



**United
Nations**

DESA
Statistics Division

**DA Tranche 14 Project: Concluding Session
Capacity Building Workshop for the Africa Region:
Data Ethics, Governance, and Quality in a Changing Data Ecosystem**

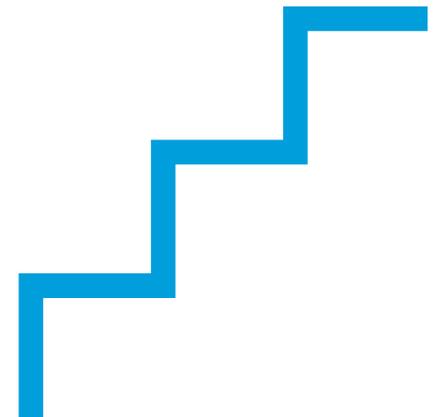
Session 3b: Institutional and Organizational Frameworks – Data Governance

Towards an International Frameworks for Official Statistics

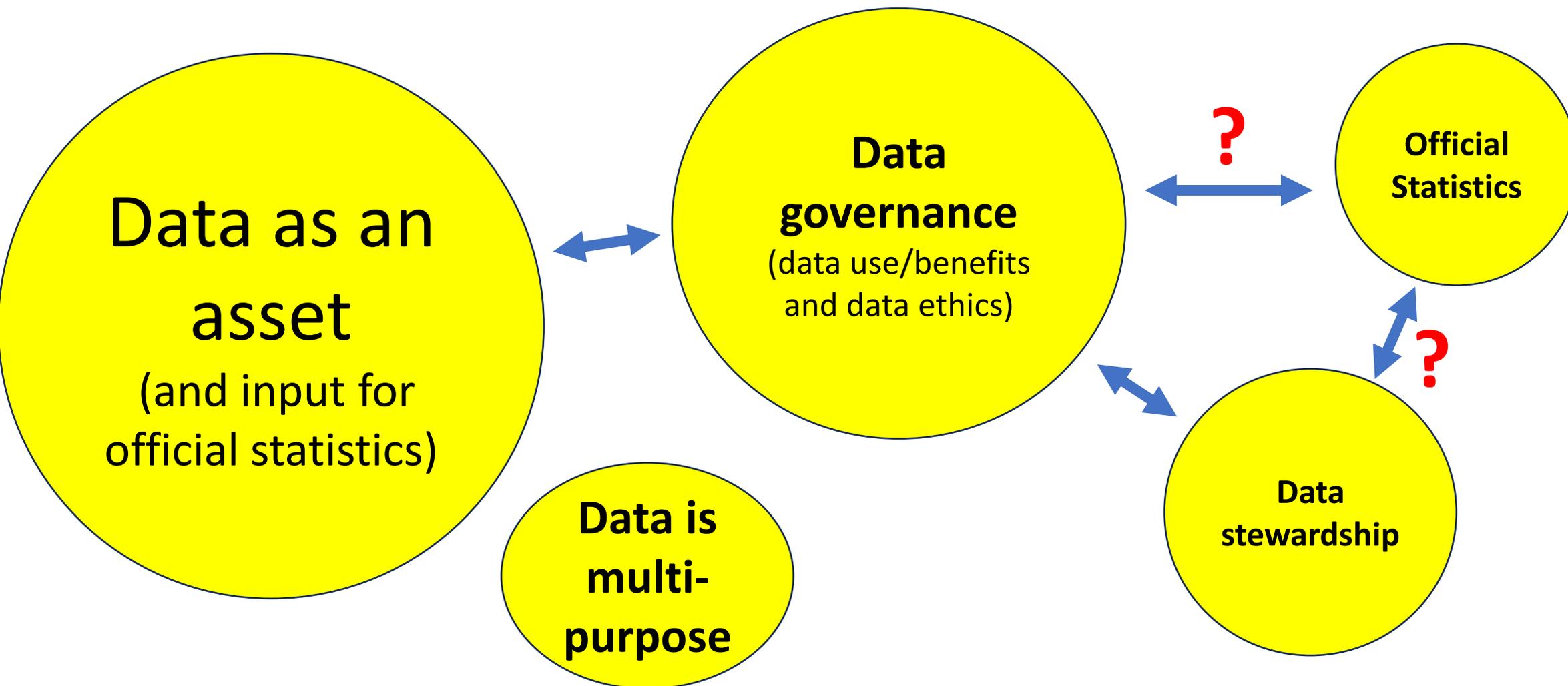
Nairobi, Kenya, 2-4 September 2025

Keping Yao

**Statistics Division, Development Data and Outreach Branch
United Nations Department of Economic and Social Affairs**



Some basic thoughts about the data ecosystem..



Working definition: **Data ecosystem**

Handbook on Management and Organization of National Statistical Systems
Chapter 5: NATIONAL DATA ECOSYSTEMS AND GOVERNANCE

The entire network of actors (data collectors, producers, providers, analysts, users and others) (WHAT/WHO)

- that directly or indirectly generate and produce, collect, process, disseminate, analyse and/or otherwise consume data and associated services, **(WHAT)**
- as well as the necessary legal, policy, administrative, technological and technical infrastructures, **(WHAT/HOW)**
- that **[ideally]** combine to support interactions and partnership, facilitate the use of data and hereby **generate value of data** for society as a whole, within a specified country or region. **(WHY)**

Working definition: **Data governance**

Handbook on Management and Organization of National Statistical Systems
Chapter 5: NATIONAL DATA ECOSYSTEMS AND GOVERNANCE

A system of decision rights and accountabilities (WHAT)

- for the management of the availability, usability, integrity and security of the data and information **(WHAT)**
- to enable coherent implementation and co-ordination of data stewardship activities as well as increase the capacity (technical or otherwise) to better control the data value chain, and the resulting regulations, policies and frameworks that provide enforcement. **(WHY)**

This includes

- the systems within an enterprise, organization or government that define who has authority and control over data assets and how those data assets may be used,
- as well as the people, processes, and technologies required to manage and protect data assets.

Working definition: **Data stewardship**

(Handbook on Management and Organization of National Statistical Systems
Chapter 5: NATIONAL DATA ECOSYSTEMS AND GOVERNANCE UNECE)

The ethical and responsible creation, collection, management, use, and reuse of data. (WHAT)

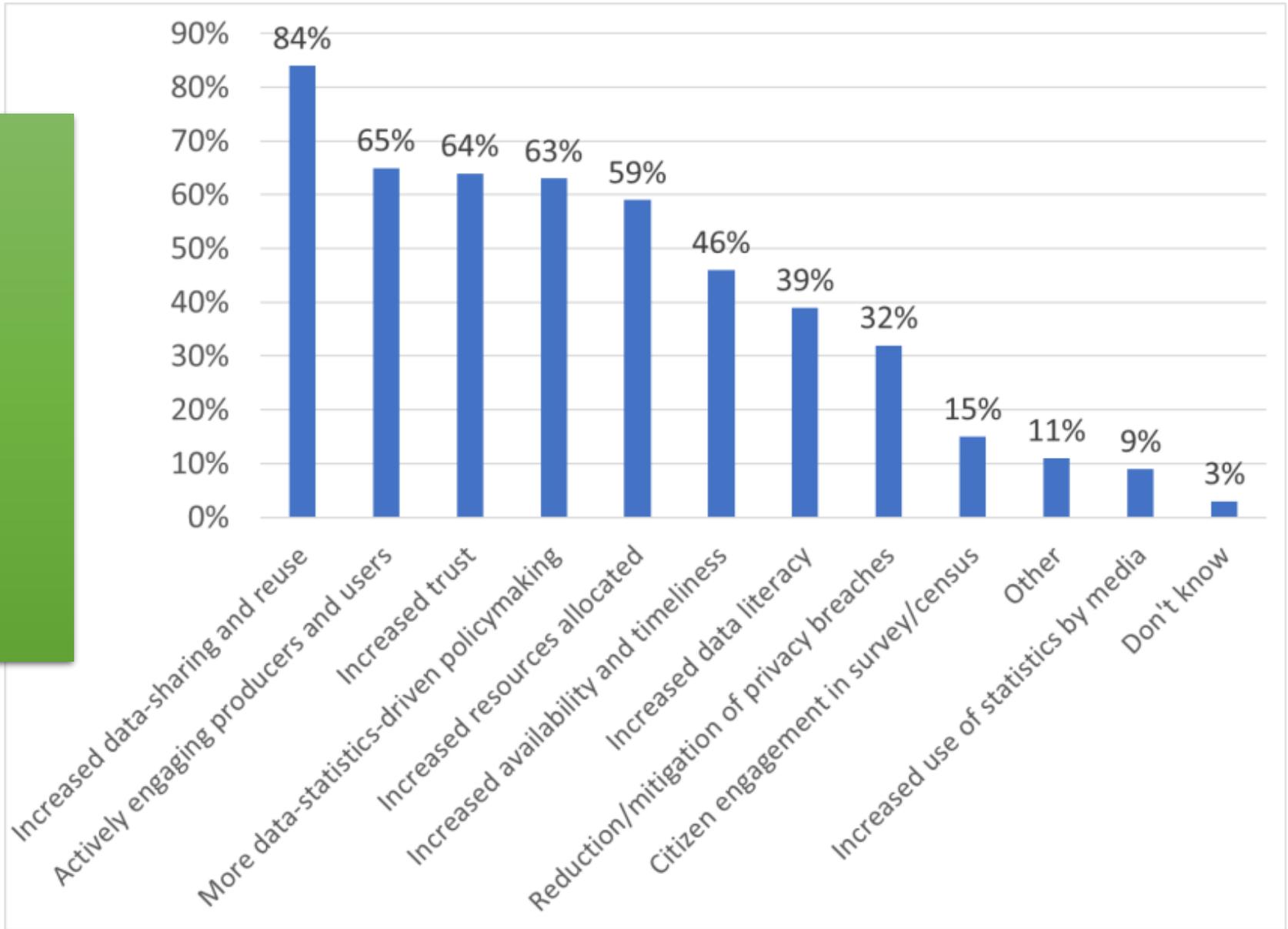
- It is expressed through long-term, inter-generational curation of data assets such that they **benefit the full community of data users and are used for public good. (WHY)**
- Made visible through a range of internal and external functions associated with stewardship roles – including data access, security, and data quality and standards – it influences proactive and responsible data practice **to help deliver data strategies, maintain trust, and promote accountability. (WHY)**

Functions of a **Data stewardship within the NSS**

(proposed by UN Working Group on Data Stewardship)

- **Results of a global survey conducted in 2023 (113 responses)**
- **Questions focused on the coordination role of the NSO in the National Statistical System**
 - 80 percent of NSOs reported they are mandated to coordinate the production and integration of official statistics in the NSS
 - 80 percent believed they should coordinate all data sources within the NSS related to both technical and institutional benefits; **Reasons for disagreement:** perceived boundaries between data and official statistics, capacity limitations or other constraints such as the decentralized nature of their statistical system
 - The majority of NSOs reported their role had expanded over various data stewardship functions

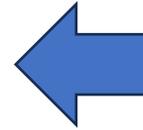
How would you define and measure successful implementation of data stewardship?



Functions of a **Data steward** within the NSS

(proposed by UN Working Group on Data Stewardship)

1. **Building trust in data and promoting data-sharing and use of data in decision-making**
2. **Safeguarding data quality**
3. **Facilitating greater collaboration, coordination and data integration across the national statistical system**
4. **Maintaining citizen confidentiality and data security**
5. **Implementing strong data management and capacity building practices**



Enablers/tools:

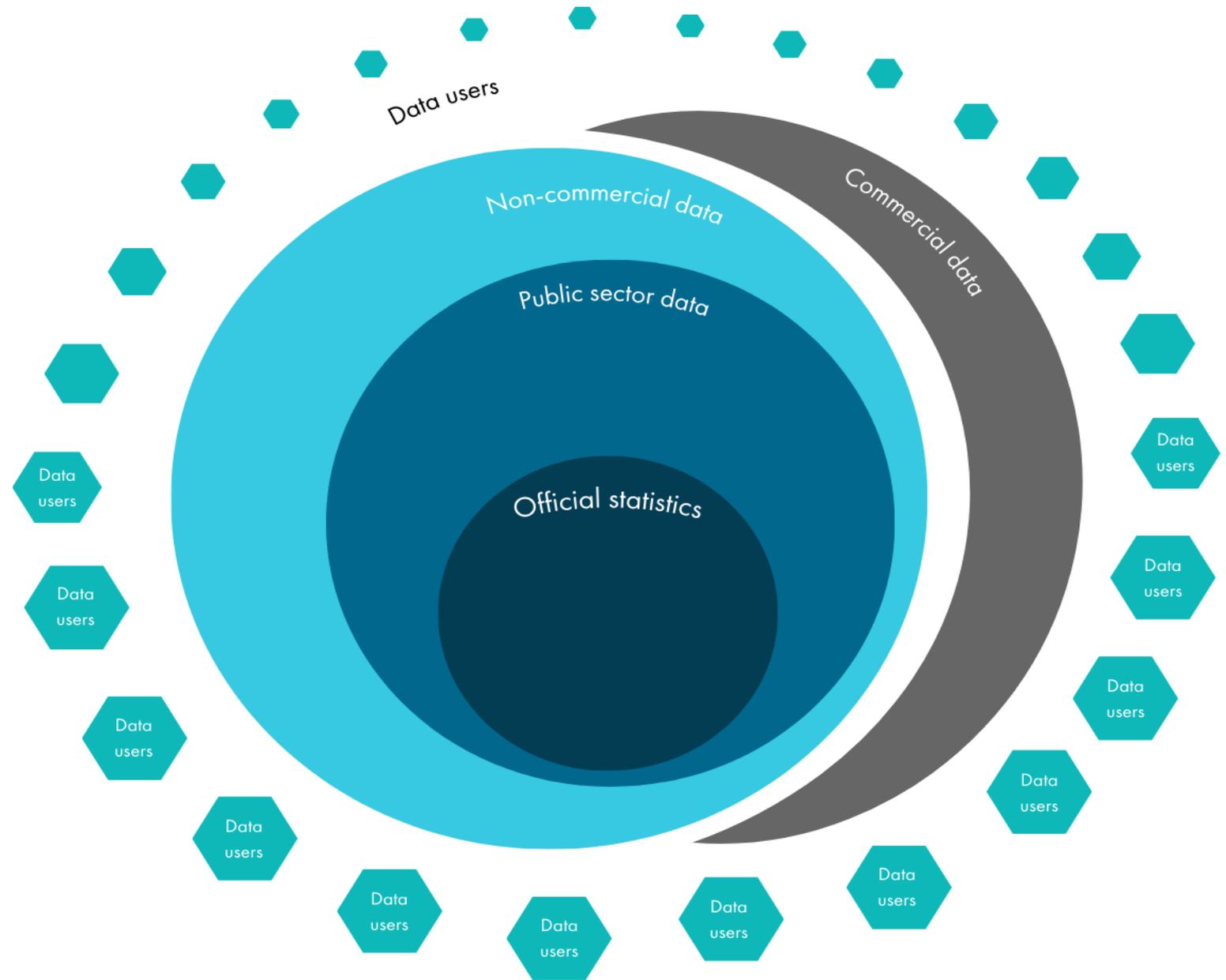
1. **Data governance**
2. **Statistical laws and regulations**
3. **National quality assurance framework**

However, a new, larger data ecosystem has arrived

Challenges and opportunities:

- New competitors / loss of quasi-monopoly of official statistics / new and additional expectations of data users
- Statistical data sources are expensive, and often lack timeliness and granularity
- Administrative and other data sources offer greater cost efficiency, timeliness and granularity
- One of the key issue for NSOs and NSSs is data access and use

However, a new, larger data ecosystem has arrived



Nairobi, Kenya, 2-4 September 2025

However, a new, larger data ecosystem has arrived

Key issue: Access and use of admin. and other data sources such as

1. mobile phone data
2. data from media, e-commerce and internet services providers,
3. data based on Earth observation and remote sensing
4. data of private companies
5. data collected by citizens (citizen-generated data)

Options for NSOs in the larger data ecosystem

1. Do nothing (not engaged)

- a) The NSO **decides not to react** to the expansion of the national data ecosystem.
- b) This option is not recommended as there is a high risk that it could lead to the NSO becoming marginalised and losing relevance.

2. Observe and wait for opportunities (passive engagement)

- a) The NSO **decides to observe** the development of the national data ecosystem, without engaging unless clear opportunities present themselves.
- b) Potential of missed opportunities to influence how the national data ecosystem evolves, particularly in terms of legal and institutional frameworks, as well as data standards.
- c) Potential of increased difficulties accessing and using data from other actors
- d) NSO may have no other option due to resource constraints.

Options for NSOs in the larger data ecosystem

3. Influence and shape (active engagement)

- a) The NSO realises the importance of engaging with the national data ecosystem, and **allocates specific resources**
- b) Build partnerships and ensure the NSO is present when important discussions take place and decisions are made.
- c) Often part of cross-government data or digitalisation initiative.

4. Lead (pro-active engagement)

- a) The **NSO seeks and is given the or a leading role** in shaping the national data ecosystem.
- b) Significant costs in terms of resources.
- c) Potential risks to reputation and increased confusion as to the role and mandate of the NSO.
- d) Several successful examples, but opinions are split.

Impediments for larger role (preliminary list)

1. Lack of mandate and authority, and clear objectives
2. Lack of data governance framework
3. Lack of resources (human and other)
4. Lack of clearly identified and immediate benefits
5. Too many obstacles, including resistance to change

Possible solution:

National data strategy and roadmap suitable to national circumstances (but NSO cannot do it alone)

Working group of the Statistical Commission on data governance

United Nations Statistical Commission (2025)

Tasks

1. Developing a common set of terminology, building pillars and the framework, and the roadmap.
2. Facilitating the exchange of national practices and experiences.
3. Proposing a way forward for the Commission to support national statistical offices in developing coherent strategies to respond to rapid technological changes and the growing availability of data from multiple sources.
4. Identifying global and regional principles on data governance and their applicability to official data and statistics at the national level.

Expect outputs and outcomes

1. Lexicon of definitions - Data ecosystems, components of data, data governance
2. “**Data governance framework**” focusing on data governance within official statistics while also considering the Commission’s broader mandate
3. **Knowledge repository** - [Statistics Wiki on data governance](#)

Looking outside of official statistics: **Data governance frameworks in the public sector**

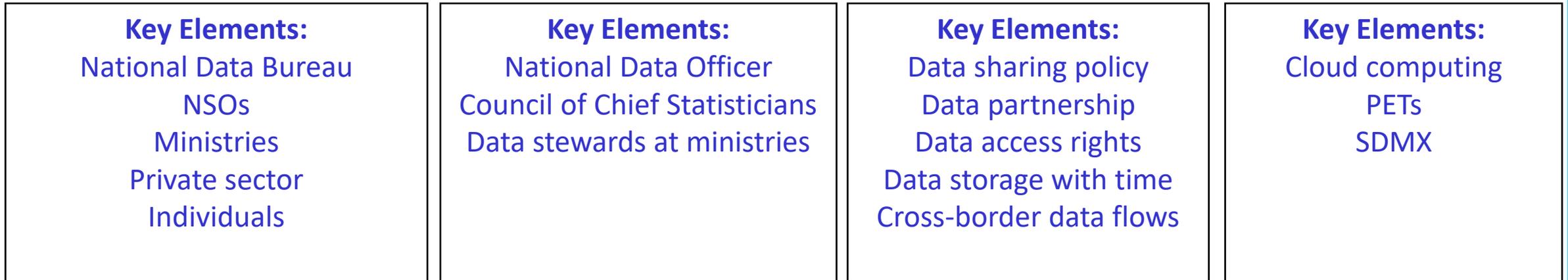
OECD (2019), The Path to Becoming a Data-Driven Public Sector

- New Zealand: 3 levels: Strategy – Policy – Practice
- Argentine: 3 layers: Strategic – Tactical – Delivery
- UN E-Gov Survey 2020: Principles – Pillars – Elements

→ All consist of:

1. A vision/objectives
2. Enablers such as legislation, institutional arrangements etc.
3. Modes and aspects of delivery

Proposed Framework of Data Governance (for discussion only)



Building Pillars

Institutional Setting

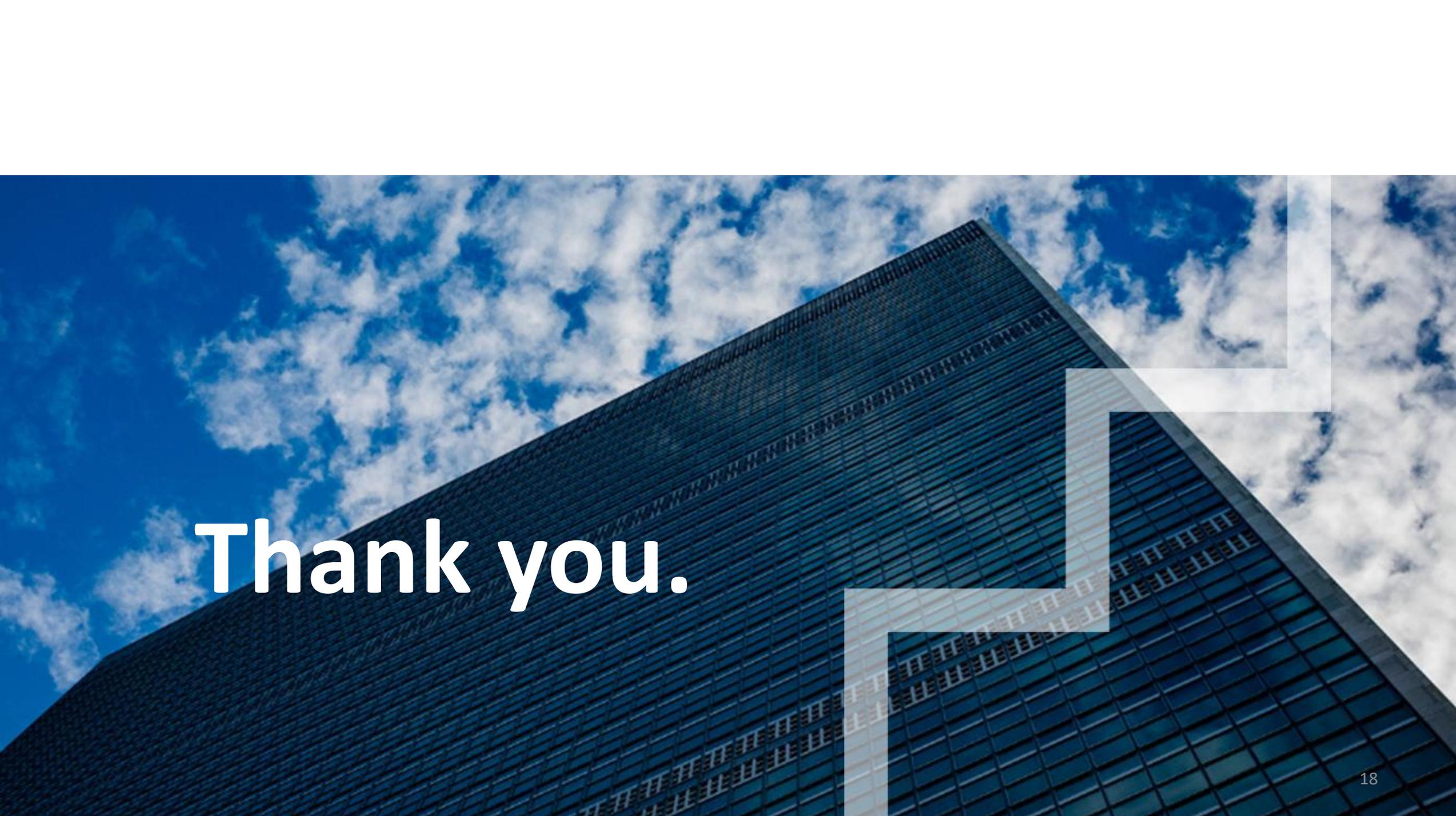
People

Processes

Enabling Technologies

Foundation

FPOS



Thank you.