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Civic Engagement through Open Government Data: Challenges and the Way Forward

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Abstract

Communities participation in the public domain leads to better informed and more empowered citizens and this involvement can best be achieved through Open Government Data (OGD). This study is based on an extensive review of the literature, aims to investigate the role of OGD, identify key challenges and way forward to promote civic engagement. The findings showed that copyright issues, lack of data literacy, accessibility, digital divide, and mismatch of information are the major challenges. However, resolving the licensing issues, availability and easy accessibility of OGD, data literacy education etc. are the way forward to enhance citizen's participation in society's affairs.

Keywords: Civic engagement, Open government data, Challenges of open data.

Introduction

Government data is a valuable resource that empowers citizens to participate in public decision making, paving the way for healthy community engagement for the next generation and eventually leading to a better quality of life. Civically engaged citizen is the major output of OGD (Odongo, & Rono 2016; Reggi & Dawes, 2016; Jetzek, Avital & Bjorn-Andersen, 2012).

Civic engagement (CE) refers to voluntary participation in public activities and solving the community's problems. It also includes activities performed either alone or in cooperation with others to cause a change (Zani & Barrett, 2012, p. 274). Citizens participate in public affairs to shape the better future of the community. The effective use of OGD can best ensure healthy and result oriented CE. Government data becomes public and open when anyone is free to access, use, reuse, transform, and share it with anyone (Ubaldi, 2013). OGD generate transparency on public affairs and keeps citizens in the information loop by providing education and opportunity of monitoring of all government's actions. OGD is meant to empower citizens at scale.

Recipe of datasets and government files are freely accessible in government or semi-public depositories, which can be used, and processed in various computer programs or hybrid mobile and online platforms without any copyright restrictions on its further use (Huijboom & Van den Broek, 2011; Janssen, 2011; Janssen, Charalabidis, & Zuiderwijk, 2012; Kassen, 2013; Shadbolt et al., 2012; Ubaldi, 2013). OGD initiatives are based on three pillars of transparency; maximize community participation in government's affairs, fight against corruption and improve accountability, and collaboration between government bodies and the general public for strengthening democracy (Attard et al., 2015).

Majority of the people use OGD for health's concerns, education, taxes and finance; employment (changing a job or starting a business); and getting information about key programs such as social security and Medicare. (Verhulst & Young, 2016). According to Meijer and Potjer (2018), although, OGD provides healthier information for public governance, it can also be used, at the same time, for challenging the current position and governance structure. They believed that OGD can be used both for collaboration and contestation, depending upon the situation ahead.

Ubaldi (2013) highlighted in an OECD report that “universal participation” is crucial to unlocking the value of OGD; everyone can use, reuse and redistribute public sector information. Open data is only open if it can be easily found and used – which is often not the case. According to Dvir (2018), open government data meant to be public, accessible, described, complete, reusable, timely, and managed post-release. It has the potential to create public and commercial benefits for the community engagement in society, economic innovation, and for the government itself. Most democratic societies recognize the right to access, use, and reuse information produced by the state. The main purposes of publishing open data are to expose data to a larger audience on the Web and provide local users with a richer experience (Smith-Yoshimura, 2018).

Publishing OGD causes innovation in government affairs and strengthening the relationship between citizens and public organizations. Once data is made available, the public becomes an active part of data processing which ultimately leads towards better and more informed societies. Formulation of additional views, strategies of community’s problem-solving and inspiration to become a proactive contributor in public related initiatives are the major outputs of OGD. Moreover, it allows the government to get feedback from its citizens to make things better (Janssen, Charalabidis and Zuiderwijk, 2012b). Pieces of evidence from different studies suggested that OGD initiatives across the globe are scattered, not well-understood, and at times, even contradictory (Susha, Gronlund & Janssen, 2015). In the majority of the countries, the impact of OGD is difficult to measure due to the complexities of the initiatives. According to the Sunlight Foundation, 148 states have open data policies in place but the way they presented data for public use varies from place to place: some institutions provide data as tables on websites, while others have developed their own ways to download and interpret data.

It is the fact that OGD has an important contributor in promoting democratic values and citizen's participation in public affairs like monitoring government activities for transparency and accountability; participating and collaborating, evaluating government services, and discussing policy alternatives (Baldwin, 2014; Ruijter, Grimmelikhuijsen, & Meijer, 2017). However, it is poorly understood that OGD has great potential to instigate healthy community participation in public affairs which can further lead to a balanced, progressed, economically and socially developed, innovative and participatory society (Safarov, Meijer, & Grimmelikhuijsen, 2017; Stylin, Luna-Reyes, & Harrison, 2017). Therefore, more must be known about OGD and its impact on the promotion of community participation in government affairs.

This study examines the major challenges and the way forward to promote citizen's involvement in government affairs. Provision of OGD play a significant role in the interactions between the city and the citizens and manage their resources more efficiently.

Major Objectives

Following are the major objectives of the study.

1. To identify key challenges of OGD in promotion of citizen's engagement.
2. To propose the way forward for community involvement in public affairs through OGD.

Research Methodology

The study followed extensive searching and review of relevant literature. Various research databases, including Google Scholar, Scopus, and Web of Science were searched to identify the relevant literature. Backward and forward citations, Boolean operators, and other searching techniques were also used to obtain the most relevant studies.

The review concentrates on two perspectives: First, studies which had been conducted on the key challenges/obstacles in instigating community participation in society's affairs. Second, studies which suggested the way forward to enhance CE through OGD.

Challenges of Open Government Data and Civic Engagement

Capacity building both for an individual, as well as collective level, can be ensured with the effective utilization of OGD, which further leads to sustained change in the society. According to Ruijter, Grimmelikhuijsen, and Meijer (2017), open data frameworks have largely unsuccessful to promote democratic engagement in society. Although, open government data encourage public participation and social innovation but it also widens prejudice and stigmatizes the poor and vulnerable, who, for example, cannot choose where to live or to study.

There are various factors that affect the use of OGD with regard to citizen participation (Janssen et al., 2012; Susha et al., 2015.; Martin, Law, Ran, Helbig, & Birkhead, 2017). Canares, Marcial and Narca (2016) explored that unavailability or otherwise incomplete data, ambiguities in data available with government portals, inability to download, digital divide, lack of data analysis skills are the main challenges in effective utilization of open government data. The data contexts require interpretation for specialized and non-specialized audiences which lack, in most of the cases, with OGD. Other barriers include time, literacy and social status (Locke & Heppler, 2018; Smith-Yoshimura, 2018). According to the study of Dvir (2018), inaccessibility mismatch information, storage and formats problems, and licensing issues are the important challenges of OGD in instigating community involvement in public policy planning.

Lack of necessary technical skills is a fundamental barrier (Safarov et al., 2017; Lyon et al., 2015; Graves & Hendler, 2014). Lack of expertise to make sense of the data and statistical knowledge (Janssen et al., 2012). Misunderstanding between data providers and

users are also reported as an important challenge (Martin, Foulonneau, Turki, & Ihadjadene, 2013). Government's lack of readiness to make data available (Zuiderwijk, Janssen, Choenni, Meijer, & Alibaks, 2012; Yang & Wu, 2016; Wirtz, Piehler, Thomas, & Daiser, 2016). Legal issues, especially related to privacy and security (Janssen et al., 2012; Khayyat & Bannister, 2015; Martin & Begany, 2017a; Styrin et al., 2017; Zuiderwijk et al., 2014; Zuiderwijk & Janssen, 2014). Lack of standards, technical issues, and unavailability of a supportive infrastructure are reported as critical challenges of OGD (Janssen et al., 2012; Lyon et al., 2015; Martin & Begany, 2017b).

According to Smith-Yoshimura (2018), there are numerous challenges in publishing open data on the web like quality, linking, and usability. Janssen, Charalabidis, and Zuiderwijk (2012b) grouped challenges of open data into four categories mainly institutional, task complexity, use and participation, legislation, information quality, and technical. They further investigated that time unavailability, the fee to access data, no time to delve into the details, unexpected escalated costs, lack of knowledge and necessary capabilities to make sense of data, and privacy violations are the major barriers in open data which cause low public involvement in the society's affairs.

Based on the reviewed literature, significant challenges of OGD with regard to community engagement are shown in figure 1.

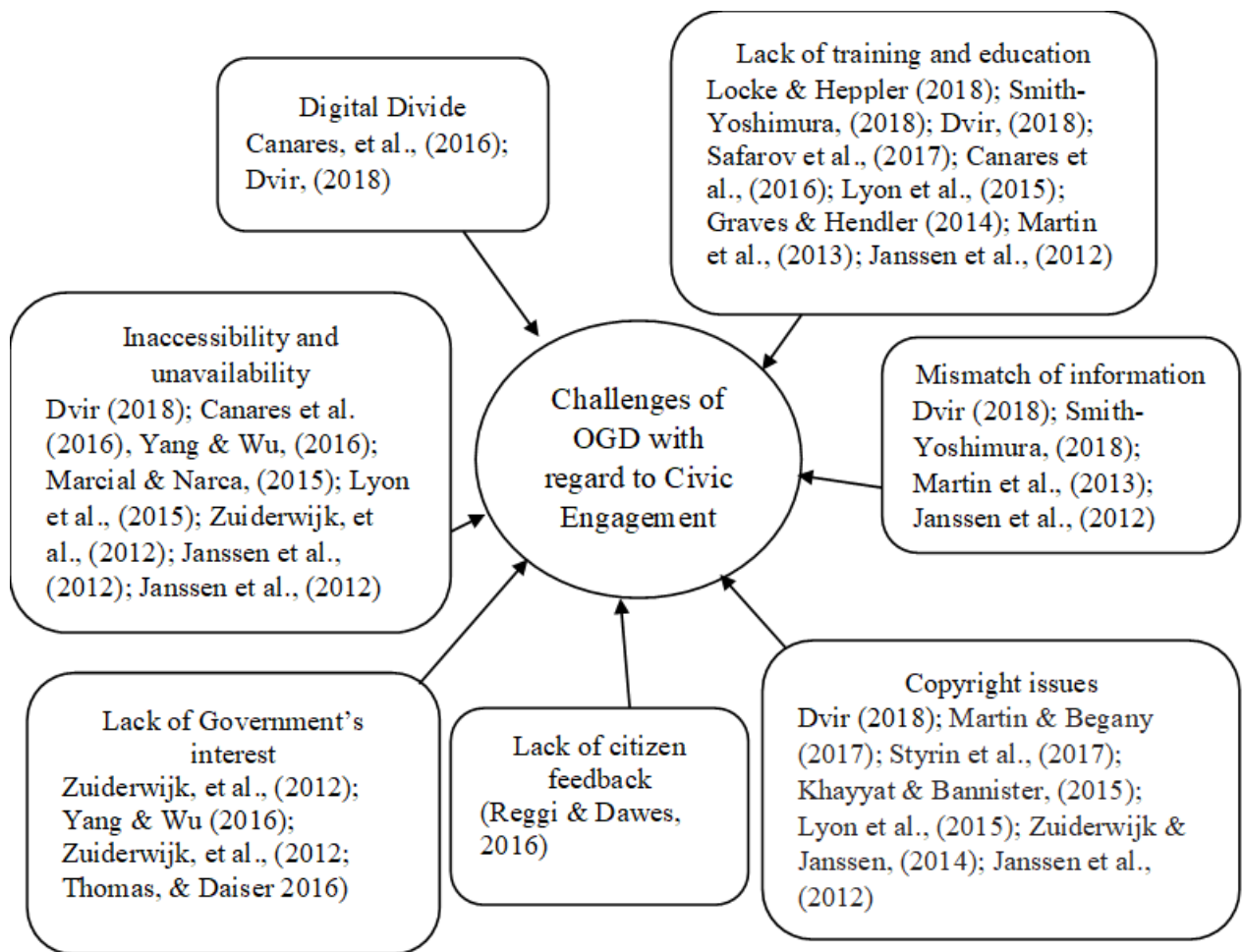


Figure 1. Challenges of OGD with regard to CE.

Way Forward to Promote Civic Engagement through Open Government Data

OGD can be used as fuel for community engagement. Government data must be open and available for use and reuse for healthy community engagement. Access and effective use of open government data ensure open transportation, spending, and cultural heritage data resulting from government transparency initiatives. It also provides access to government documents, public records, cultural artefacts, and facilitate advocacy and outreach activities (Davies, 2012). Available of OGD in offline formats, understandable by citizens, provision of the necessary training to use data and removing the digital divide can improve the citizen's collaboration which will lead further to a stable and progressed government (Canares, Marcial & Narca, 2015). Palmer, Weber, and Yan (2017) proposed three areas to maximize

the use of OGD, which ultimately help in increasing community activities. (a) Curriculum for open data literacy and expertise, (b) practical field experiences & mentoring, and (c) continuing education and outreach. Susha. Gronlund and Janssen (2015) suggested that engaging appropriate stakeholders, guaranteeing easy-to-understand contents, formatting, appropriate outreach initiatives, processing user feedback on the artefact, organizing capacity building programs, providing additional tools for data processing, offer mentoring or financial support, etc. are the way forward to stimulate community participation in public affairs. Similar findings established by Odongo and Rono (2016). Capacity building, internet connection, engaging in offline formats increase citizen engagement with OGD (Canares, Marcial & Narca, 2016b). Collaboration, the sustainability of OGD and proper citizen feedback can involve people in government affairs. (Reggi & Dawes, 2016b).

As the majority of citizens have little experience with data so relevant stakeholders should start such programs which can increase the standard of data literacy for the citizens (Wolff, Gooch, Cavero, Rashid & Kortuem, 2019). Similar findings had been found in the study of Gasco-Hernandez et al., (2018). Most of the people contact their peers and friends to for the provision of government data (Marcia & Narca, 2015), so citizens need to be informed about the OGD.

Embedding OGD training in specific context seems to be more effective for healthy community participation in public affairs at large. Capacity building programs can lead citizens to proactive participators in public decision making and help in effective dealing with large complex data (Anderson and Rainie 2012; Janssen et al. 2012). According to Angarita (2016), relevant stakeholders should identify the community's needs and make available relevant public data. It can be achieved by engaging multiple community stakeholders, both online and offline, informally, and formally. Local government needs to establish different data champions who may help in instigating community engagement.

According to Locke & Heppler (2018), healthy community activities can be increased by making government data available, easily accessible, understandable, and re-usable. Digital literacy is needed to interpret data for efficient and effective use. Copy right issues need to be resolved to make a better impact of OGD on citizen participation. (Styrin et al., (2017); Khayyat & Bannister, (2015); Lyon et al., (2015); Zuiderwijk & Janssen, (2014); McDermott, (2010).

Based on the extensive literature review, the way forward to instigate community participation in public affairs through OGD is shown in figure 2.

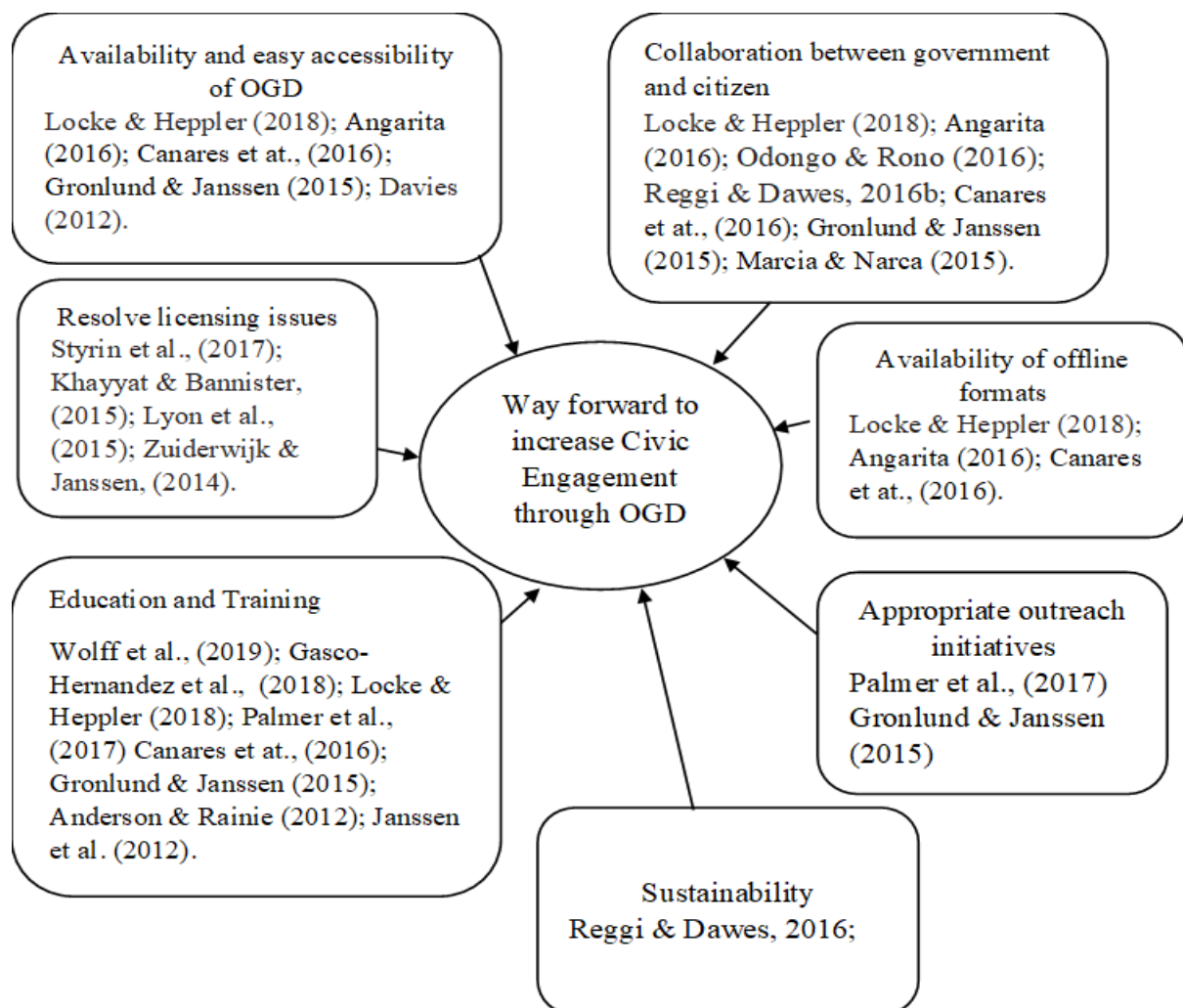


Figure 2. The way forward to promote CE through OGD.

Limitations of the Study

Although, this review was rigorous and searched extensive literature on the theme but the search was limited to English language only. Only three research databases such as Google Scholar, Scopus, and Web of Science were included and large number of documents were scanned through backward and forward citations to maximize the search, however, some potential and relevant studies may have been overlooked.

Conclusion

The OGD extensive literature with regard to civic engagement has established that OGD has great potential in making a participatory society. It not only promotes community participation in government affairs but also make the people more informed, a responsible citizen, and important contributor in a balanced and progressed society. Lack of training and education, inaccessibility and unavailability, copyright issues, lack of government interest, mismatch of information of government portals, digital divide, and lack of citizen feedback are the main challenges of OGD with regards to healthy community participation in public affairs. However, by making data available, easily accessible, government and citizen collaboration, education, and training, resolving licensing issues, absence of citizen's feedback, appropriate outreach campaigns, sustainability and making government responsible for releasing public data in open formats are the way forward to enhance healthy CE in the society.

Addressing a previously overlooked area is the output of this research. Awareness of OGD and its relation with CE are low, which needs to be addressed to make the people more connected with the government. People hardly know that the government publishes data on government portals, websites and it has significant positive impact on CE. This study provides an understanding of the majors issues of OGD with regard to community involvement and changing roles of citizens in the production, collection, aggregation, analysis, and effective use of OGD for the healthy civic engagement in the society.

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