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New development: The (im)possibilities of open data?

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The perceived benefits and possibilities that the production, publication and consumption of Open Government Data (OGD) can provide to citizens and the economy are well documented. In the UK, this has resulted in the introduction of key legislation, such as the Freedom of Information Act 2010, and the Data Protection Act 2018. However, there is insufficient empirical knowledge and evidence to support the extent as to which the intended possibilities of OGD (transparency, releasing social and commercial value, and participation and engagement) have been realized. This article investigates these supposed possibilities and suggests that they may be impossibilities instead.

In the last decade, the concept of open data has become more and more popular. This has become apparent not only in academic research but has also been reflected in international and national policies. According to Zhu (2017, p. 256), Open Government Data (OGD) has become an international phenomenon. Aimed at making government data—that is data that is produced or commissioned by government-controlled entities—publicly and freely available in digital formats for use, reuse and redistribution, it has been underpinned by a raft of far-reaching and publicised public policy. Accordingly, the use of OGD leads to better informed citizens (Gurstein, 2011); a more transparent and efficient public service (Huijboom and Van den Broek, 2011); and the promotion of innovation (Kitchin, 2014). In addition, even more granular benefits and further positive impacts have been touted, this includes the transparency and accountability of government, increased participation and self-empowerment to citizens, economic growth, and also stimulation of innovation through the reuse of data (Huijboom and Van den Broek, 2011; Janssen *et al.*, 2012; Nugroho *et al.*, 2015)**.** Zuiderwijk *et al.* (2018) further classifies these areas of benefit into three distinct classifications: political and societal, economic, and technical and operational.

As the field of research and practice becomes ever larger and emergent, so too does the variety of definitions—and applications—of open data. Certainly within the UK, the advent of OGD has sought to remove the traditionally closed nature of data stored within institutions or archives (Kitchin, 2014), with the aim of making it more accessible. Free of conventional data restrictions, one of the realizations of the UK open data movement has been that inherently publicly-funded datasets should be available for public consumption and utilized accordingly. Kitchin (2014) echoes this, stating that attention has been drawn to data produced by state agencies as they have already been funded by the public purse. However, as with all research areas, the domain of OGD has many perspectives and visions of how OGD should be used and developed. For example, heralded as an international phenomenon, Kassen's (2013) interpretation of the term 'open data' suggests that government data should be available to anyone with a possibility of redistribution in any form without any copyright restrictions (Kassen, 2013). To this extent, there are naturally contrasting perspectives toward the perceived benefits of OGD—despite the efforts of Stuermer and Dapp (2016) to create an Impact Monitoring Framework—with several voices questioning these said benefits and positive impacts (Gurstein, 2011); (McClean, 2011); (Zuiderwijk *et al.*, 2012); (Janssen, 2012); (Zeleti and Ojo, 2017); (Zuiderwijk *et al.*, 2018). Yet, it is the perspective of Davies and Bawa (2012) who somewhat prophetically suggested that it was unclear how, despite the attention it had received, OGD was to play out in the national, subnational, and local community contexts. Six years on, we would argue that that particular play has not been made and it remains difficult, at this stage, in 2019, to challenge their perception that OGD is failing to reach its true potential (Jetzek and Avital, 2014). Yu and

Robinson (2012) questioned if the consequences of OGD will always lead to 'good developments'. To this end, the positive developments claimed by proponents are yet to materialize:

Will the possibilities of OGD ever lead to anything or actually are they impossible?

The promise of OGD: the modern mythos

The aspect of open data and the myth of open data has been previously explored by Janssen *et al*. (2012). In their paper, they define a myth as 'a traditional or legendary story without a determinable basis or fact or evidence' (Janssen *et al.*, 2012). Myths, according to Bekkers and Homburg (2007) play an important role in policy-making—most notably as they may inspire collective action. They do, however, warn that myths may also mystify and blur views on reality. In times of austerity, what better myth to tell—and to save money—by stimulating new, digital, innovations by businesses—or the interested citizen in the guise of hackathons in return for caffeine fixes and pizza—to use already expensively-generated data to regurgitate data already supplied by its own citizens?

So, the question is: what differs between our perspective and that of Janssen *et al*.? The retort is that Janssen *et al*. conclude that the mythology of open data stems not from the 'what', but the 'how'. There appears to be sufficient policy and publication of the open data approach, but doing *something* of use with the data is left to others—typically within neoliberal intentions—to 'connect the dots'. To this extent, there is the need to dissect the myths and in turn identify how the myths—while inspirational—when executed either collectively or individually—are impossible to implement. Furthermore, there are more inherent, underlying issues—as exposed by other peer-reviewed sources—which add credence to these discussions.

It is impossible to have a more transparent and efficient public service (political and social benefit)

McClean (2011) suggests that the underlying agenda of open data is the outcome of three-long standing features of British politics and public policy: freedom of information; public sector reform; and the commercial re-use of public sector data. The outcome of this saw the intense promotion of open data publications and the release of OGD from 2010. As identified by Davies and Bawa (2012), early narratives of OGD implied that just releasing open data

would be enough to promote improved policy-making and to increase government accountability. However, the 'dumping' of what can only be described as small, low-value, indiscreet datasets onto data.gov.uk implies—but does not represent—a seismic shift toward an open data mindset. The rush to release this quantity saw the UK become the global open data leader. Subsequent calls by the then Coalition government in 2011 to improve the transparency of operations across front-line operations, has led to public sector organizations becoming the largest proponents and producers of current open data in the United Kingdom. However, volume does not constitute quality and the UK is now ranked joint second with Australia (https://index.okfn.org/place/) in relation to its data output activity.

Arguably, Janssen *et al*. (2011) suggest that this data is relatively safe to publicise—and the intention in doing so is to ensure that no adverse reaction is received from the general public. They continue to assert that managers and public servants often have 'the tendency to avoid opening their data as this would provide the public with new insights which might in turn result in critical questions (Janssen *et al.*, 2011, p. 3). However, the Open Data Institute (ODI, 2018, p. 34) acknowledges that 'local authorities differ in the types and amount of data they publish openly'.

It is impossible to have a more informed citizen (operational and technical benefits)

The open data movement seeks to 'radically transform' the closed approach to data, opening it up for wider reuse while providing 'easy-to-use research tools that negate the need for specialist analytics skills' (Kitchin, 2014, p. 48). To this extent, data is very much 'opened up'—it becomes accessible, distributable, consumable and interrogatable—to the public citizen. Goodspeed (2011) identifies that citizens are demanding access to raw data from governments to do a range of activities: hold public officials accountable, look up facts, conduct analysis or create innovative applications and services. Kassen (2013), meanwhile, suggests that publication and use of open data leads to self-organized sharing and distribution of collective knowledge on local issues by members of the local communities (Kassen, 2013, p. 509).

As simplistic as this appears, Zuiderwijk *et al*. (2012) acknowledge that there are many challenges regarding citizens' use of open data. These challenges, as expressed by Wirtz *et al*. (2018), hamper the realization of open data

benefits and also undermine governmental efforts in relation to further open data efforts. Data analysis—and the acquisition, handling, and manipulation of data—is an acquired skill set—beyond, states Kitchin (2014, p. 48), the capabilities of the general population. Furthermore, the sheer quantity and veracity of data being released doesn't necessarily equate to the accurate use and interpretation of OGD (Gurstein, 2011; Halonen, 2012). Furthermore, Zuidewijk et al. (2018) suggest that at a more localized level, the acceptance and plausibility of open data is only realized at a community level—that is, where the interests—and abilities have shared beliefs and intentionalities.

Nor does it automatically imply that it is immediately accessible to those that would be better informed—specifically those that may be digitally excluded—this, as reference by Kitchin (2014, p. 63)—suggests that those that are empowered, continue to be empowered. As a result, this clearly leads to an over-reliance on third-party intermediaries—manifested in apps and websites—which could skew the overall public interest and objective of the intentionality of the data that has been made open.

It is impossible to promote innovation

Zuiderwijk et al. (2014) suggest that open data creates the possibility of innovation for both private and public sector organizations. Linders (2012) suggests that enabling citizens and start-ups to use previously closed data in an unrestricted way will allow for the creation of public services, as well as the evolution of new businesses. From this, and due to the lack of traditional licensing restrictions regarding the use of open data, coupled with the availability of specific data sets and the encouragement to pursue the financial benefits of doing so (Office of Fair Trading, 2006), we have witnessed a spate of services and apps released and promoted: for example your next bus, nearest potholes, and car-parking availability.

However, Zuiderwijk et al. (2014) contend that innovation using open data is not a simple task. They suggest that complexities arise from several factors: the actors; the variety of social and technical contexts; uncertainty about how it will be used; and the difficult valuing

intangible impacts generated through open data innovation. To add further difficulty and complexity, these stakeholders will invariably have differing views and interests (Helbig et al., 2012). This heterogeneous approach (Heise and Naumann, 2012) will ultimately lead to less transparency.

Recent reflections

In March 2018, the ODI released their 'Open data to deliver public services' (Open Data Institute, 2018) white paper. The paper recognizes three patterns of 'open data use in public service delivery' where open data provides: better access to public services; more efficient service delivery changes; and more informed policy development. These patterns clearly differ from those intended possibilities identified in the introduction of this paper (see table 1).

Gone is the notion that open data is *something* that you could do *something* with, to now it being *something* which is now done for you or on your behalf. Has the ODI figured out that the act of using OGD is a selfish one? This signifies a shift from the citizen to the subject. Also gone is the focus on the commercial value of open data and innovation, perhaps because the multiple agencies involved in its publication may not have the same intentions as those that wish to use it.

The newer rhetoric from OGD clearly signals the possibility of enabling more informed citizens, however they cannot do so without the intervention of tools and techniques that Kitchin among others suggests. It is also posited that, as suggested by Wilson et al. (2013) previously, [open] data may be the answer, but what is the question?

Summary and recent trends

Following the recent release by the ODI of their Vision and Manifesto for 2018–2022 (ODI, 2018b), there is an acknowledgement that harnessing the value of open data for economic and social benefit that supports innovation and delivers social justice is 'hard' (ODI, 2018b, p. 11). The challenge of how we get and use OGD has now been replaced with the need to address the ethical uses, consumption, storage and

Table 1. Comparative interpretations of open data.

Open Knowledge International	ODI (2018)
Transparency	More informed policy development
Releasing social and commercial value	Better access to public services
Participation and engagement	More efficient service delivery changes

application of data *in general*. Throughout the manifesto, there is continued acknowledgment of the importance of data—and the role it can play—and how it continues to support the aforementioned possibilities of how open data can be used and what it can unlock. However, in a changing political landscape, particularly in the aftermath of the Facebook and Cambridge Analytica scandal—where questions regarding the role of data ethics, storage of data, and the application of data algorithms have entered the public consciousness and have become part of the zeitgeist. Ironically, this a profound example of where open data may help to create the demand for increased transparency and in turn creating the experiences for citizens to learn (and become aware) of their data selves and the ways in which information about them is generated and consumed (Bowyer *et al.*, 2018, Cornford, Wilson *et al.*, 2013, Cornford, Baines *et al.*, 2013).

From an academic perspective, this is a path that has been well trodden: Carlson and Anderson (2007) suggest there has long been a need to avoid what have been termed 'data-tombs in mono-disciplinary silos' (2007, p. 635). Context will have contributed to this, but there is an emerging recognition that this is easy to say but harder to do and that the 'social life' or 'lives' (Brown and Duguid, 2017) of data mean that reductive notions of open and closed data are far too simplistic to do the job that is being demanded. Potentially a more interesting avenues for exploration is to embrace the reality of the ambiguity of data and thinking about datasets as being permeable to the interpretive and deliberative applications of data and information in the range of practice, management and governance contexts in political, community and social life.

Acknowledgments

IMPACT
Open government data has long been widely heralded as a mechanism to underpin policy-making, improve citizen engagement, and stimulate innovation. Despite the wealth of literature disputing these aspects individually, this article challenges the perceived benefits collectively against a backdrop of changing political climate and policy. The authors challenge three perceived benefits surrounding the production, consumption and publication of open government data and provide additional considerations that can be made to increase the efficiency and impact of open government data.

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