Data Governance for E-Government

2020 United Nations E-Government Survey
Chapter 4

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Policy Questions

Are data recognised -- and used -- as a key resource?

Data governance supporting digital government – are we there?

What are the risks, challenges and gaps in data governance for e-government?
Outline

1. Introduction
   Mapping government data

2. Policy and institutional trends around data
   Data as a key resource
   Open government data, emerging data policies and practices

3. Risks, challenges and gaps in data governance
   Data security
   Data privacy and ethics
   Data literacy and data capacities

4. Towards effective data governance
   Data governance frameworks
   National data strategy and data leadership
Data governance matters

The “new oil”; “gold”; “fuel”; “currency”:

Digital economy
Digital government
Digital society
Digitalization
1. Mapping Government Data

Data grows rapidly, will reach 175 zettabytes in 2025
Note: One zetta is a “1” followed by 21 zeroes

Paradoxes around 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 triple role: producer, consumer and regulator of data
2. Open Government Data

Open Government Data Index (OGDI) - pilot in 2018
2. Open Government Data

Open Government Data Index (OGDI) - 2020
Figure 6.2b Open government data (OGD): development trends

Percentage of countries with associated features of open government data (OGD) portals

<table>
<thead>
<tr>
<th>Feature</th>
<th>2018</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>With national OGD portals</td>
<td>47%</td>
<td>78%</td>
</tr>
<tr>
<td>With national OGD policy</td>
<td>64%</td>
<td>59%</td>
</tr>
<tr>
<td>Have metadata or a data dictionary</td>
<td>61%</td>
<td>62%</td>
</tr>
<tr>
<td>Accept public requests for new data sets</td>
<td>54%</td>
<td>57%</td>
</tr>
<tr>
<td>Offer guidance on using OGD</td>
<td>53%</td>
<td>52%</td>
</tr>
<tr>
<td>Engage in promotional efforts (e.g. data hackathons)</td>
<td>53%</td>
<td>49%</td>
</tr>
</tbody>
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## 2. Policy and institutional trends around data

<table>
<thead>
<tr>
<th>Approach</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ICT-driven</td>
<td>Where Governments are highly influenced by the use of new and existing information and communications technology (ICT).</td>
</tr>
<tr>
<td>Data-informed</td>
<td>Where Governments are guided by data; data play an inferential role in policymaking, with the understanding that data will inform rather than drive decision-making because there are rational, political and moral elements of decision-making and data are just one important aspect of the process.</td>
</tr>
<tr>
<td>Data-driven</td>
<td>Where Governments use analytics and algorithms in decision-making (elaborated in a recent OECD working paper on a data-driven public sector).</td>
</tr>
<tr>
<td>Evidence-based</td>
<td>Where policy approaches reflect the practical application of the findings of the best and most current research available (the Foundations of Evidence-Based Policymaking Act in the United States is highlighted in box 6.2).</td>
</tr>
<tr>
<td>Data-centric</td>
<td>Where Governments place data and data science at the core of public administration; data are seen as a key asset and central to government functions and are leveraged for the provision, evaluation and modification of people-centric services.</td>
</tr>
</tbody>
</table>
2. Policy and institutional trends around data

New possibilities of data (data exploitation in UK and France)

Renewed data standardization and classification (Republic of Korea’s Database Standardization)

Innovative public-private data partnership and utilization (EU and Japan)

Enhanced data sharing across agencies and across levels of governments; linked data and interoperability framework (Australia’s data governance mechanism)

New data exchange through data services, data APIs, data markets (Estonia’s X-Road; Shanghai’s Big Data Center)

Data in new technologies (AI, blockchains, IoT in predictive, anticipatory or transparent e-services)
3.1 Data security
Frequent occurrence of data breaches; public trust in data and e-services

Figure 6.5 Regions and country groupings with cybersecurity legislation available online and/or with HTTPS extensions in place

Key: SIDS, small island developing States; LLDCs, landlocked developing countries; LDCs, least developed countries.
3.2 Data privacy and ethics

Public concerns about the collection and use of public data, including profiling and surveillance

Ethical issues that go beyond the law (societal moral understanding)

Work-in-progress or untested measures in data transparency and accountability, e.g. data minimization, anonymization, differential privacy; synthetic data

Privacy and ethical measures versus data protection, national/public security issues

Global and regional initiatives in data governance
<table>
<thead>
<tr>
<th>Policy Initiative</th>
<th>Regional/global entity</th>
<th>Year adopted/description/access</th>
</tr>
</thead>
<tbody>
<tr>
<td>The right to privacy in the digital age</td>
<td>United Nations Member States</td>
<td>2013; General Assembly resolution 68/167 (<a href="https://undocs.org/A/RES/68/167">https://undocs.org/A/RES/68/167</a>)</td>
</tr>
<tr>
<td>Berlin IGF Messages on Data Governance</td>
<td>Internet Governance Forum (IGF)</td>
<td>2019; overview of discussions held during the IGF sessions, convened annually by United Nations Secretary General (<a href="https://www.intgovforum.org/publishingfiledepot/download/9217/1802">https://www.intgovforum.org/publishingfiledepot/download/9217/1802</a>)</td>
</tr>
<tr>
<td>General Data Protection Regulation</td>
<td>European Union</td>
<td>2018; Regulation 2016/579, binding for European Union member States (<a href="https://ec.europa.eu">https://ec.europa.eu</a>)</td>
</tr>
<tr>
<td>APEC Privacy Framework</td>
<td>Asia-Pacific Economic Cooperation; APEC E-Commerce Steering Group</td>
<td>2015; binding for the 8 APEC member States participating in the APEC Cross-Border Privacy Rules (CBPR) System; voluntary for the other 13 APEC member States (<a href="https://www.apec.org/Publications/2015/12/APEC-Privacy-Framework">https://www.apec.org/Publications/2015/12/APEC-Privacy-Framework</a>)</td>
</tr>
<tr>
<td>ASEAN Framework on Personal Data Protection</td>
<td>Association of Southeast Asian Nations (ASEAN)</td>
<td>2016; voluntary for ASEAN member States (<a href="https://asean.org/storage/2012/05/10-ASEAN-Framework-on-PDP.pdf">https://asean.org/storage/2012/05/10-ASEAN-Framework-on-PDP.pdf</a>)</td>
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</tbody>
</table>

Source: Author's compilation, adapted from Center for Strategic and International Studies, "Explore the data—Technology Policy Program: data governance", available at https://dataperspective.csis.org/
3.2 Data privacy and ethics

Figure 6.6 Countries with privacy statements available online

Figure 6.3  Countries that allow individuals and businesses to access own data

### 3.3 Data literacy and data capacities

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

Analytics (machine learning; algorithms and modelling)

Data Exploration (data portals; data visualization; OGD hackathons)

Data Aggregation (preprocessing; data warehouse; data sharing; linked data; interoperability; data exchange)

Data Sources (small and big data; conventional and new data; informational, transactional, operational)

Information (linked elements)

Knowledge (organised information)

Wisdom (applied knowledge)

Data (abstracted elements)
4. Towards effective data governance

**Elements**
- Evidence-based Policymaking
- Data Protection
- Privacy & Ethics
- Classification & Standardization
- Data Sharing, Linked Data & Interoperability
- Open Government Data
- National Digital Identity
- Data Roles and Institutions
- Shared Infrastructure (data cloud, data APIs, etc.)
- Data Literacy & Capacity Development
- People Engagement
- Partnerships
- Analytics & Data Visualization
- AI, Machine Learning, Blockchain, etc.

**Pillars**
- Policies & Regulations
- National Data Strategy & Leadership
- Data Ecosystem
- Data Technologies

**Goal 16 Principles**
- Accountability
- Effectiveness
- Inclusiveness

**Foundation**
- Data Governance
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.
Key Messages

- 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.
Thank You
Merci
Спасибо
Gracias