PUBLIC FINANCE OF CITIZEN-CENTRIC AND INTERACTIVE SERVICES IN ELECTRONIC GOVERNMENT

ABSTRACT

Significant hype has surrounded the nascent field of electronic government throughout its formative years since the advent of the 21st century. Depending on what target is pursued, the promise of e-government is determined by either of the two primary objectives: (1) to engage constituents in government activities in a citizen-centered manner, or (2) to develop government services and delivery systems that are efficient, i.e. cost-effective for the governmental agencies and constituents. Today, a significant group of e-government researchers and practitioners, however, increasingly point to the fact that that citizen-centric e-government is costly and likely requires gradual cultural shift in governments: from an efficiency-orientation to a citizen-orientation.

This thesis is one of the first attempts to explore the nexus of three fields in social science: public administration influenced by citizen engagement in the decision-making processes, information systems and financial management. The question addressed is how policymakers should design financing models in electronic government conducive to increased interaction with their constituents. The dilemma between cost-reduction and citizen-orientation has been compounded by the recent economic downturn that tends to adversely impact the levels of funding and investment contributed toward e-government as a form of infrastructure.

This thesis will seek to present a general preliminary framework of policy proposals for practitioners and recommendations for further research agenda with an ultimate goal to open up new funding opportunities for a truly citizen-centric and interactive e-government.

INTRODUCTION

President Obama has recently emphasized the need for reinvesting in infrastructure as part of the economic recovery plan. It is appears reasonable to treat information and communication technologies (ICTs) as a form of infrastructure that has a potential to yield long-
term social benefits (OECD, 2003). Regardless of the level, isolation or simplicity of an organizational function embedded in ICTs initiatives, public agencies today view many of these initiatives as part of their ICT infrastructures (Homburg, 2008, p. 117). Just as in the corporate business world, technological advancement in the public IT sector of a country plays a critical role both from globalization and competitiveness perspectives. The most important reason that the U.S. economy produces more than it did a generation ago is that technological knowledge has advanced (Mankiw, 2007, p. 449). Therefore, investment in ICTs, particularly in the public sector, can effectively become one of the channels of economic recovery and successive economic growth. However, due to the depressed condition of the current U.S. economy, politicization of government spending and severe constraints on public budgets, there is a pressing need for greater efficiency and prudence in using available resources. Some economists dismiss preoccupation with prudence in times of economic downturn and advocate aggressive, or expansionary, fiscal policy. At the same time, public investment in ICT infrastructure has accounted for a notable portion of government expenditures in the U.S. (Mimicopoulos, 2004).

While maintaining infrastructure in the public sector is instrumental in enhancing government performance and transformation of public administration, this process is greatly contingent on the outcomes of policy debates on the spending of budgetary resources. The challenge is compounded by the current public sector revenue recession: “continued economic strain on state budgets and growing competition for state dollars” force state CIOs “to look for new funding streams for state IT projects” (NASCIO, 2008). Thus, funding requires seeking investing options beyond the general fund to “get through economic downturns and be better positioned during and after the recovery that follows” (Taylor, 2008).

This thesis aims to contribute to examination of a research question that is rarely discussed in e-government literature: how policymakers should design investment and financing models in electronic government conducive to citizen engagement and increased interaction with their constituents. The first section provides a description of the two seemingly congruent yet
conflicting goals of electronic government. The following section will examine the notions of citizenship and use of e-services in the context of citizens’ role as consumers of public services as opposed to potential participatory and democratic empowerment of citizens. Next, various funding options presently practiced in e-government are considered. Finally, a preliminary framework of recommendations for managers and researchers are put forward to expand the choice of funding options for citizen-centric e-government services.

I. MOTIVATION: DILEMMA OF EFFICIENCY VERSUS INTERACTION

Depending on what target is pursued, the promise of e-government is determined by either of the two primary objectives: (1) to engage constituents in government activities in a citizen-centered manner, meaning that governments will provide their citizens services and resources tailored to their actual needs; or (2) to develop government services and delivery systems that are efficient, suggesting that governments will gain economies of scale, reduce costs, and provide technology-enabled services (Bertot & Jaeger, 2008). There have been numerous speculations that technology will revolutionize democratic participation or the delivery of government services simultaneously (Borins, 2002; Prins, 2001; Toregas, 2001). Yet, one serious dilemma remains unresolved: To develop citizen-oriented e-government services that achieve cost savings implies that governments know what citizens want from e-government. But if they do not know, governments have to actively seek to discover what citizens want, which involves additional costs. However, such information collection by governments is rare at best (Heeks & Bailur, 2007). Bertot and Jaeger (2008) support the claim that

…[C]itizen-centered e-government is costly and likely requires cultural shift in governments – from an efficiency orientation to a citizen orientation. [It] is in direct contrast to the view of e-government as a means to reduce the cost of government service provision and simply seek a different way to provide the same service. While [citizen-centered e-government] may lead to cost savings and revolutionize government-citizen interaction in the long-term, it will require substantial investment and change in the short-term. The danger of not doing so,
however, far outweighs not incorporating citizens in the design, development, and implementation of e-government services. A service that is difficult to use is a service that is not used – and that is a costly mistake that will require greater investments to correct.

In practical terms, e-government has continued to focus on utilitarian applications, strongly shaped by technology-intensive initiatives to improve implementation, administration, and management (Dawes, 2009). The vast majority of research has also been utilitarian, addressing instrumental questions of efficiency and practicality more often and more deeply than focusing on evaluative questions of governance, the purpose and role of the state, or the rights and preferences of the people (Coleman, 2007, in Hsinchun Chen, 2008). From practical perspective, policy makers have paid undue attention to the technical side of online services and improved management, while modest development has been seen in policy support, and very little progress has been made to enhance democracy or institutional reform (Dawes, 2008). In academia, even though e-government research is increasing in volume and improving in rigor, it is still not fully addressing complex fundamental questions of governance, interactivity, and civic engagement (Grönlund & Andersson, 2006).

In short, confined by the pace and spread of technological revolution in the public sector, on the one hand, and goal of better governance, on the other, governments confront a trade-off between citizen orientation and desire to minimize their costs.

Prior to considering important issues of financing public sector IT infrastructure it is also crucial to shed light on the barriers that public managers and administrators may need to overcome in an organizational setting itself. In general, government organizations are rarely known for their willingness to adopt changes (H Chen, 2003; Wild & Griggs, 2006). This also applies to the process of ICT policy implementation within public agencies. For example, Heeks (2006, p. 21) identifies four different cultural patterns of individual behavior within public agencies. He argues that on the one hand, politicians “prefer smaller, citizen-oriented initiatives that have a lower risk and shorter time-scale,” while senior public managers tend to oppose any
centralized approaches they fear they cannot understand or control. On the other hand, IT professionals rarely understand the public organization’s business and are only interested in the technology. Similarly, mainstream staff, consisting of people with different skills, knowledge, and attitudes toward both technology and public service mission, can complicate e-government processes even further. Such a fractured organizational culture undermines a centralized approach to the planning and implementation of e-government projects. Heeks (2006) concludes that e-government is not all about technology; rather political will is more important than IT in such systems, and the parties should focus on their personal development accordingly (p. 94). Another reason why public officials are seldom early adopters of new technologies is that governmental agencies do not face competition in the provision of their services, and this lowers their desire for the latest competitive edge technology (Mimicopoulos, 2004).

However, if public managers do adopt these ICT-enabled changes, their aims may not entirely mirror orientation toward citizens and a broader administrative reform. Kraemer and King (2006) bluntly conclude that information technology has never been an instrument of administrative reform; rather it has been used to reinforce existing administrative and political arrangements. As Homburg (2008, p. 106) observes, one of the barriers to “actual and true citizen orientation” is the fact that “many public organizations have been used to approaching citizens according to their own bureaucratic and institutional logic.” Therefore, it is imperative to acknowledge at the very beginning that “the potential of e-government lies not in the technology, but rather how the government views its customers” (Bollentino in Mimicopoulos, 2004).

With regard to funding, public managers and chief information officers at all levels of government face the challenge of finding needed financial resources to fund services that are effective and efficient in the long run yet costly during the initial stages. For example, Chen and Thurmaier (2008) raise a legitimate concern: “many agency heads hesitate to develop services because they dislike being faced with the question from the state budget director: What if we spend a lot of money on an e-transaction service, and nobody comes?” Moreover, in an era of
government retrenchment and privitization, the search for funding alternatives became more essential than ever before (Wild & Griggs, 2006). Thus, based on this complex interplay of issues, public administrators will be challenged to take adequate measures to maximize public value, where “Citizen-centric e-government services are designed to deliver increasingly cost-effective, personalized and relevant services to citizens, but also serve to enhance the democratic relationship, and build better democratic dialogue, between citizens and their government, which then enhances the practice of citizenship within society” (European Commission, 2007).

II. REASSESSING CIVIC ENGAGEMENT AND INTERACTIVITY IN E-GOVERNMENT

A. Some Revealing Facts

In a 2003 survey of 32 countries, it was found that the Nordic region of Europe led the world in the use of government services online by adult population (Mimicopoulos, 2004) (Exhibit 1). ‘Online government use’ is a broad category and refers to various forms of services via web sites, ranging from functional services (e.g. filing taxes to applying for benefits and permits to renewing a car registration, etc.) to emotional services (e.g., services such as health, social security) (Blakemore & Lloyd, 2007) to online citizen participation services with the aim of accentuating democratic decision-making. In the early days, the level of e-government use in the U.S. was relatively high, compared to other European states.

Exhibit 1. Use of online government services, 2003 (in percentages)

<table>
<thead>
<tr>
<th>Country</th>
<th>Online government use by adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>63</td>
</tr>
<tr>
<td>Norway</td>
<td>62</td>
</tr>
<tr>
<td>Singapore</td>
<td>53</td>
</tr>
<tr>
<td>Canada</td>
<td>51</td>
</tr>
<tr>
<td>United States</td>
<td>44</td>
</tr>
<tr>
<td>France</td>
<td>35</td>
</tr>
<tr>
<td>Germany</td>
<td>26</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>18</td>
</tr>
<tr>
<td>Worldwide (32 countries surveyed)</td>
<td>31</td>
</tr>
</tbody>
</table>

In 2003, the Pew Internet and American Life Project also explored the participation aspect of e-government use and found that “29% of all adult Americans said they visited a government web site to contact government.” Since e-government users have various reasons for contacting government, the research further classified those reasons and found that only “19% registered their opinion with government agencies on issues and policy questions.” In 2008, the same organization conducted a survey and established that “30% of all adults contacted a national, state, or local government official about an issue that is important to them” using one of the four means of communication: in person, by letter, by phone and by email. This group included 24% of all adults who did so in person, by phone or by letter, while 25% of Internet users did so via email. The authors do not report how many users contacted government concerning policy issues as in the previous survey, but they do report that 15% attempted to influence policy or government in order to be active members of their group (Horrigan, 2004). In retrospect, the last indicators hardly reflect previously envisioned general expectations of civic participation and involvement using e-government. This is despite the fact that the U.S. arguably leads the world in the levels of public and private investment in ICTs (Kraemer & King, 2006).

In 2008, the United Nations conducted a survey of national governments of its member states to develop an e-participation index, which “aims to capture the dimensions of government to citizen interaction and inclusion, by assessing the extent to which governments proactively solicit citizen input.” Specifically, the index measures the governmental implementation of products and services concerning e-information, e-consultation and e-decision-making. First, the United Nations (2008) uses e-information to evaluate “national websites and portals to determine if governments are providing the basic information that serves as the foundation for citizen participation.” This includes elements such as the online publishing of the official e-participation policy, listings of opportunities for online participation and electronic notification mechanisms to involve citizens. Second, e-consultation assesses interactive methods employed to solicit citizen opinion, feedback and input, such as online channels, including informal polls, bulletin boards,
chat rooms/instant messaging and weblogs (blogs), as well as formal online consultation. Finally, 
e-decision-making assesses how a government is committed to e-participation, as evidenced by the definitive acknowledgement of an individual citizen’s input and by a stated commitment to take it into account when making decisions.

\[
\text{Exhibit 2. E-Participation Index, 2008.}
\]

\[
\text{Quality and Relevance of e-Participation Initiative: Top 10 countries}
\]

<table>
<thead>
<tr>
<th>Country</th>
<th>E-Information</th>
<th>E-Consultation</th>
<th>E-Decision-Making</th>
<th>Total</th>
<th>E-Participation Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>93.33</td>
<td>100.00</td>
<td>75.00</td>
<td>89.80</td>
<td>1.00000</td>
</tr>
<tr>
<td>South Korea</td>
<td>93.33</td>
<td>77.78</td>
<td>93.75</td>
<td>87.76</td>
<td>0.97728</td>
</tr>
<tr>
<td>Denmark</td>
<td>80.00</td>
<td>83.33</td>
<td>87.50</td>
<td>83.67</td>
<td>0.93174</td>
</tr>
<tr>
<td>France</td>
<td>86.67</td>
<td>77.78</td>
<td>87.50</td>
<td>83.67</td>
<td>0.93174</td>
</tr>
<tr>
<td>Australia</td>
<td>100.00</td>
<td>61.11</td>
<td>81.25</td>
<td>79.59</td>
<td>0.88630</td>
</tr>
<tr>
<td>New Zealand</td>
<td>53.33</td>
<td>100.00</td>
<td>56.25</td>
<td>71.43</td>
<td>0.79543</td>
</tr>
<tr>
<td>Mexico</td>
<td>60.00</td>
<td>88.89</td>
<td>50.00</td>
<td>67.35</td>
<td>0.75000</td>
</tr>
<tr>
<td>Estonia</td>
<td>73.33</td>
<td>66.67</td>
<td>56.25</td>
<td>65.31</td>
<td>0.72728</td>
</tr>
<tr>
<td>Sweden</td>
<td>60.00</td>
<td>50.00</td>
<td>68.75</td>
<td>59.18</td>
<td>0.65902</td>
</tr>
<tr>
<td>Singapore</td>
<td>66.67</td>
<td>83.33</td>
<td>18.75</td>
<td>57.14</td>
<td>0.63630</td>
</tr>
</tbody>
</table>

Source: derived from UN (2008)

As Exhibit 2 indicates, most countries received higher scores on the e-information assessment than on the e-consultation and e-decision-making assessments. Despite its overall exemplary e-participation results, the U.S. scored relatively much lower in e-decision-making and was behind the Republic of Korea, Denmark, France, and Australia.

**B. What is the Heart of the Issue?**

Performance of governmental web portals is often associated with users’ intention to continuously use these web sites. Previous studies of governmental web sites have relied heavily on theories and practices in the private sector, including e-business and e-commerce. Several recent studies have focused specifically on the needs of customers in the public sector—users’ acceptance and intention of continuous use (Chai, Herath, Park, & Rao, 2006; Horst, Kuttschreuter, & Gutteling, 2007; Sahu & Gupta, 2007; Schedler & Summermatter, 2007; van Dijk, Peters, & Ebbers, 2008). In an analysis of Dutch citizens, it was found that “the acceptance and use of government Internet services is a matter of learning, and that acceptance and use should be analyzed as a dynamic process” and that customers will stick to their habits of using
traditional channels unless they happen to learn a better alternative (van Dijk et al., 2008). Another survey study in the Netherlands showed that the perceived usefulness of electronic services in general is the main determinant of the intention to use e-government services (Horst, et al., 2007). They found that risk perception, personal experience, perceived behavioral control and subjective norm significantly impact the perceived usefulness of electronic services in general, while trust in e-government was the main determinant of the perceived usefulness of e-government services. Similarly, Chai et al. (2006) conclude that “a user’s intention to continue using government web sites is related to the user’s satisfaction, perceived performance of the web site and the requirement for confidential information.” Using one of the first e-government customer surveys in 2003 (Horrigan, 2004), Chai et al. (2006) have empirically validated the following three hypotheses: (1) The user’s perceived performance of an e-government web site will positively affect a user’s level of satisfaction; (2) The level of satisfaction with an e-government web site will positively affect a user’s intention to continue to use the web site; (3) Perceived performance of an e-government web site will positively affect intention to continue to use this web site.

This vision exemplifies one of many commercial approaches of assessing user needs and demands. There is, however, a group of e-government researchers who increasingly point to many deficiencies of treating users of online government services as consumers of public services. They tend to challenge conventional extension of e-business and e-commerce practices and models of customer satisfaction to the realm of public administration. Replication of private-sector service provision and repeated use of e-services, in their view, may potentially undermine democratic process and reinforce the images of an elitist government-service-provider and passive citizen-consumers.

C. Who is the Citizen: Customer or Citoyen (Good Citizen)?

In a paper with a suggestive title “Citizens, not Consumers”, Heidelberger (2009) strongly criticizes the current state of e-government with its prevailing citizen-as-customer
paradigm. Such a vision of citizens’ role will likely “reinforce alienation and hierarchy” and “perpetuates the undemocratic misconception that government is separate from its citizens.” The author argues that “transforming government into a business and citizens into consumers” incompletely contributes to a truly citizen-oriented e-government. According to Heidelberger (2009) citizens are not only consumers of government information, documents and services but also producers of information, ideas, and political decisions. Citizen-government interaction “has elements of power, legitimacy, and responsibility not paralleled by any aspect of our relationship as consumers to businesses.” Similarly, Garson (2006) cautions against heavily relying on business models in e-government by stating that “[business] methods can be a cost-saving aspect of e-government in certain circumstances but hardly with the impact [they have] had in the private sector” (p. 270). For the sake of fairness, while they are hard pressed to reduce costs and increase customer satisfaction simultaneously, mid-level public managers and rank-and-file employees also do their best to save the money of taxpayers, who are also the very same consumers of e-services. The deficit of participatory empowerment of citizenry may not necessarily originate from the innate desire of managers to downplay democratic participation but from their mismanagement of ICT projects and ill-defined contractual arrangements with the private sector providers. Some contractual arrangements that limit citizen engagement are often imposed upon them by politically motivated administrative officials (Garson, 2006, p. 289).

Unlike the advocates of a radical ‘paradigm shift’ in the role of citizenry in the age of e-government, Homburg (2008) elevates the notion of a citizen to a conceptually new level. He suggests a broader, more complex multidimensional vision of a citizen: “customer, voter, taxpayer, applicant, citoyen, subject, stakeholder, civil servant (employee) and so on.” On the one hand, many citizens receiving public services become involuntary customers when dealing with certain services (tax payments, prison services, specific obligations). They also have a low negotiating power in determining the price and quality of these services because “the law forbids, hinders or … does not stimulate government agencies to compete with one another on such
matters as price, speed, quality or user friendliness. Similarly, unlike the private sector, “governmental agencies can seldom refuse delivery of the services and goods they have to offer” (Homburg, 2008, p. 91).

On the other hand, the notion of a citoyen – ironically, the term translates as ‘citizen’ from French – encompasses other dimensions of multifaceted citizenship. According to Homburg, “a citoyen is an individual who participates in policy processes, political parties and social movements … [and, therefore], exercises valuable democratic civil rights such as the rights to freedom of opinion and speech, to freedom of peaceful association and assembly, to demonstration and petition and – at least to some extent – the right of access to government information” (p. 92).

Looking at both sides of citizenship, there is a risk that the “Internet is mainly used to facilitate ‘choice’ and creates few opportunities for ‘voice’” (Meijer, 2005). Choice is more likely “to be used in the context of selfish consumption, and the exercise of choice needs to have a consequence in the context of debates about service quality and development” (Blakemore, 2006). As a result, “citizens are regarded as consumers that can make a choice and not as citoyens that are involved in public affairs” (Meijer, 2005).

Hall (2007) further refines discussion of citizenship based on its three core aspects: rights, duties/responsibilities and participation: “(1) The citizen with rights is the citizen as service user accessing public services either offline or online through electronic service delivery. (2) The citizen with duties is the citizen paying taxes or voting in elections, who may be using electronic tools to do so, e.g. online voting or online tax returns. In addition, there might be legal penalties for failure to “use” such services. (3) The participative citizen is one who actively engages in political life through a variety of mechanisms including public discussion and debate.”

Furthermore, Fountain (2001) warns about the so-called “legitimacy paradox” of public service delivery that is based on market structures. In her view, improvement of the quality of
service delivery actually decreases the legitimacy of government, ignoring the public and political character of service delivery:

Paradoxically, emphasis on the citizen as a consumer of services and focus by agencies on the identification and aggregation of individual preferences may weaken perceptions and understanding of the fundamental obligations of citizens and public servants. The customer satisfaction metaphor ignores and weakens the critical roles of representation and trusteeship intrinsic to both public officials and the public… [Market-based] service models may produce improvements at the margins of agencies, but they do not replace—indeed, they obscure—political outcomes that render some customers much less powerful than others. Without political change, these “market segments”—the poor and the politically weak—will continue to be poorly served. Emphasis on service excellence renders inequality exogenous. Thus, the growing incursion of market metaphors into political life may further the already disturbing erosion of civic responsibility and civic engagement.

According to Homburg (2008), “worldwide access to government information and other public information, or electronic debates and meetings, are just a few of the new opportunities that may contribute to individual involvement in various democratic processes in society” (p. 92). However, access to public information per se is insufficient in the context of civic engagement. Coleman (2002) contends that while the literature differentiates between ‘technopopulism’ and ‘deliberative democracy’, citizens may soon tire of contributing to legislative deliberations, online or offline, if no apparent account is taken of them. Government-citizen interaction will need a behavioral change since most governmental systems of communication “were designed for the vertical, unilateral, mass distribution of information, not for communication; [while] communication is interactivity” (McIver, Birdsall, & Rasmussen, 2003).

As Homburg (2008) concludes, the challenge for e-government is to develop participative forms of electronic service delivery and to address citizens with their multiple identities as consumers, voters and Good Citizens, or citoyens. For example, ‘citizens panel’ approaches may need to be strengthened by clearer targeting of citizens who can help in the development of
service delivery (Blakemore, 2006), and more dynamic communication channels need to be designed and built.

D. How to Address the Issue: Social Decision Support Systems?

Heidelberger (2009) maintains that people need not think of e-government strictly in terms of supporting official decision of the elected few. In the proposed social decision support systems (SDSS), the straightforward provision of information becomes the practice of supporting the decisions of other members of society, primarily citizens. The best e-government service delivery is often achieved by bringing people together where they are embedded in the prioritization and design of the services in a transparent relationship with government (Blakemore & Lloyd, 2007). However, as Heidelberger observes, “bringing people together is not simply a matter of putting public opinion surveys and official ballots online where citizens are permitted to mark their preference among pre-determined options.” Instead, SDSS should involve citizens in the initial stages of public decision-making: gathering information, putting forward ideas, and formulating the policy options that would eventually appear on legislative agendas and general election ballots. Participatory e-government based on SDSS means engaging with the richest and most important nexus of all the elements of information systems: IT, people, and institutions.

Robison et al. (2009) list a few examples of advanced features that are beyond simple government delivery of data. These features can readily be used today within SDSS-based projects: (1) advanced search (complex and/or logical queries, and searches for ranges of dates or other values; ways to refine or improve the search query, as some of the leading Web search services already do); (2) RSS feeds: (simple technology for notifying users of events and changes, such as the creation of a new item or an agency action; users can subscribe to any desired feeds, using RSS reader software, and those feeds will be delivered automatically to the use); (3) links to information sources (data about government actions and processes that triggers news coverage and active discussion online); (4) mash-ups with other data sources (combining an agency’s data with other agencies’ data or with outside sources); (5) discussion fora and wikis (location for
discussion and user-generated information about agency’s data); (6) visualization (allowing the user to control the visualization tool to choose exactly which data to display and how); (7) automated content and topic analysis (analyzing a body of data and inferring rules for classifying and grouping data items using machine-learning algorithms); (8) collaborative filtering and crowd-sourced analysis (leveraging users’ activities by asking each user to classify a small amount of data, or by inferring information from users’ activities on the site). For a detailed discussion of the features of participatory web sites, the reader is referred to the original article.

Exhibit 3. Citizen–legislator discourse system architecture

Both public and private actors, including non-profit organizations, can create and run SDSS initiatives. Despite the lack of evidence of SDSS projects at the state and local levels, the federal government and non-profit sector have demonstrated a few successful examples. One form of a participatory SDSS in e-government is a so-called citizen-legislator discourse system (CLDS) proposed by Heidelberger (2009) (Exhibit 3). A primary example of an CLDS-based project OpenCongress.org was launched in 2007 by a non-governmental, organization the Sunlight Foundation, which has the goal of increasing transparency in the US Congress through encouraging citizen and blogger participation by aggregating existing information and digitizing
new information. Proclaimed as “a free, open-source, non-profit, non-partisan web resource with a mission to make Congress more transparent and to encourage civic engagement,” OpenCongress.org is a user-friendly version of the official library of Congress web site Thomas.gov, “on steroids” intended to “foster public discourse” (Miller, 2007).

Regulations.gov is yet another government-run project that has multiple SDSS features, akin to those of OpenCongress.org. It is designed to facilitate public user’s ability to comment on federal regulatory processes after bills have been adopted. The U.S. Department of Health and Human Services used a web platform Pandemic Flu Blog during five weeks in 2007, which proved to be a successful collaborative forum designed to discuss measures of preparing for a potential spread of influenza pandemic. The State Department also launched the Opinion Space on its web sites in February 2010, where citizens can utilize their potential to “raise issues, ask questions, make proposals and provide initiatives” (Hall, 2007) concerning foreign policy issues.

III. FUNDING MODELS FOCUSED ON BROADER ‘SOCIAL BENEFITS’

According to Paul Krugman, during the current recession “fiscal expansion will be better for America’s future if a large part of the expansion takes the form of public investment – of building roads, repairing bridges and developing new technologies, all of which make the nation richer in the long run.” Making the case for the Keynesian theory of liquidity traps, he contends that governments should not worry about budget deficits because in a depressed economy private investment shrinks (Krugman, 2008). This assumption implies that in times of economic recession public investment should prevail in developing new technologies, which also includes developing e-government across all levels of government. As a macroeconomist, Krugman’s claims are probably valid in terms of broadly outlining desired ‘destinations’ for the stimulus spending. However, at the state and local levels, elected officials and public managers receiving the stimulus money find themselves faced with intricacies and challenges of public investment and correspondingly assume direct responsibility for the use and management of these funds.
Moreover, even federal agencies during the Bush presidency had to deal with “the absence of direct e-government funding and the prevalence of a pass-the-hat approach” and were required to “find money in their own budgets” (Garson, 2006, p. 270).

**Exhibit 4. Types of Benefit in e-Government**

<table>
<thead>
<tr>
<th>Direct Financial Benefits</th>
<th>Government Beneficiaries (G2G)</th>
<th>Non-Government Beneficiaries: Citizens (G2C) &amp; Business (G2B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reducing Costs: freeing resources for public and private innovation; increasing value of products and services</td>
<td>Reducing Burden: administrative simplification; providing higher valued and faster services; saving time and money and improving equity</td>
</tr>
<tr>
<td>Direct Non-Financial Benefits</td>
<td>Capturing Total Benefits of Investment: achieving synergies across service delivery channels; enabling the sharing and reuse of data for more proactive service delivery; promoting access as part of channel management strategy</td>
<td>Increasing User Satisfaction: 24/7 service; improving personalization and service quality; improving access and equity; addressing security and privacy concerns; transparency and choice</td>
</tr>
<tr>
<td>Indirect Benefits: “Good Governance” as a Public Good</td>
<td>Supporting Legitimacy: supporting security and trust at an aggregate level; modernization and transformation of the public sector; ensuring equity; increasing responsiveness, accountability and participation</td>
<td>Supporting Growth: improving the business environment; creating an information society; establishing an infrastructure for secure and reliable transactions</td>
</tr>
</tbody>
</table>


In measuring government performance, one of the most common practices in the financial management theory of public administration has been evaluation of costs versus benefits, impacts and opportunities of a particular project. For instance, OECD countries have identified the benefits shown in Exhibit 4. Evidently, the ‘direct financial benefits’ are weakly or remotely associated with the role of citizens in the full sense of citizen-orientation discussed in the previous section. As we have already established, the other two benefits – ‘increasing user satisfaction’ and ‘supporting legitimacy’ – tend to reinforce the dichotomous vision of citizens. Both can be pursued in either full harmony or incomplete consensus with each other depending on the policy agenda of a governmental jurisdiction.

Homburg (2008, p. 116) further refines distinction between tangible and intangible benefits. Of the six the intangible benefits he lists, only tree are oriented toward citizens:

1. increased *citizens’ trust in government* (citizen benefit)
2. increased *public accountability and legitimacy of policies* (citizen benefit)
3. improvement of the reputation of public administration
4. increased *citizen participation in policy making*, improved *access to public information*, increased *transparency of government* (citizen benefit)
5. the fostering of a truly joined-up government and realization of ‘one-stop shops’
6. improved communication and information sharing within and between governments.

At this stage of e-government evolution since the early 2000s, it is imperative for governments to begin prioritizing and benchmarking their goals against benefits denoted as ‘citizen benefit’ in this list and plan funding, implementation and management of e-government projects accordingly. As Kavanagh and Suppert (2007) report, while ICTs are believed to “improve the efficiency of government and lower the cost, many public organizations find that they struggle to realize the full range of benefits promised by [IT].” He sees the frequent failure not necessarily in the technologies themselves, but rather in their poor implementation. Meanwhile, public managers should ensure that such a strategic shift in priorities occurs not to the detriment of ‘traditional’ market-based values of customer orientation as well as transformation of public administration, whether the latter is based on the New Public Management theory or any other ‘government reinvention’ paradigm.

**A. Market-based Funding Models: e-Business/e-Commerce in e-Government?**

Garson (2006, p. 266) identifies seven e-commerce models: auctions, virtual stores, online malls, sponsored advertising, online brokerage, information sales and direct sales (Exhibit 5). He maintains that none of them directly apply to the public sector.

<table>
<thead>
<tr>
<th>Model &amp; Example</th>
<th>Private sector</th>
<th>Why not the public sector?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auctions</strong></td>
<td></td>
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</tr>
<tr>
<td>Ex.: e-Bay</td>
<td>A firm makes money by charging a percentage of sales made by private parties who want to sell through he firm’s online venue.</td>
<td>Public agencies cannot set up online auctions to solicit private vendors in competition with e-Bay and companies engaging in auctions and reverse auctions.</td>
</tr>
<tr>
<td><strong>Virtual stores</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ex.: Walmart.com, Sears.com</td>
<td>A firm makes money by selling its own line of products for profit, using electronic analogy of displays, shopping carts, checkout counters.</td>
<td>Public agencies have to offer online <em>and</em> brick-and-mortar venues, increasing their operating costs.</td>
</tr>
<tr>
<td><strong>Online malls</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A firm provides free customer services (e.g., search, mail, discussion group)</td>
<td>Public agencies are prohibited from this model in direct competition with the private sector.</td>
<td></td>
</tr>
<tr>
<td>Ex.: Yahoo! Store</td>
<td>to build up traffic, then charges third-party vendors for virtual space to sell their products.</td>
<td>sector because in spite all the talk of “partnering” in e-government, these is little public tolerance for the commercialization (as opposed to outsourcing) of public websites.</td>
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<tr>
<td><strong>Sponsored advertising</strong>&lt;br&gt;Ex.: AOL Online, Geocities</td>
<td>A firm simply sells advertising space on any high traffic web page.</td>
<td>Governmental jurisdictions have not indulged in this potential revenue model. As with ‘separation of church and state’, there is a political culture supporting ‘separation of advertising ad state’.</td>
</tr>
<tr>
<td><strong>Online brokerage</strong>&lt;br&gt;Ex.: eWinWin.com</td>
<td>A firm provides a forum where online sellers and online buyers may find one another by setting up deal rooms where, under restricted access, buyers and sellers may negotiate (e.g., buyers may get a lower price while the seller may negotiate a single shipment date).</td>
<td>The concept of one set of ‘customers’ (citizens) getting a different ‘deal’ (public services) compared to another set is a ban for government as a universal and unbiased provider of services.</td>
</tr>
<tr>
<td><strong>Information sales</strong>&lt;br&gt;Ex.: <em>The New York Times</em>, Gallup Poll, stock market analysis firms</td>
<td>A firm sells access to its information online. Private data companies can appropriate expensive-to-amass public data, provided added value, and resell the data to the public as if it were wholly their own product, while the originating agency can only recoup physical distribution costs, not development costs, let alone make a profit.</td>
<td>One of the most compatible models with the public sector. Many agencies amass a great deal of valuable information (e.g., data on weather, geography, motor vehicles, economic trends, convicted felons; digitized cultural images and sounds in the Smithsonian. But agencies are either limited to a basic cost-recovery fee structure or prohibited from charging fees at all. Freedom of information laws and the tradition of right of access to government data allow public agencies to sell the information they collect only in specialized circumstances. In most cases, it remains public domain and freely available to all; deviation from this would bring public outcry.</td>
</tr>
<tr>
<td><strong>Direct sales</strong>&lt;br&gt;Ex.: Dell Computers</td>
<td>Similar to the virtual stores model, but the concept is to eliminate middleman altogether and selling products directly to the end user foregoing a physical store. This cuts layers of costs and allows ‘just-in-time’ production and inventory systems.</td>
<td>Despite some hopes that online direct transactions with citizens will eliminate the need for having quite as many brick-and-mortar agency locations, these hopes remain largely unfulfilled. The reasons include the obligation to provide services not deliverable via the web, the political drive to provide physical</td>
</tr>
</tbody>
</table>

*Source:* derived from Garson (2006)

In most instances, wary of limited applicability of these models to the public sector, Garson raises a number of rhetorical questions: “How are public agencies to measure consumer demand in such areas as law enforcement, environmental protection, or homeland security? What is *customer satisfaction* in the public sector (taxpayers for the Internal Revenue Service, patients for the Food and Drug Administration, soldiers for the Army)? Would it really help matters if [CIOs] in
government were rated in terms of consumer satisfaction, at least where customers can be identified, such as by vacationers in state and national parks? When demand is low, should public agencies use market information to drop ‘slow movers’ such as rural offices?” For the most part, his answers are ‘no’: while customer-oriented private sector seeks to increase consumer demand, “there is no corresponding simple purpose in the public sector” (p. 264).

**B. Primary Public Sector Funding Models**

1. **General Fund financing model: Legislative appropriations**

Recent reviews of government-wide, or ‘traditional’, funding approaches have been relatively sparse and predominantly negative, with suggestions of significant revision or expansion of them. This has been especially emphasized in the context of ‘high-value’ IT initiatives, which traditional tax levy budgets cannot fund sufficiently due to the enormous pressure on them (HPG, 2001). An OECD (2003) policy brief reports that “In many OECD countries, existing budgetary arrangements act against efficient government by funding through traditional government silos, and by not recognizing ICT expenditures as an investment.” Johnson (2004) also points to deficiencies of a traditional model of budgeting: “Early IT spending was mostly financed using a ‘pay-as-you-go’ approach, with operating budgets funded by general fund appropriations.” General fund financing refers to an annually recurring process, in which monies are obtained out of the state general fund through legislative appropriations for specific uses in a given year. Instead, Johnson proposed revising of traditional model requires governments to meet the following criteria:

1. generate substantial funds in a timely manner and at reasonable cost;
2. ensure that cash flows are subject to minimal non-appropriation risk;
3. shift a substantial portion of project risk from the government to private vendors;
4. account for and report on resources in ways that creates incentives for government to generate revenues to cover costs and incorporates budgetary incentives for officials to engage in projects that produce net benefits for the government and constituents.
These are common requirements for capital project financing in the classic public finance literature. Although this non-traditional model may well foster long-term fiscal sustainability and stability, it does not fully address the aspects of interaction and citizen engagement and explicitly specify what is meant by “net benefits for constituents.”

Mimicopoulos (2004) defines traditional expenditures of e-government projects as “normal operating expenditures” that may result in poorly financed projects over their lifecycle. In his view, requiring government to treat ICT projects as capital expenditures would pave the way for funding through long-term financing instruments and has the added advantage or properly accounting for future revenue or saving streams. Unlike Johnson, he suggests a model somewhat cognizant of citizen orientation (fifth point):

1. undertake a traditional cost benefit analysis and discounting to present value;
2. focus on the underlying cost effectiveness of the project in terms of the ability to produce outputs more effectively than existing arrangements;
3. evaluate whether the project constitutes a building block for long-term development;
4. focus on how important the need for the project is in terms of ensuring access for all;
5. look at projects not only in financial terms, but also in terms of social benefits.

Mimicopoulos associates ‘social benefits’ with “more professional development opportunities obtained through using online forums and sharing information and bulletin boards with professional and trade groups; increased community skills and knowledge; and new business and work opportunities.” Still, the important tenets of transformative e-government relevant to modern needs and expectations of citizens, such as a two-way interaction and engagement, remain overlooked in this requirement. The fourth pre-requisite could address this aspect; however, that criterion is not fully explicit in a political sense: people can gain access they need but can exercise it according to an old commercial paradigm. Access to increased participation is important not only to citizens but also to the government itself as a critical interactive mechanism that facilitates feedback from its constituents, a basic element of e-government transformative
evolution in its final stages.

While both Johnson and Mimicopoulos recommend securing low-risk cash flows and discounting them to present value, it is important to appreciate to what extent cost-benefit analyses based on traditional evaluation tools such as measures of return on investment (ROI) can be critical in e-government financial planning. In estimating future investment in ICTs, Nguyen (2004) points to the limitations of relying on ROI analysis, which includes present value, net present value (NPV), internal rate of return (IRR), payback period, to name a few. He found that despite routinely employing ROI to measure the value of an ICT initiative, many government organizations have come to realize ROI only captures a part of the picture in government. As he further elaborates, “Traditional ROI analysis commonly measures only tangible direct costs such as hardware/software costs and tangible direct benefits such as cost reduction.” This may be suitable for private organizations driven by profit but is almost always inadequate for public agencies. In his view, governments are mission-driven and created to deliver certain goods and services to constituents. Because benefits generated in such instances are largely non-financial, the main shortcoming of traditional ROI models is that they fail to account for non-financial benefits. Nguyen presents a framework Value Measuring Methodology, a technique including but extending beyond the ROI analysis, and based on weighing and scoring system to compare alternatives within the context of government’s goals. This framework, the details of which are beyond the scope of this thesis, incorporates the range of critical non-tangible benefits other than the ROI-measured ‘internal financial benefits’ (Exhibit 6).

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constituent Benefits</td>
<td>Objectives that are directly intended to benefit citizens, businesses, other government organizations, or employees</td>
<td>Shorter wait lines; better access to information; increased participation and involvement in policy making</td>
</tr>
<tr>
<td>Social Benefits</td>
<td>Objectives that inadvertently benefit society as a whole</td>
<td>Reduced traffic congestion; Internet access to government services for underprivileged citizens</td>
</tr>
<tr>
<td>Internal Financial Benefits</td>
<td>Objectives that positively impact a government’s financial condition (as measured by traditional ROI analysis)</td>
<td>Increased productivity; reduced need for new workers (thanks to self-service applications)</td>
</tr>
<tr>
<td>Internal Non-Financial Benefits</td>
<td>Objectives that enable a government to enhance service delivery</td>
<td>Reduction of duplicative efforts; seamless integration of business systems; higher-skilled workers</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Strategic Organizational Benefits</td>
<td>Objectives that enable the government to fulfill its mission or strategic goals</td>
<td>Facilitates the achievement of the organization’s mission; satisfies IT architecture requirements</td>
</tr>
</tbody>
</table>

*Source*: derived from Nguyen (2004)

In NASCIO’s 2008 report on innovative funding, state governments have a wide variety of funding options available that are outside the traditional funding approach and more likely to address the pursuit of the afore-mentioned benefits. Nevertheless, regardless of all the talks about limitations of traditional budgeting practices and recurring calls to do away with them (HPG, 2001; Wild & Griggs, 2006), states are still highly reliant on them today (NASCIO, 2008). Therefore, there are compelling reasons for using a combination of approaches. Firstly, alternative, or so-called innovative, models that are governed by efficiency requirements, such as cost savings, cost reduction or even revenue/profit motif (such as in partnering models), in projects where the need for democratic involvement is fundamental are more likely to have a limited social outcome. At the same time, tight fiscal times “provide state CIOs a window of opportunity to grab the attention of state budget decision makers” and “drive innovation in IT financing” (NASCIO, 2008).

In comparing legislative budgetary appropriations versus unconventional funding strategies, the Center for Digital Government turns to an analogy of a hammer and its complementary toolbox (Taylor, 2008). A hammer (general fund) was “at once a powerful, dominant but limited tool,” whereas screwdrivers and power tools (auxiliary options) “are not alternatives to the hammer but are uniquely designed to do things that a hammer cannot do” and are commonly used in conjunction with it. In developing an ICT funding strategy, all the available funding options are not mutually exclusive, and more than one model can be used in combination, including general fund financing. The next sections will describe other funding strategies presently used by governments in the U.S. and other industrialized nations that could be complemented with the traditional funding model. With proper planning, such combinations have
a potential to grasp most of the non-tangible, social benefits that are conducive to successive democratic engagement.

2. ‘Utility’ financing model: Enhanced self-funding (user-fee) strategy

Advocating conventional financial principles, such as efficiency, equity and revenue adequacy, Johnson (2007) proposes applying a pricing model designed to differentiate between distinct groups of users of e-government services. The model recommends governments to segment their customer base into government-to-citizen (G2C) and government-to-business (G2B) sectors based on a well-known monopolistic ‘price discrimination’ mechanism from the microeconomic theory.

Exhibit 7. Government e-service pricing – G2C and G2B services

Johnson (2007) observes that because G2B services and G2C services form distinct market segments, government faces two different demand functions and two different price elasticities of demand. Therefore, he assumes that G2B services are less price elastic then G2C services (Exhibit 7). This pricing model may seem fairly abstract and presents an overly aggregated treatment of a multidimensional notion of a citizen, akin to the market-based vision of a customer. Moreover, previous similar studies explicitly emphasized appropriateness of the enterprise approach for G2B services (Chen & Thurmaier, 2008; Johnson, 2004). Nonetheless, while some e-government researchers view the promise of self-financing model primarily from business-world perspective (Chen & Thurmaier, 2008), Johnson’s treatment of the equity aspect within the utility model may have important political implications. Charging service fees for use
of in-person services might have a dual effect: generating revenue and forcing users to migrate to free online services. Equity issues may weigh against establishing new fees for face-to-face services (IBRD, 2010). According to OECD (2003), in the context of digital divide the most disadvantaged users generally have the lowest levels of access but also often have high levels of interaction with government. Johnson observes the possibility of government subsidization from the general fund of the social benefit “spillovers” generated from individual online usage:

User charges are commonly set based on both the benefit derived from usage and the cost of service provision. The basic rule for efficient economic pricing requires marginal cost to equal marginal benefit. For services that primarily benefit the direct user, the price charged should equal marginal cost. When social benefits are also generated from providing a service, then aggregate social benefits need to be considered. In cases where benefits can be separated into those enjoyed by direct users and those by society in general, prices should be divided among users (a user charge) and all of society (general revenues)… Direct users should cover marginal operating costs, but capital costs that provide societal benefits can be covered with general revenues or other sources of funds.

Alternatively, services that provide benefits only to small groups of business users can be used to partly cross-subsidize other services and be made available at above-cost premium rates. Again, where cross-subsidization is only partly feasible, services with significant social benefits can be funded through the general fund (Mimicopoulos, 2004).

In conclusion, the two proposed options of enhancing the self-funding model based on differentiated pricing structures coupled with the use of sources form the general fund provide a valuable insight into the primary mission of governments – empowerment of excluded or underprivileged citizens – ultimately facilitating the pursuit of their citoyen ideal.

3. Grant funding model

22 out of 31 states surveyed by the National Association of State Chief Information Officers (NASCIO) in 2008 indicated that they are currently utilizing grant funding. This model, which is also viewed as another traditional funding strategy, can include private foundation
grants, federal block grants, federal program grants, and state-sponsored grant programs. Grant funding offers new and sometimes unique opportunities for funding streams. State CIOs indicated wide use and a “love” of these funding streams. One state indicated grant funding has been a “great way” to fund public-private partnerships, while other states indicated that customer agencies use federal grants to pay for services or fund new IT projects. Based on these hands-on findings, policy-makers and e-government strategists should ask themselves two essential questions at the same time: (1) How will the project be sustained after the donor funding runs out? (IBRD, 2010); (2) How can the recipient government facilitate participatory and citizen decision-making aspects of the funded projects?

In the survey report of 31 states conducted by NASCIO (2008), user-fee and grant funding represented two methods identified as the most utilized approaches by state CIOs in 2008 as compared with 2003.

4. Debt financing model: GDP-indexed versus Conventional bonds

Bond financing is typically cheaper than bank loans as this model allows governments to obtain significant amounts of funds that are needed for e-government projects up-front (immediately) and for longer maturity periods. Longer maturity debt helps to minimize the budget risk and contributes to the financial stability of an issuer. Mimicopoulos (2004) classifies three major bond types according to the financial sources available to service the initial principal borrowed and interest payments. General obligation (GO) bonds are the most common form of debt financing and guaranteed by the ‘full faith and credit’ of the issuing sovereign or sub-sovereign jurisdiction. This implies that a borrowing government can pledge its full taxing authority to pay back the debt. Although GO bonds are typically most secure of all types of bonds, in some states they require legislative or voter approval in a referendum before they are actually issued. Thus, as of 2008, only nine states in NASCIO’s survey were reported to be utilizing bond funding. Project revenue bonds cannot be guaranteed by the full taxing authority of the issuer, but such bonds are secured by the expected stream of revenue from the specific e-
government project being financed. *Dedicated revenue bonds* are a recent form of debt funding, reportedly becoming increasingly popular in national governments across the world. These bonds differ from project revenue bonds in that repayments are backed by a certain revenue stream, which might not be directly related to the project being financed. A revenue stream can be an expected intergovernmental transfer or specific tax revenues: sales taxes, liquor or gas excises (Mimicopoulos, 2004). The value of this particular model is that dedicated revenue bonds can temporarily or permanently finance projects with substantial intangible social benefits. The limitation might be the difficulty of establishing direct link between revenue sources and the value of a funded project.

In addition to these ‘plan vanilla’ bonds, governments could capitalize on the idea of GDP-indexed bonds, an innovative financial mechanism proposed by two economists of the IMF. As Borensztein and Mauro (2004) suggest, the fundamental premise that “existing debt instruments and their associated crises are far from being optimal.” They emphasize the value of adopting this mechanism in times of economic and financial recessions as it can reduce the likelihood of defaults and debt crises. This approach is characterized by indexing coupon payments (annual interest payments) to nominal or real growth rate of GDP. From investors’ perspective, GDP-indexed bonds are linked to macroeconomic indicators such as growth, inflation and price volatility. Unlike conventional bonds, GDP-linked bonds offer protection against inflation but no growth prospects. From borrowing governments’ perspective, GDP-indexed bonds are an “attractive and workable addition to the existing set of instruments” because when tax revenues drop, the coupon payments, which are liabilities, drop in line as well. The biggest limitation of this funding model is that it does not directly address the problem of citizen involvement in policy processes. However, the major implication is that governments issuing GDP-linked bonds have a cheaper strategy to service the debt than loans from private sector institutions and, therefore, significantly leverage flexibility in controlling debt burdens, because indexed bonds can smooth out the effects of cyclical recessions on the funded projects.
C. Primary Mixed Funding Model: Partnering with Private Sector

Since its inception, the formation of e-government in the U.S. has been influenced by ambivalent beliefs and values concerning the private and public spheres. On the one hand, Americans tend to value free enterprise and prefer business methods to bureaucratic controls in the operation of government, thus partially entrusting policy-making responsibilities to business representatives in various governmental committees. On the other hand, Americans are also aware of the profit-driven mission of the businesses, where short-term profit is sought after at the expense of other long-term values, which can be inconsistent with the public interest. As a result Americans expect their governments to tap the potential of entrepreneurial self-reliance, but they also want “accountability in public policy and an avoidance of conflicts of interest” (Garson, 2006, p. 282). Also, from the public servants’ perspective, risk-averse approach is predominant in the public sector, because “there is often public criticism if risk-taking is unsuccessful” (Mimicopoulos, 2004; Wild & Griggs, 2006) while “the absence of [risky] competition in the provision of public services ensures the perpetuation of the status quo.” According to Mimicopoulos (2004), the private sector not only can help governments fund projects but also:

- bring skills and know-how;
- enhance the efficiency of service delivery;
- insulate upcoming operations from political intervention;
- make the project more responsive to the public’s needs and preferences.

While previous research has provided a great deal of evidence of the first three advantages of the private sector involvement in e-government, it is not entirely clear how the public’s needs and expectations can be met in the light of multiple hazy interpretations of ‘public need’ by a variety of service providers.

E-government research thus far has viewed partnerships between governments and private and other public sector entities as the most common and favorable mixed funding
strategy. Furthermore, public-private partnerships tend to outclass public-private partnerships due to higher expertise, efficiency and innovation levels – traditional indicators of success in the business sector. NASCIO (2008) defines public-private partnerships as “relationships under which a [government] contracts with a vendor to pay for part or all of an IT project funded upfront; the vendor recovers its costs from revenue generated by the project; [the government] may share in [this] revenue as well.” As Garson (2006) notes, “The success of partnering, outsourcing, and contract management depends upon performance monitoring.” However, he also reminds about the risk of crossing a “thin line between partnering on the one hand and sweetheart contracts and insider dealings on the other.” In his view, there are certain contingencies that both parties should pay attention to for successful e-government implementation:

- The more the agency has a culture that is open to learning form the private sector, the more the likelihood partnering will work, contingent on the private-sector partner also being open to learn from the public sector and forgoing rigid implementation of business sector practices.
- Both the agency and the private sector partner should engage in a process of mutual problem solving and goal seeking.
- Partnering agreement should cover all aspects of the proposed system, including indirect ones.
- There should be an ongoing day-today mechanism for feedback, discussion between the parties, and resolution of conflicts.
- The contract should include performance penalties as well as rewards for the private-sector partner, contingent on services rendered being cost-effective and competitive for both sides.
- The public agency should not become dependent on the partner, which requires that the agency retain core capacities that make effective contract oversight possible and, in the case of outsourcing, a capability of reentry by the public sector so as to maintain public-private sector competition if appropriate later on.
The private-sector partner should have the capacity to handle changes in the scale of services as needed.

Accountability of the private-sector partner should be exercised with regard not only to avoidance of unacceptable levels of profit-making, but also with respect to government requirements pertaining to privacy, security, and transparency (Garson, 2006, pp. 283-284).

The key to successful public-private partnership is a tightly drafted contract between the government and the private sector partner entity, spelling out the responsibilities of each party.

In addition to these considerations, contracts should also specify the details of commitment of both parties to moving beyond traditional e-government services toward greater citizen orientation and willingness to involve potential users in the design of contractual agreements. This will ensure that ever-growing citizen, or public, needs and expectations are being met in accordance with all tenets of citizenship. As Dawes (2009) notes, “Governance of public–private–civic sector relationships is concerned with the principles and frameworks needed for sharing responsibilities and exchanging information among networks of diverse organizations in ways that generate public value and satisfy public requirements for fairness, accountability, and competence.” Such important observation concludes this section about the options of funding strategies and leads us to the next topic of transparency in financing e-government.

IV. OPENNESS AND ACCOUNTABILITY: CITIZEN TRUST THROUGH TRANSPARENCY

One of the determinants of participation in collaborative policy decision-making is citizen trust in government, which can be achieved in two ways. Trust can be built either through ensuring of security of private data or transparency of government processes (Blakemore & Lloyd, 2007), including transparency pertaining to financial information and data.

Meijer (2005) argues that “[t]he general effect [of direct accountability in the public sector] is that openness stimulates organizations to score better on performance indicators and comply with formal rules.” In his view, public organizations generally do not react to signals
given by citizens but are aware of the public; only the public observes and stimulates positive behavior. When it comes to public finance, all public officials, not just chief financial officers, are responsible to provide greater levels of transparency for their constituents. According to Kavanagh and Suppert (2007), “Finance officers are already familiar with their duties to ensure transparency as it relates to annual budgets and financial reporting. However, new standards for transparency are emerging due to the passage of the Sarbanes-Oxley Act. This has increased scrutiny on how publicly traded corporations manage their assets, and will have spillover effects on public institutions as citizens come to expect similar levels of transparency and stewardship.”

Principles of fiscal accountability and responsiveness are two key contemporary norms of public financial management that should be promoted by e-government web applications (Justice et al., 2006). Publication of financial reports and budgetary documents on the state and municipal web sites has been practiced since the early 2000s, but today they already seem commonplace. The presence of e-government at the state and local levels has been instrumental in disseminating comprehensive annual financial reports and budgetary documents online. According to Holzer et al. (2004), “These changes may reduce cynicism toward government and restore faith in our political institutions and elected officials.” In their analysis of 104 U.S. jurisdictions, Justice et al. (2006) find positive association between commitment to fiscal accountability through e-government and the number of awards these jurisdictions received from the Government Finance Officers Association for ‘best practices’ in financial reporting in 2003. However, the authors also raise several legitimate questions, including concerns regarding the true motivation of these governments to publish and disseminate financial information: “Are the winners of budget and financial-reporting awards concerned primarily with earning the approval of their peers and bond market participants rather than with providing information to and encouraging the participation of their jurisdictions’ non-creditor stakeholders through widespread dissemination and availability?”

Despite the lack of incentive to compete for such awards, the federal agencies have recently
demonstrated a laudable example of innovative reporting of their IT spending to improve accountability and transparency, which translate into citizens’ trust in the long run.

For example, the Office of Management and Budget presently employs an interactive tool named IT Dashboard (it.usaspending.gov), which provides “your window into the federal IT portfolio” and “allows the American people to monitor IT investments across the Federal government” in intelligible ways. Another interesting innovation in financial accountability is exemplified by TechStat Accountability Sessions launched in January 2010. “A TechStat accountability session is a face-to-face, evidence-based review of an IT program with OMB and agency leadership, powered by the IT Dashboard and input from the American people. TechStat sessions enable the government to turnaround, halt or terminate IT investments that do not produce dividends for the American people. Investments are carefully analyzed with a focus on problem solving that leads to concrete action to improve performance” (Kundra, 2010). This is could become a motivational ‘high-value’ practice that state and local governments can emulate to expose themselves to enhanced, genuine citizen-centered fiscal transparency. Such a shift would reflect transition from publishing static and simply downloadable information to usable interactive methods of presenting financial documents for democratic decision making in budgetary planning and processes. The U.S. Federal CIO Vivek Kundra expressed his excitement to “see the seeds of openness, accountability, and transparency taking root around the world.”

Blakemore and Lloyd (2007) attempted to establish connection between several e-government metrics, including trust, transparency and overall cost of government, among 23 European nations based on multivariate ranking correlations. In general, the findings were mixed, but the authors were able to show that “the highest performing eGovernment services are strongly underpinned by citizen and government transparency,” which were largely based on medium to high cost of government. Below are a few excerpts from their research:

On a superficial level, the Scandinavian countries, [i.e. **Sweden, Norway, Denmark, and Finland**], provide a potential role model that we could aspire to if only we could develop
the critical linkage between the cost of government, service availability, citizen trust and social responsibility… Each of the Scandinavian countries presents high cost governments, high levels of trust in government, and generally high levels of eGovernment service uptake… Austria is another individual leader in European in delivering public value at a moderate cost. The cost of its government ranks quite high, though the trust and transparency levels rank only medium, as does investment in ICT per person. Network readiness, service availability and sophistication are matched by high levels of citizen and business use of services… Austria shows strong government commitment to deliver services that matter, and which deliver both high levels of efficiency and public value in society that has respect for government… The Netherlands has a medium cost of government, but high levels of trust and transparency, and is highest on the trust ranking within Europe. Service sophistication and availability ranks medium, but there are very high levels of citizen use, and medium levels of business use of eGovernment services. The Netherlands had placed considerable emphasis on both measuring and maintaining trust and transparency through the independent eCitizen Programme, which has been important in reassuring citizens of their privacy in the context of the new Citizen Service Number (CSN).

Particularly, the authors also refer to Halonen (2007) who has reported that the Finnish President “has emphasized the link between government openness and transparency, and the trust that can be built to encourage the active participation of citizens in the democratic process.”

**Putting ‘E’-ngagement in E-Government & Finding Effective Funding Solutions**

This thesis is focused on identifying underlying limitations of the modern e-government paradigm that presents a simplistic and overly narrow vision of users of online services and information as customers, or even consumers, due to the traditional cost-saving and efficiency priority. Current public needs and expectations necessitate a cultural paradigm shift in the provision of e-government services toward an empowered vision of citizens who have a potential to influence decision-making processes for public policies. Therefore, the following
recommendations are proposed to assist public organizations and governments, primarily at state and local levels, in diversifying available and emerging e-government services.

New e-government information systems, such as SSDS in general and CLDS systems in particular, should focus not only on seeking citizens’ support solely during election times but also engaging with these users in-between election times in a sustained dialogue.

In terms of defining the role of elected officials and representatives, they should offer active involvement as interested participants in responding to queries and providing feedback to allow participating citizens to see that their contributions are making difference in policy-making. According to Hall (2007), “This can take the form of direct responses to individuals, public responses posted onto the communal site, or summary pages with details of actions taken, and ideally feedback will be provided directly by public administrations/representatives.”

Other critical considerations elaborated by (Hall, 2007) for European e-government systems resonate well with the SSDS architecture (Exhibit 7):

<table>
<thead>
<tr>
<th>Exhibit 7. Some critical aspects of participatory e-government systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality of the deliberation</strong></td>
</tr>
<tr>
<td>- Citizens should have the opportunity to raise issues and set the agenda either completely, or within the confined of a broader topic area.</td>
</tr>
<tr>
<td>- Discussions and interactions should involve issue-raising, consideration, reaction, critique and questioning as well as responding.</td>
</tr>
<tr>
<td>- Discussions should be moderated by skilled / experienced moderators who are able to play a number of important roles including summarizing, negotiating, facilitating, arbitrating, caretaking, informing, and providing context and feeding or reporting back.</td>
</tr>
<tr>
<td>- The language used in e-democracy initiatives should be simple and straightforward; jargon and should be avoided where possible. Where possible, the 'lay' user should be able to participate on equal terms.</td>
</tr>
<tr>
<td><strong>Lose the focus on technology</strong></td>
</tr>
<tr>
<td>- Technology is not the be all and end all; it is a means not an end. Advances in technology should be used to re-design and re-think participatory citizenship rather than simply make existing processes faster or spread existing poor practice.</td>
</tr>
<tr>
<td>- Technically, e-democracy functions should be easy to use and participate in.</td>
</tr>
<tr>
<td>- Alternative feedback mechanisms should be provided for those without access to ICTs who wish to make contributions, and where possible offline contributions should be published within/alongside the online debate.</td>
</tr>
<tr>
<td><strong>Inclusion</strong></td>
</tr>
<tr>
<td>- E-democracy should enable citizens to have their say who would not necessarily have been able to do so before. (It is not about giving another tool/mecchanism to those already actively engaged in the process, or about allowing existing talkers to shout louder.) New and alternative perspectives should be encouraged and respected.</td>
</tr>
<tr>
<td>- E-democracy should make it easier or less time-consuming for citizens to participate in public administration/consultation processes by 'lowering the bar' in terms of the consultation requirements. For example, online there is less focus on drafting formal responses, composing letters; posting a message is a much simpler process.</td>
</tr>
</tbody>
</table>
- E-democracy needs to be publicized or marketed to as wide a range of target groups as possible; as appropriate to the scale/topic or area. For example, efforts should be made to inform all residents of a local community, or invite all representative groups in a special interest area to participate.

<table>
<thead>
<tr>
<th>Authentication</th>
<th>Consideration should be given to identification or validation of users – this is beneficial in identifying who users are and where they come from, and enabling some validation of the initiative through useful web statistics.</th>
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<tr>
<td></td>
<td>Conversely however, registration processes can be off-putting and complex for less experienced web users and a balanced approach is required.</td>
</tr>
</tbody>
</table>

Only after careful and detailed planning of these important aspects should public managers, particularly CFOs and CIOs, consider an overhaul plan of their financing mechanisms for e-government systems designed to augment and maintain a new role of citizen-users engaged in important public policy-making processes.

A number of purely commercial, governmental and mixed funding models have been discussed in Section 3 of this thesis. The key to an effective choice of a particular model is to evaluate beforehand the level and size of a public organization, availability of necessary economic and human resources, level of expertise of the personnel, and complexity of a given e-government project or system. It is also recommended to retain a certain level reliance on resources from the general fund for the reasons of additional financial security and sovereignty from the private sector should cases of conflict of interest arise. Finally, hardly any citizen trust and participation/collaboration can be achieved without creating robust opportunities for citizens to call public organizations to account and ensuring transparency of financial management practices within public agencies. This could be done in a significantly more open manner as in the example of the Federal IT Dashboard.

*Source:* (Hall, 2007)
WORKS CITED


