



The building blocks are the most commonly reoccurring elements and features that data-driven organizations and smart cities are consists of.

Use this to learn the fundamentals and encourage creative playing and reshaping of ideas. Combine and connect to the Getting Started cards once you're ready to take action!



- freedom of information
- data
- open data
- machine-readable data
- data ethics
- data privacy & security
- data-driven organizations
- data visualization
- data literacy
- data fallacies
- data inventory
- smart cities
- data stewardship & data governance
- data sharing
- dashboards



DEFINITION

Data is the raw material of information & knowledge. Any tweet, image, description, review & price generates new data & can be the basis of your decision.

SIGNIFICANCE

Data becomes information when given context. With high quality data, LGU decisions will not be based on a hunch or "gut feel".

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Data becomes usable when a human can understand it & a machine can manipulate it.



BUILDING BLOCK



DEFINITION

FOI allows citizens to acquire any government information that is available by request under Executive Order No. 02 S. 2016. FOI is reactive, while Open Data is the proactive release of data.

SIGNIFICANCE

FOI complements Open Data. It gives rise to litigation when the government refuses a request.

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FOI provides a legal right of action & can suggest the kinds of data to prioritize releasing.



BUILDING BLOCK



DEFINITION

Open data is data that anyone can universally & readily access, use, modify and share. It is free of charge & in digital form.

SIGNIFICANCE

Open Data provides information to its citizens in a timely manner. It supports innovation by revealing opportunities for private & public sectors to improve operations & develop new services.

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Open data doesn't mean everything is open. It respects the rights and privacy of data actors.



BUILDING BLOCK



DEFINITION

Machine-readable data means the data can be "read" by computers through formats like comma-separated values (CSV), JavaScript Object Notation (JSON), & Extensive Markup Language (XML).

SIGNIFICANCE

Machine-readable data that is high quality & timely can be used in conventional analysis & innovative processing such as machine-learning & artificial intelligence platforms.

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Machine-readable is not synonymous with digitally accessible. A document (like a PDF) may make the data easy for a human to understand but not the most readable for a machine.



DEFINITION

Data ethics is a branch of ethics that evaluates data practices that can adversely impact people & society—in collection, sharing & use. On top of privacy, it may involve bias in data & algorithms, lack of transparency, data accessibility & gaps.

SIGNIFICANCE

Data Ethics promote fairness & accountability in data practices (collection, management & use) to protect civil liberties, minimize risks to individuals & society, & maximize the public good.

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The LGUs play a critical role in setting the example of ethical oversight by making responsible data decisions & values that promote the public good.



BUILDING BLOCK



Data Privacy



Data Security

DEFINITION

Data privacy is the protection, management, & collection of sensitive data -- personal, financial, intellectual property, & the like (RA No. 10173-Data Privacy Act). At the same time, Data security includes not just cyber & cryptography security but also the prevention & management of unauthorized data access & system tampering.

SIGNIFICANCE

Having effective data privacy & security measures reduces the risk of loss of the LGU's reputation due to privacy & security breaches and increases trust in the insights, analysis, & analytics performed on the data that could inform critical administrative decisions.

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Data Driven
Policy



Smart City



Data Literacy



Effective security & privacy implementation requires a culture of awareness -- staff should be trained on best practices, how to report & respond to breaches, & be kept up-to-date on the LGU's data governance procedures.



DEFINITION

Data literacy involves understanding what data means, reading graphs & charts, drawing correct conclusions from data, & how to recognize when data is being used in misleading or inappropriate ways.

SIGNIFICANCE

If LGUs & the public understand how data works & how to use it to communicate with one another effectively (e.g., Citizens understanding the data being released by the local government &, in turn, use this data to propose solutions), then solutions - digital or not - will be truly inclusive, open, & participatory.

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Data Literacy is the first step to building a data culture & a core skill for LGUs looking to take advantage of the opportunities data offers to create new value and improve operations.



DEFINITION

Data Fallacies are common deceptions & misuse of data leading us to false conclusions & poor decisions. One common example is Cherry-Picking – where data is selectively chosen to fit one's claim.

SIGNIFICANCE

Learning about data fallacies can help you avoid being a victim of false conclusions & poor decisions in LGUs. It highlights the importance of collecting diverse & inclusive data.

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The best way to avoid data fallacy is to improve the LGUs' self-confidence to ask the right questions & assess the data insights through data literacy training.



DEFINITION

A data inventory is a complete record of datasets that describe what they are about, sources, licenses, & other details. The details about a particular dataset are called metadata.

SIGNIFICANCE

When local government employees need information from another department, having a data inventory will make their job easier since they know what is available & where to obtain it.

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Managing & conducting a data inventory is essential for better data sharing & management. Data Inventory is a recurring process.



DEFINITION

Smart City is a community that efficiently & responsibly uses technology and data to improve quality of life of its citizens.

SIGNIFICANCE

LGUs cannot separate technology & data from their everyday operations. The effective use of data & technologies in smart cities can save LGUs from wasting their resources. It also facilitates resiliency, sustainability & social inclusiveness.

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Smart cities are for all LGUs, even for municipalities & rural areas, & are not different from resilient cities, sustainable cities, etc. -- they all aim to better the quality of people.



DEFINITION

Data sharing involves the ability to prepare, release, & share, or disseminate quality data to the public & other agencies. It is the transaction of any kind of data between different people, organizations, or applications.

SIGNIFICANCE

Making the data available can save money & time by sharing data across different departments & the public. It also incentivizes the LGUs to manage better & ensure their data are of high quality & encourages more collaboration which leads to innovation.

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Data Literacy is the first step to building a data culture & a core skill for LGUs looking to sustain their efforts in sharing high-quality data.



DEFINITION

A Dashboard is a purpose-built software that conveys information by presenting analytics & data visualizations. Dashboards organize, visualize & display curated LGU information at a glance for better communication.

SIGNIFICANCE

Dashboards are great communication tools if your residents know how to read data visualizations. LGUs can also use dashboards to set specific Key Performance Indicators (KPIs) for tracking.

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Dashboards complement Data portals. Open data portals publish raw data, which can catalyze innovation, while dashboards usually represent processed datasets.



BUILDING BLOCK



DEFINITION

Data-driven LGUs are LGUs that effectively, responsibly & consistently utilize data in their decision-making process across all levels of the organization. Data-driven LGUs have data-literate employees & residents.

SIGNIFICANCE

LGUs should effectively, responsibly & consistently open up & use data to design & deliver services around user needs & engage & empower citizens to build their communities & develop solutions.

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Becoming data-driven involves cultural & institutional change. Applying technology is the easy part. Data Literacy can be an effective tool to address this challenge.



DEFINITION

Data Visualization is the representation of information in a chart, graph, picture, etc. If we dig deeper, it's about how to visualize/present data effectively & the combination of Narrative, Visuals, & Raw Data.

SIGNIFICANCE

Without effective data visualization practice, LGUs will often make choices or mistakes that confuse & disorient the public & the residents.

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The best visualizations help viewers understand not only the data but also its implications. Use the visuals to tell a story and to connect with your constituents.



BUILDING BLOCK



Data Stewardship



Data Governance

DEFINITION

Data governance establishes a rule-based system for collecting, storing, processing, analyzing, & sharing data & defines the roles & responsibilities for decision-making on data; while Data Stewardship, on top of the implementation of data governance, is the facilitation & steering of public-private data collaboratives toward the public interest.

SIGNIFICANCE

Data Stewardship is a necessity for an effective private-public partnership involving data & without Data Governance, data scientists, technology vendors, data enthusiasts, or intrusive algorithms will define the rules of the game, risking the public interest.

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Policy



Smart City



Data Literacy



Data governance is an organizational capability & is not an IT or technology project nor a separate organization structure as it requires ongoing & whole-government commitment.