Chapter 107
Reflecting on the Success of Open Data:
How Municipal Government Evaluates Their Open Data Programs

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ABSTRACT

Despite the high level of interest in open data, little research has evaluated how municipal government evaluates the success of their open data programs. This research presents results from interviews with eight Canadian municipal governments that point to two approaches to evaluation: internal and external. Internal evaluation looks for use within the data generating government, and for support from management and council. External evaluation tracks use by external entities, including citizens, private sector, or other government agencies. Three findings of this work provide guidance for the development of open data evaluation metrics. First, approaches to tracking can be both passive, via web metrics, and active, via outreach activities to users. Second, value of open data must be broadly defined, and extend beyond economic valuations. Lastly, internal support from management or council and the contributions of many organization employees towards the production of open data are important forms of self-evaluation of open data programs.

1. INTRODUCTION

As part of open government and transparency movements, there has been a dramatic shift towards opening and distributing raw datasets for public and private sector use (Bartenberger & Grubmüller, 2014; Gurstein, 2011). Traditionally, this data would be analyzed and released in report form, with little to no access to the underlying raw data. As a counter to this traditional model, significant amounts of data collected by government, covering topics such as infrastructure, programs and services, demographic and descriptive profiles of the population, are now provided through open data portals for use by citizens, other levels of government, and the private sector. Often, this open data is used to enable civic technol-

ogy applications, namely mobile phone applications used by citizens to access municipal government services or programs. For example, a common application such as a transit scheduling smartphone application requires a connection to government transit data that is of good quality, regularly maintained and updated, and provided to developers in an appropriate and accessible format (Johnson & Robinson, 2014; Longo, 2011). This type of civic technology application, often developed by third-parties, represents a rapidly growing area of information technology entrepreneurship, and one that is fuelled by the transition from closed data to open government data (Desouza & Bhagwatwar, 2014).

Open data programs are used to take data collected by government and deliver it to end users. These programs are often driven by motivations such as the search for efficiencies, increased transparency, and the creation of economic value (Bedini et al., 2014; Sieber & Johnson, 2015). These open data initiatives call for data, once limited to internal organizational use, to be opened up to the public at no cost, with few restrictions (Longo, 2011). Although the term open data is relatively new, the concepts of freedom of information and access to government data have been present for decades (Bonina, 2013). The Open Knowledge Foundation defines 'open' as the freedom to use, reuse and redistribute without restrictions beyond a requirement for attribution and share-alike (Open Knowledge Foundation, 2016). As well as emphasizing the importance of usability and access, "The work shall be available as a whole and at no more than a reasonable reproduction cost, preferably downloading via the Internet without charge. The work must also be available in a convenient and modifiable form" (Molloy, 2011, p. 1). Janssen et al. (2012) define open data as non-privacy-restricted and non-confidential data, produced with public money and made available without restrictions on usage or distribution.

Despite the widespread use of open data to underpin civic technology applications, a research gap exists in understanding how these open data initiatives are evaluated by government, and how their value and impact are defined (Sieber & Johnson, 2015). There are ample implementation challenges to the delivery of open data, including concerns of data privacy and security, data format(s), and especially understanding the type of data being provided (Yu & Robinson, 2012). Given the rush to provide open data, critical reflection is required to understand the challenges of providing open data, including how a provisioning government evaluates their open data program. Open data is an emerging field, with little coordinated effort to reflect on and measure the value derived by various user groups (Feick & Roche, 2013), despite research that suggests much potential value (Boulton, Rawlins, Vallance, & Walport, 2011; Janssen, Charalabidis, & Zuiderwijk, 2012). Open data has typically been evaluated from a demand perspective, that is, from the perspective of the end user, such as the private sector or citizens/citizen groups (Desouza & Bhagwatwar, 2014). These evaluations have focused on the economic potential of open data, including what types of businesses access and use open data, what is the contribution to innovation, the local economy, and also the social or political benefits, for example contributions to government transparency and civic engagement (Gurstein, 2011; Johnson & Robinson, 2014).

Recent efforts to evaluate open data have rested on the capabilities of the technical infrastructure of open data provision, for example, with the methods of data provision, sharing, and metadata (Charalabidis, Loukis, & Alexopoulos, 2014; Zuiderwijk, Janssen, & Parnia, 2013), evaluation of open data policy and barriers to the release of data (Bertot, McDermott, & Smith, 2012; Conradie & Choenni, 2014; Zuiderwijk & Janssen, 2014) and also in bridging research from organizational constraints to technology adoption (Johnson & Sieber, 2011; Rogers, 2010; Vonk, Geertman, & Schot, 2005). From reviewing the existing open data literature, there is a developing understanding of the value that open data holds across stakeholders (Bonina, 2013; Charalabidis et al., 2014; Jetzek, Avital, & Bjørn-Andersen, 2013).

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