Government Information Quarterly xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Government Information Quarterly

journal homepage: www.elsevier.com/locate/govinf

E-government services and social media adoption: Experience of small local governments in Nebraska state

Xian Gao*, Jooho Lee

University of Nebraska at Omaha, CPACS 111, School of Public Administration, Omaha, NE 68182, United States

ARTICLE INFO

Keywords:
E-government services
Facebook
Twitter
Adoption
Small local governments

ABSTRACT

Considering that social media as new tools complement existing e-government services, it is necessary to understand what types of e-government services better fit with different social media tools. The roles of e-government services in the adoption of social media in government are understudied and little is known about social media use in small local governments. This research addresses these research gaps by exploring the relationship between different types of e-government service and social media adoption by small local governments. It also explores how these small local governments use social media. Drawing from e-government and social media literature, it offers hypotheses by focusing on the relationship between e-government service characteristics and the adoption of Facebook and Twitter in the context of small local government. Using original survey and census data of local governments in Nebraska, it finds that transaction services are associated with the adoption of Facebook while information services are related to the adoption of Twitter.

1. Introduction

Primarily driven by citizen engagement and Open Government Initiatives, local governments are increasingly using social media for purposes such as distributing information, reaching the community, enhancing public service efficiency, reducing cost, and increasing interagency exchanges (Gulati & Williams, 2013; Mergel & Bretschneider, 2013; NASCIO, 2010; Reddick & Norris, 2013). Such prevalent use of social media represents an interactive tendency that embraces myriad benefits, yet it also has potential risks. For example, unlike traditional e-government services, social media applications are provided by third parties that are outside the direct control of government organizations (Mergel, 2013a). Moreover, the current state of social media use might harm governments' reputations since many governments see these platforms merely as additional channels to broadcast information, rather than a way for bidirectional communication (McNutt, 2008). Also, problems such as security, privacy, records management, employee use/abuse, and time free for staff constrain active use of social media in local governments (McNutt, 2008).

Most social media studies have connected to Web 2.0 or Government 2.0 concepts, such as: open government and transparency, citizen participation, interagency collaboration, and trust in government (Linders, 2012). They follow multiple theoretical frameworks such as: impact of information technology in the public sector, socio-technical and structuration theories, strategic business alignment, and innovation and diffusion (Criado, Sandoval-Almazan, & Gil-Garcia, 2013). Several gaps emerged from these studies. Among them, the apparent first one is that most studies focus on social media experiences of large cities, although the majority of local governments in the U.S. are small (Cassell & Mullaly, 2012; Feeney & Welch, 2014; Li & Feeney, 2014; Mossberger & Wu, 2012). Second, the relationship between e-government and social media technologies is poorly-defined. Some emphasize the difference by stating social media is capable of engaging citizens in collaborative and transactional activities in ways not possible with e-government (Bryer, 2011; Li & Feeney, 2014). Others, however, find that the use of social media follows the pathway of e-government, but the interactive nature continues to be overlooked (Feeney & Welch, 2014; Mossberger & Wu, 2012). Third, previous studies tend to consider Web 2.0 tools as a homogeneous block, "without fully recognizing the diversity of their technical characteristics and variation in purposes for which they are applied" (Oliveira & Welch, 2013).

As a response to these gaps, this study focuses on social media adoption by small local governments and explores the relationship between existing e-government services and the adoption of two different social media tools: Facebook and Twitter. It also touches on the question of how small local governments are using social media tools to communicate with the public.

The following section introduces a conceptual framework and four hypotheses. Data and methods used to test these hypotheses are then

* Corresponding author.
E-mail addresses: xiangao@unomaha.edu (X. Gao), jooholee@unomaha.edu (J. Lee).

http://dx.doi.org/10.1016/j.giq.2017.09.005
Received 18 April 2017; Received in revised form 11 July 2017; Accepted 14 September 2017

presented. This is followed by the results of two logistic regression models and descriptive analysis of survey data, from which the connections between e-government services and the adoption of Facebook and Twitter are illustrated. This paper concludes with a discussion of results and implications.

2. Conceptual framework

2.1. E-government service types

E-government is defined as "the use of information and communication technologies (ICTs) for a better government or to improve the quality of its services, especially through the use of the Internet and Web technologies" (OECD, 2003). Under e-government platforms, government is the main technology adopter, content contributor, and system manager (Mergel, 2013b; Reddick & Norris, 2013). As a result, the introduction of new platforms is "traditionally top-down driven following organizational needs, technological innovations, as was the case with PCs, email or Internet use" (Mergel, 2013b, p. 125). Engines for the e-government wave are a set of purely asynchronous Web 1.0 tools characterized by "passive users consuming static content functioning as a publishing medium with limited interactive capacity" (McNutt, 2014, p. 52).

Informed by the increasingly extensive e-government practice, scholars identified multiple types of e-government services, such as e-services and communication technologies (Li & Feeney, 2014), e-government services and policies (Haller, Li, & Mossberger, 2011), information services, transactional services, and policy services (Nam, 2014). Despite the existence of various service types, users are using e-government platforms mainly for general information, transaction, and policy search (Nam, 2014). This study adopts the same typology. Specifically, government websites are the main channels for providing information services such as downloading forms, searching government jobs, and navigating potential benefits. Also, they offer an array of transaction services, such as renewing driver's licenses or permits, paying property taxes or fines, and applying for recreational licenses. Policy services are important for sharing information on government organizations, processes, legislations, elected officials, and budgets (Nam, 2014). Under e-government platforms, governments have a better record for providing these three types of services than actively engaging users (Mossberger, Wu, & Crawford, 2013; Nam, 2014).

2.2. Relationships between E-government and social media

Changes to the top-down driven e-government adoption procedure occurred with the advent of Web 2.0 technologies such as social media tools (Mergel, 2013b; Reddick & Norris, 2013). The Federal Web Managers Council defined social media as an "umbrella term that encompasses the various activities that integrate technology, social interaction, and content creation" (U.S. General Services Administration, 2009, p. 1). In contrast to this definition, social media have also been regarded as forms of technology "that facilitate social interaction, make possible collaboration, and enable deliberation across stakeholders" (Bryer & Zavattaro, 2011, p. 327).

Social media use emerged mostly through informal experimentation and rapidly gained traction (Mergel, 2013b; Mergel & Bretschneider, 2013). They have an unprecedented social and interactive nature and are committed to facilitating two-way communication as well as co-production (Linders, 2012). As of 2010, the two most popular social media tools used by state governments are Facebook and Twitter (NASCIO, 2010). In the case of local governments, for example, in the 75 largest U.S. cities, the adoption rate of Facebook skyrocketed from just 13% of the cities in 2009 to nearly 87% in 2011; similarly, the rate of Twitter adoption increased from 25% to 87% (Mossberger et al., 2013).

The prevalence of Facebook and Twitter in local governments has aroused scrutiny for how these technologies are being used, how they differ from e-government technologies, what factors affect the adoption, and how local government managers perceive the outcomes of these technologies (Feeney & Welch, 2014; Li & Feeney, 2014; Mergel, 2013a). To answer these questions, researchers usually observed the experiences of large local governments, which tend to be more advanced in technology development (Mossberger et al., 2013; Reddick & Norris, 2013). They argued in favor of the distinction between e-government technologies and social media. For instance, the analysis of Mergel (2013b) illustrated that instead of driven by top management decisions, the decision to adopt social media practices was influenced by four informal input mechanisms: 1) observations of citizens use of social media; 2) passive observations of highly innovative departments and agencies; 3) active interaction with peers; and 4) formal guidelines developed by lead agencies. Related to this, government service, policy, and governance are usually one-way, going from the agency to the citizen in the case of e-government, while with social media applications "information is co-created, citizens demand services, policy is negotiable, and governance is shared" (Reddick & Norris, 2013, p. 498). Another important distinction is that social media applications are provided by third parties, where technological features are hosted outside government and communication on these applications, to some extent, is beyond direct control of government organizations. The latter fact necessitates different strategies and changes the role of governments from information controllers to dialogue facilitators (Hofmann, Beverungen, Räckers, & Becker, 2013).

Another group of studies argued that e-government and social media are not separate trends. They labeled social media applications as technological innovations in the public sector (Mergel, 2013b), a central component of e-government (Jaeger & Bertot, 2010), a step forward for local governments that makes more use of ICTs to provide information and services to external audiences (Bonsón, Torres, Royo, & Flores, 2012), and additional channels for governments' interactions with stakeholders (Mergel, 2013c). More specifically, social media adoption follows a similar diffusion curve as previous waves of e-government and ICT adoption (Mergel, 2016). This is because social media tools face similar problems of adaptation to the existing organizational culture and institutional structure of public sector organizations, though differing in their technical features (Criado et al., 2013). "Social media adoption is impacted by institutional and organizational mechanisms that direct the degree and extent of adoption." (Mergel, 2016, p. 146). Case in point, the development of social media tools and Web 2.0 applications by EU local governments was found to not depend on citizen demand or the public administration style but followed a predictable development corresponding to that previously seen in e-government levels (Bonsón et al., 2012). Second, empirical evidence shows that the social/interactive capacity of social media may not be implemented by practitioners (Bryer & Zavattaro, 2011). Mergel (2013a) identifies social media tactics as push (provide government information), pull (invite citizens' inputs), and networking (respond to citizens' inputs). Following this typology, Mossberger et al. (2013) find the 75 largest U.S. cities use extensively the "push" strategy. Similarly, in Turkey and China, social media applications were adopted and used by governments primarily for the purposes of self-promotion and political marketing rather than for transparent, participatory and citizen-oriented public service delivery (Sobaci & Karkin, 2013; Zheng & Zheng, 2014). Third, like e-government, social media enactment is bound by issues involving records management, privacy, administration-specific requirements, and ethics (Jaeger & Bertot, 2010; Mergel, 2013c). Fourth, the use of social media may increase communication between citizens and government, yet it has nothing to do with citizens' skills required for participation. Citizens do not necessarily become more competent in their citizenship skills; they may still be reluctant to utilize social media as an interactive tool to connect with government (Bryer, 2011). Fifth, from the perspectives of innovation adoption and institutionalization, governments that have adopted e-government are