Defining a new perspective: Enterprise Information Governance

NXDG 2024 Next Generation Data Governance Workshop

17 September 2024

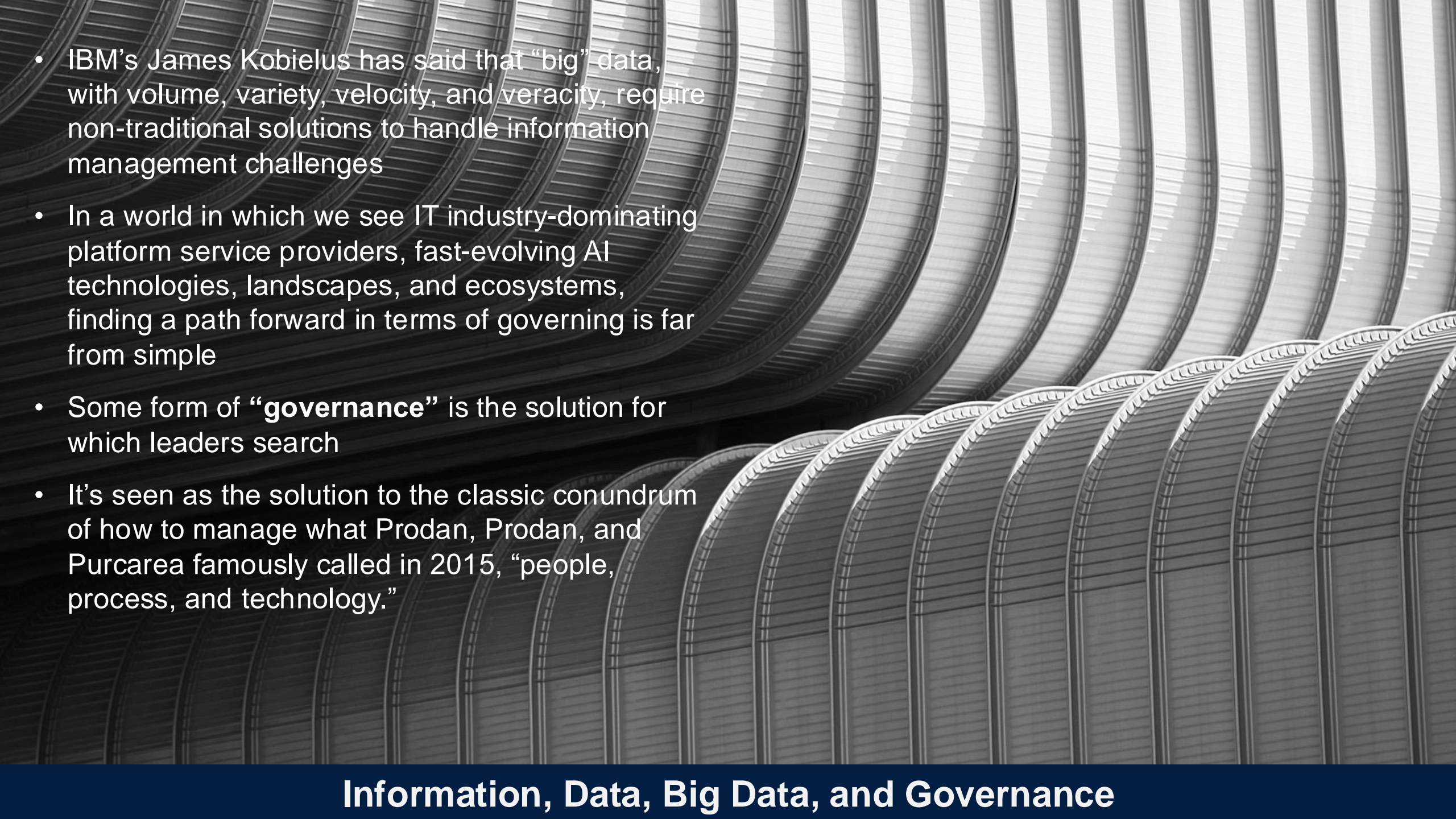Alastair McCullough – https://www.cs.ox.ac.uk/people/alastair.mccullough/

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- Thinking about Governance and Management
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- Today, there are over two thousand references to titles containing the term "Data Governance" in Oxford's Bodleian *Library of Record...*

- This paper explores and proposes a specific, re-framed term and new definition, **"Enterprise Information Governance,"** to characterise a regulatory framework in this space as a **strategic approach,** or **meta-regulation**

- It builds upon earlier researchers' definitions and insights

- It builds out a view of governance as a scalable regulatory framework for large or complex organisations, which it calls "enterprises."

- The paper differentiates clearly between **data** and **information**, and

- Between the **management** and **governance** of data, emphasising a strategic approach

- The paper sees an information governance framework as a **business architecture**

- It aims to support practitioners and scholars in designing, assessing, and researching governance.

Information Governance as a Business Architecture

- IBM's James Kobielus has said that "big" data, with volume, variety, velocity, and veracity, require non-traditional solutions to handle information management challenges

- In a world in which we see IT industry-dominating platform service providers, fast-evolving AI technologies, landscapes, and ecosystems, finding a path forward in terms of governing is far from simple

Information, Data, Big Data, and Governance

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- Some form of **"governance"** is the solution for which leaders search

- It's seen as the solution to the classic conundrum of how to manage what Prodan, Prodan, and Purcarea famously called in 2015, "people, process, and technology."

**Information, Data, Big Data, and Governance**

- The Oxford English Dictionary defines strategy as *"The art or practice of planning the future direction or outcome of something; the formulation or implementation of a plan, scheme, or course of action."*

- Ein-Dor and Segev say that strategic planning in an information systems context is about choosing objectives and deciding in what way they should be achieved

Strategy and Data Strategy

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- Ein-Dor and Segev say that strategic planning in an information systems context is about choosing objectives and deciding in what way they should be achieved

- In our context, data, Gartner defines a "Data Strategy" as "a highly dynamic process employed to support the acquisition, organisation, analysis, and delivery of data in support of business objectives."

- This paper sees information and data governance as a form of data strategy, involving control, coordination, and incentive mechanisms.
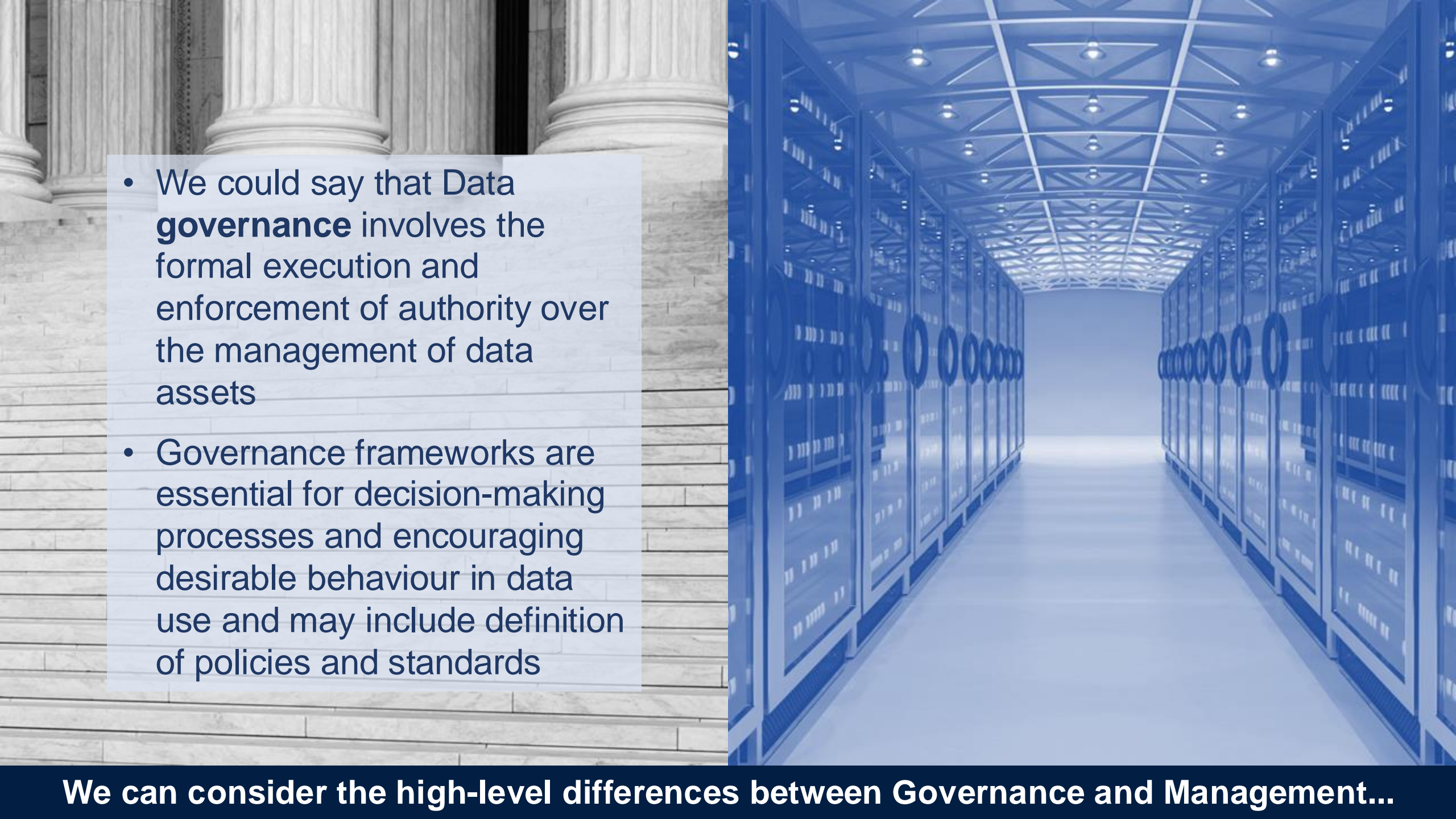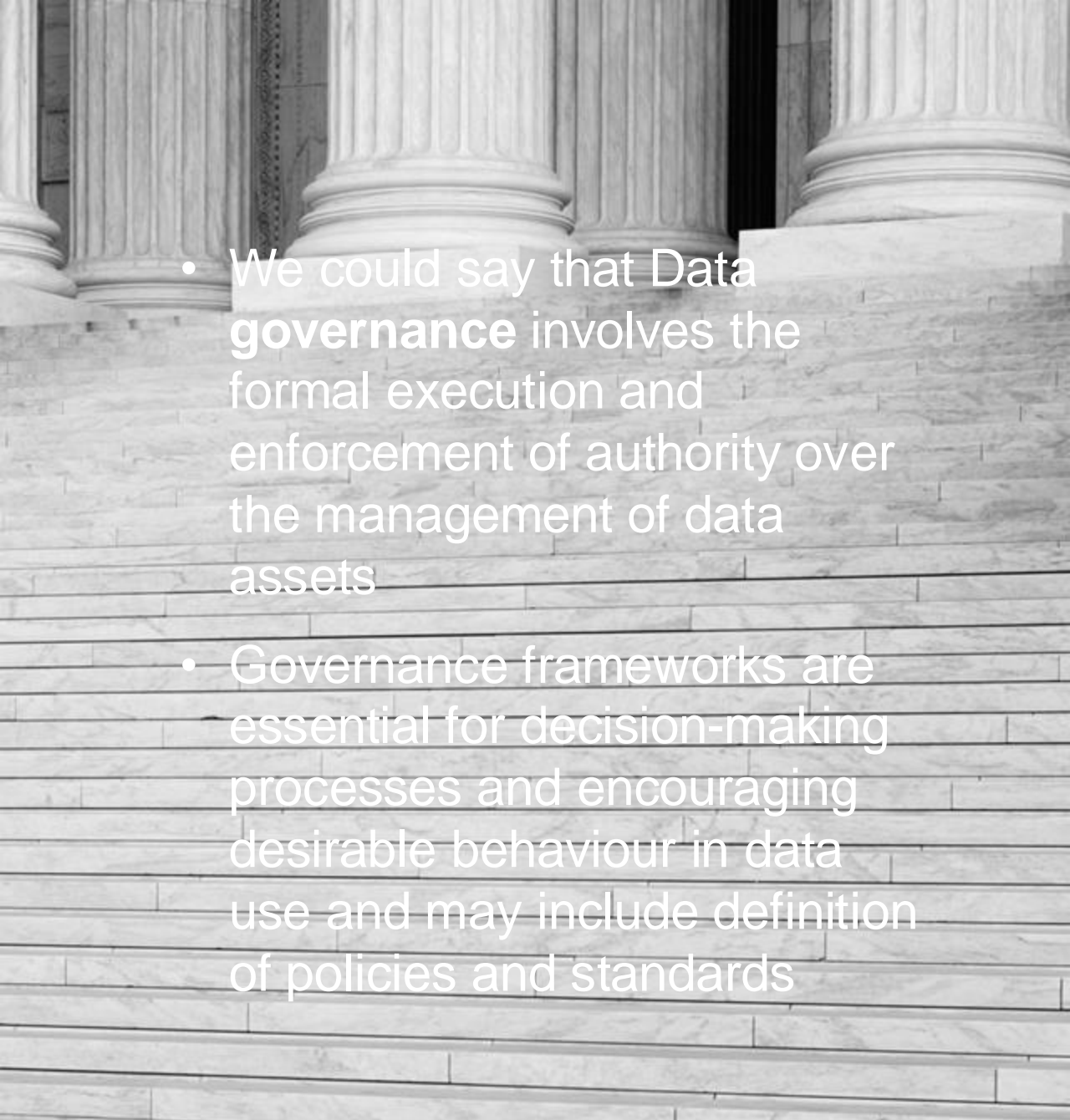
Strategy and Data Strategy

We can also look at the terms many people discuss in our data domain…
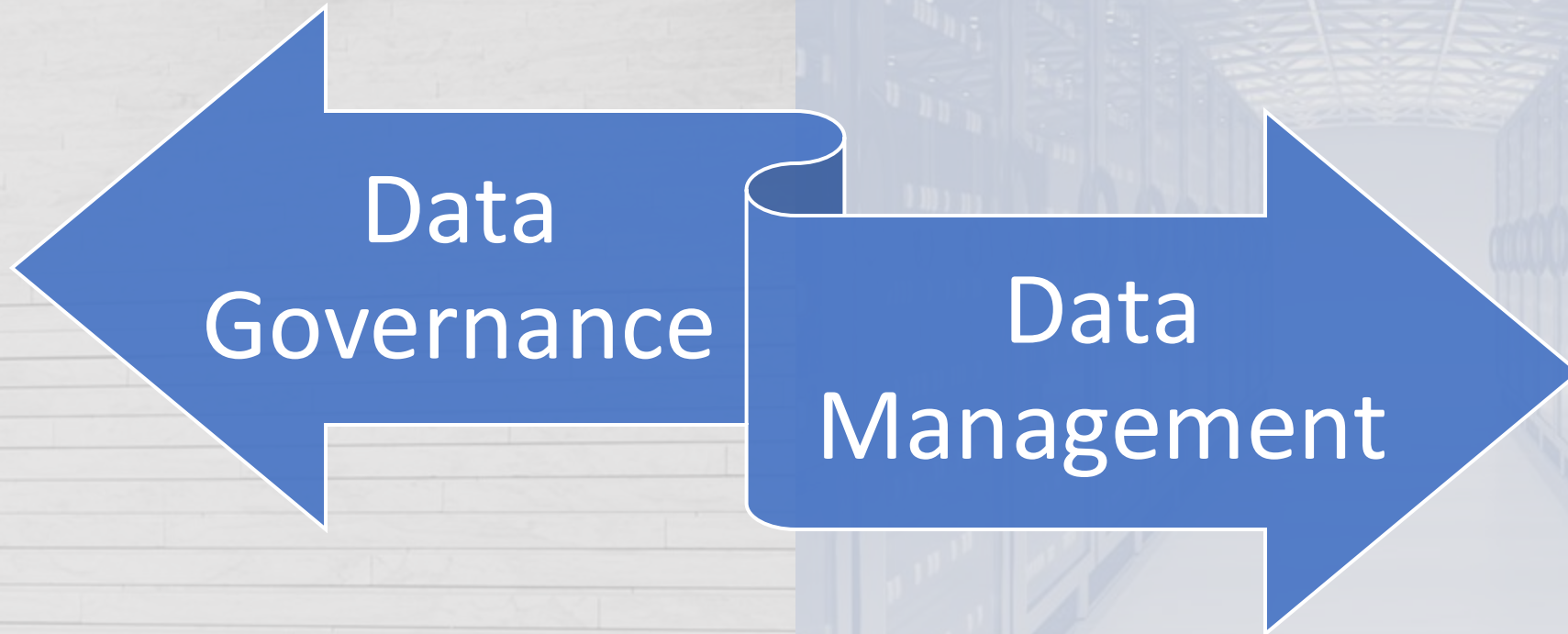
Data Governance

Data Management

- We could say that Data **governance** involves the formal execution and enforcement of authority over the management of data assets

- Governance frameworks are essential for decision-making processes and encouraging desirable behaviour in data use and may include definition of policies and standards

We can consider the high-level differences between Governance and Management...

- We could say that Data **governance** involves the formal execution and enforcement of authority over the management of data assets

- Governance frameworks are essential for decision-making processes and encouraging desirable behaviour in data use and may include definition of policies and standards

- And then, we could say that Data **management** involves operational activities related to data access, storage, transformation, transfer, quality assurance, security, archiving, and more...

- Policies and standards then define the rules and processes for data management.

We can consider the high-level differences between Governance and Management...

Data Governance

(Decisions and assurance)

Data Management

(Implementation of decisions)

Although they intersect, we can say that the *governance* of my data differs from their *management*…

Data or
Information
Governance?

Enterprise
Information
Governance

Enterprise
Architecture

Business
Architecture

Data or Information Governance?

- The terms "data governance" and "information governance" are widely used, though "Data" much more so
- But there's an unresolved tension between the terms, "Information governance" and "Data Governance"
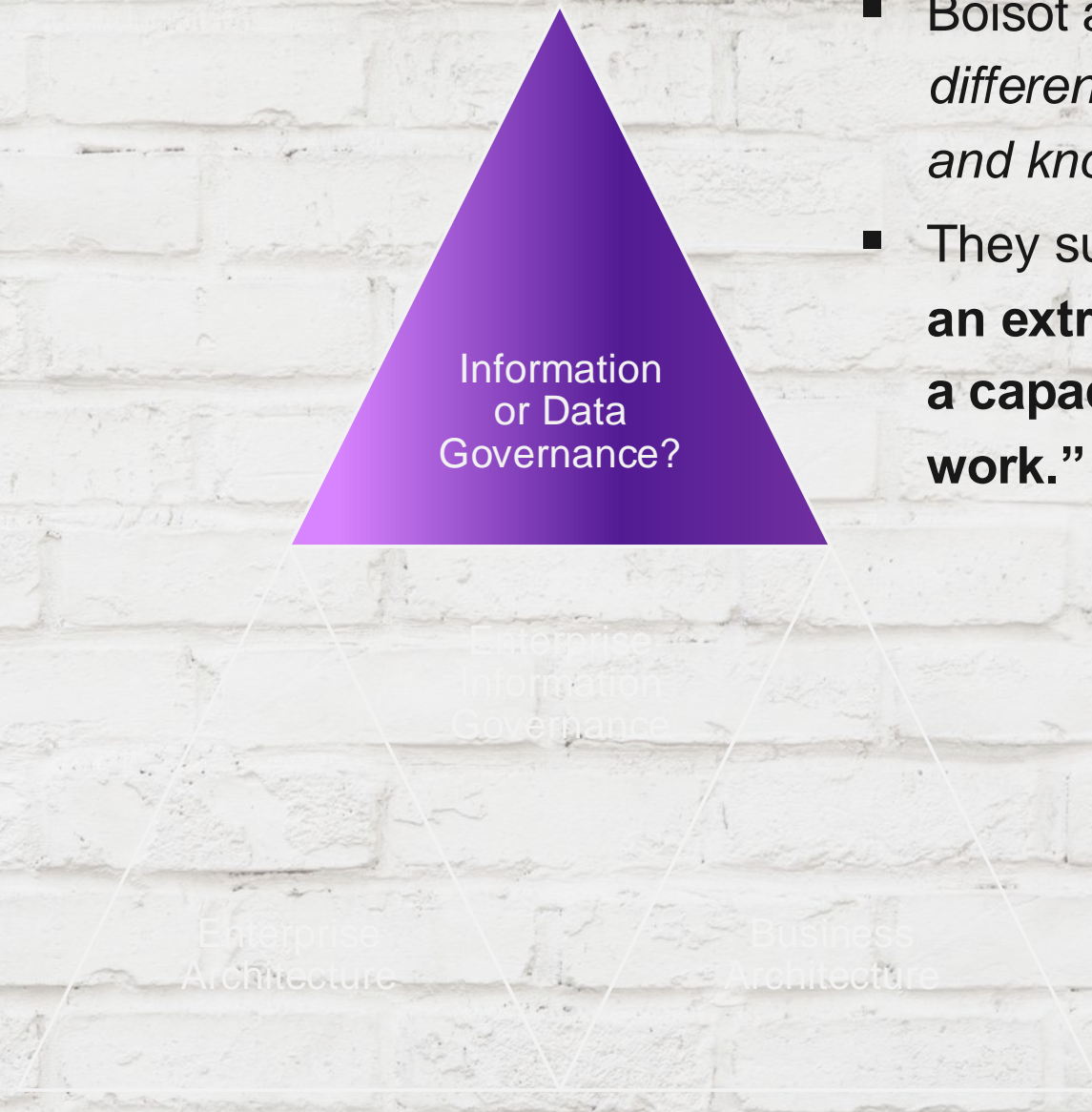
Data or Information Governance?

Enterprise Information Governance

Enterprise Architecture

Business Architecture

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- But there's an unresolved tension between the terms, "Information governance" and "Data Governance"
- **There are common misunderstandings; functionally woolly conceptualisations**
- **This type of *governance* is very much still an emergent discipline!**
- **"Governance" itself can be ill-defined and misunderstood.**

Data or Information Governance?

Enterprise Information Governance

Enterprise Architecture

Business Architecture

Information
or Data
Governance?

Enterprise
Information
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- Boisot and Canals say that *"the difference between data, information, and knowledge is… crucial."*

- They summarize, **"information is an extraction from data that… has a capacity to perform useful work."**

Information or Data Governance?
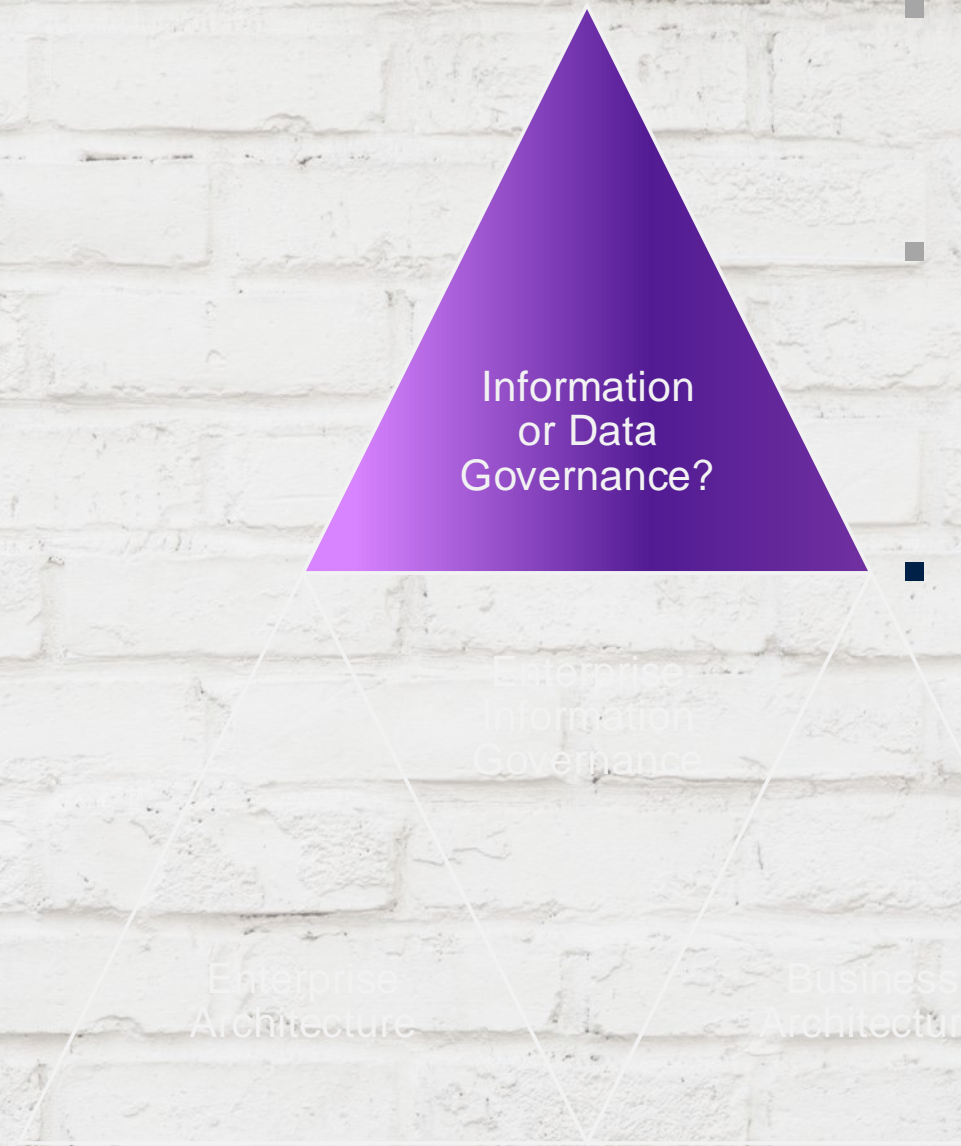
Information or Data Governance?

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- They summarize, **"information is an extraction from data that… has a capacity to perform useful work."**
- Brous, Janssen, and Vilminko-Heikkinen say that *"There is much confusion about what 'data' really is. Data is a set of characters, which have no meaning unless seen in the context of usage. The context and the usage provide a meaning to the data that constitute information."*

Enterprise Information Governance
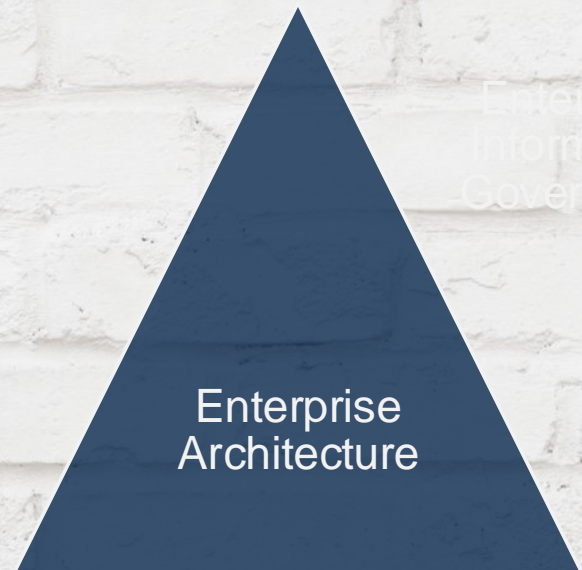
Enterprise Architecture

Business Architecture

- We can say data typically follow what might be called **"a data lifecycle"**

- Weber, Otto and Österle: *"Data is often distinguished from information by referring to data as 'raw' or simple facts and to information as data put in a context or data that has been processed."*

Information Governance?

Enterprise Information Governance

Enterprise Architecture

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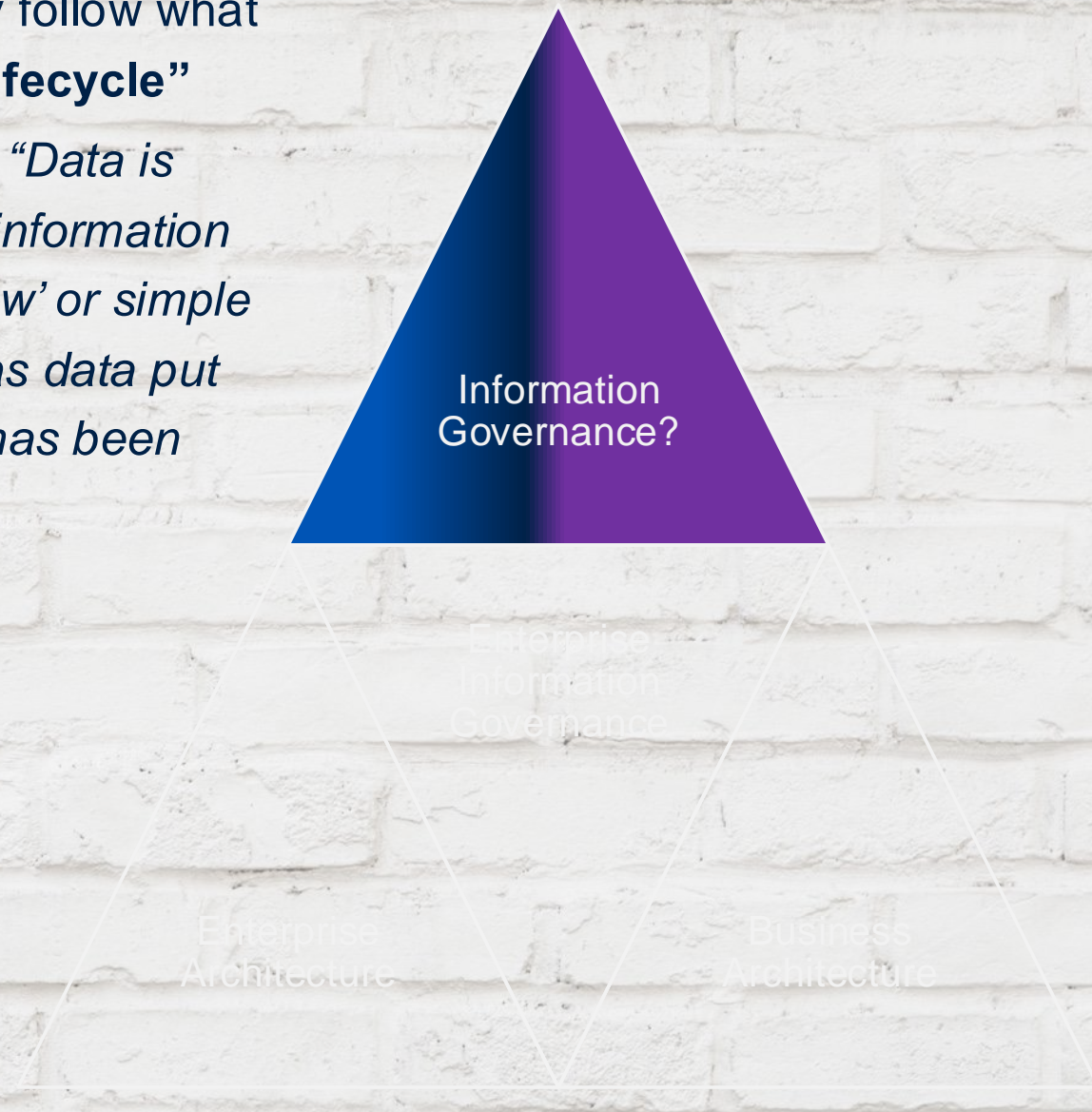
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- In the paper, information is seen as more **strategic;** data as more **operational**

- The paper argues that "data" are a **subset** of "information", which is more overarching, strategic, aligned with strategy and encompassing.
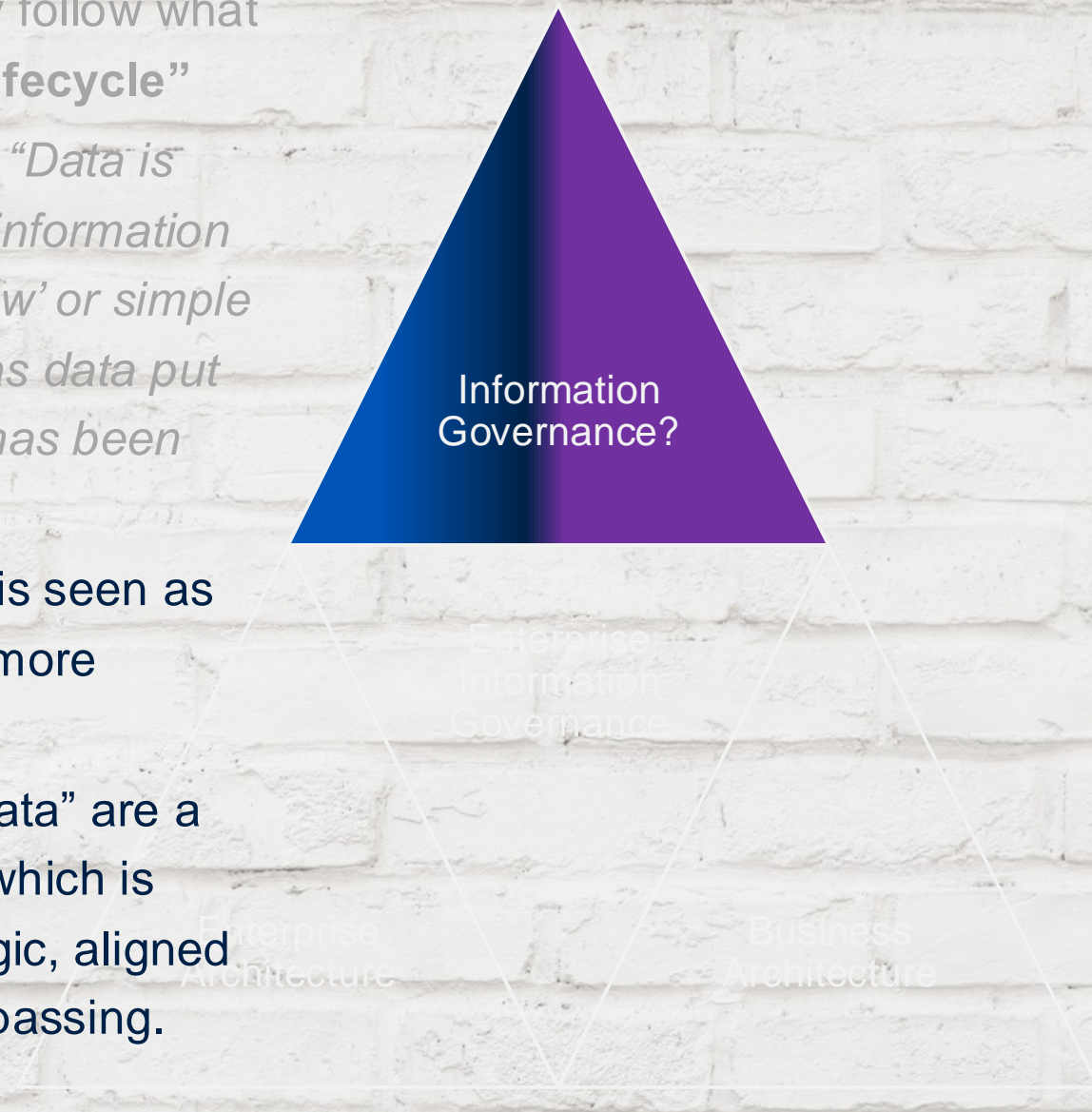
Information Governance?

Enterprise Information Governance

Enterprise Architecture

Business Architecture

- The discipline of **Enterprise Architecture (EA)** aligns business vision with IT strategy

- Gartner define it as *"leading enterprise responses to disruptive forces for desired business outcomes"*

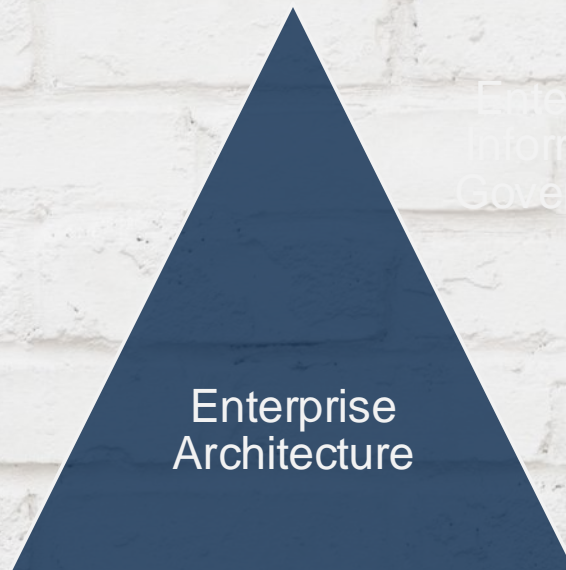- EA provides a structured (architectural) framework to support governance

Enterprise
Architecture

- The discipline of **Enterprise Architecture (EA)** aligns business vision with IT strategy
- Gartner define it as "leading enterprise responses to disruptive forces for desired business outcomes"
- EA provides a structured (architectural) framework to support governance

- Facilitates integration across organisational systems and processes and governs the flow of information and data across business functions

- Lockwood, et al. [2010], call EA a *"framework for the business to add new applications, infrastructure, and systems for managing the lifecycle and the value of current and future environments..."*

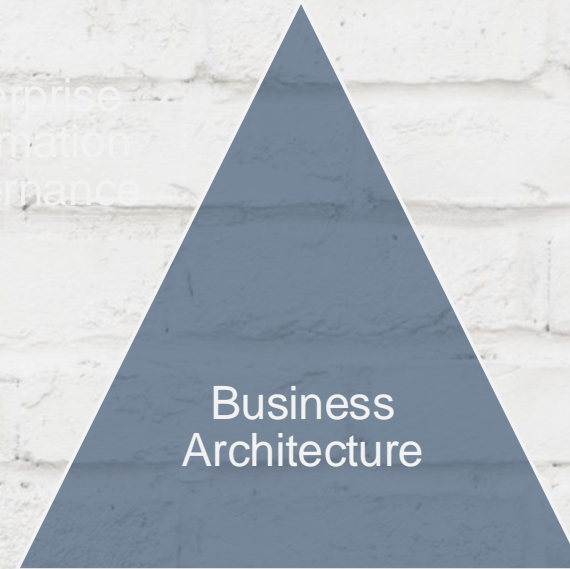Enterprise Architecture

Enterprise Architecture

- A definition, or blueprint needs to be used by business architects to frame design of people and process components

- This is known as a "target operating model" or "target business architecture"

- A TOM is itself a strategic artefact that can be used to bring governance into the organisation in an **actionable form**

Business Architecture

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- Hadaya and Gagnon say a "…*target business architecture* makes it possible to determine the business capabilities, functions, processes, organisational units, knowledge, information... that the organisation will need. It defines also the main characteristics of these elements and their desired interrelationships."

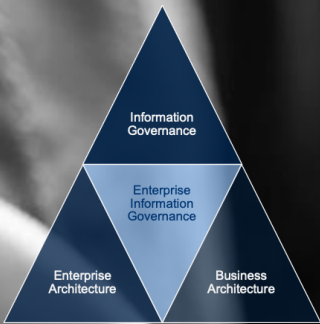Information Governance

Enterprise Information Governance
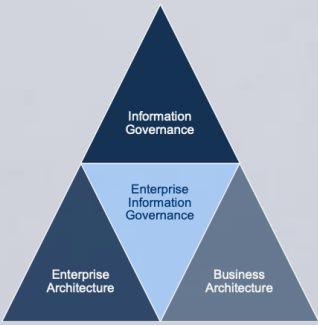
Business Architecture

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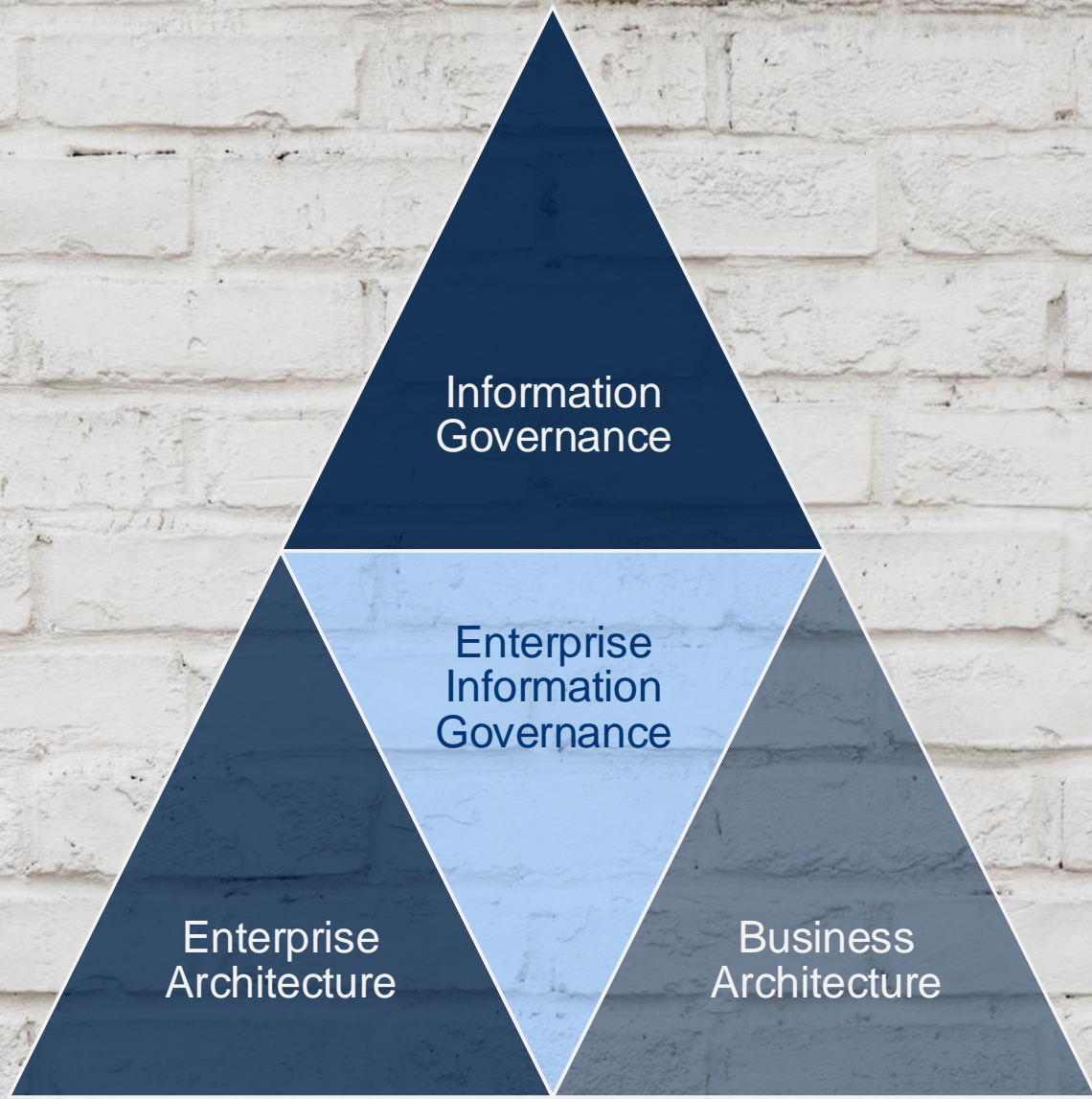
Putting it all together: A relative view of Enterprise Information Governance
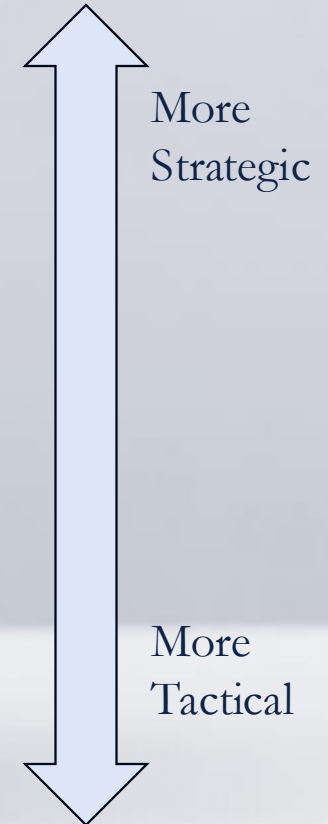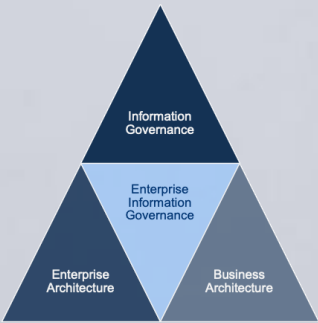
But we need to wrap all these ingredients, somehow, into a single, novel, definition…

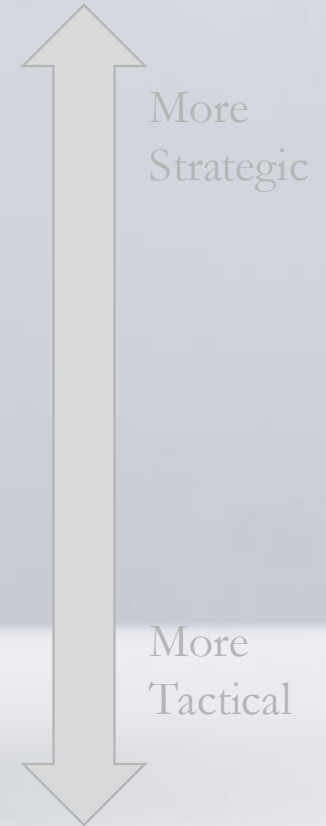Framework
Policies
Standards
Guidelines
Procedures
Processes

More
Strategic

More
Tactical

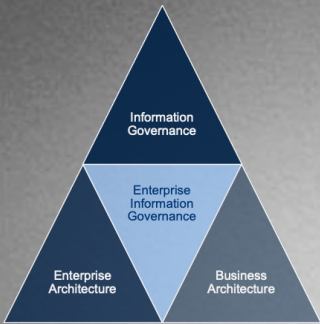We could say that this model or "business architecture" must have various components

Are the redcurrants on our cake our *Strategy* or *Strategic Vision*, then?

Framework

Policies

Standards

Guidelines

Procedures

Processes

More Strategic

More Tactical

We could say that this model or "business architecture" must have various components
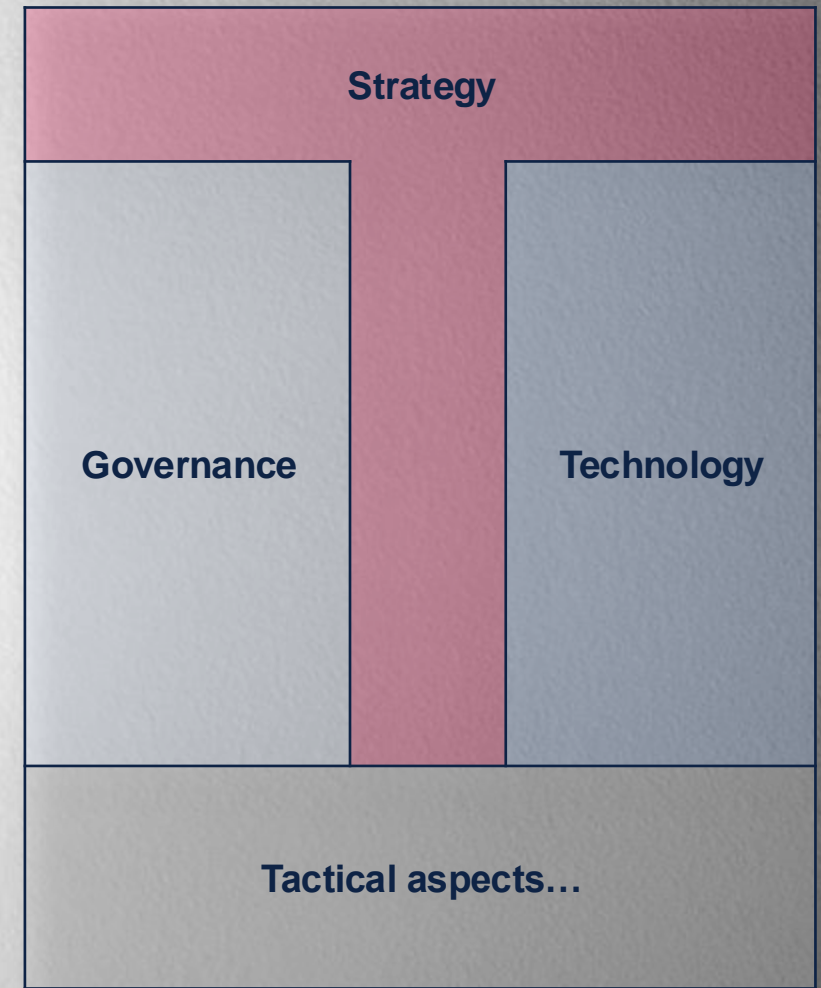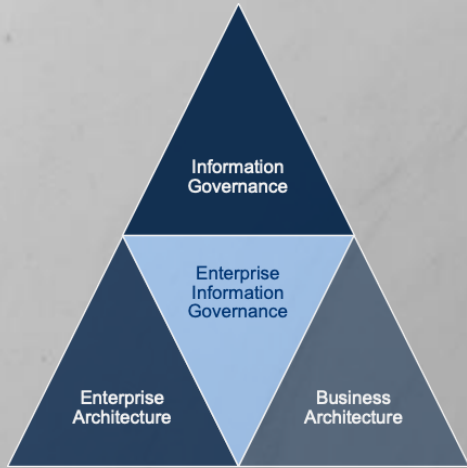
We can visualise governance, and separate strategy, technology, and tactical aspects

Synthesising a novel definition of Enterprise Information Governance

- A novel definition for enterprise information governance is proposed, with precise components including all of those that we've discussed…

- Summarising it at very high level, it will look familiar, but its framing and detail differs from earlier definitions

- We can say it's, **"A strategic framework that acts through control mechanisms designed to assure accountability in managing decision rights over data assets."**

Synthesising a novel definition of Enterprise Information Governance

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- We can say it's, **"A strategic framework that acts through control mechanisms designed to assure accountability in managing decision rights over data assets"**

- It is a corporate-wide strategic framework differentiated from pure IT governance and data management

- It ensures trust and compliance with policies, standards, and guidelines

- It aims to maximise the value of an organisation's data assets in alignment with its **strategy and mission**

- Components include an **information governance operating model, framework, policies, standards, guidelines, procedures, shared resources, and information/data assets.**

Synthesising a novel definition of Enterprise Information Governance

- This paper has defined a new perspective on data governance as **Enterprise Information Governance**
- It sees information as a superset of data
- It differentiates data governance from data management clearly
- It sees strategy as a driver for such governance
- It aligns governance with Enterprise Architecture
- The novel definition characterises Enterprise Information Governance as a scalable regulatory framework, a business architecture, in the context both of strategy and of enterprise architecture for organisations
- It is a foundation definition for further scholarly research work, but also one for operating model design by practitioners.

Concluding Remarks

Review: What did we look at?

- Overview
- Information, Data, Big Data, and Governance
- Strategy and Data Strategy
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- Enterprise Architecture
- Business Architecture
- Visualising our Components
- Synthesising a Novel Definition
- Concluding Remarks

If you'd like to learn more…

Defining a new perspective: Enterprise Information Governance

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Abstract

This paper adduces a novel definition of regulatory enterprise information governance as a strategic framework that acts through control mechanisms designed to assure accountability in managing decision rights over information and data assets in organizations. This new pragmatic definition takes the perspectives of both the practitioner and of the scholar. It builds upon earlier definitions to take a novel and more clearly regulatory approach and to synthesise a new definition for such governance; to build out a view of it as a scalable regulatory framework for large or complex organizations that sees governance from this new perspective as a business architecture or target operating model in this increasingly critical domain. The paper supports and enables scholarly consideration and further research. It looks at definitions of information and data; of data management; of enterprise architecture; of governance, and governance as a type of strategic endeavor, and of the nature of strategic and tactical policies and standards that form the basis for such governance.

Keywords

Data Governance, Information Governance, Enterprise Architecture, Enterprise Information Governance, Data Management, Data Product, Data Object, Policies, Standards, Regulatory Framework, Data Strategy, Target Business Architecture, Operating Model.

1. Introduction

Looking across the scope of what scholars and practitioners across the literature today call "Data Governance"[1, 2], there is a pressing need to re-frame and define the domain pragmatically in a knowledge space where today Oxford's Bodleian Library includes very well over two thousand references to titles containing the term. Definitions of such governance in the literature see information governance neither as a business architecture nor as an operating model. This paper takes the perspectives of both the practitioner and of the scholar to do so in the context of enterprise architectures and to offer a different perspective to reframe such governance to enable data strategists, governance designers, enterprise, business and data architects, scholars and researchers to use this clearer definition as a basis for their work.

The paper builds upon earlier researchers' definitions to take a novel and more clearly regulatory approach and to synthesize the new definition of such governance; to build out a view of it as a scalable regulatory framework for large or complex organizations that sees information governance as a business architecture. This view includes data strategy and

Defining a new perspective: Enterprise Information Governance

THANK YOU!

Thank you!

About the Presenter

Alastair McCullough is a doctoral student with the Computer Science Department, Kellogg College, Oxford University, researching Enterprise Information Governance, supervised by Professor Jim Davies and Professor Andrew Martin. Alastair is a Fellow of the Institution of Engineering and Technology, a Fellow of the Institute of Directors, a Chartered Fellow of the British Computer Society, and a Fellow of the Royal Society of Arts. He is a Chartered Information Technology Professional, a Chartered Management Consultant, and a Chartered Engineer, specialising in Enterprise Information Architectures.

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