DKSR
Data Competence for Cities and Regions

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INTRODUCTION & CHECKLIST
Data ethics

This introduction and checklist on the topic of data ethics will help you to check to what extent the ethical handling of data and new technologies is already taken into account in the data strategy of your municipality or organization.

You have questions? Feel free to reach out to us anytime via square@dksr.city!

Setting up an ethic data governance: the top 10 aspects for cities and municipalities

More and more cities are realizing the value of data for their decision making processes, enabling better services and improving citizen's life quality. However, a number of ethical questions have been raised around the collection, handling, and use of data . This document shows key aspects that need to be considered when setting ethic-driven data governance arrangements. We also offer examples of approaches taken by different cities, and provide a checklist to assess where your city stands, and which potential gaps could be addressed.

1

Common-good oriented use of data: Placing data and technology at the service of people and the long-term benefit of citizens is a principle that increasingly underpins the data strategies of cities on the front-run of digitalization. This can be seen in the digital policies of cities like Barcelona, Melbourne, Montreal, Hamburg, and Ulm. For the latest, data and technologies are to be committed to common good at all times, for the present and future generations.

2

Data privacy: Protecting the privacy of businesses and individuals is a cornerstone that cities need to consider when collecting, processing and publishing data. Cities like Hamburg and Montreal have set data privacy as a basic prerequisite for all digital processes. In addition, privacy-by-design approaches have been followed by cities like Melbourne and Ulm to ensure that personal data is securely protected, with anonymization techniques being used to further protect individual privacy. The deployment and use of technical devices that increase the possibilities of individual surveillance and traceability is also a matter to which cities need to pay attention. Montreal for example, has banned the collection of biometric data and facial recognition without consent by city entities. Melbourne on the other hand, has carried citizen consultation before deploying CCTV cameras for safety purposes. The city of Ulm takes a step further for protecting personal data and specifies that personal data cannot be collected and/or disclosed for obtaining monetary benefits.

3

Digital sobriety and consent: Digital sobriety refers to the collection of only that data that is sufficient to advance the city's mission. In Montreal, the legal framework specifies that the collection of personal information is limited to that strictly necessary for providing a service and data shall not be further processed in a manner incompatible with these purposes without the consent of the parties involved. The city is also committed to limit data storage and consider the end-of-life cycle of digital data. In addition, cities need to ensure the sharing of data based on consent and agreement, with the specific intended use of data being clear at the moment of obtaining consent. In those cases where consent is not applicable for data collection (e.g. Bluetooth), the principle of anonymization and transparency should be applied.

4

System security: Data, particularly that of a personal and confidential nature, must be protected to minimize the risk of intrusion, loss, alteration or disclosure. Technical systems should be protected against attacks, manipulation and unauthorized access. Montreal implements controls to strengthen data security and favours data hosting within the national borders, or in its defect in jurisdictions where legislation on personal information protection is as strong as that of Quebec. In Hamburg, digital citizen and business services are designed in a way that newly created means of access do not create new points of attack and risks. The city has stablished a partnership with the IT service provider for public administration (Dataport) for the

continue development of security procedures and organizational rules. In addition, it performs regular penetration tests to check the effectiveness of existing security measures.

5

Data interoperability: The value of data lies in its ability to be shared. Cities need to look closely at the issue of technical interoperability and adhere to standards when building their digital ecosystem. This principle of interoperability is a cornerstone of the data strategies of cities like Montreal, Ulm, and Hamburg. Montreal incorporates interoperability and open source considerations already at the procurement and development of data systems. The city of Ulm relies on mandatory adoption of open standards, documents, and data formats. Hamburg ensures data quality and data interoperability by adhering to uniform standards and process interfaces building on the basis of an urban data platform.

6

Data sovereignty and avoidance of Vendor lock-in: Avoiding vendor lock-in and striving for the strongest technological sovereignty is particularly important to prevent dependences and to guarantee the democratic self-determination of cities. In the city of Ulm, all services and products used by third party providers should be developed on the basis of agreed open standards that ensure the services and products can continuously be developed for the benefit of the city. Montreal takes data sovereignty further and has established that data declared of territorial interest must be shared with the city, in a manner that does not impinge fundamental rights such as privacy, confidentiality, intellectual property and industrial secrecy.

7

Data access: Cities can ensure that data represents a shared asset and a common good by making it available to citizens, while making sure that personal data remain the property of the individuals and is strongly protected. Public data should be made accessible under clear open data policies and guidelines that set and distribute responsibilities for access and use of data. The goal should be to make data available in a transparent, barrier-free, complete, machine accessible and sustainable manner. A culture of open data is being advanced in many cities. Hamburg for example, has implemented a transparency act and a transparency portal for practicing open data. At the same time, cities need to consider that access to resources and opportunities to benefit from data vary. To ensure digital equality, the means to access and understand data need to be ensured. For example, Montreal promotes literacy around data by offering digital skills and publishing reports on data use and visualization.

8

Democracy and public participation: Automatic and digital processes should not affect the responsibility of elected bodies, or modify the rules democratically established. Mechanisms can be put in place to enable collective decisions about data, its collection and management, and the implementation of data-based solutions and technologies. External multi stakeholder advisory boards have been created in cities like Melbourne, New York and Seattle to provide input in the deployment of ethical and democratic data strategies.

9

Transparence and inclusion: To establish trust with the community throughout the data lifecycle, data practices should be documented and made public. This includes all data collected and the rules that are applied to it, the purposes to which the data is being collected and used, and the tools used. Montreal offers tools to make the information on manage methods, risks, guarantees, and rights related to data processing accessible and understandable to everyone. Algorithms should also be transparent and the criteria for automated administrative decisions needs to be open and clear to citizens. This is a key point of the data concept followed in Ulm, which calls for an active reflection on the bias effects that data-related decision-making mechanisms can bring. To minimize bias phenomena, Montreal implements gender-

based analysis from an intersectional perspective (GBA+) principles in the collection, processing and analysis of data. Hamburg on the other hand, relies on heterogenous design teams in the context of digitalization efforts, with Websites and apps specifically designed to address all genders equally.

10

Sustainability: The potential environmental impacts of digitalization, particularly concerning its storage, equipment, and infrastructure should not be neglected by cities. In Montreal, data is put at the service of the city's ecological transition, and underpinned by principles of ecological sobriety and data sobriety (lean IT) in the public policies, procurement, and collaborations of the city to tackle the climate crisis. Similarly, the city of Ulm has established that digital transformation must always be a procedural, social, economic and/or ecological improvement of the city, which should be done as sparingly as possibly.

Where does your city stands?

Incorporating data ethic principles across the various aspects of data strategies is a process that evolves with the dynamics of each city. This checklist was designed to help you evaluate how much your city has already incorporated data ethical considerations, and uncover potential gaps.

Common-good orientation	Yes	No	Not clearly defined
A current data strategy exists that clearly establishes that data is to serve the general interest, the common good and wellbeing of citizens.	☐	☐	☐

Data privacy	Yes	No	Not clearly defined
The principle of data privacy for users and citizens is clearly stated in the data strategy.	☐	☐	☐
The handling of data is regularly adapted to current case law and legislation.	☐	☐	☐
Anonymization techniques are being used through the data lifecycle.	☐	☐	☐
There are clear rules for the use of technological devices that allow for individual traceability and identification.	☐	☐	☐

Digital sobriety and consent	Yes	No	Not clearly defined
When collecting and processing personal data, this is limited to what is necessary.	☐	☐	☐
Data subjects are asked to give consent to the sharing of their data in a transparent manner.	☐	☐	☐

System security	Yes	No	Not clearly defined
All technical systems used are operated according to the current state of the art and are regularly maintained.	☐	☐	☐
In all infrastructure projects, functionality is guaranteed and the vulnerability of the systems is known (cyber security).	☐	☐	☐

Data interoperability	Yes	No	Not clearly defined
There are clearly defined standards for specifying data requirements for municipal organizations and third-party providers.	☐	☐	☐
An open and transparent urban data platform built on common reference architectures and open standards.	☐	☐	☐

Data sovereignty and avoidance of vendor lock-in	Yes	No	Not clearly defined
Where possible, open source solutions are preferred to avoid a vendor lock-in effect and to strengthen digital sovereignty.	☐	☐	☐
Datenbestimmungen werden in stadtbezogene Verträge als Bestimmungen für die Auftragsvergabe aufgenommen.	☐	☐	☐

Data access	Yes	No	Not clearly defined
Non-personal data that is of interest to the public is made publicly available.	☐	☐	☐
Open standards are used in the dissemination of data to promote transparency and ensure barrier-free access to the data.	☐	☐	☐
Digital literacy and skills are promoted among staff and citizens alike.	☐	☐	☐

Democracy and public participation	Yes	No	Not clearly defined
The limits for automation are clearly defined. They must not touch the responsibility of democratically elected bodies.	☐	☐	☐
An external multi-stakeholder advisory board exist to shape the development of ethical data collection, use, and management.	☐	☐	☐

Transparency and inclusion	Yes	No	Not clearly defined
Where administrative decisions are made automatically, this is disclosed in advance.	☐	☐	☐
Algorithms are transparent and take into consideration inclusion criteria (e.g. gender-based criteria)	☐	☐	☐

Sustainability	Yes	No	Not clearly defined
Decisions on digital conversion and further development are made taking into account procedural, social, economic and/or ecological sustainability criteria.	☐	☐	☐

Did you answer "yes" to most of these questions?

Congratulations! You seem to be an expert in data ethics and successfully implemented it in your data strategy. If not, we recommend you to pay more attention to data ethics to ensure sustainable digitization. We are happy to help you - contact us for a free initial consultation at square@dksr.city.

The requirements and checklist are based on:

Ajuntament de Barcelona. Barcelona Digital City. URL: https://ajuntament.barcelona.cat/digital/en

City of Hamburg, 2018. Digital Data Strategy for Hamburg. URL https://www.hamburg.de/contentblob/14924946/e80007b350f1abdc455cfaea7e8cd76c/data/download-digitalstrategie-englisch.pdf

City of Melbourne, 2016. Future Melbourne 2026.URL https://www.melbourne.vic.gov.au/about-melbourne/future-melbourne/future-melbourne-2026-plan/Pages/future-melbourne-2026-plan.aspx

City of Montreal, 2020. Montréal's Digital Data Charter.URL https://laburbain.montreal.ca/sites/villeintelligente.montreal.ca/files/25817-

Stadt Ulm. 2018. Datenethikkonzept für die Stadt Ulm. https://www.ulm.de/aktuelle-meldungen/z%C3%B6a/oktober-2020/datenethikkonzept-2020_10