United Nations | Department of Economic and Social Affairs

National Workshop on Data Governance Framework in Samoa

8-9 May 2024 | Apia, Samoa

Talofa!

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United Nations Department of Economic and Social Affairs (UN DESA)

UN E-GOVERNMENT SURVEY

Since 2001, the **UN E-Government Survey** has presented a systematic assessment of the use and potential of information and communication technologies (ICTs) to **transform the public sector by enhancing effectiveness, inclusiveness, accountability**, access to public services and public participation, and at all levels of development.

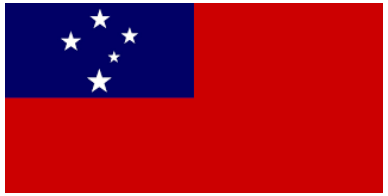
The E-Government Survey is informed by over **two decades of longitudinal research, with a ranking of countries** based on the United Nations E-Government Development Index (EGDI), a combination of primary data (collected and owned by the UN DESA) and secondary data from other UN agencies (ITU, UNESCO and UNDP).

Recent editions:

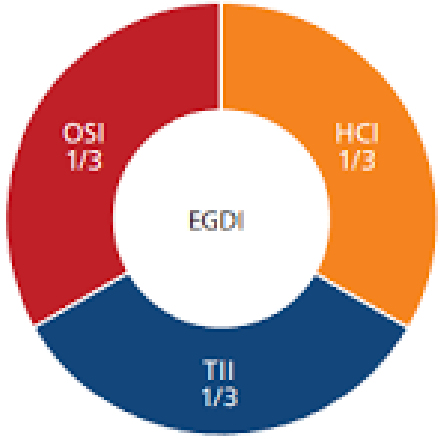
2020 **Digital Government in the Decade of Action** for Sustainable Development *Chapter 6: Towards Data-Centric E-Government*

2022 The **Future of Digital Government**

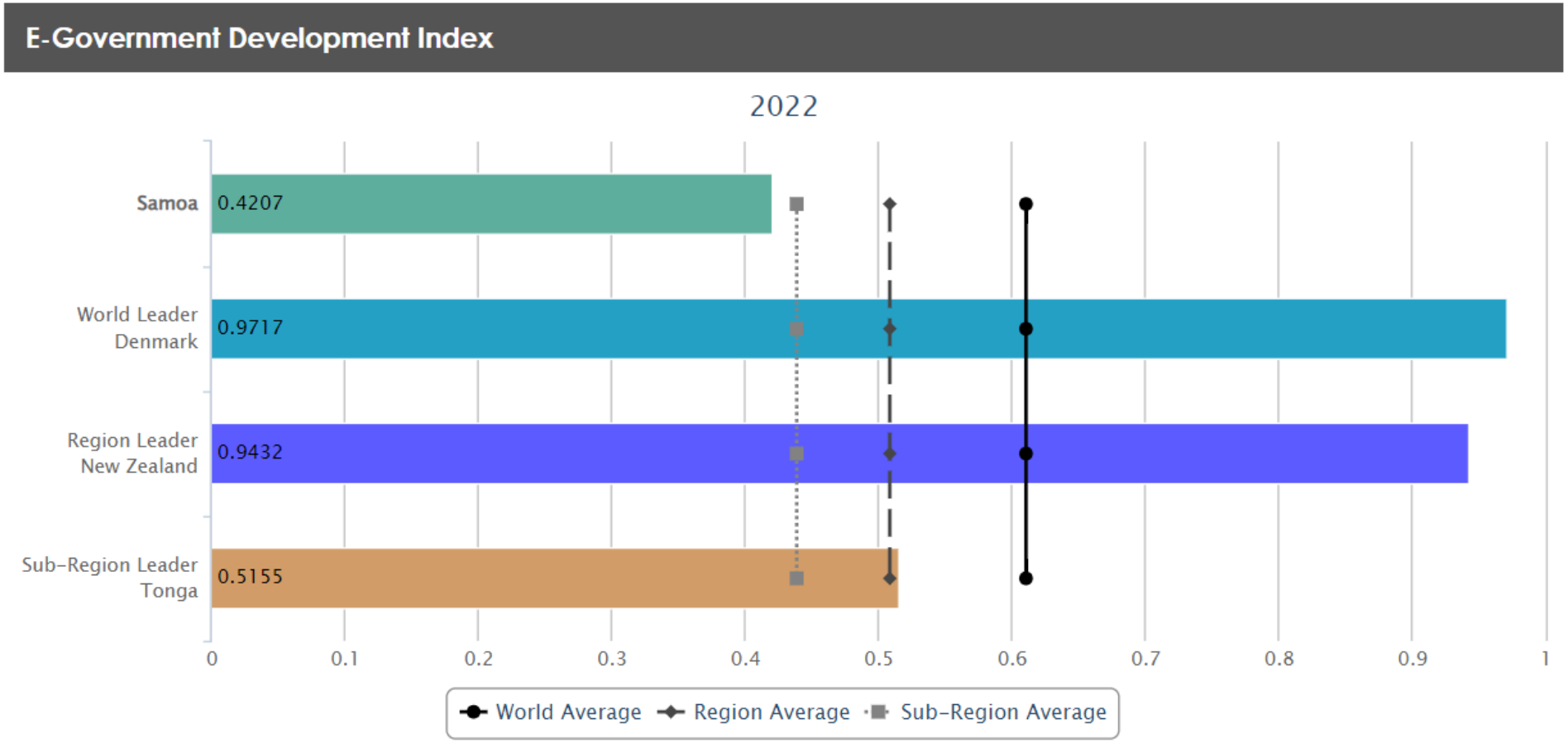
2024 **TO BE LAUNCHED IN SEPTEMBER 2024**



Samoa



E-Government Development Index (EGDI)



E-Government Development Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Samoa (Rank)	152	149	128	121	111	114	115	115	91	92	117
Samoa (Value)	0.42070	0.42190	0.42360	0.40192	0.42039	0.43576	0.37419	0.37610	0.39769	0.37926	0.29927

Source: UN E-Government Survey, 2022

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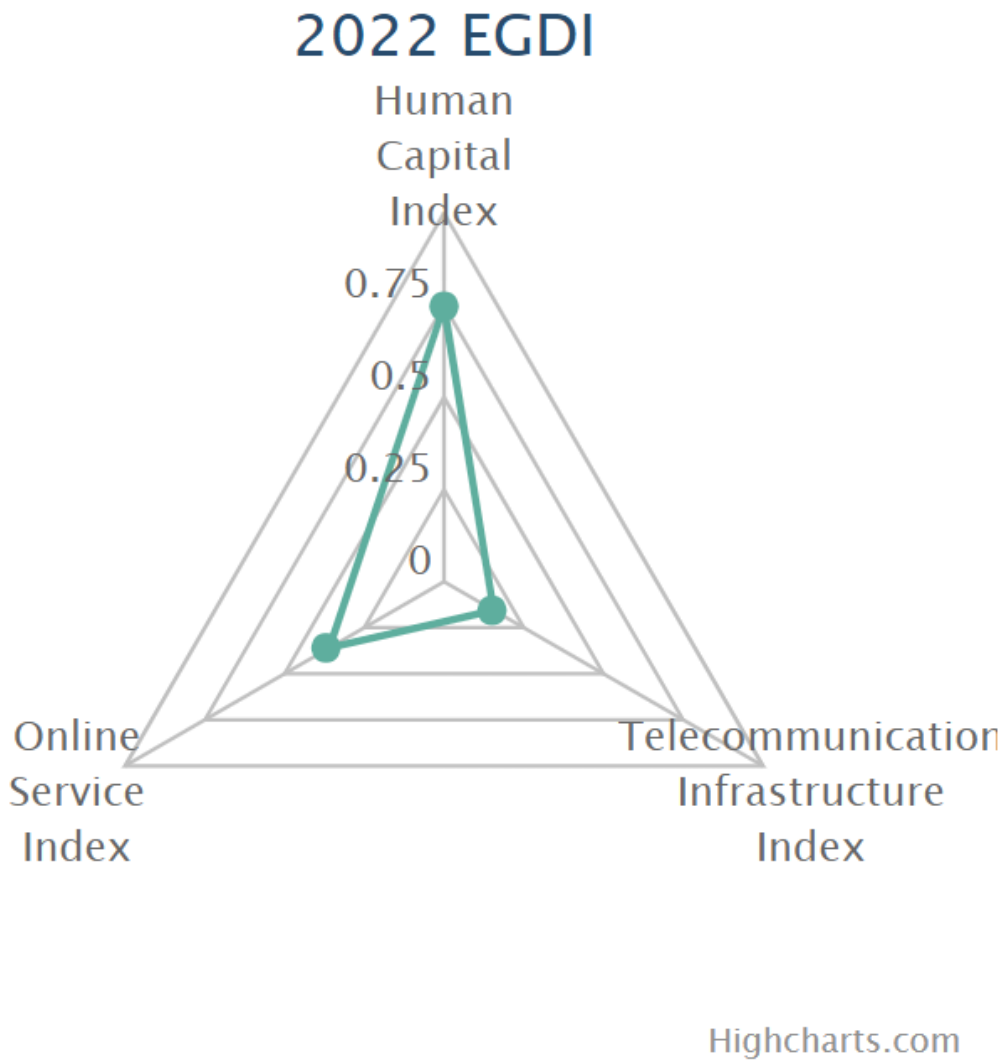
Samoa's E-Government Development Index (EGDI)

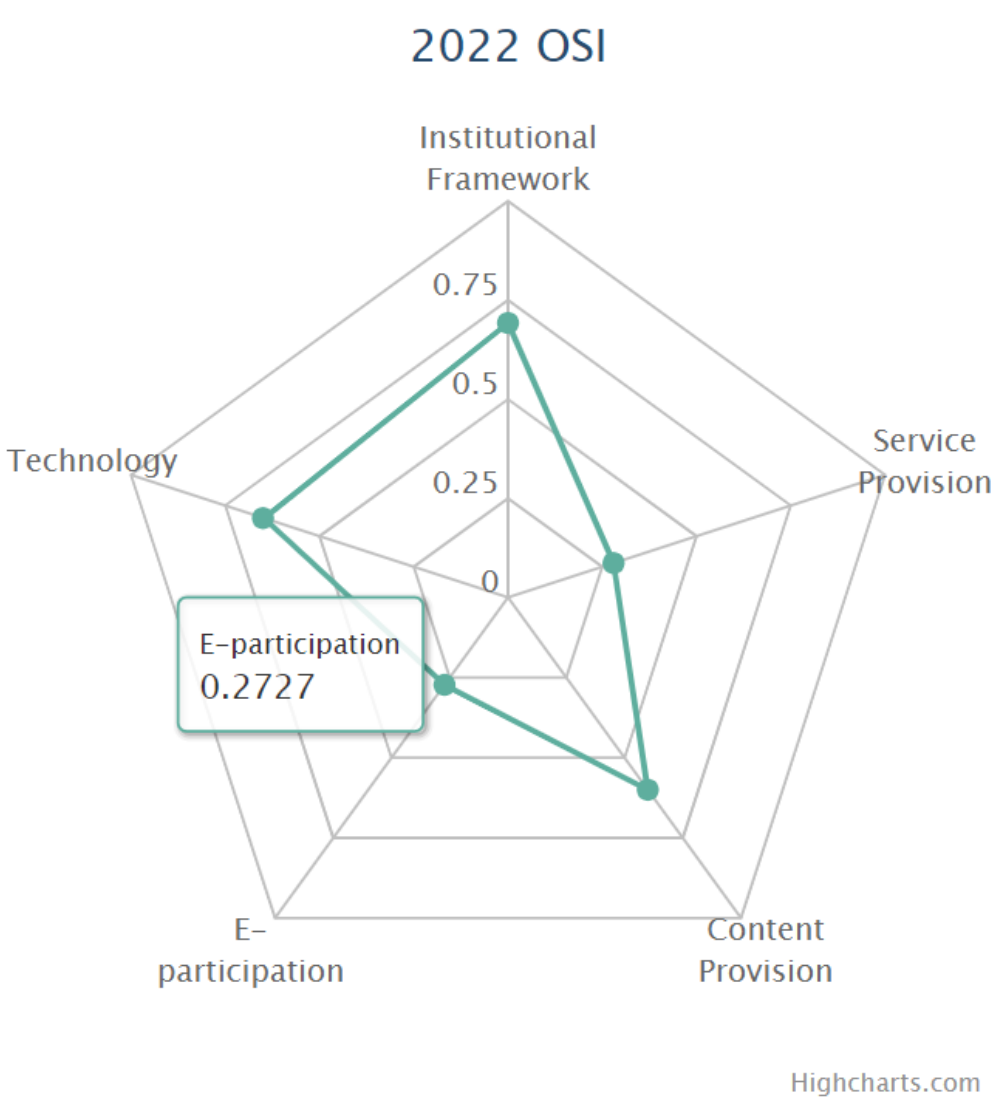


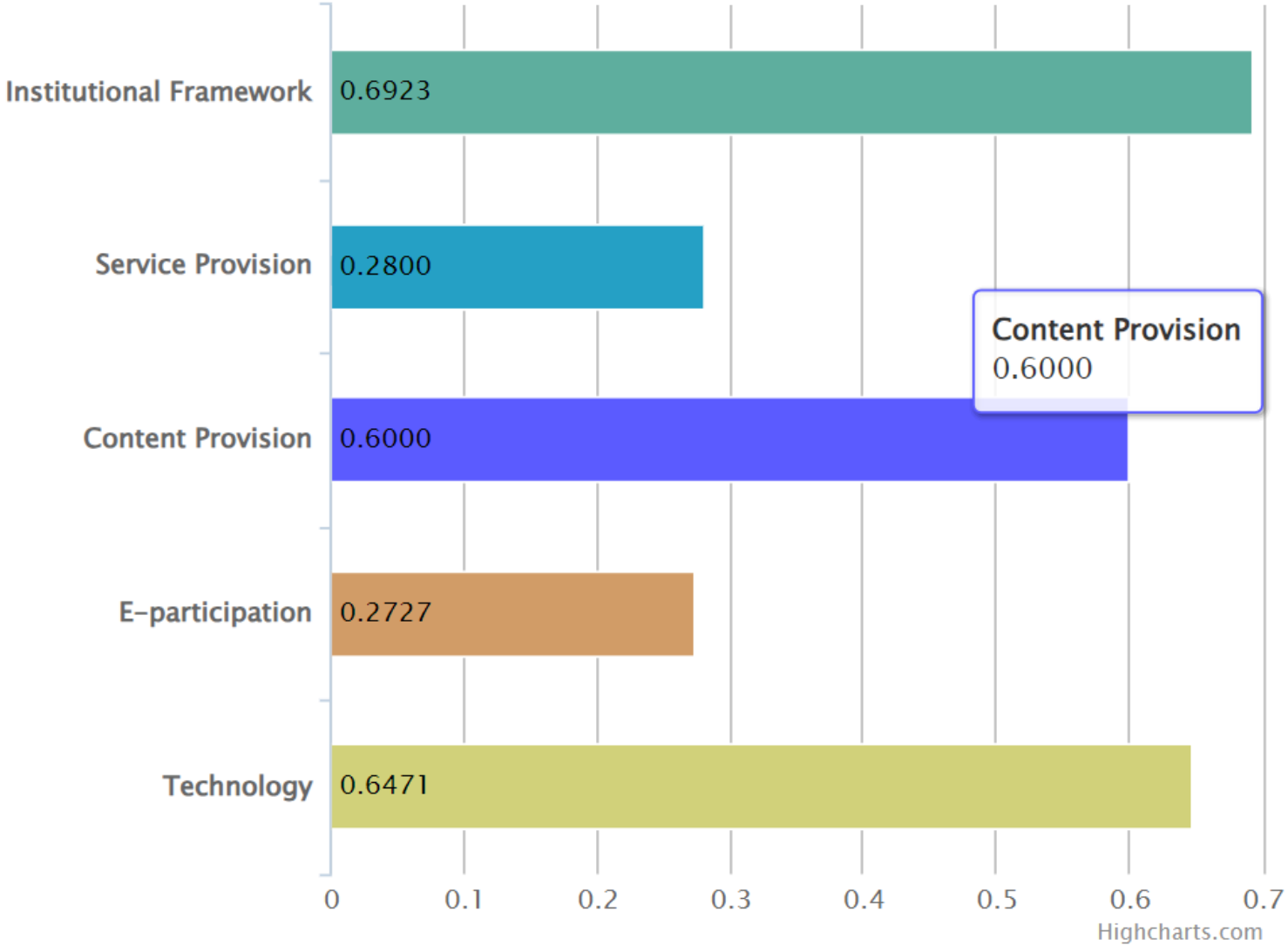
E-Government (2022 EGDI: 0.4207)	
2022 Rank	152
Group	MEGDI
Rating Class	M3
2020 Rank	149
Change	+3

E-Participation (2022 EPART: 0.2727)	
2022 Rank	128
2020 Rank	170
Change	-42

Samoa's **E-Government Development Index (EGDI) was 152nd in 2022 (out of 193 countries)**
In E-Participation, Samoa was **ranked 128th globally**.

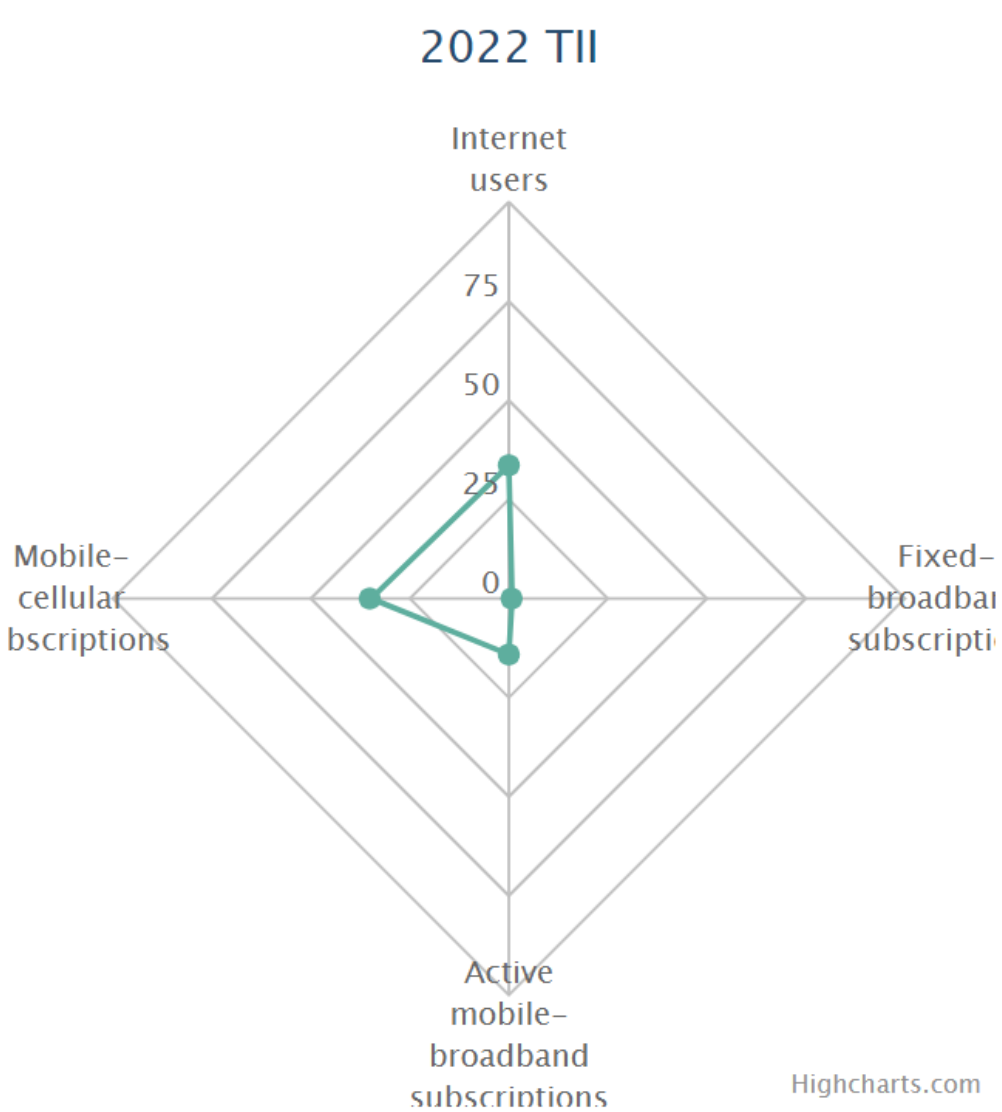
Source: UN E-Government Survey, 2022

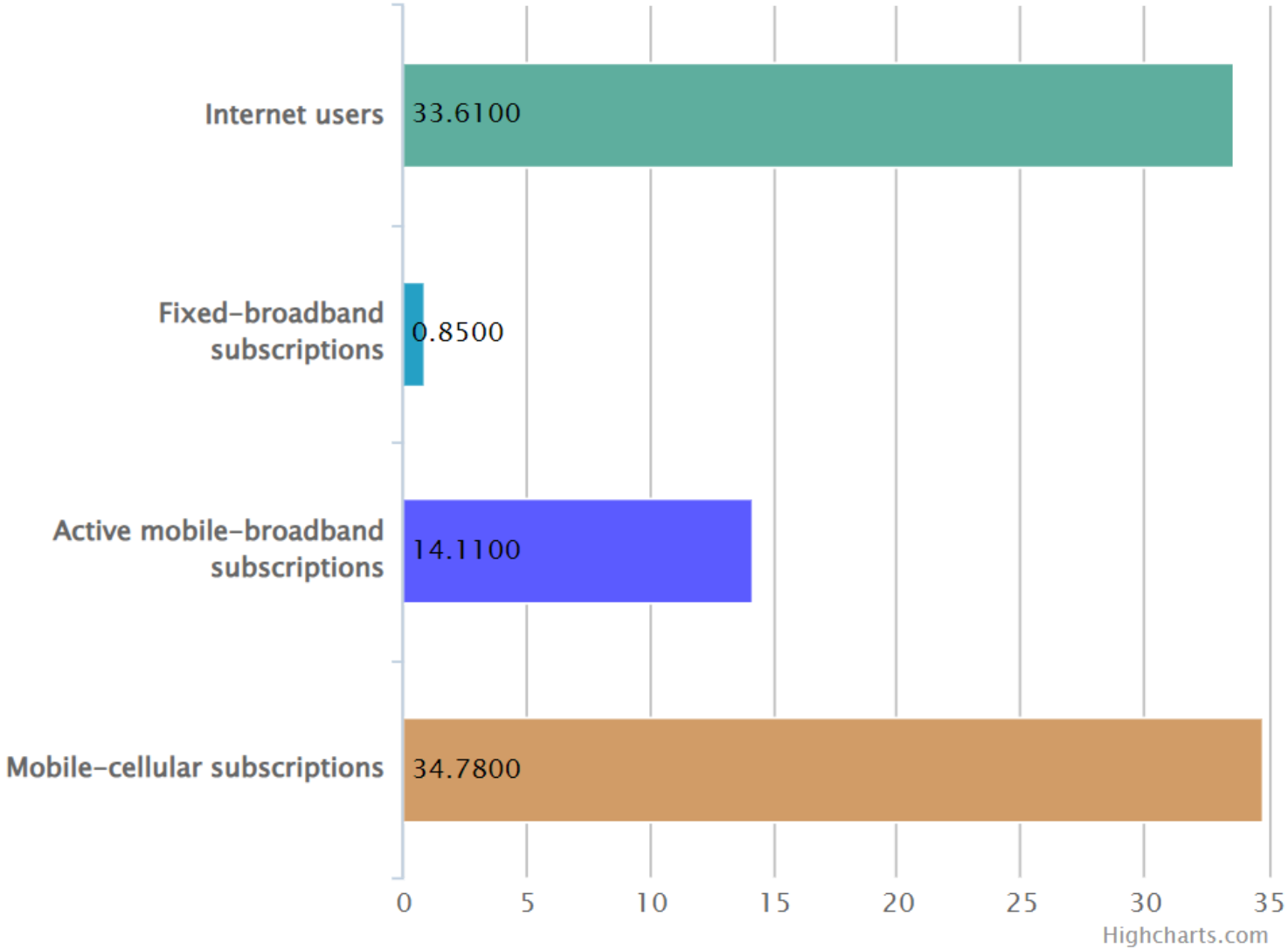




Online Service Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Samoa (Value)	0.35920	0.26470	0.34030	0.34058	0.24409	0.28104	0.14285	0.17725	0.26538	0.21621	0.11353

Source: UN E-Government Survey, 2022





Telecommunication Infrastructure Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Samoa (Value)	0.15580	0.25960	0.20640	0.15760	0.26723	0.19272	0.08185	0.05432	0.03769	0.03158	0.03428

Source: UN E-Government Survey, 2022

The future of digital government is not digital but hybrid-digital

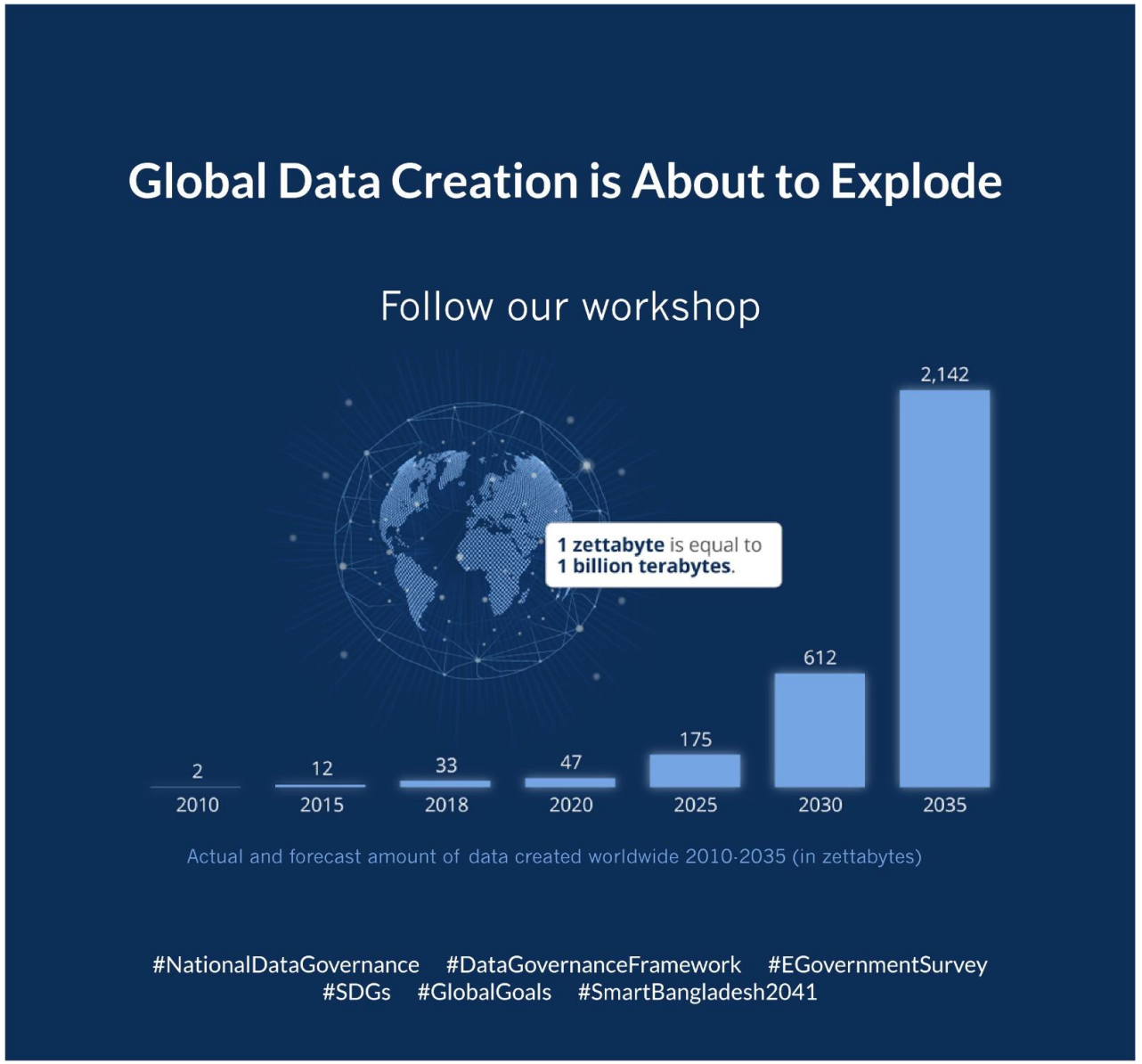
- **Nexus** of digital government, digital economy, digital society and sustainable development
- Changing institutional dimension of government, from silos to **whole-of-government, whole-of-society, and integrated strategies** covering multiple sectors, multilevel (across local jurisdictions) and multistakeholder (with private sector, academia and civil society)
- Role of data and digital government in **responding to crisis and emergencies** such as pandemics and conflict, supporting a responsive and resilient government
- Central role of **data, AI and other emerging technologies** in driving anticipatory, predictive and responsive services
- Need for a **national data governance framework** in supporting to digital government strategy

Why data? Why data governance?

Data grows rapidly, and will reach **2,142 zettabytes in 2035** (Note: One zetta is a "1" followed by 21 zeroes)

Close to 50 per cent will be stored in the public cloud

- **Data governance precedes digital governance**
- **Data governance precedes AI governance, and governance of any other new/emerging technologies**
- **National data governance precedes global data/AI governance**



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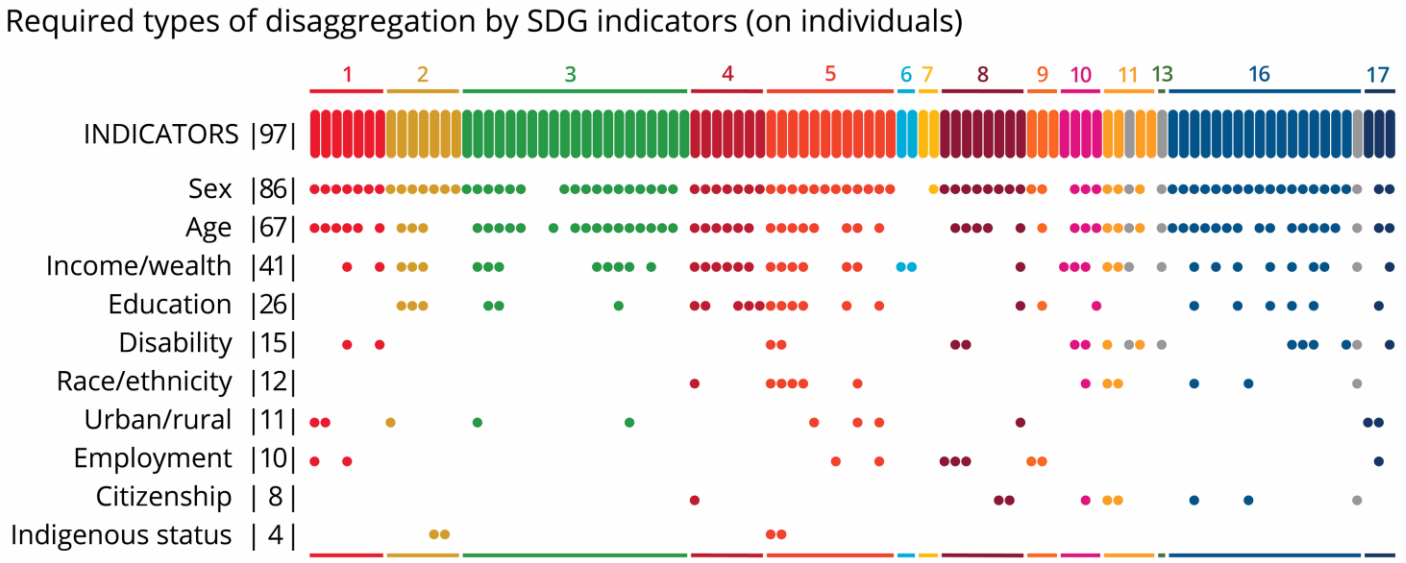
a2i | Cabinet Division | ICT Division | UNDP

Data on SDGs, Data for SDGs

- **Data on SDGs:** Data can help ensure that plans to achieve the SDGs are evidence-based, and that their outcomes are measurable. Data can help assess the SDGs in three main ways namely: a facilitator of standards, a tool for accountability and an evidence base for impact assessment.
- **Data for SDGs:** data can help achieve the SDGs by providing critical information on available resources, government operations, public services, and population demographics. These insights can inform national priorities and help determine the most effective path for action on national issues.
- **Impact assessment:** Data can reveal inequalities and disparities in income, wealth and access to government services and provide a basis for assessing progress over time.



SDG indicators requiring data on individuals and families.

Global Digital Data Trends

- Optimizing the use of data will **increase the productivity, accountability and inclusivity of public institutions**, in line with the principles embodied in Goal 16 of the 2030 Agenda.
- A data-centric government will also help **build trustworthiness and public trust.**
- **Many benefits around government data have yet to be realized**.
  The greatest obstacles to progress include a general lack of understanding of data and data science, low political priority and the absence of data leadership, resource constraints, and concerns about data quality, security and privacy.
- **Harvesting public value from data requires a long-term vision and approach.**
  This involves mastering the economics and politics of data governance and management and effectively navigating the evolving data security and privacy landscape. As data governance encompasses much more than technical functions, Governments must employ **a holistic, whole-of-government, whole-of-society approach in developing an integrated data governance framework supported by policies, institutions, people and processes.**

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United Nations Peace and Development Fund (UN PDF)

Project:

Developing **institutional capacities for digital data governance and cooperation** to advance progress toward the **Sustainable Development Goals**

Objective:

Enhancing the institutional and individual capacities of government officials and stakeholders in target countries, for digital data management, data governance and data cooperation to achieve mutual benefit, win-win outcomes and common development.

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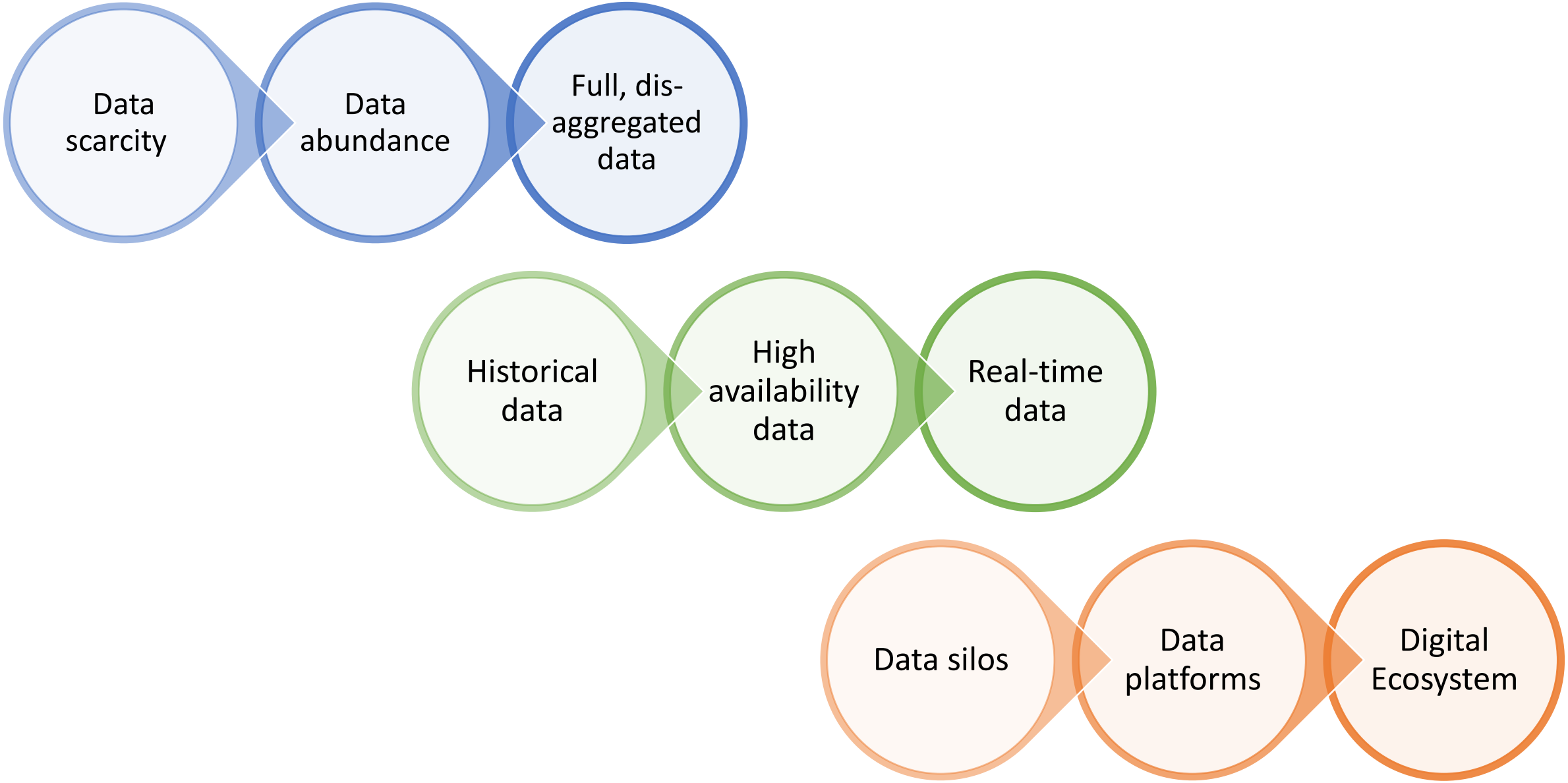
Project countries

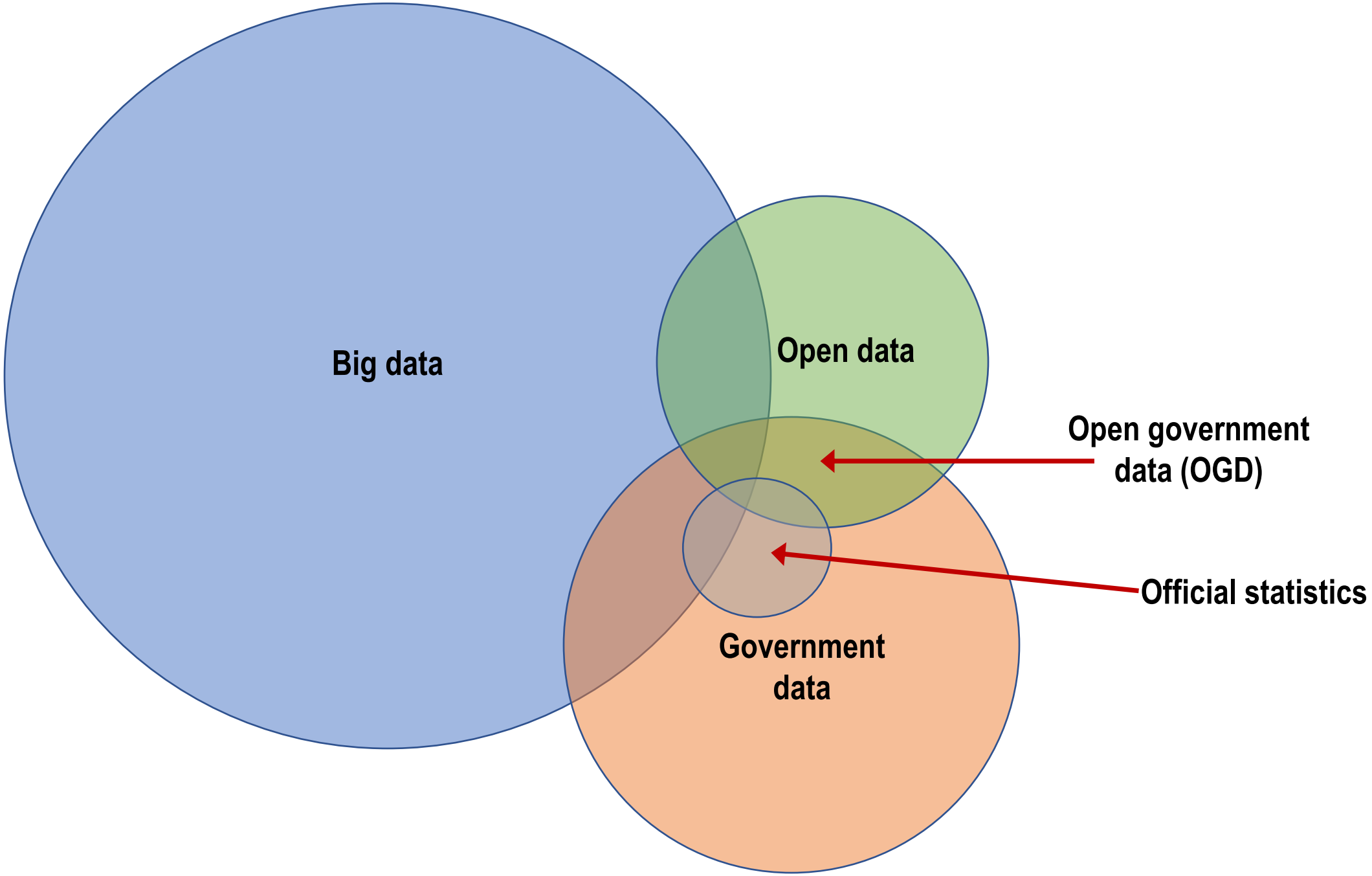
Asia Pacific

Bangladesh
Bhutan
Cambodia
Lao PDR
*Samoa
*Vanuatu
** Mongolia

Africa

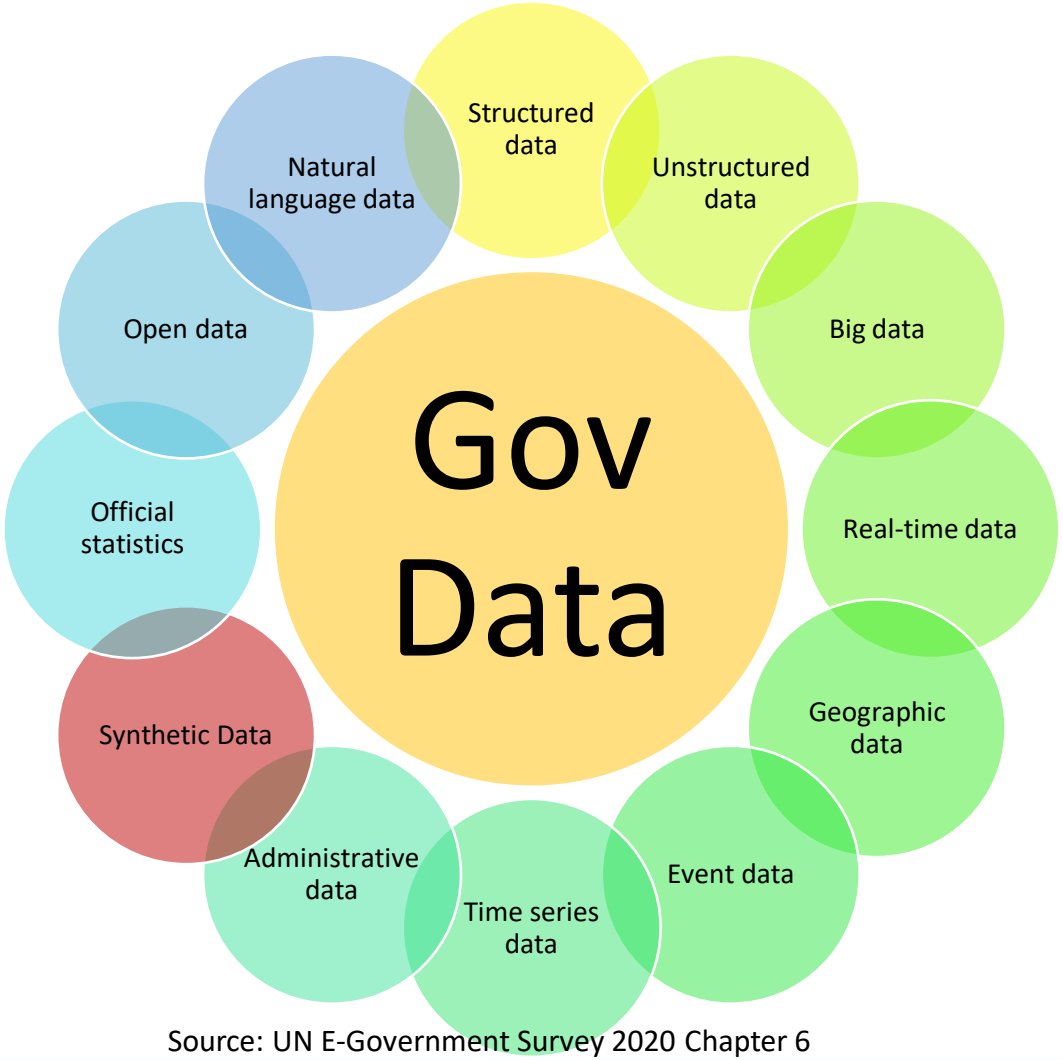
Ethiopia
Rwanda
*Sierra Leone
*Tanzania


Data scarcity
Data abundance
Full, dis-aggregated data
Historical data
High availability data
Real-time data
Data silos
Data platforms
Digital Ecosystem



Source: Adapted from UN E-Government Survey 2020 Chapter 6

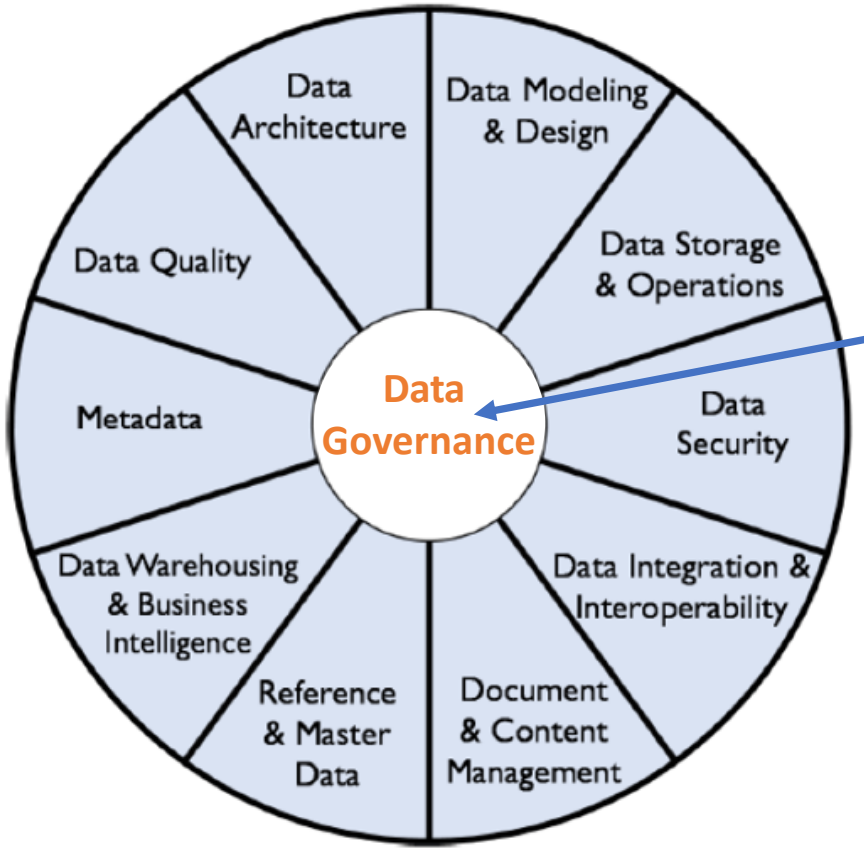
Types of Government Data



Source: UN E-Government Survey 2020 Chapter 6

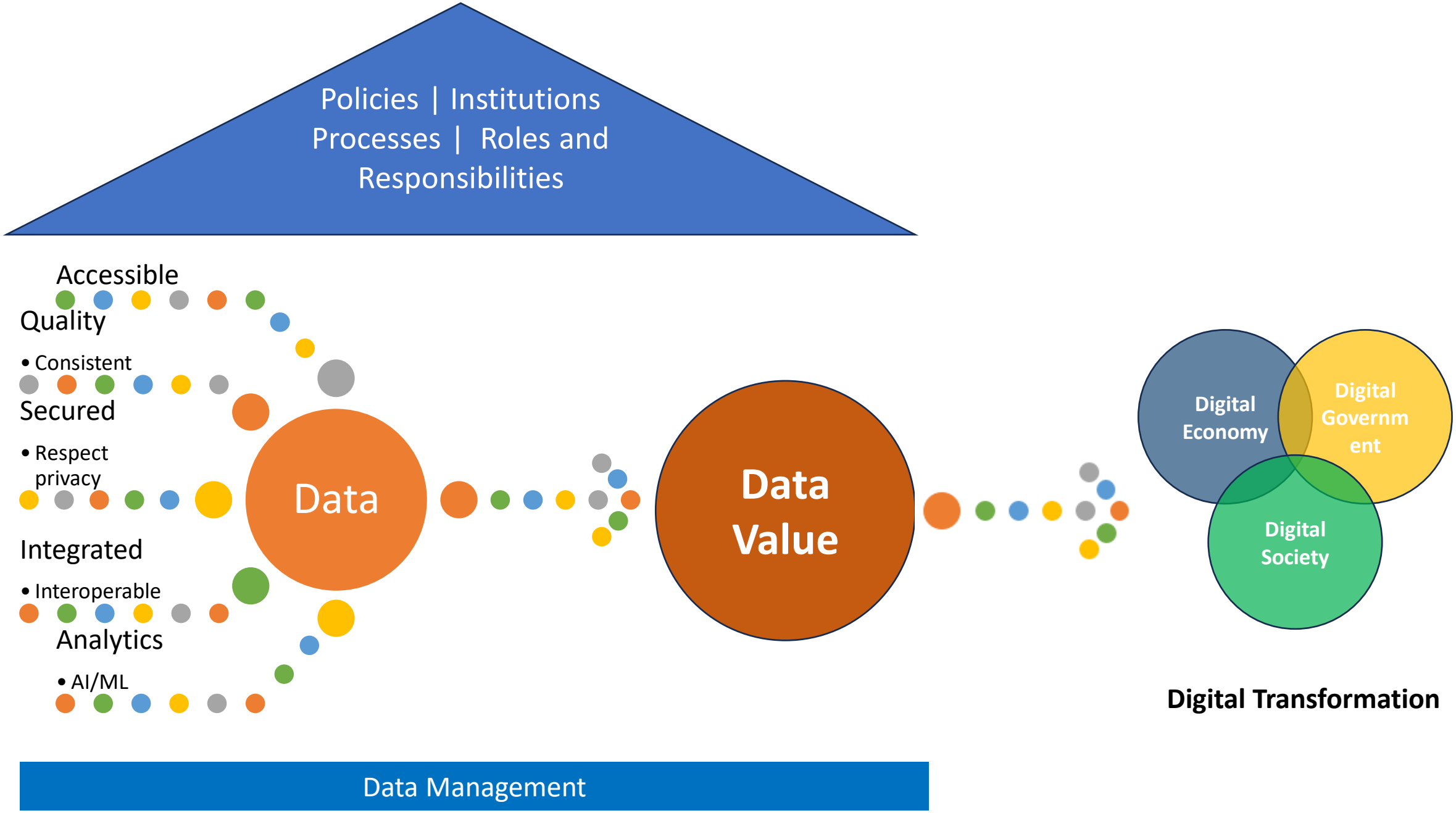
Data type	Description
Public data	Includes all data that are available in the public domain, including those created by governments, academia, civil society and the private sector.
Government data	A subset of public data "recorded and documented in any manner and on any medium and obtained or created upon performance of public duties provided by law or legislation issued on the basis thereof.
Census and survey data	Data collected through observation of a given population or universe, including demographic data and other survey data on items such as housing, land use, agriculture and business.
Administrative data	Data collected by government agencies on their operations such as data on public service transactions in sectors such as health, justice and education; administrative registers of persons and legal entities and the records of ministries, departments and specialized agencies, including tax returns, social services records and customs data.
Open Data	Information that is open in terms of access, redistribution, reuse, absence of technological restriction, attribution, integrity, no discrimination.
Open Government Data	Data open to and available in the public domain in various (including machine-readable) formats and normally licensed for all to access, use, modify and share. Essentially, all OGD are government data, but not all government data are OGD, see figure 1.
Big data	Describe the exponential growth and availability of data, both structured and unstructured and is defined by 3 V's: Volume, Velocity and Variety. Big data analytics can be used for deeper and more complex tasks such as social media sentiment analysis.
Data Science	The study of the generalized extraction of knowledge from data by employing machine learning, predictive and prescriptive methodologies, thereby creating direct value on an experimental and ad-hoc basis.
Geospatial data	Data and information that have an implicit or explicit association with a geographical location
Real-time data	Constant streams of live data delivered immediately after collection. Such data show the actions of Governments and/or people almost instantaneously and are usually deployed with the expectation of a rapid response such as the monitoring and analysis of Twitter feeds to understand the movements (or migration) of particular populations within a country in order to anticipate and plan for e-service needs at the subnational level.

What is the difference between data management and data governance?



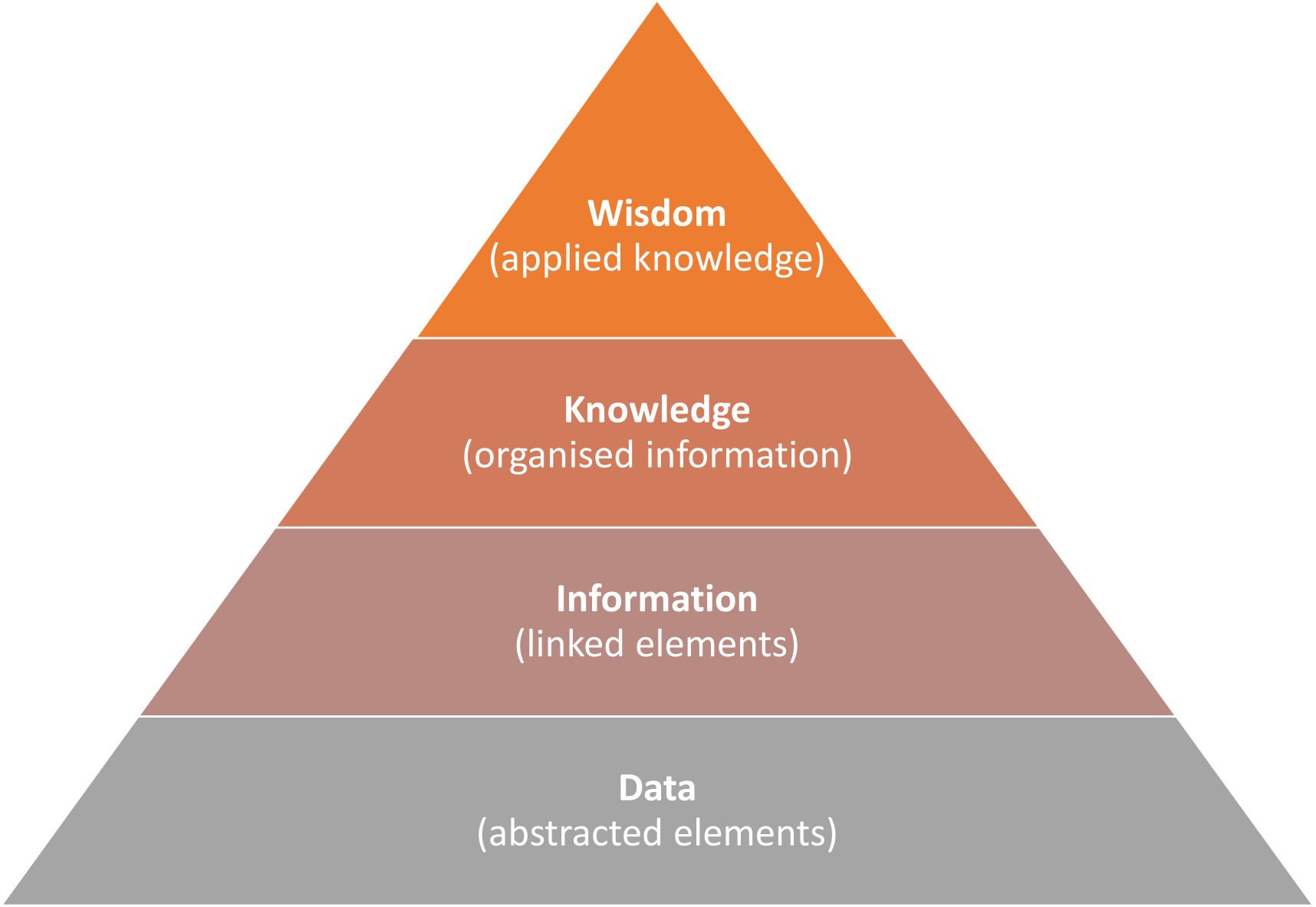
Source: Adapted from DAMA-DMBOK2 Data Management Framework

Data governance framework defines the **policies (rules), institutions, processes, roles and responsibilities (people)**, related to the management of data, including data collection, analysis, use, sharing and disposal of data, in order to **manage data as a critical asset**.


Policies | Institutions
Processes | Roles and
Responsibilities
Accessible
Quality
• Consistent
Secured
• Respect
privacy
Integrated
• Interoperable
Analytics
• AI/ML
Data
Data
Value
Digital
Economy
Digital
Governm
ent
Digital
Society
Digital Transformation
Data Management

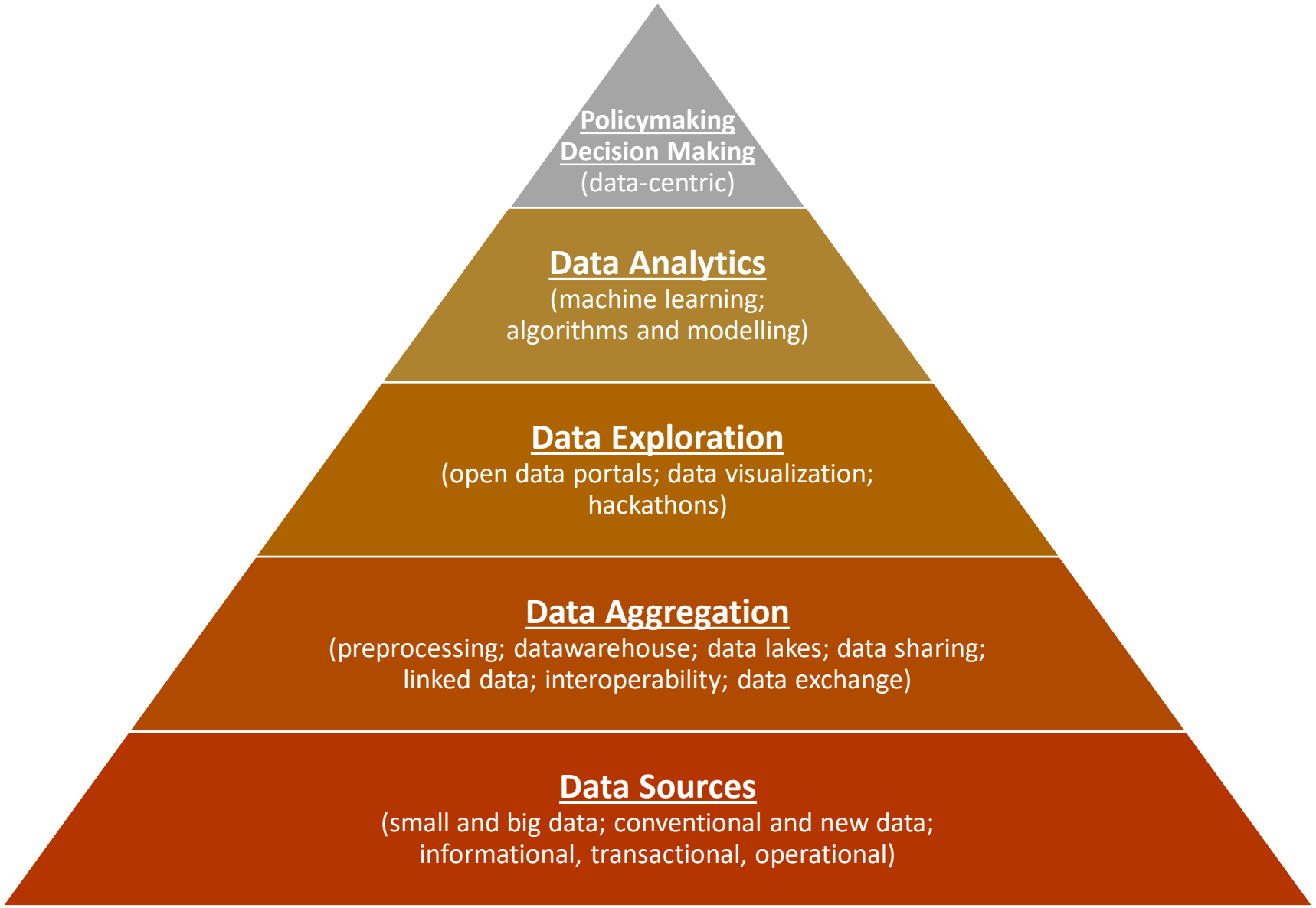
DIKW Pyramid

Data → Information → Knowledge → Wisdom

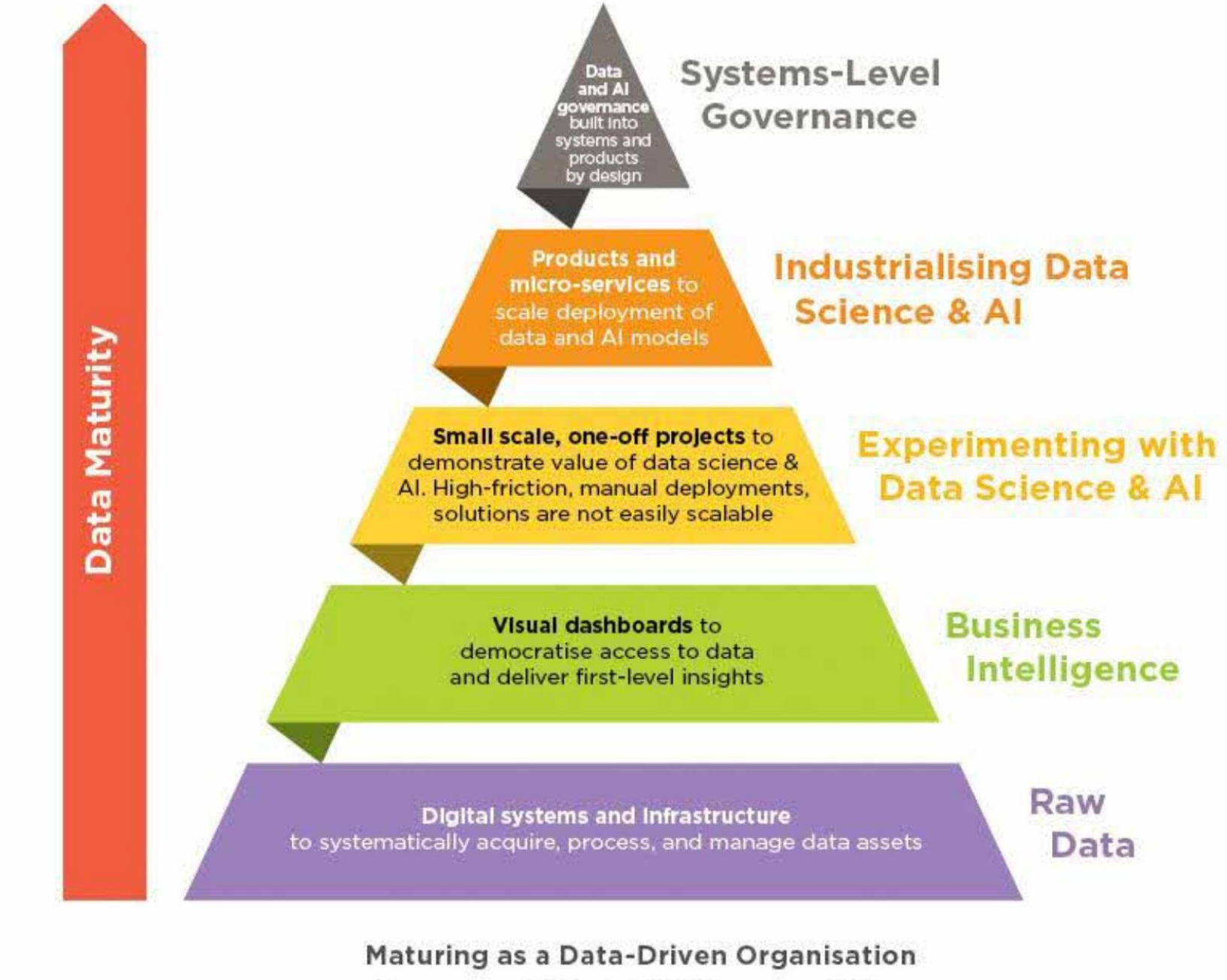


Data in Digital Government and Digital Transformation

Sources → Aggregation → Exploration → Analytics → Policymaking



(Source: 2020 UN E-Government Survey; chapter 6)

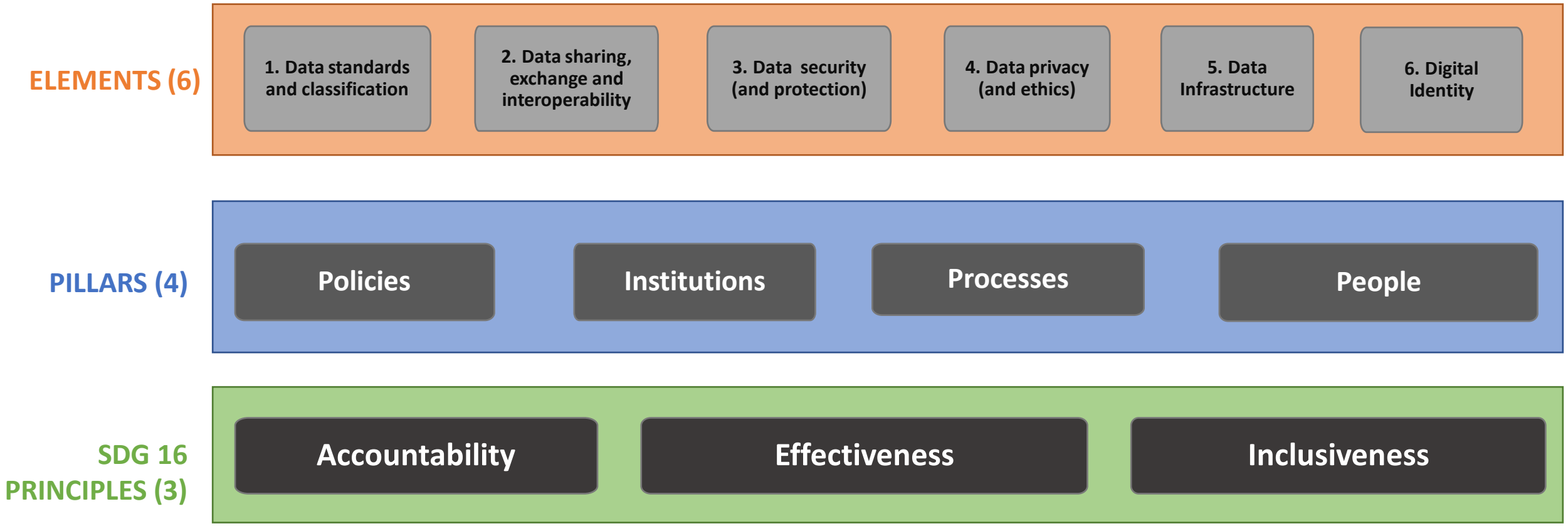


(Source: Singapore's Smart Nation & Digital Government Office)

UN DESA’s Data Governance Approach

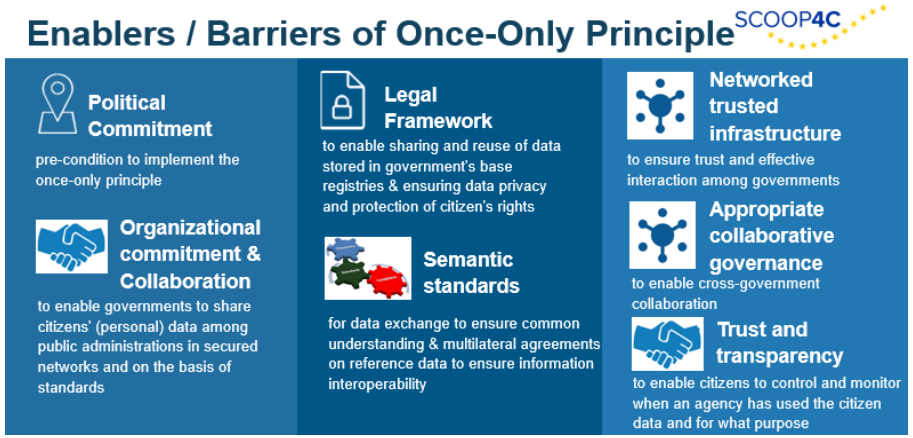
- Supporting the achievement of the Sustainable Development Goals (SDGs)
- From **whole-of-government to whole-of-society**
- Based on **three (3) SDG principles, four (4) pillars** and **six (6) elements**
- Emphasis on **policies, institutions, processes and people**
- Across **different levels (multilevel governance)**
- Building **data literacy**, at institutional and individual levels

UN DESA' s National Data Governance Framework



P1 Policies

- Policies on “**single-source-of-truth**”, “**data-once only**” or “**once-only principle**” ensure that individual users and businesses provide data to public administration only once, while public bodies exchange this data with a single authoritative source when requested and in compliance with the relevant regulations.



Evidence-Based Policymaking Act of 2018, United States of America

While evidence-based policymaking is not new and is widely supported by academic research, it is still uncommon to find a national policy or strategy supporting this approach.

In 2016, the United States Commission on Evidence-Based Policymaking was created to explore ways in which the Government could make better use of its data to inform future government decisions. The Commission spent a year and a half in deliberations and fact-finding and in September 2017 issued a report in which priority was assigned to expanding access to data, ensuring privacy, and strengthening the capacity of the Government to generate and utilize evidence to evaluate budgetary spending on programmes affecting health, education and economic well-being.

The Foundations for Evidence-Based Policymaking Act (the Evidence Act) received congressional approval in 2017 and 2018 and was signed into law by the President in January 2019 to facilitate the implementation of a number of the Commission's recommendations. Shortly thereafter, the Federal Data Strategy was issued by the White House Office of Management and Budget (OMB) as a second implementation mechanism, identifying data as a strategic asset and outlining the principles and practices to which federal agencies would have to adhere in the execution of the Act. The OMB published multiple guidance documents to help agencies address some of the Commission's recommendations; included in the documents were provisions for designating evaluation officers, appointing chief data officers, identifying statistical experts, developing "learning agendas", and incorporating new actions into annual budget and performance plans. For agencies that already have data strategies in place, such as the Department of Health and Human Services, the Evidence Act constitutes an additional mandate to strengthen capacity for using data for evidence-building purposes.

The Evidence Act establishes new expectations for open data, data inventories, and data management. It also reinforces the longstanding Confidential Information Protection and Statistical Efficiency Act, a strong privacy and confidentially law that compels the Government to take all necessary steps to protect data when confidentiality has been promised. A national secure data service (recommended by the Commission but not yet established) is expected to improve data access and will also strengthen privacy protection.

Sources: United States, Foundations for Evidence-Based Policymaking Act of 2018, H.R. 4174 - 115th Congress (2017-2018), available at https://www.congress.gov/bill/115th-congress/house-bill/4174; see also J. Heckman, "Federal Data Strategy to impact all feds, not just 'data plans for data wonks'", *Federal News Network* (2020), available at https://strategy.data.gov/; and Data Coalition (2020), available at https://www.datacoalition.org/two-years-of-progress-on-evidence-based-policymaking-in-the-united-states/.

P2 Institutions

Institutions or intstitutional arrangement to support data governance are essential for the implementation of the national data strategy and the data governance framework. Often required within this context is an institutional review that could transform the way agencies in all sectors and at all levels effectively cooperate and deploy government data as a strategic asset.
Source: UN E-government Survey, chapter 6

Examples:

1. **National Data Advisory Council** (Australia)
2. **National Data Governance Committee** (Ethiopia)
3. **National Data Bureau** (China)
4. **Smart Nation and Digital Government Office; Government Data Architecture** (Singapore)

P3 People

Roles and responsibilities in national/sectoral data governance, and data leadership/stewardship
Source: UN E-government Survey, chapter 6

Examples:

1. **Chief Data Officers:** individuals with leadership role in data governance and data strategies

2. **Data stewards:** individuals or teams within data-holding organizations who are empowered to proactively initiate, facilitate and coordinate data collaboratives toward the public interest.

3. Others: **Data Bureau, Data Leads, Data Officers, Data Focal Points**

Data roles and data literacy

Roles (non-exclusive)	*Description*	*Required skillsets*
Policymakers and decision-makers	Ministers, Secretaries, Directory General, or any other senior officials with decision-making roles.	Understand and interpret data for insights and decision-making
Data Stewards	Data leadership functions that include: 1. Chief Data Stewards / Officers (national and/or-subnational) 2. Chief Digital Strategy Officer 3. Chief Information Officer 4. Chief Government Technology Officer 5. Chief Evaluation Officer 6. Chief Innovation Officer	Leadership skills (both technical and policy) to provide data oversights, policy and technical frameworks for data governance and the data ecosystem
Policy analysts	Those with analytical skills, especially with domain expertise of specific sectors (e.g. health, education); assist in policy analysis in supporting public policymaking	Sectoral domain knowledge; data analytical skills; using use BI (business intelligence) and self-service analytics tools
Public Officers (administrators)	Majority of public sector employees	Use of data for daily operations or reporting; to be able to benefit from data visualisations, charts, etc.
Data scientists	Technically trained specialists in data analytics and data science; "power users"	Specific skills in Python and other data tools, data services and infrastructure; includes AI, blockchains, big data specialists, etc.

P4 Processes

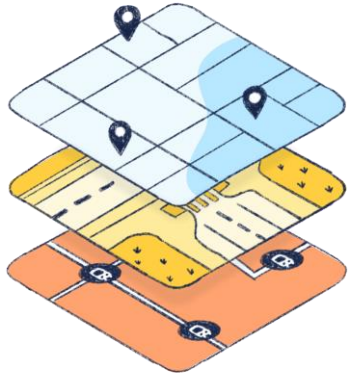
1. Data is not only an **input**; but also **output** of e-government
2. Data is used in **both front- and back-office** of e-government
3. **Some data are used; many are not,** including those generated through e-services (administrative)
4. Some data are not used **optimally**; some data are also **misused**
5. While there is a **lack of data**, there is also **data and information overload**
6. Government's quadrupole role: **producer, consumer, regulator, and platform provider (enabler)**

(Source: 2020 UN E-Government Survey; chapter 6)

P4 Processes

From data silos to data platforms, to data ecosystems

Data silos



Data/Digital
Platforms
e.g CamDX

Data/Digital
Ecosystems

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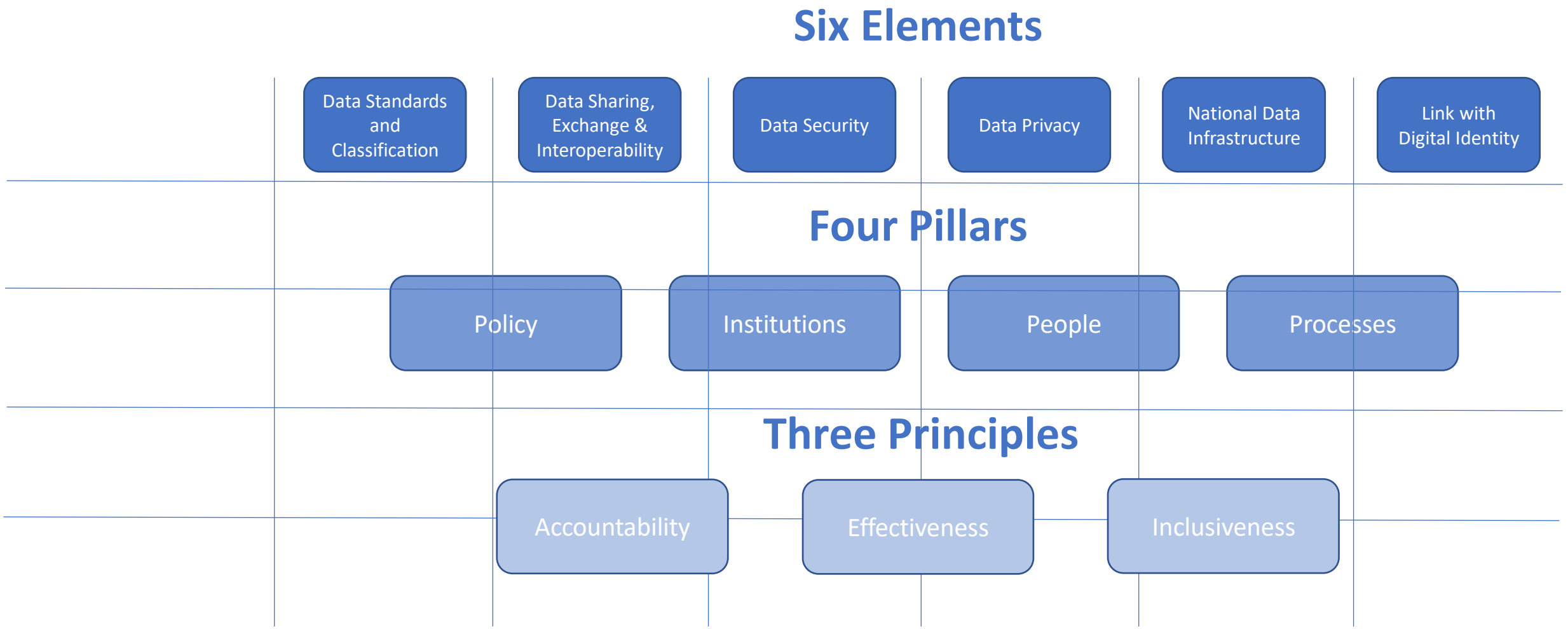

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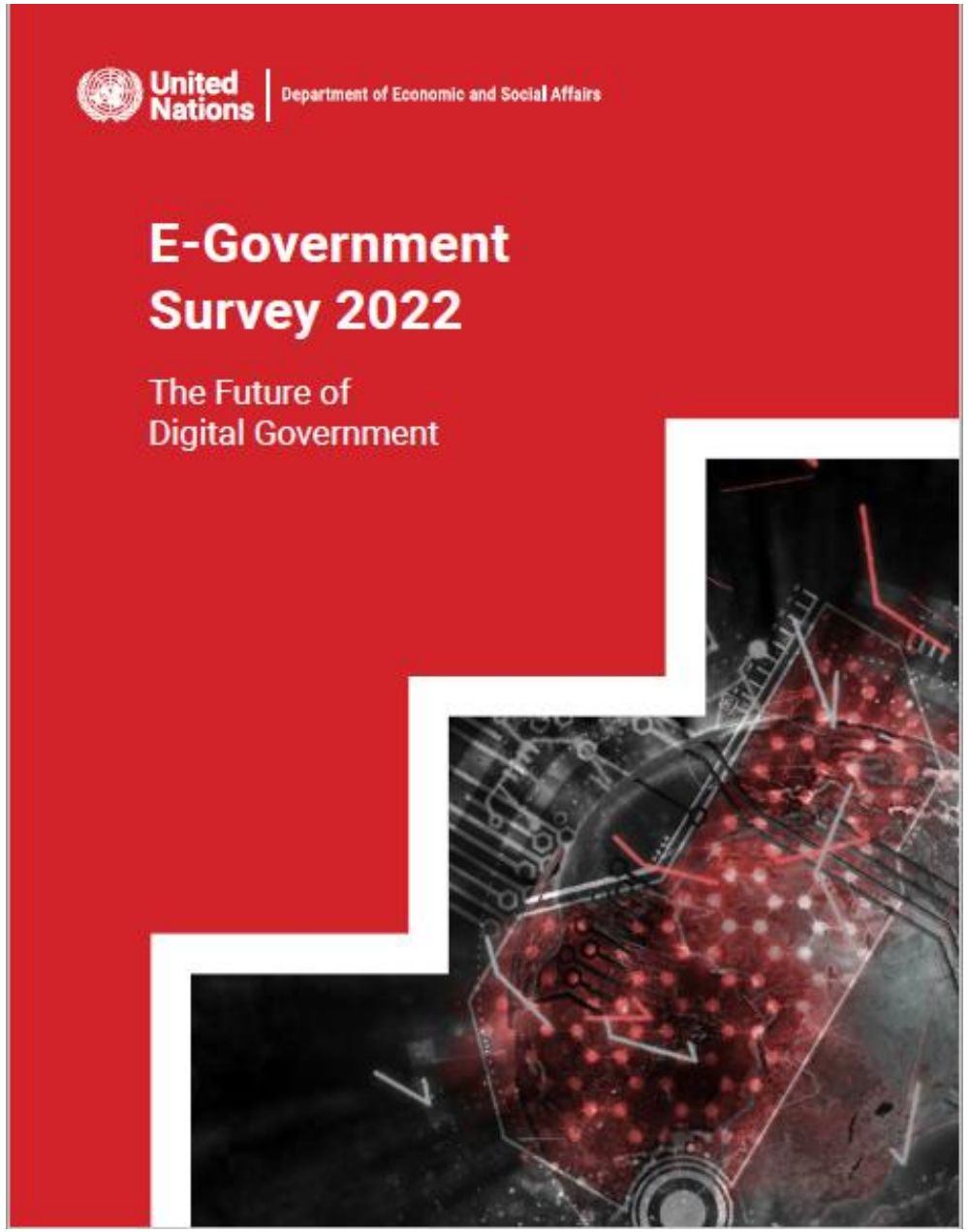

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