13

The Governance of Personal Data for the Public Interest: Research Insights and Recommendations

Marina Micheli

Scientific Project Officer, Digital Economy Unit, European Commission's Joint Research Centre (JRC), Ispra, Italy

Abstract

The chapter describes the emerging approaches for the governance of personal data with a focus on the role city administrations might play in promoting a more inclusive data landscape. It illustrates the findings of social science research conducted at the Digital Economy Unit of the Joint Research Centre of the European Commission. It is composed of an introduction and three sections. After describing four models for the governance of personal data, the chapter presents an empirical research based on interviews with cities' chief data officers, then concludes with key recommendations. The findings presented in the chapter show that city governments could play a key role in addressing power unbalances of the current data landscape, acting as trusted data intermediaries and enabling the use of citizens' personal data for the public interest. To conclude, the chapter describes six organisational strategies that city practitioners can adopt to enhance personal data sharing for the public interest through inclusive approaches.

13.1 Introduction

The chapter discusses emerging approaches for the governance of personal data, with a focus on the role city administrations might play in promoting a more inclusive data landscape. Peoples' digital footprints, generated as a by-product of their daily activities and collected by private and public organisations, are increasingly extensive. However, the opportunities that citizens

have to control how these are used and for which purposes is still limited. A more inclusive approach to data governance would allow citizens, as well as other actors, to have a greater say in how data is used and foster socially relevant usages of their data.

In this chapter, drawing from recent work conducted at the *Joint Research Centre (JRC) of the European Commission*, I sketch some of the key issues at stake in relation to the governance of citizens' data and provide recommendations based on lessons learned from initiatives led by the Digital Economy Unit of the JRC. The chapter is structured as follows:

- The first section presents emerging conceptualisations, prototypes, and practices of models for the governance of personal data. These models offer ways for accessing, controlling, sharing, using, and deciding about data that are "alternative" to the dominant approach – promoted especially by Big Tech platforms – allowing greater manoeuvre to citizens, civic society, and public sector organisations.
- The second section discusses a particular way in which city administrations can address asymmetries of the current data landscape: business to government (B2G) data sharing, which implies public authorities accessing privately held data of public interest. This data relation represents a paradigm shift in the understanding of data flows of the public authorities. Traditionally understood as a source of information *for* the private sector (with open data), now public authorities are acting (also) as recipients of data flows *from* the private sector (with B2G data sharing, see also the notion of reverse public sector information).[1]
- The last section includes a few lessons learned and recommendations. These are not meant to be exhaustive, but to provide some ideas and practical guidance (based on the aforementioned research) to local pubic administrations engaging in data innovation projects with a citizen-centric perspective.

[1] Poullet, Y. (2020). From open data to reverse PSI: a new European policy facing GDPR. European Public Mosaic, (11), 42–57.

13.2 Alternative Models for Data Governance

In the context of the project Digitranscope,[2] conducted at the Centre for Advanced Studies[3] of the JRC, we explored the emerging approaches for personal data sharing, control, and use put forward by a wide range of stakeholders in Europe. We were interested in data governance models imagined or implemented across Europe that offer an alternative to the dominant "take it or leave it" approach for handling personal data typical of big tech platforms (Craglia *et al*., 2021).[4] Instead of addressing issues related to risks and protection of personal data, we explored the opportunities for agency and increased control of data.

We conducted a review of relevant resources from the scientific and grey literature and came up with four emerging models for the governance of personal data, which we labelled: data sharing pools, data cooperatives, public data trusts, and personal data sovereignty(for a comprehensive overview see (Micheli *et al*., 2020))[5].

In the article, we describe the models mainly in abstract terms emphasising the power social actors have to control how data is accessed and used to produce value. The models are heuristic tools, useful to understand and further examine the practical implementations of emerging approaches to data (see Figure 13.1). In the last few years, various organisations made similar attempts to systematise emerging practices of data governance; see, for instance, GovLab's data collaboratives explorer,[6] NESTA's new ecosystem of trusts (Mulgan & Straub, 2019),[7]

---

[2] Craglia, M., Scholten, H.J., Micheli, M., Hradec, J., Calzada, I., Luitjens, S., Ponti, M. and Boter, J., *Digitranscope: The governance of digitally-transformed society*, EUR 30590 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-30229-2 https://publications.jrc.ec.europa.eu/repository/handle/JRC123362

[3] https://joint-research-centre.ec.europa.eu/knowledge-research/centre-advanced-studies_en

[4] *As 2, above*

[5] Micheli, M., Ponti, M., Craglia, M., & Berti Suman, A. (2020). Emerging models of data governance in the age of datafication. Big Data & Society, 7(2), 2053951720948087. https://doi.org/10.1177/2053951720948087

[6] https://datacollaboratives.org/explorer.html

[7] Mulgan, G, Straub, V (2019). The new ecosystem of trust: How data trusts, collaboratives and coops can help govern data for the maximum public benefit. Nesta. Available at: https://www.nesta.org.uk/blog/new-ecosystem-trust/

Model	Key actors	Goals	Value	Mechanisms
Data sharing pools (DSPs)	• Business entities • Public bodies	• Fill knowledge gaps through data sharing • Innovate and develop new services	• Private profit • Economic growth	• Principle of 'data as a commodity' • Partnerships • Contracts (e.g. repeatable frameworks)
Data cooperatives (DCs)	• Civic organisations • Data subjects	• Rebalance power unbalances of the current data economy • Address societal challenges • Foster social justice and fairer conditions for value production	• Public interest • Scientific research • Empowered data subjects	• Principles from the cooperative movement • Data commons • 'Bottom-up' data trusts • GDPR Right to data portability
Public data trusts (PDTs)	• Public bodies	• Inform policy-making • Address societal challenges • Innovate • Adopt a responsible approach to data	• Public interest • More efficient public service delivery	• Principle of 'data as a public infrastructure' • Trust building initiatives • Trusted intermediaries • Enabling legal framework
Personal data sovereignty (PDS)	• Business entities • Data subjects	• Data subjects self-determination • Rebalance power unbalances of the current data economy • Develop new digital services • centred on users need	• Empowered data subjects • Economic growth • Private profit • Knowledge	• Principle of 'technological sovereignty' • Communities and movements (e.g. MyData) • Intermediary digital services (personal data spaces) • GDPR Right to data portability

Figure 13.1 Summary of emerging data governance models. Source: Micheli et al., 2020, p. 6

and Mozilla's "Database of Initiatives - Alternative Data Governance in Practice".[8]

Three of the four emerging models are based on the notion of trusted data intermediary. They aim to enhance individuals' control over their personal data collected by various actors (from platforms to governments), on how it is shared and used, to unlock its value for the single individual, communities, and society. Yet, the article also shows that they pursue different goals. In brief, these models are as follows.

- Personal data sovereignty based on a new kind of digital services (called personal information management systems, personal data spaces/stores, etc.), which are competing on the market and whose goal is to empower individual citizens in their ability to choose to what use put their data. They allow users to store, aggregate, and decide how to share data with third parties.
- Data cooperatives are grassroots-driven decentralised organisations in which members of certain communities voluntarily pool their data together. Based on a critique of the extractivist model of platform capitalism, they provide democratic control over data, allow members to voice their needs and concerns, and produce societal benefits.
- Public data trust is a model in which a public actor (such as a local public administration) establishes a relationship of trust with citizens and manages data on their behalf. A public sector entity assumes the role of trustee to guarantee that citizens' data is handled ethically and securely, while enabling the re-use of data for public interest purposes.

As the last model suggests, local public administrations could play a key role in addressing power unbalances of the current data landscape acting as trusted data intermediaries and enabling the use of citizens' personal data for the public interest. Public data trusts are more of a prototype than actual practices, as there are still limited experiences of this model. Yet, they offer an ideal from which city administration can get inspiration. Importantly, they imply the establishment of a relationship of trust between citizens and public bodies: citizens must be reassured that public actors are capable to keep their personal information safe and secure and that they will use it to improve their lives and society. To earn trust, public bodies might engage in citizens' consultations and living labs, launch initiatives for citizens digital

[8] https://foundation.mozilla.org/en/data-futures-lab/data-for-empowerment/who-is-innovating-database-of-initiatives/

rights (e.g., Wiltshire and Pierri, 2021),[9] ask the intervention of external independent organisations that act as trusted intermediaries, and disseminate best practices and achievements.

A pioneering initiative promoting cities as data trusts was the EU Horizon 2020 project DECODE, which was meant to return the value of personal data back to citizens while increasing their control over how data is shared (Bria and Morozov, 2018; Decode, 2019[10]). The project developed a privacy-protecting platform for citizens' participation and a cryptographic technology (based on distributed ledger technology) that allows citizens to control how to share sensors data. The city of Barcelona also pioneered the adoption of data sovereignty clauses in public procurement to establish the city's right and mandate to acquire the data generated through public contracts (Monge *et al*., 2022),[11] which is the topic of the following section.

13.3 City Administrations' Access to Personal Data of Public Interest

Cities are a key actor for enabling more inclusive data governance, not only because they can support citizens' digital rights and data control but also because they can foster data (re)use for the public interest. Citizens constantly "leave" digital footprints as by-products of common everyday activities, which are used by private sector companies to collect a great amount of personal data potentially beneficial for city administrations to address health, societal, and environmental challenges. For instance, public authorities have recently sought access to location data collected by mobile phone operators to tackle the spread of the COVID-19 virus, monitor compliance to restrictions, and for urban traffic management. Yet, substantial asymmetries exist between big tech corporations and local governments for what concerns control and access to data of public interest. Public bodies, especially local and regional governments, are in a weaker position vis a vis tech companies and are struggling to find sustainable ways to access information of public interest collected by those.

[9] https://www.onlineopen.org/media/article/583/open_essay_2018_morozov_rethinking.pdf

[10] DECODE (2019). D5.9 Final report on the Barcelona Pilots, evaluations of Barcelona Now and sustainability plans. Available at https://decodeproject.eu/publications/final-report-barcelona-pilots-evaluations-barcelonanowand-sustainability-plans.html

[11] https://eprints.qut.edu.au/232522/

In the article "Public bodies' access to private sector data" (Micheli, 2022),[12] I examine the perspectives and experiences of managers and project leaders of 12 European municipalities on access to private sector data of public interest. Drawing from interviews, I discuss the most common ways through which local public administrations have access to privately held data and what their advantages and drawbacks are according to those working in the field. Administrations adopt different models, but most of their initiatives are pilots' projects and access to private sector data is still a niche experience due to the lack of incentives and technical, organisational, and economic obstacles (Martens and Duch-Brown, 2020).[13]

In the article (Micheli, 2022), I describe four common approaches for data sharing[14] between business and cities, which are based on different kinds of relationships and lead to diverse outcomes for the administrations (Figure 13.2). The adopted approaches for business-to-government data sharing are as follows.

- **Data donorship (or data donation):** Private companies share data at no cost on a voluntary basis (often for corporate social responsibility). This occurs more often during emergencies or for humanitarian purposes.
- **Public procurement of data:** Local governments purchase data through *ad hoc* contracts with private companies, such as telecom operators, who allow them access to dedicated dashboards, reports, or data assets.
- **Data sharing pools:** Local governments establish "win–win partnerships" with private companies at no cost, based on the mutual sharing, and eventually joint analysis, of data.
- **Data-sharing obligations:** Local governments include "data sovereignty clauses" as part of subcontracted services specifying that data gathered by a service provider (e.g., public transport, waste management, and ride-sharing companies) is available and accessible, in a privacy-compliant way, to the city council.

---

[12] Micheli, M. (2022). Public bodies' access to private sector data: The perspectives of twelve European local administrations. First Monday, vol. 27, n. 2. https://firstmonday.org/ojs/index.php/fm/article/view/11720

[13] Martens Bertin and Duch-Brown Néstor, 2020. The economics of business-to-government data sharing. JRC Digital Economy Working Paper, 2020-04, at https://ec.europa.eu/jrc/sites/jrcsh/files/jrc119947.pdf, accessed 9 May 2021

[14] Other approaches are research partnerships with universities or research institutions and urban challenges or hackathons (HLEG, 2020).

	Role of local administration	Enablers	Discourses	Outcomes
Data donorship	Recipients	A city's reputation	"Incidental partnership" "Ethical dilemma"	Divide between cities
Public procurement of data	Clients	Willingness to pay and negotiate	"Evaluation phases" "Reluctance"	Limited engagement, lack of data quality, and granularity
Data partner-ships and pools	Partners and collaborators	Data culture Professional network Capacity Socially relevant projects	"Win-win collaborations" "Productive relations"	Control of data access and use for advanced cities
Data sharing obligations	Administrators	Data culture Renewal of contracts	"Systematic sovereignty" "Data sovereignty"	Control of data access for subcontracted city services

Source: Micheli, 2022.

Figure 13.2 Summary of the approaches adopted by local administrations to access private sector data of public interest.

The findings of the research point to a "divide" between municipalities, concerning their chances of finding private companies willing to engage in data sharing. Bigger cities and "smart cities" are in a favourable position to access private sector data of public interest. Not only do they have more resources, bigger networks, and greater experience to establish partnerships and data pools, but private companies are also more likely to let them access data for free (via data donorship) as this gives them higher reputation and visibility. Private companies, in fact, might adopt such "use cases" to market their services and products to other – less -well-known – cities.

City managers are in favour of setting up collaborative partnerships at no cost with the private sector, based on collaboration and "co-creation", instead of spending resources and acquiring data via public procurement, as this approach also leads to better outcomes. Yet, public administrations with more resources and networks are more likely to establish such win–win collaborations. *A more inclusive approach is that of data sharing obligations*, which are clauses that municipalities can include in their tender contracts for subcontracted services. The clauses demand that data collected by a company as a by-product of delivering a public service is made accessible to the municipality (Bass *et al*., 2018).[15] Local administrations often have kept control of the modalities through which privately held data is shared, so as to achieve greater data quality and granularity.

Once access to data is achieved, however, the question of how data is used to serve citizens' needs remains. To what extent the (re)use of such data assets has an impact, and of what kind, on those from which the data comes from (and others)? Are the interests of vulnerable or less privileged groups protected and how? Overall, do the efforts necessary for accessing data and putting in place the required infrastructure (technical, legal, and operational) pay off in terms of outcomes and social benefits deriving from its use? These (and other) questions should be asked when big data are used to inform policy-making – for a more comprehensive overview of demands for computational social science for policy, cf., Bertoni *et al*., 2022.[16]

---

[15] Theo Bass, Emma Sutherland and Tom Symons, 2018. Reclaiming the smart city. Personal data, trust and the new commons, Nesta (23 July), at https://www.nesta.org.uk/report/reclaiming-smart-city-personal-data-trust-and-new-commons/ , accessed 9 May 2021.

[16] Bertoni, E., Fontana, M., Gabrielli, L., Signorelli, S. and Vespe, M. (2022), Mapping the Demand Side of Computational Social Science for Policy, EUR 31017 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-49357-0 (online),978-92-76-49358-7 (print).

13.4 A Few Recommendations for Cities

In this section, insights deriving from policy discussions and scientific research on the governance of personal data for public interest are presented. Most are based on research (with social science lenses) conducted by or for the Digital Economy Unit of the Joint Research Centre (EU Commission), which includes a close reading of the wider debate on these topics. The points below are practical recommendations for experts and managers in local administrations who wish to enhance personal data sharing and use, for the public interest through fair and inclusive approaches.

1. **Hire a data steward:** To implement data innovation, cities need to develop internal capacity and resources should be available for recruiting new professional roles in the organisations. Building internal technical, administrative, legal, and strategic capabilities includes setting up new specific managerial roles and recognised functions, such as that of "data stewards". Data stewards – one of the recommendations of the high-level expert group on B2G data sharing – are "individuals or teams that are empowered to proactively initiate, facilitate and coordinate" data sharing (European Commission, 2020).[17] Their role would be to systematise data partnerships and scale efforts; hence, they will have the expertise for promoting data access, sharing, and management.

2. **Take into account organisational barriers:** Silos between public offices and departments often act as barriers for data innovation at the local level. The creation of multi-stakeholders local data ecosystems is hindered by lack of communication and collaboration within public sector's offices, for instance, between local public transportation and the city government. Coordination and collaborations within public sector organisations and public offices are thus a key prerequisite for any form of digital innovation. Yet, the relational, cultural, and organisational challenges in setting up data ecosystems are at times underestimated, compared to technological and legal issues (compliance to GDPR) – as resulted from a recent qualitative study on local data ecosystems in selected EU cities (Liva *et al*., 2022).[18]

---

[17] European Commission, 2020. Towards a European strategy on business-to-government data sharing for the public interest. Final report prepared by the High-Level Expert Group on Business-to-Government Data Sharing, at https://op.europa.eu/en/publication-detail/-/publication/d96edc29-70fd-11eb-9ac9-01aa75ed71a1

[18] Liva Giovanni, Micheli Marina, Schade Sven, Kotsev Alexander, Gori Matteo, Codagnone Cristiano (2022). City data ecosystems between theory and practice: A qualitative exploratory study in seven European cities (forthcoming).

3. **Understand internal demand and needs:** The perspectives and experiences of employees who are directly involved and/or impacted by data innovation should be taken into account in organisations' data innovation plans. Social research shows that there might be diverging visions between managers and front-line workers (such as counsellors and caseworkers) on the implementation of new data practices, which can even lead to gaming the systems or strikes by the latter (Dencik, 2022).[19] According to research, at times, preconceptions and "top-down pressures" (innovation "pushed" by organisations) might not encompass the needs of public sector workers. Therefore, it is important to listen to all perspectives, including those that might be critical, to successfully implement new data practices. Different levels and offices of local governments might have diverse needs; these should be accounted for, to avoid clashes or conflicts.

4. **Try a sandbox approach:** Sandboxing implies creating a "safe environment" for experimenting new technical infrastructures, organisational approaches, and/or legal schemes in order to facilitate data sharing and innovation. Traditionally, sandbox refers to the process of quickly and safely developing and testing new technical applications before operationalising them. Yet, more recently, the term is adopted in different contexts, such as in the case of organisational and regulatory sandboxing. Organisational sandboxes are carried out to develop and test solutions that address non-technical matters, for instance, through experimenting best practices, incentives, and terms and conditions for business to government data sharing (Kotsev *et al.*, forthcoming).[20] These sandboxes are based on the analysis of local data ecosystems and stakeholders' roles and incentives, as well as on the involvement of key stakeholders from different domains to discuss, plan, and develop new organisational solutions. Similarly, regulatory sandboxes are spaces for the experimentation of innovative solutions in a (near) real-world environment (Council of the European

[19] Dencik L. (2022) "Understanding demand for data-driven innovation in the public sector – the case of algorithmic processes" in Granell C., et al, Emerging approaches for data-driven innovation in Europe. Publications Office of the European Union, Luxembourg, ISBN 978-92-76-46937-7, doi: 10.2760/630723, JRC127730, pp. 93–98.

[20] Kotsev, A., et al (2022). Sandboxing: what it is and how to use it to strengthen your data ecosystem. Publications Office of the European Union, Luxembourg, Publications Office of the European Union, Luxembourg (forthcoming).

Union, 2020).[21] Together with test beds and living labs, these experimentation spaces offer a setting in which different stakeholders (including citizens) can co-develop solutions and associated regulations, through relationship of trust and knowledge exchange (see Kert, Vebrova, & Schade, 2022).[22]

5. **Form or join alliances between cities:** Cities are increasingly "joining forces", and collaborating within networks, groups, and alliances, to enhance their opportunities to access, use, and better govern (personal) data for the public interest. For instance, from our interviews about B2G data sharing with practitioners with European local administrations, it emerges that, as a common strategy to enhance negotiating power for accessing private sector data, cities are building alliances and networks (Micheli, 2022). Although the vast majority of B2G data sharing still consists in bi-lateral relations (between a single municipality and a data holder company), practitioners share the belief that to make the process more efficient and fair, they have to work with other cities. Some respondents take part in national or transnational networks to address some of the challenges of B2G data sharing. For instance, a city's chief data officer collaborates with a national association of municipalities to develop a joint standard contractual framework for data sharing relations with private companies. In Europe, there are various formal associations of cities that are promoting citizen-centric approaches to data governance (of which the reader of this report is surely familiar with). These include, for instance, Eurocities,[23] the Living-in.EU,[24] the Council of European Municipalities and Regions,[25] and the Cities Coalition for Digital Rights.[26] Several European projects are also meant to bring cities together, enabling them to collaborate, innovate, and

[21] Council of the European Union (2020). Regulatory sandboxes and experimentation clauses as tools for better regulation: Council adopts conclusions. Press release, 16 November. Available at: https://www.consilium.europa.eu/en/press/press-releases/2020/11/16/regulatory-sandboxes-and-experimentation-clauses-as-tools-for-better-regulation-council-adopts-conclusions/

[22] Kert, K., Vebrova M. & Schade, S. (2022) Experimentation spaces for regulatory learning: Test beds, living labs, and regulatory sandboxes. Science for policy brief. Publications Office of the European Union, Luxembourg (forthcoming).

[23] https://eurocities.eu/

[24] https://living-in.eu/

[25] https://www.ccre.org/

[26] https://citiesfordigitalrights.org/

collectively face key societal challenges, starting from the Smart City Market Place[27] from which this project belongs to.

6. **Act as a trusted data intermediary:** Most of the time, citizens are not able or interested in participating directly in data governance; thus, cities can act as trusted data intermediaries, who manage different strands of citizens' data (including from the private sector or citizen-generated) on their behalf and for the public interest. Local administrations can also put in place initiatives for safeguarding citizens' rights to control and use their own personal data (as in the DECODE project). For successfully achieving these objectives, citizens need to be reassured that the city administration is a trustworthy intermediary. Trust can be increased adopting different strategies, such as public engagement and consultations, or launching civic initiatives aimed at promoting digital rights and co-creating programmes that foster data literacy and data use for public interest (such as based on crowdsourcing data) (Ponti and Craglia, 2020).[28]

[27] https://smart-cities-marketplace.ec.europa.eu/

[28] Ponti M. and Craglia M. Citizen-generated data for public policy, European Commission, 2020 JRC120231. https://ec.europa.eu/jrc/communities/en/community/digitranscope/document/citizen-generated-data-public-policy