



UN Public Administration Programme

Division for Institutions and Digital Government
UN Department of Economic and Social Affairs (UNDESA)



The 4th Asia-Pacific Regional Forum on Smart Sustainable Cities and e-Government 2018

Data Governance for Smart City Management

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Division for Public Institutions and Digital Government
United Nations Department of Economic and Social Affairs**



Outline of the Presentation

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- II. Data Governance from Perspective of City Administrators**
- III. Collaboration with All Stakeholders**
- IV. Complying with Laws and Regulations for Data Governance**
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I. Data Governance Critical for Smart City Management

Data governance is...

- “the overall management of the availability, usability, integrity, and security of the data employed in an enterprise.”
- “the practice of organizing and implementing policies, procedures and standards for the effective use of an organization’s structured/unstructured information assets.”
- “the execution and enforcement of authority over the management of data assets and the performance of data functions.”



I. Data Governance Critical for Smart City Management

Service delivery & surveillance using open and big data:

- ✓ **traffic control**
- ✓ **smart grid/waste management**
- ✓ **social media analysis**
- ✓ **security & predictive policing**
- ✓ **emergency response**

Smart city management hinges on using big data and data analytics for anticipatory governance and taking preemptive actions.



I. Data Governance Critical for Smart City Management

- Data governance critical to safeguard **the resilience of ICT infrastructure**
 - ✓ *Public services must be delivered 24/7 with high quality and stability and free from cyber attacks.*



I. Data Governance Critical for Smart City Management

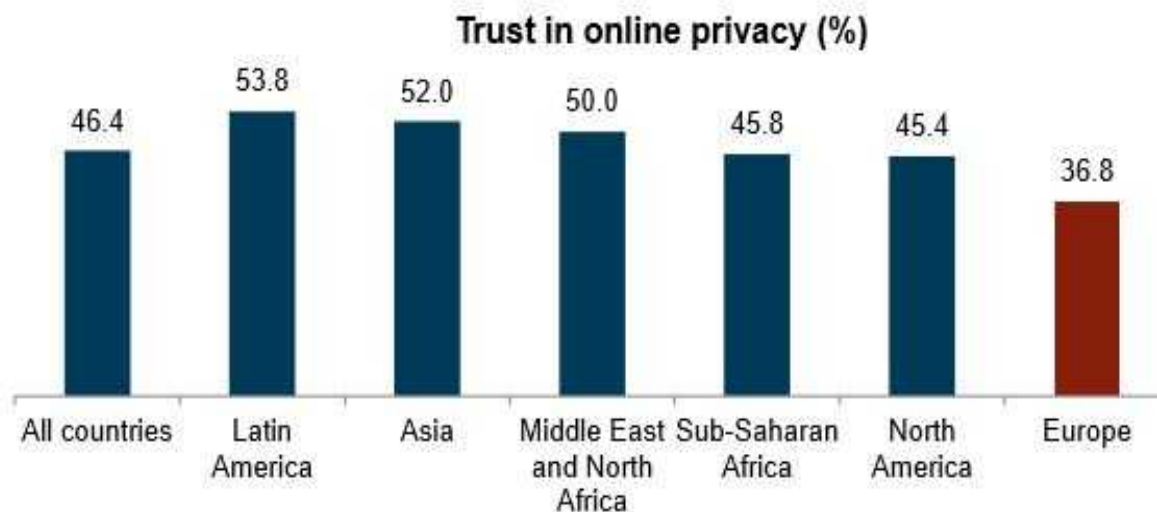
Smart city management also relies on collaboration with other stakeholders in data sharing and exchange and smart applications.

- ✓ **Citizens:** sharing information through social media
- ✓ **CSOs:** sharing data on environment, disaster, etc.
- ✓ **Private sector:** contract service providers for the outsourced smart city services



I. Data Governance Critical for Smart City Management

- Data governance essential for **building citizens' trust in government services**





I. Data Governance Critical for Smart City Management

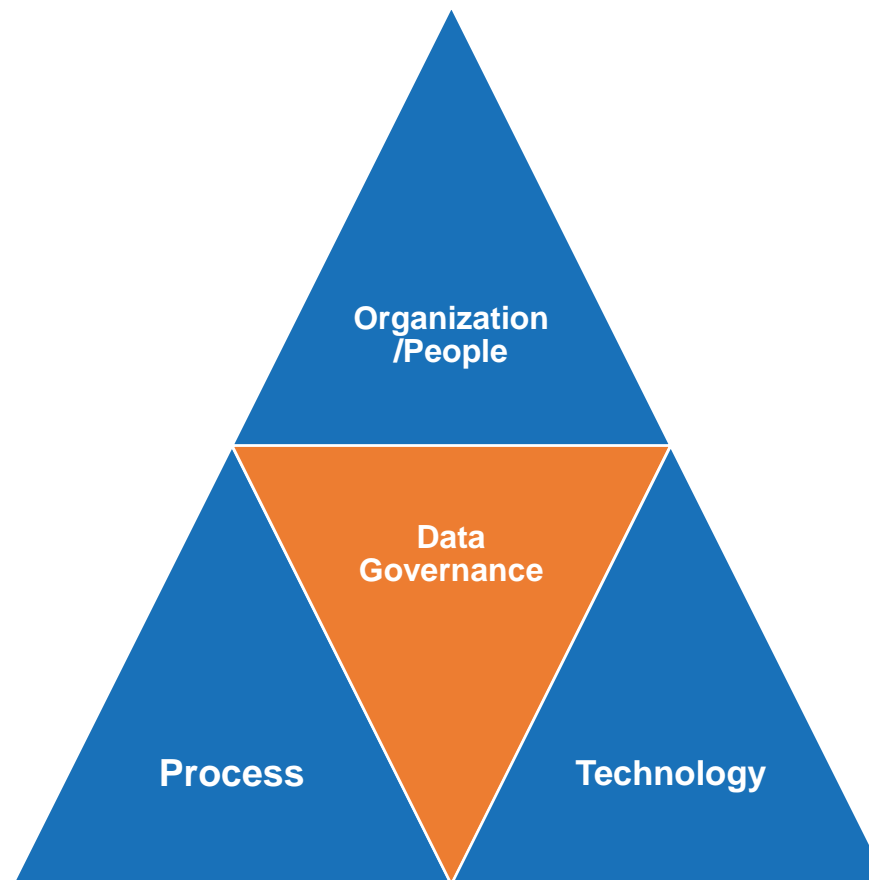
- Increasing recognition on the importance of instituting data governance for smart city management
- Appointing Chief Data Officer (CDO) / Creating a separate office/division on data governance





II. Data Governance from Perspective of City Administrators

Three Dimensions of Data Governance





II. Data Governance from Perspective of City Administrators

Holistic Approach to Data Governance for City Government

**Data collector,
user and
keeper of
personal data**

**Data
generator**

**Protector of
citizen
privacy**



II. Data Governance from Perspective of City Administrators

- Data governance is not just about data security and privacy protection.
- Data governance is more about the framework and process and about data standards and policies that manage availability, usability, integrity, and security of the data employed in the process of city management.



II. Data Governance from Perspective of City Administrators

City-wide governance structure

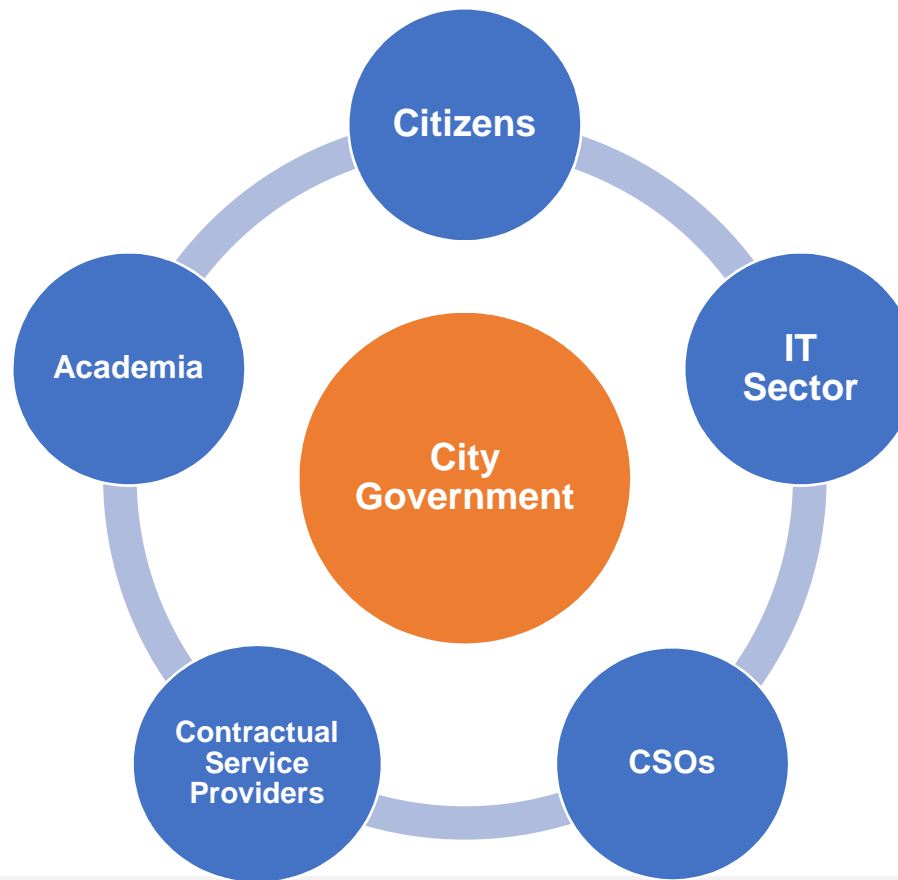
for setting the policy and strategy throughout the information life cycle & consistent across all divisions and agencies for:

- data collection/gathering
- data classification
- data processing
- access control
- data usage and analysis
- data release
- data security



III. Collaboration with All Stakeholders

Importance of involving different stakeholders

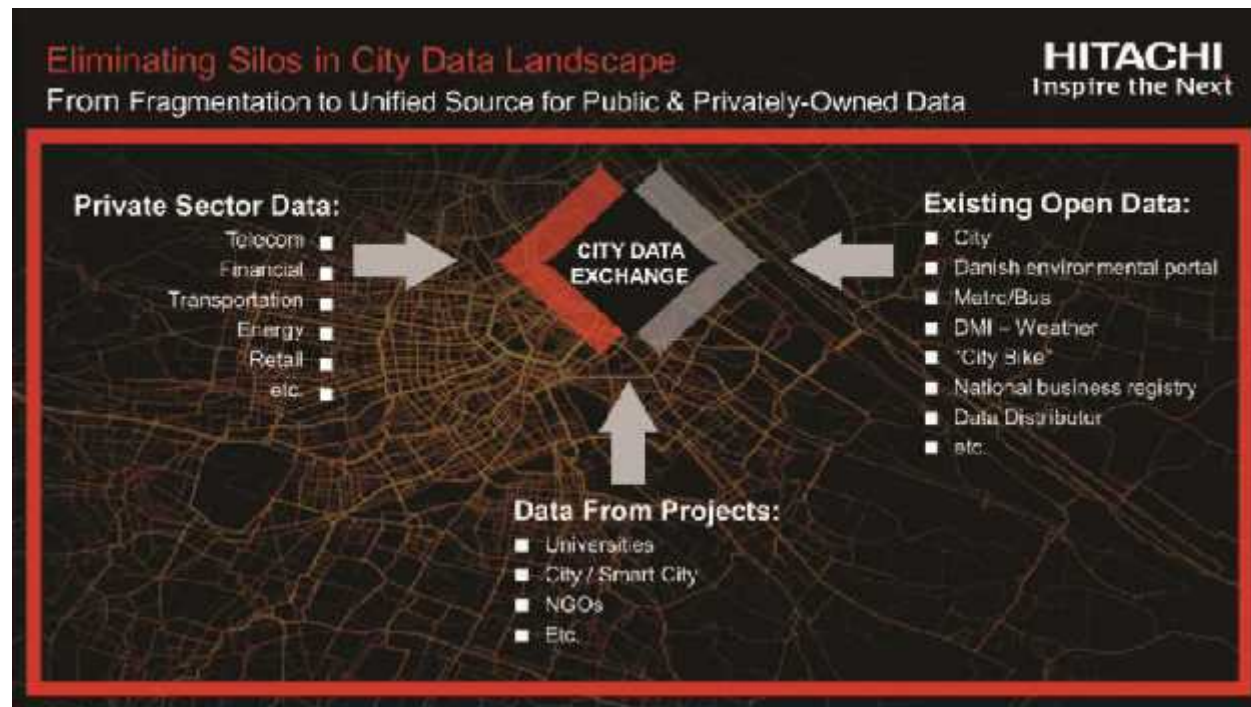




III. Collaboration with All Stakeholders

City Data Exchange (Copenhagen)

- ✓ Private-public collaboration for a citywide marketplace for data exchange
 - purchasing, selling and sharing data between all kinds of users in a city such as citizens, public institutions and private companies

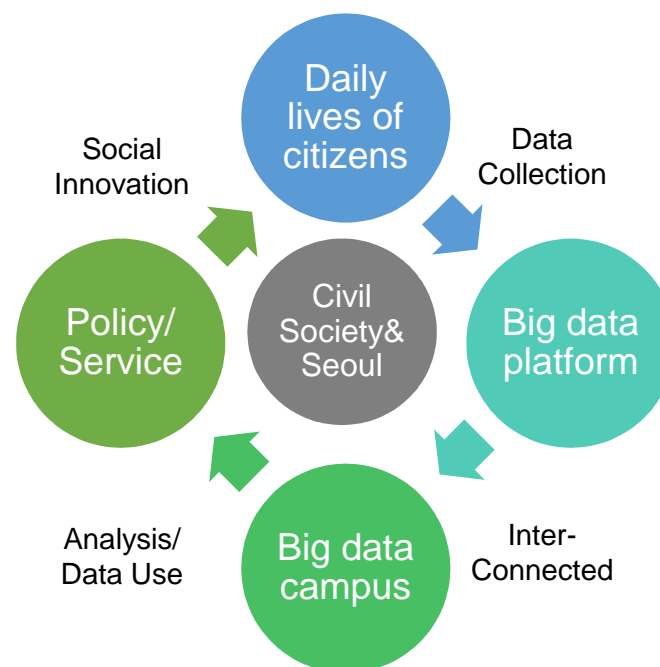




III. Collaboration with All Stakeholders

Big Data Campus (Seoul)

- ✓ Collaborating with corporations, NGOs, academia, and citizens for more effective and innovative big data use and analysis





IV. Complying with Laws and Regulations for Data Governance

- Compliance to the relevant laws and regulations at the national and regional levels:



European Union

- General Data Protection Regulation (GDPR) – Effective May 25, 2018



Malaysia

- e-Commerce Act of 2006
- Electronic Government Activities Act of 2007
- Personal Data Protection Act by 2010



Philippines

- Cybercrime Prevention Act 2012
- Data Privacy Act
- Electronic Commerce Act in 2000



Thailand

- In the process of establishing new legislation on digital economy including:
- Computer-Related Crime Bill (amendment)
 - Personal Data Protection Bill
 - Cyber security Bill



IV. Complying with Laws and Regulations for Data Governance

- Updating and complying with relevant regulations with regard to data collection, storage and usage for securing privacy of citizens:
 - a. under the new legal framework
 - b. with the changing digital environment

- In the digital era, citizens are weak in protecting personal privacy; Government should **put data privacy as a priority** in designing strategy and delivering services in smart city management



V. Adapting the Data Governance to New Environment

Data governance should be dynamic and reviewed on regular basis to adapt to new environment



➤ General legal framework is evolving



➤ People are not consistent regarding data sensitivity for different sets of data



New technologies raise new challenges in data security and data protection



Smart city services are transiting to cloud infrastructure



Data are collected by commercial companies



Line between surveillance and service provision is blurry



VI. Policy Implications

- Smart city management should **put data privacy first** and take into account of frontier technologies and new digital environment.
- **A holistic approach to data governance** considering the multiple roles of city government is necessary.
- Adopting the inclusive and collaborative data governance with **partnership and collaboration between governments and other stakeholders** is necessary.
- It is essential to build up a **city-wide data governance** that brings in all divisions/departments to enforce the data governance in a consistent manner.



VI. Policy Implications

- City government should be **prudential in outsourcing its digital public services to third parties** in the cloud environment and ensure that the third-party users also comply to the same level of security standards set by government.
- It is important to safeguard **the resilience of ICT infrastructure** to ensure uninterrupted services to its citizens especially in times of emergencies.
- It is essential to **build capacity and expertise of city government officials** and equip them to better adapt to the changing digital environment.



Thank You

**For questions, please contact:
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