Theory–Based Models of E–Government Adoption

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INTRODUCTION

Too often, citizens view government as hopelessly ineffective and lacking in skill to deliver services in the same way that a bottom-line-focused private-sector business is able to effectively do. This view often informs a marked decline in political participation and a lack of confidence in the ability of public-sector agencies to effectively and efficiently solve problems (Hetherington, 1998; P. Norris, 1999). As a response, contemporary public administrators have been tasked with government "reinvention" as a way of increasing bureaucratic effectiveness and efficiency (Osborne & Gaebler, 1992). Some scholars have begun to view information technology as a critical component for creating a more capable government, one capable of providing better service and thus increasing citizen confidence in public-sector management (Norris, 2001). Electronic government (e-government) has in recent years attracted much attention as scholars have suggested that by leveraging cutting-edge information technology, government may reap benefits of increased efficiency, effectiveness, and citizen communication with public-sector agencies (C. Chadwick & May, 2003; Ho, 2002; Melitski, 2001; West, 2004). E-government can be defined as the implementation of information technology to supply services between public-sector agencies and citizens, businesses, employees, and other nongovernmental agencies (Carter & Belanger, 2004). E-government offers potential impact on the business of government in two fundamental, yet crucial, ways: by improving service delivery, including costs, and by improving communication between citizens and government (Fountain, 2001). Participatory forms of e-government, such as online public hearings or e-voting, are less common than informational uses or online transactions, such as tax e-filing. Carter and Belanger note that public-sector agencies at all levels of government have leveraged e-government applications to foster buying goods and services, the dissemination of critical information, and the acceptance of bids and proposals (General Accounting Office [GAO], 2001). Arguably, both the public sector and the citizenry benefit from the implementation of e-government services. As public-sector agencies reduce costs and improve efficiency, citizens receive quicker, better aligned services from a more focused and streamlined government (Kettl, 2000).

BACKGROUND

While a large number of research studies have been conducted that analyze how public-sector organizations use information technologies for internal operational needs (Bretschneider & Wittmer, 1993; Nedovic-Budic & Godschalk, 1996; Norris & Kraemer, 1996; Pandey & Bretschneider, 1997; Ventura, 1995), and more current studies have been published that document the increase in e-government program development (Cohen & Eimicke, 2001; Fountain, 2001; Ho, 2002; Moon, 2002; Thomas & Streib, 2003), few studies focus on the question of what organizational and environmental factors drive the decision to adopt e-government features and online services. Though this research is newly conceived, the desire is for public administrators to have a reliable model from which government agencies can more fully understand what impels citizens to adopt a specific e-government application or service. Clearly, while the body of knowledge regarding e-government is burgeoning, the focus is nebulous and generally lacking in substance regarding the impact of e-government on public organizations. The lack of a rigorous model from which to measure the impact of e-government programs on public organizations represents a methodological lapse in the existing body of knowledge.

In recent years, scholars have worked to frame the new field of e-government by applying well-founded and accepted theories. Jain (2004) cites Scholl as applying stakeholder theory to analyze e-government; in addition, Jain discusses the application of network theory (Bardach, 2002) in the examination of public-sector collaboration via information technology, as well as the use of diffusion-of-innovations theory (Lazer, 2002) as a tool to understand the value information technology can offer leading-edge public-sector agencies. Additionally, various scholars have leveraged the research on user adoption of electronic commerce or e-commerce (Carter & Belanger, 2004;

Gefen, Elena, & Straub, 2003; McKnight, Choudhury, & Kacmar, 2002) to conduct research analyzing the foundational elements directly influencing citizen adoption of e-government services (Warkentin, Gefen, Pavlou, & Rose, 2002). Although e-commerce and e-government differ with respect to access, structure, accountability (Jorgensen & Cable, 2002), and mandatory relationships (Warkentin et al.), e-commerce models can be utilized to analyze the adoption of online services in the public sector (Carter & Belanger).

By leveraging the widely accepted technology acceptance model (TAM), developed by Davis (1989), various researchers have suggested a role in the user acceptance of e-commerce in the private sector (Belanger, Hiller, & Smith, 2002; Carter & Belanger, 2004; Gefen, Elena, et al., 2003; Gefen & Straub, 2000; Moon & Kim, 2001). The TAM is comprised of variables designed to measure the acceptance of software applications by an organization's employees. Carter and Belanger note that these measures have been studied and proved valid for users of varying skill sets and for multiple applications, as well as for gender (Chua, 1996; Doll, Hendrickson, & Deng, 1998; Jackson, Simeon, & Leitch, 1997; Karahanna & Straub, 1999; Venkatesh, Morris, Davis, & Davis, 2003). Similarly, Carter and Belanger document that several studies have also used TAM to evaluate user adoption of e-commerce (Gefen, 2000; Gefen, Elena, et al.; Moon & Kim). Considering the similarities between e-commerce and e-government, the constructs used to study e-commerce adoption are also applicable to e-government adoption (Carter & Belanger; Warkentin et al., 2002).

Additional research has been conducted in the area of the Web trust model (WTM). According to a 2003 survey conducted by the Council for Excellence in Government (CEG, 2003), citizens possess a firm grasp on the potential benefits that e-government could bring to the public sector, but they have "concerns about sharing personal information with the government over the Internet, fearing that the data will be misused and their privacy diminished" (p. 2). Carter and Belanger (2004) note that privacy (Hiller & Belanger, 2001; Hoffman, Novak, & Peralta, 1999) and security (Belanger et al., 2002; S. Chadwick, 2001; GAO, 2001) are recurring issues in e-commerce and e-government research. As noted by Lee and Turban (2001), a citizen's decision to actively pursue the use of online government services requires that the citizen trust the government agency providing the service, as well as trust the Web-based technology utilized to accomplish the transaction. In this vein, newly published research (Gefen, Rose, Warkentin, & Pavlou, 2005) investigates the impact of trust in information-technology adoption in diverse cultures where divergent concepts of socially acceptable behavior exist. To accomplish this analysis, this study (Gefen, Rose, et al., 2005) compares trust-related percep-

tions of electronic voting between the United States of America and the Republic of South Africa.

However, a recent research proposal by Mete Yildiz (2003) offers an opportunity to examine the motivations of e-government from an institutional-theory perspective. Arguably, from the vantage point of the public organization, the use of institutional theory affords the prospect of understanding the initiation of e-government projects and the impact of these projects on the government agency. Institutional theory aids in the understanding of organizational reactions to conventions of the institutional environment. Thus, institutional theory requires the inclusion of components of decision making such as concerns of legitimacy, stability, and survival (Meyer & Rowan, 1977). After cautioning the use of the "measures and methods of the institutional theory, since it is argued that the theory itself has not institutionalized yet" (Yildiz, p. 2), Yildiz argues that institutional theory may aid public-management scholars and practitioners in the understanding of e-government programs in public agencies. Yildiz suggests that from an "institutional theory perspective, government organizations go online because of legitimization needs and resulting isomorphic pressures" (p. 3). DiMaggio and Powell (1983) write of three main types of isomorphic processes: coercive, mimetic, and normative.

According to the coercive isomorphic process, public organizations have adopted and implemented e-government programs as the result of a pointed managerial directive and/or as a result of unofficial pressure by other public-sector organizations that have already begun an e-government program. In the coercive model, the decision to implement e-government would be made by political appointees and career civil servants for reasons of perceived legitimacy and anticipated efficiency. Using the mimetic isomorphic process, public organizations mimic other successful and legitimate public-sector organizations. Yildiz notes that by imitating these other organizations, which already use e-government successfully, "they enhance their legitimacy by demonstrating that at least the organization is trying to improve the conditions of its service and/or information provision" (p. 3). And lastly, using the normative isomorphic process, public organizations use e-government due to the "newly emerging professional norms of public service—online interactivity, virtual service, transparency and accountability" (p. 4).

FUTURE TRENDS

The systematic implementation of online public-sector services is proving to fundamentally change the way citizens and businesses interact with government. E-

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