Chapter 9
A Strategic Benchmarking Process for Identifying the Best Practice Collaborative Electronic Government Architecture

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ABSTRACT

The rapid growth of the Internet has given rise to electronic government (e-government) which enhances communication, coordination, and collaboration between government, business partners, and citizens. An increasing number of national, state, and local government agencies are realizing the benefits of e-government. The transformation of policies, procedures, and people, which is the essence of e-government, cannot happen by accident. An e-government architecture is needed to structure the system, its functions, its processes, and the environment within which it will live. When confronted by the range of e-government architectures, government agencies struggle to identify the one most appropriate to their needs. This paper proposes a novel strategic benchmarking process utilizing the simple additive weighting method (SAW), real options analysis (ROA), and fuzzy sets to benchmark the best practice collaborative e-government architectures based on three perspectives: Government-to-Citizen (G2C), Government-to-Business (G2B), and Government-to-Government (G2G). The contribution of the proposed method is fourfold: (1) it addresses the gaps in the e-government literature on the effective and efficient assessment of the e-government architectures; (2) it provides a comprehensive and systematic framework that combines ROA with SAW; (3) it considers fuzzy logic and fuzzy sets to represent ambiguous, uncertain or imprecise information; and (4) it is applicable to international, national, Regional, state/provincial, and local e-government levels.

INTRODUCTION

Electronic government (e-government) is "the use of technology, particularly the Internet, to enhance the access to and delivery of government information and services to citizens, businesses, government employees, and other agencies" (Hernon et al., 2002, p. 388). E-government is a dynamic concept that has had an enormous impact on the efficient and effective delivery of government services to citizens, business partners, and other government entities in a very short period of time (Davies, 2002; Reylea, 2002). In spite of the newness of the concept, e-government has transformed government structures by providing opportunities to: (1) increase operational efficiency by reducing costs and increasing productivity; and (2) increase operational effectiveness by providing better quality of services. E-government promises better government including improved quality of services, cost savings, wider political participation, and more effective policies and programs (Garson, 2004; Bourquard, 2003; Gartner, 2000).

One of the primary objectives of e-government is to make the government and its policies more effective by providing citizens with efficient access to public information (Heeks, 2003; Prins, 2001). The increase in efficiency has strengthened the quality of government services to citizens and the business sector (Millard, 2006; Relyea, 2002). E-government has also fortified democracy and reduced the distance between citizens and government (Macintosh et al., 2003).

E-governments services represent different levels of technological sophistication and administrative challenges (Holden et al., 2003; Moon, 2002; Schelin, 2003). Several empirical studies have identified a dynamic progression in e-government sophistication from national to state to local governments (Edmiston, 2003; Stowers, 1999; West, 2005). Generally, e-government initiatives at the national level have both the financial resources and the technical expertise to move toward more sophisticated systems while they have the least direct democratic control from citizens, businesses, and other government entities. However, during the past decade, more and more state and local governments have started to embrace e-government.

The e-government architecture could be defined as the structure of what is built, its functions, the environment within which it will live, and the processes by which it will be built and operated (Rechtin, 1991; Maier, 1998). This architecture includes standards, infrastructure components, applications, technologies, business model and guidelines for electronic interactions among and between government organizations, and other consumers (Ebrahim & Irani, 2005). Being a relatively new research area, e-government architecture and adoption strategies have not been widely discussed in the literature (Zarei & Ghapanchi, 2008).

Government operates on three different levels: government to business (G2B), government to citizens (G2C), and government to government (G2G). In these cases, the relationship between the two parties is two-fold. G2B designates interactions that originate with government as well as business. Similarly, G2C designates interactions between government and citizens. G2G comprises all interactions within and between government agencies. Table 1 presents a summary of the three e-government relationship models.

Reddick (2004) has examined the three different government relationship models in U.S. cities. According to Reddick (2004), the G2C relationship shows that e-government is primarily providing an online presence for cities while the e-government is more developed when it comes to G2G use of Intranets for government employees. However, the most advancement has occurred in G2B in the case of online procurement of office supplies and equipment.

Evaluating e-government is an important research agenda and the lack of formal methods for assessing best practice e-government architectures has led to a significant slowdown of e-government development at the national, state,

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