



**United
Nations**

Department of
Economic and
Social Affairs

Digital Government and National Data Governance Framework

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United Nations

Department of
Economic and
Social Affairs

Pre-Workshop Survey (Rwanda): National Data Governance Framework

22-23 March, 2023

Thank you for accepting the invitation to join the Capacity Development and Consultation Workshop on National Data Governance Framework, to be held in Kigali, Rwanda on 22-23 March 2023. We would like to invite you to kindly fill out the pre-workshop survey below. Look forward to work with you!





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Pre-Workshop Survey

- What are your expectations of this workshop? What do you hope to gain by participating in it?
- Describe with one or two words on government data and data governance – what you would most like to learn during the workshop?
- What kinds of knowledge/experience have you had in the area of government data and data governance?

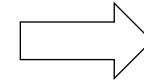
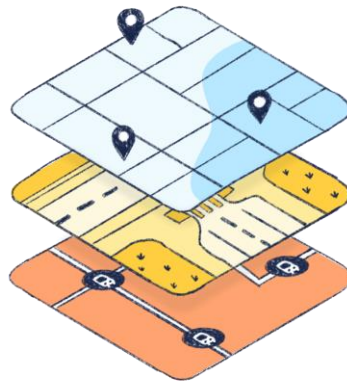
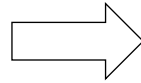


Detected Keywords	Magnitude	Sentiment Score
best	0.984	+0.993
hope	0.979	+0.992
safe	0.995	+0.747
potential	0.985	+0.741
personal	0.952	+0.724
proposed	0.001	+0.250
develop	0.001	+0.250
private	0.001	+0.250
come	0.001	+0.250
considered	0.002	+0.250

Detected Themes	<i>Magnitude</i>	Sentiment Score
shared understanding	0.99	+0.993
input contributions	0.99	+0.743
efficiency discussion	0.98	+0.741
have successfully	0.99	+0.738
protection and privacy	0.98	+0.716
deep understanding	0.81	+0.659
security and protection	0.86	+0.658
with participants	0.82	+0.658
best approaches	1.00	+0.590
sensitive data	0.58	+0.546
best practices	1.00	+0.521

Source: <https://text2data.com/Demo>

Why data governance?



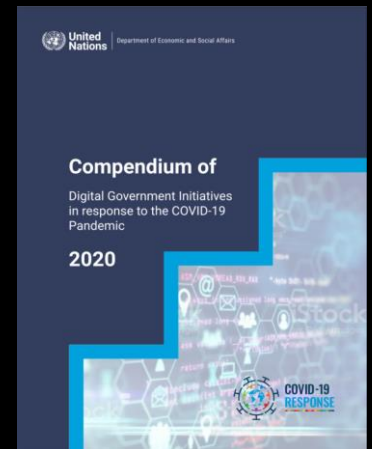
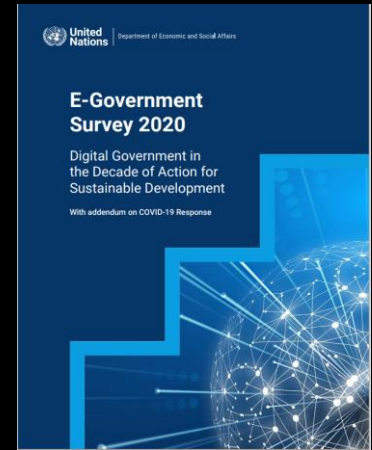
E-Gov
Product/App

E-Gov Platforms
(e.g, payment gateways;
form engine)

E-Gov
Ecosystems
(e.g., one-stop)

Today's A B C D E

Artificial Intelligence | Automation
Blockchain
Cloud | Connectivity
Drones | Data
Ethics



The future of digital government

- **Nexus** of digital government, digital economy, digital society and the SDGs
- Need to **shift from a technocratic approach to a policy-oriented agenda**
- Need for a **national data policy/strategy and data governance framework** in complement to e-government strategy
- Role of **AI-enabled, robotics and other frontier technologies** in driving anticipatory, predictive and responsive services

The future of digital government

- Shifting trends from digital-by-default, digital-by-design, digital-first, multichannel to **agile-by-design, blended/omnichannel, data-once only, cloud-by-default, inclusion by design**, etc.
- Changing institutional dimension of e-government, from siloed ICT agency to **whole-of-government, whole-of-society, and integrated strategies** covering multiple sectors, multilevel (across local jurisdictions) and multistakeholder and multidisciplinary (with private sector, academia and third sector partners), and intergenerational dimensions
- Role of e-government in **responding to crisis and emergencies** such as pandemics and conflict, supporting a responsive and resilient government
- **Increased risks and vulnerabilities** of ubiquitous digital government, including cybersecurity, misinformation and disinformation

Data Trends

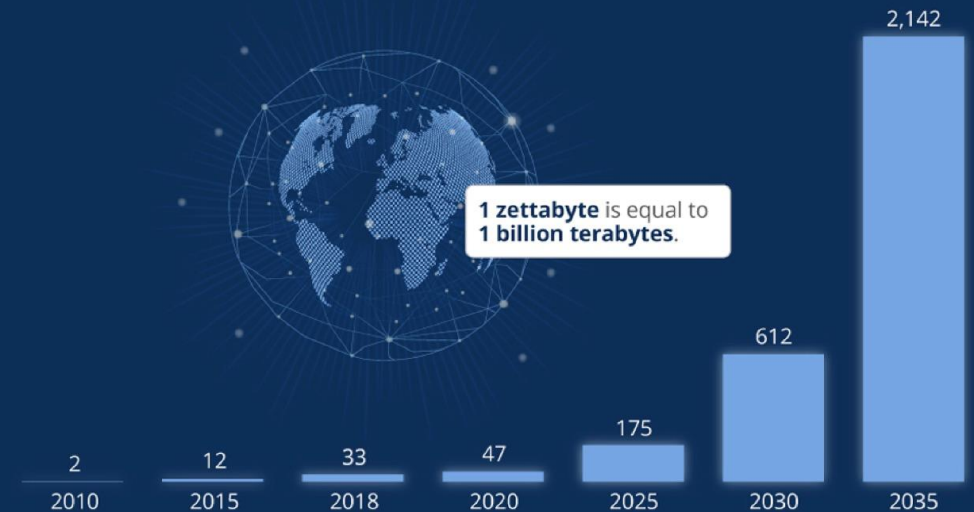
Digital data is “a reinterpretable representation of information in a formalized manner, suitable for communication, interpretation or processing”, which is authored by people or generated by machines/sensors, often as a by-product (*UN DESA, 2018*)

Data grows rapidly, will increase more than fivefold from 33 zettabytes in 2018 to **175 zettabytes in 2025** and over **2,000 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
(2020 UN E-Government Survey)

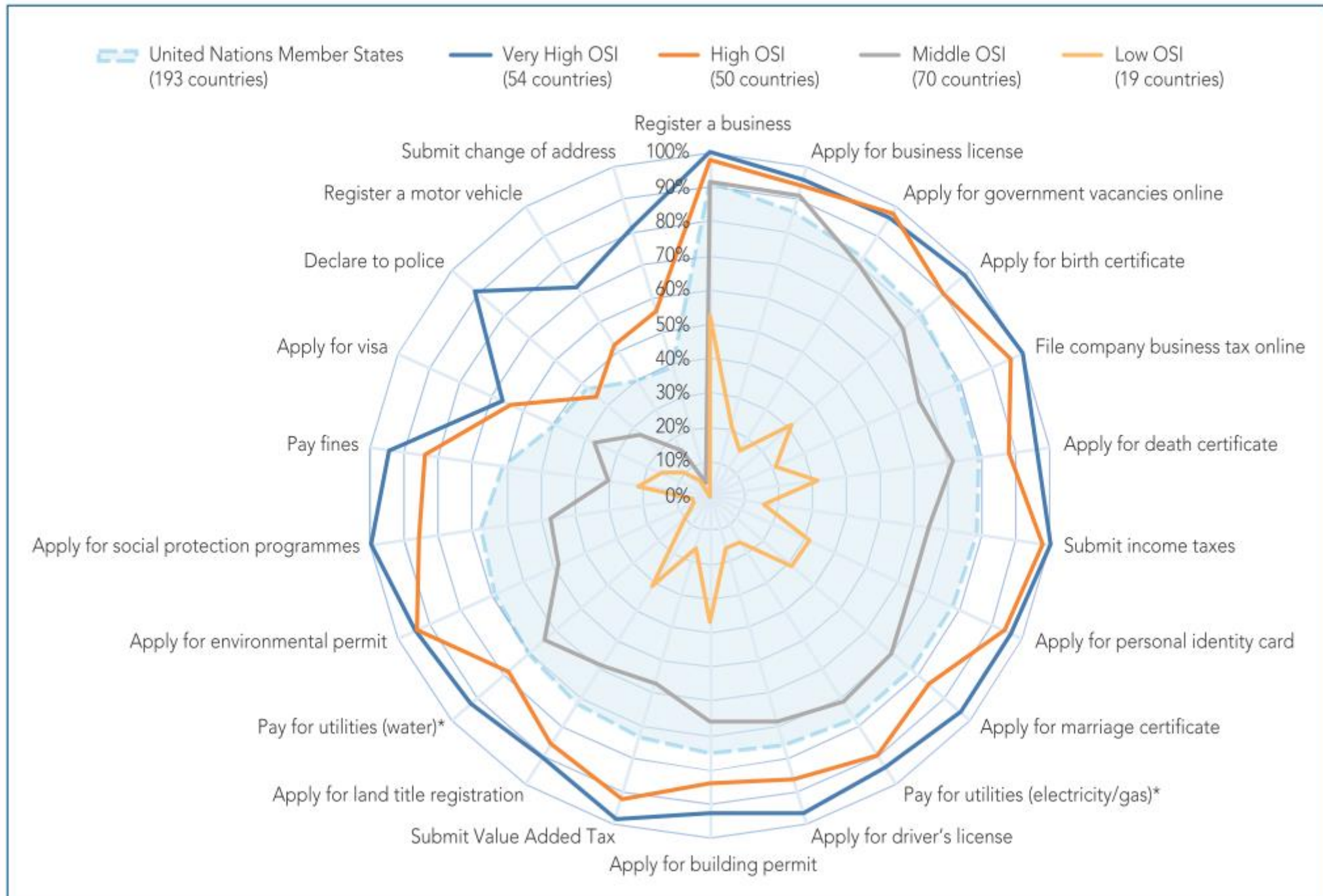
Global Data Creation is About to Explode



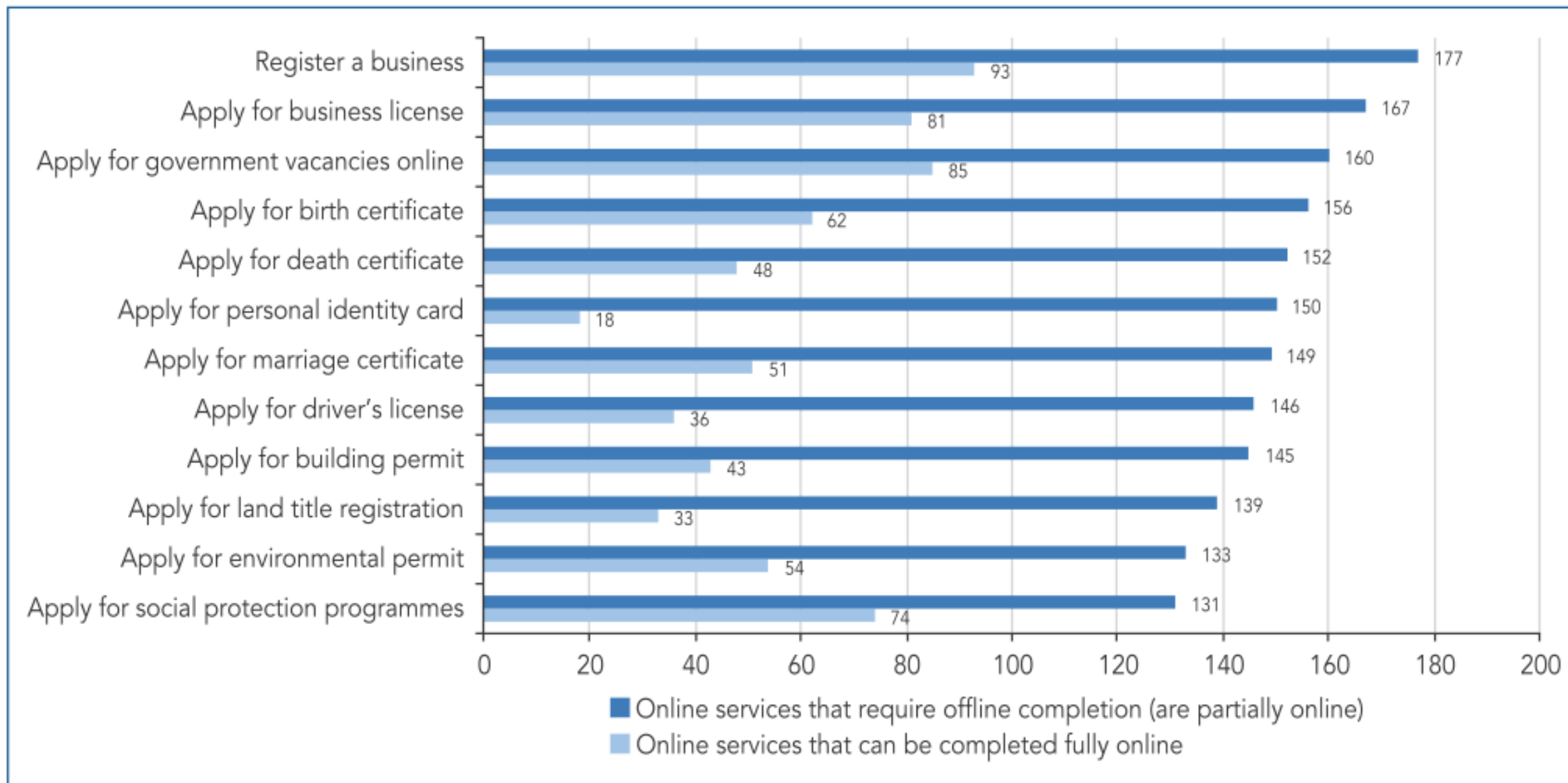
Actual and forecast amount of data created worldwide 2010-2035 (in zettabytes)

#NationalDataGovernance #DataGovernanceFramework #EGovernmentSurvey
#SDGs #GlobalGoals #SmartBangladesh2041

Percentage of countries in each region offering online transactional services, EGDI | OSI 2022



Numbers of countries offering selected services that can be completed partially or fully online, EGDI | OSI 2022



Source: 2022 United Nations E-Government Survey.

Paradoxes around government data

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
4. Data is not used **optimally**; some are **misused**
5. While there is a **lack of data**, there is also **data and information overload**
6. Government's "quad roles": **producer, consumer, regulator and enabler** of data

*“With their ... **volume, variety, velocity and value**, data are sometimes referred to as “oil” or “gold”, reflecting the perception that data represent the **fuel or currency** for government”
(2020 UN E-Government Survey; chapter 6).*

Data Governance

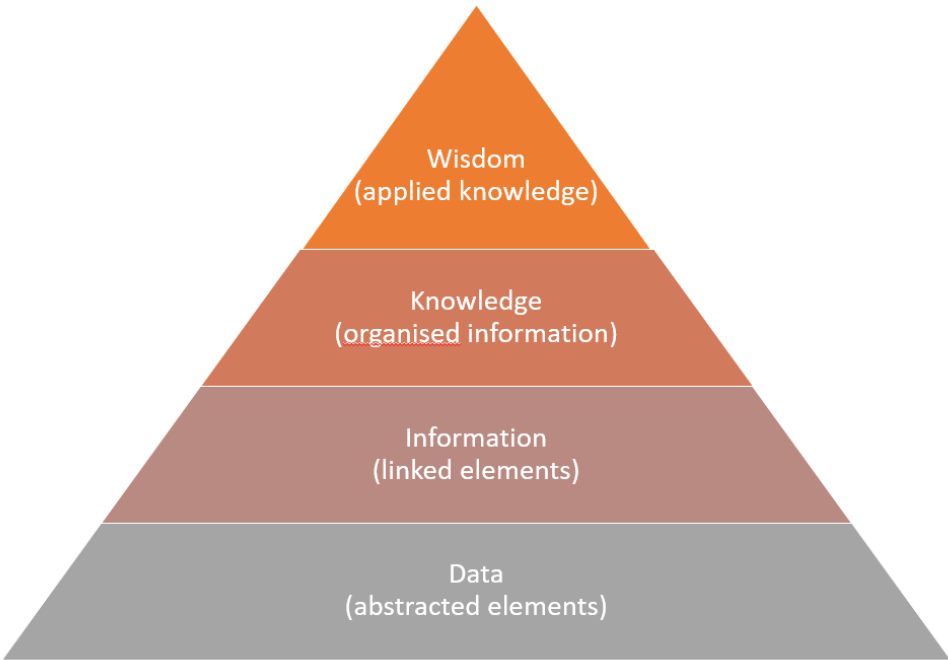
- Optimizing the use of data will **increase the productivity, accountability and inclusivity of public institutions**, in line with the principles embodied in Goal 16 of the 2030 Agenda.
- A data-centric government will also help **build trustworthiness and public trust**.
- **Many benefits around government data have yet to be realized**, especially in countries in special situations. 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** that 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 approach in developing an overarching data governance framework supported by a national data strategy, strong data leadership and a data ecosystem**.

Definition of Data Governance

Data governance concerns the **rules, processes and behaviours related to the collection, management, analysis, use, sharing and disposal of data – personal and/or non-personal.**

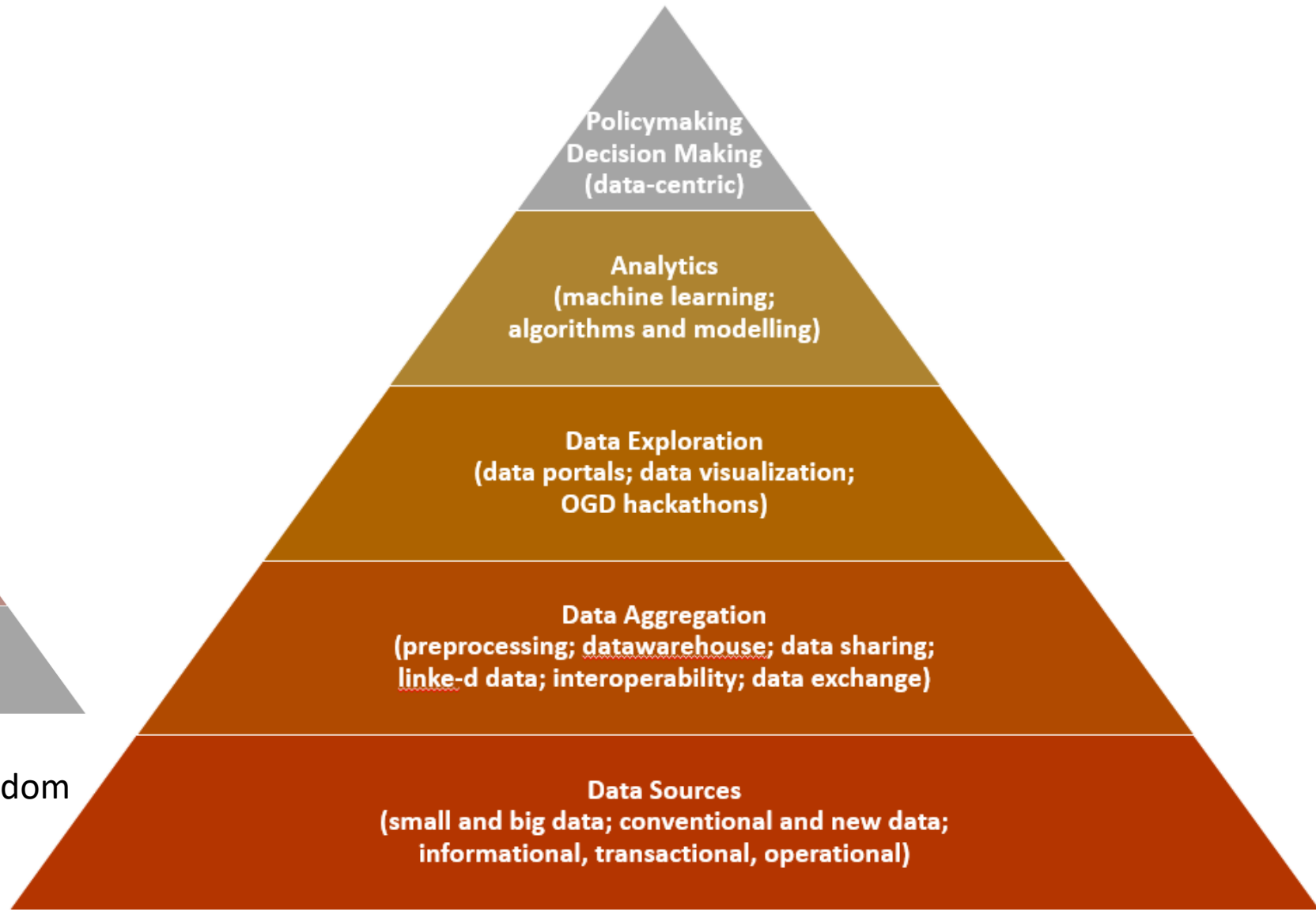
Effective data governance should both **promote full benefits and minimize (potential) harms** at each stage of relevant data cycles.

Source: Adapted, data Governance and the Data Sphere, Tim Davies



DIKW Pyramid

Data → Information → Knowledge → Wisdom

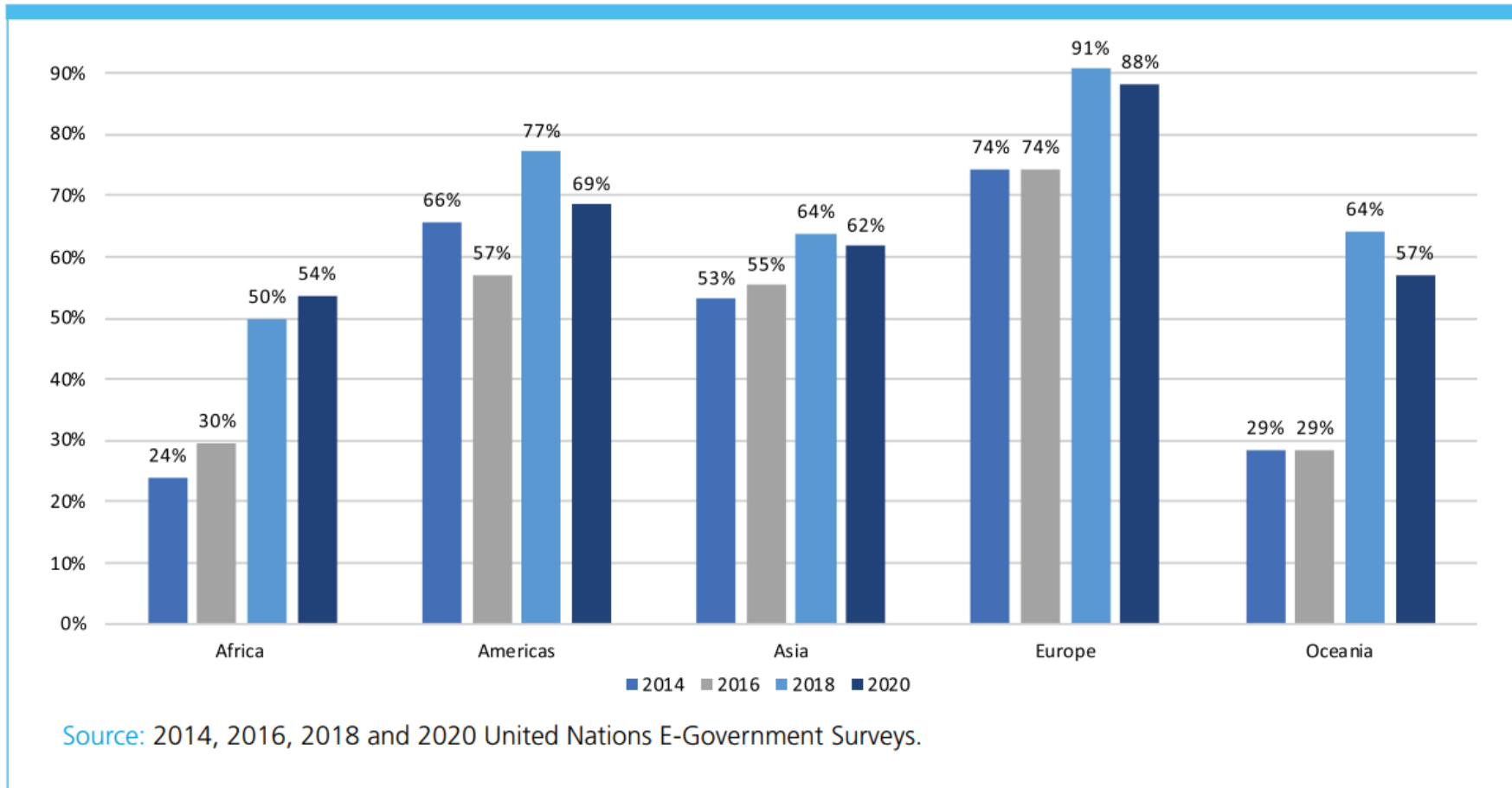


Data (in Digital Government)

Sources → Aggregation → Exploration → Analytics → Policymaking

Data privacy and ethics

Countries with privacy statements available online



Principles of effective data governance for sustainable development

Effectiveness

Accountability

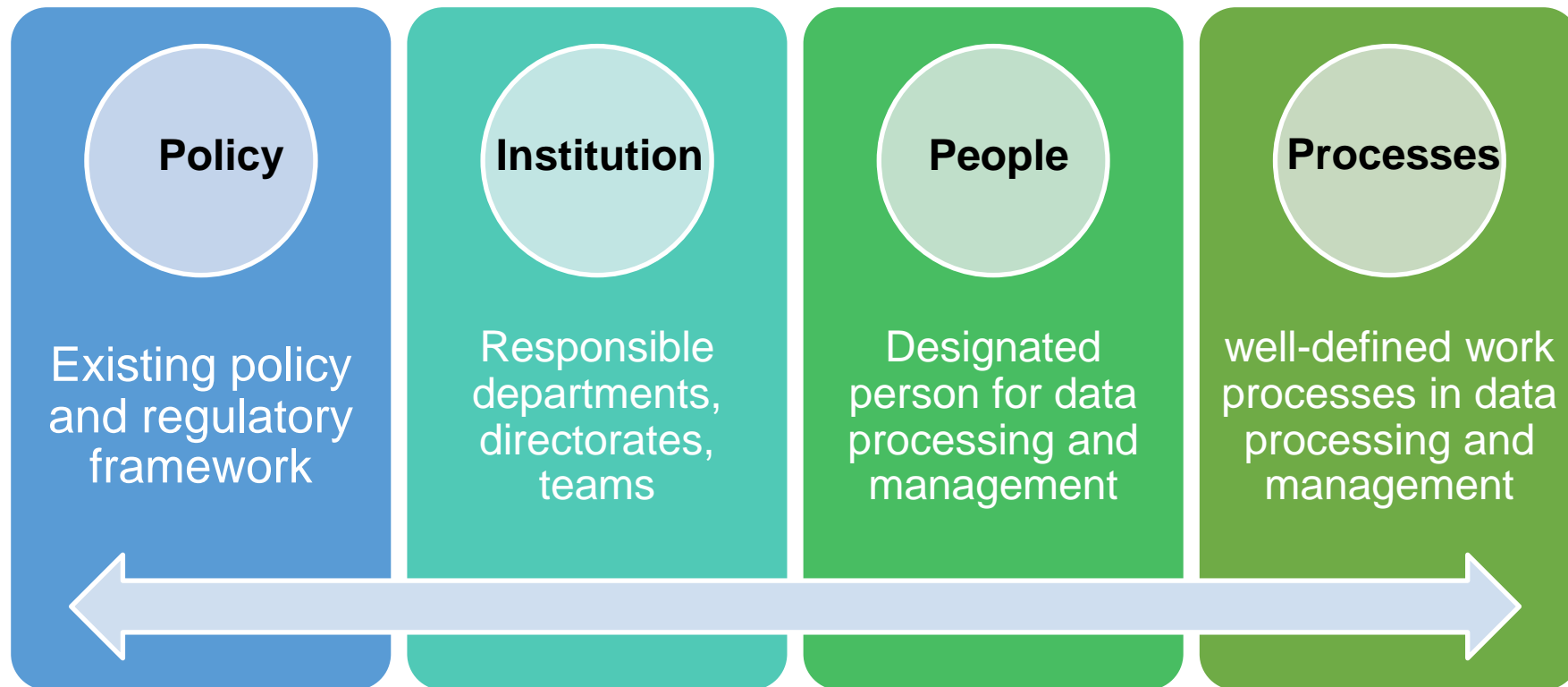
Inclusiveness

	Commonly used strategies to operationalize the principles	
Essential elements and related principles	Direct relation to data governance, strategies or policies	Indirect relation to data governance, strategies or policies
Effectiveness: competence, sound policymaking, collaboration	<ul style="list-style-type: none"> • Data sharing • Investment in e-government • Strengthening national statistical systems • Monitoring and evaluation systems 	<ul style="list-style-type: none"> • Strategic planning and foresight • Results-based management • Performance management • Financial management and control • Risk management frameworks • Science-policy interface • Network-based governance
Accountability: integrity, transparency, independent oversight	<ul style="list-style-type: none"> • Proactive disclosure of information • Open government data • Registries of beneficial ownership • Lobby registries 	<ul style="list-style-type: none"> • Budget transparency • Independent audit
Inclusiveness: leaving no one behind, non-discrimination, participation, subsidiarity, intergenerational equity	<ul style="list-style-type: none"> • Data disaggregation • Universal birth registration 	<ul style="list-style-type: none"> • Accessibility standards • Participatory budgeting • Multilevel governance • Strengthening urban governance • Long-term territorial planning and spatial development

Source: United Nations, Economic and Social Council, "Relating the principles of effective governance for sustainable development to practices and results: note by the Secretariat", E/C.16/2019/4 (23 January 2019), annex, available at <https://undocs.org/en/E/C.16/2019/4>.

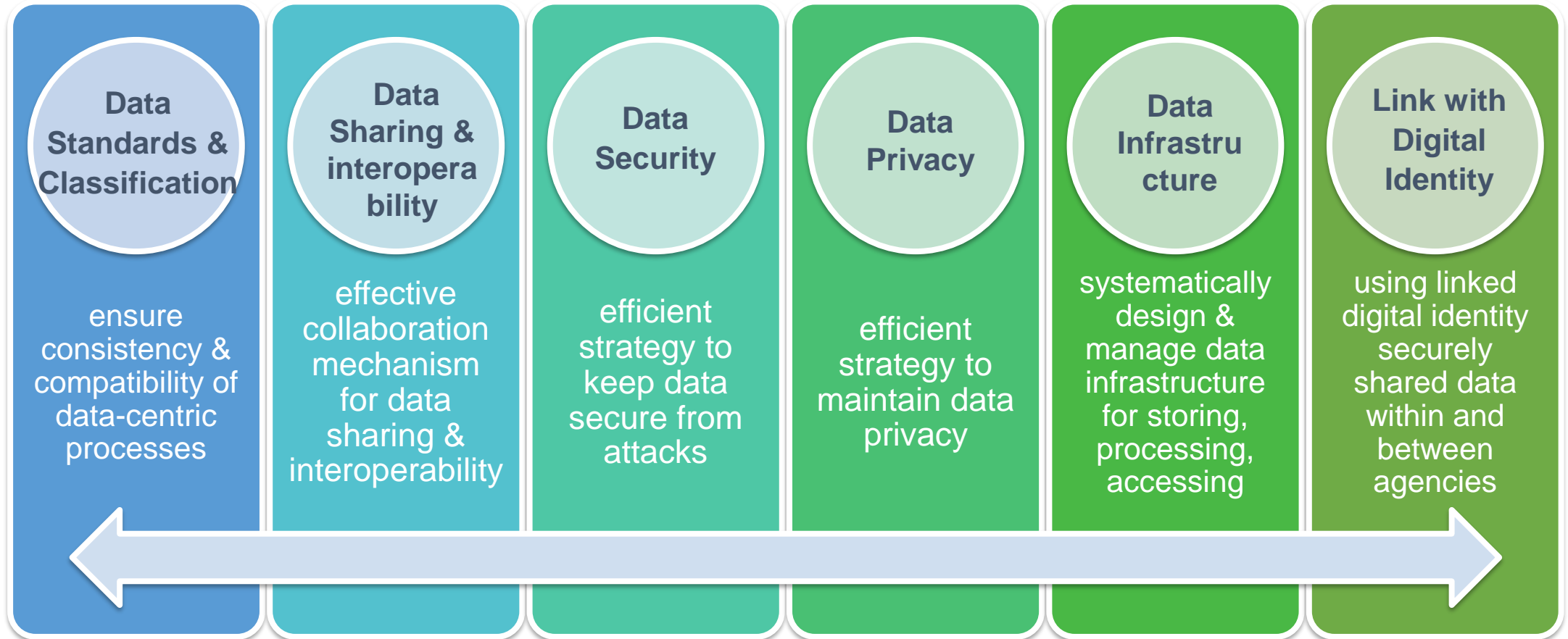


Four Pillars of Data Governance Framework



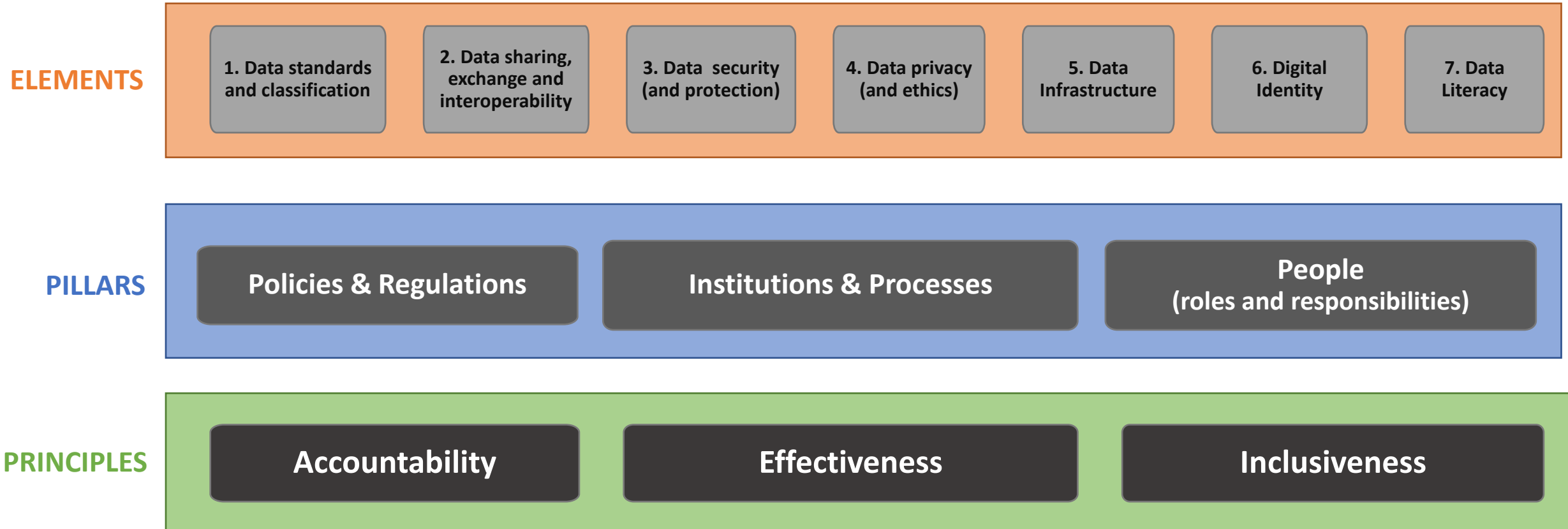


Six Key Elements of Data Governance Framework



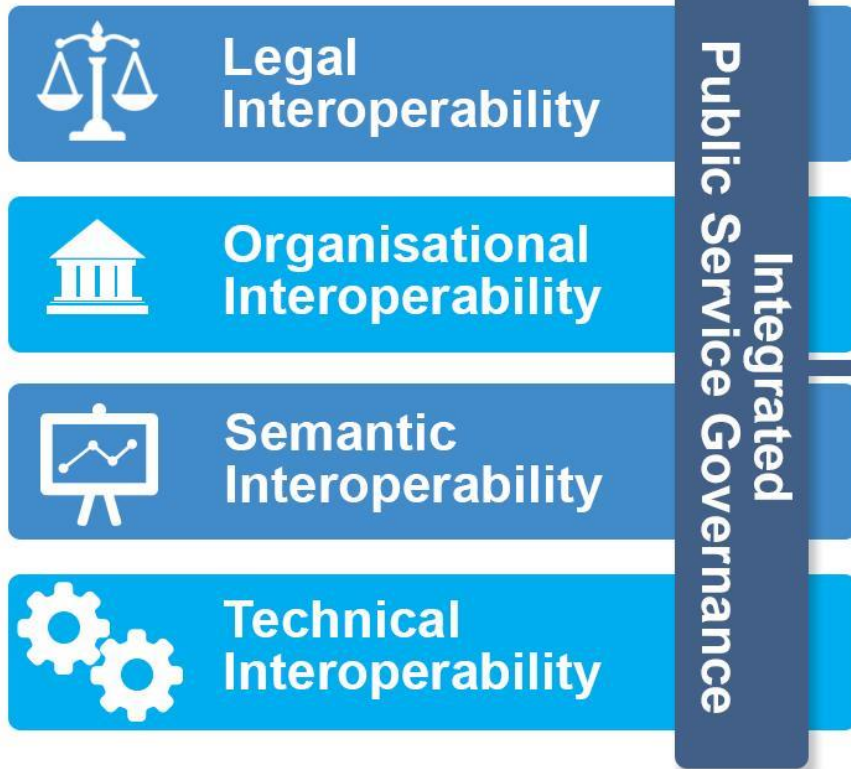
Adopting National Data Governance Framework

National data governance framework is the organization and implementation of **policies & regulations, institutions and processes, and people (roles and responsibilities)** which outline and enforce rules of engagement, decision rights, and accountabilities for the effective management and governance of data assets.

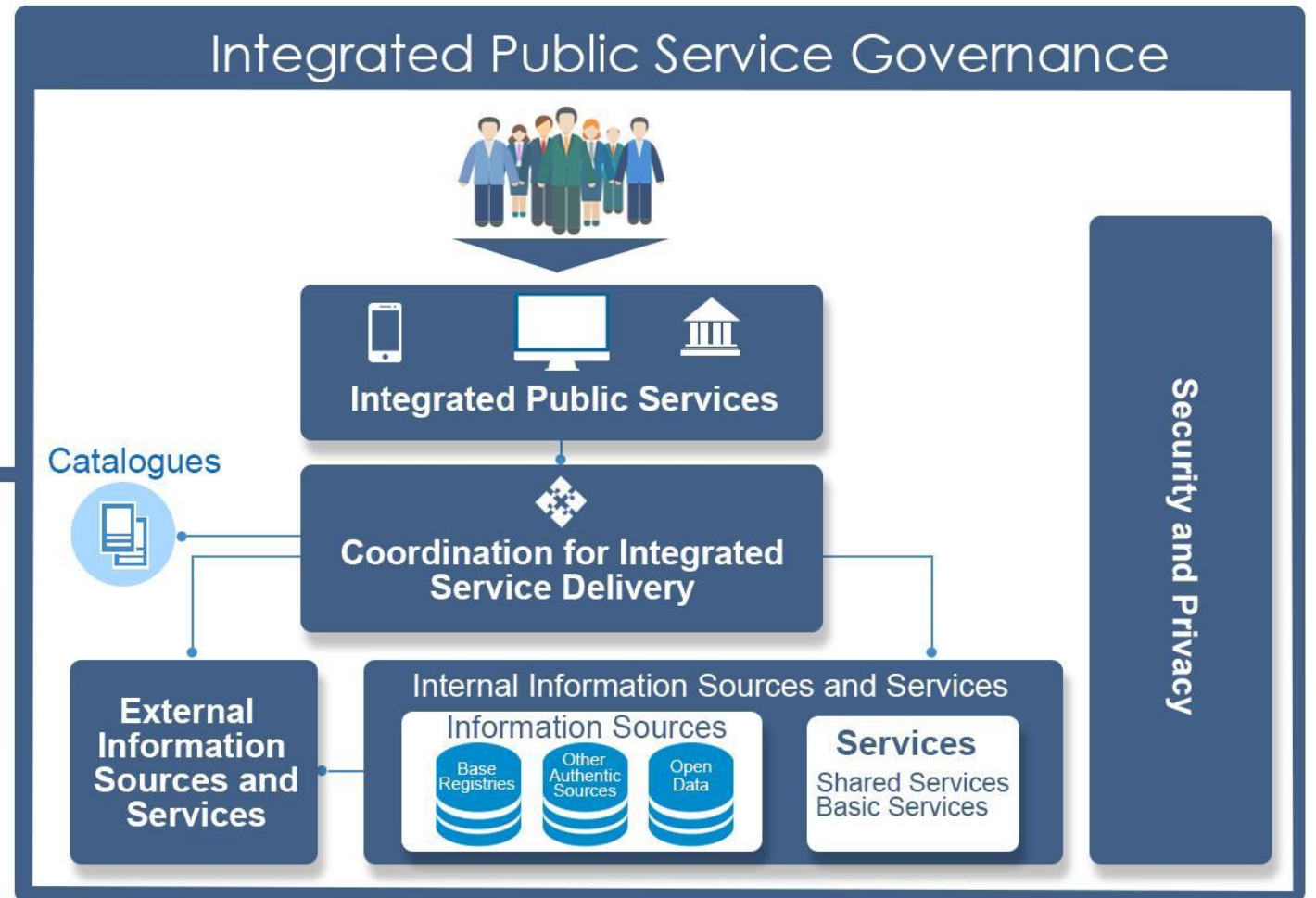


EIF Conceptual Model

Interoperability Governance



Integrated Public Service Governance



Interoperability Principles

Single source of truth

The concept of a 'single source of truth' illustrates the importance of good data architecture and coherent data policy. Clarifying responsibility within the government for which agency owns which particular type of data such as an address, birth date, or national identification document (ID) number is a foundational prerequisite for realising a single source of truth.

For example, when citizens and residents interacted with the government, it is typical their address was collected multiple times because every agency would do it separately. It was not uncommon, and very annoying for users, to have as multiple instances of their address stored across various government databases.

Source: Singapore,
<https://cmp.smu.edu.sg/ami/article/20230316/creating-capacity-digital-government>

Benefits of having a single source of truth:



Reduces errors



Improves data quality



Provides access to real-time data



Helps decision-making



Keeps processes consistent



Makes employee onboarding faster



Helps identify bottlenecks



Aligns team goals

“Data-once only” Principle

- The “data-once only” or “once-only principle” ensures that individual users and businesses provide data to public administration only once, while public bodies exchange this data when requested and in compliance with the relevant regulations.

Enablers / Barriers of Once-Only Principle



Institutions: Data Leadership and Data Stewards

Data leadership is 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 deploy government data as a strategic asset. (e.g. Chief Data Officer)

Source: UN E-government Survey, chapter 6

Data stewards: individuals or teams within data-holding organizations who are empowered to proactively initiate, facilitate and coordinate data collaboratives toward the public interest. (e.g. Data Bureau, Data Officers)

Source: “Wanted: Data Stewards: (Re-)defining the roles and responsibilities of Data Stewards for an age of data collaboration”

Data literacy

<i>Roles (non-exclusive)</i>	<i>Description</i>	<i>Required skillsets</i>
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: <ol style="list-style-type: none"> 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.



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Thank You

Merci

Спасибо

Gracias





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- Each focus group will focus on the topics (given below) against the four pillars of (1) Policy, (2) Institution, (3) People and (4) Process.
- After their group discussion and brainstorming, each group will present a short summary/presentation
- The summary/presentation will cover the following guided by the four pillars
 - a) Present status
 - b) Challenges
 - c) Recommendations



Group 1 focus (against the four pillars)

- Data standards and classification
- Data sharing, exchange and interoperability, including through open government data
- Linking to digital identity and digital government

Group 2 focus (against the four pillars)

- Data security (and data protection)
- Data privacy (and ethics)
- Linking to digital identity and digital government

Guiding questions

1. Are there any current policies and strategies? What are the gaps?
2. Is there a responsible unit/institution?
3. Is there a well-defined work process?
4. What are the challenges?
5. What work process recommendations and short/mid/long term plan?



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Workshop evaluation

Post-Workshop Evaluation (Rwanda)





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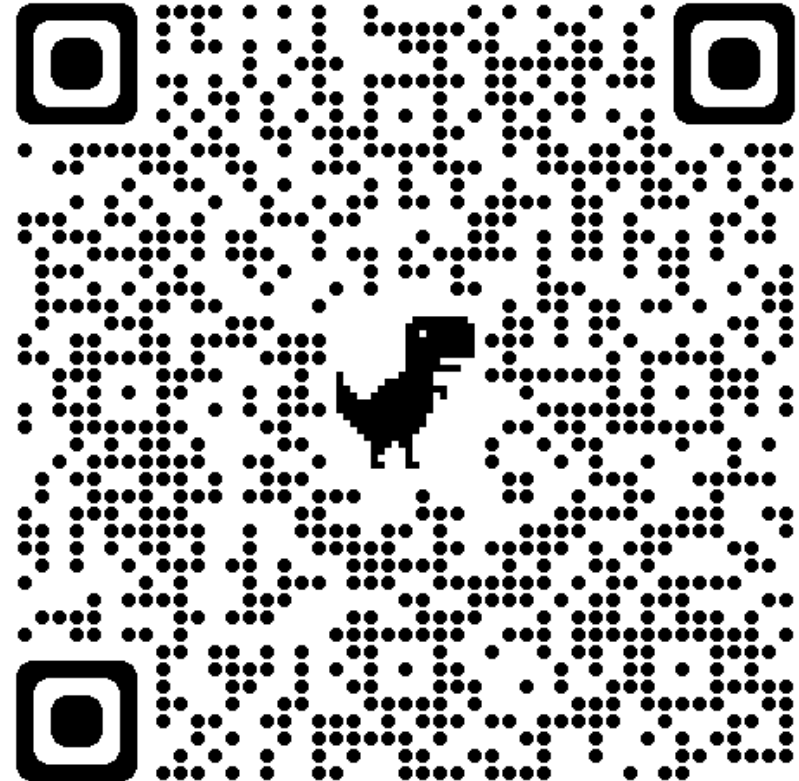
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Workshop webpage

- presentations
- photos
- report, etc.

Workshop website:

<https://publicadministration.un.org/en/news-events/calendar/ModuleID/1146/ItemID/3174/r>



Data Strategy of the Secretary-General for Action by Everyone, Everywhere

with Insight, Impact and Integrity

2020-22

Summary: A strategy for data action by everyone, everywhere in the UN family – for insight, impact and integrity.

Set strategic foundations

Recognizing that better data use is integral to our future, our **journey** begins with a **vision** of the **data-driven organization**: In building a whole-of-UN data ecosystem that maximizes the value of our data, we will **unlock our full potential**. We make **better decisions** and **deliver stronger support to people and planet** – in the moments that matter most.

In pursuit of our vision, we will focus on **7 outcomes**: The meaningful **long-term changes** we seek for the organization and the people we serve:

- **Stronger** cross-pillar decision-making and thought-leadership
- **Greater** data accessibility and sharing internally and externally
- **Improved** governance and collaboration for impact & integrity
- **Robust** data protection & privacy, and respect for human rights
- **Greater** efficiency in programmes, operations & management
- **Improved** transparency within and across the UN Family
- **Enhanced** data-driven services for clients and stakeholders

All our data action and initiatives will be grounded in **12 core principles** on how to leverage data **collaboratively, responsibly**, with **transparency, stewardship** and **excellence**.

Our principles will form the **foundation of data governance**, so that data is recognized and managed as a **shared strategic asset**.

Create value with data and focus on priorities

Our strategy pursues a **simple idea**: We **focus not on process, but on learning, iteratively, to deliver data use cases that add value for stakeholders, based on our vision, outcomes and principles**.

Use cases – purposes for which data is used – already **permeate our organization**. We will systematically identify and deliver them through dedicated **data action portfolios**, that not only help us add more **value**, but also develop new **capabilities** in the process.

Our strategy provides a **simple framework** for assembling data action portfolios: individual and collective, local and global across the UN family.

At its highest level, our use cases and portfolios will be guided by the **Secretary-General's priorities for 2020/21**:

- **Decade of Action** to deliver the SDGs by 2030
- **Climate action**
- **Gender equality**
- **Human rights and the rule of law**
- **Peace and security**
- **Governance and ethics for the future**
- **Data protection and privacy**
- **UN reform**

Foster enablers, nurture capabilities, and iterate

As we strive to generate more value from data, we will need to build **new capabilities**, in an iterative and agile fashion:

- **Analytics**: Using data to **better understand** "what happened", "why it happened", "what may happen next" and "how to respond".
- **Data management**: Ensuring everyone can **discover, access, integrate** and **share** the data they need to fulfill our responsibilities to the organization, people and planet.

While better abilities will in part emerge through "**learning by doing**", we also need to foster **stronger enablers**:

- **People and culture**, so we can nurture the skills and talents we need, and spread a culture of collaboration, excellence, openness and sharing by default.
- **Data governance** and **strategy oversight** at the right levels and with the right approaches to ensure data is managed as a **shared strategic asset**.
- **Partnerships** to connect to ecosystems outside the UN family, so we can deliver more value at **scale**.
- **Technology environments** that empower all users in optimal ways, so that data can turn into insight & action.

Getting to a stage where our capabilities are truly **transformative** will not happen overnight. Our **roadmap** is long-term and will engage **everyone, everywhere**.