Integrating Conceptual Approaches to E-Government

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INTRODUCTION

In general terms, electronic government (or digital government) refers to the selection, implementation, and use of information and communication technologies in government settings (Dawes & Pardo, 2002; Fountain, 2001; Garson, 2004; Moon, 2002). E-government research is a transdisciplinary endeavor including traditions such as public administration, public policy, management information systems, operations management, and information science.

Partially because of the novelty of the concept, but also because of its multidisciplinary nature, the concept of e-government is still a work in progress. The purpose of this article is to review different definitions and conceptual approaches to electronic government, analyzing their conceptual amplitude and distinguishing characteristics. The article presents a comprehensive definition of electronic government based on current definitions and a well-established theoretical framework in public administration. The article ends with a brief discussion of some future trends in electronic government.

BACKGROUND: UNDERSTANDING THE E-GOVERNMENT CONCEPT

This section contains a literature review from which it was possible to identify three different approaches to defining electronic government. The first approach proposes direct definitions containing the main elements and characteristics of electronic government, while the second de-

Table 1. A summary of the main characteristics found in e-government definitions (Adapted from Gil-García and Luna-Reyes, 2003)

Characteristic		Sources
Use of ICTs	Using electronic means or information technologies	(American Society for Public Administration [ASPA], 2001; Carbo & Williams, 2004; Cook & LaVigne, 2002; Edmiston, 2003; Galindo, 2002; Ho, 2002; LaVigne, 2002; Organisation for Economic Co-operation and Development [OECD], 2003; UNPAN, 2002; Zweers & Planqué, 2001)
	Specifically the Internet	(Choudrie, Ghinea, & Weerakkody, 2004; Edmiston, 2003; Galindo, 2002; UNPAN, 2002)
	Anytime, anyplace	(Zweers & Planqué, 2001)
To support government actions	Provision of information and knowledge	(ASPA, 2001; Ho, 2002; UNPAN, 2002; Zweers & Planqué, 2001)
	Provision of services (including complete transactions)	(ASPA, 2001; Carbo & Williams, 2004; Choudrie et al., 2004; Cook & LaVigne, 2002; Edmiston, 2003; Finger & Pécoud, 2003; Ho, 2002; LaVigne, 2002; OECD, 2003; Zweers & Planqué, 2001)
	Provision of products	(Zweers & Planqué, 2001)
	Governmental actions/daily administration/better government/intergovernmental collaboration	(Cloete, 2003; Cook & LaVigne, 2002; Edmiston, 2003; Ho, 2002; LaVigne, 2002; OECD, 2003; UNPAN, 2002)
To improve relations or citizen engagement	Relations between authorities and citizens	(Galindo, 2002)
	Exert political rights, citizen engagement	(Carbo & Williams, 2004; Fountain, 2003; Galindo, 2002)
Following a strategy oriented to add value	Adding value to participants in transaction	(Zweers & Planqué, 2001)
	Developing strategy to use technology, more important than the technology itself	(Choudrie et al., 2004; Grönlund, 2001)

fines the concept by enumerating different stakeholder-oriented applications of e-government. Finally, the third approach defines electronic government from an evolutionary perspective.

Definitional Approach: Some Characteristics of E-Government

A rich variety of electronic government definitions were found in a review of the existing literature. As shown in Table 1, it is possible to summarize most of the current definitions of electronic government using four basic elements. Electronic government is characterized by (a) the use of ICTs (computer networks, Internet, faxes, and telephones), (b) the support of governmental actions (to provide information, services, products, administration), (c) the improvement of governmental relationships with citizens (through the creation of new communication channels or the promotion of citizen engagement in the political or administrative process), and (d) the following of a strategy oriented to add value to the participants in the process.

Within this same approach, a complementary way to explain electronic government involves classifying applications according to different types of government actions. These applications can be organized in several ways; for example, Perri 6 (2001) uses three main groups of government activities: (a) electronic services, (b) electronic democracy, and (c) electronic governance. Other authors contend the concept of electronic government incorporates four fundamental dimensions of activity: (a) electronic services, (b) electronic democracy, (c) electronic commerce, and (d) electronic management (Cook & LaVigne, 2002).

Electronic services and electronic commerce are associated with the provision of government services by electronic means. Electronic management includes a great variety of elements such as intergovernmental collaboration, government systems development, training, marketing, information management, and citizen-relationship management (e.g., call centers). Public participation and electronic voting characterize electronic democracy. Finally, electronic governance concerns support for policy design and decision making as well as institutional development and administration.

Stakeholder-Oriented Approach: Different Applications of E-Government

Another approach to understanding electronic government consists of classifying e-government applications according to relations among government and other entities (Hiller & Bélanger, 2001; Moon, 2002; Schelin, 2003). In this perspective, electronic government consists of using the Internet as a tool to facilitate and improve governmental interchanges with different constituencies or stakeholders. The three main relations identified in the literature are with citizens (G2C, government-to-citizen), private organizations (G2B, government-to-business), or other governments (G2G, government-to-government) (Hiller & Bélanger, 2001; Holmes, 2001; Schelin, 2003).

Some researchers call for more specificity in interactions due to the importance and peculiarities of certain types of relationships (Hiller & Bélanger, 2001). These authors add (a) government-to-individuals as part of the political process (G2IP), stressing the importance of the democratic process, (b) government-to-companies in the market (G2BMKT), emphasizing economic interchange between government and companies, and (c) government-to-employees (G2E), differentiating the relationship of government with its employees from those with citizens in general.

Evolutionary Approach: E-Government Stages

A third way of understanding electronic government follows an evolutionary approach, identifying different stages of development in e-government initiatives (Hiller & Bélanger, 2001; Layne & Lee, 2001; Martinez-Moyano & Gil-García, 2003; Reddick, 2004; United Nations [UN] Division of Public Economics and Public Administration & ASPA, 2002). Some of these approaches restrict e-government to those projects with a certain extent of development. In the following, we describe two influential models.

Layne and Lee (2001) present a model of four stages that encompass the development of a totally functional electronic government: (a) cataloguing, (b) transaction, (c) vertical integration, and (d) horizontal integration. The first stage (cataloguing) focuses on the classification or cataloguing of government information and its presentation using Web pages. Projects in the second stage (transaction) facilitate interaction between the citizens and the government by providing products and services online. Projects in the stage of vertical integration include the integration of services from governmental organizations at different levels of government that have a common function among their responsibilities. Finally, horizontal integration consists of a radical transformation in government organizations to provide a one-stop window or a vestibule of state that provides all the information, products, and services that citizens require (Gant, Gant, & Johnson, 2002).

The Division of Public Economy and Public Administration of the United Nations and the American Society for