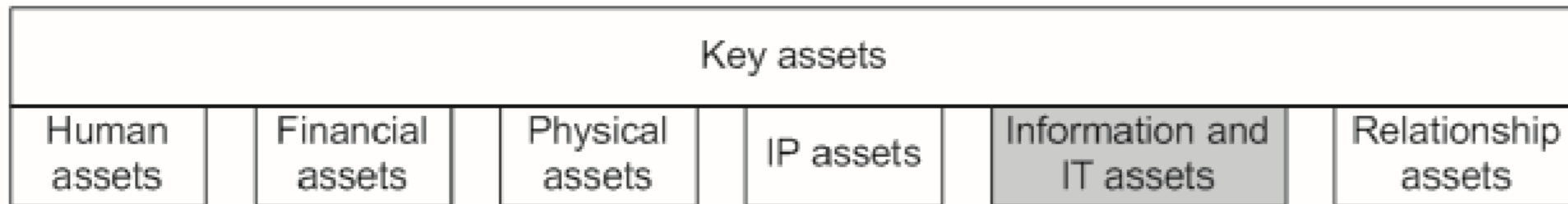# An Overview of Data Governance, Information Governance, and IT Governance

Hsia-Ching Chang

2018/11/30

Data, Information, and IT as Assets to be Governed

- Khatri & Brown (2010) defined information assets (or data) as "**facts having value** or potential value that are **documented.**" (p. 148)

- To **derive value from information**, organizations need to invest in **technology** and systems.

Key assets					
Human assets	Financial assets	Physical assets	IP assets	Information and IT assets	Relationship assets

Source: Adapted from Weill and Ross (2004) in Khatri, V., and Brown, C.V. (2010). Designing data governance. *Communications of the ACM*, 53(1), 148–152.
PS: Weill, P. and Ross, J. W. (2004) *IT governance: How top performers manage IT decision rights for superior results*. Harvard Business School Press, Boston, MA.
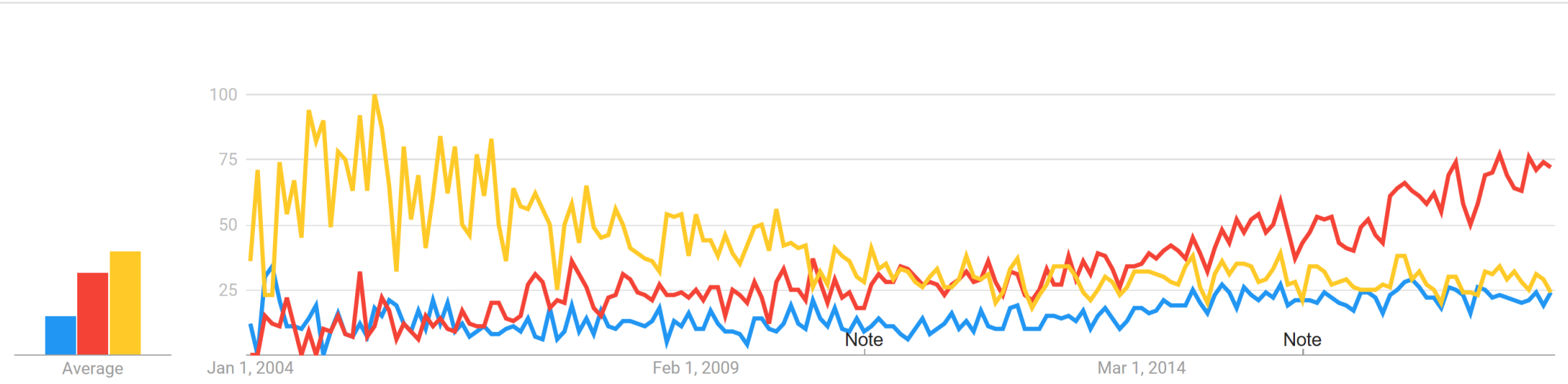
Source: https://trends.google.com/trends/explore?date=all&geo=US&q=information%20governance,data%20governance,IT%20governance

IT Governance Cube

Who is Governed?

Ecosystem

Firm

Project

IT Artifacts

Content

Stakeholders

How it is Governed?

Architecture

Control

Decision Rights
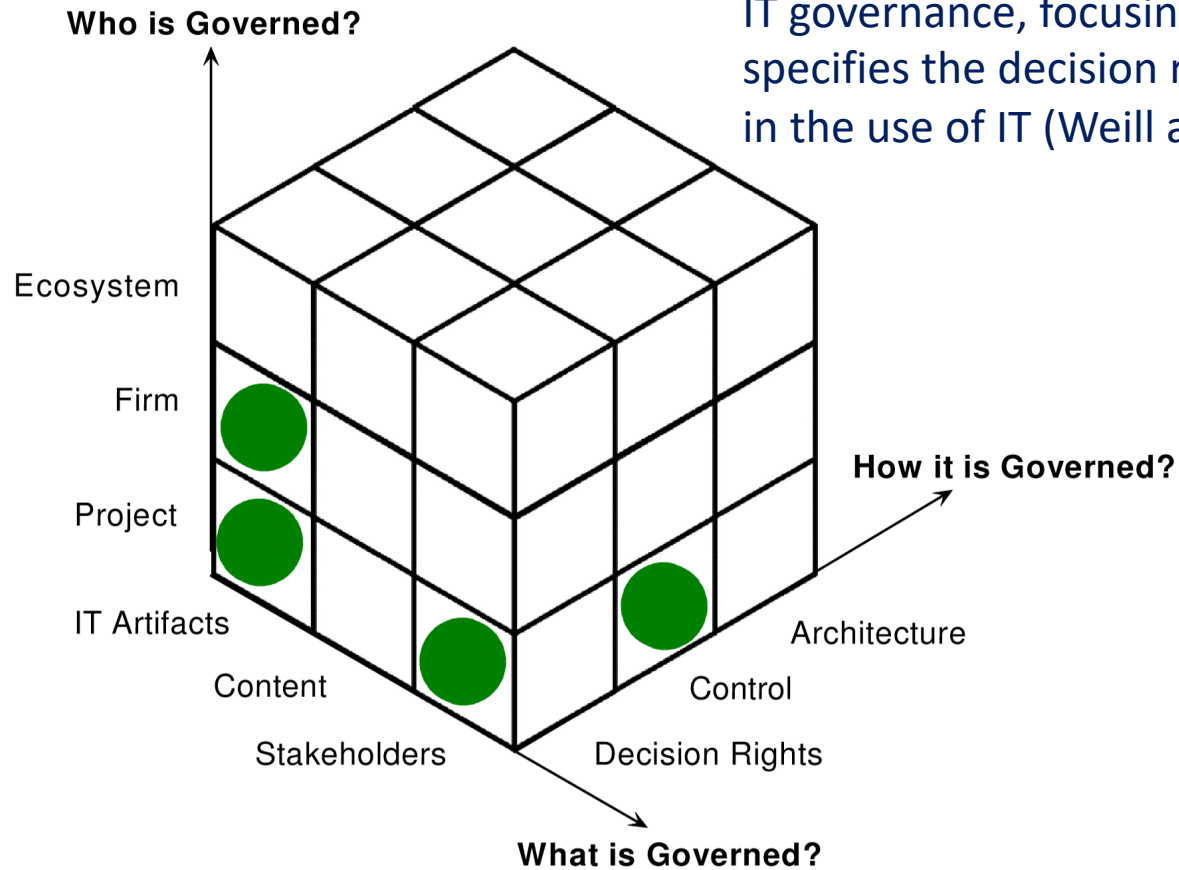
What is Governed?

Shaded cells = existing knowledge of IT governance
Remaining cells = unexplored theoretical territory

Tiwana, A., Konsynski, B., and Venkatraman, N. (2013). Information Technology and Organizational Governance: The IT Governance Cube, *Journal of Management Information Systems*, (30:3), pp. 7-12.
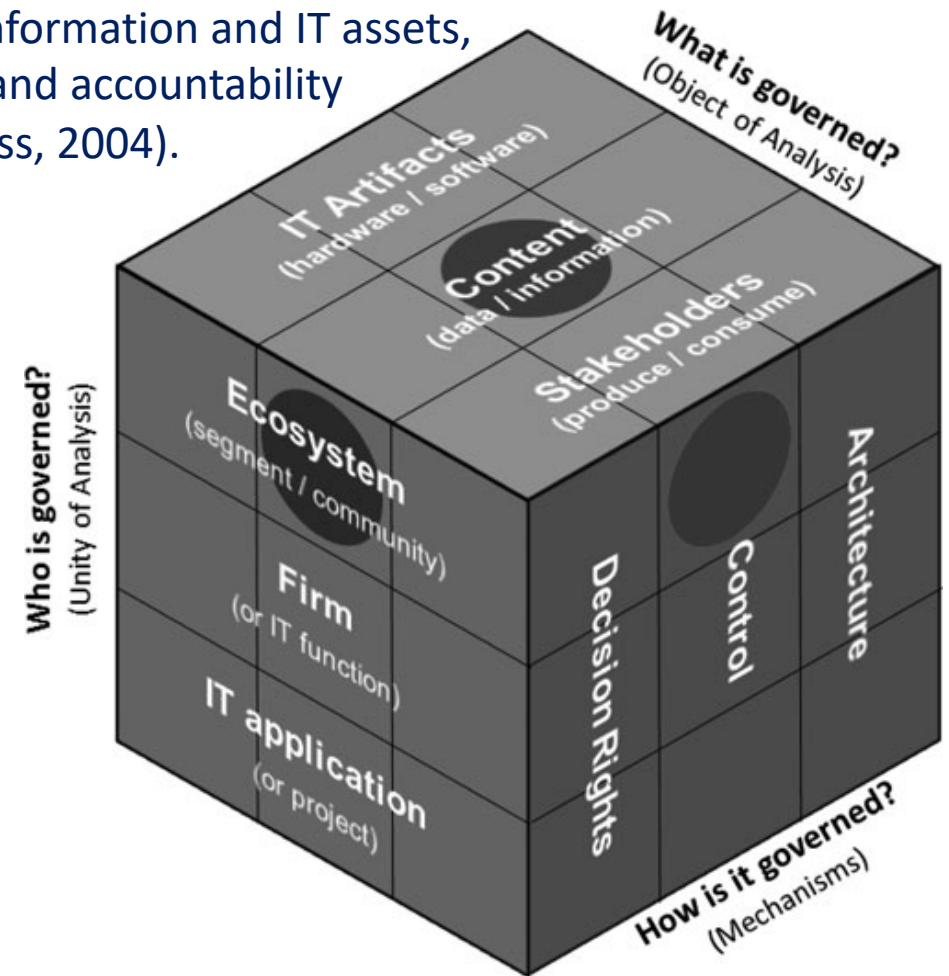
Adapted IT Governance Cube

IT governance, focusing on information and IT assets, specifies the decision rights and accountability in the use of IT (Weill and Ross, 2004).

What is governed? (Object of Analysis)

IT Artifacts (hardware / software)

Content (data / information)

Stakeholders (produce / consume)

Who is governed? (Unity of Analysis)

Ecosystem (segment / community)

Firm (or IT function)

IT application (or project)

Decision Rights

Control

Architecture

How is it governed? (Mechanisms)

Terlizzi, M. A., Meirelles, F. D. S., & Viegas Cortez da Cunha, M. A. (2017). Behavior of Brazilian Banks Employees on Facebook and the Cybersecurity Governance. *Journal of Applied Security Research*, *12*(2), 224-252.

Source: https://iginitiative.com

Information Governance in Practice

- R&C framework - policies, procedures & processes
- Detection of risk & fraud
- Auditing & assessing compliance

- IT security & protection
- Enterprise IT architecture
- IT security policies, procedures, processes
- Decommissioning technology

- Data & Privacy Impact Assessments, incl ethical frameworks
- Rapid data insights
- Development of new products & services
- Detection of risk & fraud

- Privacy framework - policies, procedures & processes
- Incident response plan for data breach
- Remediation plan following data breach

- Document/data production for
  - Litigation
  - Regulatory investigations
  - Inquiries
- Issuing legal holds

- Records & archiving policy, records retention & disposal schedule
- Data/document storage & archiving
- Defensible disposition of data/documents
- Implementing legal holds

Diagram labels (clockwise from top): Risk & compliance, Cybersecurity, Privacy/Data protection, Records & Information management, Data Governance, eDiscovery, Data analytics

Center ring: Policies, Procedures, People, Technology — **IG**

- Data policies, procedures and processes
- Data integrity
- Data management - creation, use, movement, storage

Source: Bennett, S. (2017). What is information governance and how does it differ from data governance?. *Governance Directions*, *69*(8), 462.

The DGI Data Governance Framework

THE DGI DATA GOVERNANCE FRAMEWORK
from The Data Governance Institute

PEOPLE & ORGANIZATIONAL BODIES

RULES & RULES OF ENGAGEMENT

PROCESSES

DATA GOVERNANCE

WHO

(7) **DATA STAKEHOLDERS**

(8) **DATA GOVERNANCE OFFICE (DGO)**

(9) **DATA STEWARDS**

WHY

(1) **Mission**

To Achieve

WHAT

(2) **GOALS**

FOCUS AREAS

METRICS / SUCCESS MEASURES

FUNDING

(4) **DECISION RIGHTS**

(5) **ACCOUNTABILITIES**

(6) **CONTROL MECHANISMS**

(3) **DATA RULES AND DEFINITIONS**

WHEN
1 Develop a Value Statement
2 Prepare a Roadmap
3 Plan and Fund
4 Design the Program
5 Deploy the Program
6 Govern the Data
7 Monitor, Measure, Report

HOW

(10) **DATA GOVERNANCE PROCESSES**

BUSINESS / IT PROCESSES THAT TOUCH DATA

MANAGEMENT

Definition:

Data Governance is the exercise of decision making and authority for data-related matters.

It's a system of decision rights and accountabilities for information-related processes, executed according to agreed upon models which describe who can take what actions with what information and under what circumstances, using what methods.

Processes for governing how data is used, and when, and by whom

1. Aligning Policies, Requirements & Controls
2. Establishing Decision Rights
3. Establishing Accountability
4. Performing Stewardship
5. Managing Change
6. Defining Data
7. Issue Resolution
8. Specifying Data Quality Requirements
9. Building Governance into Technology
10. Stakeholder Care and Support
11. Stakeholder Communications
12. Measuring and Reporting Value

Source: http://www.datagovernance.com/the-dgi-framework/

The Ignored but Critical Role of Information Governance

- Aims to **manage sensitive and proprietary information**.

- A **subset of IT governance** and is defined as "a collection of capabilities or practices for the creation, capture, valuation, storage, usage, control, access, archival, and deletion of information over its life cycle." (Tallon et al., p. 142)

- While the dominant focus of IT governance literature has been on the **IT artifacts**, with the advent of big data analytics, the focus has been shifted to the **information artifacts**.

Source: Tallon, P. P., Ramirez, R. V., & Short, J. E. (2013). The information artifact in IT governance: toward a theory of information governance. *Journal of Management Information Systems*, 30(3), 141-178.

The Core Disciplines of Information Governance

- Smallwood (2014) views information governance as a "rather new **multidisciplinary field** that is still being defined" (p. 6).

- Core disciplines of information governance (Soares, 2012; Ballard et al., 2014)

  - These disciplines are organization (structure), metadata management, security and privacy, data quality, business process integration, master data integration, and information lifecycle management.

Source:
- ✓ Smallwood, R.F. (2014). *Information Governance: Concepts, Strategies, and Best Practices*. London: Wiley.
- ✓ Soares, S. (2012) *Big Data Governance: An Emerging Imperative,* MC Press Online.
- ✓ Ballard, C. et al. (2014) Information Governance Principles and Practices for a Big Data Landscape. *IBM Redbooks publication.*
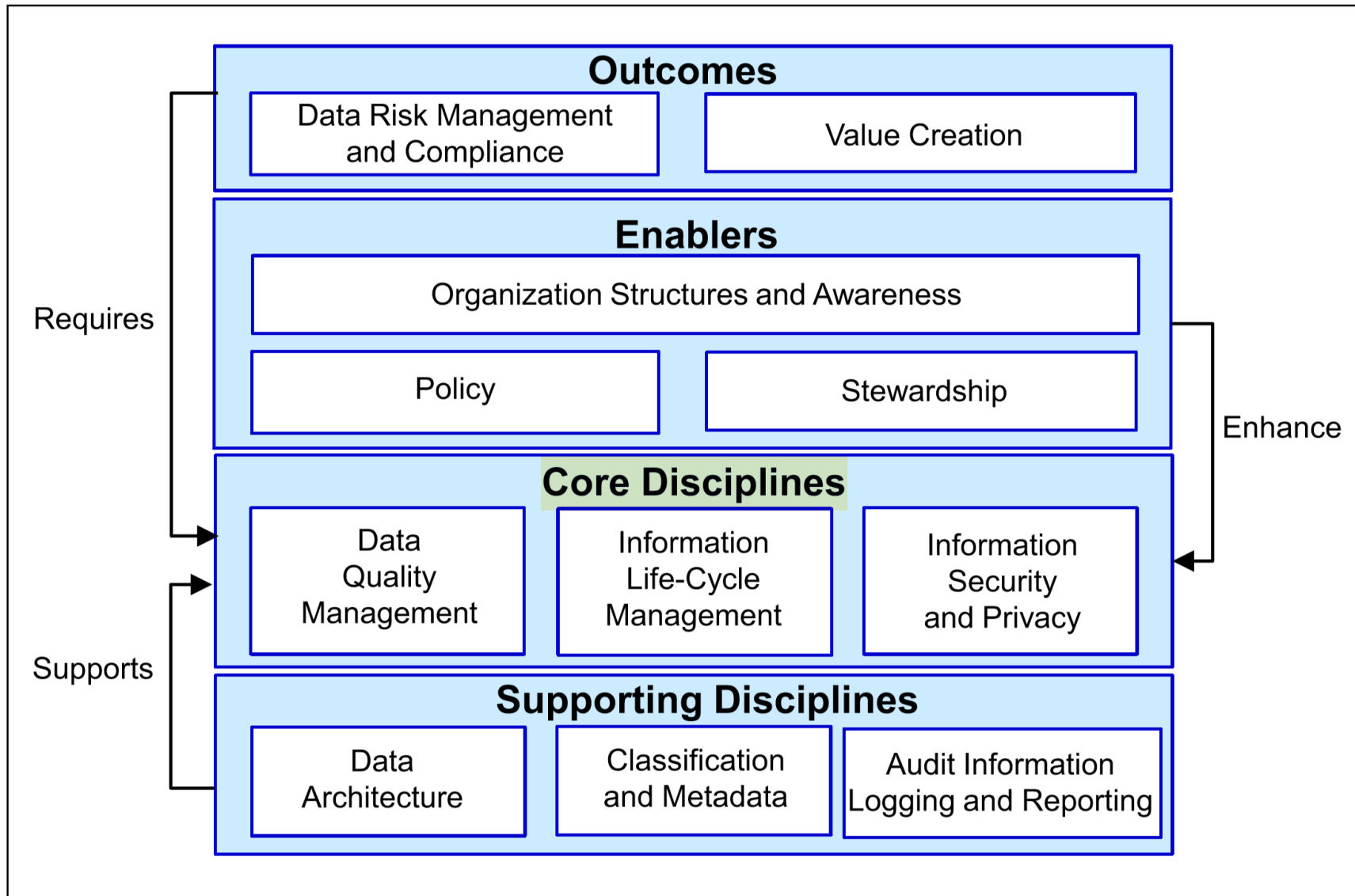
Figure 2-1   IBM Information Governance Capability Maturity Model

Source: Ballard, C. et al. (2014) Information Governance Principles and Practices for a Big Data Landscape. *IBM Redbooks publication.*
http://www.redbooks.ibm.com/redbooks/pdfs/sg248165.pdf

A Framework for Big Data Governance

Source: Soares, S. (2012) *Big Data Governance: An Emerging Imperative,* MC Press Online.
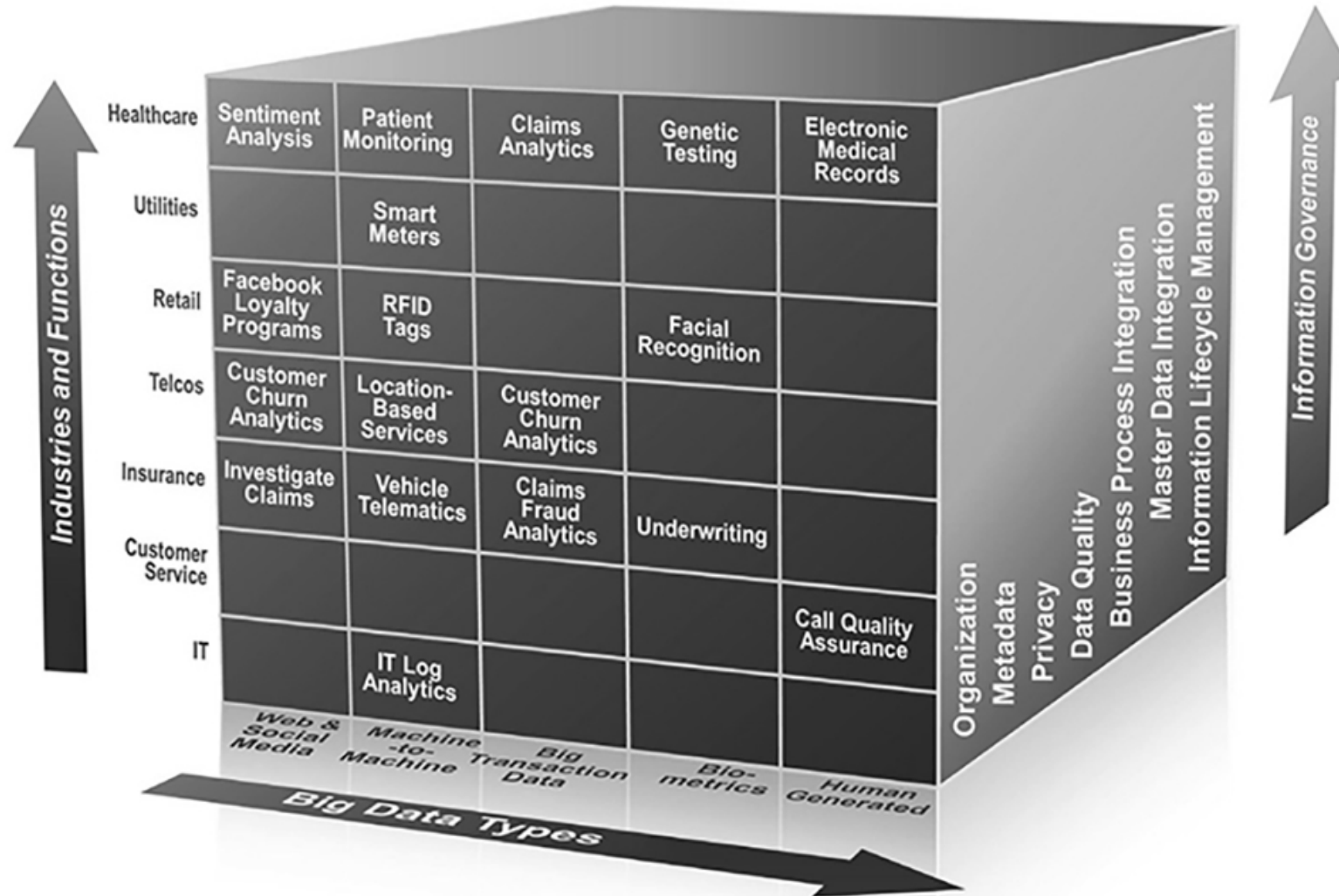
Data (Science) Work in Context
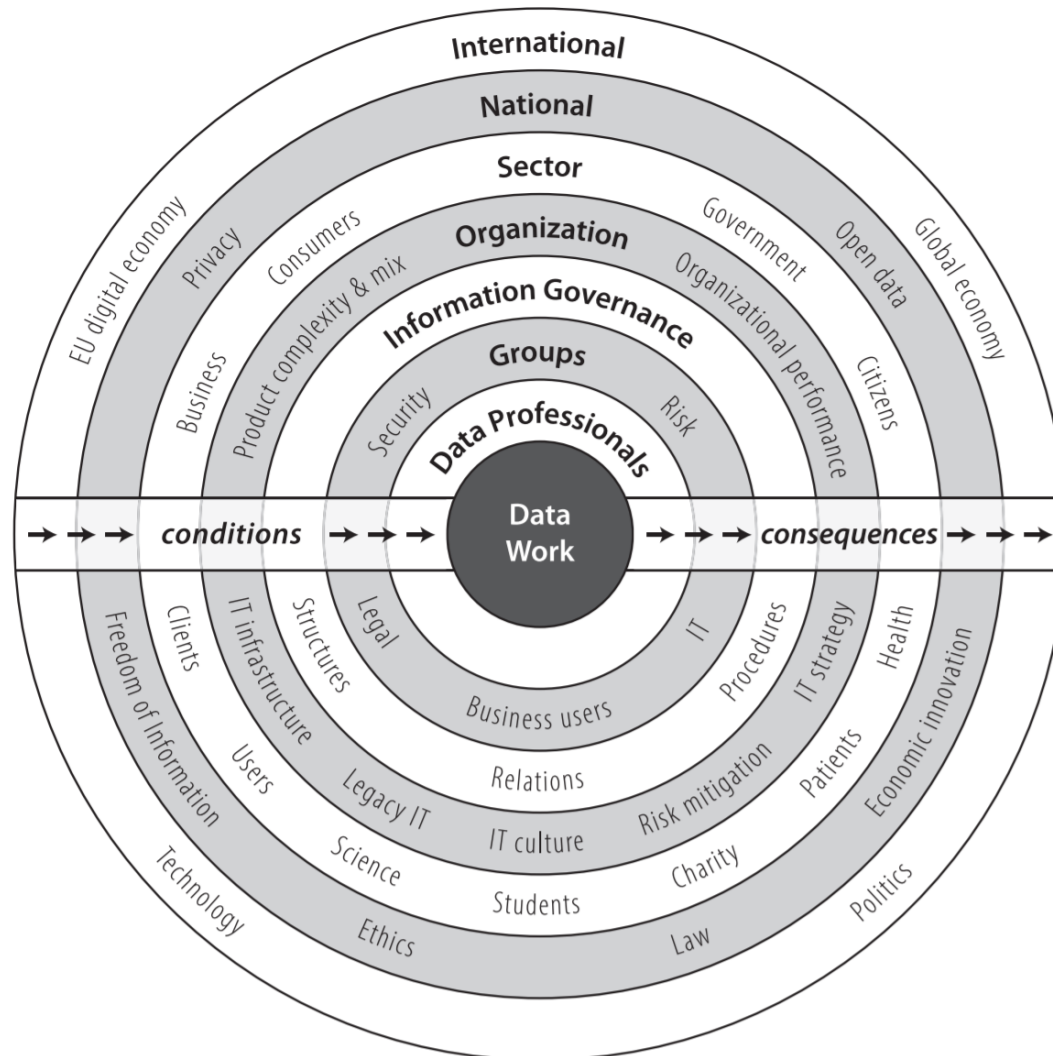
Source: Foster, J. (2016). Towards an understanding of data work in context: emerging issues of economy, governance, and ethics. Library Hi Tech, 34(2), 182–196.

Three Main Themes of Information Governance

- While there is no commonly agreed definition of information governance, three themes emerge:
  - **Who is responsible**, that is, who holds the decision rights and who is accountable?
  - **How is it carried out**, for instance, via policy, procedures, processes, and standards for life cycle management of information?
  - To **what** is it being directed, that is, "**value**" to the organization and its stakeholders, which encompasses value in the sense of compliance and risk management.

Source: Foster, J., McLeod, J., Nolin, J., & Greifeneder, E. (2018). Data work in context: Value, risks, and governance. *Journal of the Association for Information Science and Technology*.