Chapter 4
Identifying and Managing Risks Inherent in E-Government Project Implementation: Requirements for New Tools and Methodologies

Marvine Hamner
LeaTech LLC, USA

Martin A. Negrón
Millennium Corporation, USA

Doaa Taha
Independent Consultant, USA

Salah Brahimi
Grey Matter International Ltd, USA

ABSTRACT

e-Government implementation in developing countries is usually very different than it is in developed countries, with different strategy, different challenges, and different risks. One thing developed and developing countries have in common with regard to e-Government is that it involves very large, complex systems with numerous internal and external entities and interfaces resulting in very dynamic non-linear behavior. There are many tools and techniques for use in examining and understanding systems, even large, complex ones. More and more research on e-Government systems is completed every year. Even so, the majority of e-Government projects partially or totally fail. For developing countries, these failures are extremely costly. More is needed. This chapter explores the use of system dynamics modeling to drill down into an e-Government system’s behavior and illustrate its depth and non-linear nature, i.e. how foreign direct investment flows through finance, technology, and strategy to impact risk.

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**INTRODUCTION**

E-Government is a complex mix of people and technology, where technology is simply the means we use to get things done. The technology used by citizens to engage in e-Government includes not only information technology and systems but all forms of telecommunications: telephony; fax, etc. Hamner et al (2010) used a form of the following definition of e-Government:

*e-Government is the term used to refer to a “system” that facilitates interaction between citizens and government via technology. Interactions range from accessing government information and services to increased and enhanced citizen participation in government.*

In developed countries, e-Government has provided many benefits to both government agencies and to citizens (Jaeger, 2003). The benefits to government agencies include reduced costs for operations and increased efficacy, i.e. efficiency and effectiveness, of government (Norris, 2001; Srivastava, 2007). The benefits to citizens include increased access to/from, ease of use of services, and an improved relationship with their government (Zambrano, 2008). Of course, the very visible challenges of technology, privacy and security still exist and will continue to need to be addressed for quite awhile (Hamner et al., 2010). However, the benefits appear to sufficiently out-weigh these challenges so that in developed countries e-Government remains very attractive, even though significant implementation risks have to be overcome.

A different situation exists in developing countries with regard to e-Government. Developing countries have been broadly defined by economics as countries where a “low level of material well being” exists (World Bank, 2009). But economic standing is not the only distinction between developed and developing countries. Additional distinctions can be seen in: a country’s culture; by the knowledge, skills and abilities of a country’s citizens; as well as citizens’ access to and use of technology (World Bank, 2009; CIA, 2009). Table 1 below compares the gross national

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<table>
<thead>
<tr>
<th>Country</th>
<th>per capita GNI* (US$)</th>
<th>Internet subscribers**</th>
<th>Telephony subscribers*****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>39,420</td>
<td>520</td>
<td>1,080</td>
</tr>
<tr>
<td>United States</td>
<td>46,040</td>
<td>630</td>
<td>1,228</td>
</tr>
<tr>
<td>Australia</td>
<td>35,960</td>
<td>698</td>
<td>1,470</td>
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<tr>
<td>United Kingdom</td>
<td>42,740</td>
<td>474</td>
<td>1,615</td>
</tr>
<tr>
<td>Norway</td>
<td>76,450</td>
<td>735</td>
<td>1,489</td>
</tr>
<tr>
<td>Somalia</td>
<td>Not reported</td>
<td>11</td>
<td>73</td>
</tr>
<tr>
<td>Mozambique</td>
<td>320</td>
<td>Not reported</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Haiti</td>
<td>480</td>
<td>70</td>
<td>64</td>
</tr>
<tr>
<td>Kyrgyz Republic</td>
<td>490</td>
<td>54</td>
<td>191</td>
</tr>
<tr>
<td>Laos</td>
<td>500</td>
<td>5</td>
<td>126</td>
</tr>
</tbody>
</table>

*Gross National income (GNI) per capita reported is based on nominal values on the 2007 gross national income and calculated according to the Atlas Method used in the U.N. Statistical Manual (2009)

**Some have more than one telephone/telephone line per 1,000 citizens
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