Database
# Mind the Gap
## Wired to Wireless Internet Usage all over the globe

<table>
<thead>
<tr>
<th>Year-End</th>
<th>2001</th>
<th>2004</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet users (millions)</td>
<td>533</td>
<td>945</td>
<td>1,460</td>
</tr>
<tr>
<td>Wireless Internet users share</td>
<td>16.0%</td>
<td>41.5%</td>
<td>56.8%</td>
</tr>
</tbody>
</table>

Mind the Gap

Trends in Mobile & Internet Usage in Ireland:
% of adult population using technologies

Source: Hession, E. ‘From e-government to m-government’ Presentation to joint IPA/ICS Conference 10 December 2004
Wheel of successful m-Govt

Examples

Philippines:
- Is often referred to as the SMS capital of the world. Some of the most interesting applications of m-government are now being used in the Philippines.
  - Central component of eGov strategy
  - Can communicate by SMS with most government departments (see

Malta:
- Seeking leadership in mGovernment
- Wide variety of SMS services including court deferrals, exam results, social security notifications, license renewals, etc.

Other:
- UK – security alerts, local elections, congestion charges
- Finland – SMS bus and rail tickets
- Singapore – reminders for road tax, passports, parking, medical exams, etc.

Source: Hession, E. ‘From e-government to m-government’ Presentation to joint IPA/ICS Conference 10 December 2004
M-Gov issues

- Phone Limitations (160 characters, screen size)
- I-mode versus SMS (not necessarily ‘either/or’)
- Potential to integrate with, and complement computer-based initiatives (XML, text to request email or post)
- User validation (high percentage of market is pre-pay)
- Advantages of Short-code versus Long-number (tariffs, volumes/reliability)
- Tariffs: ‘Freetxt’ / Standard Rate / Premium Billed
- Managed Service versus Own Gateway

Source: Hession, E. ‘From e-government to m-government’ Presentation to joint IPA/ICS Conference 10 December 2004
“Despite its infancy, mobile government (m-government) is a growing and important set of complex strategies and tools that will change completely the roles and functioning of traditional governance.”

Source: ‘Europemedia, 15 Jan. 2003’
Conclusion

- M-government is inevitable.
- Survey shows public (particularly younger population) demands more emphasis on mobile channel in e-Government programs.
- Private sector companies can provide skills, technologies and services to expedite new initiatives.
- The ingredients are there for governments to stake a claim on global leadership in m-Government. Governments must grasp the opportunities presented by extending their use of technologies and making digital services available to the entire nation.
Abstract:

Over the past decade Governments over the world have been moving to providing services to their citizens via the web with varying degrees of success. These e-Government initiatives have been the subject of extensive research but this paper is concerned with the transitioning from e-Government to mobile government or m-Government. M-government implementation is still in its very early stages – indeed a perfect m-government has not been created yet. Our proposed research aims to contribute to the field by developing a successful transition methodology from e-government to m-government. Transitioning from e-government to m-government requires researching the integration process between e-government and m-government. It requires investigation of all the pressures that could affect the transition process which differ between nations, such as a nation’s technological and information infrastructure, mobile device penetration and acceptance, public and social pressures, and security. Finally we must develop an m-government initiative followed by an m-government strategy.
THANK YOU
Any Questions?

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