

# The interdependency of data governance and open government data: lessons from COVID-19

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## Abstract

This paper aims at discussing the interdependency of data governance and open government data. It draws upon evidence on the application of open government data policies during the COVID-19 pandemic, the OECD model for data governance in the public sector, and the OECD's general work on data- and open government data policies.

*Keywords – Open government data; Data governance; Covid-19; Data-driven; Digital government*

## 1 Introduction

The uncertainty that came with the COVID-19 pandemic has rapidly accelerated the demand for data, statistics and information by the global community to stay informed and guide decision-making. As a result, the design and delivery of government data policies have received greater attention and prominence. One example is the recent statement by the World Health Organisation that “enabling the greatest global good will require solidarity and collaboration, establishing sufficiently funded, collaborative, cross-agency and public-private partnerships, and facilitating open data access and information sharing” (World Health Organisation, 2020).

In this article, open data refers to “digital data that is made available with the technical and legal characteristics necessary for it to be freely used, reused and redistributed by anyone, anytime and anywhere” (International Open Data Charter, 2015). Since government data refers to any data and information produced or commissioned by public bodies (Ubaldi, 2013), open government data (OGD) subsequently refers to government data made available as open data.

The rapid increase in national OGD policies that started in the 2010's, mainly as an accelerator of public transparency

and open government, remains one of the principal reasons to why governments came to realise the importance of treating their data as a strategic asset (Eaves & McGuire, 2019). Recently, governments have confirmed this by prioritising whole-of-government strategies to make better use of data for evidence-based policies, data-backed services, organisational management and innovation (van Ooijen et al., 2019). Examples include the Federal Data Strategy in the United States (Federal Data Strategy, 2019) the Data Agenda Government of the Netherlands (Ministry of the Interior and Kingdom Relations, 2019), and the Public Service Data Strategy 2019-2023 of Ireland (OGCIO Department of Public Expenditure and Reform, 2019). In all of the above policies, while combined with other objectives, OGD is a central component.

In the context of the COVID-19 pandemic, the release of OGD by governments has facilitated reaching several objectives, including: keeping the public informed and alert; the delivery of evidence-based policy responses; the scrutiny of government interventions; the development of innovative solutions to slow down virus spread and prevent its negative consequences. At the same time, there are concerns raised over the varying quality, usefulness and sustainability of COVID-19 related OGD initiatives. With the sudden change in priorities and needs, the necessity for having the ability to apply OGD- and data policies to unexpected scenarios became tangible. It highlighted the urgency to adopt data governance within the public sector and to advance national OGD policies by considering the strong link between these two objectives.

## 2 Background

### 2.1 Data governance in the public sector

The OECD defines data governance as the set of standards, rules and systems that enable secure and ethical access to and sharing of data (OECD, 2019b). Good data governance provides the basis for a secure flow of timely and high

quality data, whether within the public sector, through public-private partnerships, or as OGD (OECD, 2019b). Data governance is a prerequisite for both governments and the wider community to be able to make use of government data for different services, policies and innovation

## 2.2 A model for data governance in the public sector

The OECD model for data governance in the public sector builds on three foundational layers: Strategic, Tactical and Delivery, which together cover six key non-exhaustive facets of data governance: leadership and vision; capacity for coherent implementation; regulation; data value cycle; data infrastructure; and data architecture (OECD, 2019a).



Figure 1. Data governance in the public sector  
Source: OECD (2019a)

### 2.1.1 Strategic layer

The strategic layer of data governance centers on leadership and vision, which includes the development of national data strategies and the establishment of governing roles that define policy goals. Securing collective, open, and inclusive participatory processes in the development and deployment of data policies is a core element of the strategic layer as it enables multi-stakeholder policy ownership and, in the later implementation stages, might generate greater control and authority over the use and application of government data, which may in itself contribute to reinforcing public trust (OECD, 2019b).

### 2.1.2 Tactical layer

The tactical layer of data governance covers the regulations and capacities needed to ensure coherent implementation of data strategies. It contains both the hard and soft regulatory tools necessary to guide and frame data management processes (e.g. data protection and privacy laws, ethical frameworks and codes of conduct), as well as operational guidance addressing different stages of the data value cycle (e.g. guidelines on data anonymisation, interoperability, openness, security). Data tactics also require the identification and acquisition of necessary competencies,

and the right co-ordination tools for policy steering. Data stewardship, taskforces and steering committees are therefore part of this segment.

### 2.1.3 Delivery layer

The delivery layer is about the practical delivery and technical needs for managing public sector data, with the integration of the data value cycle - the collection, generation, storing, processing, curating, sharing, use and re-use of data - into day-to-day government operations (van Ooijen et al., 2019). The delivery layer includes, but is not restricted to, facets such as technical skills (e.g. data science and analysis), data architecture (e.g. standards, semantics, interoperability, and reference data) and infrastructures (e.g., data catalogues, portals, lakes, APIs).

## 2.2 The OECD's work on OGD and COVID-19

Since 2012, the OECD conducts research and provides policy recommendations to support the development and implementation of OGD policies. The OECD Open, Useful and Re-usable data (OURdata) Index is one of the main instruments used to assess OGD policy maturity across OECD countries (OECD, 2020). Since the spring of 2020, the OECD Secretariat has analysed practices concerning the release of OGD aimed to address the COVID-19 crisis. This analysis has been possible through data collected from the OECD Open Government Data survey, the OECD Expert Group on Open Government Data, an open call for evidence, and through a collaboration with the International Open Data Charter to identify what types of data to prioritise during crises (OECD, unpublished).

## 3 Analysis and Discussion

Whereas many governments have taken an open data-approach as opposed to public sector information-approach in responding to COVID-19, the success of these initiatives have relied on the maturity level of existing data governance- and OGD practices.

In most OECD countries, key policy levers that should facilitate the release of OGD as part of crisis response were in place before COVID-19. This includes formal requirements to release open data by default (see Figure 2). If implemented, having an open by default policy should automatically lead to the release of state-funded science, emergency procurement, expenditure data, as well as other relevant government data to ensure transparency and aid emergency response during a pandemic.

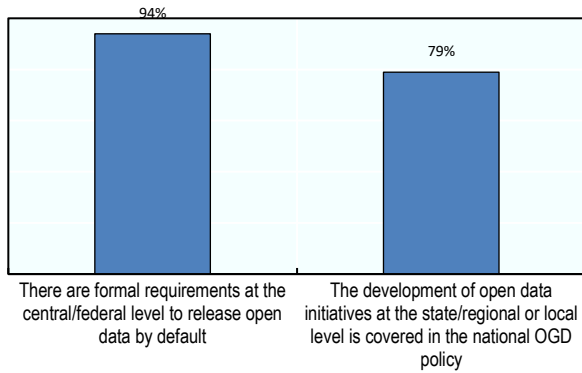


Figure 2. Availability of key policy levers (fraction of OECD countries). Source: OECD (unpublished)

Another supporting factor should be the formal embedding of diverse policy areas into national OGD policies. In 2018, 63% of OECD countries had included open budget as part of their national OGD policy, with around 40-50% having covered open science, natural risk management, and open contracting. This, together with the open by default requirement, should assist in coordinating the release of data across sectors and data holders.

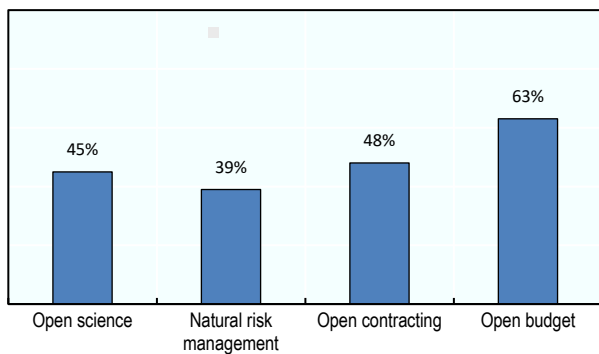


Figure 3. Areas formally covered in the national OGD policy (fraction of OECD countries). Source: OECD (unpublished)

Yet, as governments launch initiatives to release OGD as part of their COVID-19 response, lacking policy implementation with regards to standards, data infrastructures, guidelines, co-ordination, roles, rules and leadership are being exposed. Challenges, which together signal the need to integrate good data governance into OGD policies while simultaneously leveraging high quality OGD for better whole-of-government data governance.

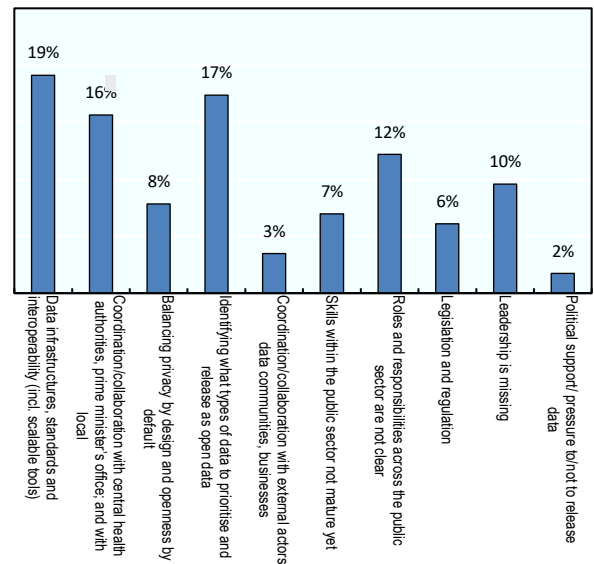


Figure 4. Reported three biggest challenges in releasing OGD as part of COVID-19 crisis response. Source: OECD (forthcoming)

Data collected from central/federal government officials in working with OGD demonstrate that some of the largest challenges in releasing OGD as part of COVID-19 response have so far included the lack of data infrastructures, standards and interoperability (including scalable tools), and the identification of what data to prioritise for release (see Figure 4).

Identifying and prioritising data is linked to both the tactical and delivery layer of data governance. Guidelines and skills are necessary for public officials to conduct such selection processes. At the same time, data discovery and prioritisation depend on the availability of data infrastructures such as data catalogues to enable an overview of what data are available, versus what data should be collected or curated for release. The systematic use of data catalogues is an example of a key component of both OGD policies and data governance. In addition to facilitating OGD release, such instruments help reduce data duplication, which can increase productivity and reduce costs of public sector organisations. The challenge of lacking data infrastructures, standards and interoperability reported in relation to OGD release also include insufficient metadata quality-assessments, a lack of standardised data collection/recording methods, and infrastructure for more advanced data accessing methods including APIs.

Another challenge for OGD release during COVID-19 is the co-ordination and collaboration with central health authorities, prime minister's offices, and local governments (see Figure 4). Although policy levers to promote cross-government and multi-level co-ordination do exist (Figure 2), implementation efforts are seemingly lacking. Formal requirements need be followed up with the building of

relationships. In New Zealand, existing positive and collaborative working relationships across government enabled a quick cohesive action in relation to open data release, with the end-result being the Stats NZ COVID-19 portal that brings together essential data from a number of agencies (Stats NZ, 2020).

Strongly tied to the ability to co-ordinate and collaborate effectively across government, the lack of clarified leadership, roles and responsibilities were also reported as challenges in the release of OGD. Being core components of the strategic layer of data governance, the importance of these factors are augmented during crises such as COVID-19, which are characterized by high levels of uncertainty (D'Auria & De Smet, 2020). High uncertainty combined with the high expectations of government interventions during a public crisis, and the key role of data in these responses, is why data leadership could be argued as critical for public trust during these situations.

In relation to the practical implementation of OGD initiatives during COVID-19, operational and technical staff should have been equipped with the necessary directions, skills, and resources by individuals (or groups) that are responsible for the overall success of these initiatives. The operational and co-ordinating roles of data stewards and data taskforces in complementing the authority of central/federal official roles here also becomes important. These should ensure that data management procedures remain of high quality during a crisis, including ensuring that data release complies with ethical frameworks. As an example, in Portugal, the National Commission for Data Protection (CNPD) is an independent entity with powers of authority that supervises and monitors compliance with the laws and regulations in the area of personal data protection (OECD, 2019b). While the roles of data stewards, Chief Data Officers and other data governance bodies may vary depending on the context and maturity of data governance (Zeenea, n.d), the crucial aspect is that the defined roles need to cover the multiple layers and facets of data governance, from strategy, to tactics, to delivery.

In addition to the multiple challenges related to data governance and OGD policies discovered due to the COVID-19 crisis and already discussed, there are also concerns over data quality, assumptions of data misinterpretation, fear of liability in case data are used maliciously, concerns over data modification, and a lacking awareness about data licensing. At the same time, there are also opportunities derived from good data governance, including the "stress-testing" of cross-government working relationships, and sound privacy legislations. For instance, in recent years, there has been a strong development of data anonymization methods ensuring that OGD still protects privacy, which is critical given the increased need for

granular data while data samples are small (P. Stone, "personal communication", July 27, 2020).

## 4 Conclusion

Although governments have grown more mature in terms of their formulation and adoption of OGD policies, challenges related to the lack of leadership, standards, data infrastructure and coordinating mechanisms remain, and therefore call for new measures to better link OGD, data leadership, privacy protection, information security, data infrastructure development and interoperability standards. It calls for a more solid integration of OGD into data governance practices, and for increasing the awareness of the need of sound data governance for successful, scalable and sustainable OGD policies. In a data-driven public sector, OGD is a natural part of sound data governance. While data governance is a complex and multi-layered issue, it should also become an integral part of OGD policy developments.

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