# Citizen Engagement With Open Government Data:
## A Systematic Literature Review of Drivers and Inhibitors

Arie Purwanto, Delft University of Technology, The Netherlands

Anneke Zuiderwijk, Delft University of Technology, The Netherlands

Marijn Janssen, Delft University of Technology, The Netherlands

https://orcid.org/0000-0001-6211-8790

### ABSTRACT

Citizen engagement with open government data (OGD) can enhance the effectiveness of governments and improve not only the quality of public policy making but also public services provisioning and ability to address societal problems. Although previous research gives insight into citizen's drivers and inhibitors for engaging with OGD, they have not yet been integrated into a single conceptual model. The aims of this study are twofold: 1) to systematically review the literature on individual citizens' drivers and inhibitors for engaging with OGD and 2) to develop a conceptual model of citizen engagement with OGD based on the findings of the literature review. To attain this objective, the authors systematically analyzed 52 papers published in the period 2009-2019. Seven categories of drivers of citizen engagement are identified: citizen's profile, personal, performance-related, economic, social, technical, and political. Three groups of inhibitors are also identified: citizen's profile, technical, and political. This study helps in understanding how the engagement of citizens can be enhanced.

### KEYWORDS

Citizen Engagement, Conceptual Model, Factors, Literature Review, OGD, Open Government Data

### INTRODUCTION

Citizen engagement with OGD can enhance the effectiveness of governments and improve not only the quality of public policy-making but also public services provisioning and ability to address societal problems (Huijboom & Van den Broek, 2011). Citizen engagement with OGD refers to activities performed by citizens to produce artifacts such as applications, maps, visualizations, articles, or news based on the transformation of government data into fact, information, insight, interface, new data, or service (Davies, 2010; Susha, Grönlund, & Janssen, 2015). Society's collective expertise and knowledge that are harvested in an OGD engagement, such as hackathons, can produce artifacts

that create alternative solutions to solving societal issues (Kuk & Davies, 2011). For example, an election monitoring application built on top of open election data enables the provision of feedback to the election authorities regarding suspicious results that might lead to corruption (Graft, Verhulst, & Young, 2016).

Previous research in the discipline of social sciences shows that citizens are being driven to engage with OGD by factors like 'performance expectancy' and 'social influence' (Zuiderwijk, Janssen, & Dwivedi, 2015). A recent study in the United Kingdom (UK) shows that citizen engagement with OGD is driven by the relative advantage of open data, its compatibility, and the observability of its outcomes (Weerakkody, Irani, Kapoor, Sivarajah, & Dwivedi, 2017). In contrast, another study suggests that citizen engagement with OGD in public transportation hackathon is driven by intrinsic motivations such as having fun and enjoyable activities and intellectual challenge (Juell-Skielse, Hjalmarsson, Johannesson, & Rudmark, 2014). Furthermore, one study finds that citizen engagement with OGD in Swedish hackathons is mainly inhibited by resource-related issues, such as lack of time and money (Hjalmarsson, Johannesson, Juell-Skielse, & Rudmark, 2014). Yet, another study on open data barriers in the UK finds that not only resource problems inhibit citizen engagement with OGD, but also data quality and data portal quality issues (Martin, 2014). These findings suggest that the drivers and inhibitors that play a role in some instances of citizen engagement are different from those that play a role in other contexts. Various studies mention different drivers and inhibitors. Furthermore, studies on drivers and inhibitors of citizen engagement sometimes even draw contradictory conclusions.

Although previous research gives insight into citizen's drivers and inhibitors for engaging with OGD (e.g., Hossain, Dwivedi, and Rana (2016)), they have not yet been integrated into a single conceptual model. There is a lack of insight into the enabling and disabling conditions that moderate different types of OGD use (Safarov, Meijer, & Grimmelikhuijsen, 2017). Hence, there is a need for a comprehensive model of drivers and inhibitors that potentially provides a theoretical argument for citizen engagement with OGD.

A recent review conducted by Hossain et al. (2016) shows that most literature predominantly focuses on organizational and inter-organizational perspectives. Not surprisingly, the literature emphasizes organizational analysis on OGD provision since open government initiatives have hitherto been supply-driven (Evans & Campos, 2013). Despite citizen engagement is among the purposes of open government movement and engaged citizens are regarded as key to the success of OGD programs (Dietrich, 2015), most literature simply speculates about citizens (Safarov et al., 2017). Current research is lacking studies at the individual level of analysis (Hossain et al., 2016), particularly citizens who engage with OGD.

The aims of this study are twofold: 1) to systematically review the literature on individual citizens' drivers and inhibitors for engaging with OGD, and 2) to develop a conceptual model of citizen engagement with OGD based on the findings of the literature review. The scientific contribution of this paper is twofold. First, it provides a systematic review of drivers and inhibitors of citizen engagement with OGD at the level of individual citizens, which the current open data literature is lacking. Second, this study synthesizes the literature and proposes a conceptual model for investigating factors that influence citizen engagement with OGD based on empirical findings of current open data research. This study helps in understanding how the engagement of citizens can be enhanced.

This paper is structured as follows. We present the Systematic Literature Review (SLR) approach that guides this research in the next section, followed by the discussions of the main review findings and the descriptive analysis of the reviewed papers. Then, we discuss the synthesis of the results based on the proposed research questions, followed by the theoretical and practical implications of the research. Finally, we provide conclusions and delineates the limitations of this review and future research directions.

23 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/article/citizen-engagement-with-open-government-data/265511

## Related Content

Interpretive Strategies for Analyzing Digital Texts
Sheila Pettyand Luigi Benedicenti (2013). *Information Systems and Technology for Organizations in a Networked Society (pp. 53-66).*
www.irma-international.org/chapter/interpretive-strategies-analyzing-digital-texts/76531

New Technologies and Democratic Participation on the International Level
Marios Papandreou (2013). *Digital Democracy and the Impact of Technology on Governance and Politics: New Globalized Practices (pp. 10-19).*
www.irma-international.org/chapter/new-technologies-democratic-participation-international/74566

Fate of AI for Smart City Services in India: A Qualitative Study
Sachin Kuberkar, Tarun Kumar Singhaland Shikha Singh (2022). *International Journal of Electronic Government Research (pp. 1-21).*
www.irma-international.org/article/fate-of-ai-for-smart-city-services-in-india/298216

Exploring the Roles of Intermediaries in Collective Memory-Supported Electronic Negotiation: A Theoretical Framework
Nongkran Lertpittayapoomand Souren Paul (2008). *Electronic Government: Concepts, Methodologies, Tools, and Applications (pp. 3670-3686).*
www.irma-international.org/chapter/exploring-roles-intermediaries-collective-memory/9953

A Research Roadmap to Advance Data Collaboratives Practice as a Novel Research Direction
Iryna Susha, Theresa A. Pardo, Marijn Janssen, Natalia Adler, Stefaan G. Verhulstand Todd Harbour (2018). *International Journal of Electronic Government Research (pp. 1-11).*
www.irma-international.org/article/a-research-roadmap-to-advance-data-collaboratives-practice-as-a-novel-research-direction/220471