

**Pre-ICIS Workshop on e-Government Research  
Montréal, December 9, 2007**

**E-GOVERNMENT USE AND IMPACT: A RESEARCH FRAMEWORK**

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**Abstract:** Conceptualizing e-government at the level of municipalities, the objective of this research is to provide a conceptual and methodological framework to understand and measure the linear and non-linear relationships that exist between the different factors affecting e-government acceptance, use and impact. It aims at empirically showing why some local governments are more successful at adopting and leveraging IT capabilities than others, and what factors influence the development of such e-government capabilities.

**Impetus**

Despite seemingly widespread acceptance of e-government applications, effective usage of these systems for efficient service delivery and/or for competitive positioning of governments has remained problematic and scantily understood (Ciborra 2005; Grönlund et al. 2004). A core issue pertains to the fact that e-government acceptance has been equated to, and advanced as a means of government reinvention and paradigm shift, hence entailing potentially significant modifications to existing organizational routines and processes (Ho 2002; Kim et al. 2005; United Nations 2003; 2005). In essence, government reinvention refers to the shift from a traditional bureaucratic model of government to a more “businesslike” or “enterprise” model of management

(Courpasson and Reed 2004; Kim et al. 2005)<sup>1</sup>, inducing governments to “ask a new set of questions, to draw on new technical and commercial skills, and to employ new problem solving approaches” (Henderson and Clark 1990, p. 9). In this context, new demands are being laid on public administrations to become more flexible and more responsive to the needs of their customers by extensively relying on information technologies (IT) to improve their service delivery and overall performance (Kraemer and King 2006; UN 2003; 2005).

The idea of using IT as a catalyst for public administration reform is not new, as evidenced by “nearly half a century” of governments which have been implementing IT to sustain their core functions and improve their efficiency (Kraemer and King 2006, p. 2). However, a significant difference of today’s e-government initiatives lies in their net-enabled customer focus<sup>2</sup> (Ho 2002). Net-enablement refers to an organization’s ability to electronically “execute transactions, rapidly exchange information, and innovate at an unprecedented pace” by means of digital networks (Wheeler 2002, p. 125). As is the case for most organizational transformations or innovations, net-enablement requires “timely and ongoing reconfiguration of firm resources” (Wheeler 2002) and capabilities. In the context of e-government acceptance and use, the concept of capability<sup>3</sup> reconfiguration is particularly relevant since bureaucratic routines and processes are thought to constitute the main source of structural inertia in public administrations (Hannan and Freeman 1983; Perrow 1986). However, while routines may indeed represent an important source of organizational rigidity (Leonard-Barton 1992), they have also been shown to be a major source of “flexibility and change” (Feldman and Pentland 2003) and to be both a key determinant of organizational behavior (Becker, Knudsen and March 2006), and a “major source of the reliability and speed of organizational performance” (Cohen and Bacdayan 1994, p. 554).

The above observations suggest that differences that have been observed in the adoption/use and performance of e-government implementations (e.g., Bray 2005; Norris 2006) may be due to the specific actions undertaken by governments to modify and reconfigure their organizational capabilities and competences. Thus, our objective is to investigate the following research questions: Why are some governments more successful in adopting and leveraging IT capabilities than others? What factors influence the development of e-government capabilities? How are these capabilities transformed into distinct e-government service delivery competencies, and how do they influence various outcomes?

The above questions are still largely unanswered despite growing research interest on the topics of e-government adoption, use and impact (Andersen and Henriksen 2005; Grönlund 2005; Titah and Barki 2006). There currently exist too few conceptual and empirical studies which explain how and why the antecedents and the impacts of net-enabled governmental transformations vary among public administrations. The present paper posits that the relationship between e-government adoption/use and its antecedents is mediated by government capability reconfiguration (Lavie 2006), a construct labeled e-government capability in the present paper. We hypothesize a non-linear (complementary) relationship between this construct and IT usage,

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<sup>1</sup> Our research makes no claim regarding the pre-eminence of one organizational form over another. It acknowledges that both “bureaucratic” and “entrepreneurial” models have their strengths and weaknesses (Du Gay 2001; Perrow 1986). We also acknowledge that pure forms are rarely observed in reality, and that “archetypal mixes” constitute a more faithful description of organizational forms. The debate opposing the two organizational models is beyond the scope of the present paper.

<sup>2</sup> Moreover, while past e-government implementations focused mainly on internal efficiency and effectiveness (IEE), present-day initiatives are more centered on the networked electronic provision of services to four types of customers: Government-to-Citizen (G2C), Government-to-Business (G2B), Government-to-Employee (G2E), and Government-to-Government (G2G).

<sup>3</sup> An organizational capability refers to “a high level routine (or collection of routines)” (Winter 2002, p. 3).

which in turn is thought to influence e-service delivery competence. The latter is then hypothesized to affect government performance (economical and political) and to ultimately influence, at a macro level, the institutional centrality of states (Fukuyama 2004).

Given that state administration is increasingly relying on regional and local levels of governments (FCM 2004), and that competition<sup>4</sup> requirements among governments call for increased proximity to individuals and organizations, the present research is conceptualized at the level of municipalities and is specifically interested in the third and fourth stages of e-government development, corresponding to the routinization and infusion stages identified in the IS literature (Saga and Zmud 1994).

The research model depicted in Figure 1 draws on dynamic capability theory (Eisenhardt and Martin 2000; Nelson and Winter 1982; Teece et al. 1997), complementarity theory (Barua et al. 1996; Levina and Ross 2003; Milgrom and Roberts 1995a; 1995b; Samuelson 1974, Whittington and Pettigrew 2003) as well as on established IS value process models (Soh and Markus 1995). It further builds on an extensive literature review of e-government adoption (Titah and Barki 2006), as well as on three in-depth semi-structured interviews conducted with two top municipal managers, and one senior executive manager mandated by a major city to attract regional and international organizations for the establishment of local industrial grapes.

By drawing from diverse theoretical frameworks, this paper contributes to the existing literature in the following ways. First, by drawing on Feldman and Pentland's (2002) distinction between ostensive and performative routines, the paper extends dynamic capability theory by developing the concepts of ostensive and performative e-government capabilities. Second, the paper conceptualizes system usage as the central behavioural mechanism linking e-government capability (ostensive capability) to e-service delivery competence (performative capability). Third, by drawing on complementarity theory, the paper provides a sound conceptual and methodological framework for modeling and measuring the non-linear effects posited by the research model.

## **Conclusion**

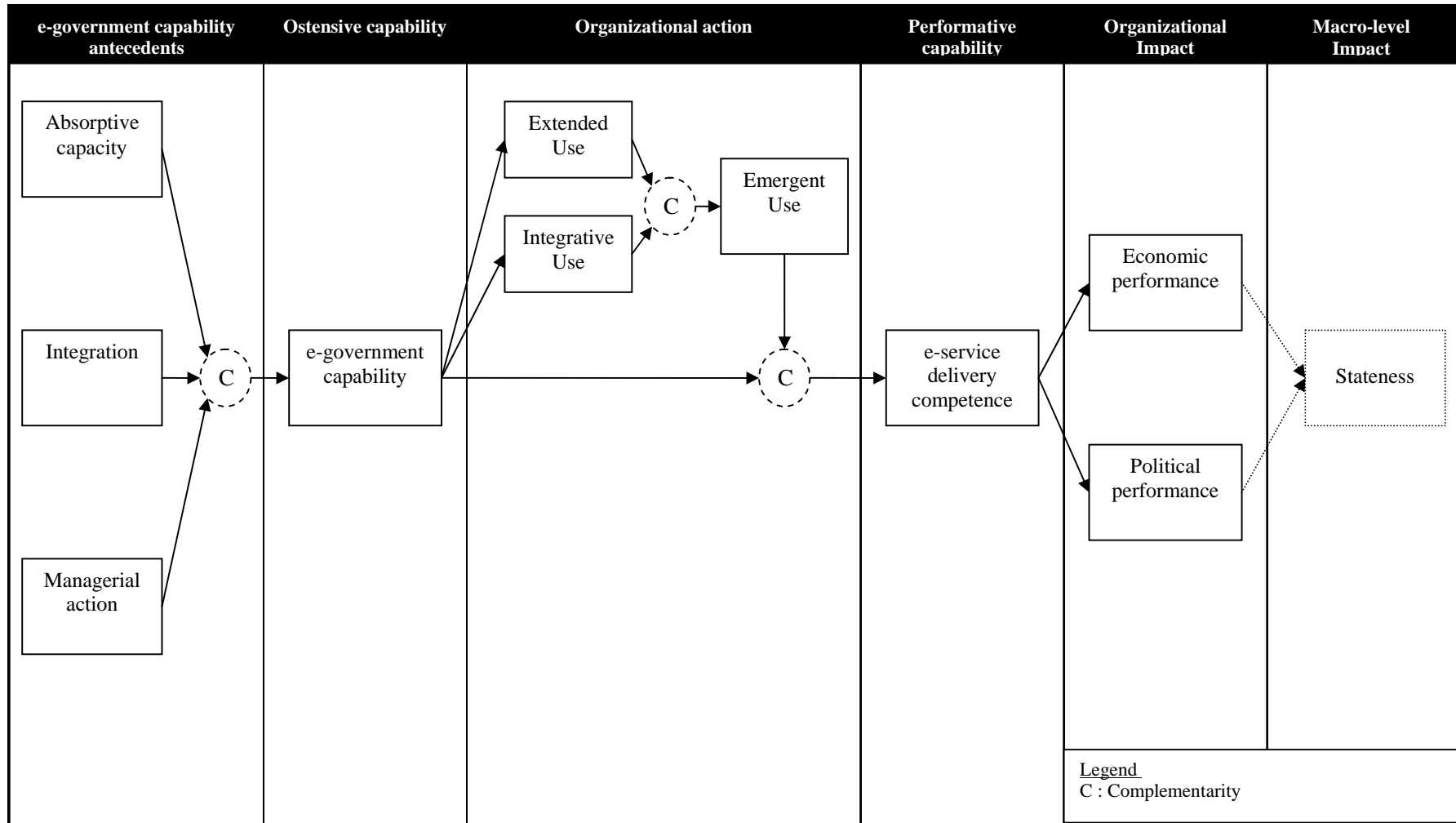
During the workshop, we intend to discuss the following issues:

- 1) What are the antecedents of e-government use? Do they differ from the antecedents of technology use identified in IS research?
- 2) What are e-government use activities/behaviours in the context of municipalities?
- 3) What factors influence e-government capability development?

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<sup>4</sup> Contrary to the assumption that governments differ from private organizations because they do not operate in competitive environments (Silva and Hirschheim 2007), we argue that governments do indeed operate in hyper-competitive environments and that "national competitive advantage is crucial to nations' economic prosperity and survival" (Griffiths and Zammuto 2005). Competition among nations is evidenced by their rivalry to attract both direct foreign investments and stock market capitalization. Census Bureau figures (2006, p. 893 and 899) show for example that between 1994 and 2003 the US have been able to attract 26% of the total direct investments flowing in the 30 OECD countries. Comparatively, Canada has only been able to attract 4% of these investments, while Belgium-Luxemburg has attracted 15% of the total inflows. Similarly, between 1990 and 1998, stock market capitalizations have increased by a proportion of 340% in the US, compared to 124% in Canada, 216% in France, 208% in Germany and 180% in the UK (Todd 2002, p. 116). Further, as noted by Vaubel (1999, p. 327) "competition among governments protects individual freedom, and it stimulates innovation and growth".

**Figure 1. Research Framework**



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