The emergence of local open government: Determinants of citizen participation in online service reporting

Lisa Schmidthuber[a],[*], Dennis Hilgers[a], Thomas Gegenhuber[b], Stefan Etzelstorfer[c]

[a] Institute for Public and Nonprofit Management, Johannes Kepler University, Altenbergerstraße 69, 4040 Linz, Austria
[b] Institute of Organization Science, Johannes Kepler University, Altenbergerstraße 69, 4040 Linz, Austria
[c] Municipality of Linz, Hauptplatz 1, 4041 Linz, Austria

ARTICLE INFO

ABSTRACT

This study contributes to the understanding of citizen-government interaction in open government arenas by investigating why citizens are willing to participate in citizensourcing platforms. We draw on technology acceptance literature, motivation theory, and the theory of planned behavior to explain individual citizensourcing activity, and quantitatively test our hypotheses surveying users of an online reporting platform. Our results indicate that respondents who experience enjoyment when engaged in citizensourcing show a higher activity level. Open government attractiveness and perceived benefit of using citizensourcing platforms further explain high level of platform activity. Besides these factors, respondents who previously reported via traditional channels are significantly more active in online reporting. Offline reporting experience also positively moderates the relationship between perceived ease of use and online reporting. Quantitative analyses show, in addition, that individual motivation for engaging in governmental initiatives varies across proactive, interactive, and passive types of users. We conclude with implications for public managers operating platforms, and discuss future research opportunities.

1. Introduction

Public organizations increasingly make use of advances in information and communication technologies (ICT) to open up and integrate external actors (e.g., citizens, businesses, universities) into organizational and administrative processes. Governmental endeavors to intensify citizen-government relationships encompass transparent public information, participative decision-making processes, and new platform-based forms of collaborative activities (Linders, 2012; Mergel, 2015; Nam, 2012b). These new means of governmental organization include citizensourcing activities, in which a public administration makes an open call to citizens to engage in problem-solving (i.e. transferring knowledge, ideas, or solutions to the administration), or task execution (i.e. aiding the administration in monitoring urban maintenance issues such as potholes). Citizensourcing increases a public administration's responsiveness and effectiveness because it empowers an administration to harness citizen input for public innovation and service improvement (Linders, 2012). Successful citizensourcing requires motivated citizens who actively contribute and interact with an administration online. Furthermore, knowledge about users' motivation helps to develop and implement initiatives more effectively, and to increase participation (Leimeister, Huber, Bretschneider, & Krcmar, 2009; Mergel & Desouza, 2013).

Despite the importance of understanding why citizens are willing to engage in citizensourcing, only scarce empirical attention has been paid, as yet, to this factor. We aim to identify individuals' determinants to participate in citizensourcing. We take an online reporting platform as an example of a citizensourcing project (Linders, 2012), to gain insights into individuals' willingness to interact with local government. More specifically, we first aim to illuminate technology-related characteristics of the citizensourcing platform by referring to the technology acceptance literature. Citizens who want to participate in citizensourcing platforms must adopt a new technology. Consequently, we focus on users' perceived ease of use and benefits gained from reporting defects to the local municipality by using online platforms. Second, we aim to better understand citizen motivation to support the local government by reporting infrastructural defects. We rely on motivation theory to analyze individuals' behavior on the online platform and their voluntary contributions to public service improvement. Third, we intend to clarify how the citizens' offline reporting experience is a factor of their engagement in online reporting. Because users may have communicated infrastructural defects to local government via traditional channels, we are interested in the role of offline reporting as a moderator in the relationships between motivational and IT variables

* Corresponding author at: Institute for Public and Nonprofit Management, Johannes Kepler University, Altenbergerstraße 69, 4040 Linz, Austria.
E-mail addresses: lisa.schmidthuber@jku.at (L. Schmidthuber), dennis.hilgers@jku.at (D. Hilgers), thomas.gegenhuber@jku.at (T. Gegenhuber), stefan.etzelstorfer@mag.linz.at (S. Etzelstorfer).

and participation behavior. The theory of planned behavior assumes that past behavior influences future intentions and behavior. We test this assumption in relation to citizen interaction with government via different channels.

We provide answers to the following questions: (1) What are the influences of platform perception, participation motivation, and offline reporting experience on an individual participation in citizensourcing? (2) Does offline reporting experience change the relationship between motivation and platform perception, and participation in citizensourcing? Analysis of data from a survey taken among users of a platform for reporting urban maintenance issues (e.g. a pothole) supports this paper's examination of the factors influencing citizens' level of activity on citizensourcing platforms, including the role of offline reporting experience.

A sophisticated understanding of determinants of citizensourcing participation has theoretical value and implications for public managers. The present study offers the following contributions to research on citizensourcing (see e.g., Hilgers & Ihl, 2010; Linders, 2012; Nam, 2012b; Schmidthuber & Hilgers, 2017b): first, it provides empirical evidence of citizen experiences with citizensourcing platforms. We draw on survey data from more than 320 platform users to concentrate on their participation, and distinguish between varying activity levels of citizen-government online interaction (i.e. proactive, interactive, and passive participation). Consequently, this study contributes to previous studies concentrating on individuals' willingness to engage in citizensourcing (Thapa, Niehaves, Seidel, & Plattfaut, 2015) and open government (Jurisch, Kautz, Wolf, & Krcmar, 2015). Second, this study draws on three strands of literature to explain citizens' activity in citizensourcing: the technology acceptance model, motivation theory, and the theory of planned behavior. We add to previous work which investigated citizensourcing platforms conceptually and qualitatively (e.g., Linders, 2012; Lukensmeyer & Torres, 2008; Nam, 2012b) by empirically analyzing, and explaining citizen activity in online platform. Finally, we shed light on citizens' experience in communicating with local government via traditional channels. Although public administration has only recently implemented citizensourcing platforms, for a long time citizens have been able to communicate via other channels (e.g., face-to-face, telephone, mail). We explore the role of citizens' experience in citizen-government interaction relative to their participation in citizensourcing. Finally, the contingency perspective taken in this study not only advances our theoretical understanding of citizensourcing, but also makes the results relevant for practice. It is shown that some technological and motivational factors directly influence citizens' use of citizensourcing and how public managers could influence platform users' activity level.

The remainder of this paper is structured as follows: in Section 2, we begin by outlining governmental attempts to interact with citizens via modern technology, and reveal various types of citizensourcing platforms. We explore factors that may influence individuals' engagement in citizensourcing platforms, and present our hypotheses. We cover the research setting and data in Section 3, and in Section 4 we present our empirical findings. We conclude with a discussion of results, implications, and issues for further research in Section 5.

2. Theoretical overview and hypotheses

2.1. Open government at separate stages of the service delivery cycle

In recent years, open government as a new paradigm has leapt on to the policy agenda. For one, open government aims at opening up administrative procedures by making governmental data transparent. It intends to stimulate citizens' vision of "what is going on inside government" (Meijer, Curtin, & Hillebrandt, 2012, 11), and openly reveal public data (open government data). Open government goes beyond openness in informational terms, and also includes openness in interactive terms (Meijer et al., 2012). Accordingly, and second, open government aims at fostering citizen involvement in administrative and decision-making processes. Modern ICT enables closer interaction between government and citizens,

permitting government to absorb citizens' knowledge (Hilgers & Ihl, 2010). Linders (2012, 447) describes 'citizensourcing' as a "citizen-to-government" collaboration, where citizens support government organization to increase its responsiveness and effectiveness. Citizensourcing principles are similar to 'crowdsourcing' principles, a concept which originated in open innovation literature (Ebner, Leimeister, & Krcmar, 2009; Enkel, Gassmann, & Chesbrough, 2009), and characterizes an activity where an actor (e.g., a public administration) issues an open call to solicit contributions for solving a problem or executing a task from external sources such as citizens (Afuah & Tucci, 2012; Brabham, 2008; Hetmank, 2013). While the term 'crowdsourcing' is usually associated with the private sector, such as in generating ideas for commercial product development (Poetz & Schreier, 2012; Schweitzer, Buchinger, Gassmann, & Obrist, 2012), the public sector increasingly turns to the crowd for ideas about improvements in public service delivery (Wise, Paton, & Gegenhuber, 2012; Schmidthuber & Hilgers, 2017b). In citizensourcing citizens play a partner role rather than a service customer role, influencing the service delivery lifecycle at separate stages (Linders, 2012):

- In the service delivery lifecycle's *first stage*, a government organization consults citizens about service design or urban planning. In striving for public innovation, the organization openly calls a large and undefined group of people for ideas on e.g., the city's future, placing them in an advisory capacity to the administration. New interactive channels like online platforms or social media subsequently collect citizen input.

- In the *second stage*, service delivery and execution integrates the public. Online platforms and mobile applications enable citizen-government interaction on a more frequent and regular basis. For example, citizens provide their knowledge, skills, and experience, and act as government problem-solvers.

- In the *third stage*, citizens assist in public service monitoring when the government invites them to share their day-to-day experiences and to make requests for public services. For instance, government organizations install systems to collect and handle infrastructural defect reports. Cities all over the world have already implemented multiple forms of such online reporting platforms (e.g., fixmystreet.com, seeclickfix.com; see also Offenhuber, 2014).

Table 1 illustrates these three service delivery lifecycle stages, and outlines in which way citizens are integrated (1) via traditional and offline channels and (2) via online channels (i.e. citizensourcing). First, offline communication characterizes traditional participation. For gathering citizens' ideas and opinions about urban planning local government organizes workshops, and stakeholders meet at arranged time and place for discussing the city's future. When citizens have requests concerning public service delivery, they visit government office, or call public employees by phone. For several years, modern technology has provided various new possibilities for governments to collaborate with citizens integrating them into service delivery. Accordingly and second, citizens are able to communicate with public employees conveniently via social media channels online platforms, or mobile applications (e.g., Schmidthuber & Hilgers, 2017a). For example, a local government collects its citizens' ideas on an idea generation platform, or processes requests posted on an online reporting platform. In addition to citizen-government interaction, modern technology provides a channel for citizens to exchange information and opinions.

In running citizensourcing platforms, government organizations pursue different aims. First, employing new technology enhances citizen perception of government as a modern institution (Nam, 2012b). Relatedly, the opening-up of the service delivery lifecycle is designed to improve the relationship between the public and government institutions (Herian, Hamm, Tomkins, & Pytlik Zillig, 2012; Janssen, Charalabidis, & Zuiderwijk, 2012). Second, citizensourcing is expected to improve public service delivery quality, as citizens support government with information creation, service delivery, problem solving, and