DKSR
Data Competence
for Cities and Regions

KNOWLEDGE PRODUCT

INTRODUCTION & CHECKLIST
Data Governance

Here you can find all important points you need to know when defining the data governance strategy of your municipality. We have also prepared a checklist for you to use to assess the state of your municipality's data governance and identify weaknesses and strengths.

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

The foundations of data governance: three action areas for cities and municipalities

Data governance is a term used when speaking about the arrangements that guide data ecosystems and the ways in which we organize and manage data. A strong data governance foundation enables cities to turn data into benefits while also ensuring public acceptance and stakeholder support. We have identified 3 overarching action areas to bear in mind when setting your data governance approach. We also provide you with a checklist to help you evaluate where your city stands in this matter, as well as to uncover strengths and weaknesses.

1 Governing data: setting a data strategy, defining roles and responsibilities, protecting data, ensuring individual privacy and consent

Setting a data strategy represents the departure point for data governance. A data strategy sets the values and objectives that underpin the entire data ecosystem and its long-term development. As these objectives are defined, roles and duties need to be assigned accordingly. These might include for example, responsibilities regarding the organization of data processes, data ownership, and selection and management of software. IT departments are traditionally responsible for these tasks in local governments. However, a growing of cities have appointed Chief Data Officers or Chief Digital Officers (CDOs) to lead local transformation and overlook the local data governance arrangements.

Data needs to be protected and citizen's privacy needs to be guaranteed. Anonymization techniques and privacy-by-design approaches can be used to protect privacy already at the collection stage, before it is stored. Cities need to communicate to their citizens what data is being collected, by whom, and for what, while also making clear the benefits that arise. More advanced cities enable their citizens to decide, which data they want to share with whom. For example, the European GAIA-X[1] initiative puts the sovereignty about data back into the hands of the data-owner. By giving citizens an easy-to-use dashboard for activating and de-activating data-sharing with different applications and organizations, cities can build trust in their data-strategies and even apply incentive schemes: for example by lowering ticket fares for public transport if citizens opt to share their movement data.

Data storage needs to be safe and resource-efficient. Clear policies to ensure that data is secured, whether in cloud-systems or not, need to be set. Cities should also stablish guidelines and plans for recovering data and making it resilient to emergencies (e.g. equipment failure).

[1] More information on the GAIA-X Initiative can be found at https://www.gaia-x.eu/

2 Managing data: building open data ecosystem, achieving interoperability, and avoiding vendor lock-in

Data management needs to be able to collect, standardize and analyse different categories of data (GPS systems, mobile devices, sensors, vehicles etc). For this, constructing and inventory of data sets and their limitations is an important first step. The issue of interoperability is also key, and it might include implementing changes when data sets are not interoperable and stablishing protocols for data collection, collation and sharing. Cities need to refer to common reference architectures as underlying design principles for urban data platforms, even for specifying data requirements towards municipal organizations and third-party suppliers of data. Reference architectures function as open standards and make sure that all platforms and components used can communicate with each other . In addition, cities should refer to established standard for metadata.

To avoid vendor lock-in, cities are advised to diversify their tech-and-infrastructure basis and gradually build on Open-Source technology. When working with city related contracts, data provisions (e.g. working with open source, when possible) should be included as conditions for awarding contracts.

3 Value-added: opening the value of data, governing data ethically, ensuring participation and public acceptance

Data access needs to be given to the different stakeholders while at the same time ensuring data privacy. Open data portals can help maximize the outcomes of data sets. However, not all data are of equal important and priorities should be set. If you want more guidance on this regard, the Open Data Charter[2] has stablished principles that serve as aspirational norms on how to publish data and provides guidance on the most relevant data domains that policy makers usually require.

Ensuring local consensus and acceptance of how data is collected and use is essential. Successful data strategies incorporate feedback and ideas from stakeholders on what to do with data and digitalization. Banning or allowing the use of certain technologies might be beyond the scope of data strategies. Nevertheless, it can provide guidance on ethical principles that need to be considered when implementing data-based interventions.

Another important topic is how to guarantee fairness in the algorithms that are part of tools that inform or perform decisions. Algorithms need to be transparent and embedded in fairness principles. These rules should make clear already at the procurement process.

[2] More information at https://opendatacharter.net

Where does your city stands?

This checklist has been designed to help you get a clearer picture of where your city stands in the different action areas of data governance.

Answers to the different items are to be given on a scale of 1 (not existent) to 5 (fully deployed).

Governing data

		1	2	3	4	5
1	There is a data strategy.	☐	☐	☐	☐	☐
2	The data strategy is aligned with public bodies and recommendations from centers of excellence.	☐	☐	☐	☐	☐
3	Responsibilities for data handling are clearly allocated and separated from each other.	☐	☐	☐	☐	☐
4	A responsible person for the collection, protection, and quality of data ('data owner') exists and his or her responsibilities as well as rights are clearly defined.	☐	☐	☐	☐	☐
5	The duties and rights of staff, who work directly with data, are clearly defined, and communicated.	☐	☐	☐	☐	☐
6	There are guidelines and rules to guarantee data protection.	☐	☐	☐	☐	☐
7	The collection of data is transparent. Citizens can decide for themselves which data they want to make available.	☐	☐	☐	☐	☐
8	There is a unit that facilitates an improvement of municipal services (or the provision of new services) based on data (e.g., data intelligence unit).	☐	☐	☐	☐	☐
9	Policies, responsibilities, and accountabilities around the use and management of data are openly communicated to the outside world.	☐	☐	☐	☐	☐

Managing Data

		1	2	3	4	5
1	There is an up-to-date inventory of data-sets available within the municipal organization.	☐	☐	☐	☐	☐
2	There is an up-to-date inventory of technical equipment and software in use.	☐	☐	☐	☐	☐
3	The city has agreed on an overarching architecture for the components of its digital system. It refers to open	☐	☐	☐	☐	☐

standards like ISO/IEC 30141:2018 or ISO/IEC 20547-3:2020.

4	Access to sensitive data, as well as its location, are defined and recorded.	☐☐☐☐☐
5	Open-Source applications and open standards are used where possible.	☐☐☐☐☐
6	There is an Urban Data Platform based on Open Standards	☐☐☐☐☐
7	There are clear rules for embedding data provisioning and data ownership in municipal service contracts with 3rd parties.	☐☐☐☐☐

Value-added		**1 2 3 4 5**
1	Data is made available to other municipalities and to the public to promote public good.	☐☐☐☐☐
2	Guidelines are in place for the publication of data which consider data protection, the usefulness of the data and the availability of interfaces.	☐☐☐☐☐
3	Citizens and businesses are involved in decisions regarding data, in particular the use of data.	☐☐☐☐☐
4	Algorithms that refer to city data or have an impact on public spaces or public infrastructures need to be made openly accessible or can be verified by the municipality.	☐☐☐☐☐

Did you score 5 in most of the questions?

Congratulations! Your city is doing great in the topic of data governance!. If your answers were different, we recommend you take a closer look at this topic. We could gladly help you. Just contact us for a first talk, free of charge, at square@dksr.city.

The requirements and checklist are based on:

- KGST Report 05/2021
- Data Governance Checklist of the Privacy Technical Assistance Center, via https://nces.ed.gov/Forum/pdf/data_governance_checklist.pdf

DKSR Daten-Kompetenz für Städte & Regionen