# DATA GOVERNANCE AND MASTER DATA MANAGEMENT CONFERENCE EUROPE

**11 - 14 March 2024 |London, UK**

***Please score and comment on this session and speaker in the event mobile app***

IRMUK

# Implementing a Data Governance Framework for Various Data Architectures

Irina Steenbeek | March 2024

# Where Are You Now?

1

2

3

4

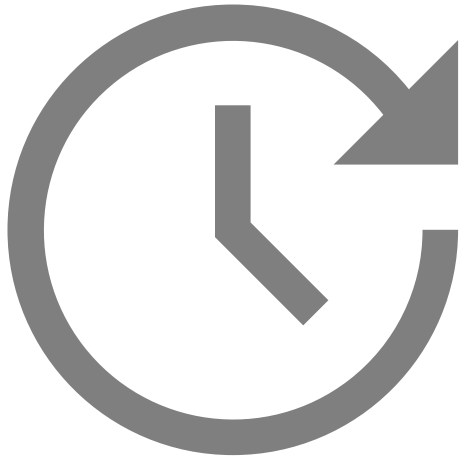
# Where Do You Want to Be?

1

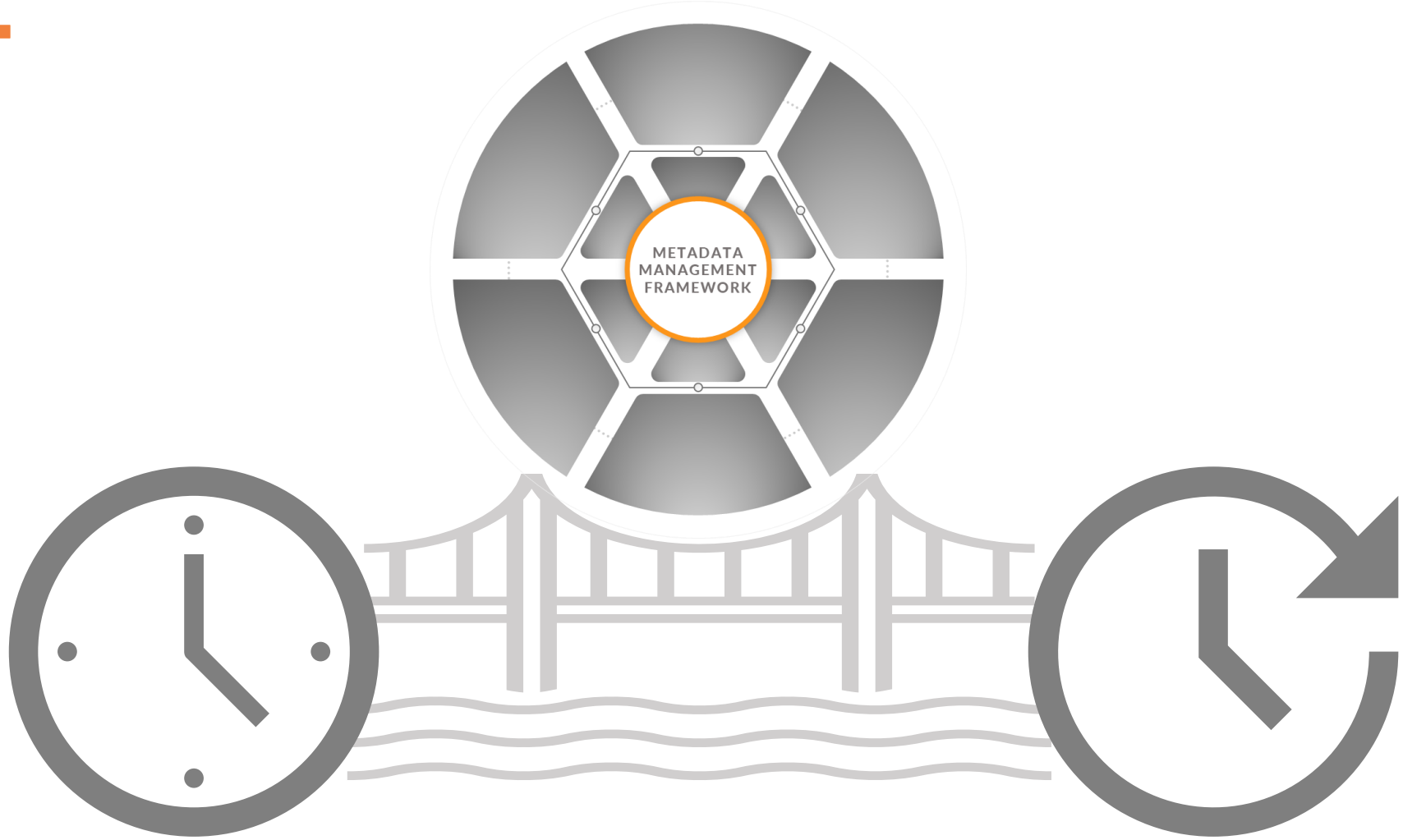
2

3

4



# How Are You Going to Get There?



# Why..

is it SO important?

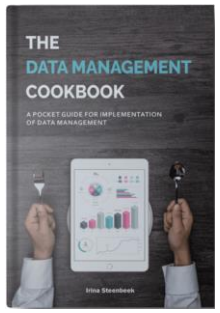
is it NOW?

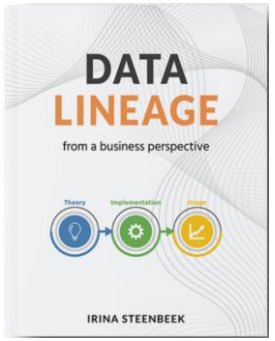
# A Few Words about Me…

CIVIL ENGINEER
ACTIVE BLOGGER
INTERNATIONAL BANKS
DATA LINEAGE
DATA AND INFORMATION VALUE CHAIN
CONSULTANT
4 BOOKS
3 WHITEPAPERS
50 ARTICLES
SPEAKER AT INTERNATIONAL CONFERENCES
DATA MANAGEMENT FOR GLOBAL COMPANIES
OWNER DATA CROSSROADS
IMPLEMENTATION OF DATA MANAGEMENT
11 YEARS OF HANDS-ON EXPERIENCE
FINANCE & BUSINESS CONTROL
ERP IMPLEMENTATION
MANAGEMENT CONSULTANCY
DATA MANAGEMENT MATURITY ASSESSMENT (REVIEWS)

# I´ve Shared my Experience in Several Books and Courses:

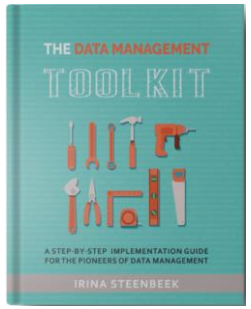
available at amazon

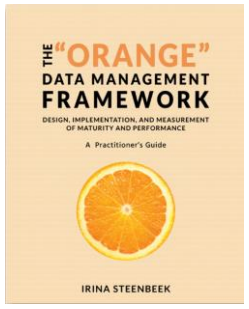


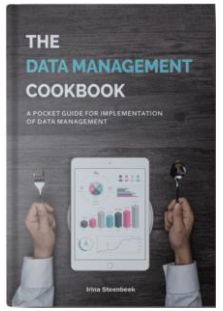






2018 | 2019 | 2021 | 2022 | 2023 | 2024

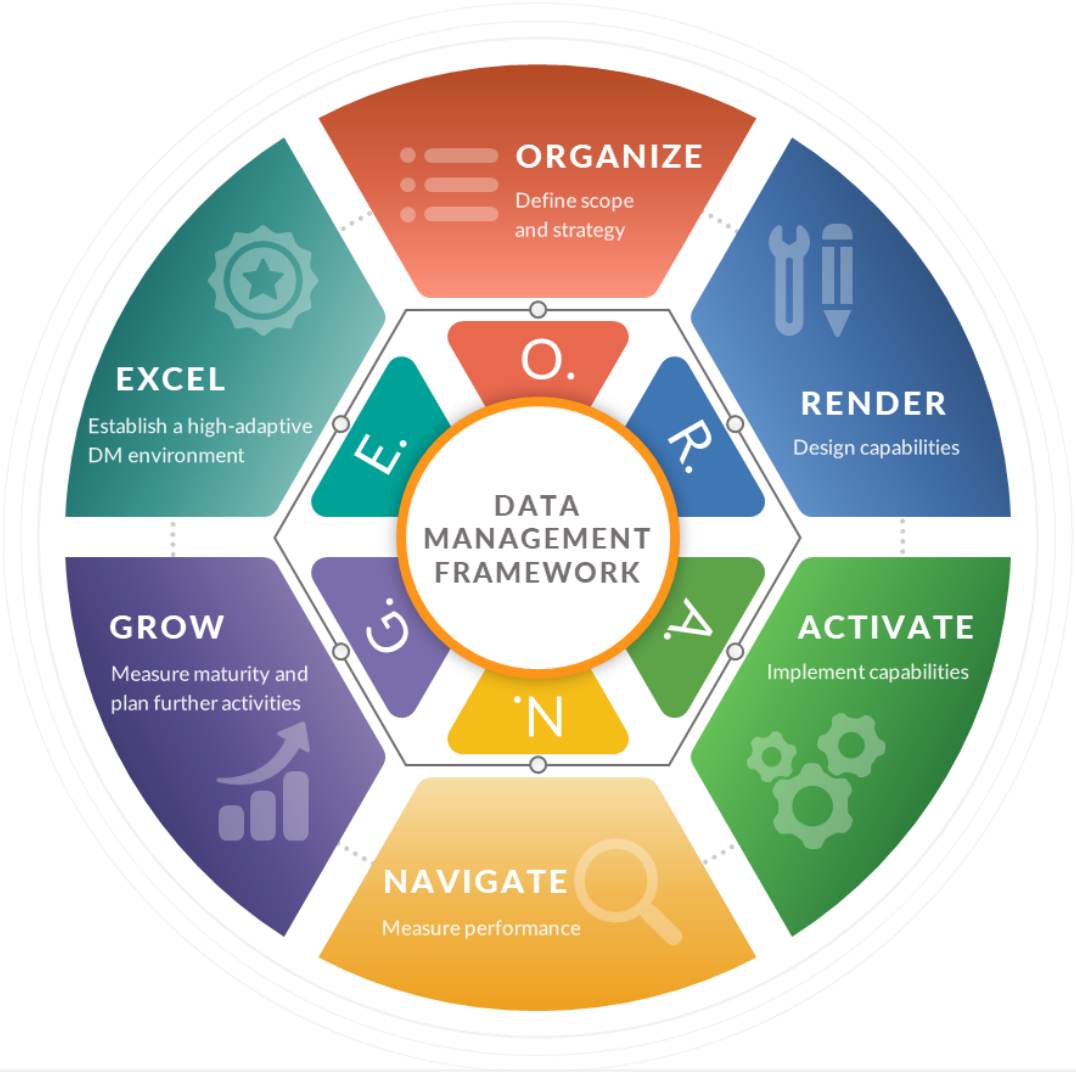


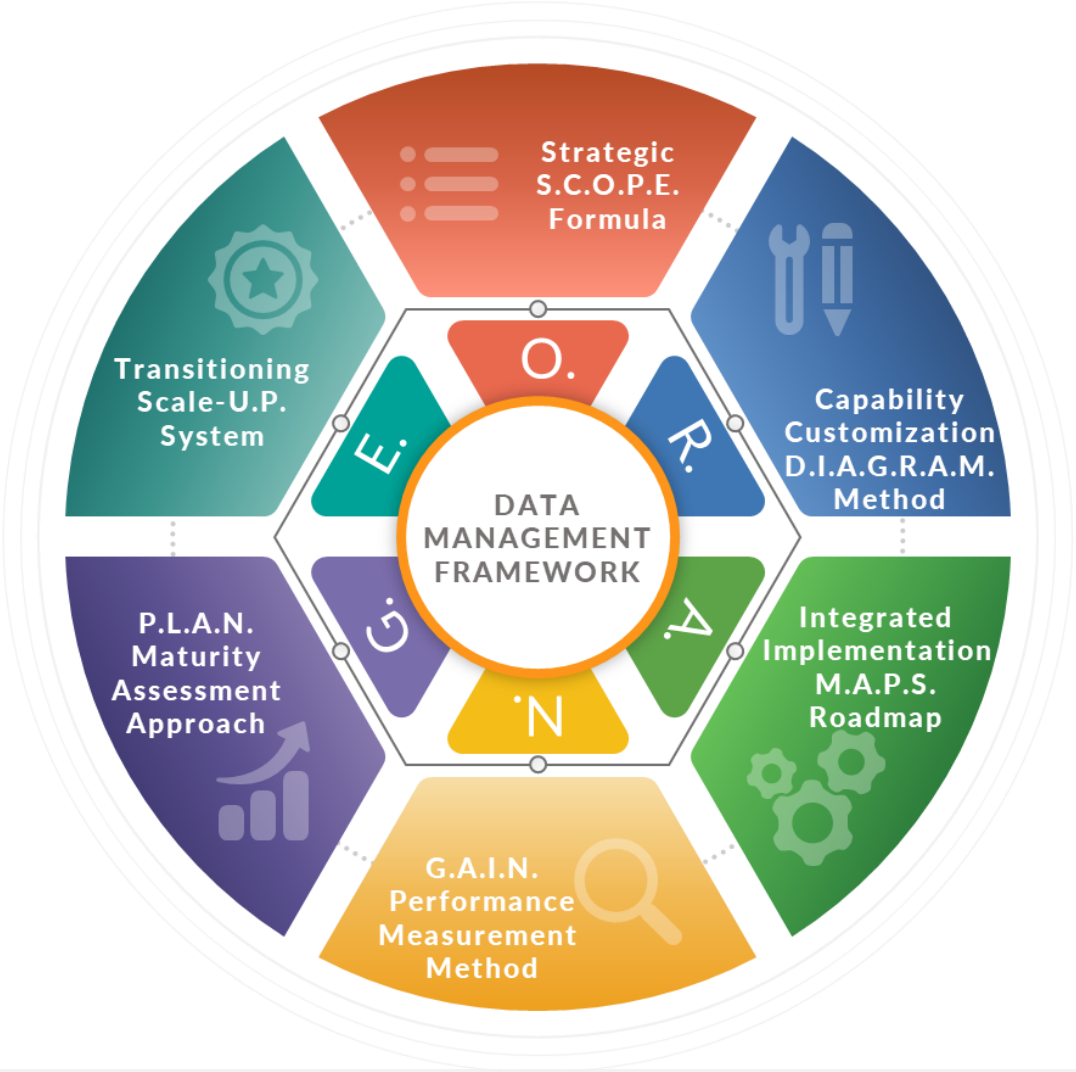




New Book

# The O.R.A.N.G.E. Data Management Framework Assists in Setting Up a Metadata Business Case



# This Framework Consists of Multiple Models and Methods



# Please, Present Yourself…

- Name
- Company
- Current position
- Knowledge and/or experience with this subject
- Three key expectations from this workshop
- A business case: own or standard
- How did you get information about this training?

# To Develop a Data Governance Framework, We Will Discuss:

1. **Data Management vs. Governance**
   The O.R.A.N.G.E. Terminology
2. **Business Drivers & Stakeholders**
3. **The Scope of a DG Initiative**
4. **Preliminary DG Maturity Assessment**
5. **DG Operating Model**
6. **DG and DM Roles**
7. **DG set up for various DM capabilities**
8. **Integrated Implementation Roadmap**

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| Time, CET | Topic | Presentation slides | Exercise | Templates |
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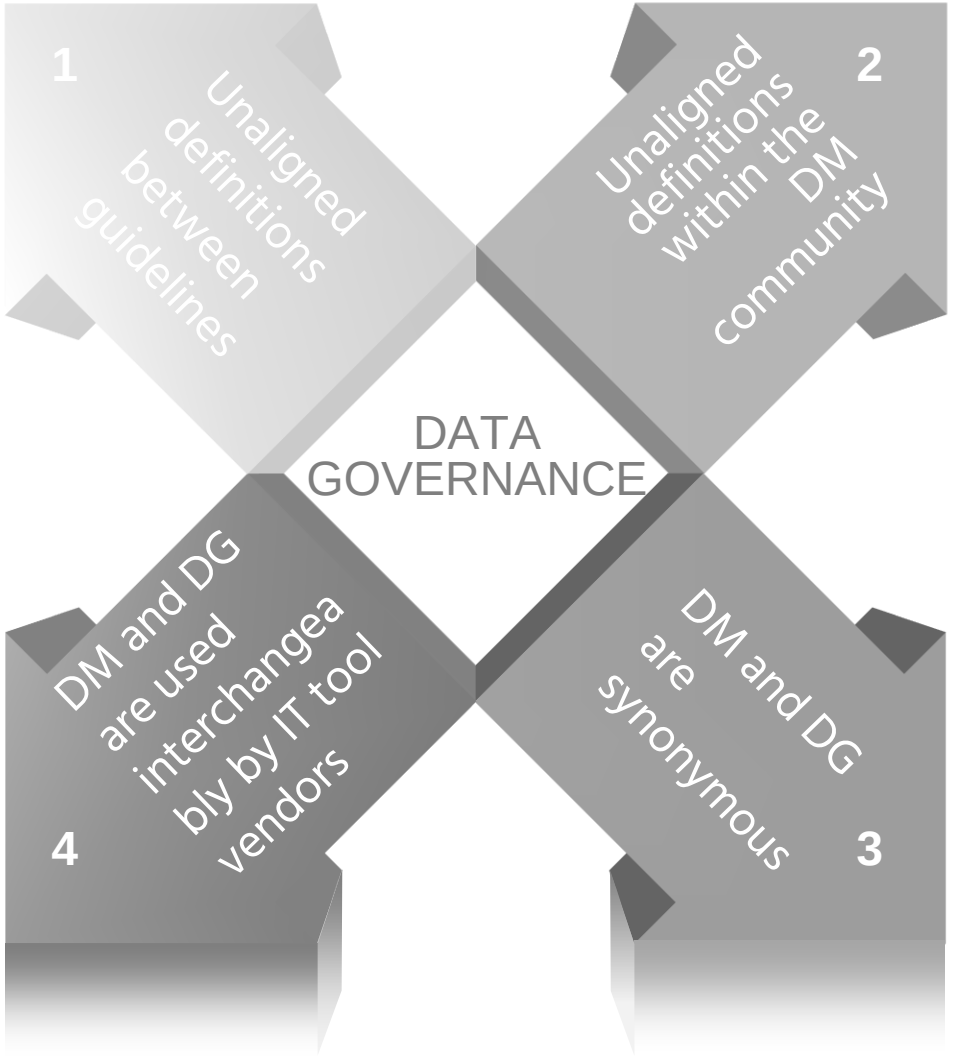
| 15.45-16.00 | An integrated implementation approach | 218-223 | | |
| | Templates | 224-237 | | |

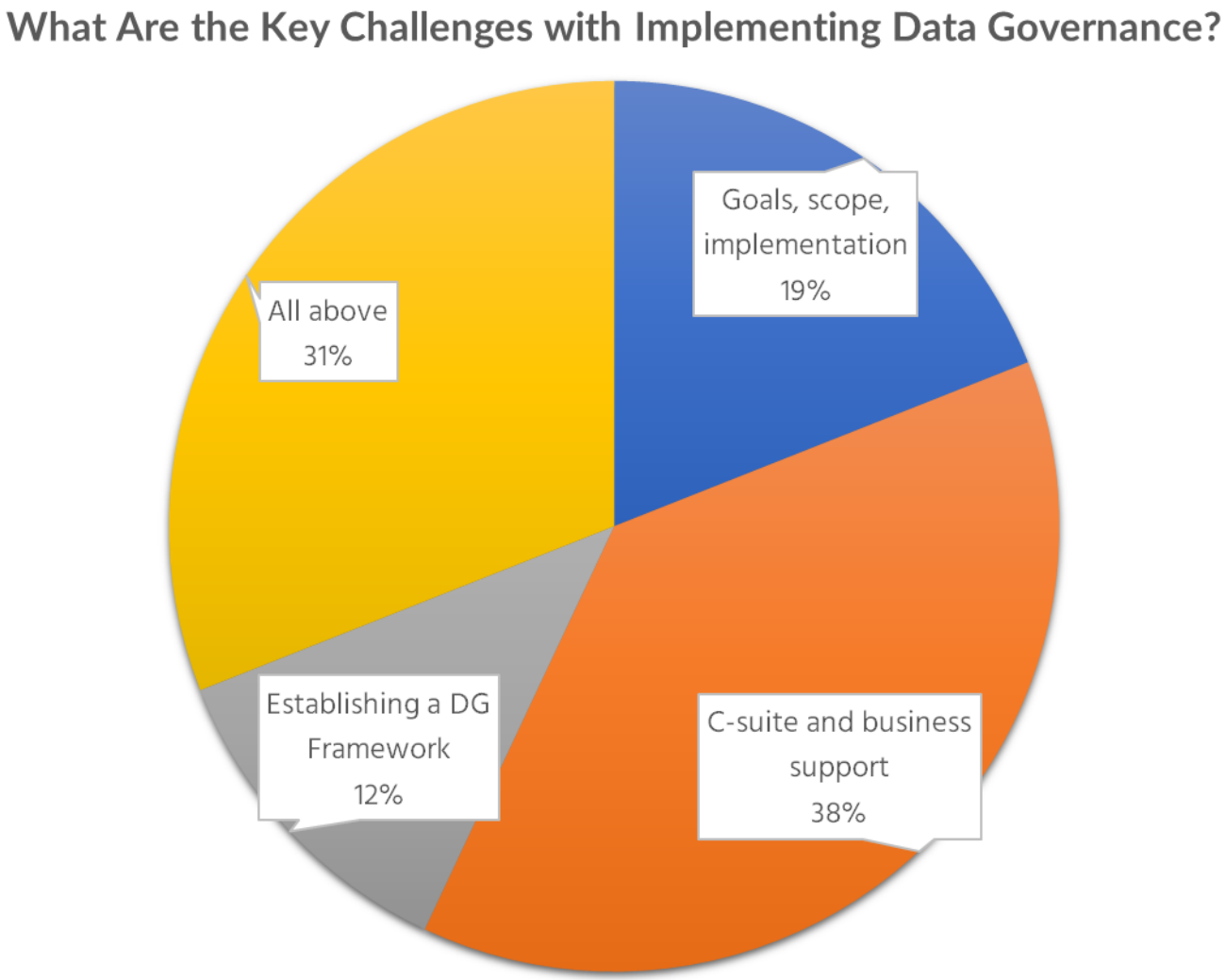
# Discussion

PLEASE SHARE YOUR CURRENT UNDERSTANDING AND DEFINITION OF DATA MANAGEMENT AND DATA GOVERNANCE

# We Have Several Challenges in Defining “Data Governance”



# Companies Worldwide Have Similar Challenges with Implementing Data Governance

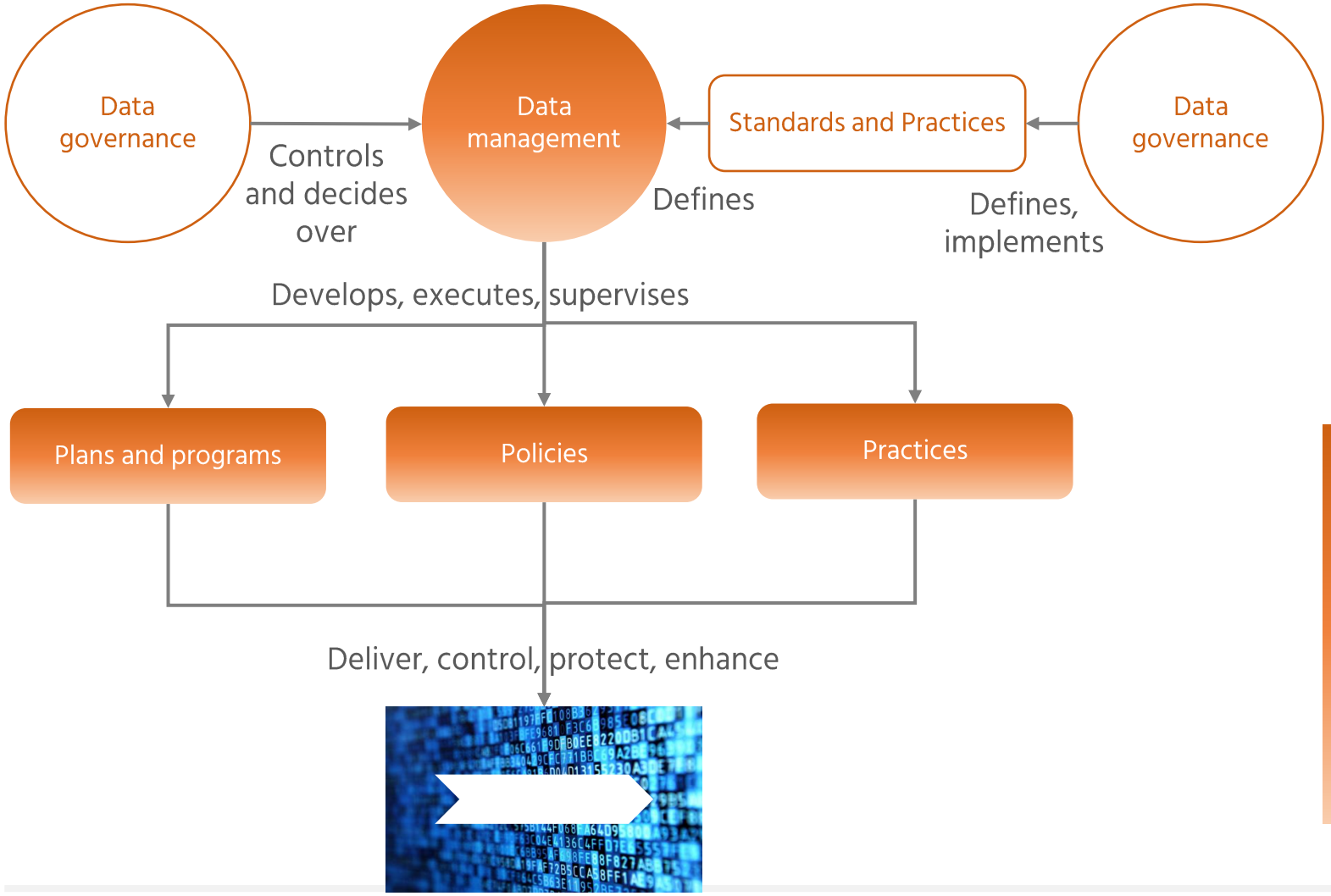


# Let's Look at the DAMA-DMBOK2 and DCAM Definitions

## DAMA-DMBOK2

**Data governance** is the *exercise of authority, control, and shared-decision making* (*planning, monitoring, and enforcement*) over **the management of data assets**

**Data management** is the *development, execution, and supervision* of *plans, policies, programs,* and *practices* that deliver, control, protect, and enhance the value of data and information assets throughout their lifecycles




## DCAM

**Data governance** function is the function that *defines and implements the standards, controls and best practices* **of the data management** initiative in alignment with strategy.

**Data management** is the *development, execution and supervision of plans, policies, programs and practices* which deliver control and protection, and enhance the value of data and information assets throughout their lifecycles.

# Data Governance Governs Data Management, NOT DATA

Data governance

I decide how you can decide, and then control how you do it

Data management

I decide how and when I will deliver, control, protect, and enhance data

# Authorities in the DM Community Have Different Viewpoints on Data Governance

- Process
- Role
- Principle
- Policy
- Standard
- Metric
- Practice


- Access management
- Active metadata
- Analytics
- Business glossary
- Connectivity/Integration
- Data Catalog
- Data Classification
- Data Dictionary
- Data Lineage
- Impact Analysis
- Information Policy Representation
- Matching, Linking, and Merging
- Orchestration/Automation
- Profiling

# According to the Trustful Dictionaries, Management and Governance ARE SYNONUMOUS!

Thesaurus

Merriam-Webster

**manage** See definition of *manage* on Dictionary.com

verb **be in charge, control** | verb **accomplish** | verb **survive, get by**

SYNONYMS FOR *manage* — Compare Synonyms

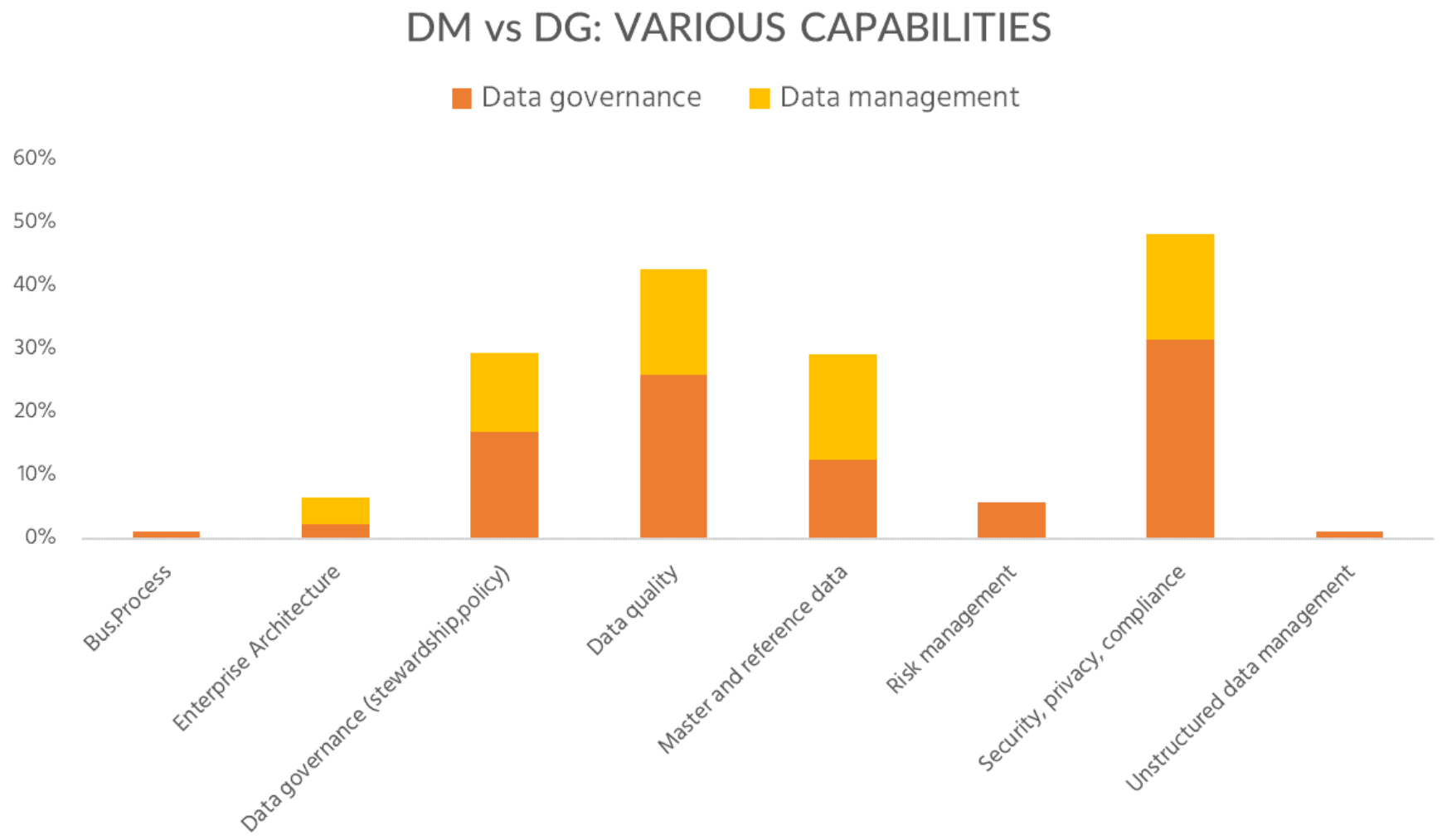
| | | | | |
|---|---|---|---|---|
| administer | supervise | designate | pilot | care for |
| conduct | take care of | direct | ply | carry on |
| dominate | take over | disburse | preside | engage in |
| govern | train | engineer | request | hold down |
| guide | use | execute | rule | run the show |
| handle | advocate | head | steer | take the helm |
| maintain | boss | influence | superintend | watch over |
| operate | captain | instruct | watch | |
| oversee | command | manipulate | wield | |
| regulate | concert | minister | call the shots | |
| run | counsel | officiate | call upon | |

See also synonyms for: **managed / manages / managing**

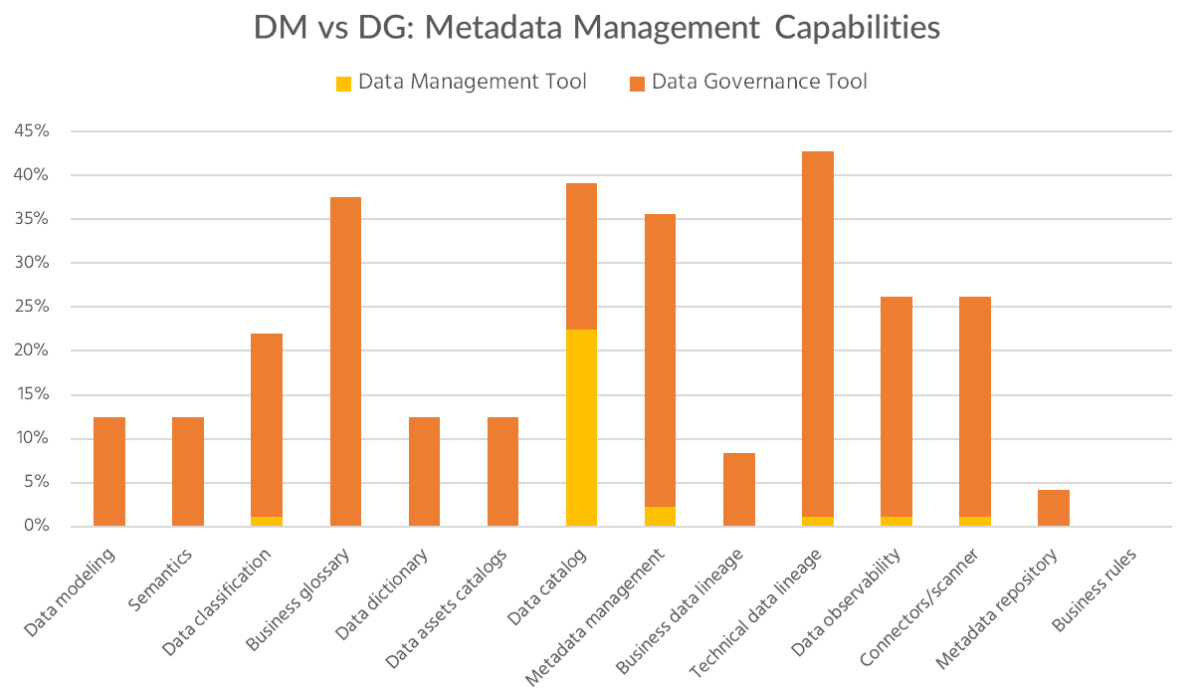
**Synonyms** **management** noun

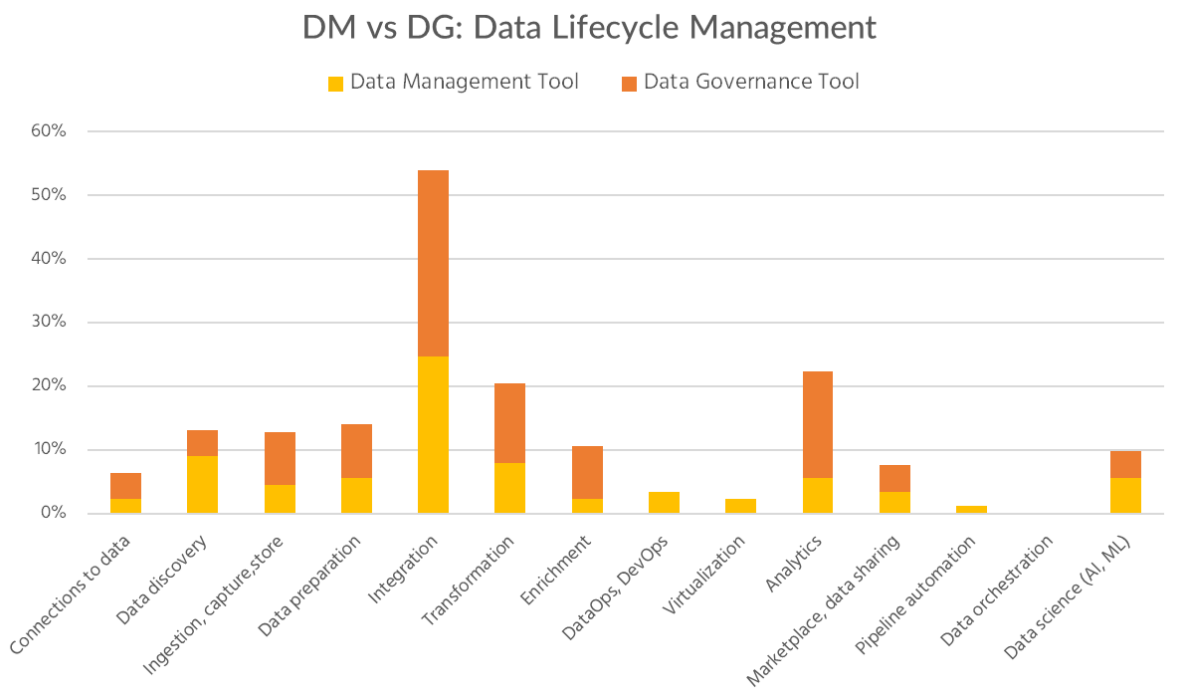
| | | |
|---|---|---|
| administration | care | charge |
| conduct | control | direction |
| governance | government | guidance |
| handling | intendance | operation |
| oversight | presidency | regulation |
| running | stewardship | superintendence |
| superintendency | supervision | |

# DM and DG IT Tools Have Similar Functionalities, Part 1

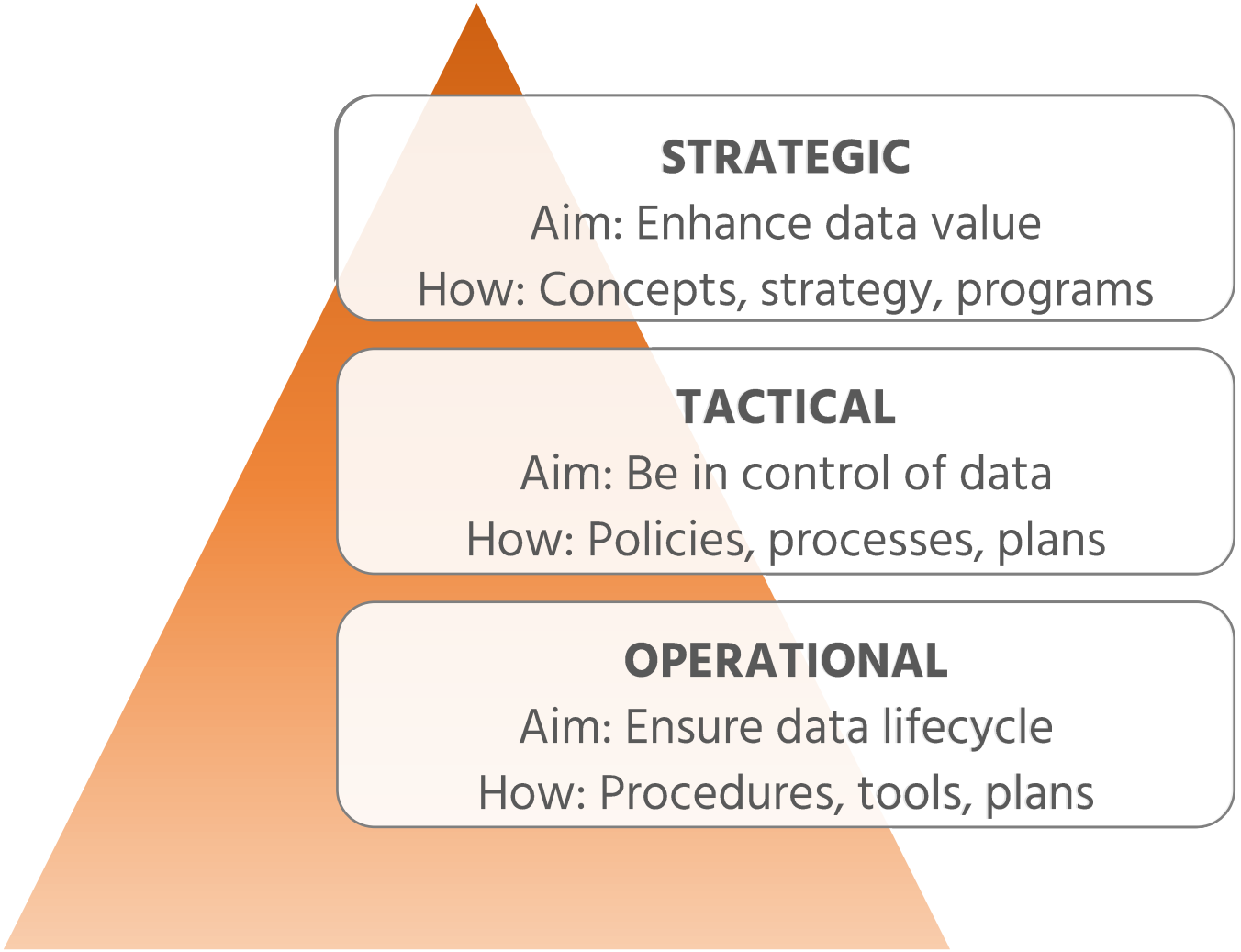


# DM and DG IT Tools Have Similar Functionalities, Part 2

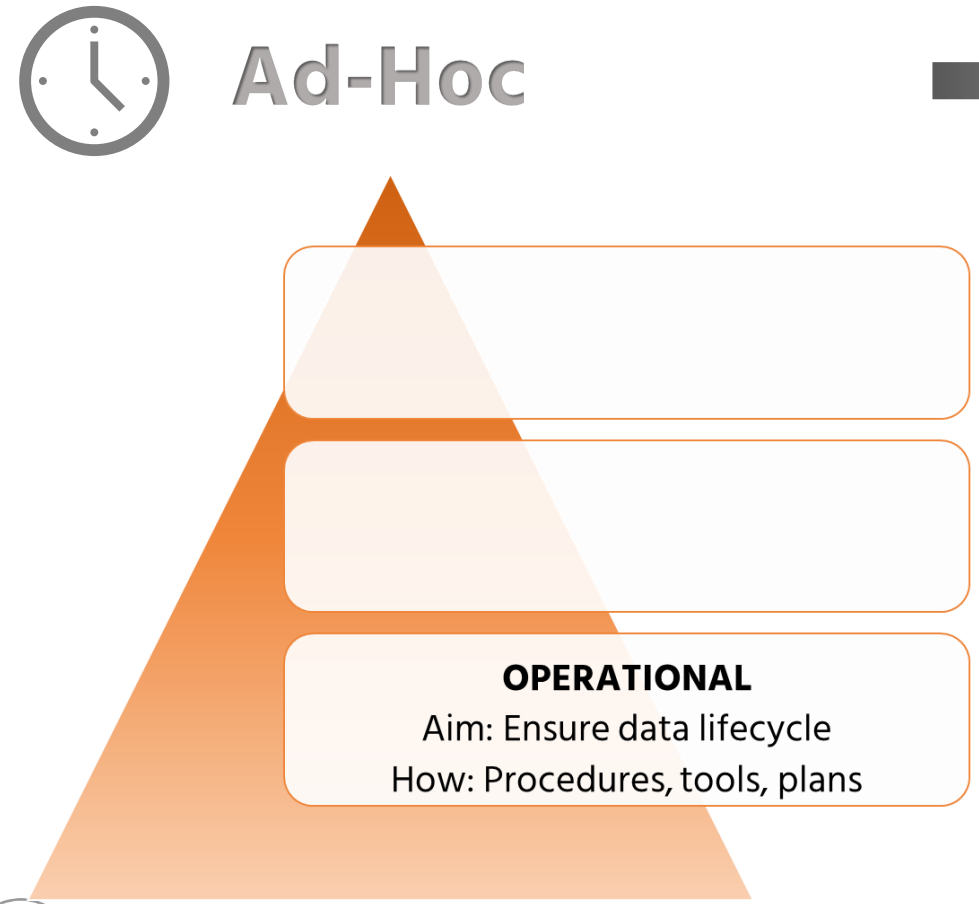


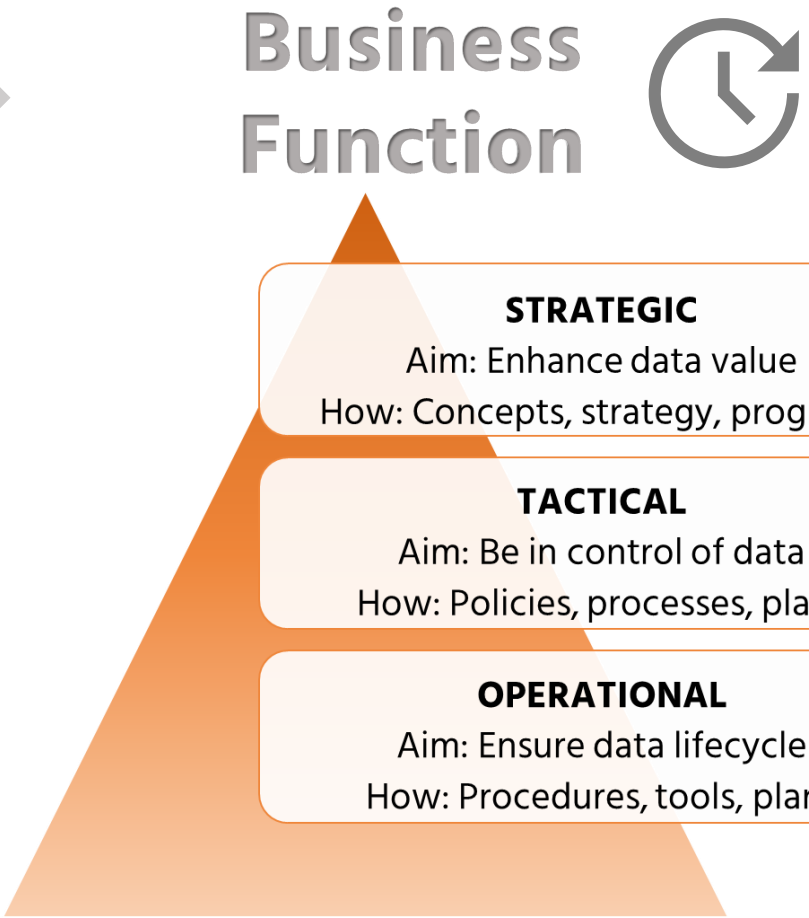



# The Definition of Data Management Depends on the Organizational Level



# Moving from the “Ad-Hoc” to “Business Function” Means the Implementation of Data Management at All Organizational Levels



# Data Governance and a DM Framework Assists in Transforming Data Management Capability into a Business Function

**OPERATIONAL**
Aim: Ensure data lifecycle
How: Procedures, tools, plans


**STRATEGIC**
Aim: Enhance data value
How: Concepts, strategy, programs

**TACTICAL**
Aim: Be in control of data
How: Policies, processes, plans

**OPERATIONAL**
Aim: Ensure data lifecycle
How: Procedures, tools, plans

Data governance designs and controls the implementation and performance of the (meta)data management function

DEFINITION

# DM (Data) Governance

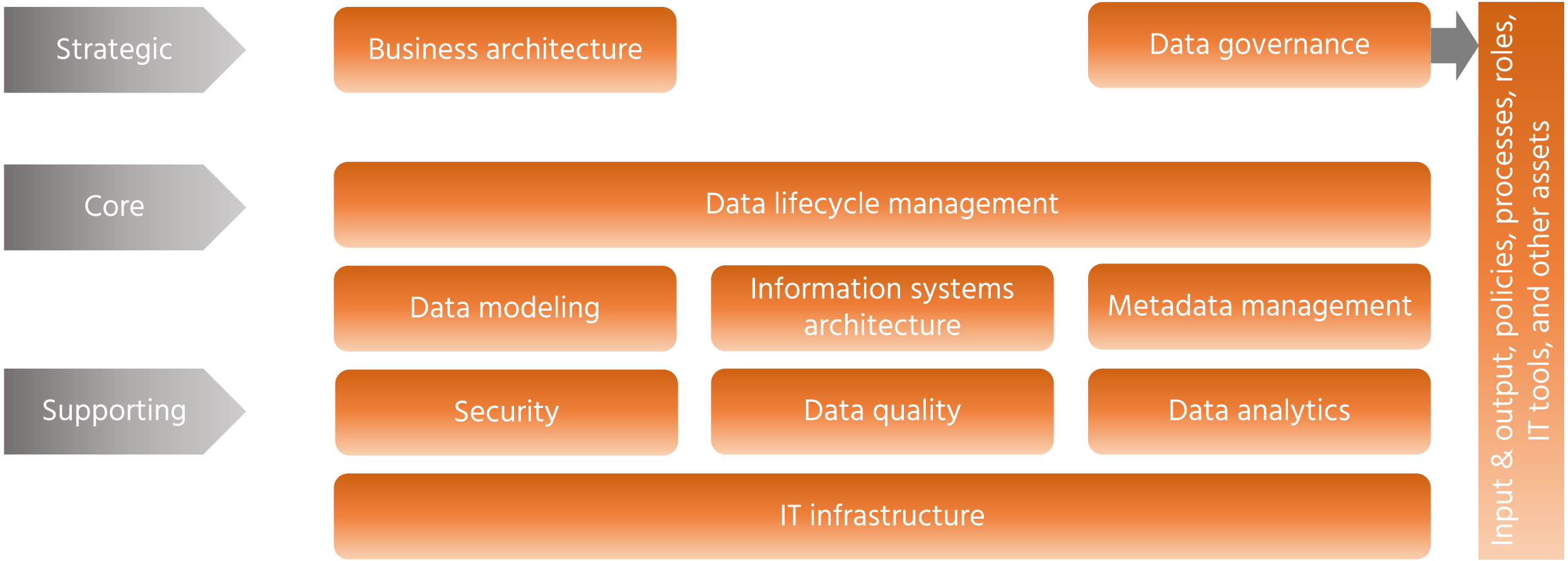
A COMPANY'S ABILITY TO DESIGN A DATA MANAGEMENT FUNCTION, COORDINATE AND CONTROL ITS IMPLEMENTATION AND PERFORMANCE

DEFINITION

# Data Governance Framework (DGF)

A COLLECTION OF INTERRELATED COMPONENTS (METHODS AND MODELS) THAT SHAPE (META)DATA MANAGEMENT CAPABILITY INTO A BUSINESS FUNCTION

# Data Governance is One of the Data Management Capabilities



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| | Templates | 224-237 | | |

# Business Benefits is the Core Reason for Establishing a Metadata Business Case

| S. | C. | O. | P. | E. |
|---|---|---|---|---|
| **Stimulus** | **Contributor** | **Outlook** | **Plan** | **Establishment** |
| Answer the question: "Why does your company need this initiative?" | Find out stakeholders that should support and benefit from this initiative | Make a scope feasible | Set up long-term plans | Establish a business case/ program/ project |

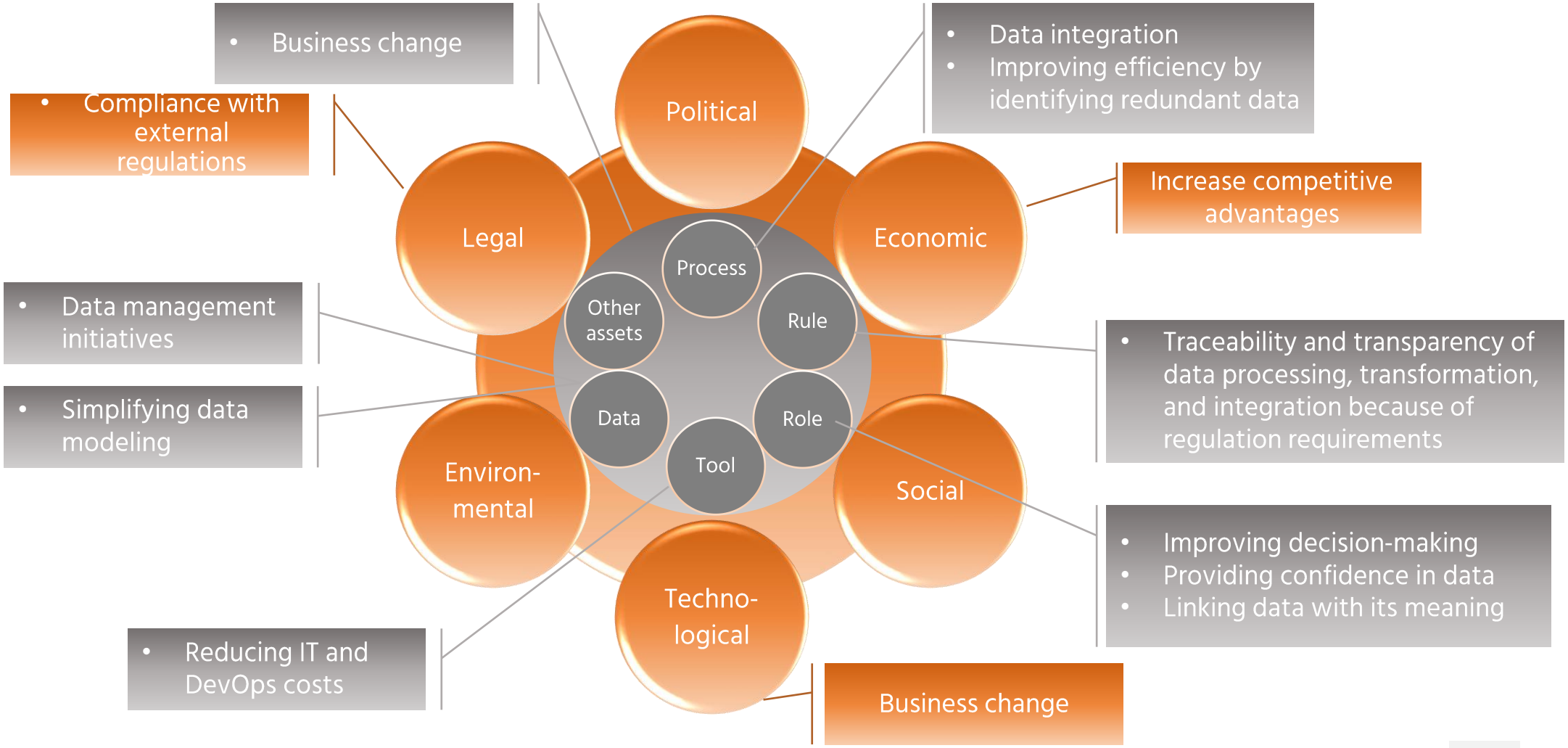
DEFINITION

# Business Driver

A COMPONENT OF THE INTERNAL OR EXTERNAL BUSINESS ENVIRONMENT THAT:

- ENSURES SUSTAINABLE SUCCESS AND GROWTH IN THE MAIN AREAS OF BUSINESS FOR WHICH THE BUSINESS WAS DESIGNED, AND
- AFFECTS A COMPANY'S EARNINGS OR THE PRICE OF ITS STOCK

# Various External and Internal Business Factors Motivate a Company to Start a (Meta)data-Related Initiative



# Let’s Summarize the Most Common Business and (Meta)data Management Drivers

Tip: A company should limit its ambition to 1-2 drivers to make a DM initiative feasible

- ○ Implement business change
- ○ Improve decision-making
- ✓ Comply with regulations
- ✗ Improve customer experience and competitive advantage

→

- Integrate data of different formats and from multiple sources ○
- Ensure transparency and traceability of data movements and transformations ✓
- Reduce IT and DevOps costs by optimizing data architecture landscapes ○
- Migration projects and optimization of data pipelines ○

# We Will Use the Example of a Made-Up Company XYZ across the Course

- XYZ Company develops software products and provides accompanying consulting services for the implementation of their software
- XYZ has two software product lines:
  - Product line Y focuses on the needs of corporate customers (“Corporate market segment”)
  - Product line Y serves the needs of individuals, including sole proprietors (“Retail market segment”)
- The head office of XYZ company is located in a country within the EU. The company has several subsidiaries in other EU countries and in the US.

# XYZ Company, Example: Business Driver Prioritization

| Business driver | Benefits: 0 (low) – 10 (high) | | | | | | | Total score |
|---|---|---|---|---|---|---|---|---|
| | Increase revenue | Reduce cost | Reduce risk | Improve process | Business continuity | Improve efficiency | Protect reputation | |
| **Compliance** with GDPR and PII (personal data) | 2 | 8 | 10 | 10 | 10 | 10 | 5 | 55 |
| Compliance with SOX regulation (reporting) | 2 | 8 | 10 | 10 | 10 | 10 | 5 | 55 |
| **Enhance decision-making** (Customer management) | 2 | 5 | 8 | 10 | 10 | 10 | 10 | 55 |
| Digital transformation (Finance reporting) | 1 | 7 | 8 | 10 | 8 | 10 | 5 | 49 |
| Staff skills upgrade | 1 | 5 | 8 | 5 | 5 | 8 | 2 | 34 |
| Movement to cloud | 0 | 6 | 2 | 5 | 5 | 5 | 2 | 25 |

# Business Drivers Define an Initiative's Sponsors and Stakeholders

| S. | C. | O. | P. | E. |
|---|---|---|---|---|
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DEFINITION

# Business Stakeholder

AN INDIVIDUAL OR A GROUP OF INDIVIDUALS WITH PARTICULAR CONCERNS AND INTERESTS IN A BUSINESS

Each stakeholder has its concern, the level of involvement, and the level of impact/influence

DEFINITION

# Sponsor

A BUSINESS STAKEHOLDER OR A GROUP OF STAKEHOLDERS THAT SUPPORT, PROMOTE, AND FUND A BUSINESS INITIATIVE

A company's leadership team should become a sponsor for strategic data management initiatives

# Various Stakeholder Groups Have Different Needs, Benefits, and Roles in a Metadata Management Initiative

WHY do they need it?

WHAT should they do?

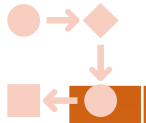
HOW should they do it?


- A company's leadership team: CEO, CFO, CIO
- Middle management: Heads of business lines, units, and departments; CDO
- Business subject matter experts
- Data management and IT professionals

# A Company's Leadership Team Must Act as a Sponsor of Every Strategic Data-Related Initiative

## Needs

- Comply with regulations to avoid fines
- Decrease IT-related costs
- Reliable data for strategic decision-making
- Business optimization



## Initiatives

- Compliance-related initiatives (GDPR, PERDARR, IFRS17, SOX)
- IT projects (Replacement of legacy software; Movement to Cloud)
- AI and ML initiatives, Customer-360
- Digital transformation

## Benefits

- Reduce operational risks and avoid potential fines
- Reduce IT operational and maintenance costs

# Company XYZ, Example: Stakeholder Map

| Stakeholder group | Stakeholder position | Business driver 1 (Compliance) | | | Business driver 2 (Finance reporting) | | |
|---|---|---|---|---|---|---|---|
| | | Concerns | Level of influence (Low, High) | Level of involvement (Low, High) | Concerns | Level of influence (Low, High) | Level of involvement (Low, High) |
| Leadership team | Chief Executive Officer | Comply with regulations | H | L | Correct info for decision-making | H | L |
| | Chief Commercial Officer | Reputation with customers | H | L | Correct info for decision-making | H | H |
| | Chief Information Officer | Comply with regulations | H | H | IT costs reduction | H | H |
| | Chief Product Officer | Comply with regulations | H | L | No serious concerns | H | L |
| | Chief Financial Officer | Comply with regulations | H | L | Correct info for decision-making | H | H |

# Exercise 1: Define the Business Reasons and Key Stakeholders of a Data Governance Initiative

1. Use Template 1, “Business Driver Prioritization,” and define the key business drivers for your initiative
2. Use Template 2, “Stakeholder Map,” and identify the key sponsors and stakeholders of your company’s initiative
3. Share results

Preparation: 10 min

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# A Feasible Scope is a Key Factor of a (Meta)Data Initiative Success:

| S. | C. | O. | P. | E. |
|---|---|---|---|---|
| **Stimulus** | **Contributor** | **Outlook** | **Plan** | **Establishment** |
| Answer the question; "Why does your company need this initiative?" | Find out stakeholders that would support and benefit from this initiative | Make a scope feasible | Set up long-term plans | Establish a business case/ program/ project |

# 3-F Feasibility Formula Limits the Scope to a Realizable Minimum

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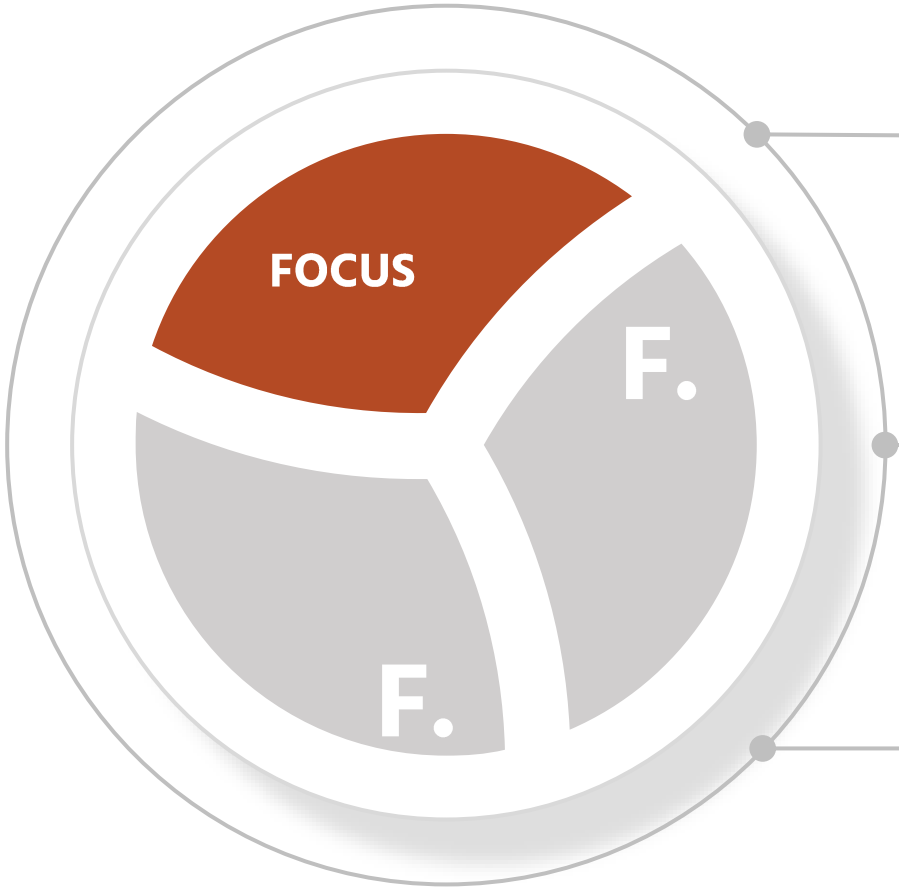



- The scope of the data governance capability
- The scope of data stewardship

FACTOR

FRAMEWORK

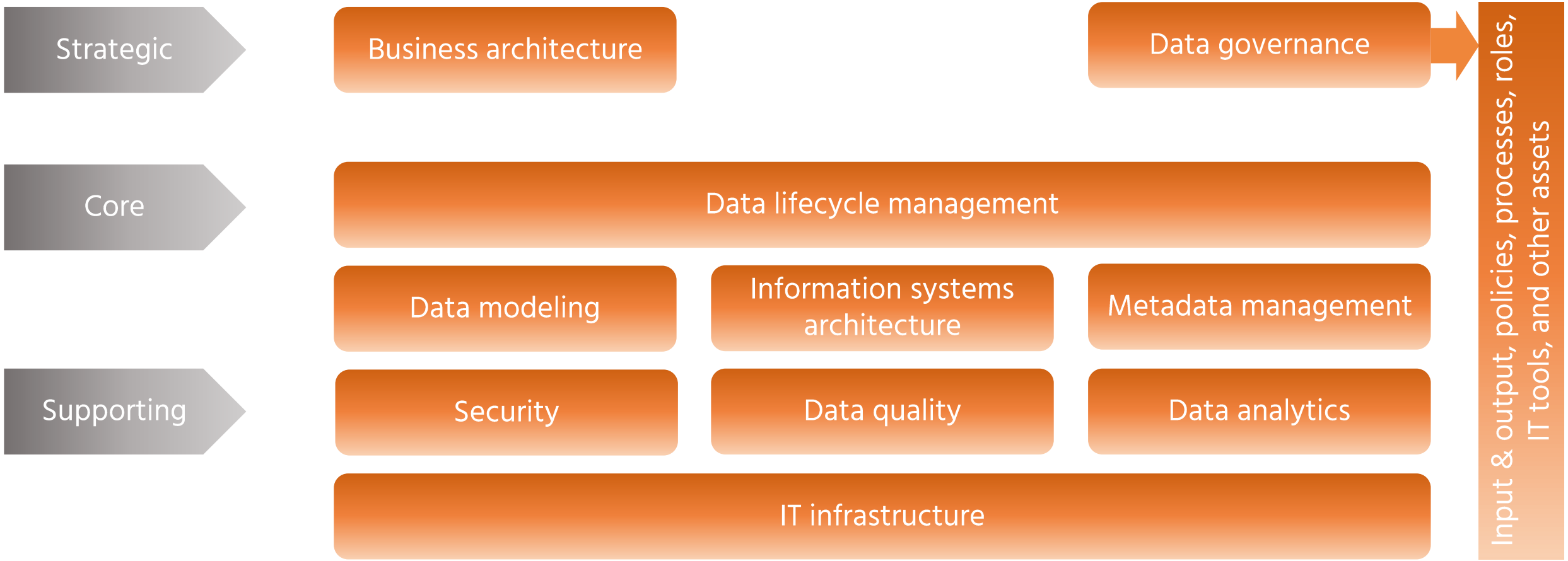
DEFINITION

# Business Capability

"A PARTICULAR ABILITY OR CAPACITY THAT A BUSINESS MAY POSSESS OR EXCHANGE TO ACHIEVE A SPECIFIC PURPOSE OR OUTCOME"

SOURCE: TOGAF® SERIES GUIDE: BUSINESS CAPABILITIES, 2016, PUBLICATIONS.OPENGROUP.ORG/G189, P.2.

# Data Governance is One of the Data Management Capabilities



# DM (Data) Governance Can Be Broken Down into Multiple Sub-Capabilities at the Lower Levels

DM (Data) Governance

| | | | |
|---|---|---|---|
| DM strategy and strategic planning | DM tactical and operational planning | DM training and education | DM issue management |
| Data change management | DM business process management | Data SLA and sharing agreements | DM regulations |
| DM roles | DM operating model | DM maturity assessment | DM performance |

# Let's Summarize the Core Activities of DM Governance

| Data Governance: | |
|---|---|
| | Defines Data Management Scope |
| | Identifies a DM Framework |
| | Develops a DM Strategy and Roadmap |
| | Develops an Operating Model/Structure |
| | Develops DM Roles and DM Organizational Structure |
| | Defines and Controls the Development of Regulations, Processes, and Links between Processes and DM Roles accountabilities for other DM Capabilities |
| | Controls the Implementation of the DM Strategy, Roadmap, and Capabilities |
| | Controls DM Performance by Measuring Maturity and Setting up KPIs |

# Discussion

What is the Current Scope of the Data Governance Capability in Your Company?

DEFINITION

# Steward

A PERSON WHO MANAGES ANOTHER'S PROPERTY OR FINANCIAL AFFAIRS; ONE WHO ADMINISTERS ANYTHING AS THE AGENT OF ANOTHER OR OTHERS.

Source: “Steward Definition & Meaning.” Dictionary.Com, www.dictionary.com/browse/steward. Accessed 16 Aug. 2023.

DEFINITION

# Data Stewardship

THE MOST COMMON LABEL TO DESCRIBE ACCOUNTABILITY AND RESPONSIBILITY FOR DATA AND PROCESSES THAT ENSURE EFFECTIVE CONTROL AND USE OF DATA ASSETS

Source: DAMA International. DAMA-DMBOK: Data Management Body of Knowledge, Second Edition. Bradley Beach, N.J.: Technics Publications, 2017, p.75.

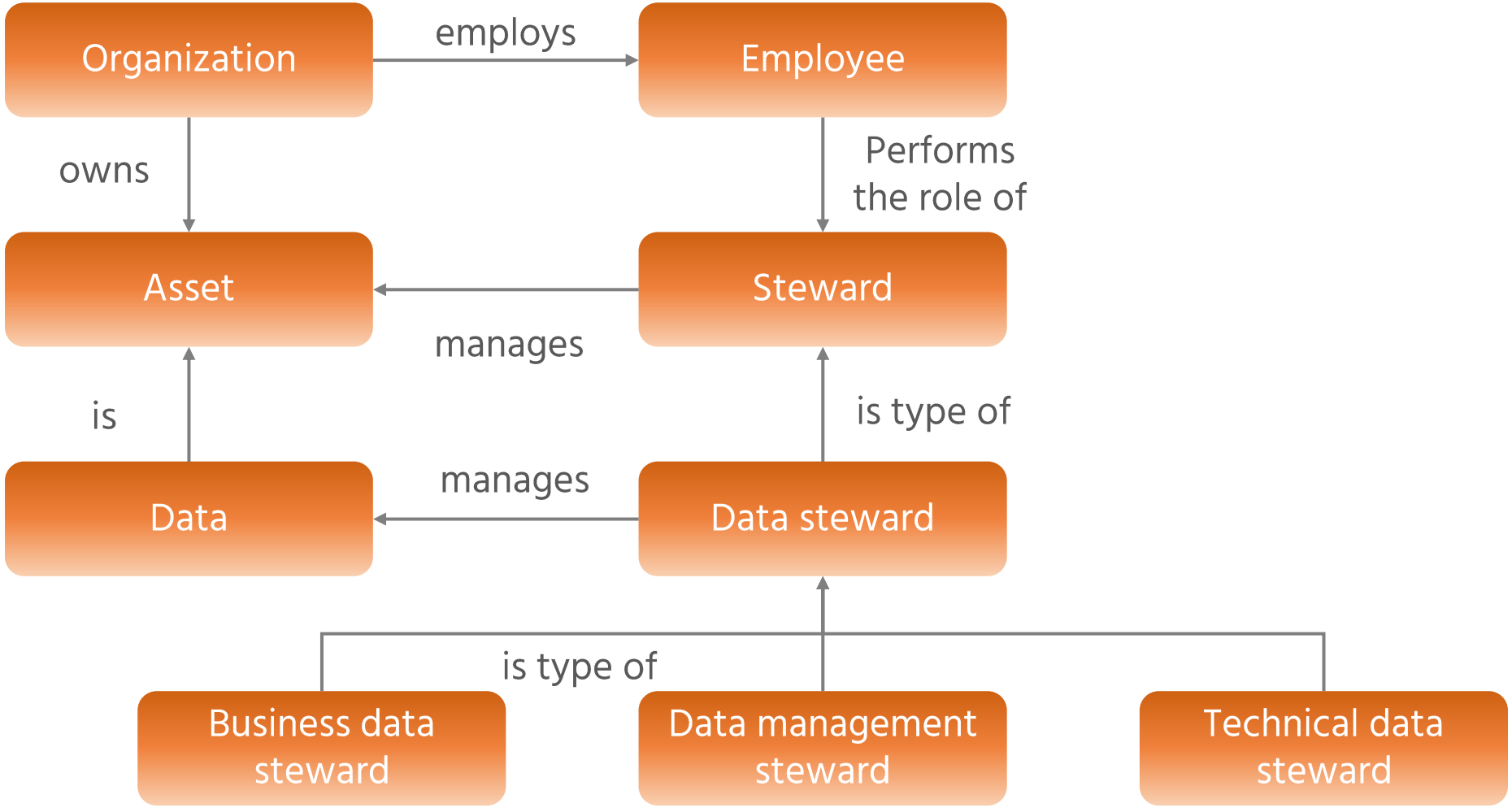
DEFINITION

# Data Steward

DATA STEWARDS REPRESENT THE INTERESTS OF ALL STAKEHOLDERS AND MUST TAKE AN ENTERPRISE PERSPECTIVE TO ENSURE ENTERPRISE DATA IS OF HIGH QUALITY AND CAN BE USED EFFECTIVELY.
EFFECTIVE DATA STEWARDS ARE ACCOUNTABLE AND RESPONSIBLE FOR DATA GOVERNANCE ACTIVITIES AND HAVE A PROPORTION OF THEIR TIME DEDICATED TO THESE ACTIVITIES.”.

Source: 19.DAMA International. DAMA-DMBOK: Data Management Body of Knowledge, Second Edition. Bradley Beach, N.J.: Technics Publications, 2017, p.76.

# A Company Can Recognize Several Types of Data Stewards



# The Key Decision to Ask Is:

Does a Data Steward
MANAGE or GOVERN
Data?

DEFINITION

# Data Steward

A BUSINESS ROLE THAT MANAGES DATA ON BEHALF OF THE ORGANIZATION

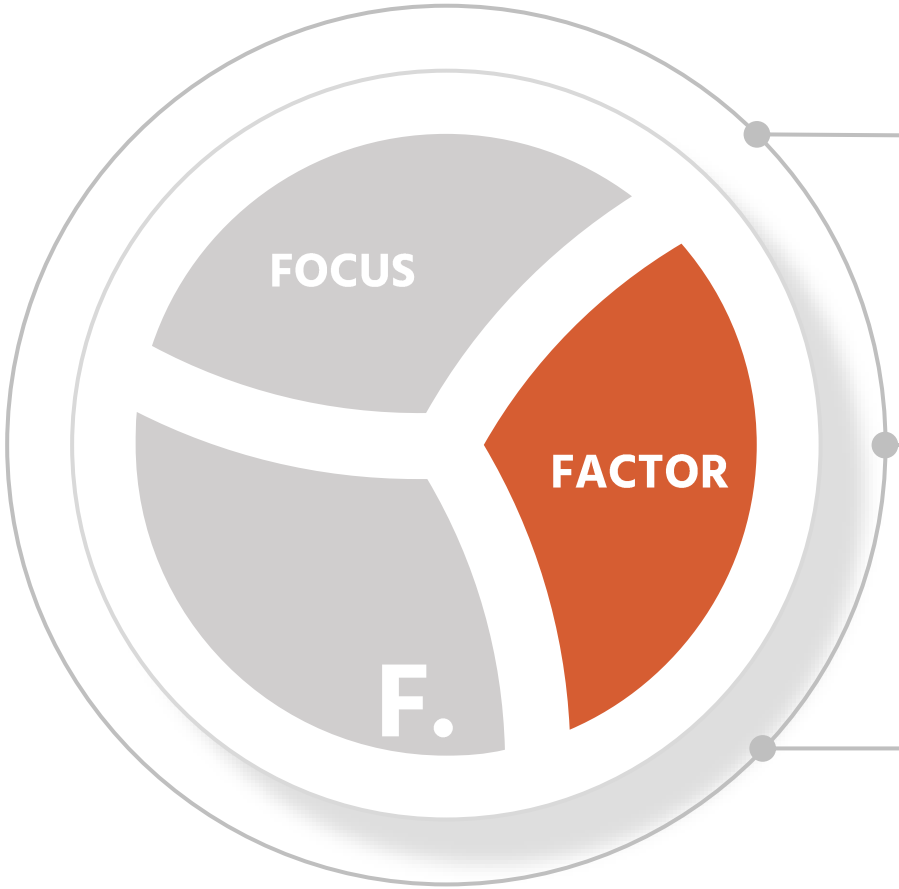
Depending on the professional background and skills, we recognize business, data management, and technical stewards.

This role can be functional or virtual.

# Discussion

## What Is Your Company's Approach To Defining Data Management Roles?

# 3-F Feasibility Formula Limits the Scope to a Realizable Minimum




- The scope of the data governance capability
- The scope of data stewardship

- An organization profile
- Targeted data architecture

FRAMEWORK

# An Organization Can Be Classified in Various Ways

## Size-based Classification:

- SMEs
- Large Enterprises

## Business Model-Based Classification:

- Product-based
- Service-based
- Hybrid

## Geographic Classification:

- Local
- National
- Multinational
- Global

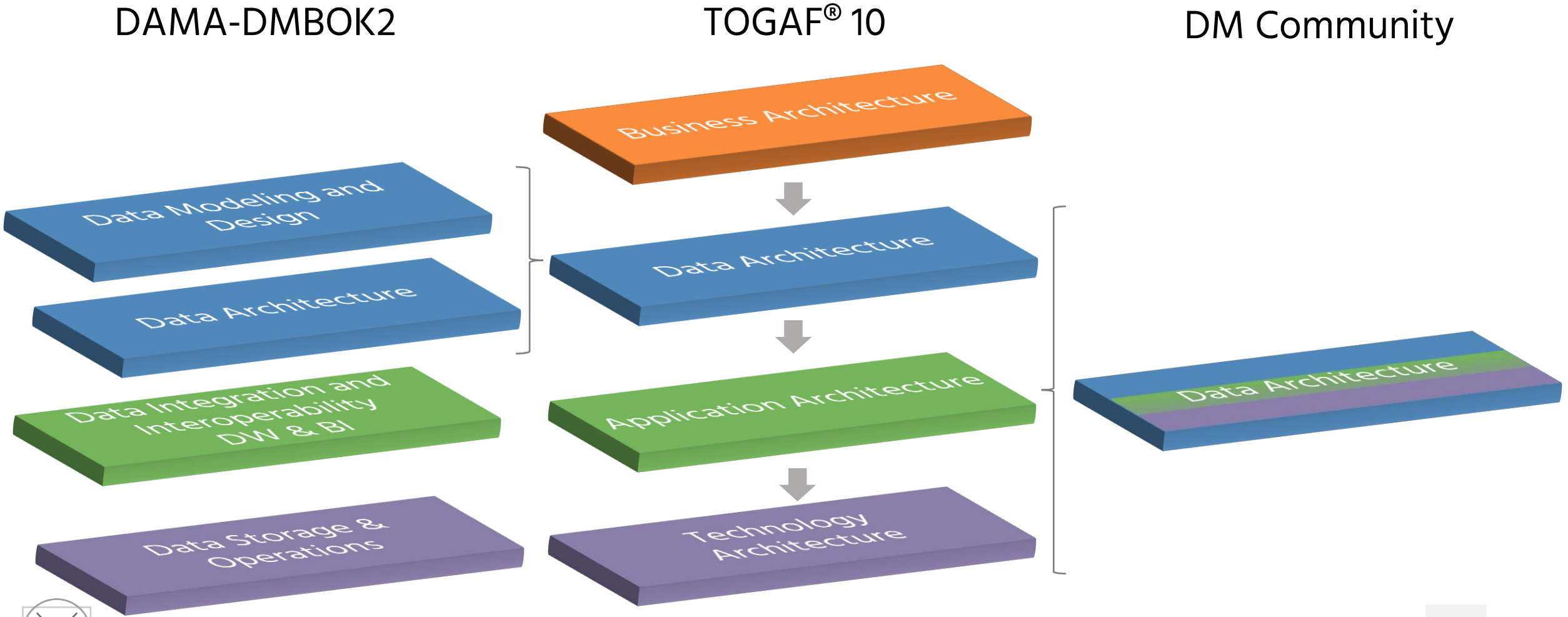
## Financial Classification:

- Startups
- Growth companies
- Fortune 500
- Blue-chip companies

# The Company's Classifications Have Some Dependencies

| | Business-model based:<br>• Product-based<br>• Service-based<br>• Hybrid | Geographic:<br>• Local<br>• National<br>• Multinational<br>• Global | Financial:<br>• Startups<br>• Growth companies<br>• Fortune 500<br>• Blue-chip companies |
|---|---|---|---|
| Size-based:<br>• SME<br>• Large | Smaller companies may have limited resources and capabilities that will shape the business model into one or two business lines.<br><br>Larger companies may have diverse business models and multiple business lines. | Smaller companies may have a more localized or regional focus due to resource constraints.<br><br>Large companies will tend to expand their business to national, multination, or global scope. | Smaller companies can belong to startups or growth companies.<br><br>Larger companies often have higher revenue and access to more funding sources. |

# No Aligned Definitions of Different Enterprise Architecture Types Exist



DEFINITION

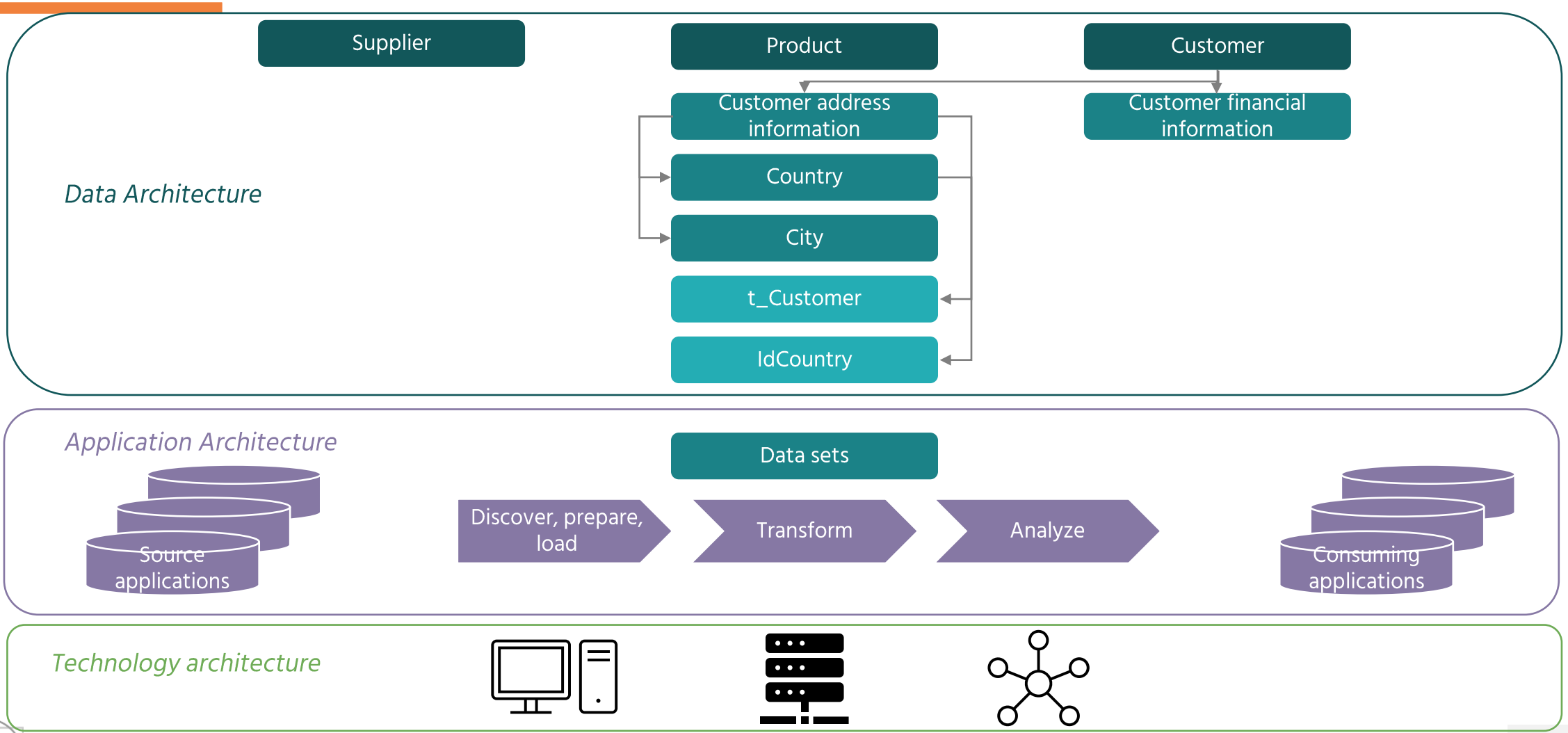
# Data-, Application-, Technology Architecture

DATA ARCHITECTURE IS A DESCRIPTION OF THE STRUCTURE OF THE ENTERPRISE'S MAJOR TYPES AND SOURCES OF DATA, LOGICAL DATA ASSETS, PHYSICAL DATA ASSETS, AND DATA MANAGEMENT RESOURCES

APPLICATION ARCHITECTURE IS A DESCRIPTION OF THE STRUCTURE AND INTERACTION OF THE APPLICATIONS THAT PROVIDE KEY BUSINESS CAPABILITIES AND MANAGE THE DATA ASSETS

TECHNOLOGY ARCHITECTURE IS A DESCRIPTION OF THE STRUCTURE AND INTERACTION OF THE TECHNOLOGY SERVICES AND TECHNOLOGY COMPONENTS

# Let's Visualize the TOGAF® Definitions of the Architectures



# Let's Check Definitions from Other Sources

Tip: No aligned approach to describing the relationships between data, applications, and technology exist.

Data architecture is a set of rules, policies, standards and models that govern and define the **type of data collected and how it is used, stored, managed and integrated within an organization and its database systems.** It provides a formal approach to **creating and managing the flow of data and how it is processed across an organization's IT systems and applications.**
Source: Techopedia. "What Is Data Architecture? - Definition From Techopedia." *Techopedia,* 26 Jan. 2017, www.techopedia.com/definition/6730/data-architecture.

The term "data architecture" is defined as a set of models, policies, rules, and standards **governing data flow and management** within an organization. The most basic components of an enterprise data architecture include the following:
•Data pipelines ..
•Cloud storage ..
•Cloud computing ..
•APIs..
•AI and ML models ..
•Data streaming ..
•Real-time..

Source: Ghosh, Paramita. "Data Architecture 101 - DATAVERSITY." *DATAVERSITY*, 10 Feb. 2023, www.dataversity.net/data-architecture-101.

# Multiple Approaches to Classify Data Architecture Exist

Network type:

- Centralized
- Decentralized
- Distributed
- Federated

Technology/ data management system/ data lifecycle: organization:

- Data warehouse
- Data lake
- Data lakehouse
- Data fabric
- Data mesh

Deployment:

- On-premise
- Cloud (private, public, hybrid)
- Hybrid (on-premise and cloud)

Method of software design pattern:

- Monolithic
- SOA
- Microservices

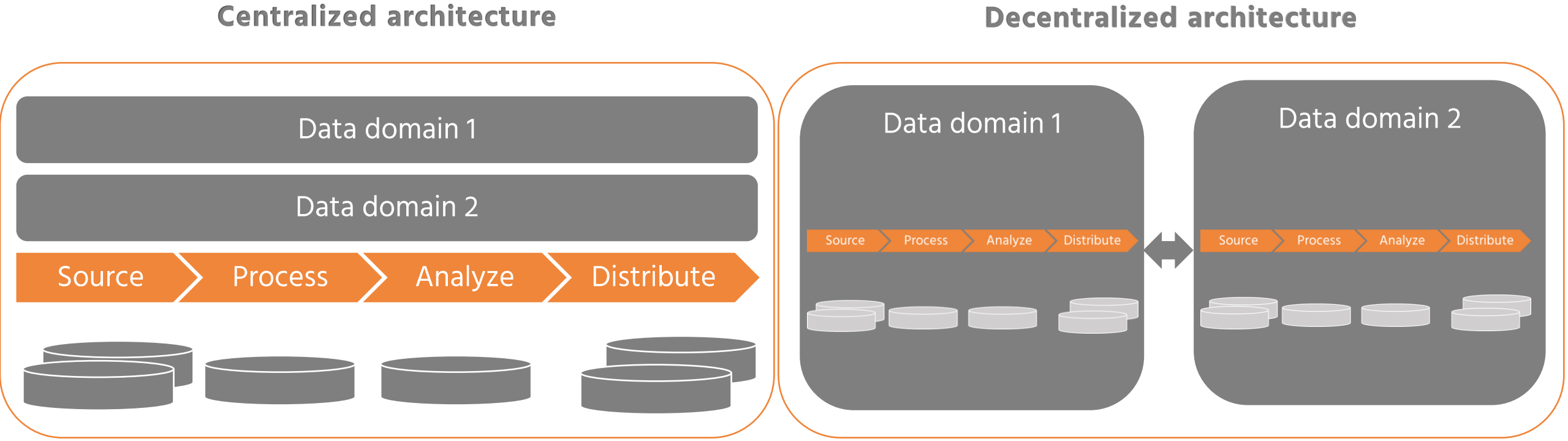
Data Processing Models:

- Batch
- Stream/Real-time processing

Database types:

- Relational (SQL)
- Non-relational (noSQL)
- NewSQL

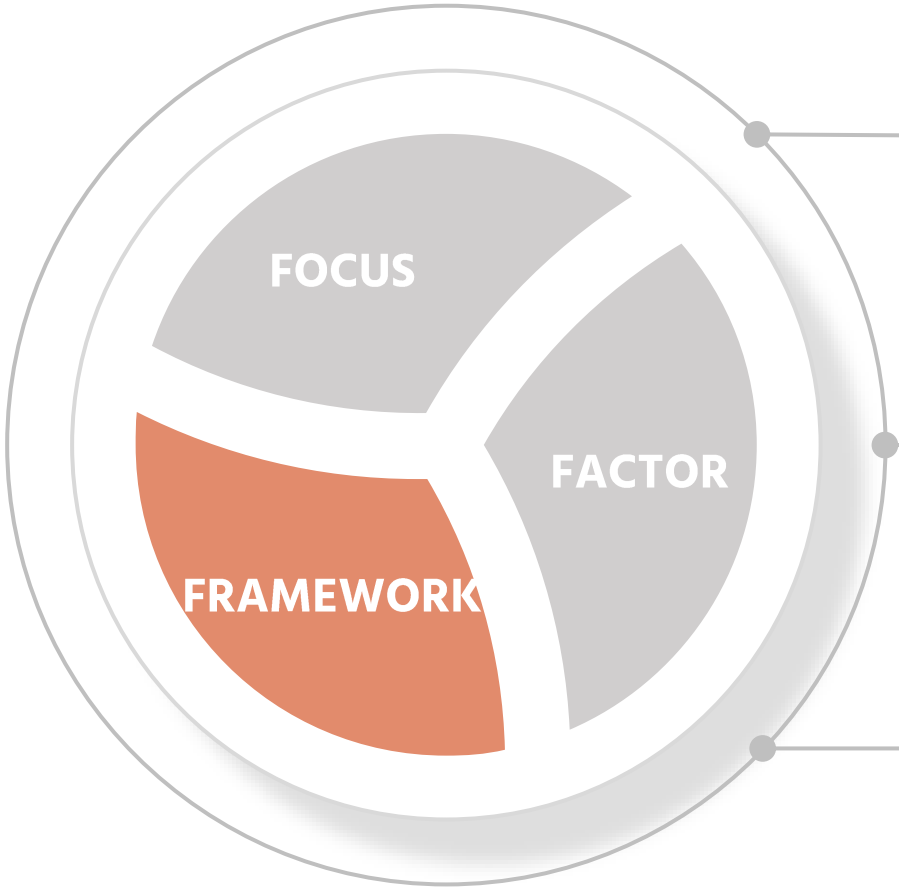
# In this Course, We Use Two Types of Architecture:



# The Choice of Data Architecture Development is a Part of a Data Strategy and Depends on an Organization's Profile

| Data architecture by DM organization and control | Data architecture by DM system | Organization by size | Key characteristics of data management |
|---|---|---|---|
| Centralized | Single data warehouse | SME | Single data domain; limited data volumes; structured data with standard reporting requirements |
| | Multiple data warehouses, data lake, data lakehouse | Large organizations with centralized operations | Multiple data domains; high data volumes of raw data of various types and formats |
| | Data fabric | Large multinational organizations | Any data type across different systems, platforms and locations; complex data landscape; high data volumes |
| Decentralized | Data mesh | Large organizations with many independent teams working on different aspects of the business | Multiple data domains originating from different business lines; large data volumes |

# 3-F Feasibility Formula Limits the Scope to a Realizable Minimum




Critical business requirements & solutions

- Metadata & sources
- Enterprise scope
- Critical chain and data
- Resources

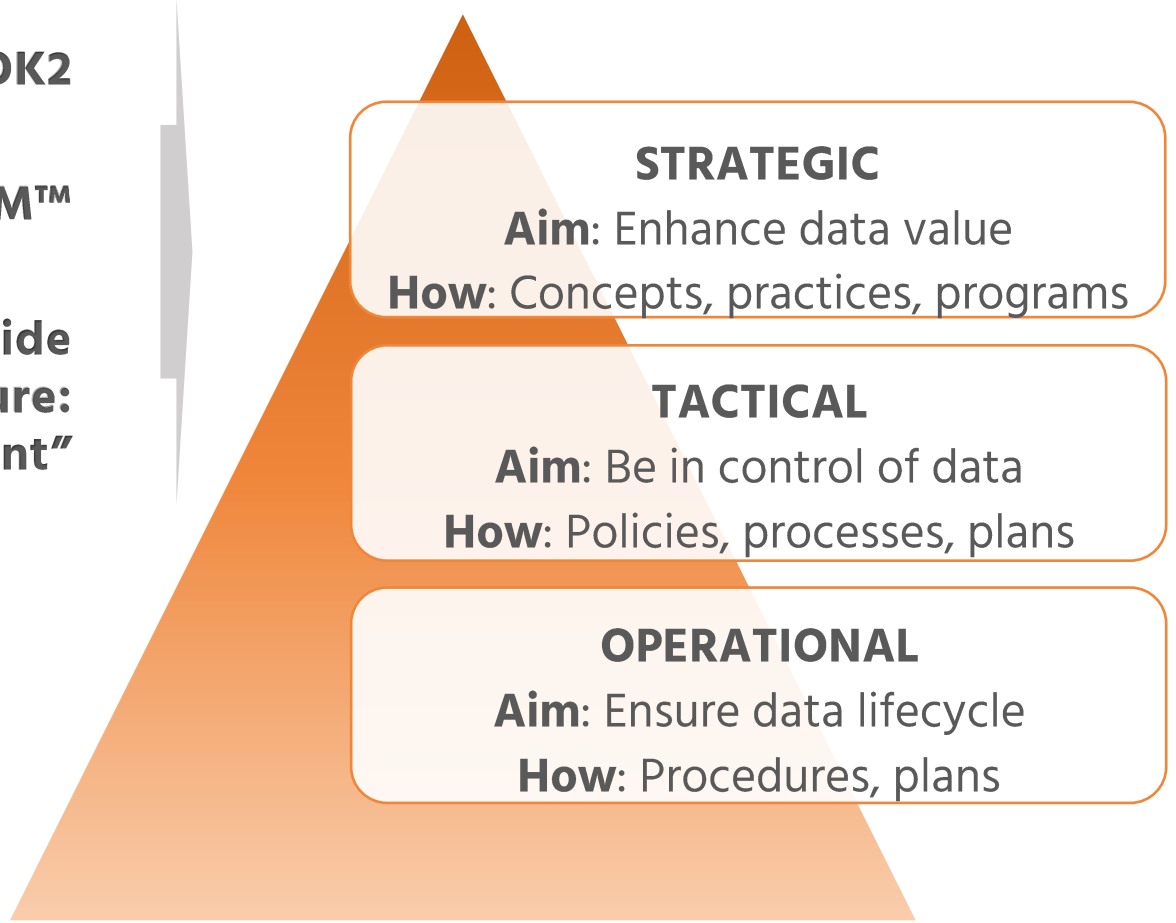
The chosen metadata management framework

# Leading DM Frameworks Are Applicable at Various Organizational Levels, but Not All of Them Cover Metadata Management

**DAMA-DMBOK2**

**DCAM™**

**TOGAF® Series Guide "Information Architecture: Metadata Management"**

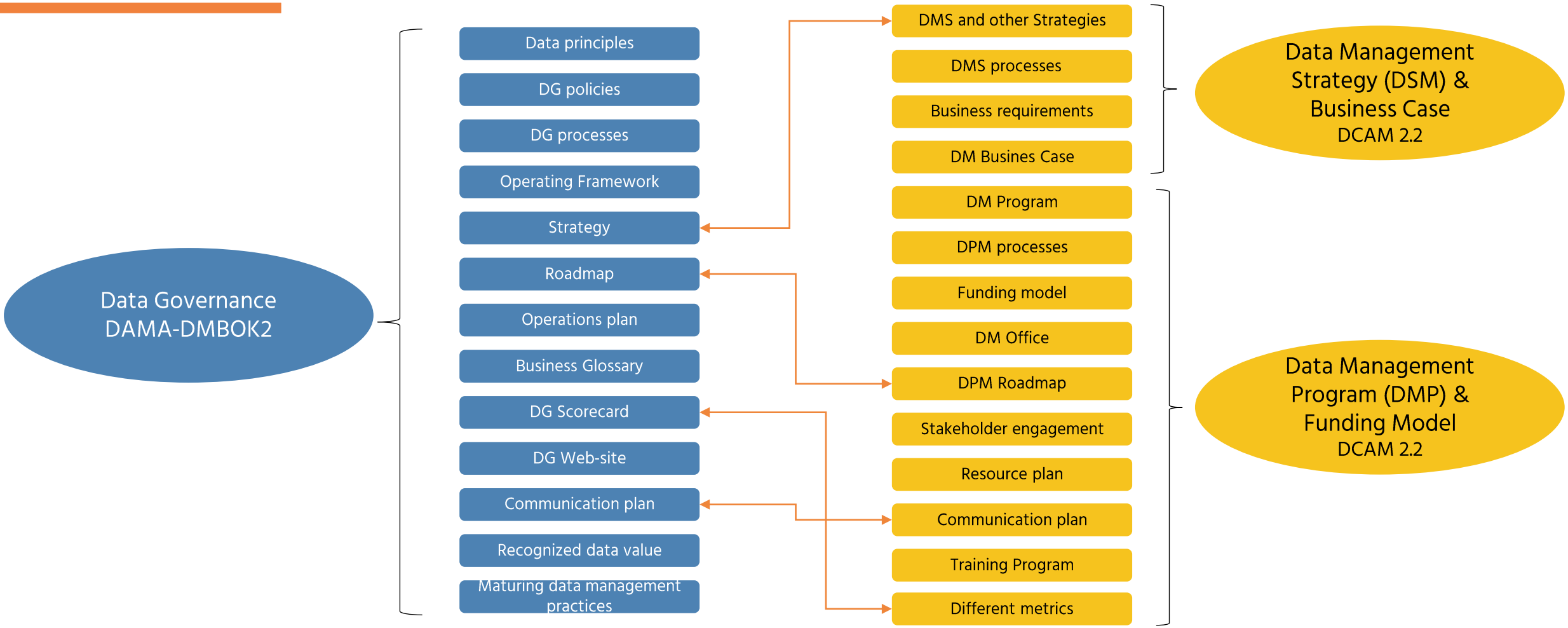



**COBIT**

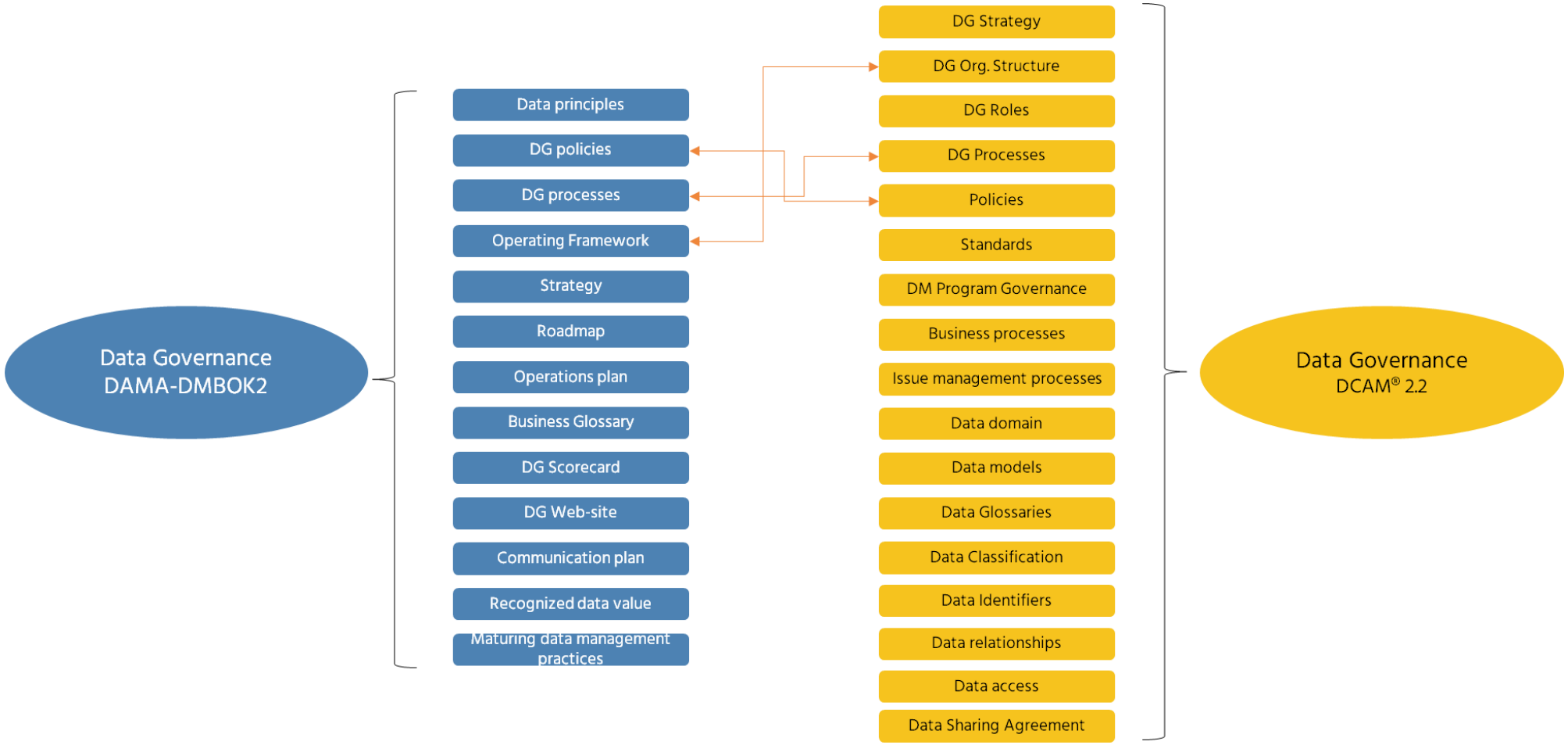
**ITIL**

**ISO/IEC 11179: Metadata registries**

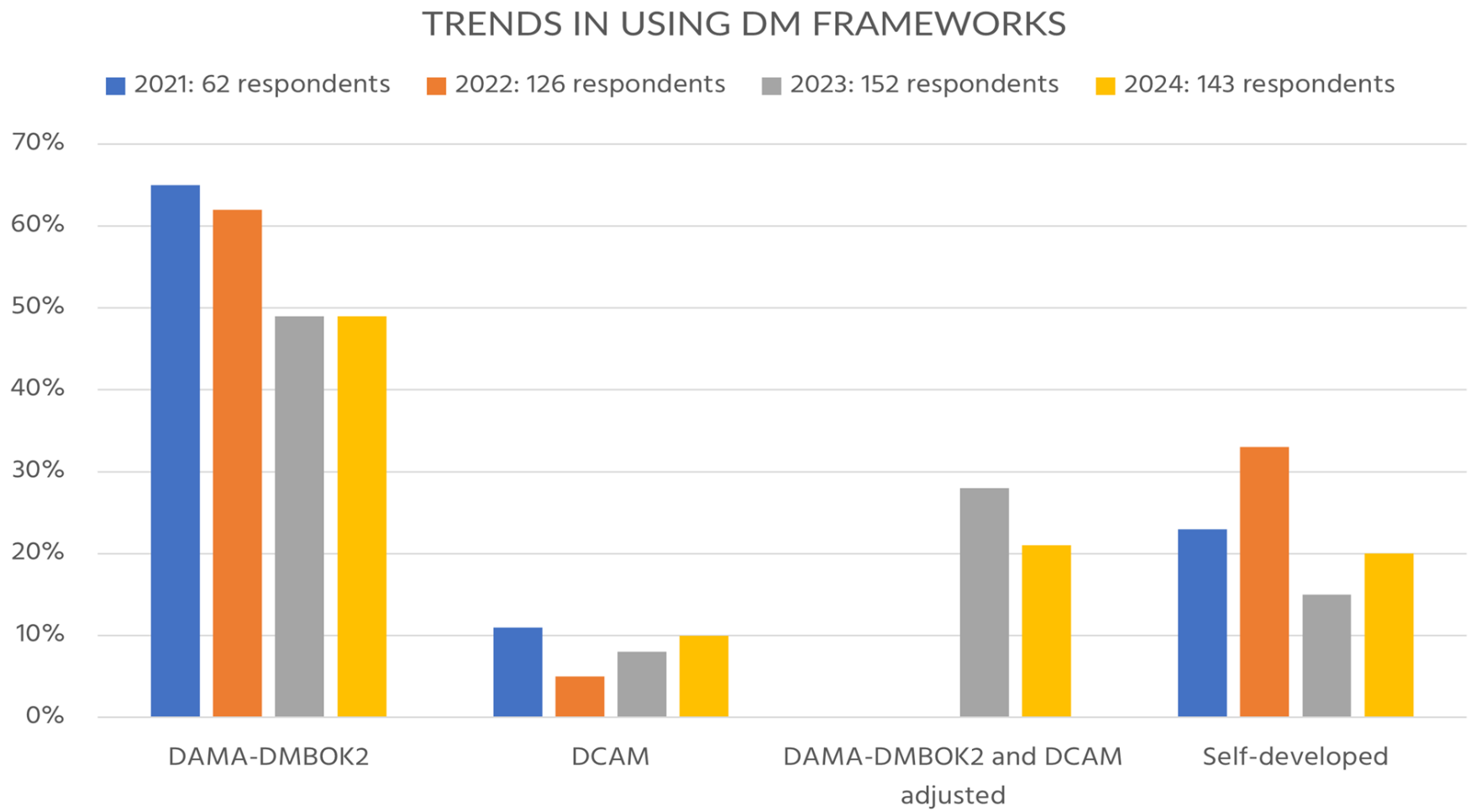
# Data Governance from DAMA-DMBOK2 Has Similarities with DM Strategy and Program from DCAM 2.2



# Remarkably, Data Governance from DAMA-DMBOK2 Has Fewer Deliverables Common with Data Governance from DCAM 2.2



# Trends Show the Increasing Number of Self-Developed or Adjusted Frameworks



# Exercise 2: Define the Scope of a DG Initiative

1. Use Template 3, "The Data Management Scope," to define the required data management capabilities
2. Use Template 4, "The Data Governance Scope," to define the required data management capabilities
3. Define your organization profile using Template 5, "An Organization Profile"
4. Identify the target data architecture

Time: 15 minutes

# XYZ Company, Example: The Data Governance Capability Scope

| A DM (data) governance deliverable: | Business driver 1 | Business driver 2 | Scope (Yes/No) |
|---|---|---|---|
| Data modeling | | | Yes |
| Data architecture | | | Yes |
| Data quality | | | Yes |
| Metadata management | | | Yes |
| Data lifecycle management | | | Yes |
| Data security | | | Yes |
| Data analytics | | | Yes |

# XYZ Company, Example : The Data Management Capability Scope

| A DM (data) governance deliverable: | Business driver 1 | Business driver 2 | Scope (Yes/No) |
|---|---|---|---|
| DM Strategy and strategic planning | | | Yes |
| DM Tactical and operational planning | | | Yes |
| DM training and education | | | Yes |
| DM issue management | | | Yes |
| DM change management | | | Yes |
| DM SLA and DSA management | | | Yes |
| DM business processes | | | Yes |
| DM regulations | | | Yes |
| DM operating model | | | Yes |
| DM roles | | | Yes |
| DM maturity | | | Yes |
| DM performance management | | | Yes |

# XYZ Company, Example: An Organization Classification

| Classification criteria | Classification parameter | Company |
|---|---|---|
| Size-based | SME | |
| | Large | |
| Business model-based | Product-based | |
| | Service-based | |
| | Hybrid | |
| Geography | Local | |
| | National | |
| | Multinational | |
| | Global | |
| Financial background | Startup | |
| | Growth company | |
| | Fortune 500 | |
| | Blue-chip company | |

# XYZ Company, Example: View on Data Architecture Development

| Factors that influence the design of data architecture | Data architecture (3-year perspective) | |
|---|---|---|
| | Current status | Future status |
| A company's size | Medium | Large |
| Geographical locations | Multinational | Multinational (extended) |
| Data types and volumes | Multiple data domains; structured data types; high data volumes | Multiple data domains; structured and unstructured data types; high data volumes |
| Network architecture | Distributed | Distributed |
| Technology/ data management system/ data lifecycle organization | Data warehouse<br>Data lake | Data mesh? |
| Platform | On-premise | Hybrid (public cloud & on-premise) |

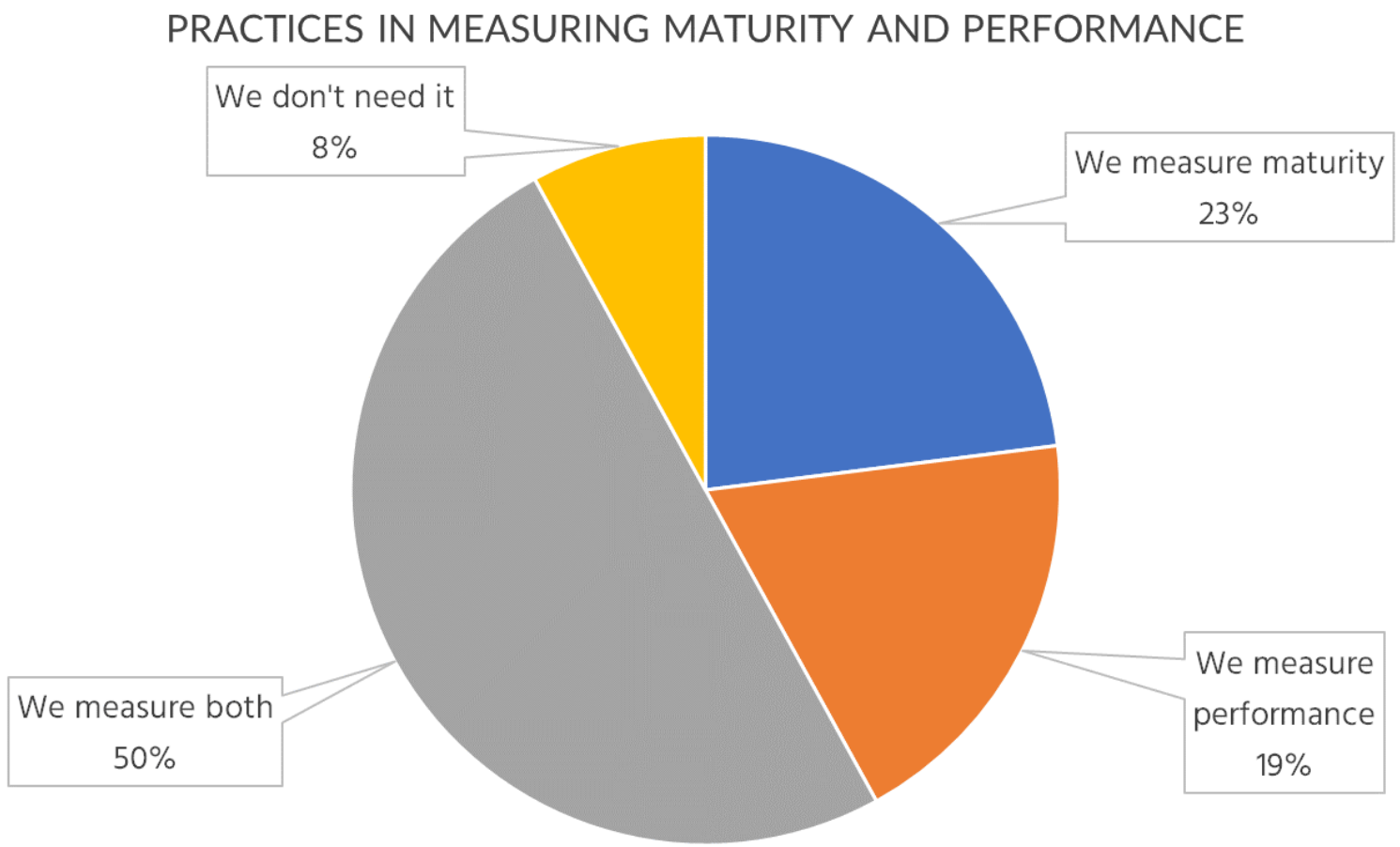
# To Develop a Data Governance Framework, We Will Discuss:

1. **Data Management vs. Governance**
   The O.R.A.N.G.E. Terminology
2. **Business Drivers & Stakeholders**
   Strategic S.C.O.P.E. Formula
3. **The Scope of a DG Initiative**
   Strategic S.C.O.P.E. Formula
4. **Preliminary DG Maturity Assessment**
   P.L.A.N. Maturity Assessment Approach
5. **DG Operating Model**
6. **DG and DM Roles**
7. **DG set up for various DM capabilities**
8. **Integrated Implementation Roadmap**

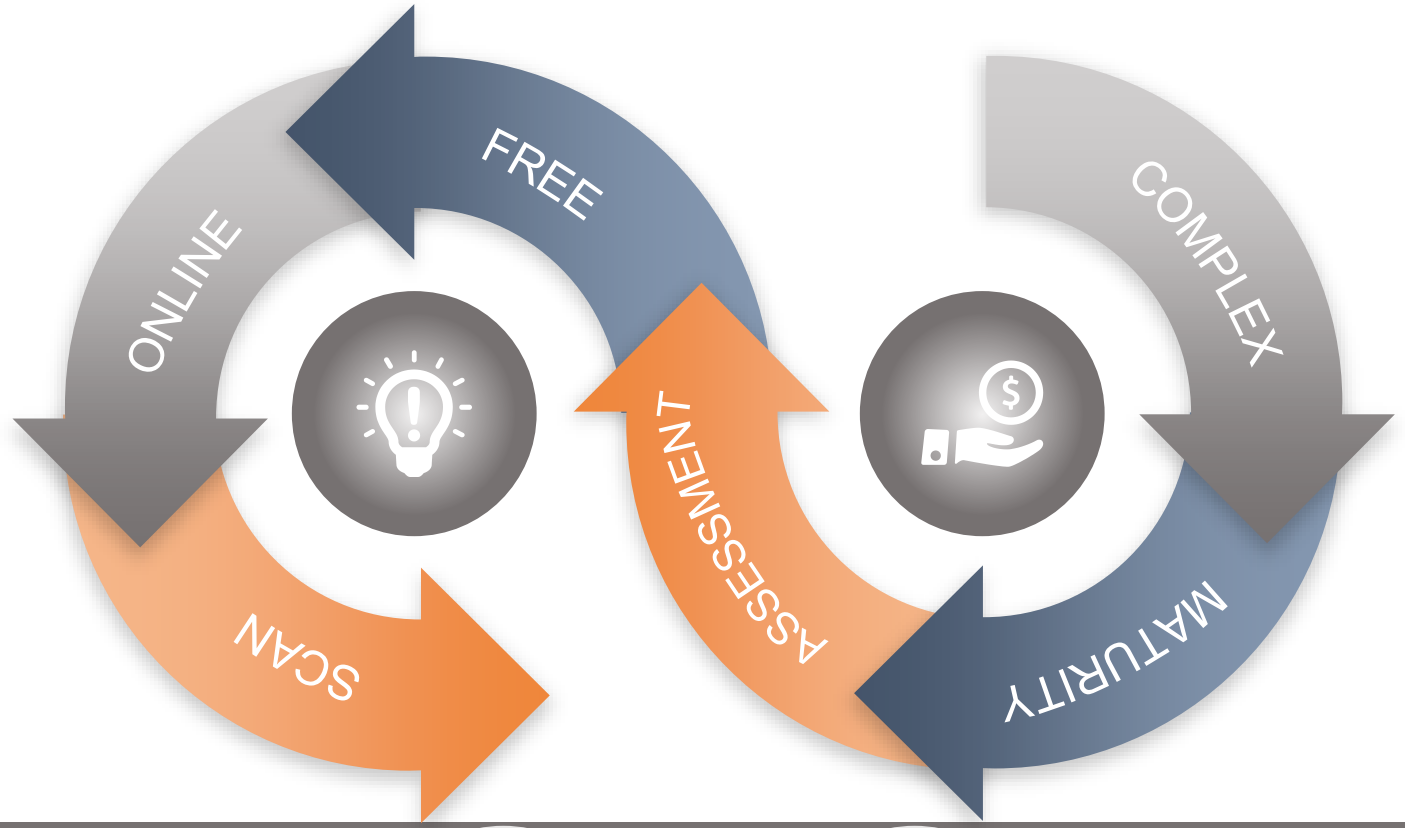
# Schedule

| Time, CET | Topic | Presentation slides | Exercise | Templates |
|---|---|---|---|---|
| 9.00 – 9.20 | Introduction to the course | 1-11 | | |
| 9.20-10.00 | Data Management (DM) vs. Data Governance (DG) | 12-28 | | |
| 10.00-10.45 | Business drivers and stakeholders | 29-43 | Exercise 1 | Templates 1,2 |
| 10.45-11.45 | The scope of a DG initiative | 44-80 | Exercise 2 | Templates 3,4,5,6 |
| 11.45-12.15 | Preliminary DG maturity assessment | 81-89 | Exercise 3 | Templates 7,8 |
| 12.15-13.15 | Break | | | |
| 13.15-14.45 | DG operating model<br>DG and DM roles | 90-155 | Exercises 4,5,6 | Templates 9,10,11,12 |
| 14.45-15.45 | DG set up for various DM capabilities | 156-217 | | |
| 15.45-16.00 | An integrated implementation approach | 218-223 | | |
| | Templates | 224-237 | | |

# These are the Results of a Poll on LinkedIn



# The O.R.A.N.G.E. DMF Offers Two Approaches to Measure Maturity




## SIMPLIFIED SCAN

20 questions / 5 capabilities
Anonymous

## EXTENDED ASSESSMENT

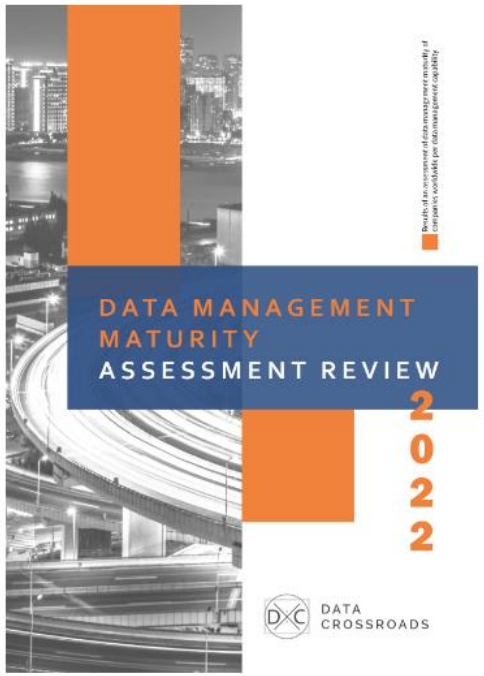
140 questions / 9 capabilities
Report and strategic session

# Data Crossroads Publishes DM Maturity Assessment Reviews Annually:

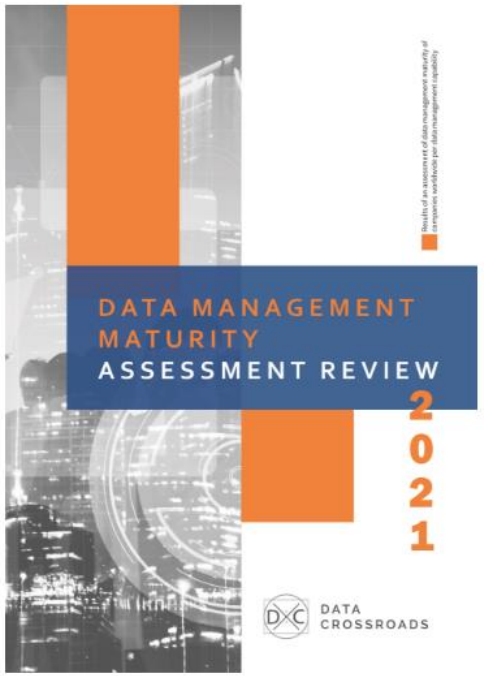
THE DM MATURITY REVIEW IS BASED ON THE RESULTS OF THE DM MATURITY SCAN.
NUMBER OF PARTICIPANTS:

- 2019: 63
- 2020: 233
- 2021: 313
- 2022: 279
- 2023: 307

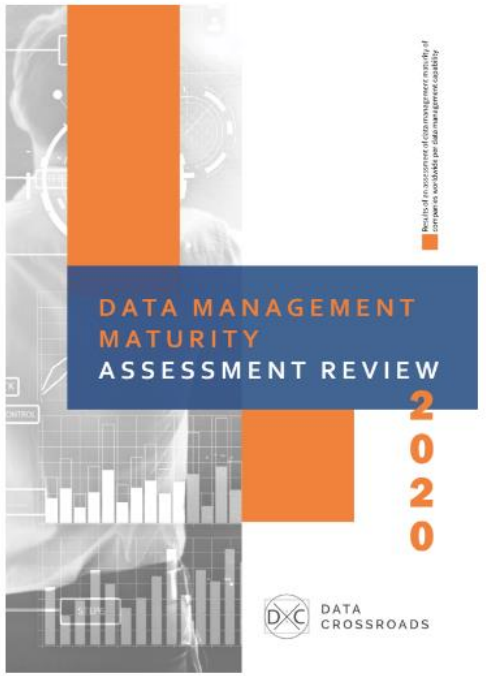
THE REVIEW CAN BE DOWNLOADED FREE-OF-CHARGE: https://datacrossroads.nl/data-management-maturity-assessment-review-2020/




DATA MANAGEMENT MATURITY ASSESSMENT REVIEW 2022

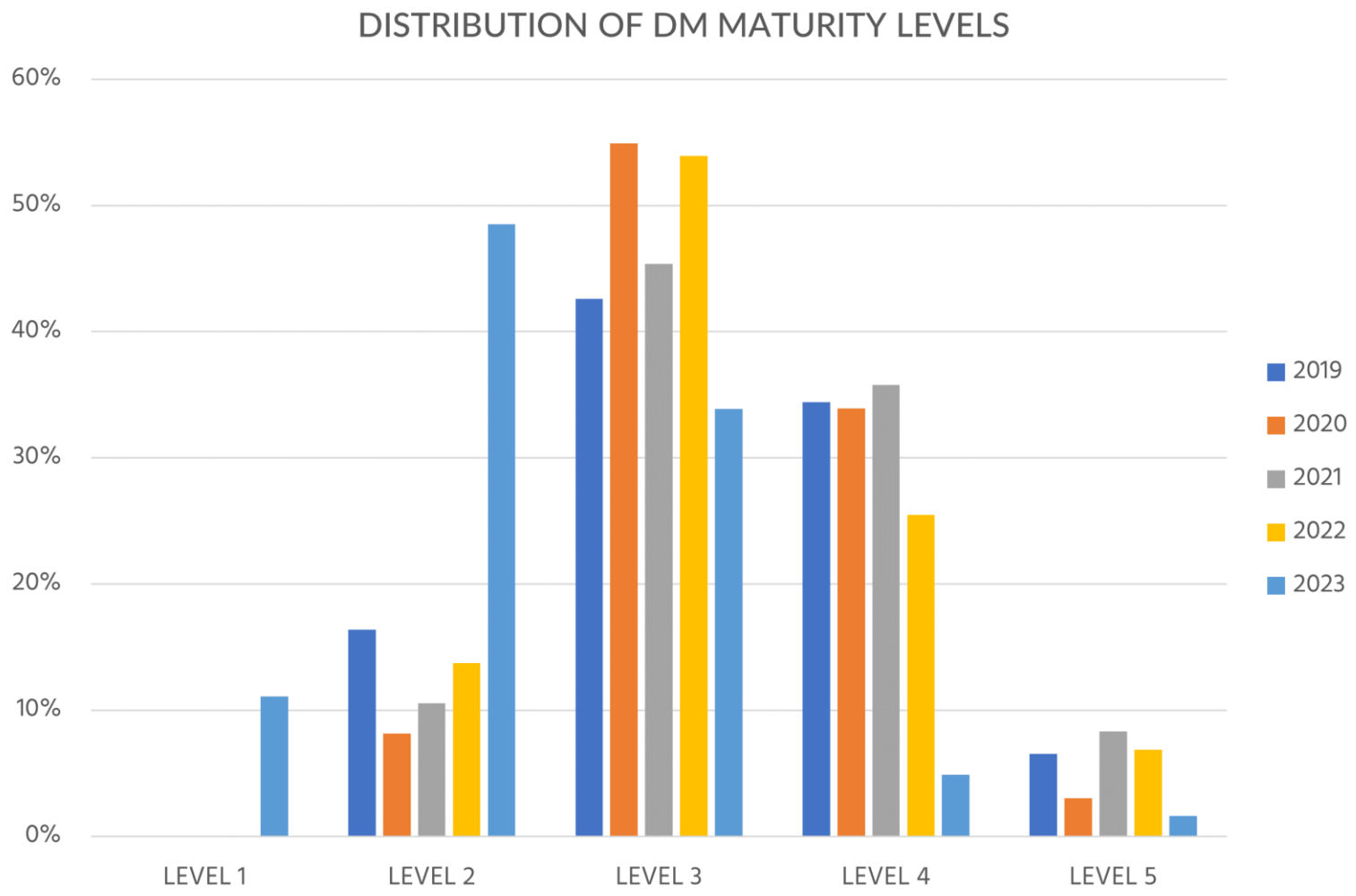



DATA MANAGEMENT MATURITY ASSESSMENT REVIEW 2021




DATA MANAGEMENT MATURITY ASSESSMENT REVIEW 2020

# The Overall Data Management Maturity Demonstrates Contradictory Trends



# XYZ Company Example: The DM (Data) Governance Scope and Maturity Assessment

| | |
|---|---|
| An initiative goal: | Establish a new DM (data) governance function |
| A DM scope: | List of DM capabilities: business architecture, data modeling, IS architecture, metadata management, data quality |
| Target period: | 9-12 months |

| A DM (data) governance deliverable: | Current maturity level | Required maturity level | Actions to close the GAP |
|---|---|---|---|
| Data management framework | | | |
| Data management scope | | | |
| Data (management) strategy | | | |
| DM operating model/structure | | | |
| DM organizational structure | | | |
| DM roles | | | |
| DM regulations | | | |
| DM processes | | | |

# XYZ Company, Example: “Data Management Role”

| DM Role | Functional/ Virtual | Status (Exist/To be created) | Involved in: | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Business architecture | DG | Data modeling | IS architecture | Metadata management | Data quality |
| Chief Architect | Functional | Exist | A | | A | A | A | |
| CDO | Functional | Exist | R | A | R | R | R | A & R* |
| Enterprise architect | Functional | Exist | | | R | R | | |
| Metadata architect | Functional | TBC | | | | | R | |
| Business data steward | Virtual | TBC | R | R | R | | R | A & R* |

*The level of responsibility depends on the processes and deliverables.

# Exercise 3: Assess Maturity of a Data Governance Capability and DM Roles in Your Company

1. Use Template 7, “The Data Governance Capability Maturity,” to assess the current and required status
2. Use Template 8, “The DM/DG Role,” to describe roles existing in your company

Preparation: 10 min

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3. **The Scope of a DG Initiative**
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   P.L.A.N. Maturity Assessment Approach
5. **DG Operating Model**
   Capability Customization D.I.A.G.R.A.M.
6. **DG and DM Roles and Bodies**
   Capability Customization D.I.A.G.R.A.M.
7. **DG set up for various DM capabilities**
8. **Integrated Implementation Roadmap**

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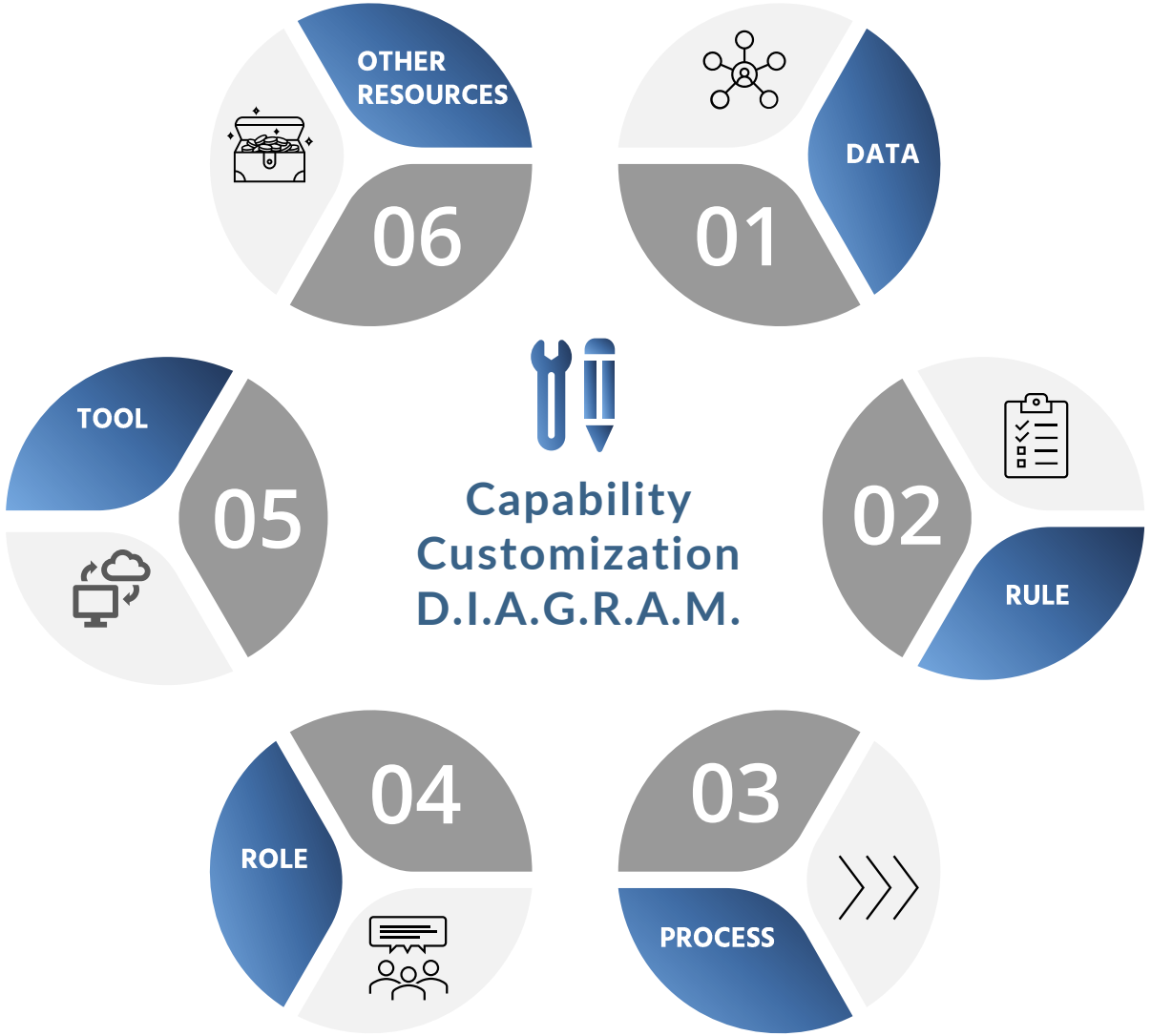
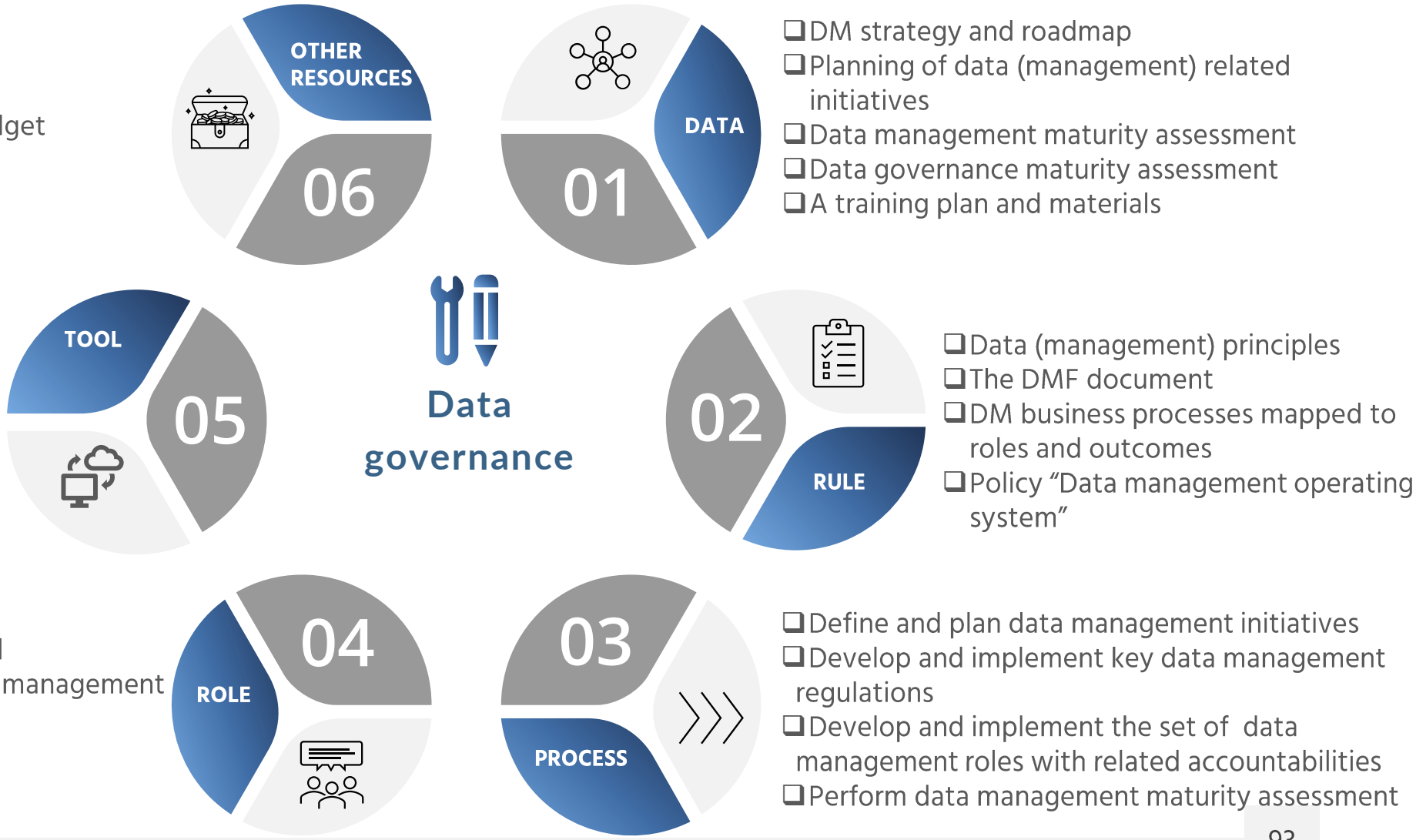
| | Templates | 224-237 | | |

# Each Data Management Capability Consists of 6 Components

These components allow for designing and implementing a data governance capability

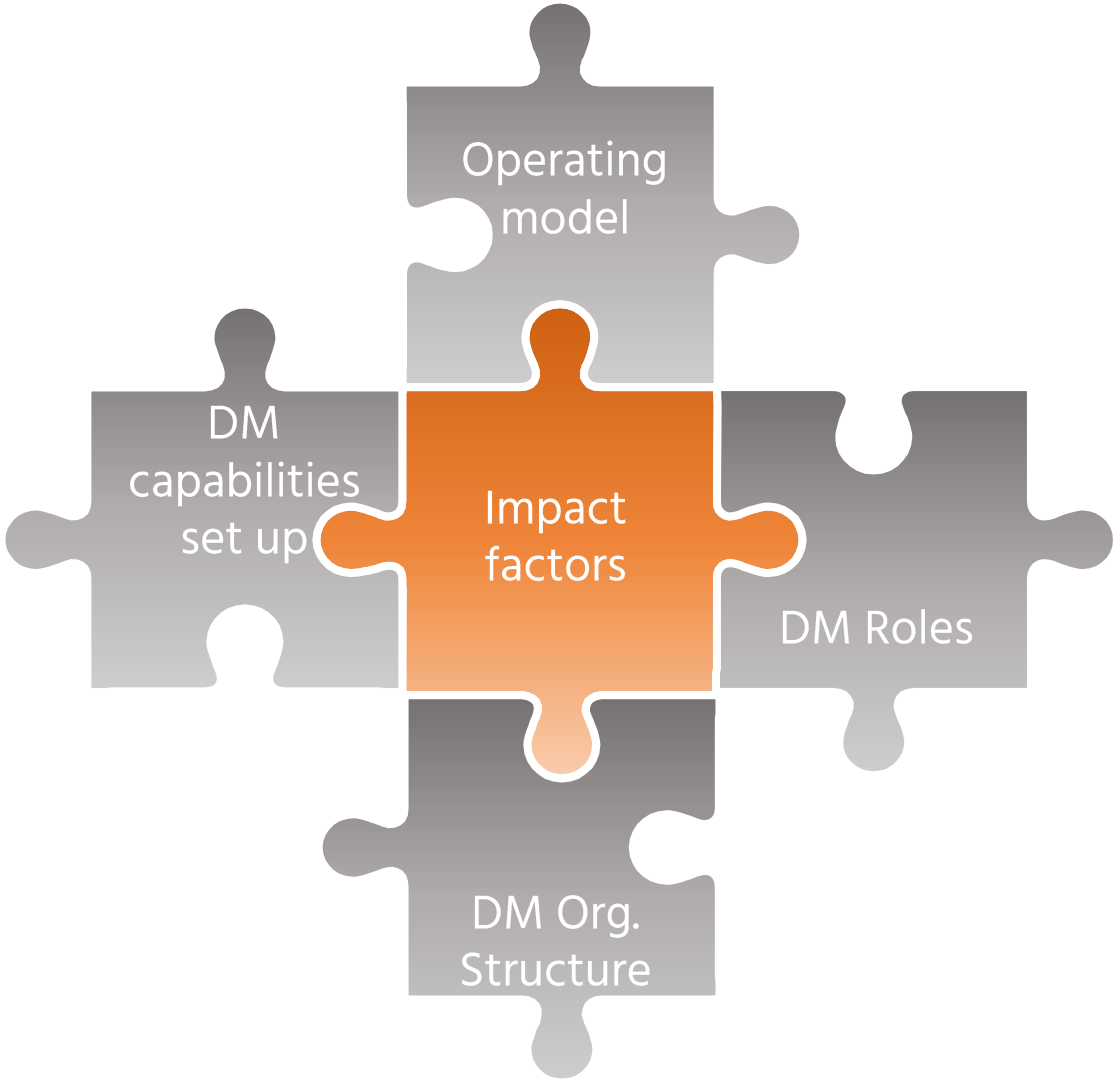


# We Will Design the Data Governance (DG) Capability in 6 Steps

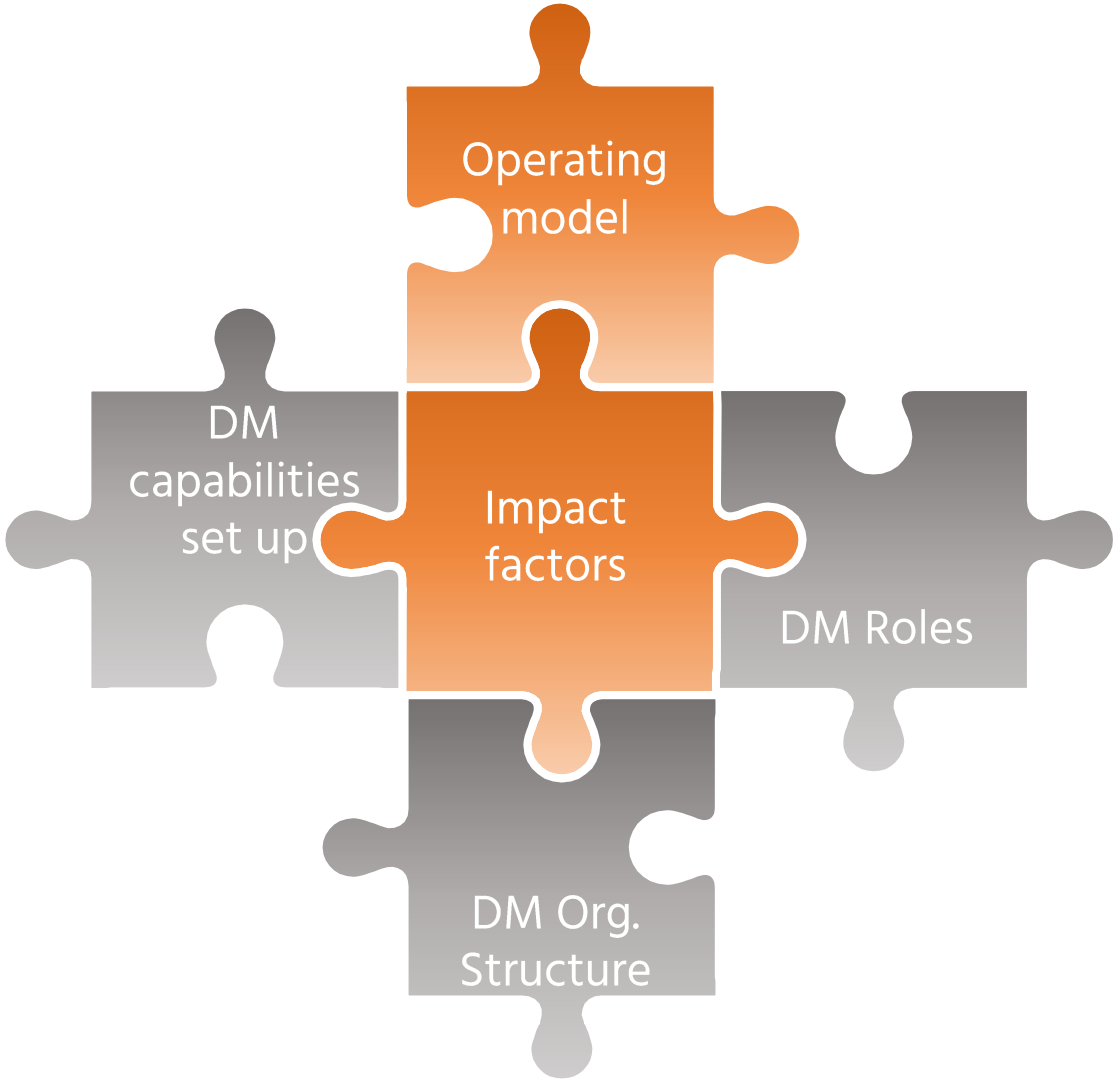



- ❑Budget
- ❑DM strategy and roadmap
- ❑Planning of data (management) related initiatives
- ❑Data management maturity assessment
- ❑Data governance maturity assessment
- ❑A training plan and materials
- ❑DG Tool
- ❑Data (management) principles
- ❑The DMF document
- ❑DM business processes mapped to roles and outcomes
- ❑Policy "Data management operating system"
- ❑DM operating model
- ❑DM bodies, i.e., data management board
- ❑DM office
- ❑Data stewards
- ❑Define and plan data management initiatives
- ❑Develop and implement key data management regulations
- ❑Develop and implement the set of data management roles with related accountabilities
- ❑Perform data management maturity assessment

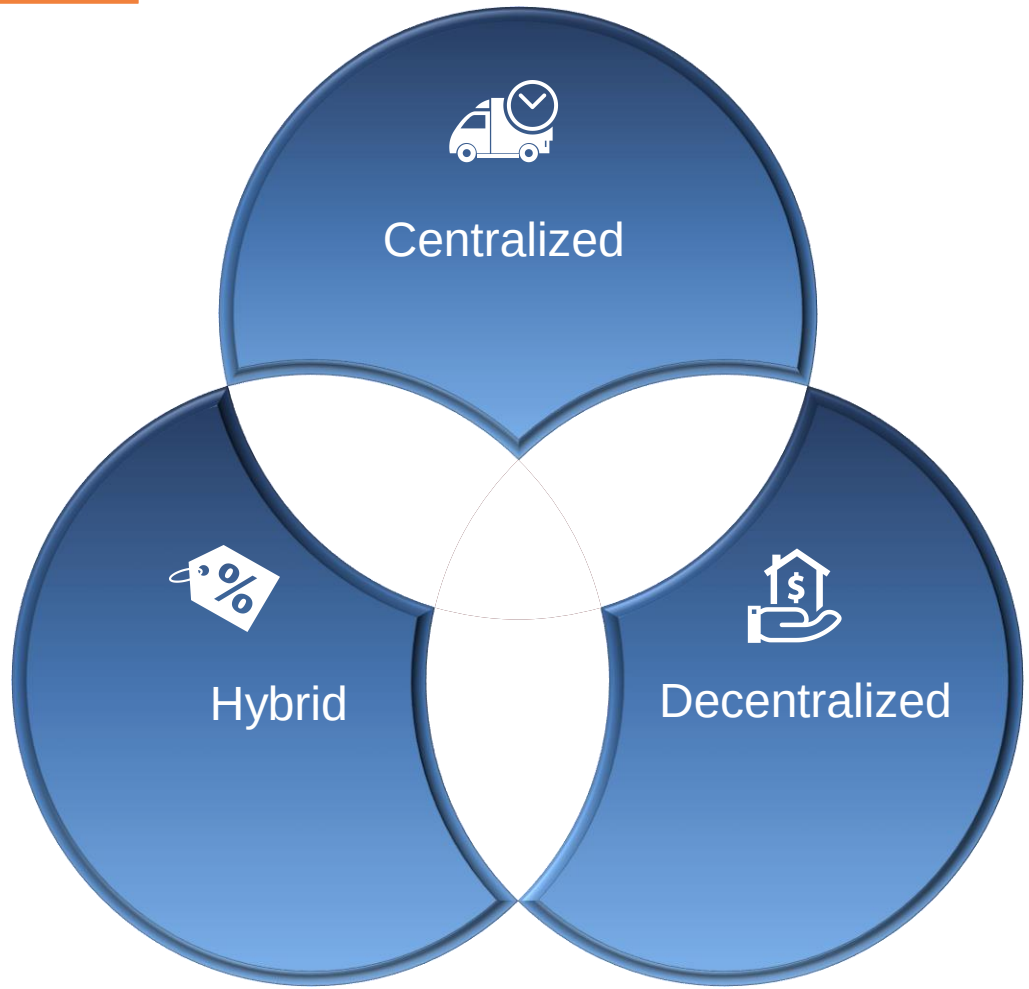
# An Organization Profile and IS Architecture Influence the Way DM Governance Establishes a Data Management Function



# An Organization Profile and IS Architecture Influence the Way DM Governance Establishes a Data Management Function



# Three Core Types of the DM Operating Structure Exist

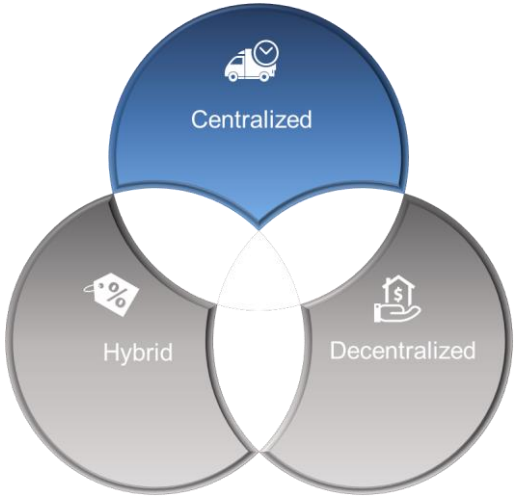



**01** DM and DG activities and decisions are under a single central authority

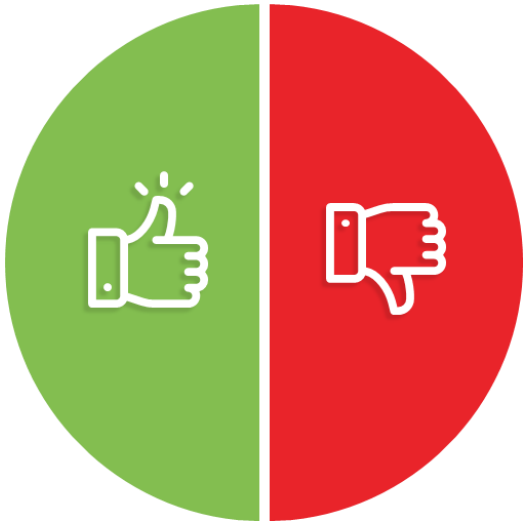
**02** DM and DG activities are distributed across business units with an advisory central authority

**03** DM and DG activities are split between a central body and business units

# The Centralized Operating Model Has Its Advantages and Disadvantages

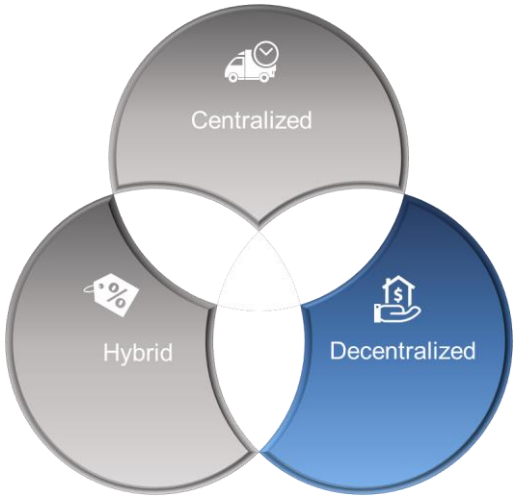



- ✓ Ability to align and standardize data management approaches
- ✓ Oversight and control over the overall level of data
- ✓ Conservation of resources



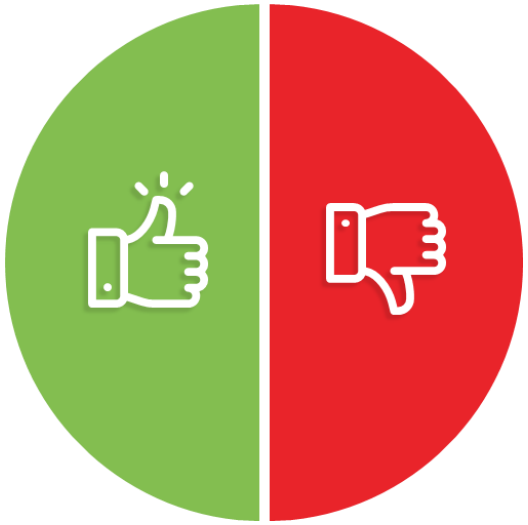
- ✗ The necessity to maintain a large central DM function
- ✗ Low flexibility and agility

# The Decentralized Operating Model Has Its Advantages and Disadvantages



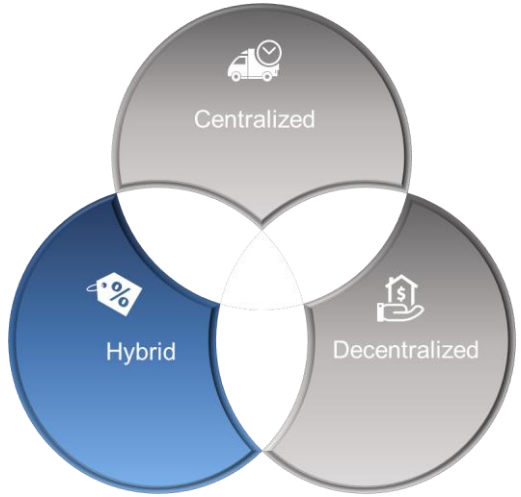

An agile and flexible approach

A more effective way to deliver quick results

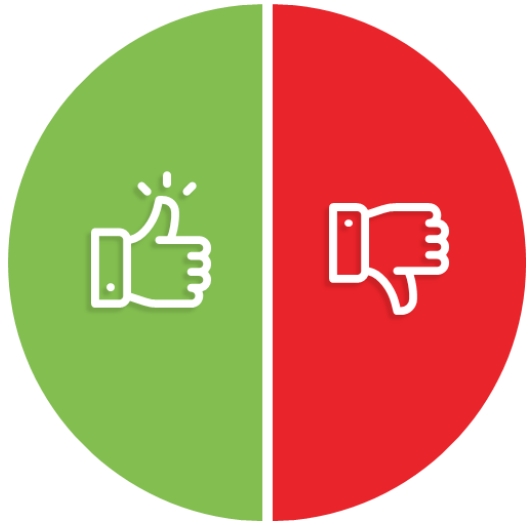


Inefficient utilization of resources

# The Hybrid Operating Model Has Its Advantages and Disadvantages




Depends on a solution



Depends on a solution

# The Choice of the Appropriate DM or DG Operating Model Depends on an Organization's Profile

| Factor category | Sub-category | A data management operating structure: | | |
|---|---|---|---|---|
| | | Centralized | Decentralized | Hybrid |
| Company's size | SME | | | |
| | Large company | | | |
| Geographical location | Local | | | |
| | National | | | |
| | Multinational | | | |
| Data architecture | Centralized | | | |
| | Decentralized | | | |

# The Accountabilities of the Central and Local Offices Depend on the Operating Model:

| Data management tasks | Data management operating structure: | | | |
|---|---|---|---|---|
| | Centralized | | Decentralized | |
| | Central office | Local office | Central office | Local office |
| Design regulations, processes, roles | | | central | local |
| Implement regulations processes, roles | | | | |
| Make decisions about IT tools | | | advise | decide |
| Implement IT tools | | | | |
| Plan DM activities | | | | |
| Coordinate and/or oversee DM activities | | | | |
| Manage DM activities | | | | |
| Coordinate activities of data stakeholders | | | | |

# XYZ Company, Example: “DM Operating Model/Structure”

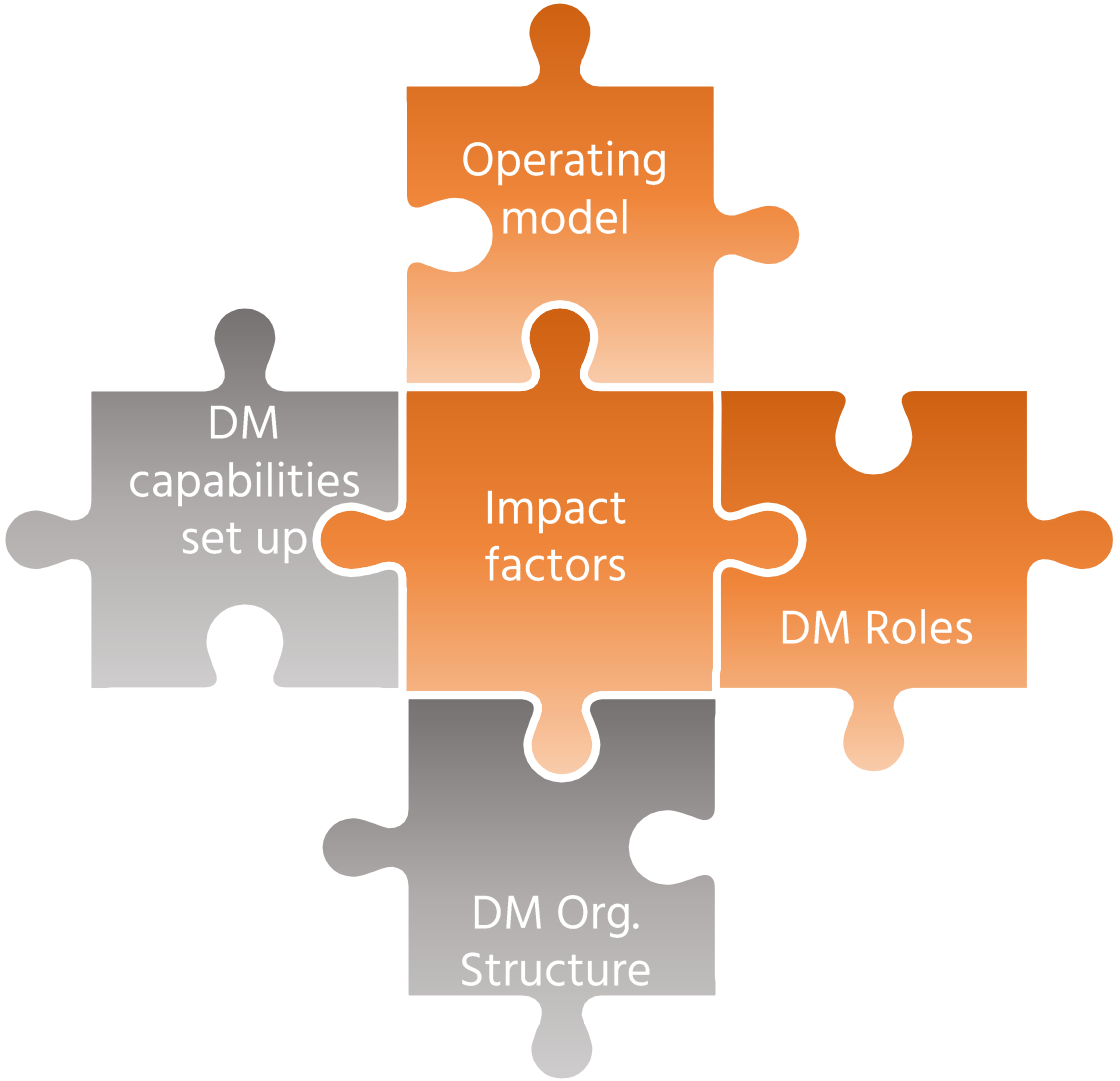
| Data management tasks | Data management operating structure: | |
|---|---|---|
| | Central office | Local offices |
| Design regulations, processes, roles | | |
| Implement regulations processes, roles | Coordinate | Manage |
| Select decisions about IT tools | Central | Local |
| Implement IT tools | Coordinate | Manage |
| Plan DM activities | Central | Local |
| Coordinate and/or oversee DM activities | | |
| Manage DM activities | Central | Local |
| Coordinate activities of data stakeholders | Central | Local |

# Exercise 4: Develop a DM Operating Model/Structure

1. Use Template 9, “DM Operating Model/Structure”
2. Define the required DM operating model/structure applicable to your company’s profile and data architecture

Preparation: 10 min

# An Organization Profile and IS Architecture Influence the Way DM Governance Establishes a Data Management Function



DEFINITION

# Role

"THE POSITION OR PURPOSE THAT SOMEONE OR SOMETHING HAS IN A SITUATION, ORGANIZATION, SOCIETY, OR RELATIONSHIP"

SOURCE: Dictionary.cambridge.org, Cambridge Dictionary, https://dictionary.cambridge.org/dictionary/english/role. Accessed 16 Feb. 2021

DEFINITION

# Business Role

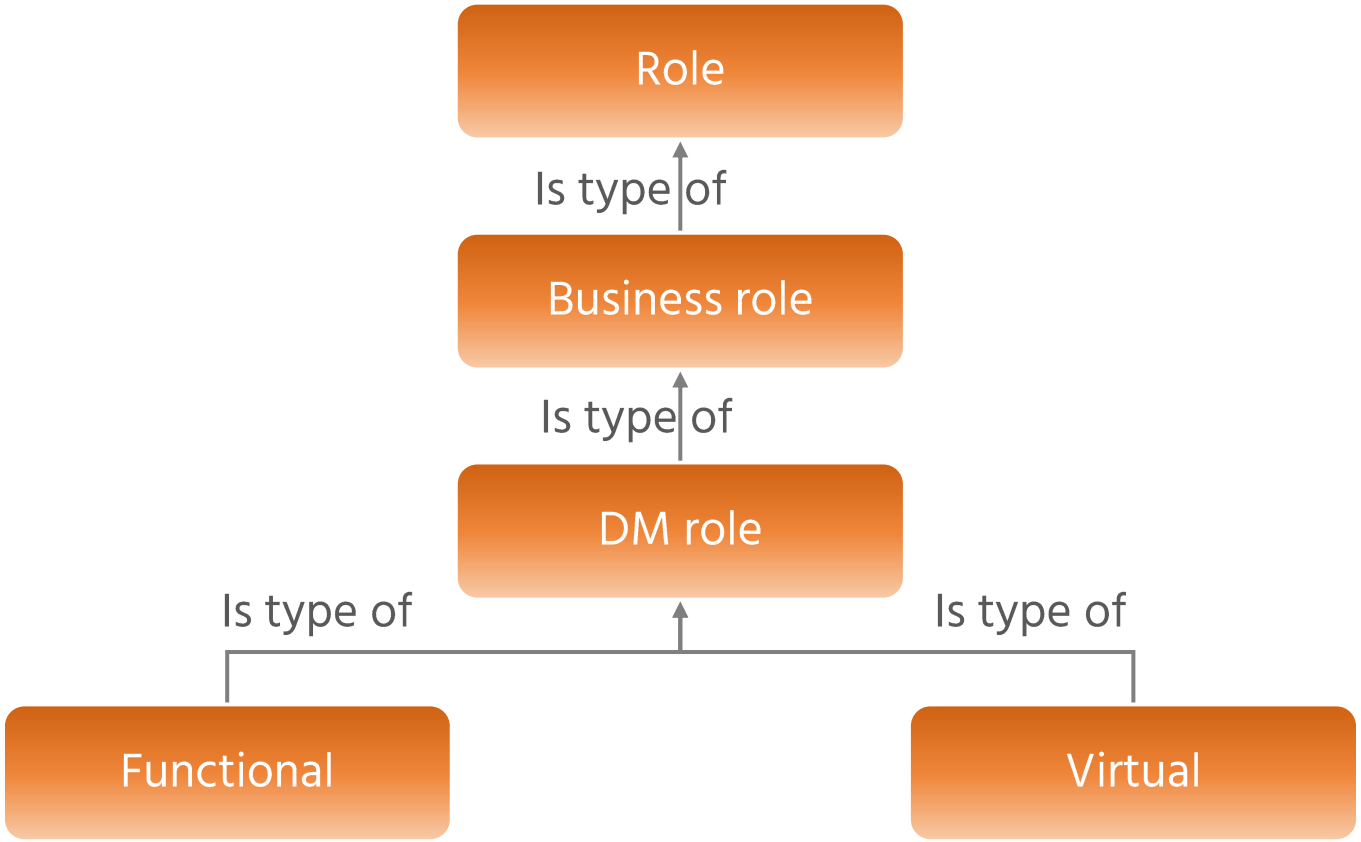
A ROLE THAT CONTRIBUTES TO ORGANIZATIONAL PERFORMANCE THROUGH THE APPLICATION OF SKILLS, KNOWLEDGE, EXPERIENCE, OR ABILITIES

DEFINITION

# Data Management Role

A BUSINESS ROLE THAT PERFORMS DATA MANAGEMENT-RELATED TASKS AND DELIVERS INTENDED DATA MANAGEMENT OUTCOMES

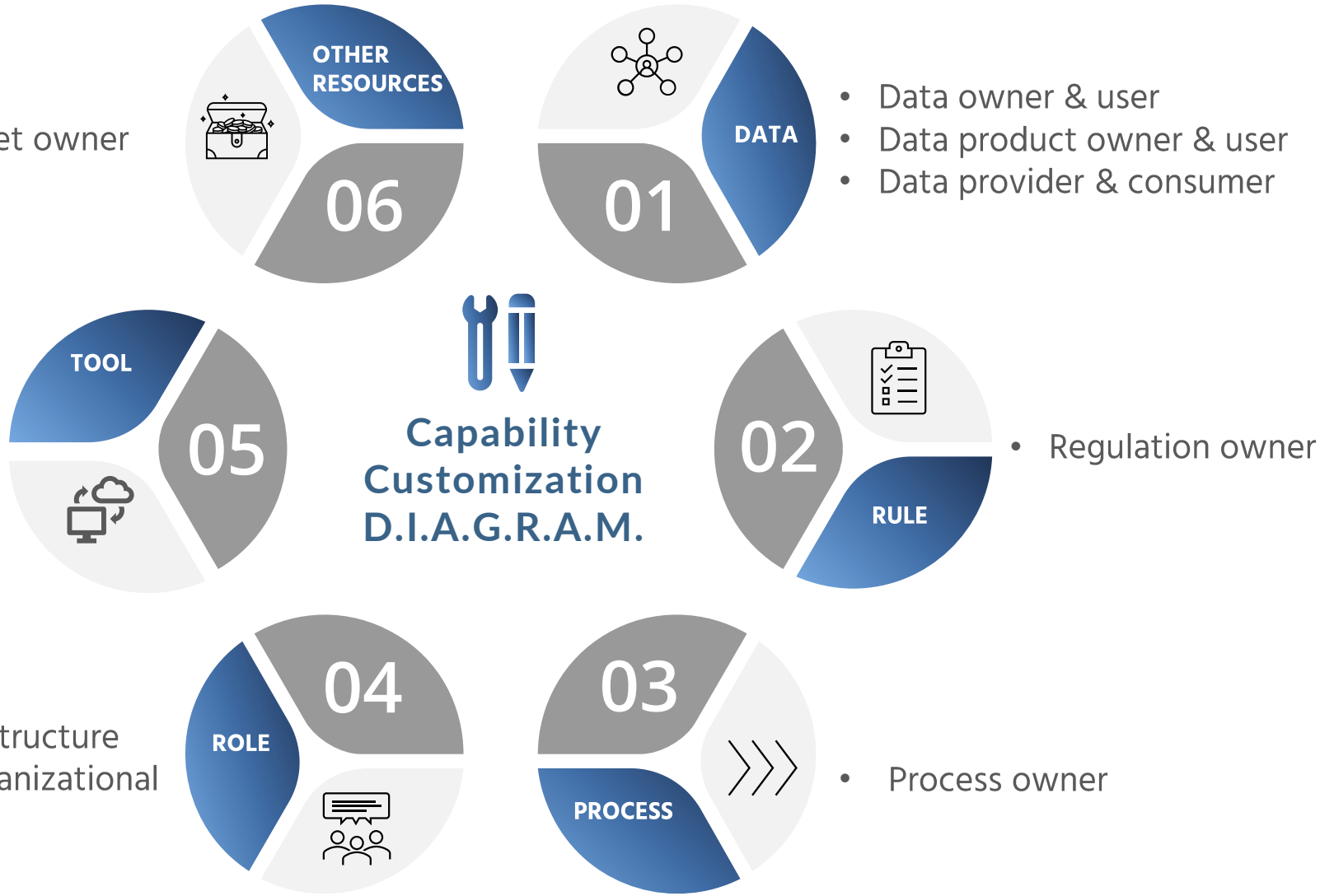
# Data Management Roles Can Be Functional and/or Virtual



# XYZ Company, Example: Functional Role vs. Data Steward Type

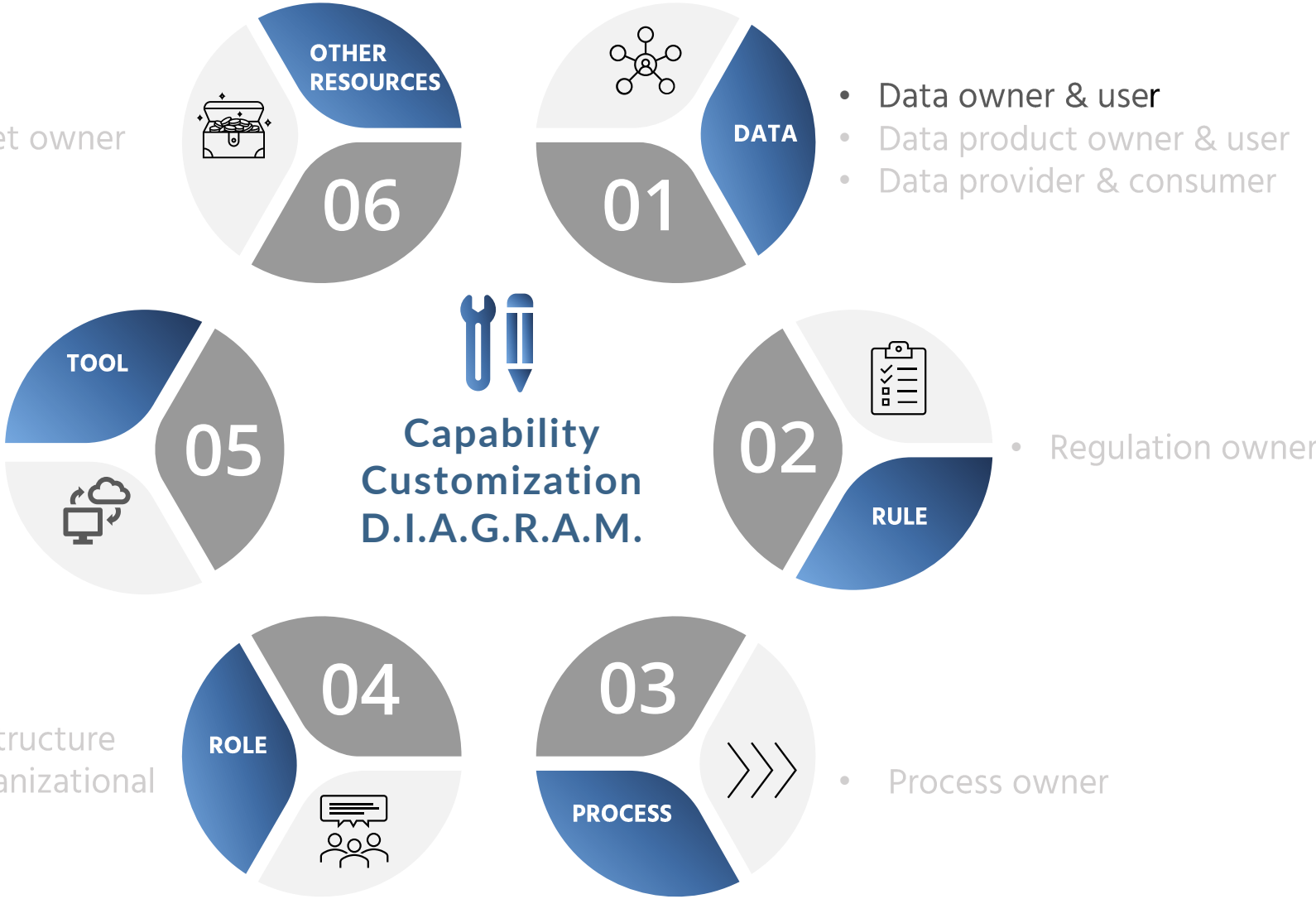
| Functional role | Business unit | Data steward type | | |
|---|---|---|---|---|
| | | Business data steward | Data management steward | Technical data steward |
| CFO | | | | |
| CIO | | | | |
| CDO | | | | |
| Enterprise architect | | | | |

# Data Management Roles Correspond to DM Capability Components




- Budget owner
- Data owner & user
- Data product owner & user
- Data provider & consumer
- Application or System owner
- Regulation owner
- Organizational structure (managerial/organizational levels)
- Process owner

# Data Management Roles Correspond to DM Capability Components




- Budget owner
- Data owner & user
- Data product owner & user
- Data provider & consumer
- Application or System owner
- Regulation owner
- Organizational structure (managerial/organizational levels)
- Process owner

DEFINITION

# Data Owner

A BUSINESS DATA STEWARD THAT "HAS APPROVAL AUTHORITY FOR A DECISION ABOUT DATA WITHIN THEIR DOMAIN"

SOURCE: DAMA INTERNATIONAL. DAMA-DMBOK: DATA MANAGEMENT BODY OF KNOWLEDGE, SECOND EDITION. BRADLEY BEACH, N.J.: TECHNICS PUBLICATIONS, 2017, P.77.
A

# Key Accountabilities of a Data Owner Are:

| Data Owner: | |
|---|---|
| | Verify data accuracy |
| | Manage the data lifecycle, including data sourcing, processing, and distribution |
| | Define metadata for owned data |
| | Define the intended data use |
| | Provide access to data |
| | Ensure delivery of data according to the required quality |
| | Resolve data quality issues |
| | Manage business rules applied to data processing |

DEFINITION

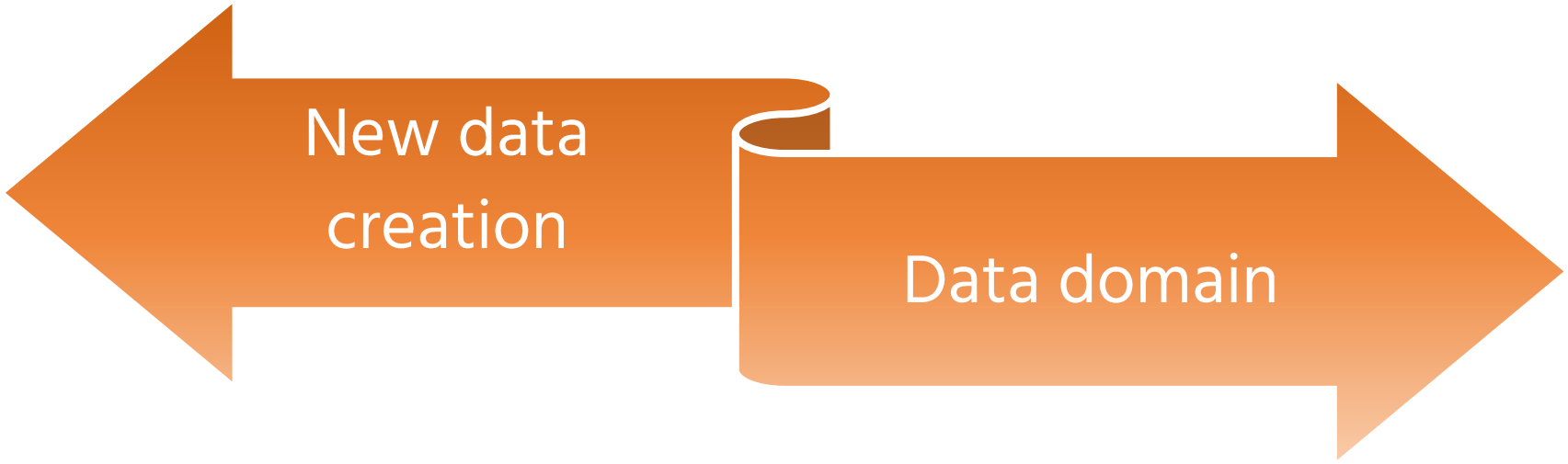
# Data User

A BUSINESS DATA STEWARD WHO USES DATA ACCORDING TO ITS INTENDED USE

# Key Accountabilities of a Data User Are:

| | |
|---|---|
| Data User: | Identify use cases and define data requirements |
| | Define data quality requirements and deliver them to data users |
| | Use data according to the intended use |
| | Verify the correspondence of the quality of delivered data to initial requirements |
| | Report data quality issues |

# Two Key Approaches to Assign Data Ownership Exist:




| An approach to assigning data ownership | Information systems architecture: | |
|---|---|---|
| | Centralized | Decentralized |
| New data creation | | |
| Data domain | | |

DEFINITION

# New Data Creation Approach

NEW DATA IS CREATED AT ONE OF THE DATA LIFECYCLE PROCESSES WHEN RAW DATA UNDERGOES TRANSFORMATION, INTEGRATION, OR AGGREGATION.

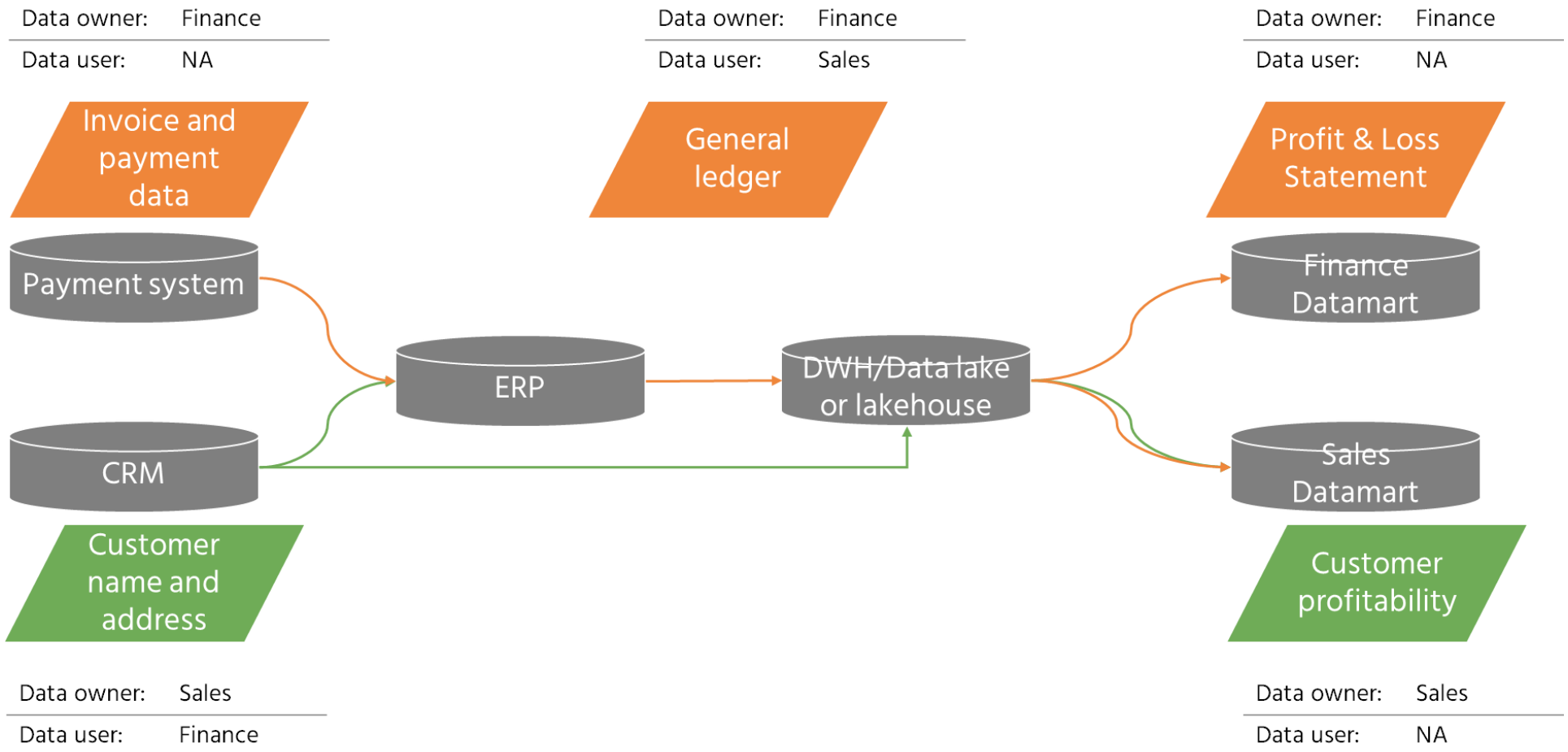
A NEW DATA OWNER IS ASSIGNED WHEN NEW DATA IS CREATED.

DEFINITION

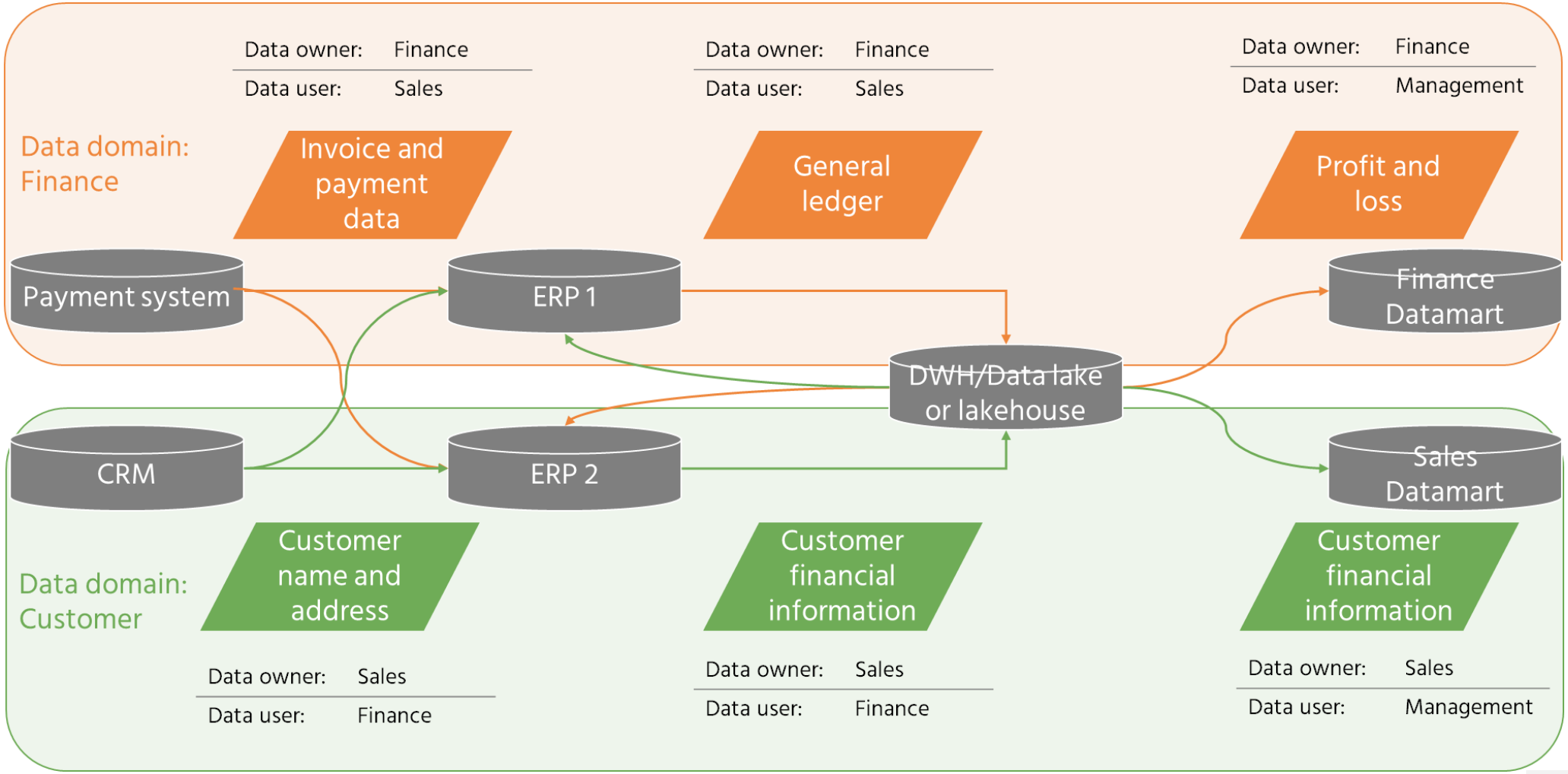
# Data Domain

A SPECIFIC SUBJECT OR AREA OF THE ENTERPRISE'S BUSINESS FOR WHICH DATA IS COLLECTED, PROCESSED, AND STORED

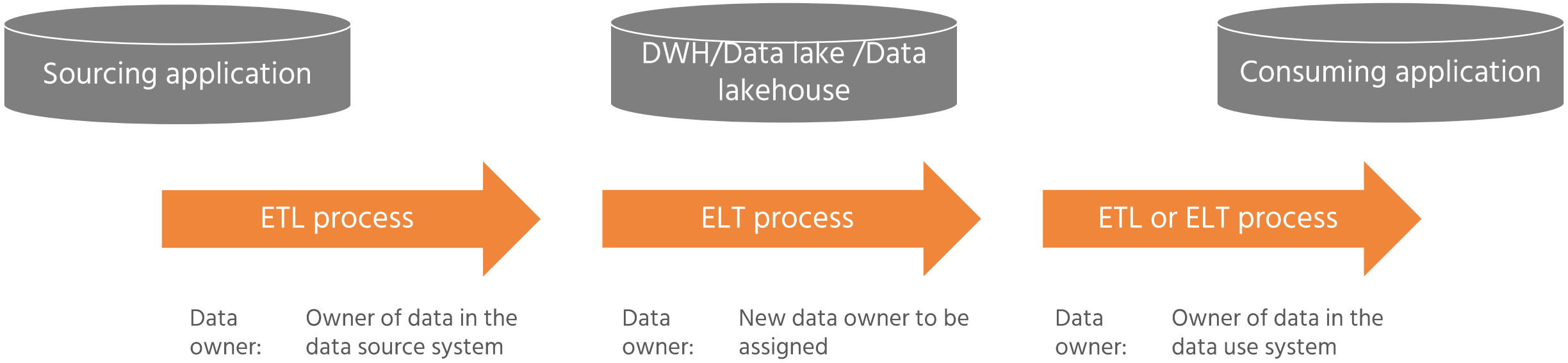
# Centralized Data Architecture: New Data Creation Approach



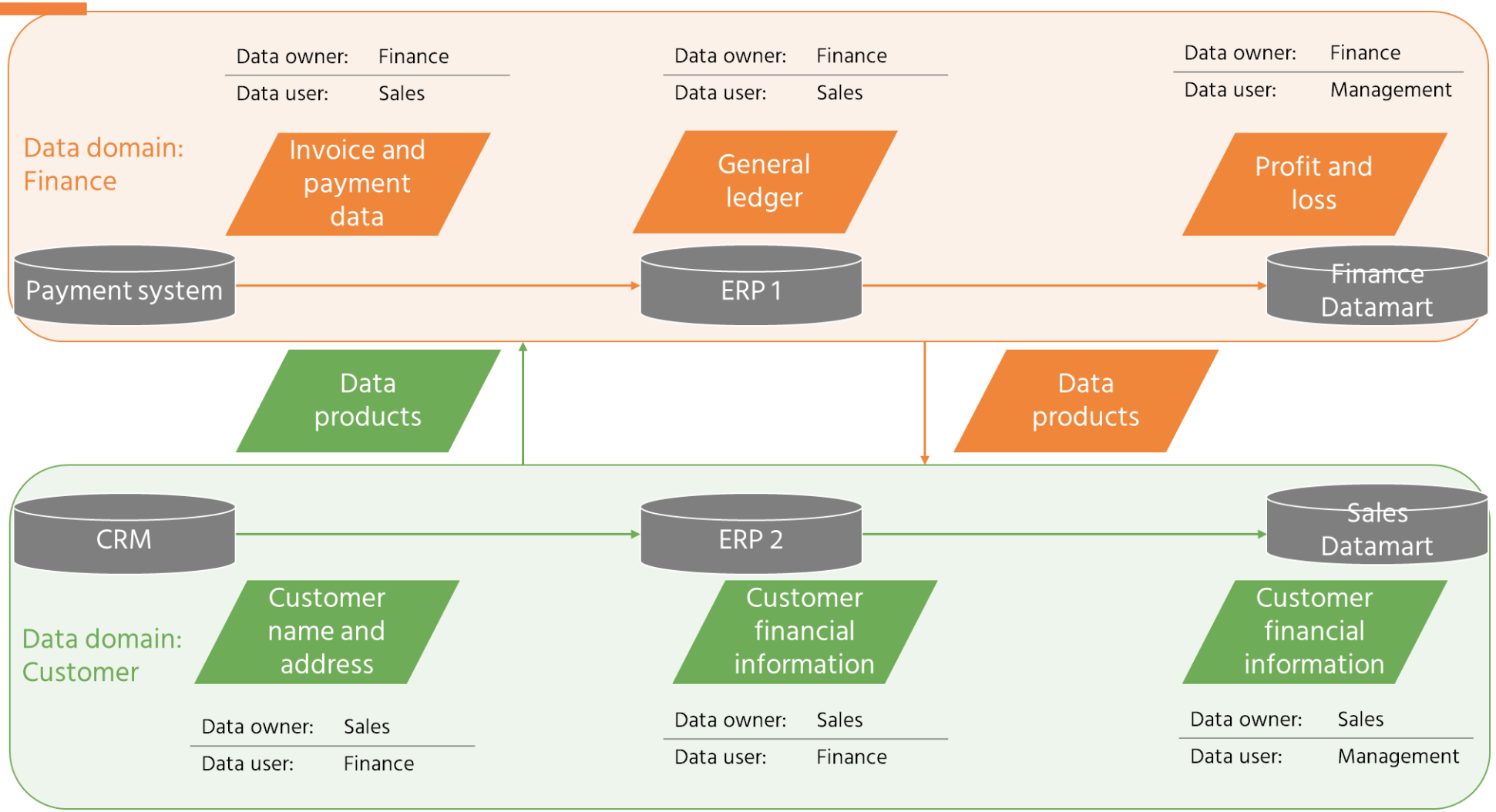
# Centralized Data Architecture: Data Domain Approach



# The Location of Data Transformation Process Defines the Assignment of Ownership



# Decentralized Data Architecture: Data Domain Approach



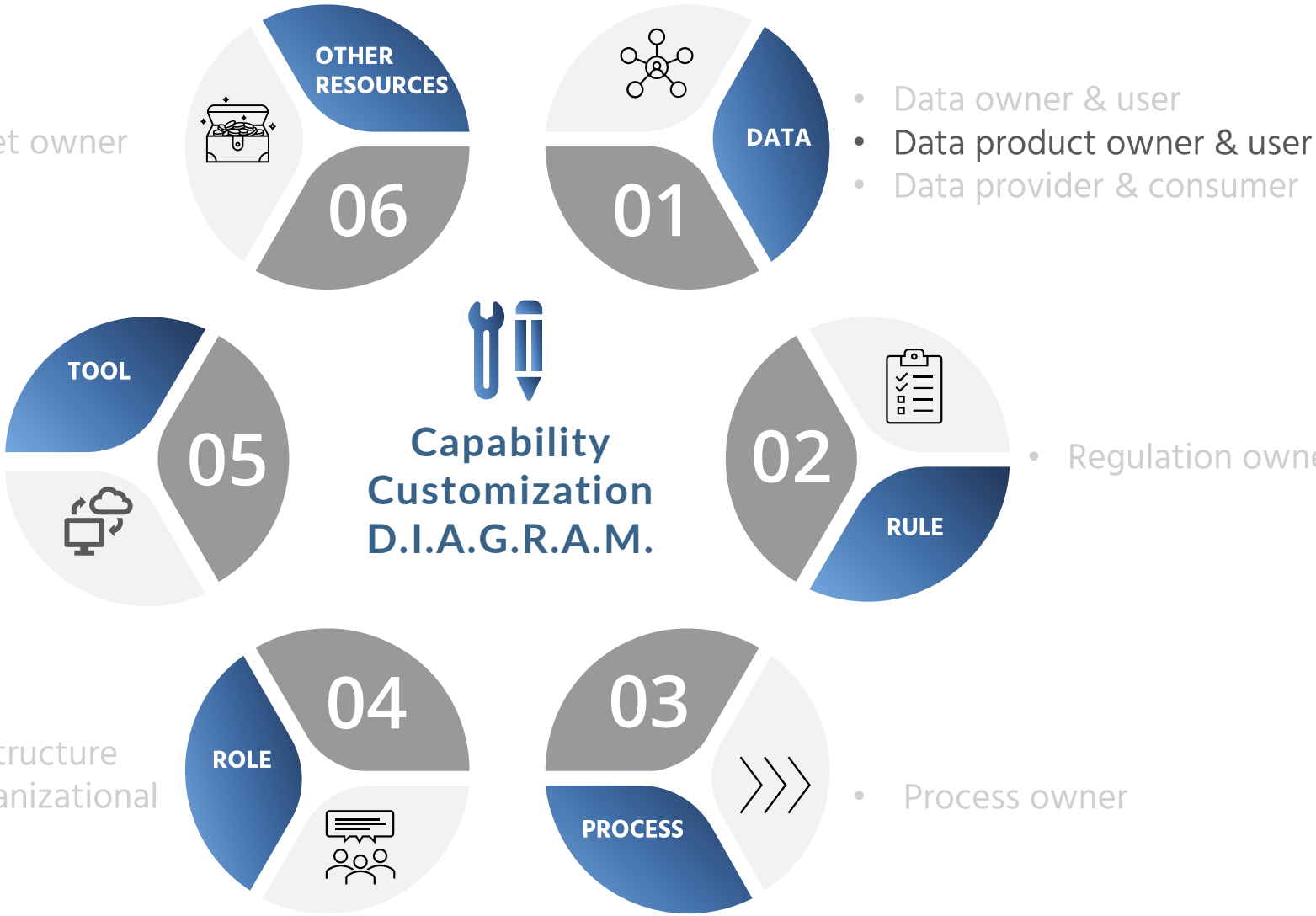
# Exercise 5: Define Data Owner and User Roles

1. Use Template 10, “Functional Roles vs. Data Steward Type”

2. Map existing functional roles to the data steward types

Preparation: 10 min

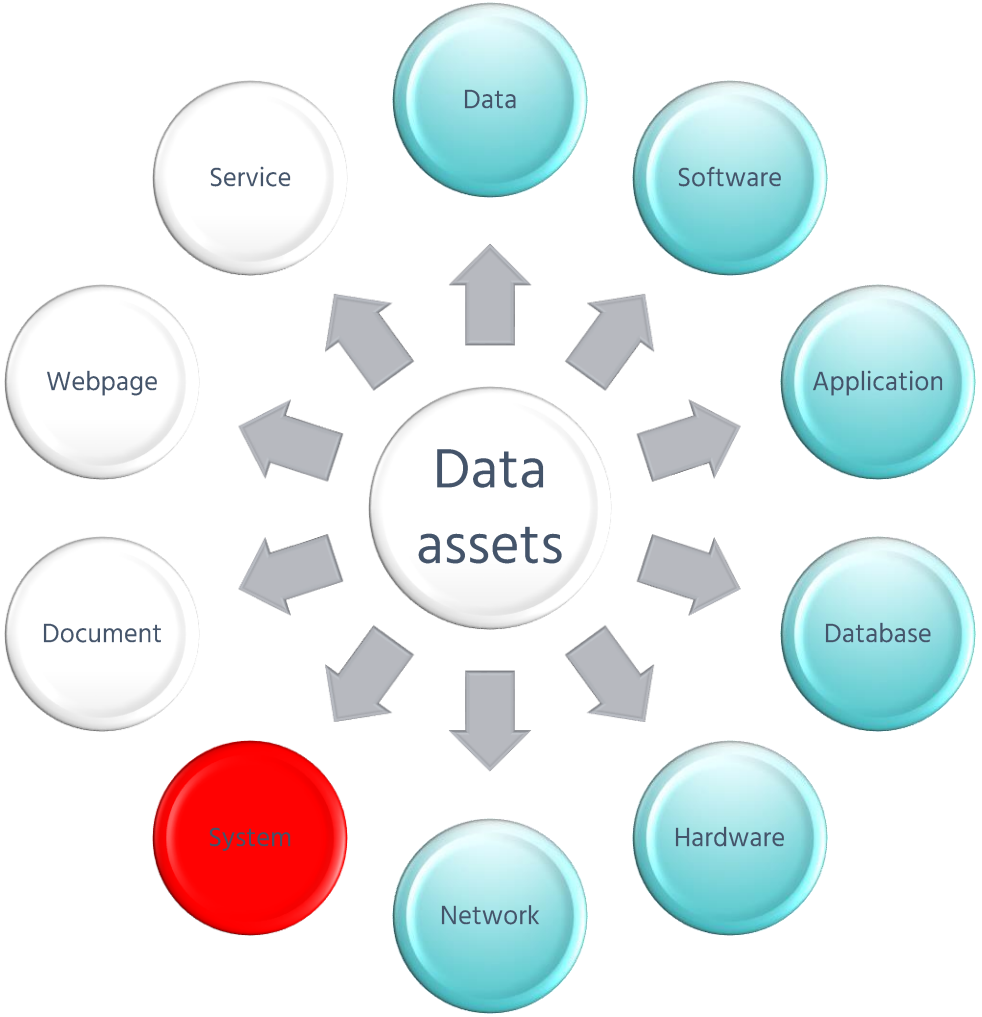
# Data Management Roles Correspond to DM Capability Components



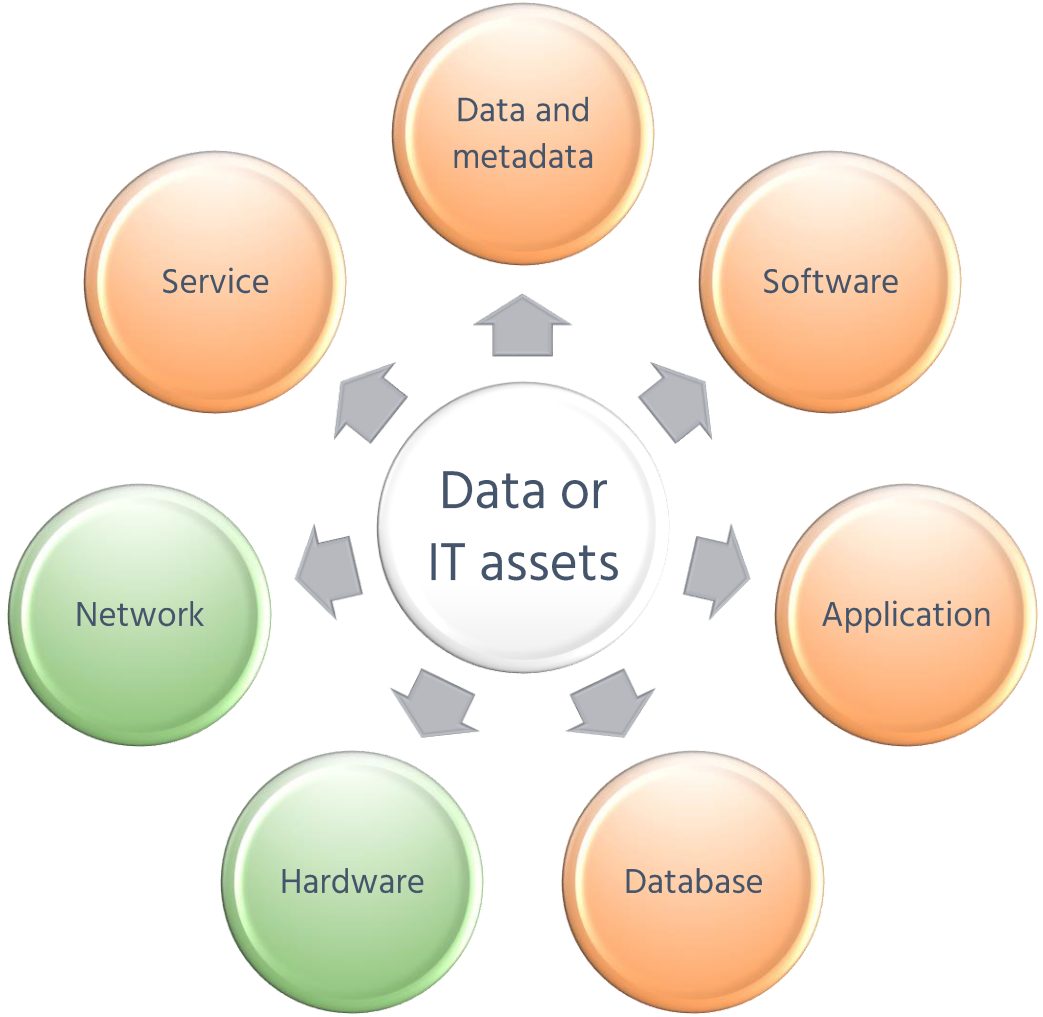

- Budget owner
- Data owner & user
- Data product owner & user
- Data provider & consumer
- Application or System owner
- Regulation owner
- Organizational structure (managerial/organizational levels)
- Process owner

# Various Sources Have Quite Different Viewpoints on Data Assets:

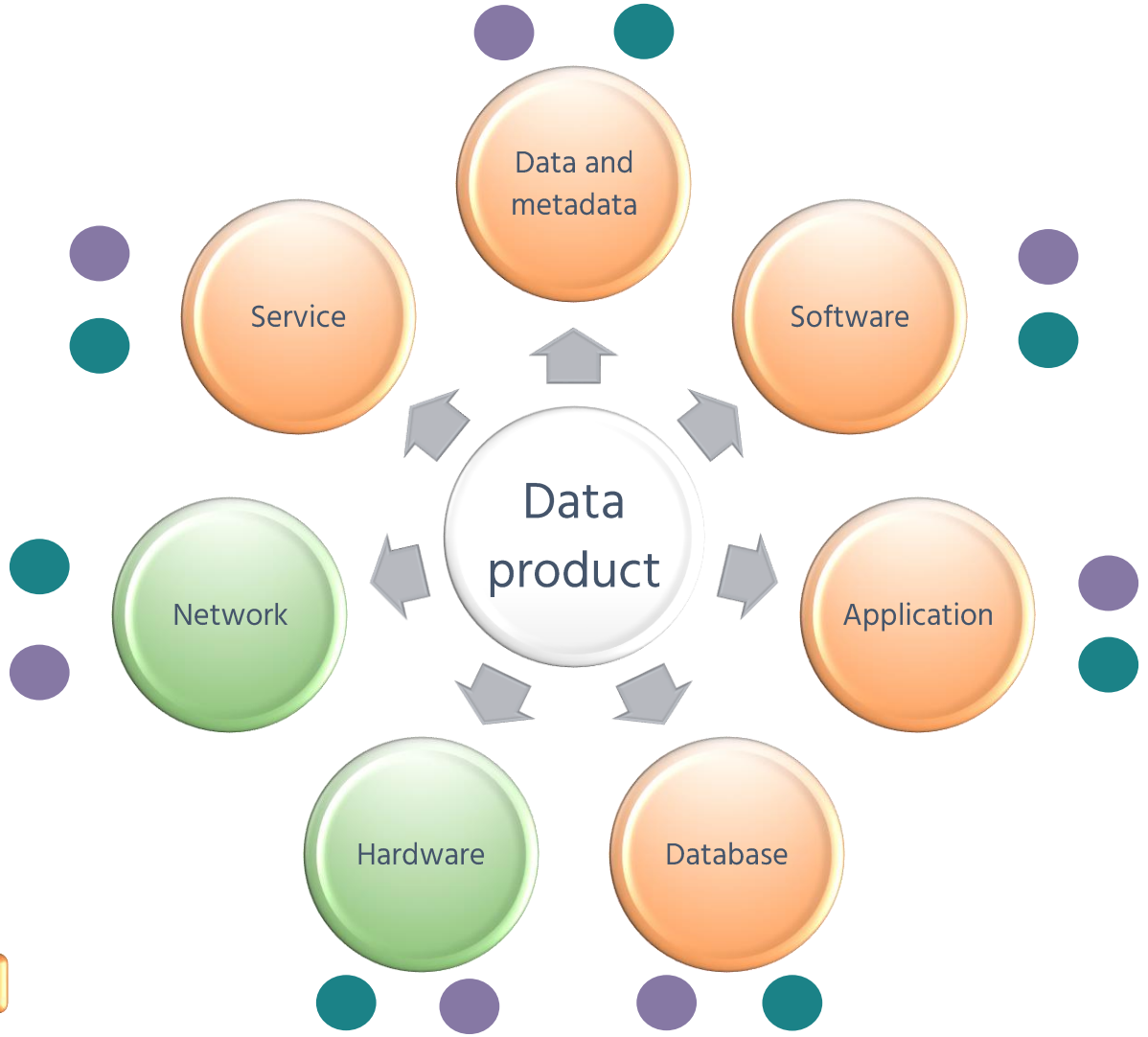
# “ISO/IEC 20944-1:2013 Information technology — Metadata Registries Interoperability and Bindings (MDR-IB)” Has a Complex View Regarding an IT System:



# A Company Has a Choice to Separate or Combine Data-Related and IT Infrastructure Assets:



# A Data Product is an Output of a Process that May Include the Following:




Gartner

Data mesh concept*

Data-related

IT infrastructure





*Source: Dehghani, Zhamak. "Data Mesh Principles and Logical Architecture." *martinfowler.com,* martinfowler.com/articles/data-mesh-principles.html. Accessed 25 Oct. 2022.

DEFINITION

# Data Product

AN OUTPUT OF A DATA-RELATED PROCESS THAT COULD INCLUDE DATA, METADATA, SOFTWARE, APPLICATION, DATABASE, AND SERVICE. HARDWARE AND NETWORKS ARE OPTIONAL COMPONENTS

DEFINITION

# Data Assets

A COLLECTION OF DATA PRODUCTS RESULTING FROM DATA-RELATED PROCESSES

DEFINITION

# Data Product Owner

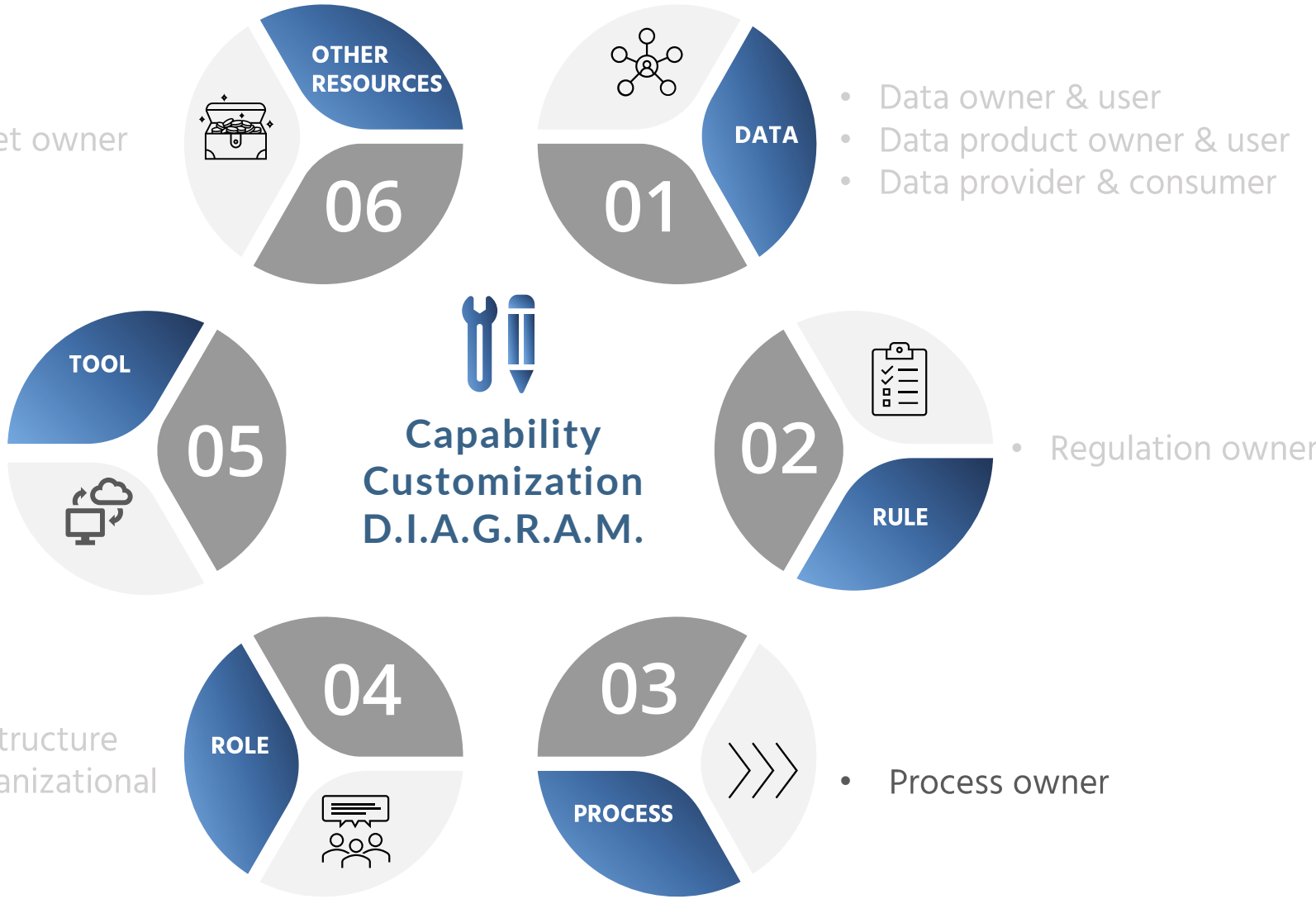
A DATA MANAGEMENT ROLE ACCOUNTABLE FOR THE DESIGN, IMPLEMENTATION, AND DISTRIBUTION OF A DATA PRODUCT

DEFINITION

# Data Product User

A DATA MANAGEMENT ROLE ACCOUNTABLE FOR THE PROPER USAGE OF A DATA PRODUCT

# Data Management Roles Correspond to DM Capability Components



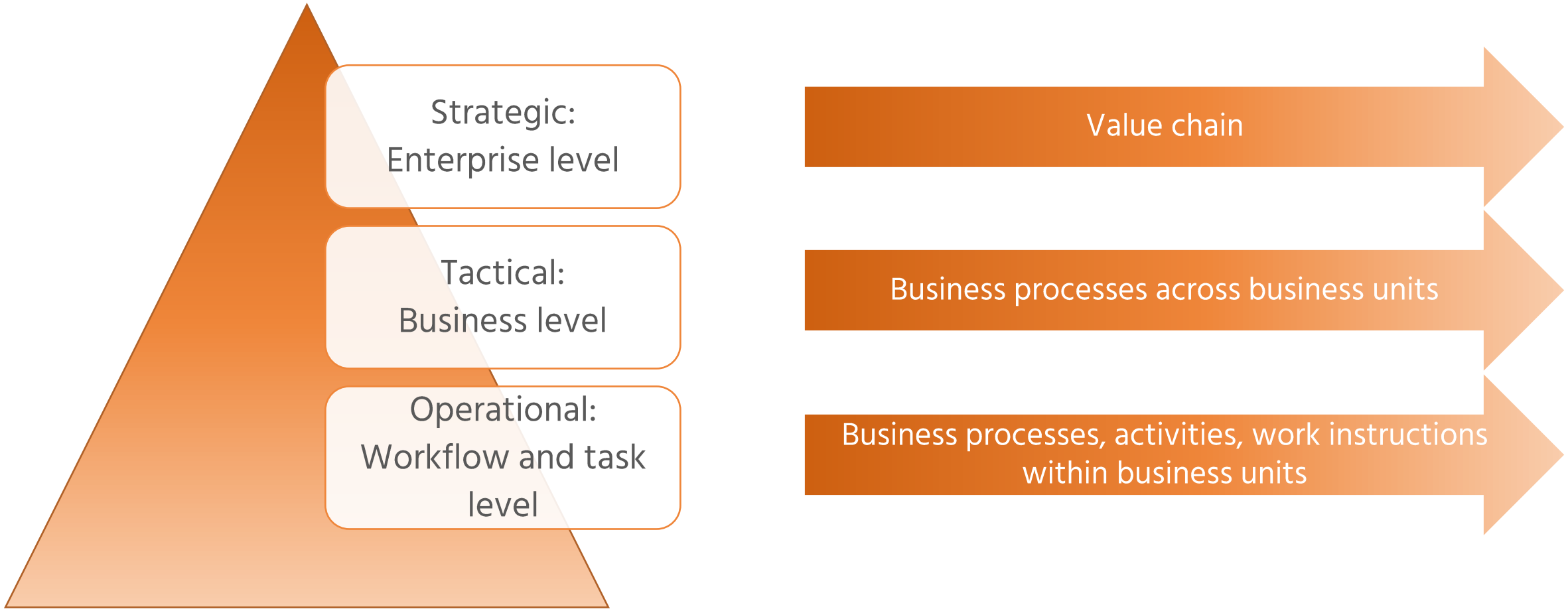

- Budget owner
- Data owner & user
- Data product owner & user
- Data provider & consumer
- Application or System owner
- Regulation owner
- Organizational structure (managerial/organizational levels)
- Process owner

DEFINITION

# Process

A SET OF ACTIVITIES THAT ARE INTENDED TO ACHIEVE DESIRED GOALS AND/OR PRODUCE OUTCOMES

# Business Processes Can Be Developed at Various Organizational Levels



DEFINITION

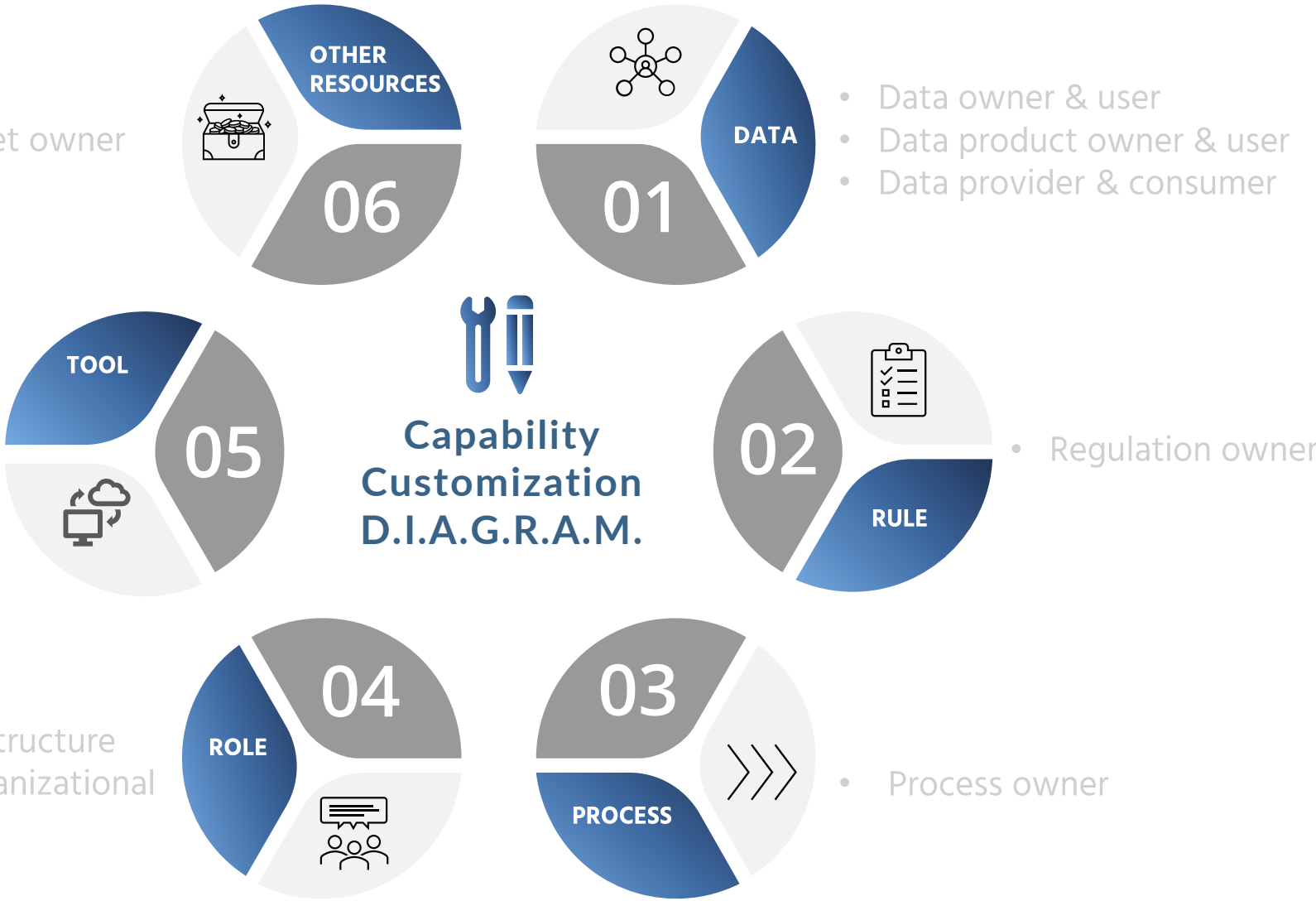
# Process Owner

A BUSINESS ROLE ACCOUNTABLE FOR ESTABLISHING AND MANAGING THE PROCESS PERFORMANCE AND CHANGE

# Key Accountabilities of a Process Owner Are:

| | |
|---|---|
| Process Owner: | Defining the process mission, vision, tactics, goals, objectives, KPIs (Key Performance Indicators), and the measures that are aligned with the organization strategies |
| | Monitoring and reporting on process performance against KPI |
| | Synchronizing process improvement plans with other process owners within the value chain and other interfacing processes |
| | Ensuring appropriate process designs, including the correct business requirements |
| | Defining and sponsoring business process change and capability investments, which continuously increase the maturity of the process and sustain each level of maturity |

# Data Management Roles Correspond to DM Capability Components




- Budget owner
- Data owner & user
- Data product owner & user
- Data provider & consumer
- Application or system owner
- Regulation owner
- Organizational structure (managerial/organizational levels)
- Process owner

DEFINITION

# Software

ALL OR PART OF THE PROGRAMS, PROCEDURES, RULES, AND ASSOCIATED DOCUMENTATION OF AN INFORMATION PROCESSING SYSTEM

Source: https://www.iso.org/obp/ui/#iso:std:iso-iec:20944:-1:ed-1:v1:en:term:3.6.3.1

DEFINITION

# Application

SOFTWARE OR A PROGRAM THAT IS SPECIFIC TO THE SOLUTION OF AN APPLICATION PROBLEM

Source: https://www.iso.org/obp/ui/#iso:std:iso-iec:20944:-1:ed-1:v1:en:term:3.6.3.1

SOFTWARE FUNCTIONS AND SERVICES IMPLEMENTED TOGETHER TO SUPPORT ONE OR MORE RELATED BUSINESS PROCESSES

Source: DAMA International, The DAMA Dictionary of Data Management, Second Edition: Technics Publications, 2011, p.15

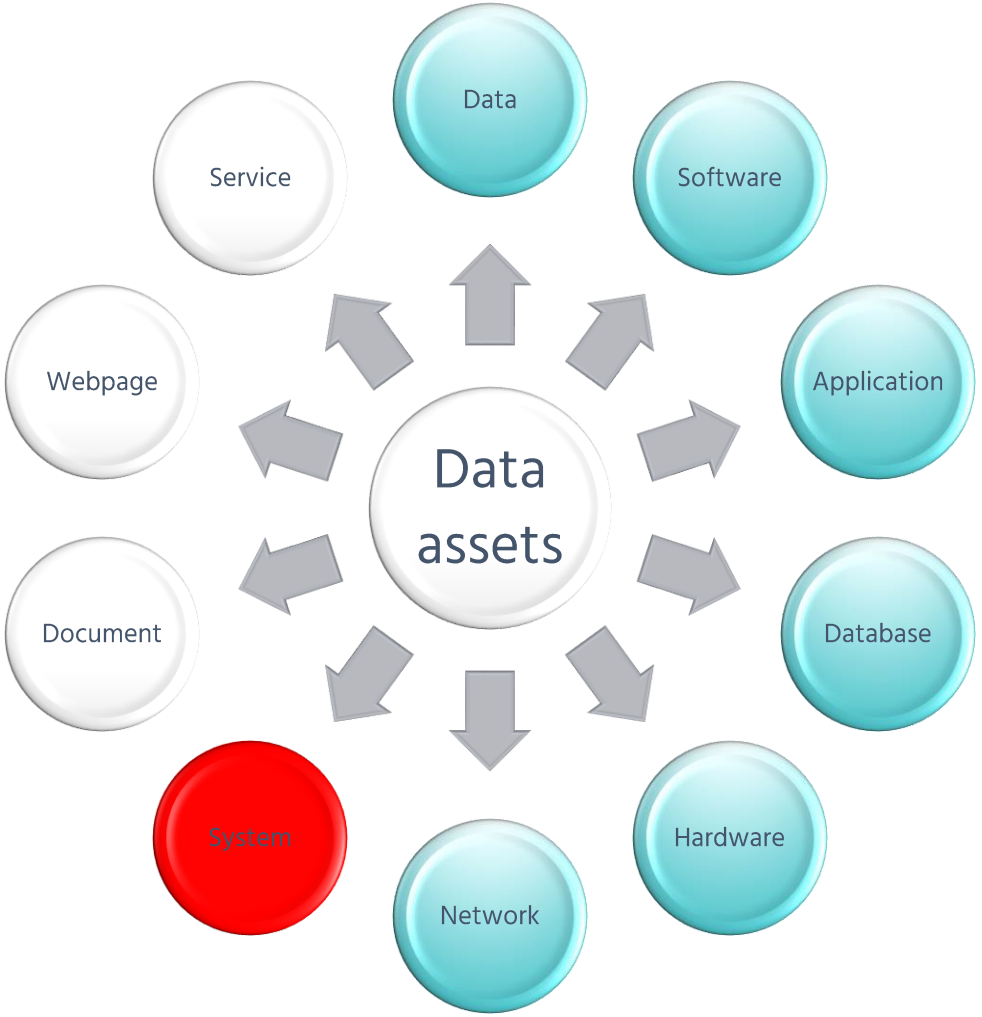
DEFINITION

# Information System

A DISCRETE SET OF INFORMATION RESOURCES ORGANIZED FOR THE COLLECTION, PROCESSING, MAINTENANCE, USE, SHARING, DISSEMINATION, OR DISPOSITION OF INFORMATION

Source: Editor, CSRC Content. “Information System - Glossary: CSRC.” CSRC Content Editor, csrc.nist.gov/glossary/term/information_system. Accessed 12 Aug. 2023.

# “ISO/IEC 20944-1:2013 Information technology — Metadata Registries Interoperability and Bindings (MDR-IB)” Has a Complex View Regarding an IT System:



DEFINITION

# Information System Owner

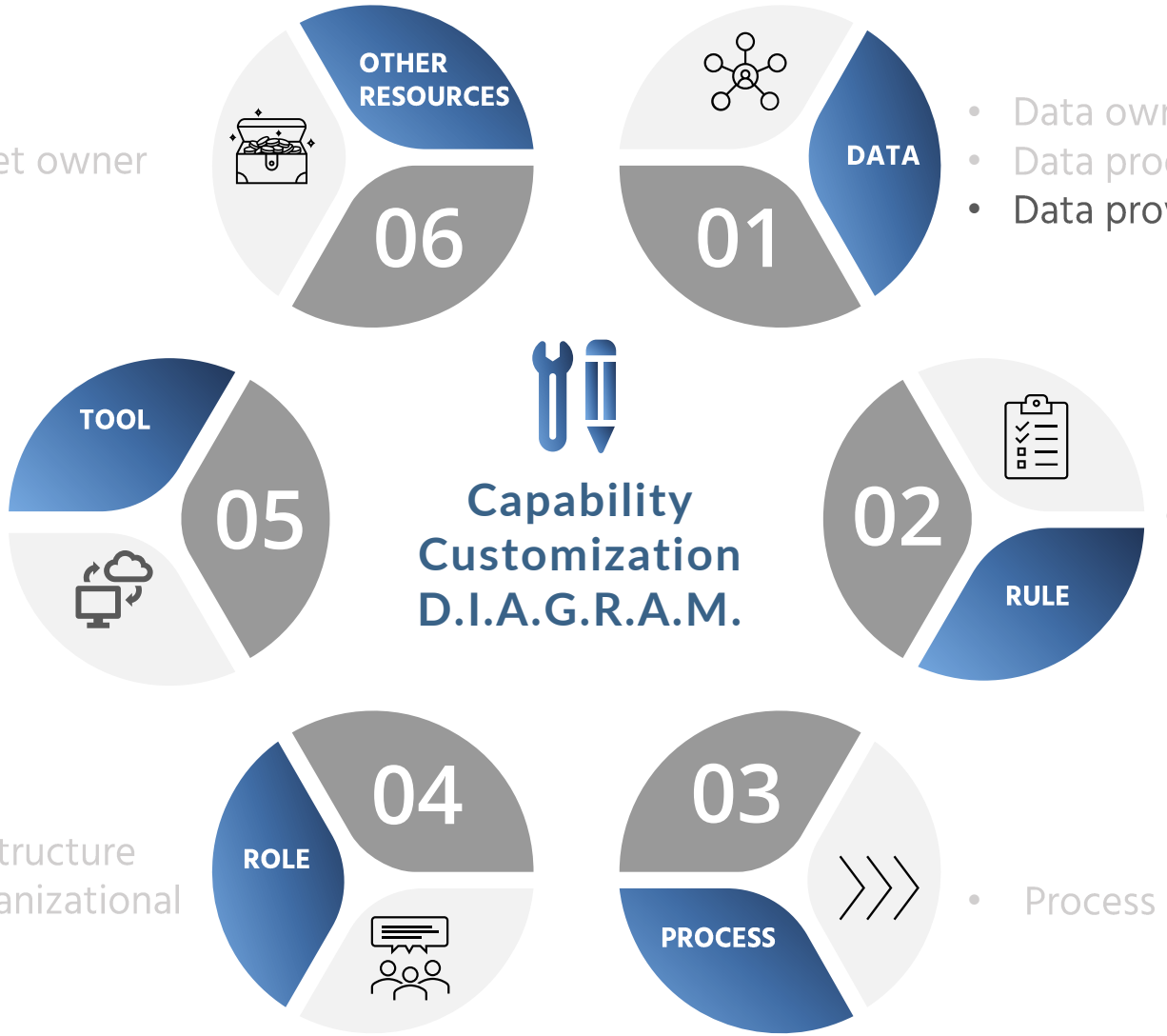
A BUSINESS ROLE ACCOUNTABLE "FOR THE DEVELOPMENT, PROCUREMENT, INTEGRATION, MODIFICATION, OPERATION AND MAINTENANCE, AND/OR FINAL DISPOSITION OF AN INFORMATION SYSTEM"

Source: **Editor, CSRC Content. "System Owner - Glossary: CSRC." *CSRC Content Editor*, csrc.nist.gov/glossary/term/system_owner. Accessed 12 Aug. 2023**

# Key Accountabilities of an Information System (IS) Owner Are:

| | |
|---|---|
| Information System Owner: | Establishing, executing, and maintaining data lifecycle processes according to the requirements of data owners |
| | Providing new users with accessibility and granting them access rights |
| | Providing documentation, maintenance, and training on system functionality and usage |
| | Supplying, packaging, and delivering data |
| | Implementing data quality requirements in the form of checks |
| | Implementing data management according to accepted standards |

# Data Management Roles Correspond to DM Capability Components




- Budget owner
- Data owner & user
- Data product owner & user
- Data provider & consumer
- Application or system owner
- Regulation owner
- Organizational structure (managerial/organizational levels)
- Process owner

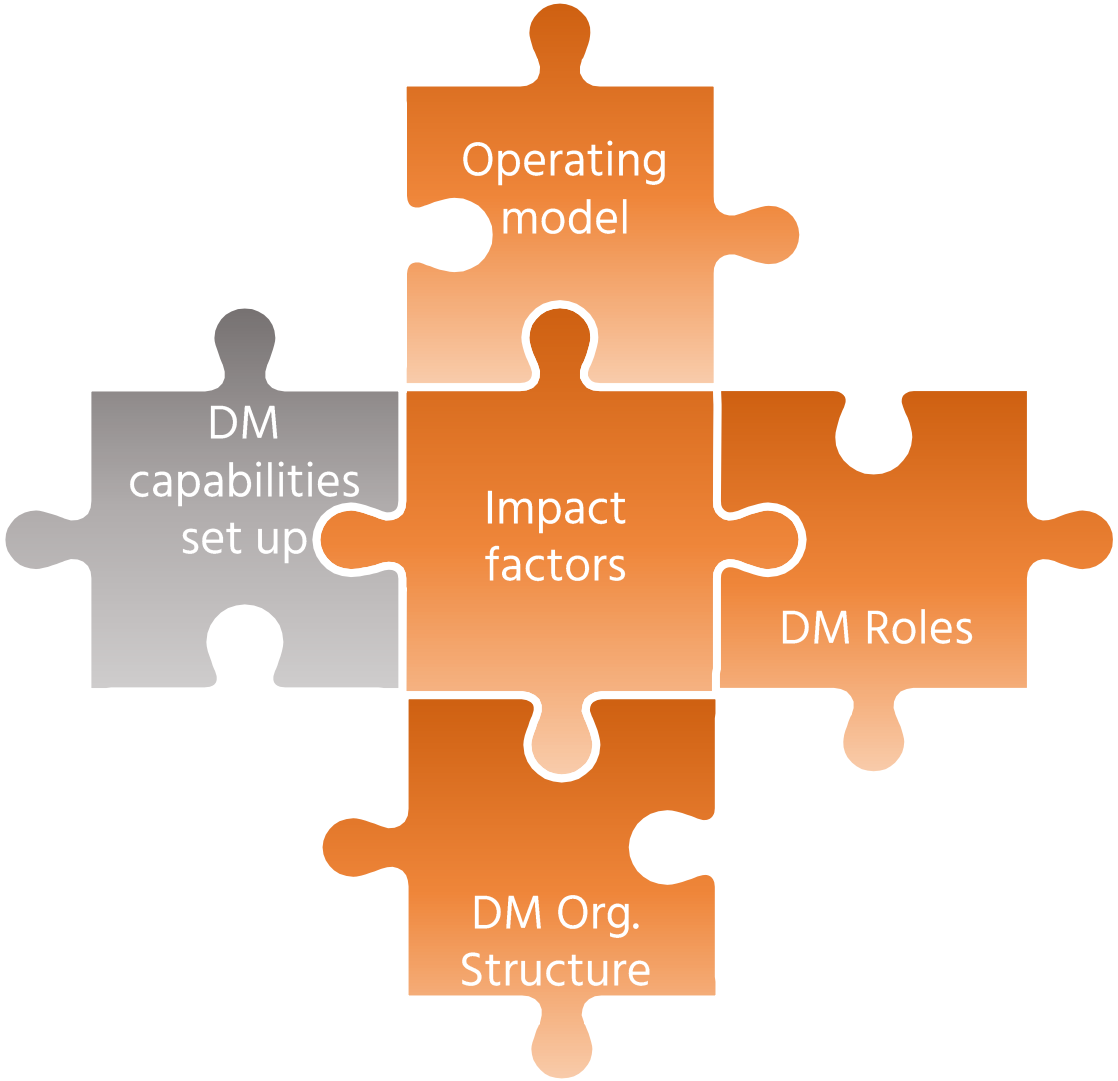
DEFINITION

# Data Provider and Consumer

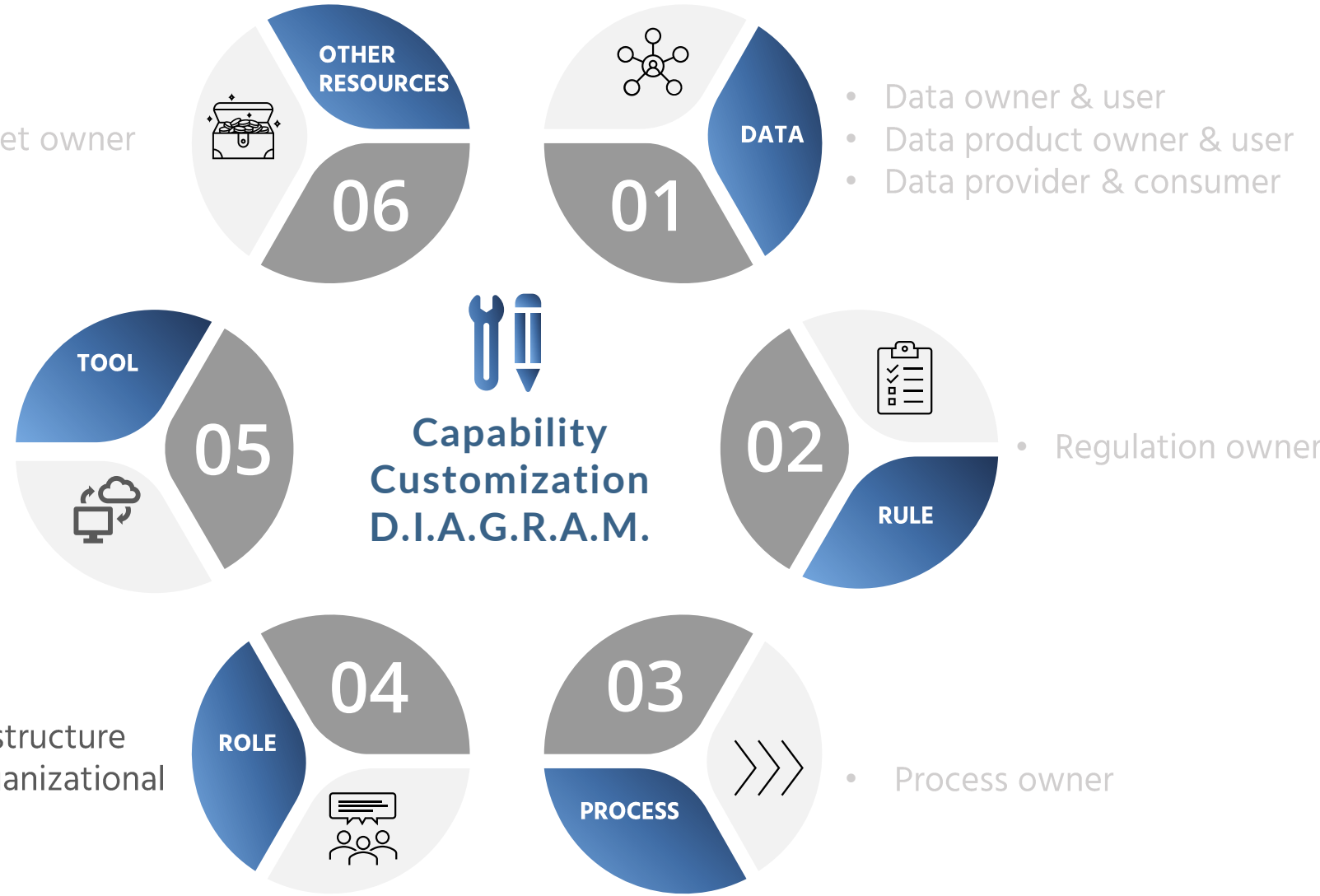
A DATA PROVIDER IS AN INDIVIDUAL, SYSTEM, OR BUSINESS ENTITY THAT CREATES OR SOURCES DATA AND THEN SUPPLIES IT TO OTHERS

A DATA CONSUMER IS AN INDIVIDUAL, SYSTEM, OR BUSINESS ENTITY THAT CONSUMES DATA FOR A SPECIFIC PURPOSE

# An Organization Profile and IS Architecture Influence the Way DM Governance Establishes a Data Management Function



# Data Management Roles Correspond to DM Capability Components



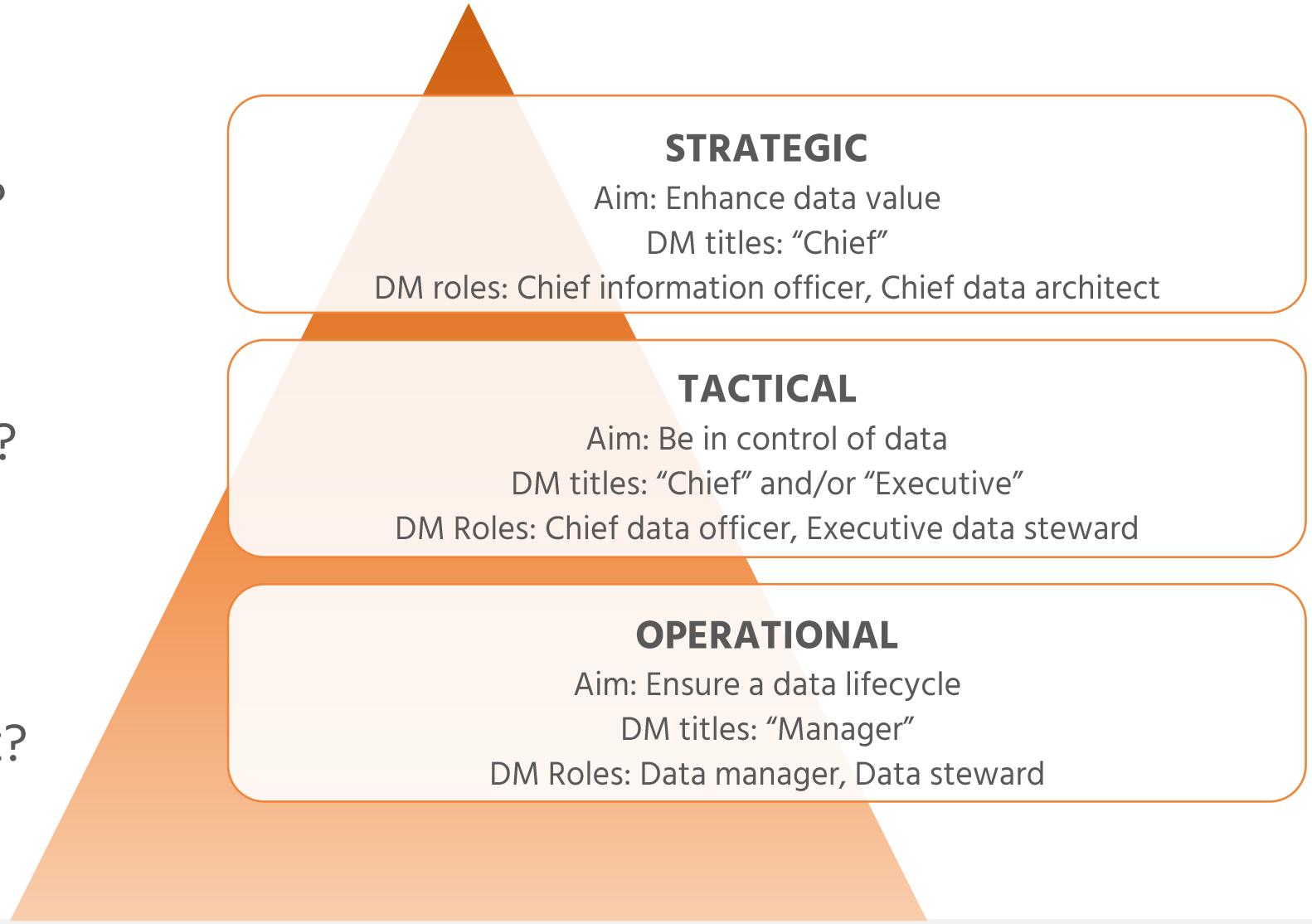

- Budget owner
- Data owner & user
- Data product owner & user
- Data provider & consumer
- Application or System owner
- Regulation owner
- Organizational structure (managerial/organizational levels)
- Process owner

# The DM Organizational Structure Should Be Designed for Various Organizational / Managerial Levels

WHY do they need it?

WHAT should they do?

HOW should they do it?



# The DM Organizational Structure Should Be Designed for Various Types of Data Stewards

**Data management and IT organization**

**Business units**

# Governing Bodies at the Strategic and Tactical Levels Should Have the Following Accountabilities

| | |
|---|---|
| Strategic level: | All strategic decisions about Data Assets and related initiatives |
| | Budget allocation for these initiatives |
| | Setting up a Data Management framework within the company |
| Tactical level | Approving plans for and overseeing the realization of all data asset-related strategic decisions and initiatives |
| | Initiating data-related initiatives |
| | Approving internal central data-related regulations, including policies, standards, processes, etc. |
| | Resolving data-related disputes escalated by the central data management team |

# Accountabilities of a Data Management Office/Team Depend on the Chosen Data Architecture

| Data management processes and tasks | A data management operating structure: | | | |
|---|---|---|---|---|
| | Centralized | | Decentralized | |
| | Central DM team | Local DM team | Central DM team | Local DM team |
| Coordinate activities of the DM board | A | | A | |
| Plan and control the execution of DM initiatives | A | | | A |
| Develop central global policies | A | | A | |
| Implement regulations processes, roles | A | R | | A |
| Select IT tools | A | | | A |
| Control the implementation of IT tools | A | R | | A |
| Plan DM activities | A | R | | A |
| Coordinate and/or oversee DM activities | A | R | A | R |
| Manage DM activities | A | R | | A |
| Perform a data owner role for centrally owned and managed data and metadata | A | R | A | R |

# Exercise 6: Draft DM & DG Roles and Governing Bodies

1. Use Template 11, “DM Role Structure,” and draft data management/governance roles

2. Use Template 12, “DM Governing Bodies,” and identify the governing bodies required for your company

3. List DM roles, classify them into functional and virtual, and map them to the management structure

Preparation: 15 min

# XYZ Company, Example: DM Role Structure

| Data management role types | Data management roles sub-types | Type of data steward | A data management role by: | | | | |
|---|---|---|---|---|---|---|---|
| | | | Presence in the organizational structure | | The position in the management structure | | |
| | | | Functional | Virtual | Strategic | Tactical | Operational |
| Ownership and usership | Data owner | Business | | | | | |
| | Data user | Business | | | | | |
| | System owner | Business | | | | | |
| | Process owner | Business | | | | | |
| | Data product owner | Business, DM | | | | | |
| Other roles | Data provider | Business | | | | | |
| | Data consumer | Business | | | | | |
| Data management and IT professional roles | CIO | DM | | | | | |
| | Chief data officer & architect | DM | | | | | |
| | DG specialist | DM | | | | | |
| | Data steward | Business | | | | | |
| | Analysts | DM, IT | | | | | |
| | Architects | DM | | | | | |
| | Engineers | DM, IT | | | | | |

# XYZ Company, Example: DM Governing Bodies

| Management level | Governing body | Participants | RACI | |
|---|---|---|---|---|
| | | | Accountabilities | Responsibilities |
| Strategic | Data governance board | C-Suite, CDO | Approve DM Strategy | |
| Tactical | Data management council | Business unit/department heads | Approve DMF<br>Resolve cross-functional tactical issues | Organize the process of the DMF implementation |
| Operational | Working groups | Data stewards per DM capability | Resolve cross-functional operational issues | Coordinate activities between teams in different business units |

# To Develop a Data Governance Framework, We Will Discuss:

1. **Data Management vs. Governance**
   The O.R.A.N.G.E. Terminology
2. **Business Drivers & Stakeholders**
   Strategic S.C.O.P.E. Formula
3. **The Scope of a DG Initiative**
   Strategic S.C.O.P.E. Formula
4. **Preliminary DG Maturity Assessment**
   P.L.A.N. Maturity Assessment Approach
5. **DG Operating Model**
   Capability Customization D.I.A.G.R.A.M.
6. **DG and DM Roles and Bodies**
   Capability Customization D.I.A.G.R.A.M.
7. **DG set up for various DM capabilities**
   Capability Customization D.I.A.G.R.A.M.
8. **Integrated Implementation Roadmap**

# Schedule

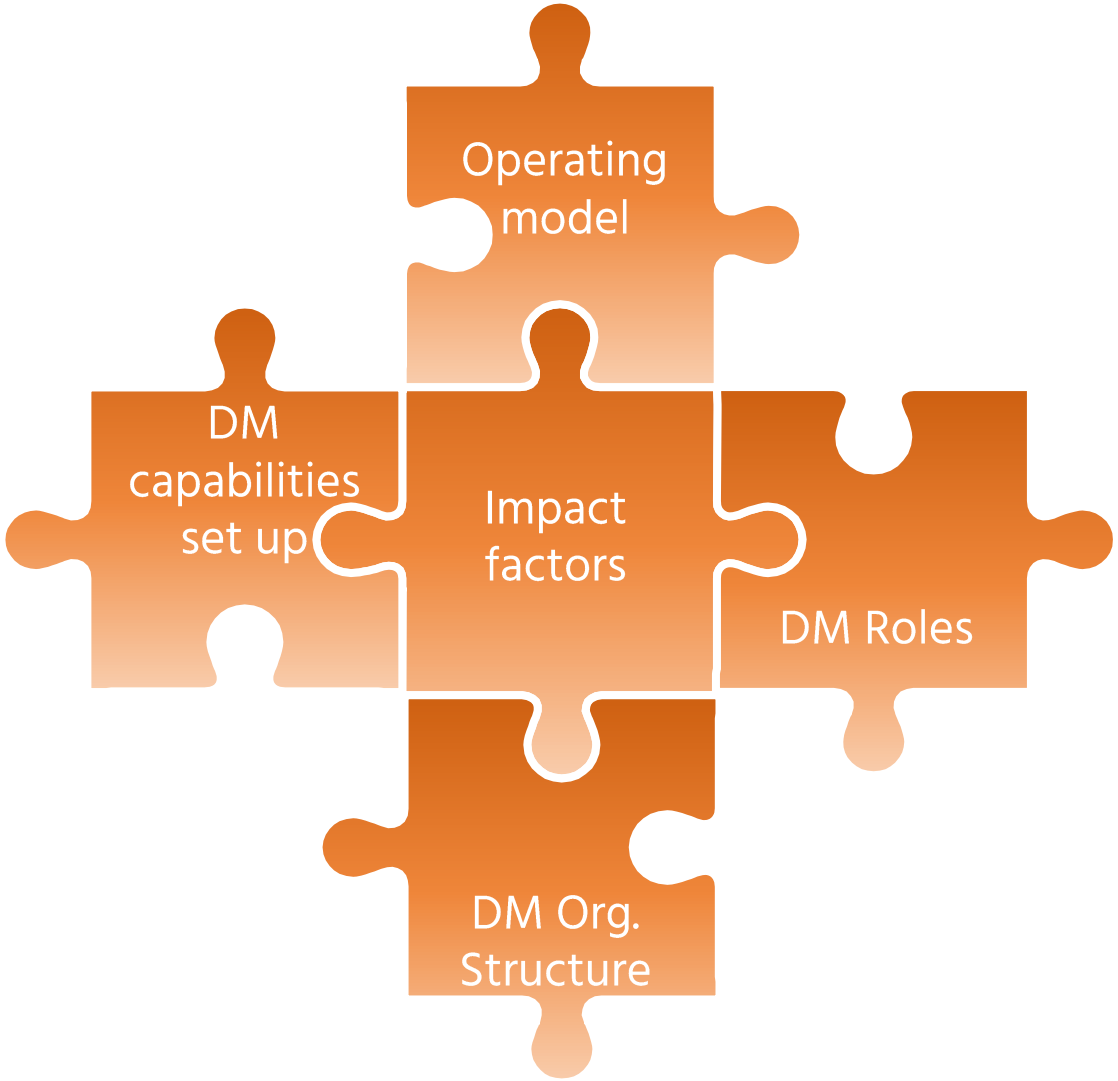
| Time, CET | Topic | Presentation slides | Exercise | Templates |
|---|---|---|---|---|
| 9.00 – 9.20 | Introduction to the course | 1-11 | | |
| 9.20-10.00 | Data Management (DM) vs. Data Governance (DG) | 12-28 | | |
| 10.00-10.45 | Business drivers and stakeholders | 29-43 | Exercise 1 | Templates 1,2 |
| 10.45-11.45 | The scope of a DG initiative | 44-80 | Exercise 2 | Templates 3,4,5,6 |
| 11.45-12.15 | Preliminary DG maturity assessment | 81-89 | Exercise 3 | Templates 7,8 |
| 12.15-13.15 | Break | | | |
| 13.15-14.45 | DG operating model<br>DG and DM roles | 90-155 | Exercises 4,5,6 | Templates 9,10,11,12 |
| 14.45-15.45 | DG set up for various DM capabilities | 156-217 | | |
| 15.45-16.00 | An integrated implementation approach | 218-223 | | |
| | Templates | 224-237 | | |

# Providers of Leading Metadata Management Tools Allowed to Demonstrate Some Functionalities of Their Solutions

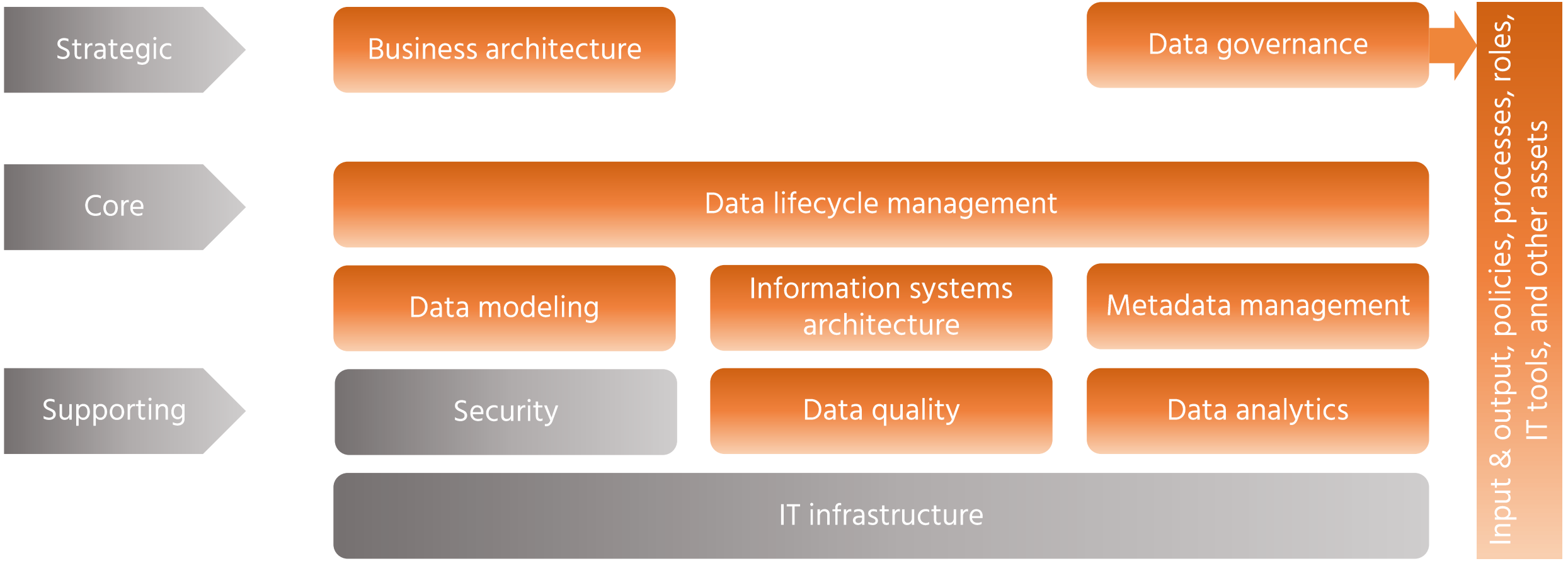




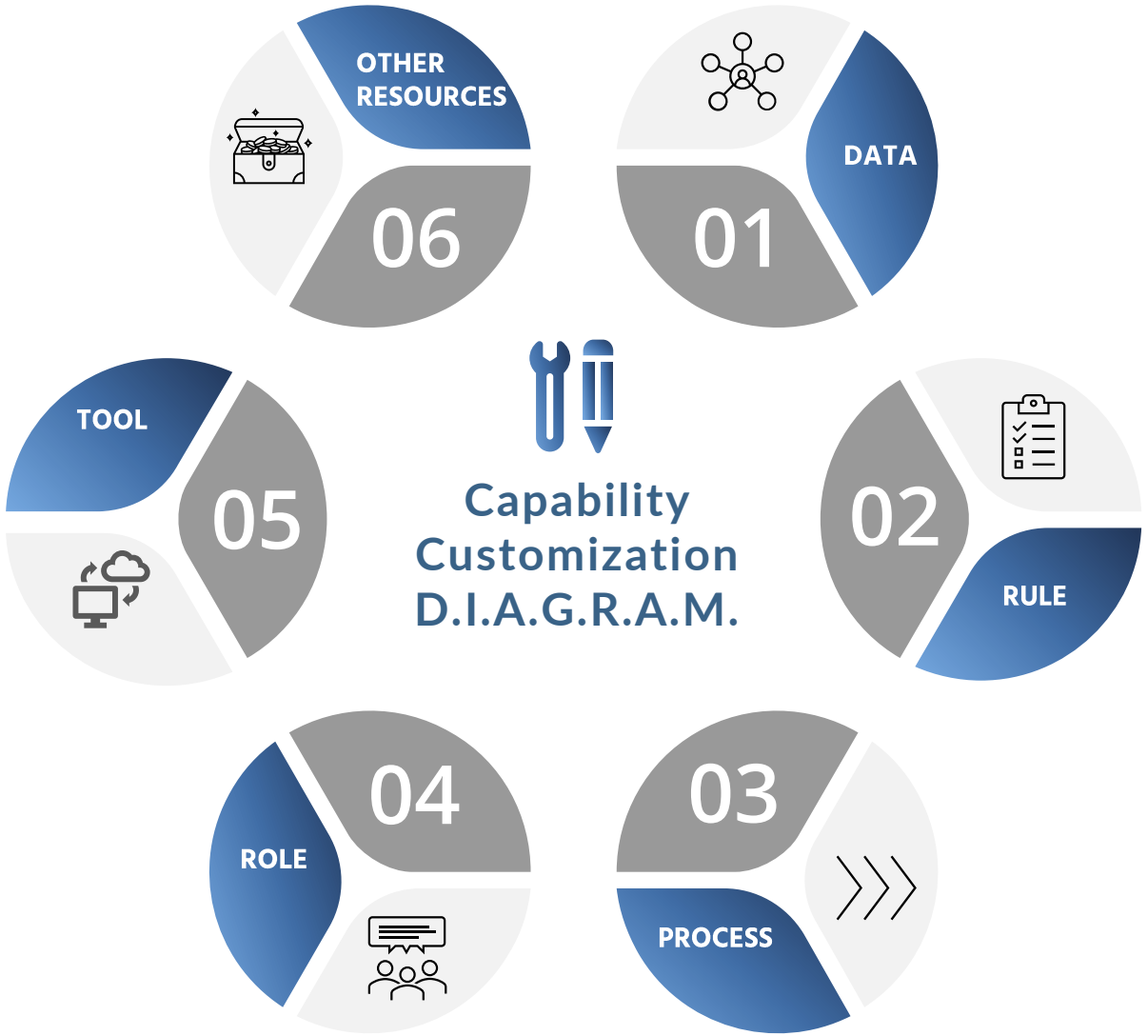

# An Organization Profile and IS Architecture Influence the Way DM Governance Establishes a Data Management Function



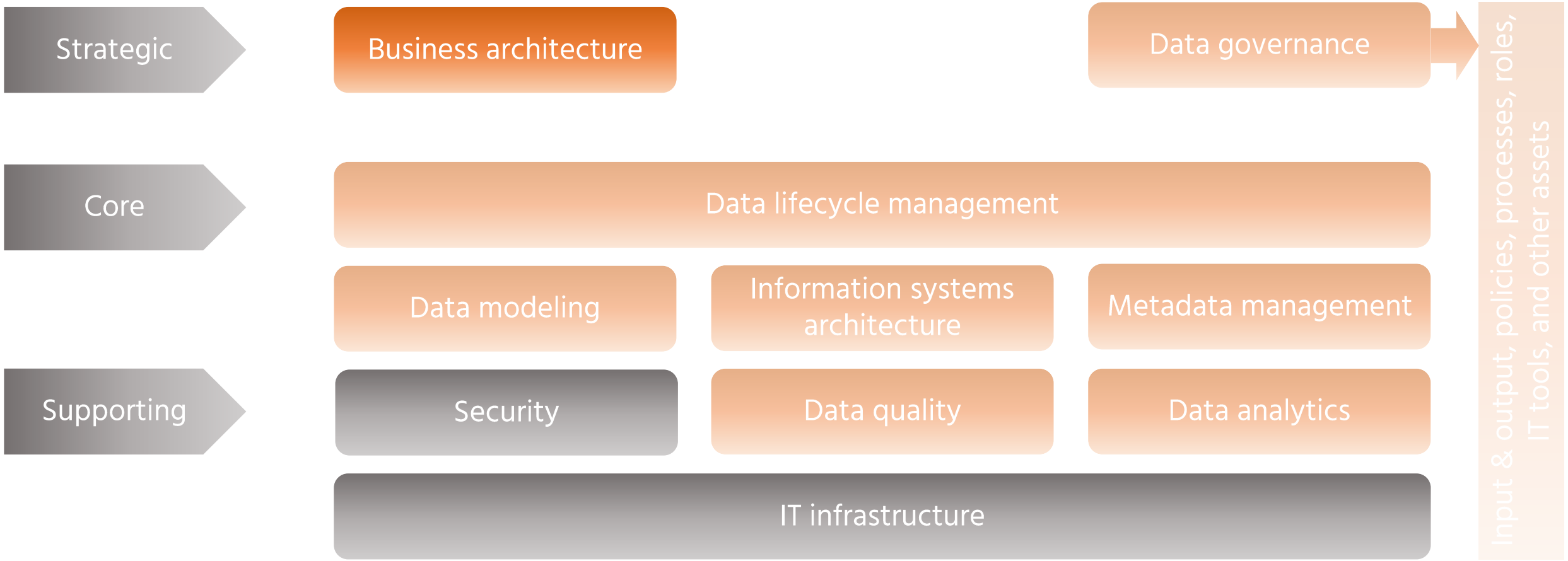
# Data Governance Coordinates and Controls Establishing the Data Management Framework



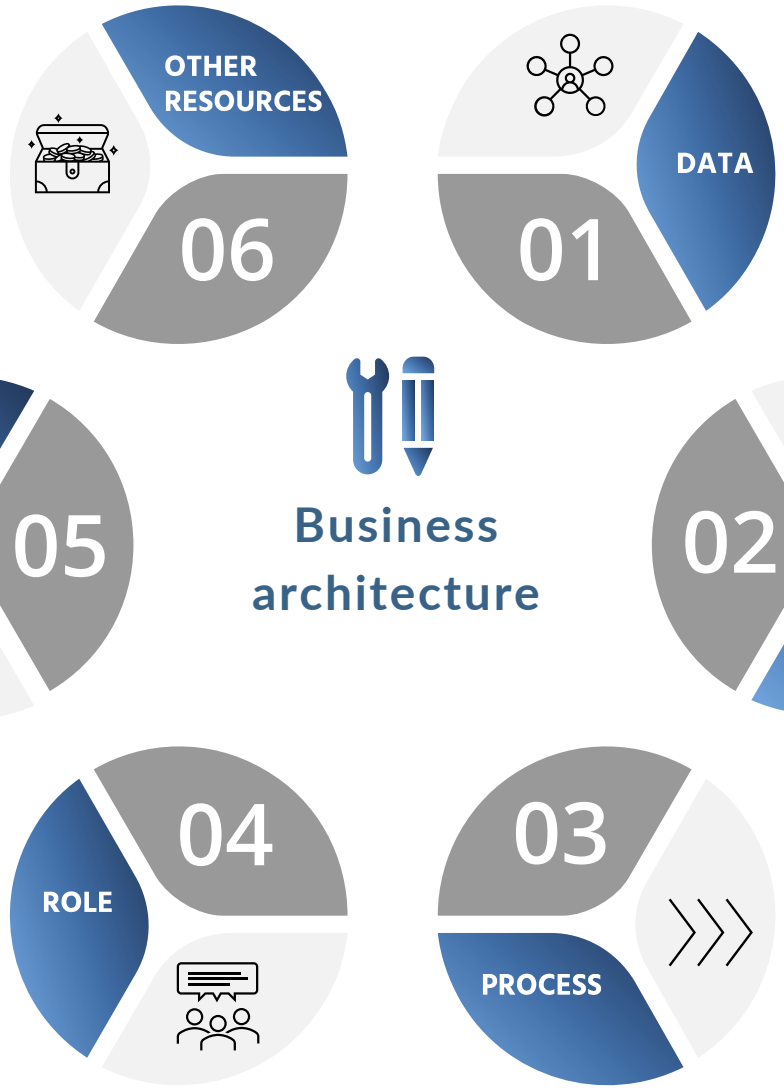
# Data Stewards Have Accountabilities for Each DM Capability in Scope



# Data Governance Coordinates and Controls Establishing the Data Management Framework



# We Will Design the Business Architecture (BA) Capability in 6 Steps:




❑Budget

❑Business capability map and catalog
❑Value stream catalog and diagram
❑Business capability / Organization matrix
❑Business capability/data diagram
❑Business process catalog and flow diagrams

❑Enterprise architecture tool

❑Business architecture policy and/or standard

❑Business architects
❑Business data stewards
❑Enterprise architects
❑Business process specialists

❑The list of processes required to produce identified deliverables

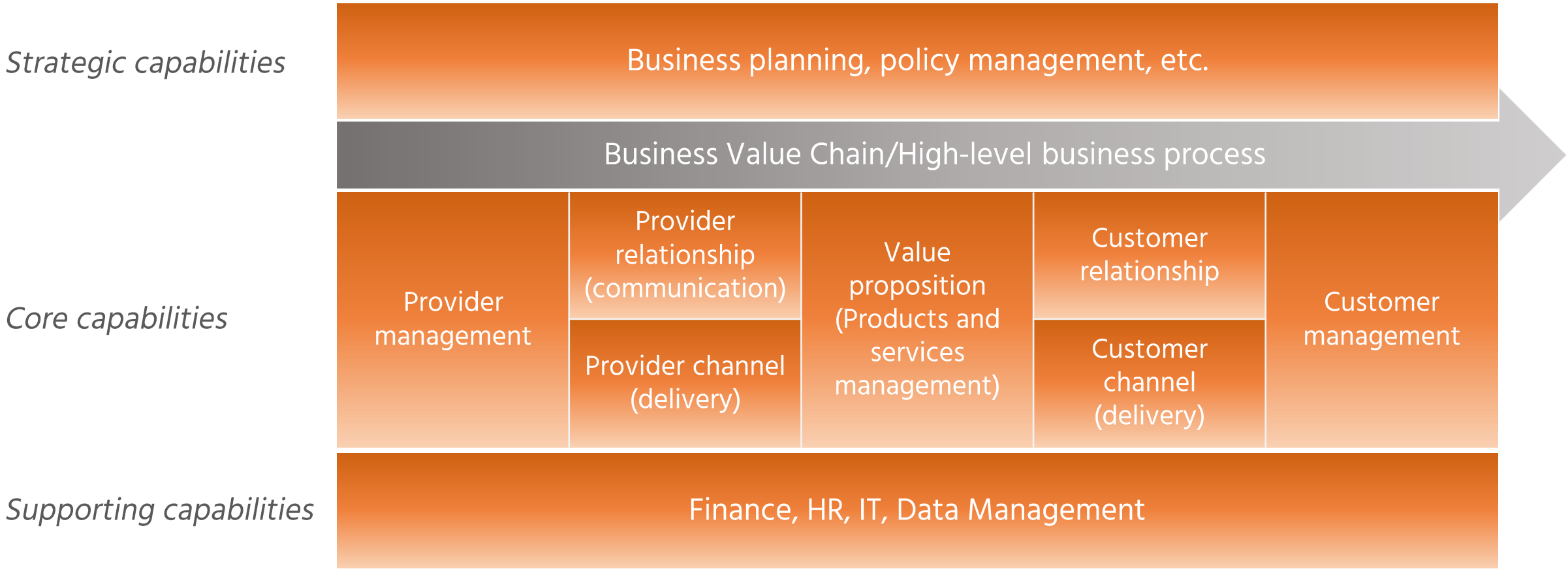
DEFINITION

# Business Model

A MODEL THAT "DESCRIBES A RATIONALE FOR HOW AN ORGANIZATION CREATES, DELIVERS, AND CAPTURES VALUE"

SOURCE: TOGAF® Series Guide: Business Models, 2018, publications.opengroup.org/gA18, p.3.

# A Modified Business Model Canvas Assists in Describing a Business Model and Identifying High-Level Business Domains/Subject Areas

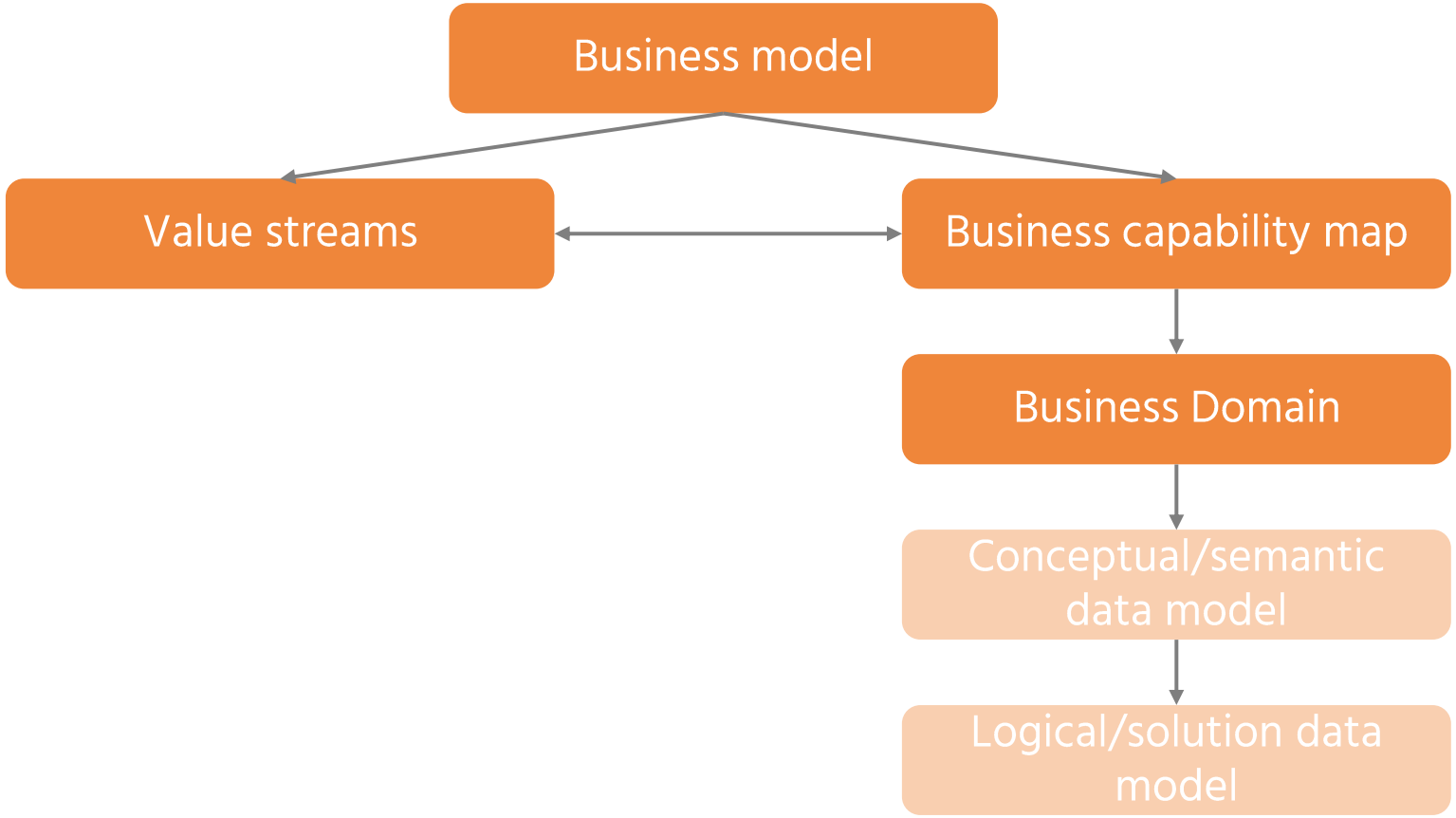


# XYZ Company, Example: The Business Capability Model

## Each of these capabilities represent a business domain

| | | | |
|---|---|---|---|
| Strategic | Business planning | Market planning | Partner management |
| | Capital management | Policy management | Government relationship management |
| Core | Account management | Product management | Distribution management |
| | Customer management | Channel management | Agent management |
| Supporting | Financial management | IT and Data management | HR management |
| | Procurement management | Operations management | Training management |

# In this Course, We Demonstrate the High-Level Approach to Develop Business- and Data Models:

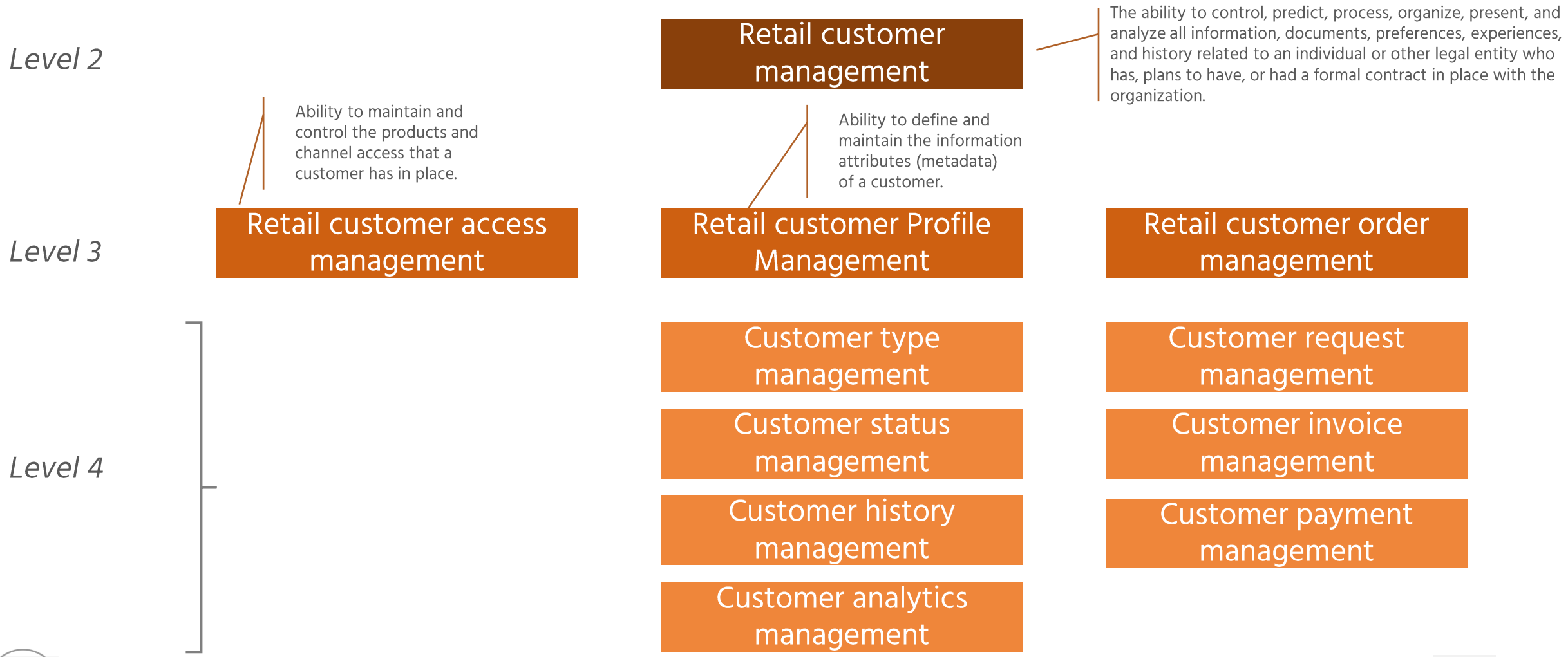


# Each Business Domain May Have Multiple Sub-Domains

*Level 1*

*Level 2*

# A Business Capability Should Be Broken Down into Several Layers



# Value Streams are High-Level Processes that Should Be Linked to Business Capabilities

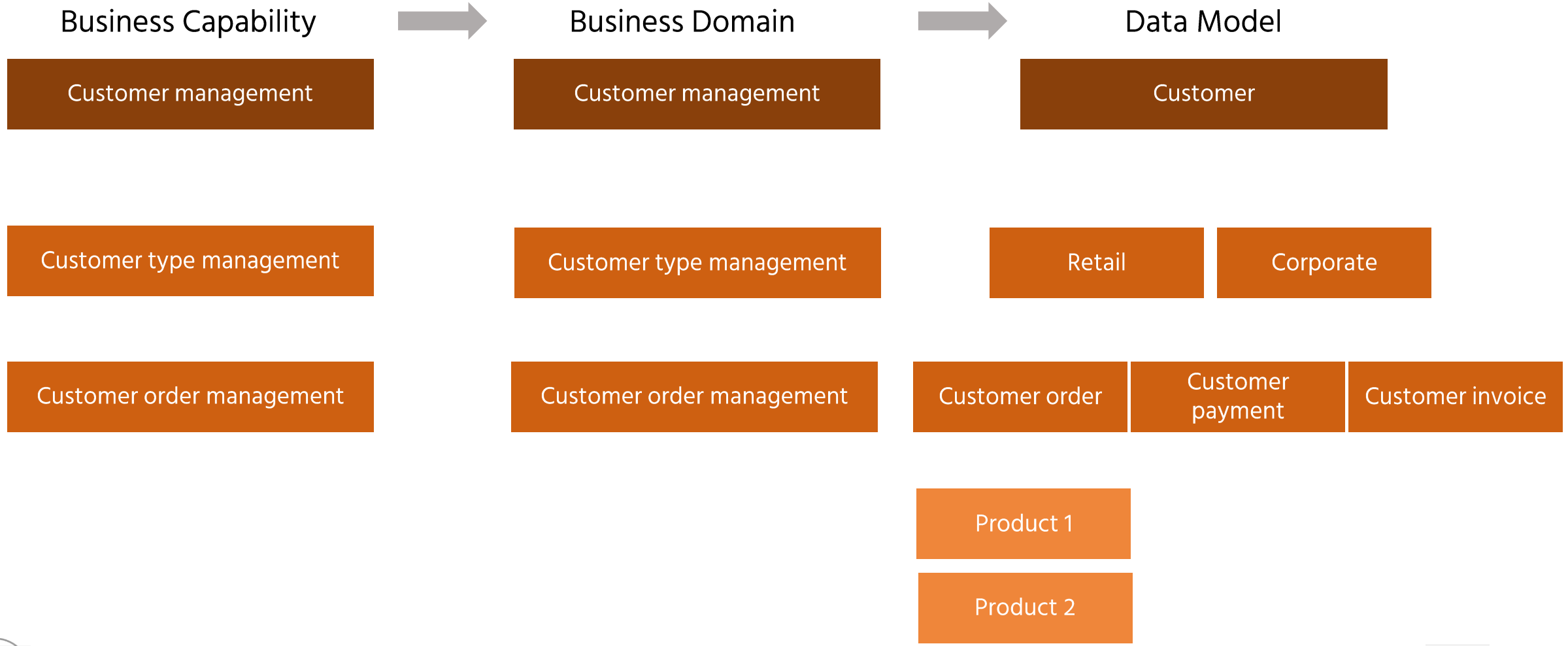

Customer access management

Customer needs assessment

Customer financial information

Customer contract management

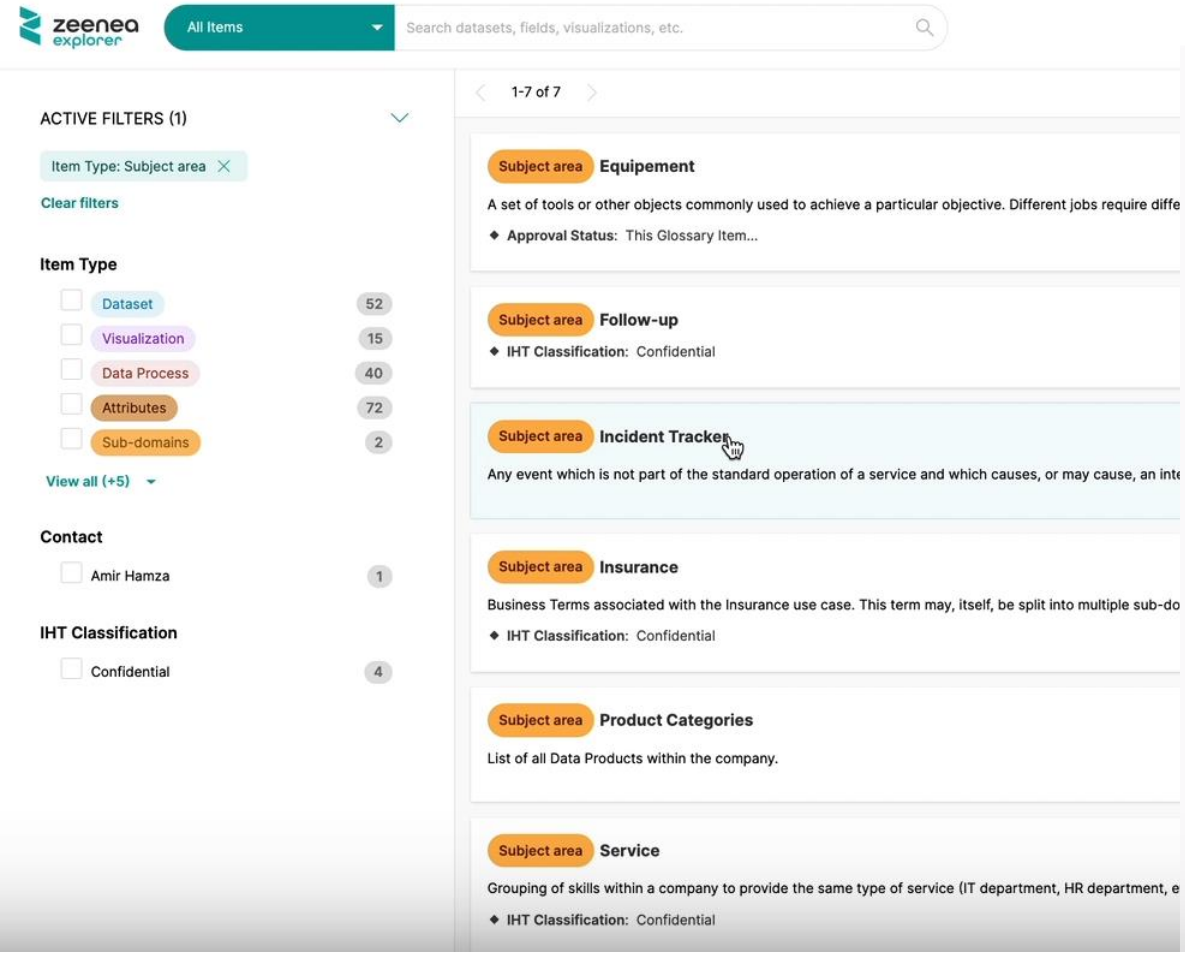
# A Business Capability Can Be Mapped to a Data Model and to a Business Domain Model

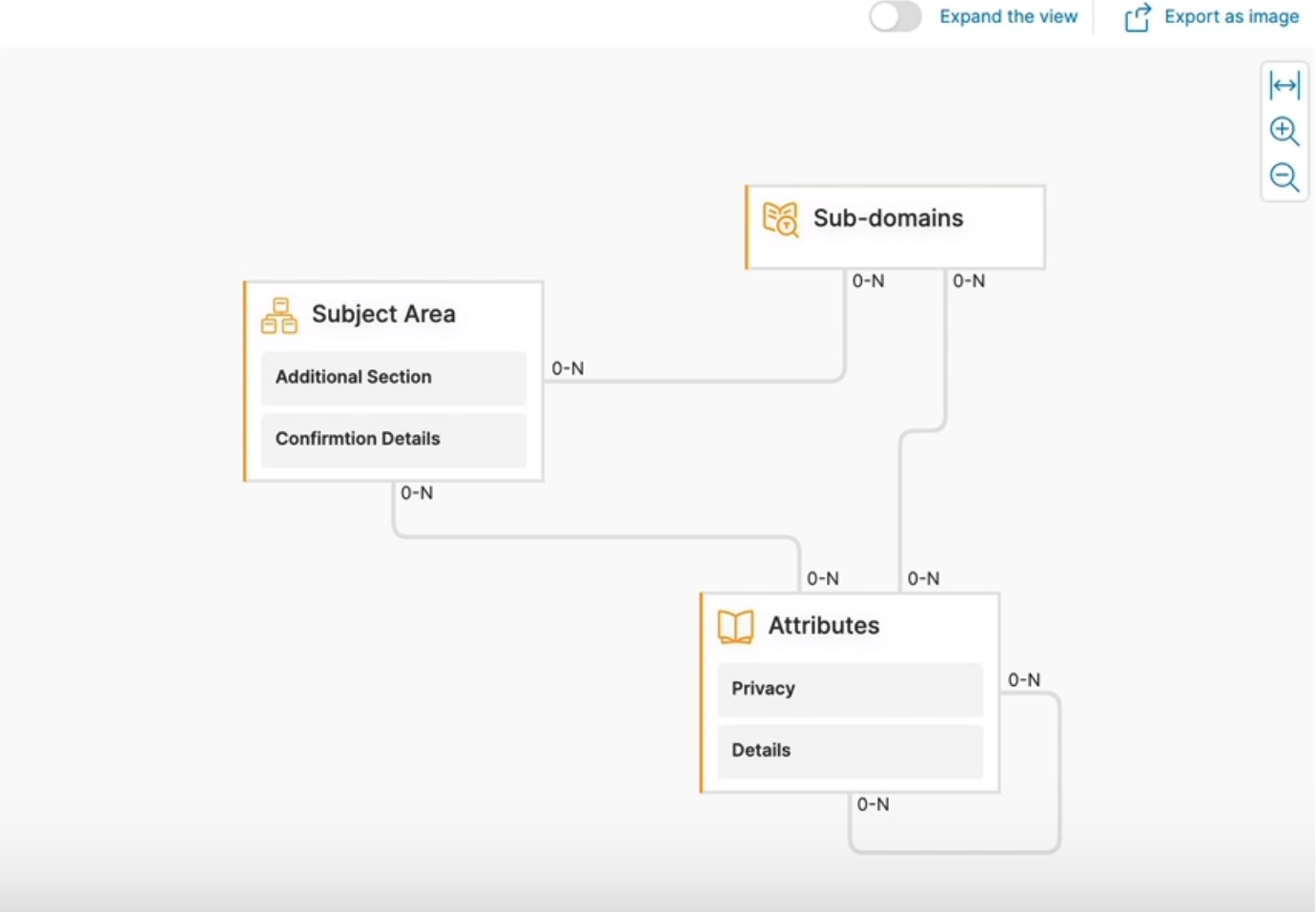


# The Accountabilities of Data Stewards Regarding Business Architecture Processes Differ Per Data Architecture Style

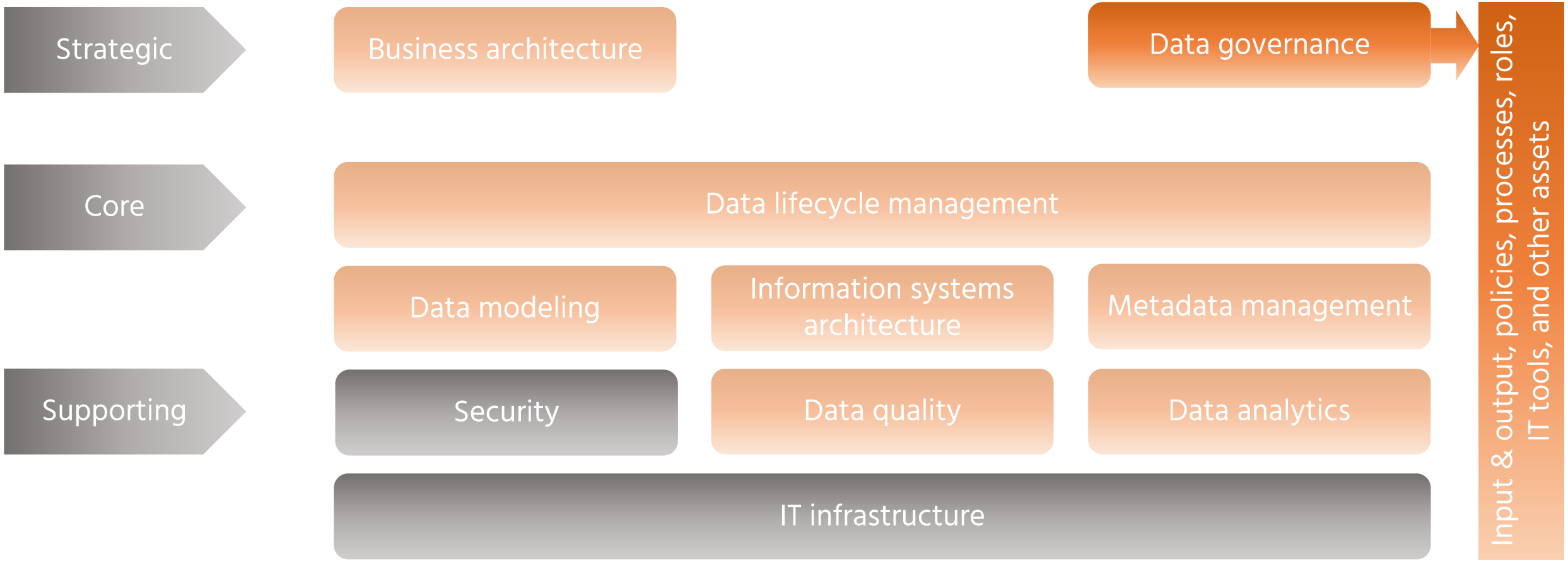
| Process | Deliverable | RACI (accountable and responsible) | | | |
|---|---|---|---|---|---|
| | | Centralized architecture | | Decentralized architecture | |
| | | A | R | A | R |
| Document business capabilities | A business capability map at various abstraction levels | Chief enterprise architect (CEA) | 1. Business data stewards<br>2. DM stewards | Depending on the level:<br>1. CEA<br>2.Business domain owners | 1. Business data stewards<br>2. DM stewards |
| Document business processes | Business processes at various abstraction levels | Executive process owner | Process owners | Business domain owner | 1. Business data stewards or process owners<br>2. DM stewards |
| Document data domains | Data domains documented | CEA or Chief data officer | 1. Business data stewards<br>2. DM stewards | Business data domain owner | 1. Business data stewards<br>2. DM stewards |

# Metadata Solutions Allow for Defining Business Subject Areas/Domains and Data Domains

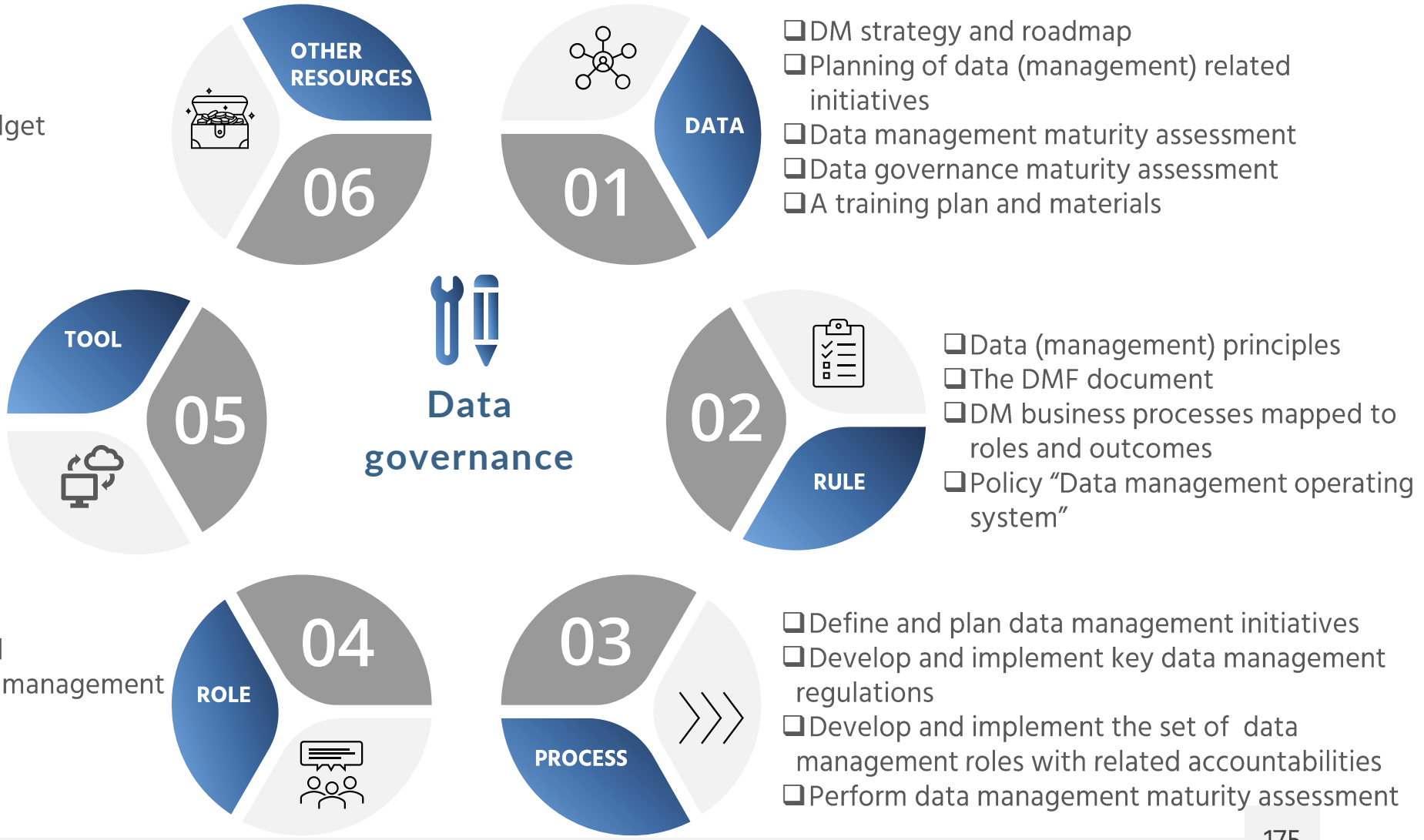


# Data Governance Coordinates and Controls Establishing the Data Management Framework



# We Will Design the Data Governance (DG) Capability in 6 Steps




- ❑ Budget
- ❑ DM strategy and roadmap
- ❑ Planning of data (management) related initiatives
- ❑ Data management maturity assessment
- ❑ Data governance maturity assessment
- ❑ A training plan and materials
- ❑ DG Tool
- ❑ Data (management) principles
- ❑ The DMF document
- ❑ DM business processes mapped to roles and outcomes
- ❑ Policy "Data management operating system"
- ❑ DM operating model
- ❑ DM bodies, i.e., data management board
- ❑ DM office
- ❑ Data stewards
- ❑ Define and plan data management initiatives
- ❑ Develop and implement key data management regulations
- ❑ Develop and implement the set of data management roles with related accountabilities
- ❑ Perform data management maturity assessment

# The Accountabilities of Data Stewards Regarding DM Governance Differ Per Data Architecture Style

| Process | Deliverable | Accountable Role: | |
|---|---|---|---|
| | | Centralized | Decentralized |
| Establish a DM strategy and roadmap | Approved DM strategy and roadmap | Leadership team | |
| Initiate and plan data management initiatives | DM initiative approved | Central DM board (Enterprise programs) | Central or Local DM boards (local projects) |
| Develop a central data governance policy | Data governance policy approved | Enterprise chief data officer (CDO) | |
| Develop DM roles and processes | DM roles job descriptions approved | Enterprise CDO (global) | Local CDO (local) |
| Perform data management maturity assessment | Maturity assessment performed | Enterprise CDO (global) | Local CDO (local) |

# Data Governance Functionalities Allow for Maintaining and Linking Multiple Policies

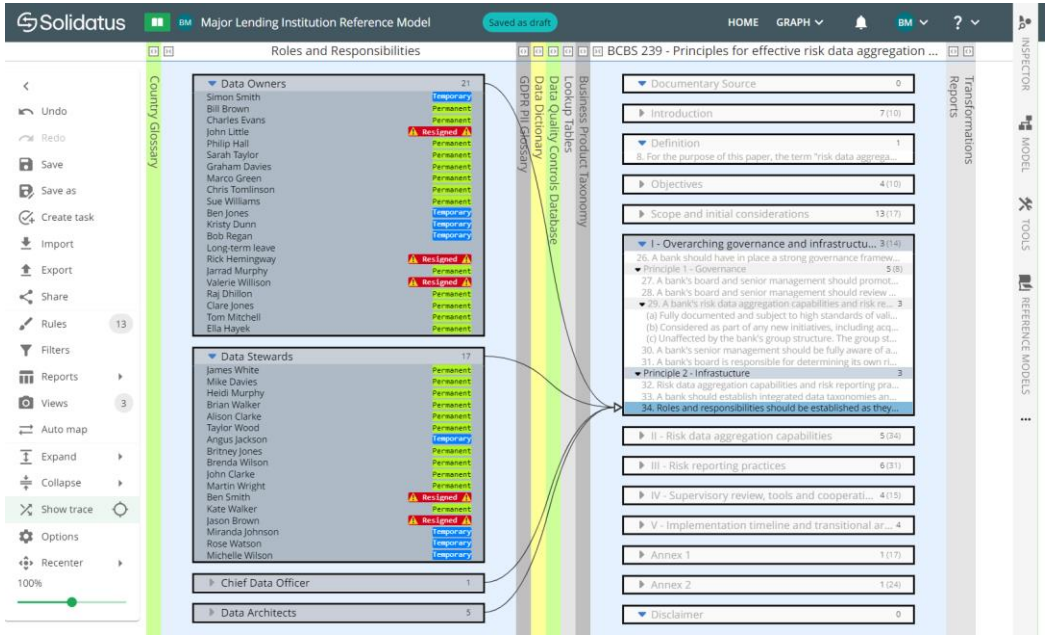
Orion Governance

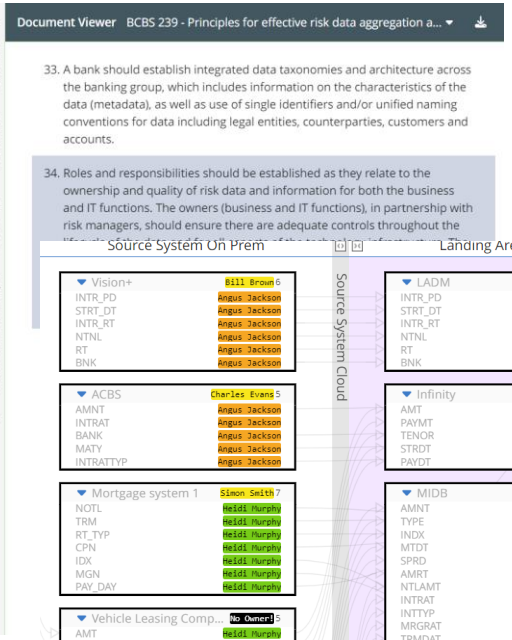
| | |
|---|---|
| **dq-policies**<br>AdventureW... > Ban... > I. | Data quality policies |
| **Availability**<br>Glo... > Sh... > Reportin...<br>DAMA DQ Assessment | The degree to which data can be consulted or retrieved by data consumers or a process. |
| **GDPR - Accuracy**<br>Retail ... > Inventory ... > (<br>GDPR - Article 5 Regulation | The data you collect or store should be accurate and up to date. Holding inaccurate data on any individual ... |
| **Retail Policy**<br>Retail ... > Inventory ... > ( | Set of policies and rules defined in Retail sector |

# Data Governance Functionalities Include Data Management Roles Linked to:

Solidatus

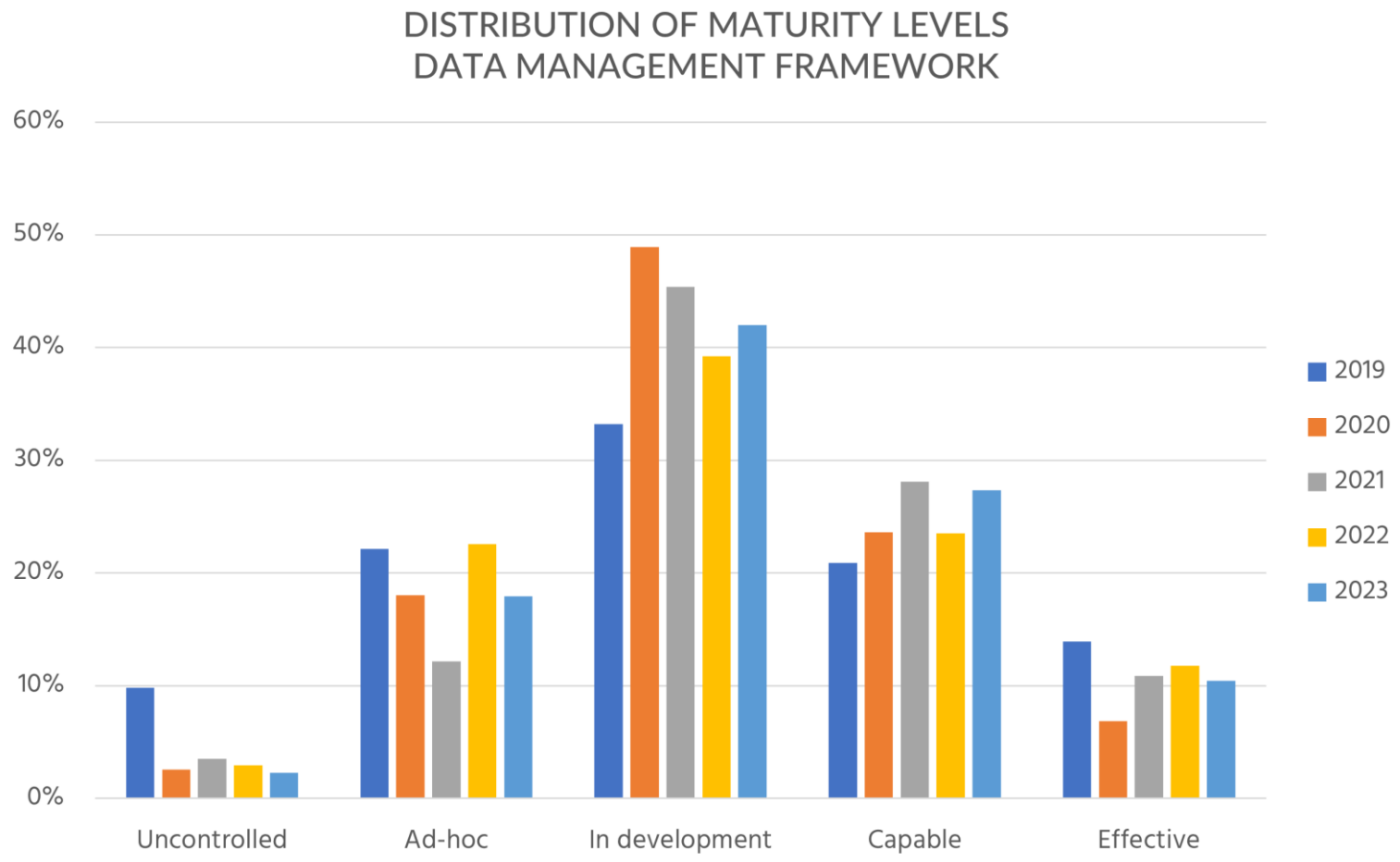
## BCBS 239 Principles



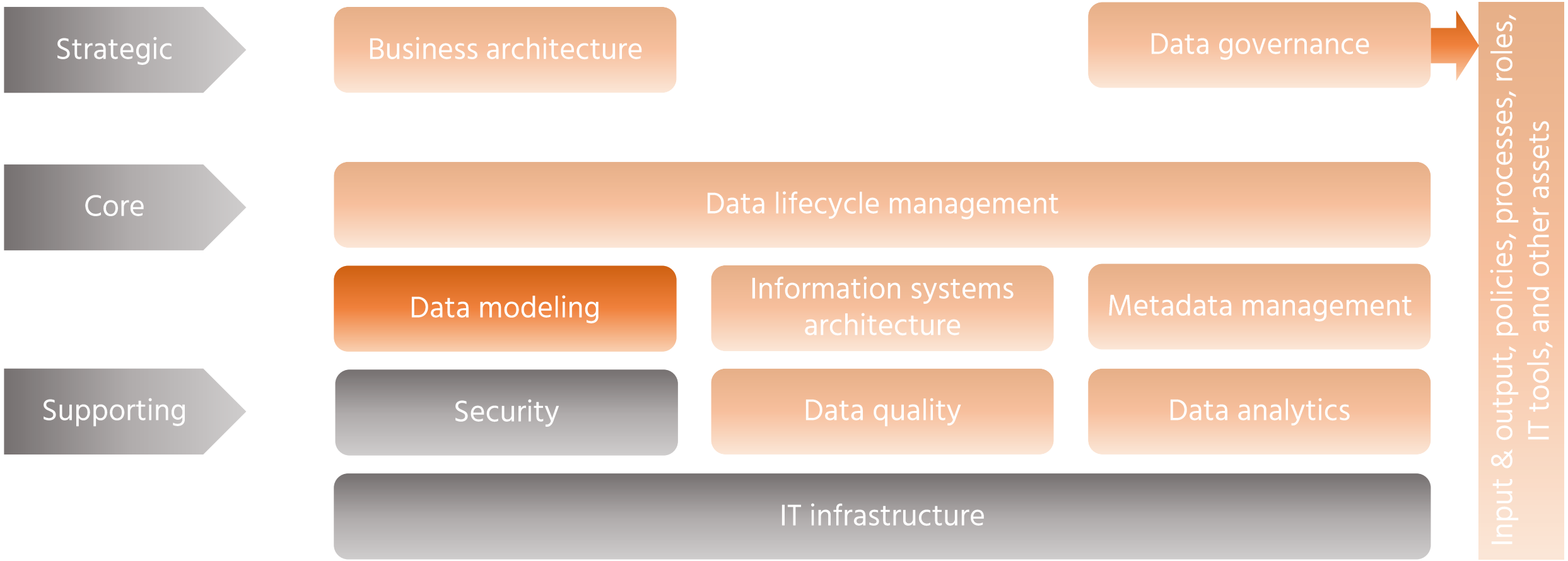




## Data Lineage

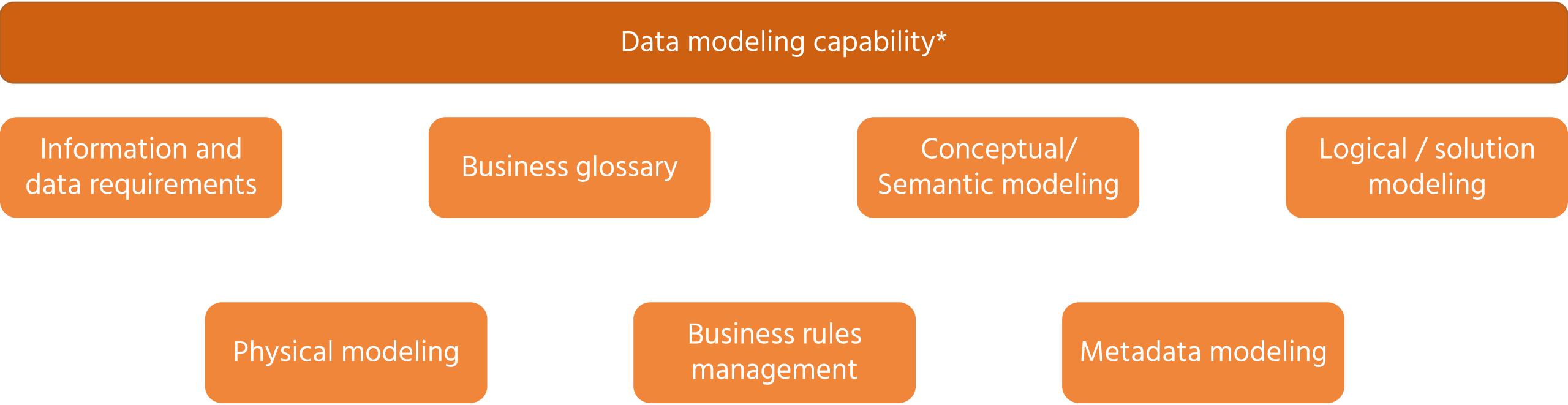
# Data Governance Maturity Demonstrates Positive Trends



# Data Governance Coordinates and Controls Establishing the Data Management Framework



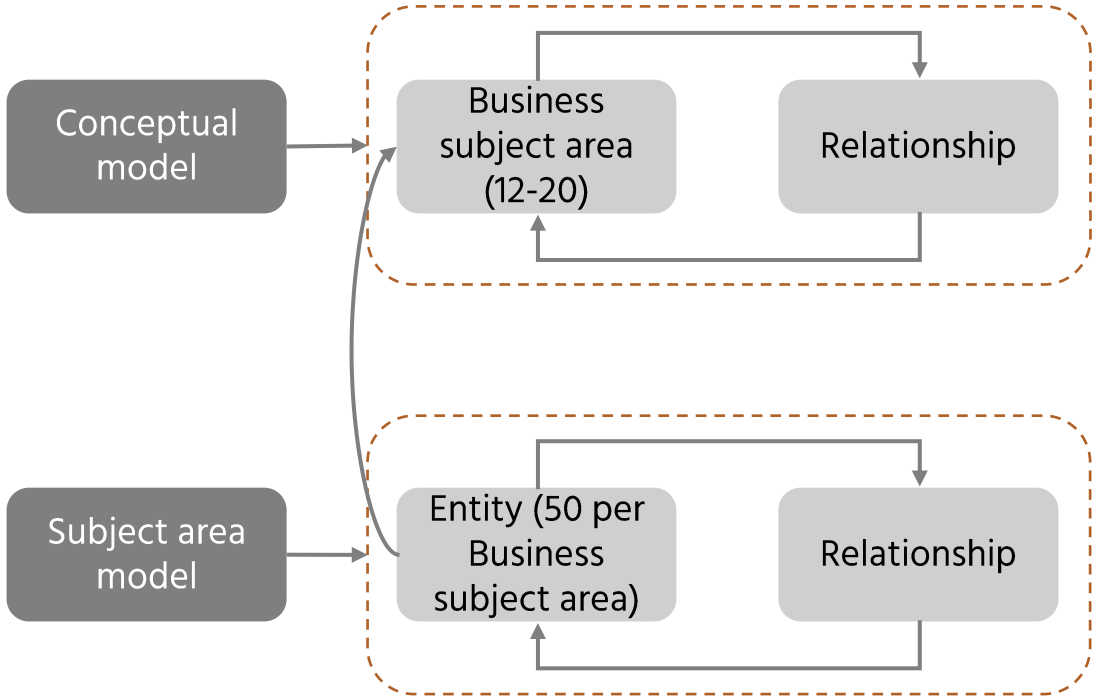
# The Data Modeling Capability Can Be Broken Down into Several Sub-Capabilities:



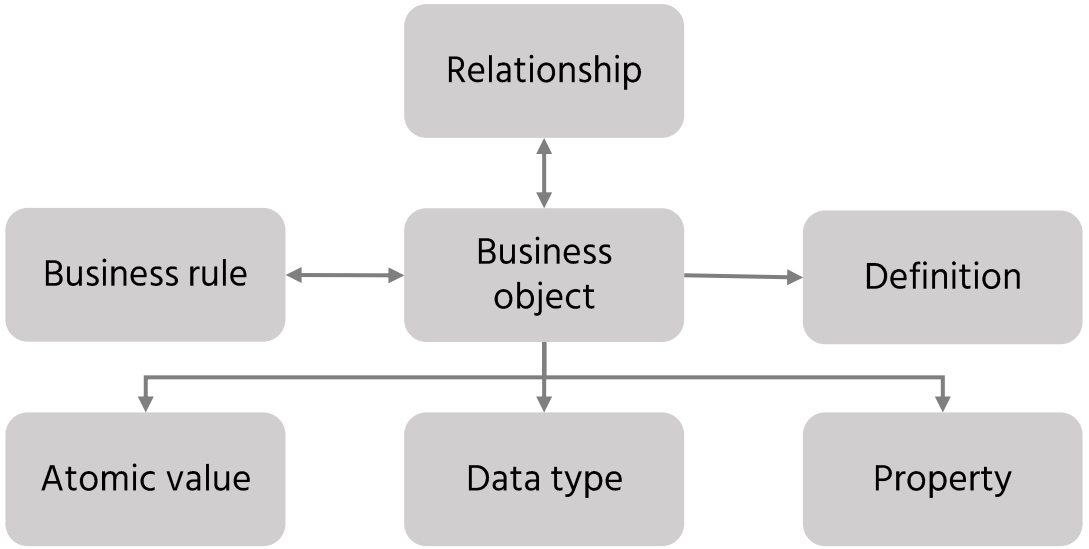

*Handout 1 includes the definitions of all capabilities

# Various Approaches to Data Modeling at the High Abstraction Level Exist:

Canonical conceptual model*




Business concept model**

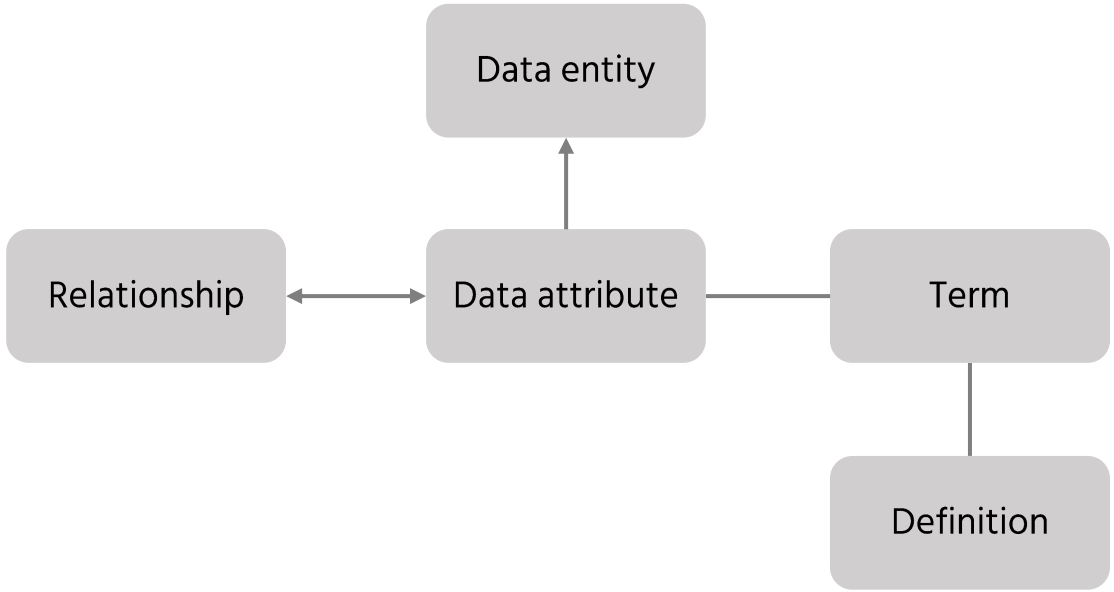



*Source: DAMA International. The DAMA Dictionary of Data Management, Second Edition: Technics Publications, 2011, p.81.

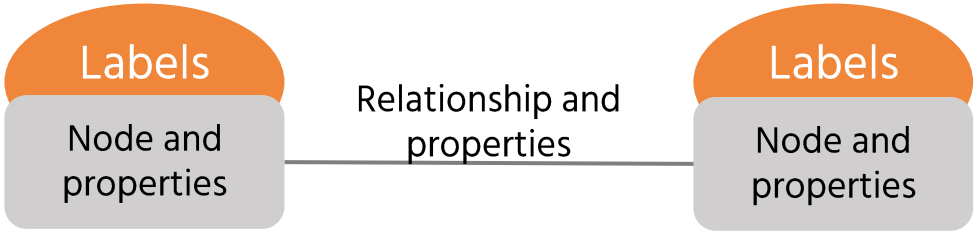
**Source: Frisendal, Thomas. Graph Data Modeling for NoSQL and SQL: Visualize Structure and Meaning. Technics Publications, 2016

# Various Approaches to Data Modeling at the Logical Level Exist:

Canonical logical model*

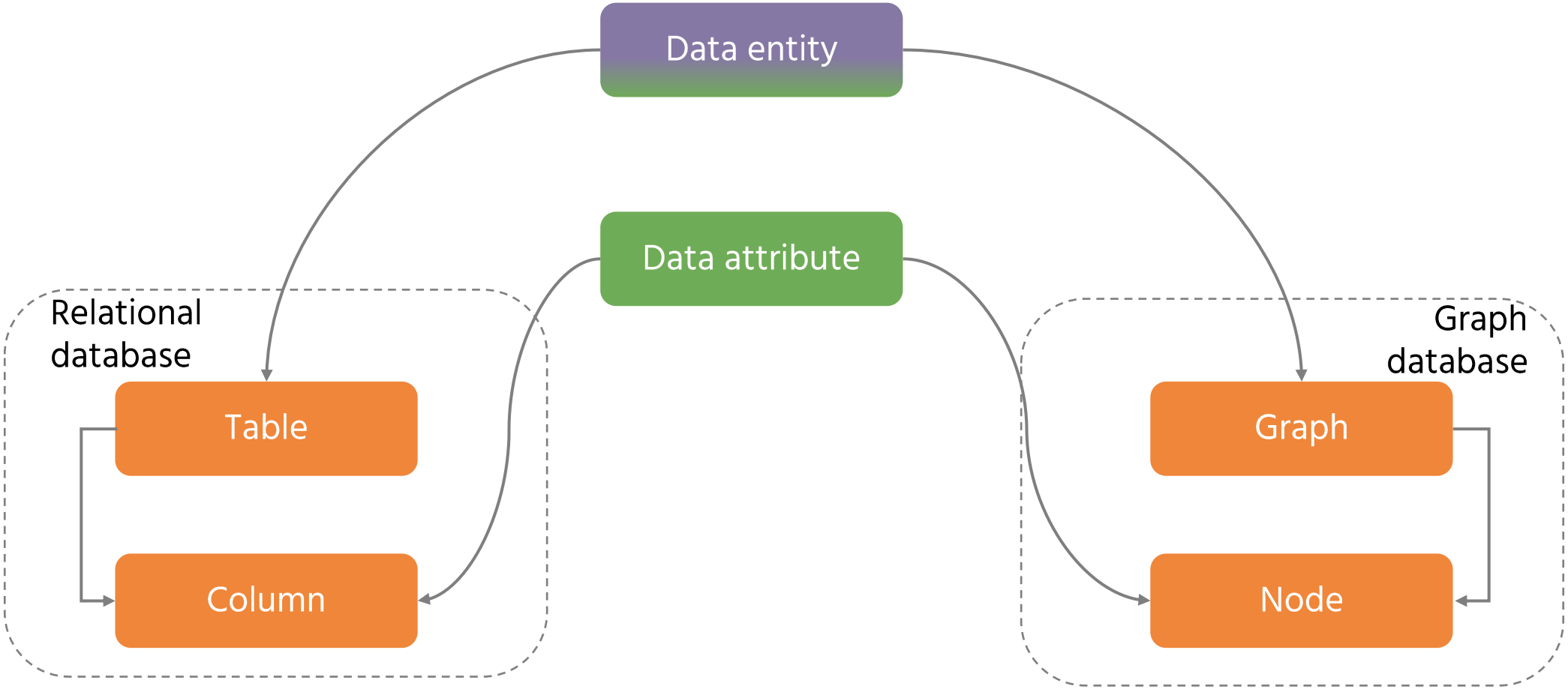



Graph data models



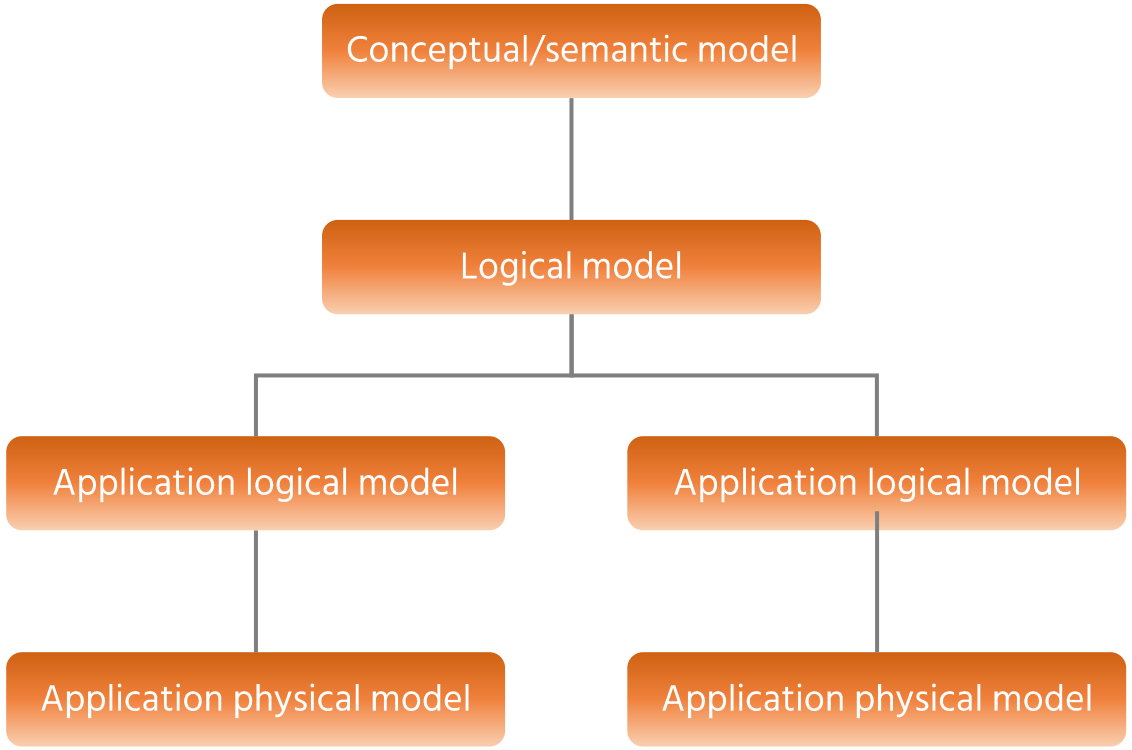

*Source: DAMA International. The DAMA Dictionary of Data Management, Second Edition: Technics Publications, 2011, p.81.

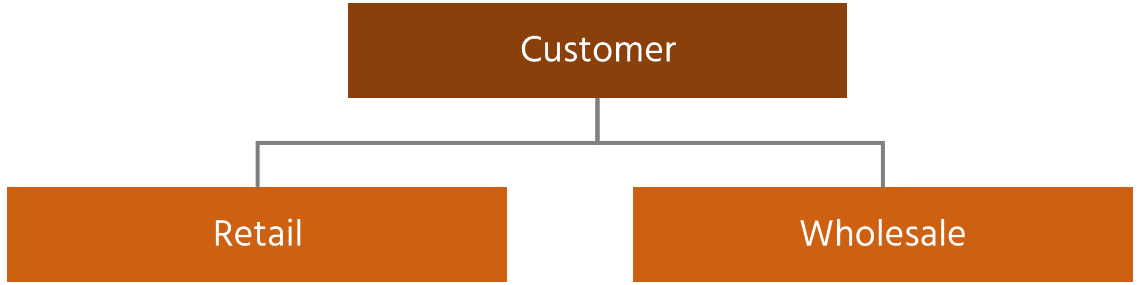
# A Physical Data Model Depends on a Database Structure



# Depending on a Business Model, An Organization Should Choose One of the Approaches to Modeling Data

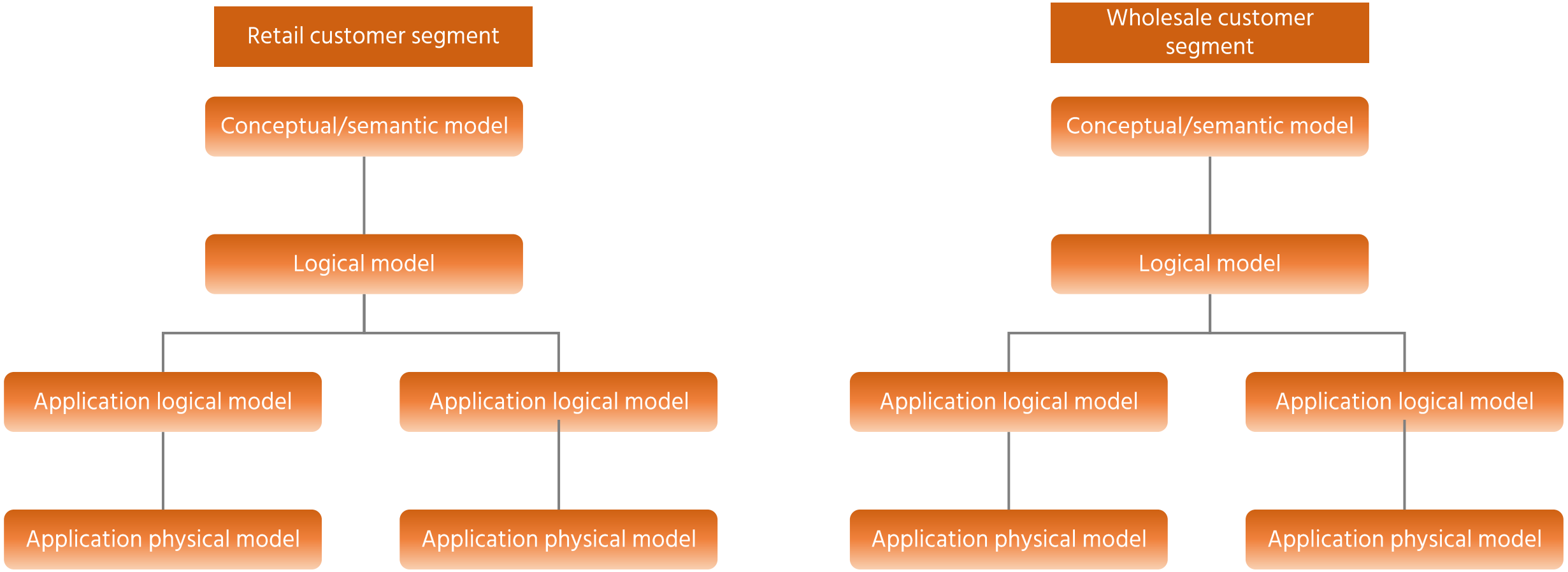
## Option 1: One Enterprise Data Model



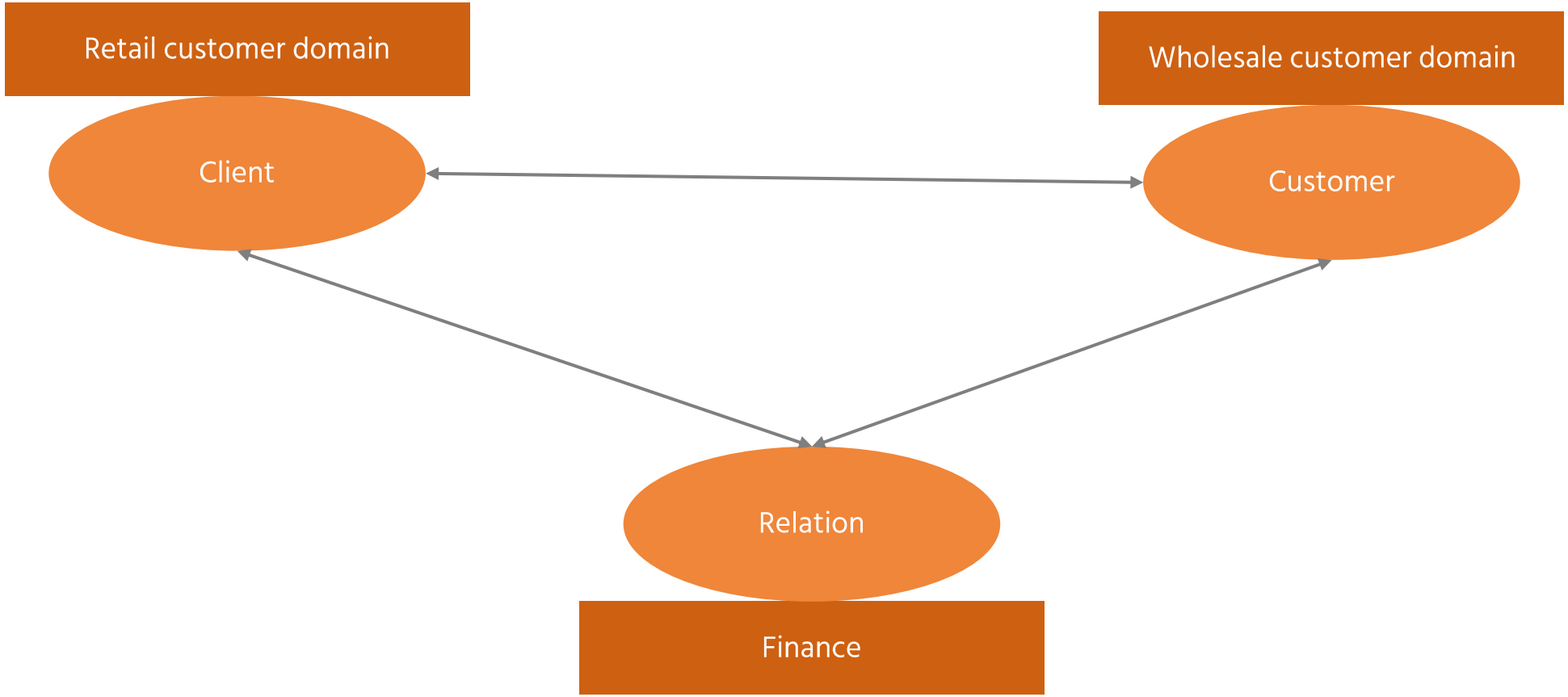



# Depending on a Business Model, An Organization Should Choose One of the Approaches to Modeling Data

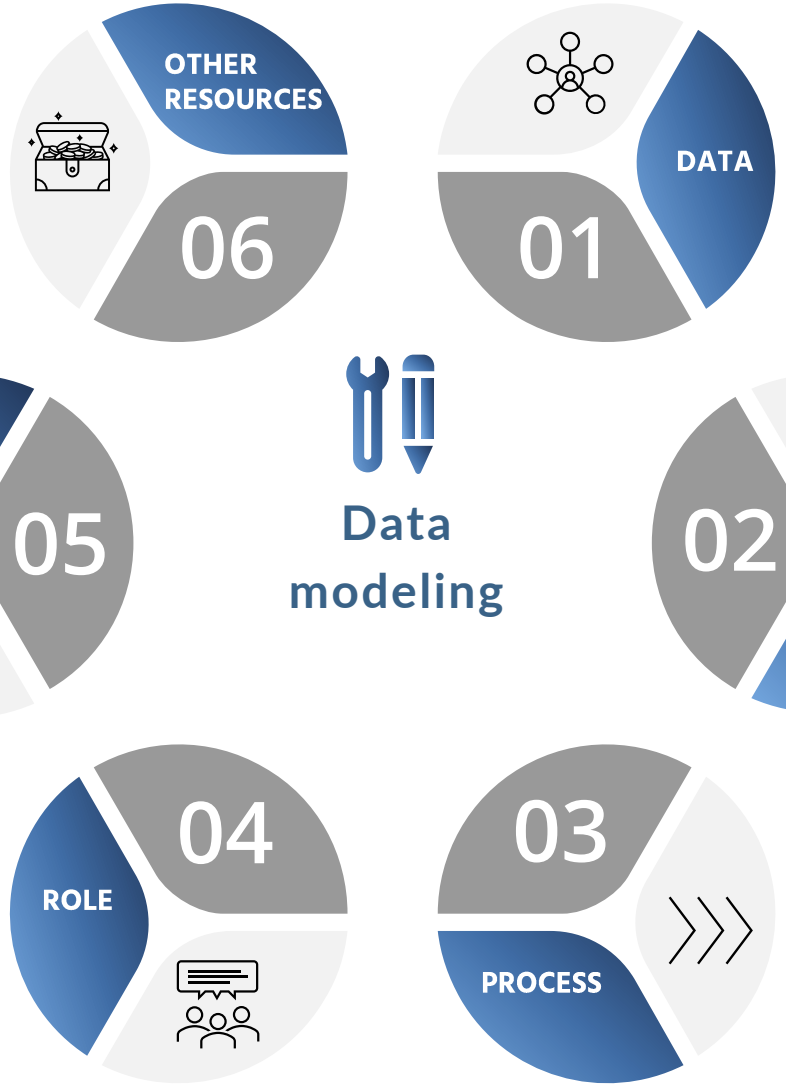
## Option 2: Data Domain Models(Centralized Data Architecture)



# Data Domain Architecture Requires Developing and Mapping Business Domain Data Models



# We Will Design the Data Modeling Capability in 6 Steps




❑Budget

❑Information and data requirements
❑A business glossary
❑A conceptual/semantic data model
❑A logical/solution data model
❑A physical data model
❑Business rules
❑The list of critical data elements

❑Data modeling tool

❑Data modeling principles
❑A policy "Data modeling"
❑A standard "Business glossary"
❑A standard "Data modeling"
❑A standard "Data and information requirements"
❑A standard "Critical data"

❑DM stewards (data modelers)
❑Business data stewards (subject matter experts)
❑Technical data stewards

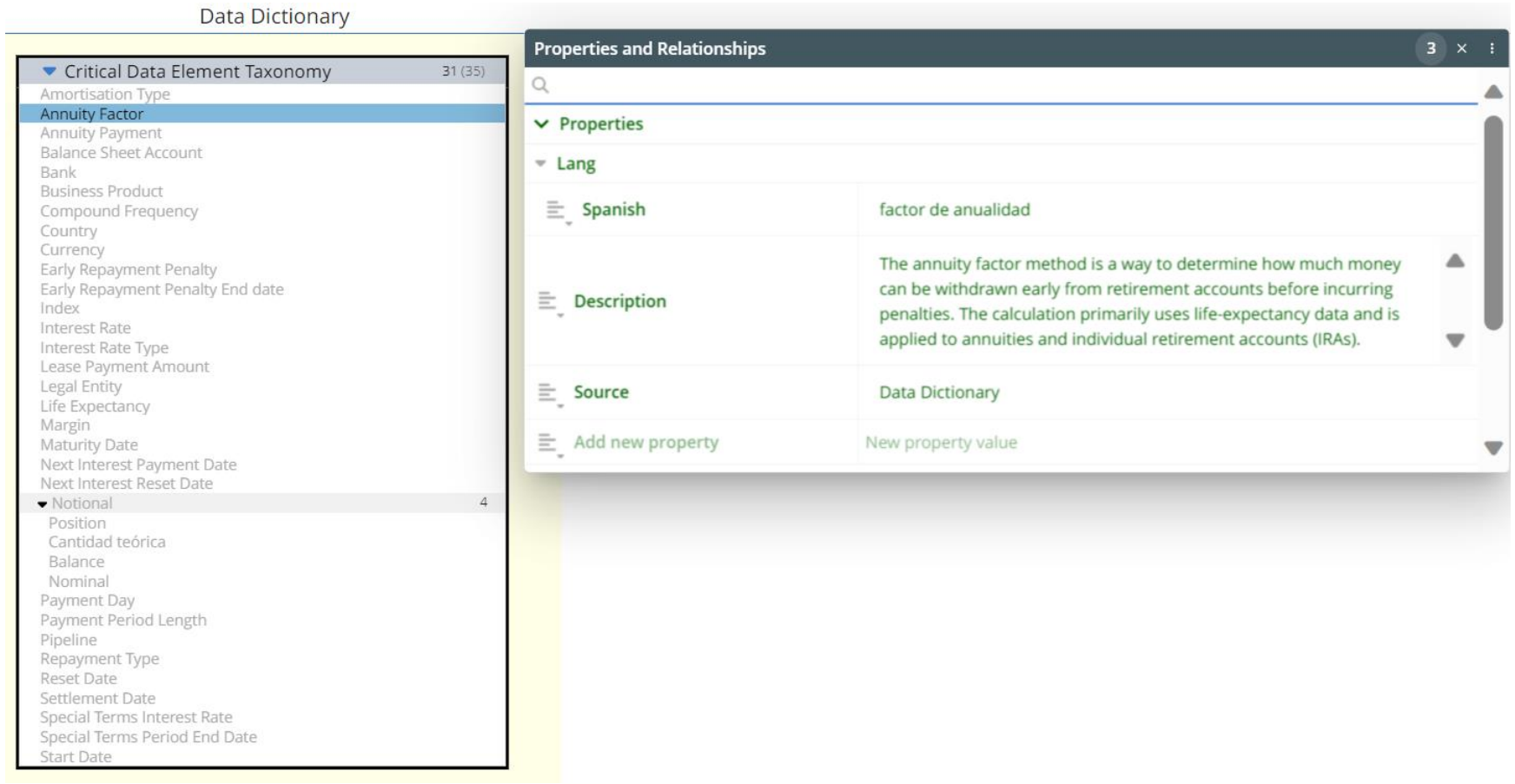
❑Define, document, and maintain data requirements related to information needs
❑Develop, document, and maintain data models
❑Develop, document, and maintain data-related business glossaries and data dictionaries
❑Identify and maintain critical data

# The Accountabilities of Data Stewards Regarding Data Modeling Differ Per Data Architecture Style

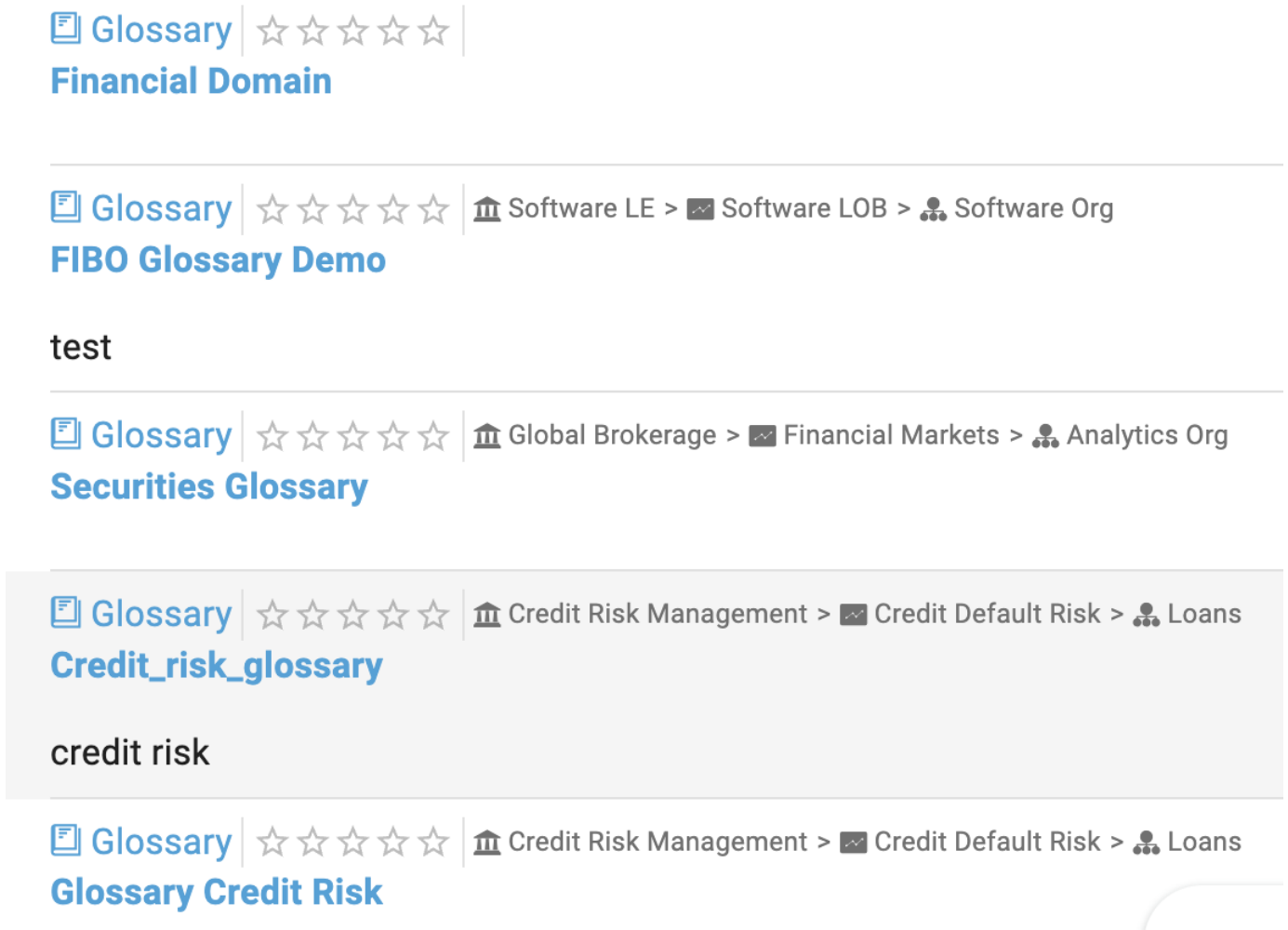
| Process | Deliverable | RACI (accountable and responsible) | | | |
|---|---|---|---|---|---|
| | | Centralized architecture | | Decentralized architecture | |
| | | A | R | A | R |
| Create and maintain a conceptual model | Conceptual model | Chief EA | 1. DM Stewards (Business architects)<br>2. Business DS (SME) | Business or Data domain owner | 1. DM Stewards (Business architects)<br>2. Business DS (SME) |
| Create and maintain logical models | Logical model | Chief EA | DM Stewards (data modeler) | Data domain owner | DM Stewards (data modeler) |
| Create and maintain physical models | Physical model | System owner | IT stewards (solution architect, DB administrator) | Business domain platform owner or system owner | IT stewards (solution architect, DB administrator) |
| Create and maintain a business glossary | Business glossary | Executive business data steward | 1. Business DS (SME)<br>2. DM stewards (data modeler) | Business domain owner | 1. Business DS (SME)<br>2. DM stewards (data modeler) |

# Metadata Management Solutions Provide Business Glossaries and Data Dictionaries

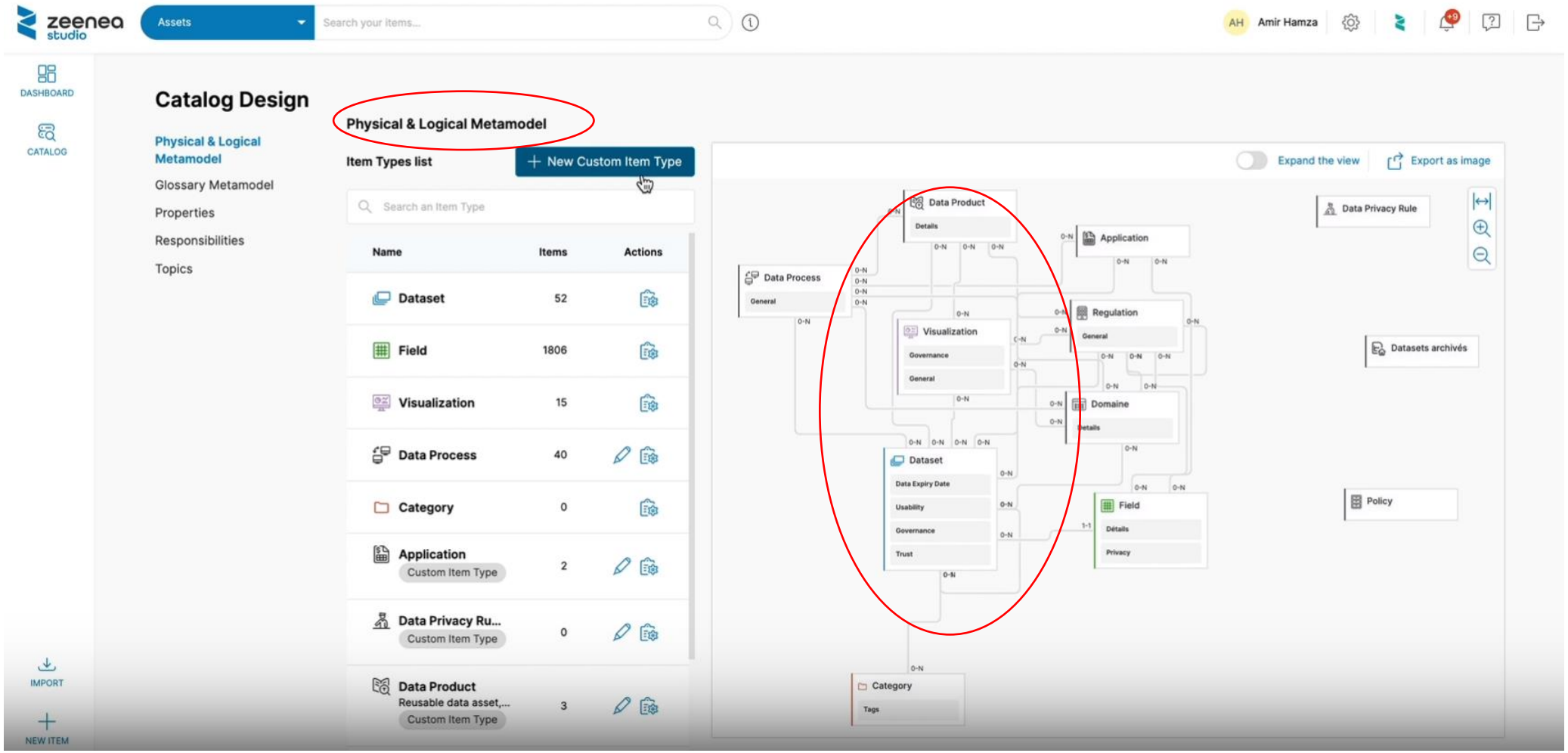
Solidatus



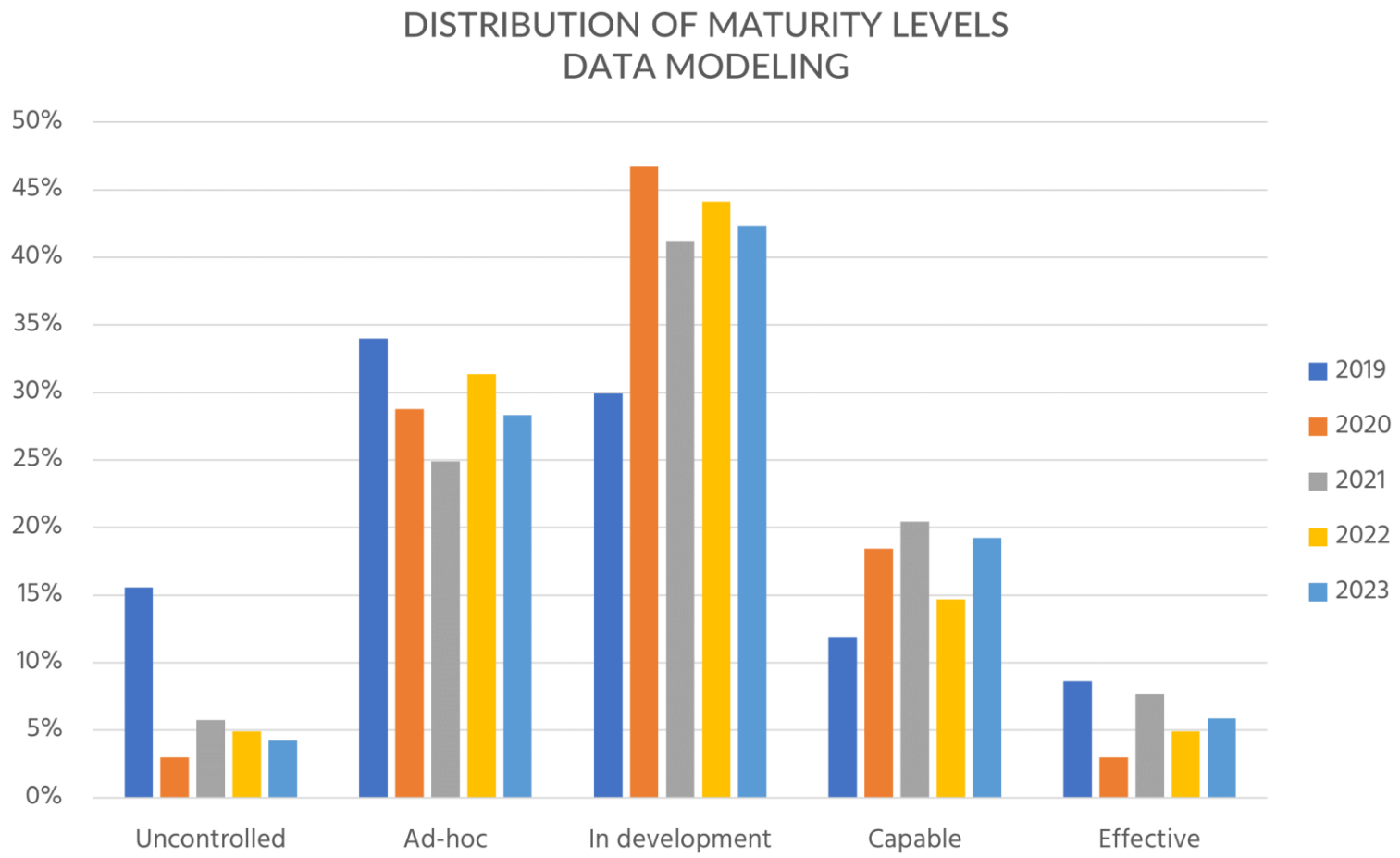
# Metadata Management Solutions Should Include Multiple Glossaries and Link Them (Semantic Layer)



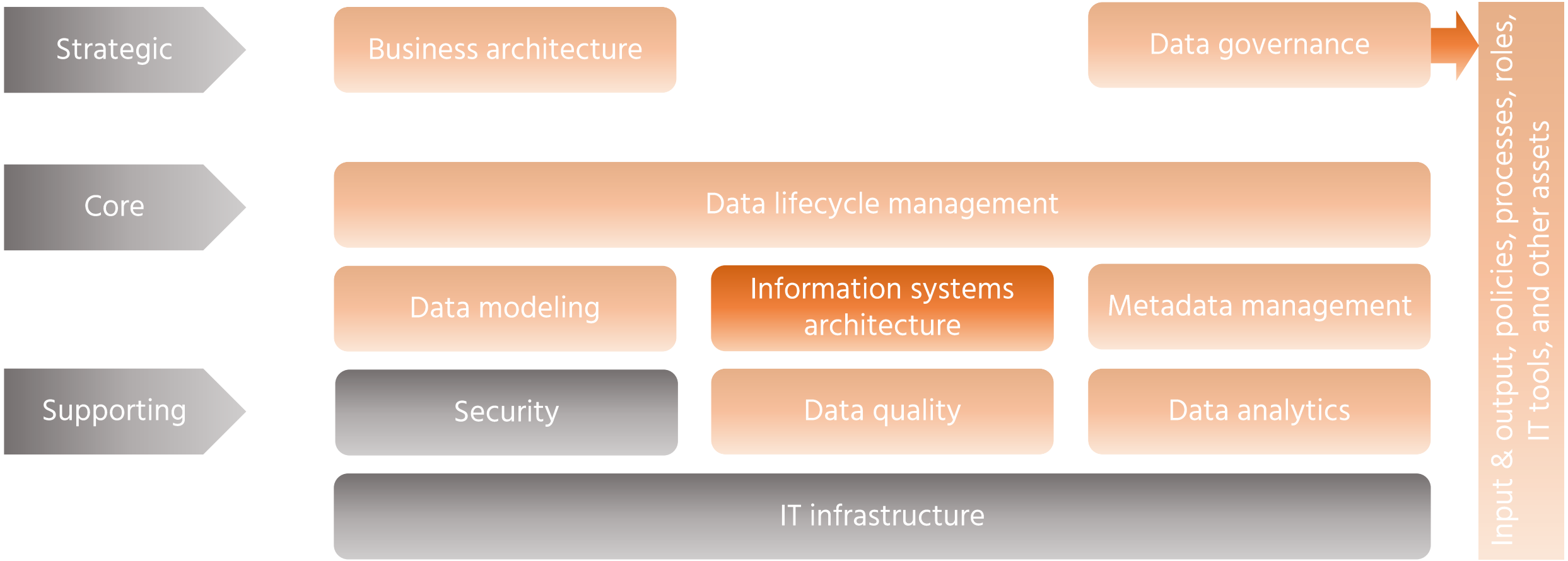
# Metadata Solutions Can Demonstrate Logical & Physical Data Models



# Data Modeling Demonstrates Stable Development Trends



# Data Governance Coordinates and Controls Establishing the Data Management Framework

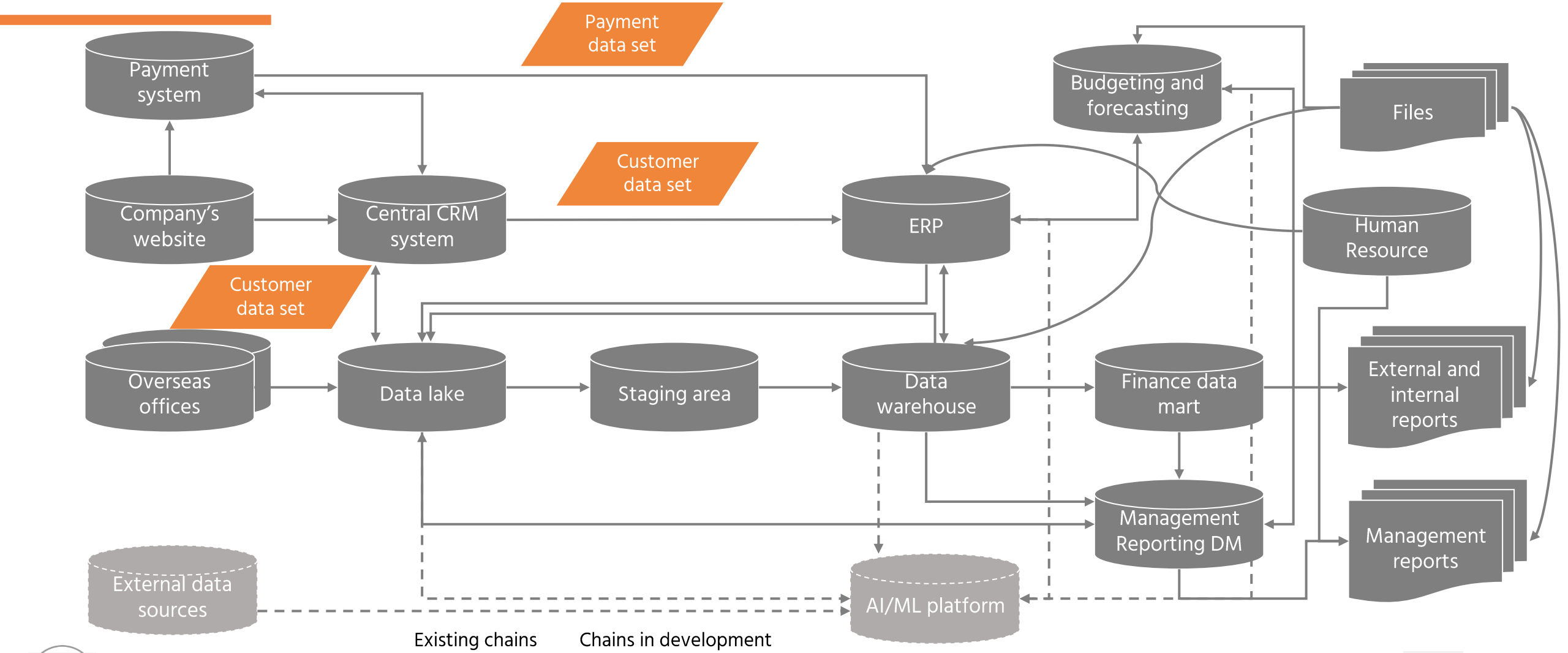


# The Information Systems Architecture Capability Can Be Broken Down in Several Sub-Capabilities:

Information systems architecture*

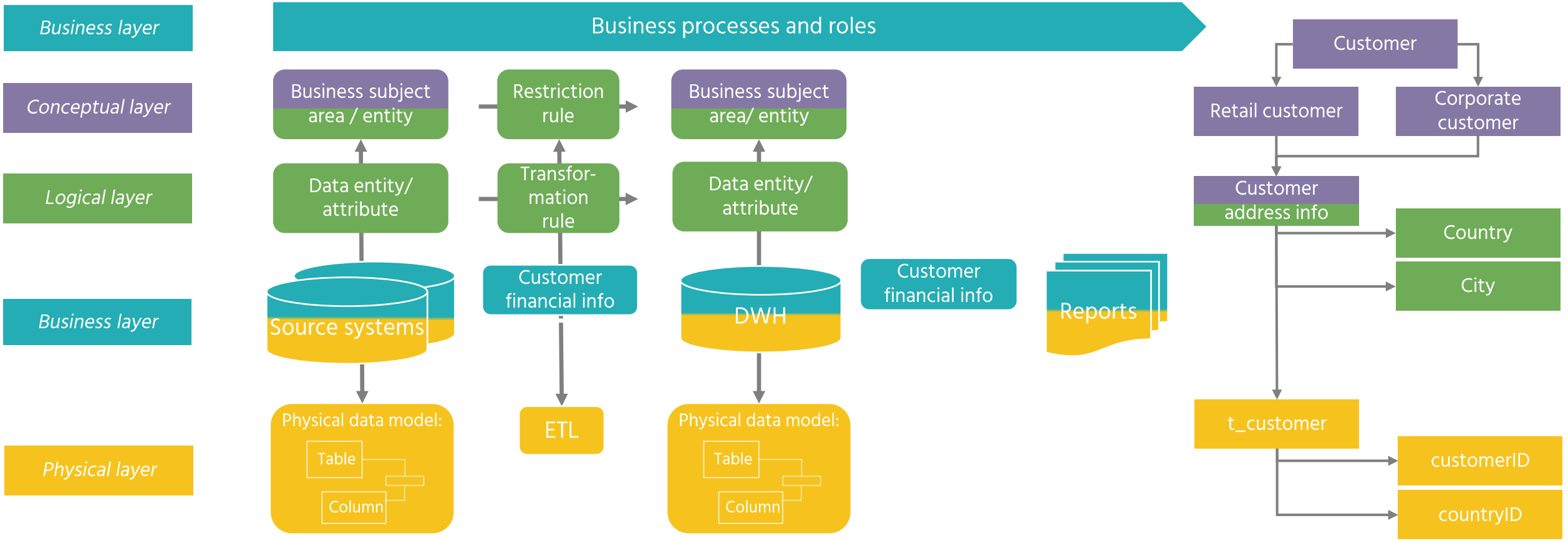
| Data architecture | Metadata architecture | Application architecture |
| --- | --- | --- |
| Baseline and target architecture | Baseline and target architecture | Baseline and target architecture |
| Architecture modeling | Architecture modeling | Architecture modeling |
| Control for implementation | Control for implementation | Control for implementation |
| Data classification | Data classification | Data classification |

# XYZ Company, Example: Data Set and Application Flows

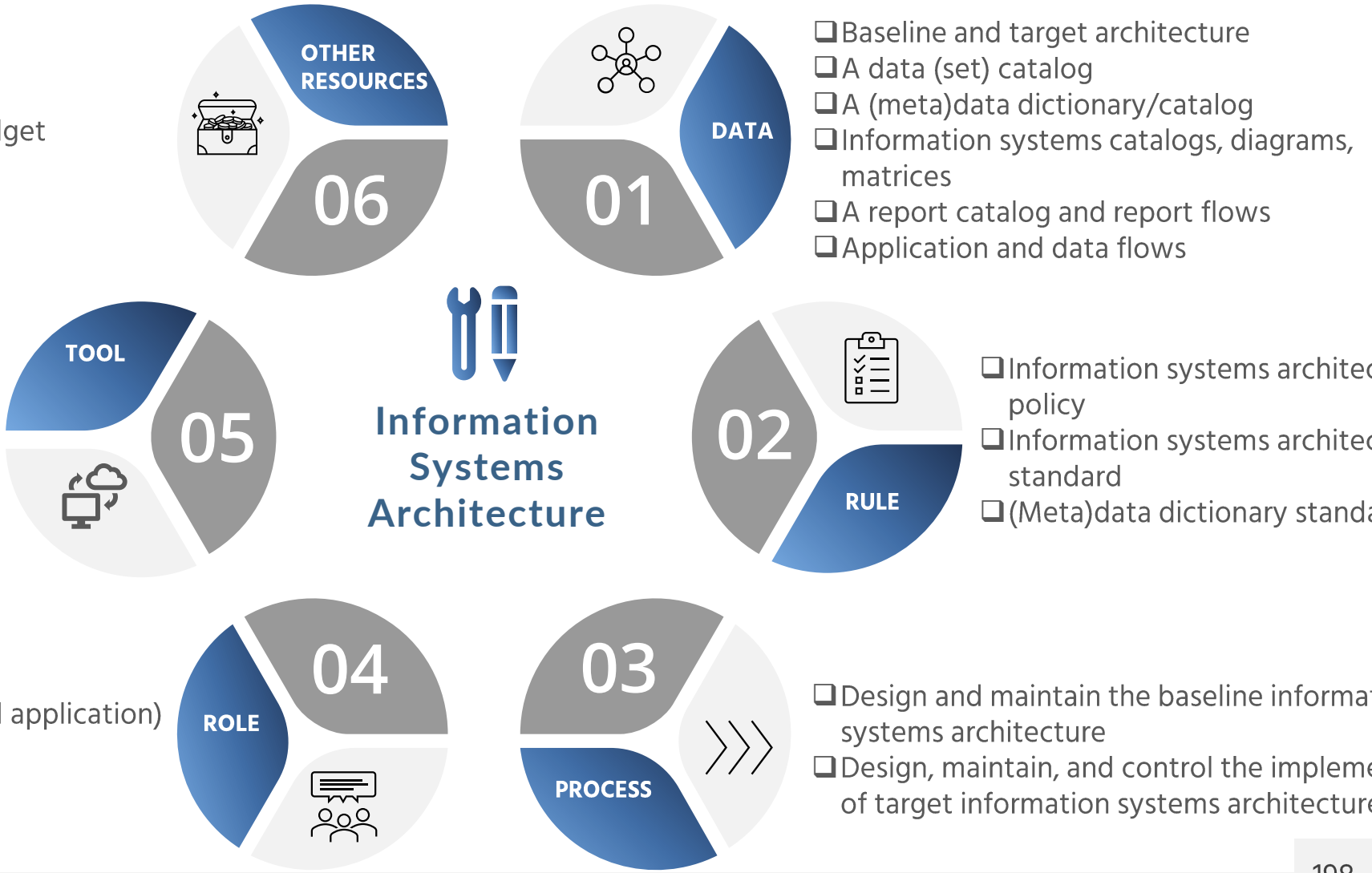


# IT and Data Assets and Their Flows Can Be Documented at Multiple Abstraction Levels

## The metamodel of data lineage demonstrates these levels



# We Will Design the Information Systems (Data) Architecture Capability in 6 Steps

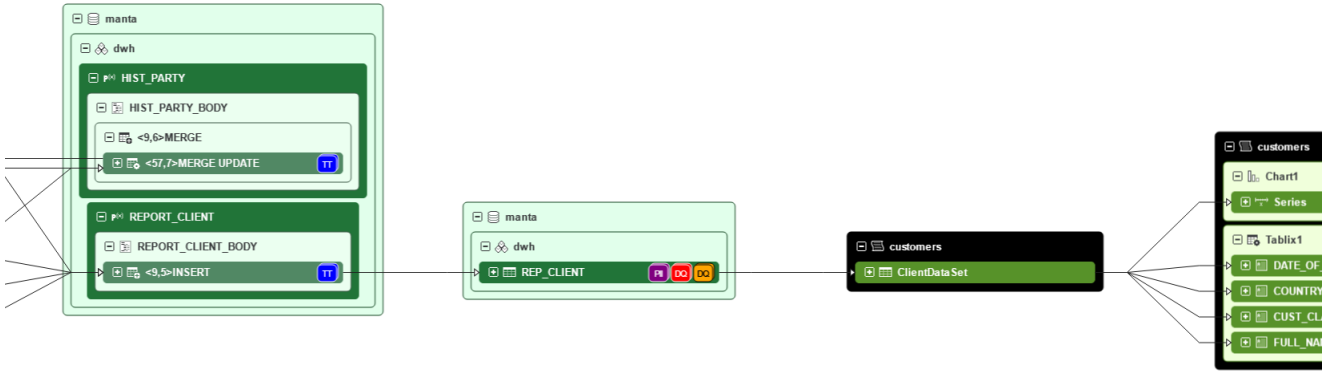


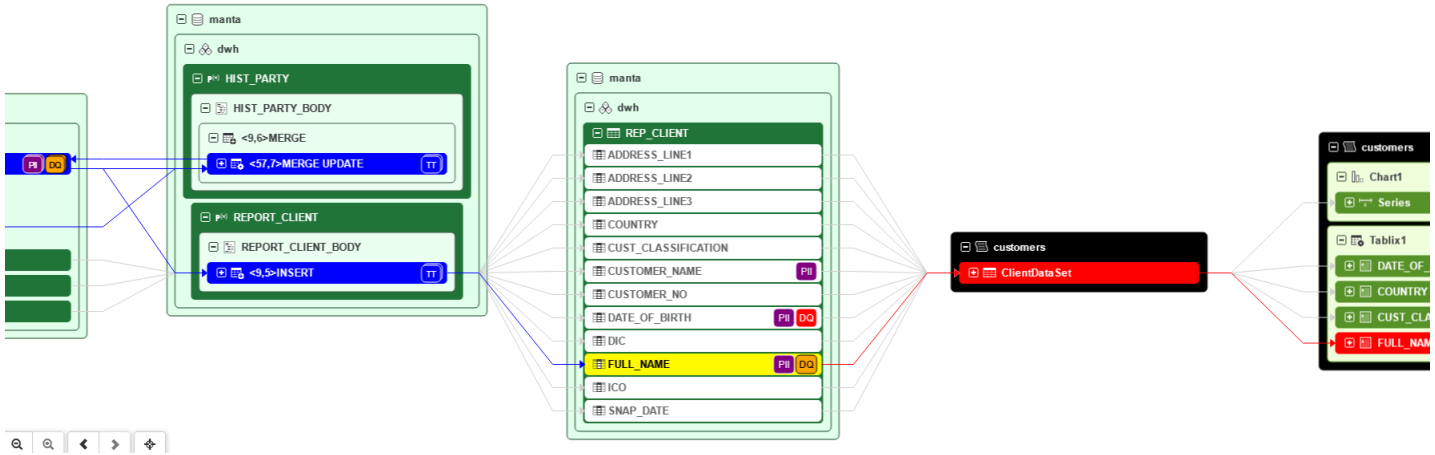

- ❑ Budget
- ❑ Baseline and target architecture
- ❑ A data (set) catalog
- ❑ A (meta)data dictionary/catalog
- ❑ Information systems catalogs, diagrams, matrices
- ❑ A report catalog and report flows
- ❑ Application and data flows
- ❑ A data catalog
- ❑ An enterprise architecture modeling tool
- ❑ Information systems architecture policy
- ❑ Information systems architecture standard
- ❑ (Meta)data dictionary standard
- ❑ Enterprise (data and application) architectes
- ❑ Solution architectes
- ❑ Design and maintain the baseline information systems architecture
- ❑ Design, maintain, and control the implementation of target information systems architecture

# The Accountabilities of Data Stewards Regarding IS Architecture Differ Per Data Architecture Style

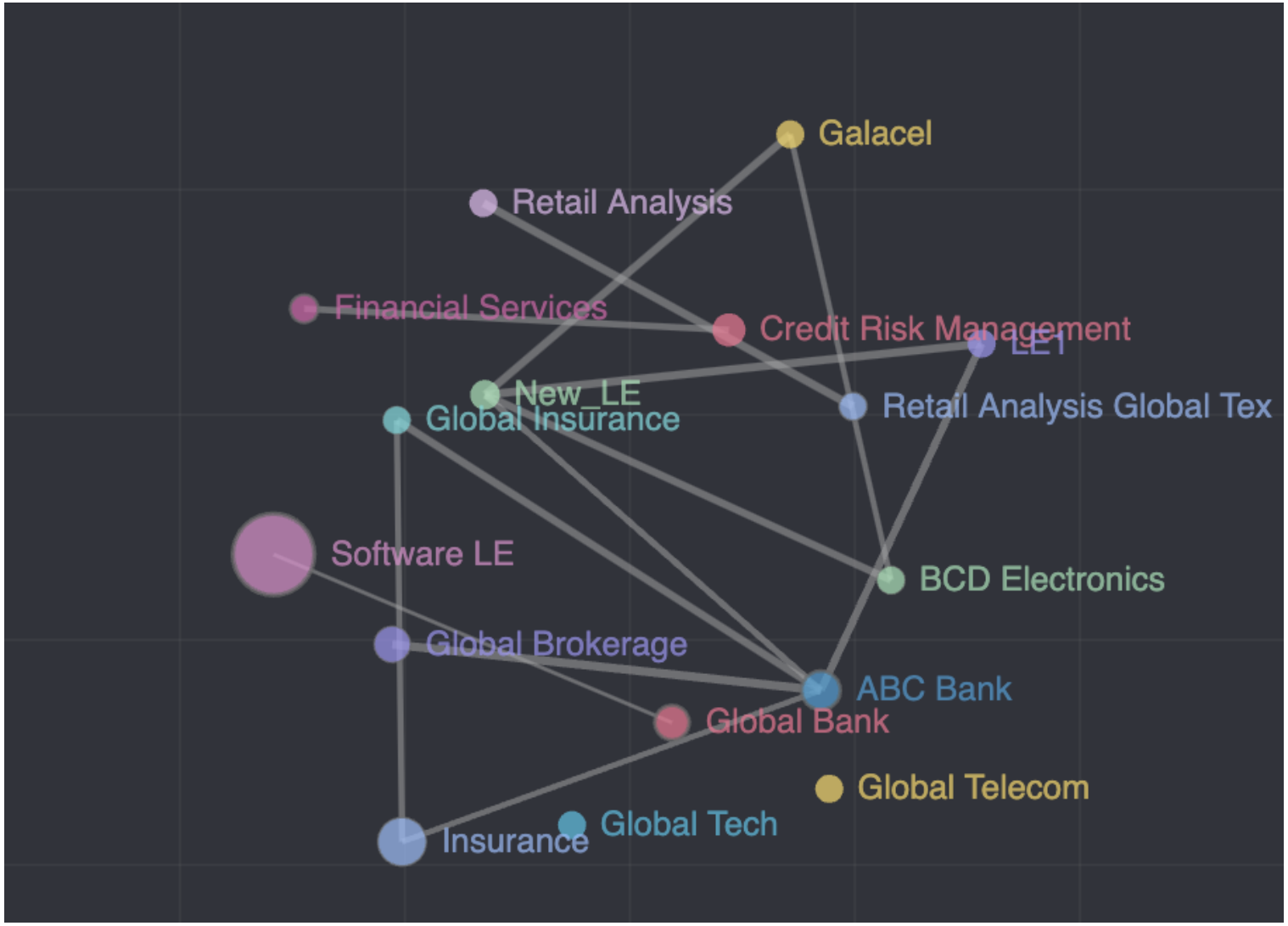
| ID | Process | Deliverable | RACI (accountable and responsible) | | | |
|---|---|---|---|---|---|---|
| | | | Centralized architecture | | Decentralized architecture | |
| | | | A | R | A | R |
| 1 | Document reports & dashboards | A report & dashboard catalog | Executive business data steward (Data user) | 1. Line business data stewards (SME)<br>2. DM stewards (analyst)<br>3. Process owner<br>4. System owner | Business domain owner | 1. Domain business and DM data stewards<br>2. Process owner<br>3. System owner |
| 2 | Document reports' flow | A report flow diagram | | | | |
| 3 | Gather information requirements | Information requirements documented and approved | | | Business domain owner (data user) | 1. Domain business and DM stewards |

# Scanning Technical Metadata Along Data Pipelines Provides Precise Detailed Data Lineage

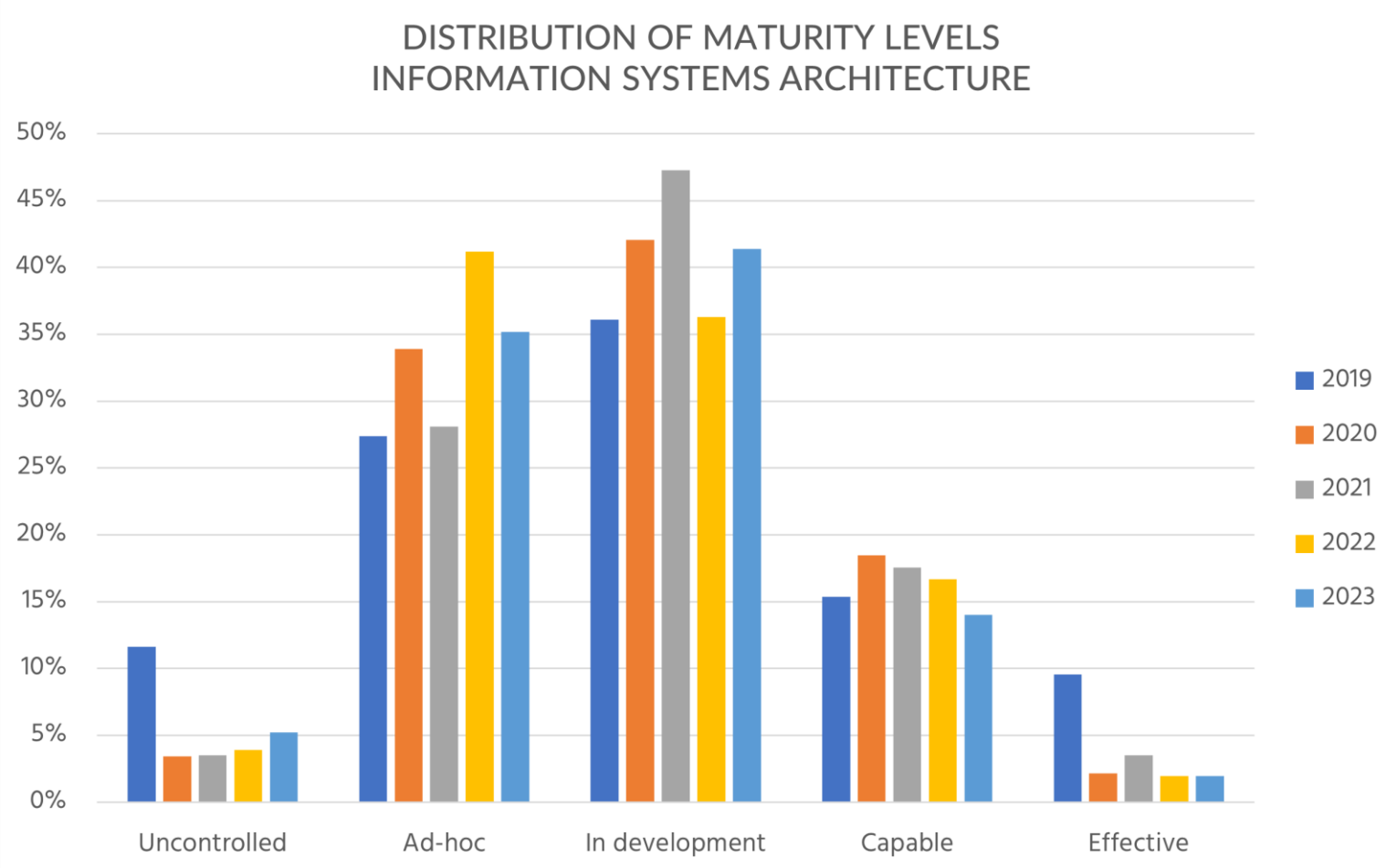


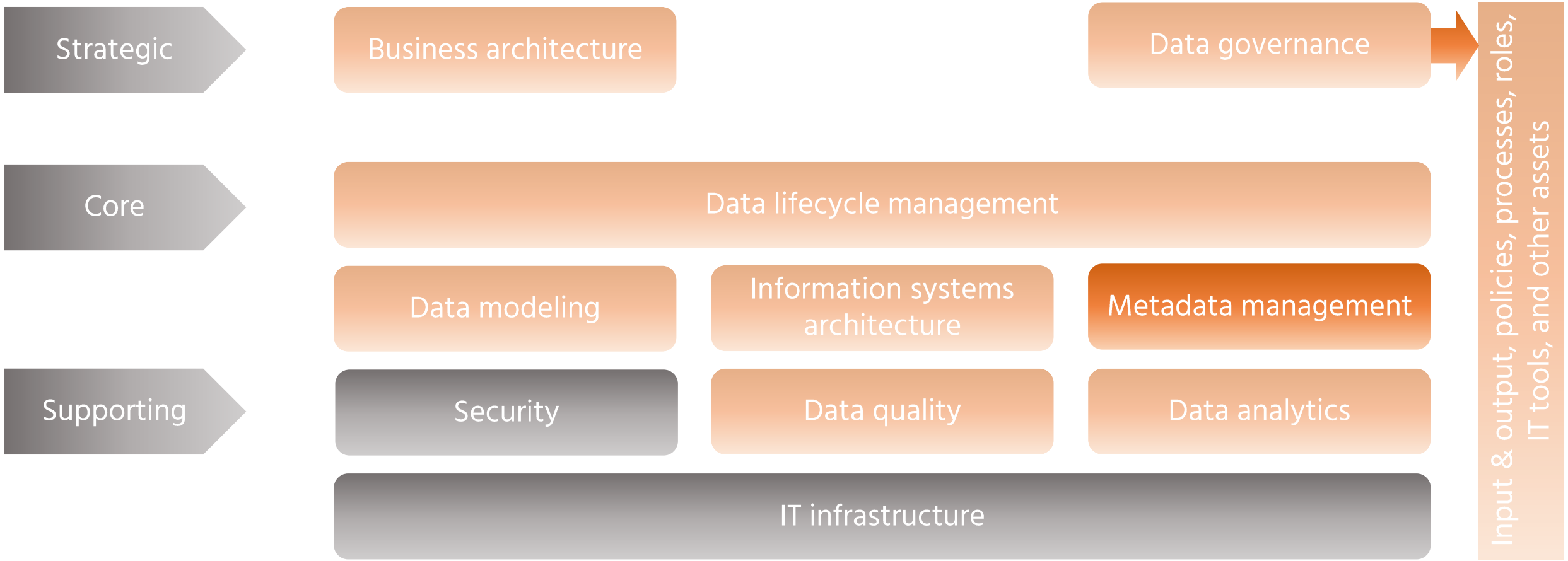
# Metadata Solutions Can Capture Data Lineage Using Two Different Manners



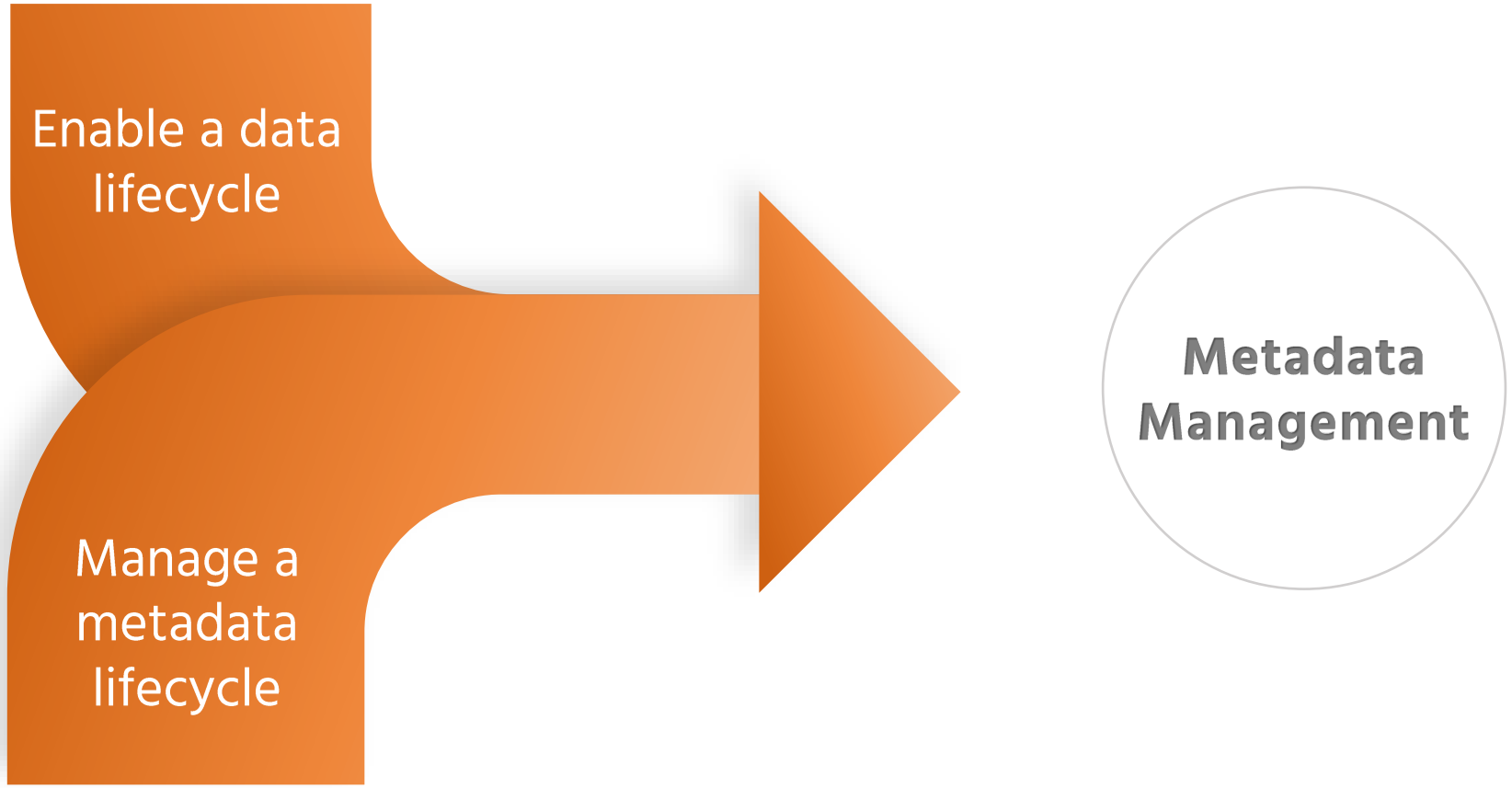
# Information Systems Architecture Shows Stable Trends



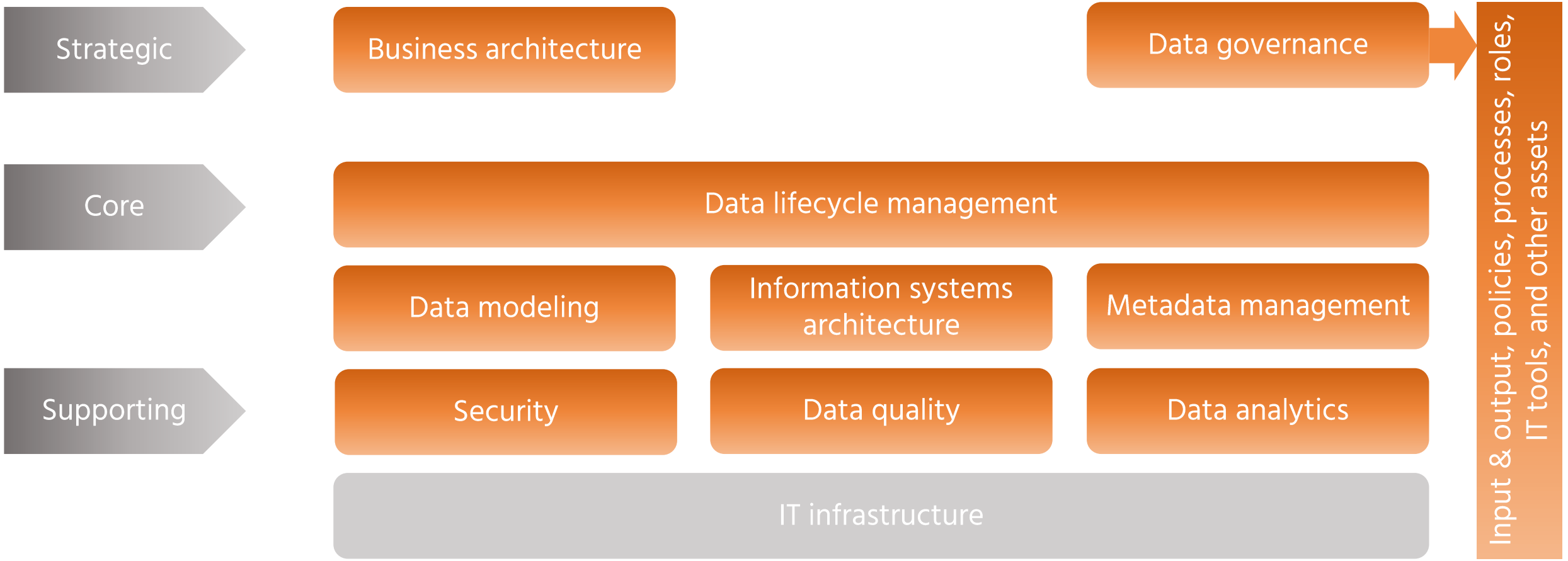
# Data Governance Coordinates and Controls Establishing the Data Management Framework



# Metadata Management Has Two Core Goals

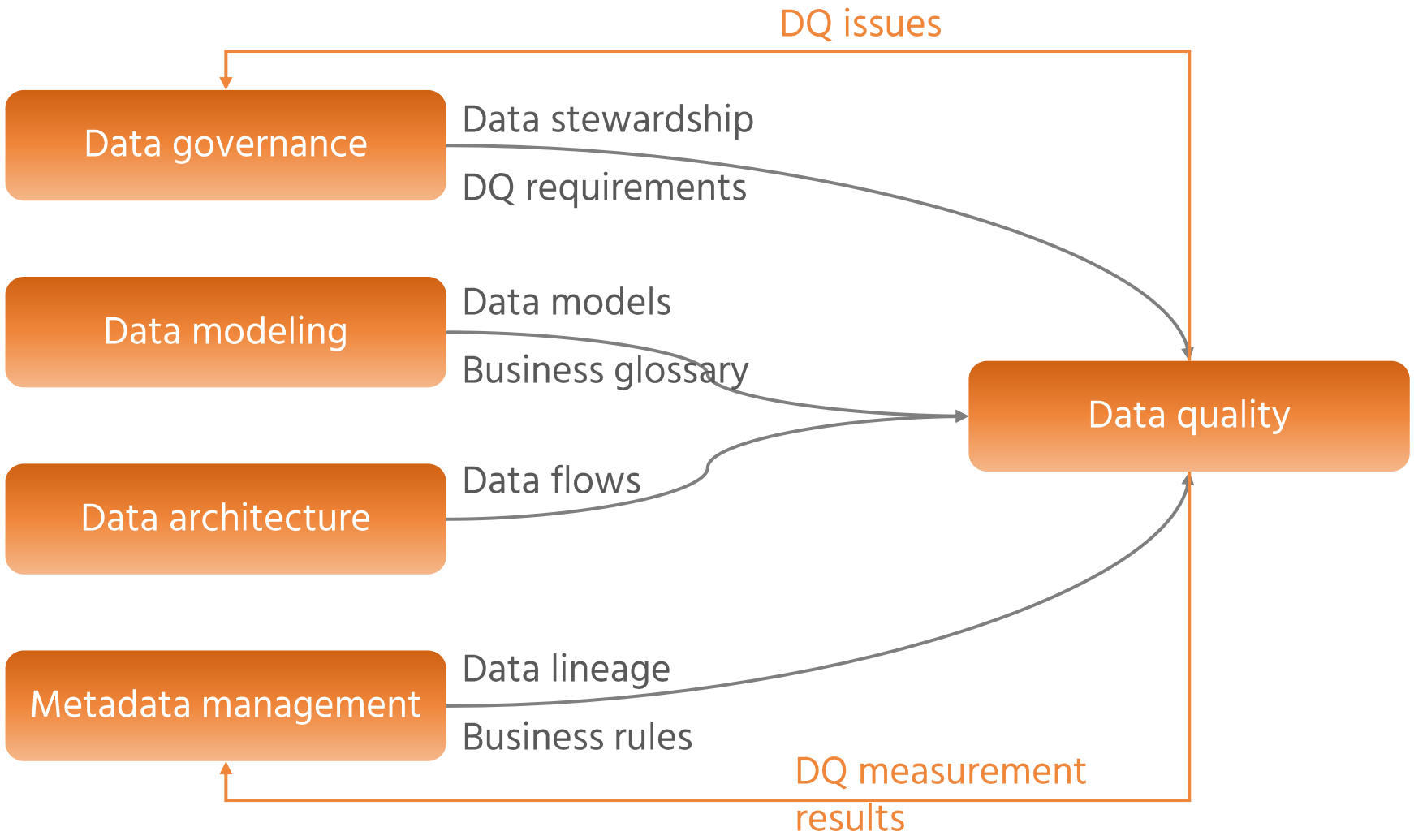


# Various Data Management Capabilities Produce Metadata to Enable the Data Lifecycle

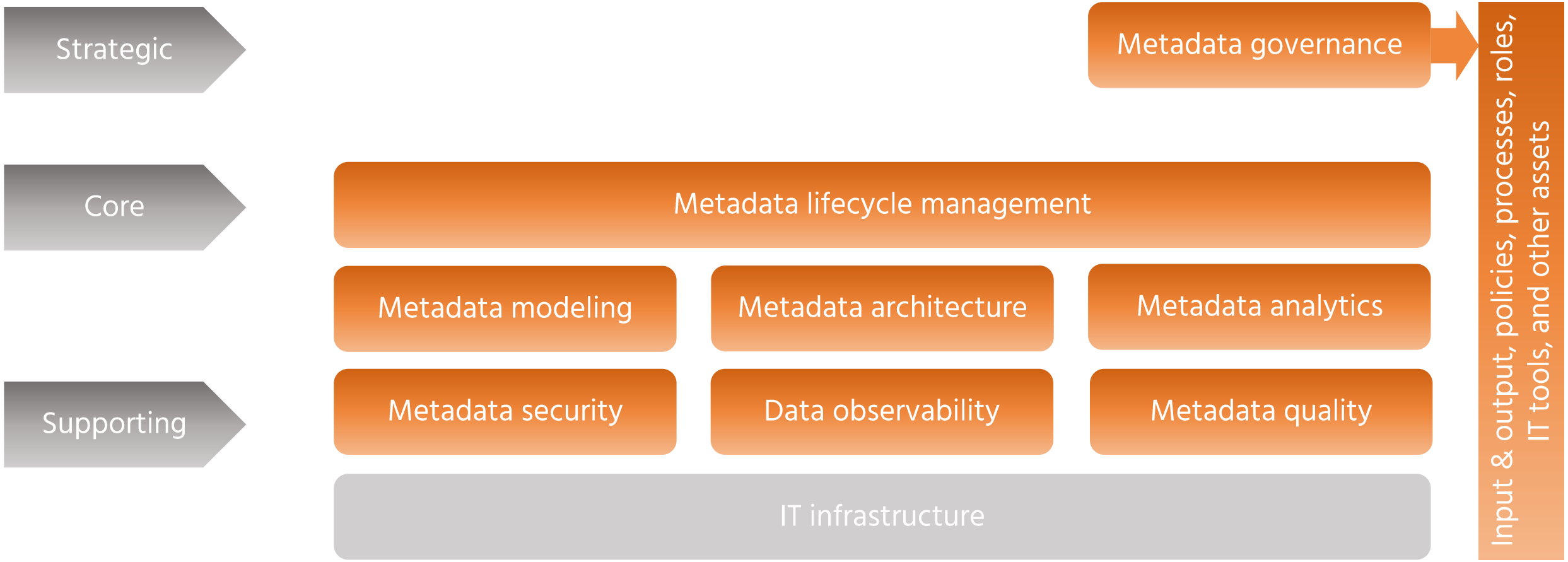


# Various Data Management Capabilities Not Only Produce, but Also Consume and Exchange Metadata

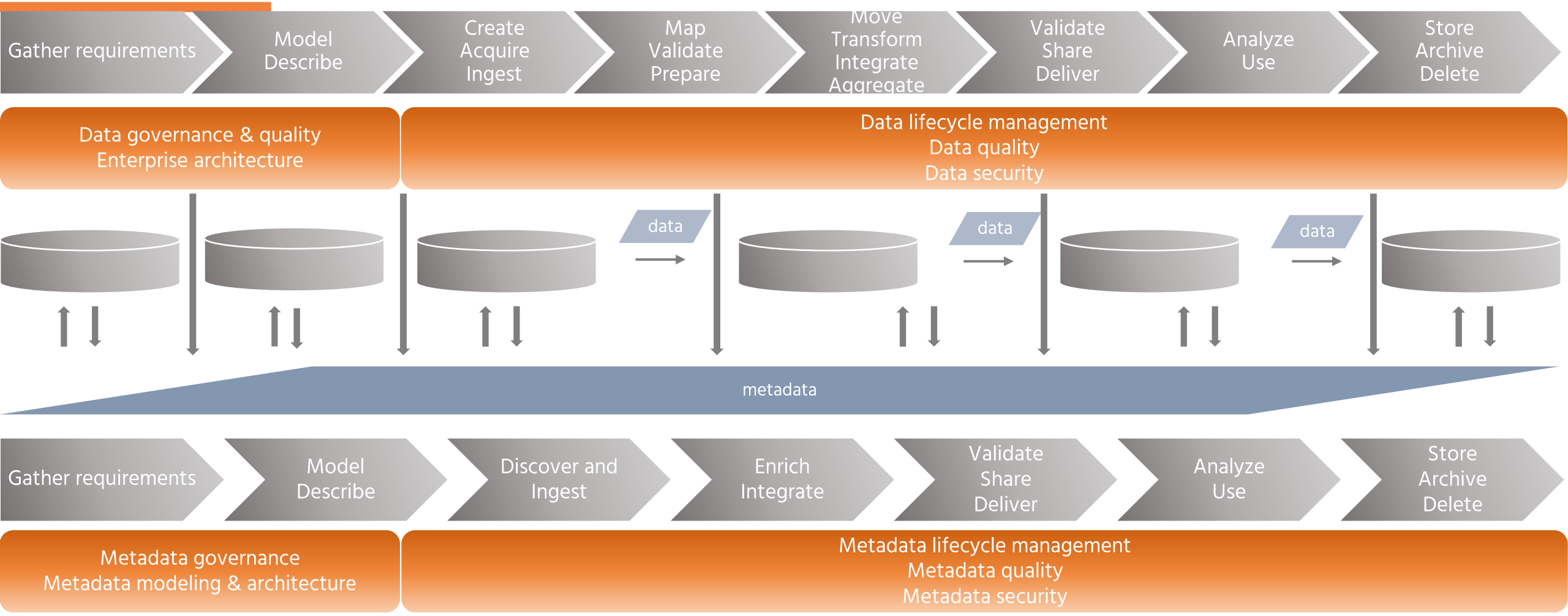
## Example: Data Quality



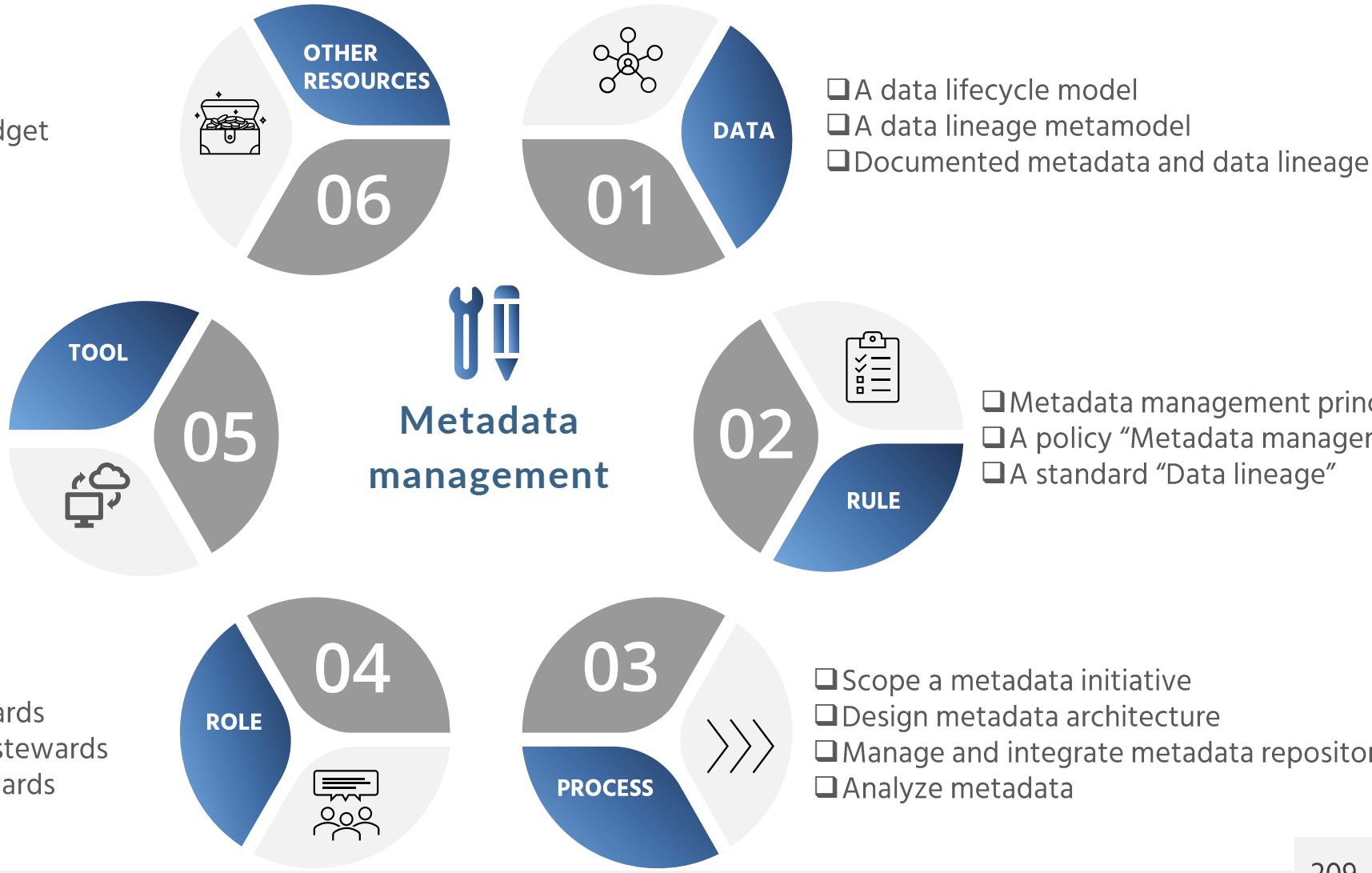
# Various Metadata Management Capabilities Manage Metadata and Its Lifecycle



# Managing Data and Metadata Lifecycles Together Delivers Synergy Effect



# We Will Design the Metadata Management Capability in 6 Steps




❑Budget

❑A data lifecycle model
❑A data lineage metamodel
❑Documented metadata and data lineage

❑Data lineage solution
❑Metadata management solution

❑Metadata management principles
❑A policy “Metadata management”
❑A standard “Data lineage”

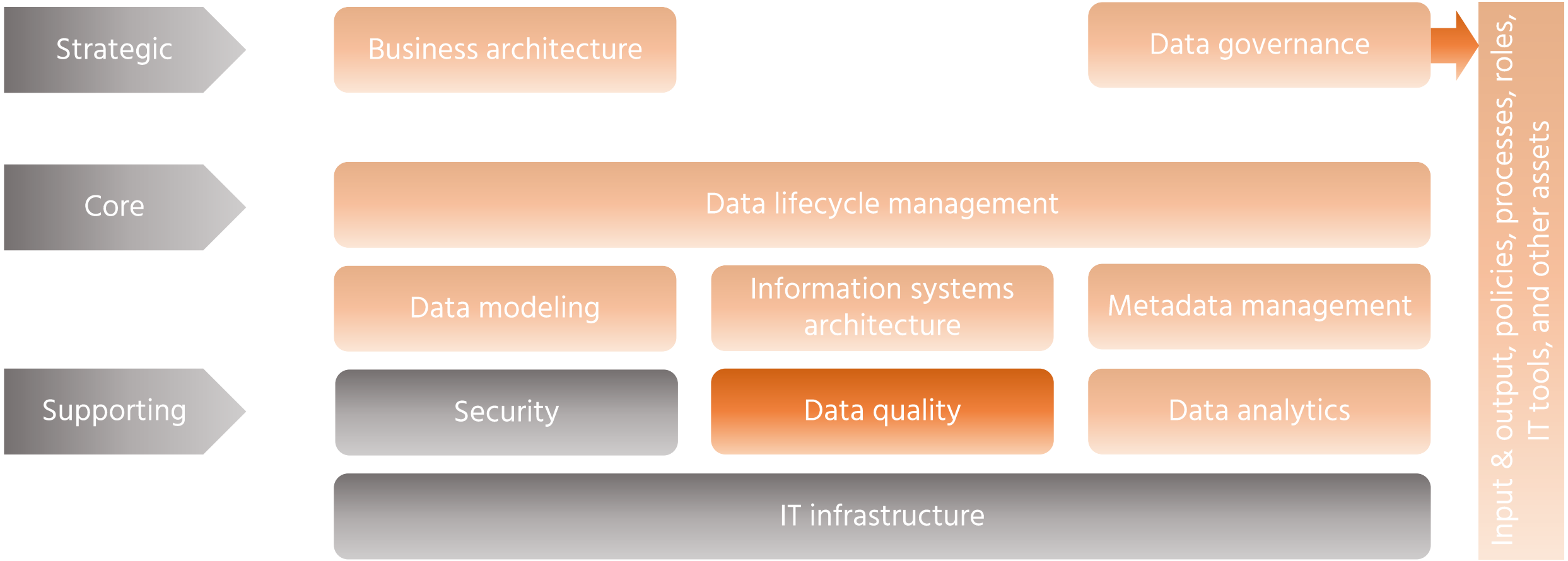
❑Business data stewards
❑Data management stewards
❑Technical data stewards

❑Scope a metadata initiative
❑Design metadata architecture
❑Manage and integrate metadata repositories
❑Analyze metadata

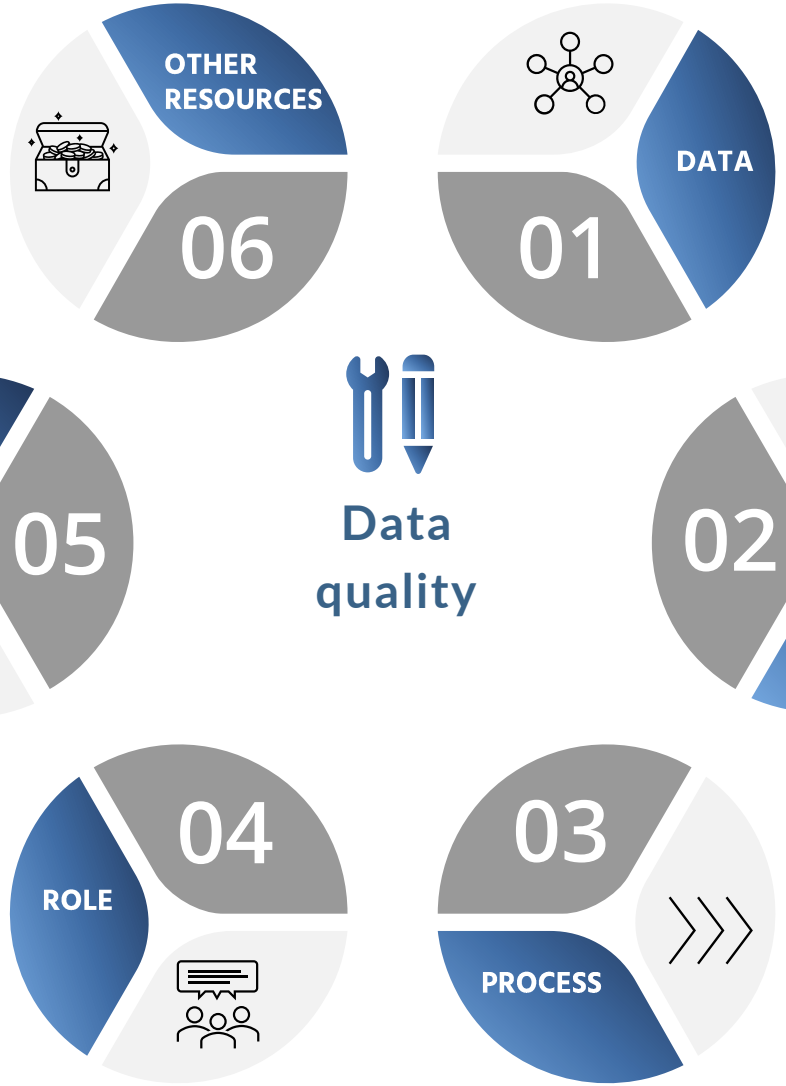
# The Accountabilities of Data Stewards Regarding Metadata Management Differ Per Data Architecture Style

| Process | Deliverable | RACI (accountable and responsible) | | | |
|---|---|---|---|---|---|
| | | Centralized architecture | | Decentralized architecture | |
| | | A | R | A | R |
| Gather business metadata requirements | Metadata requirements documented and shared | Executive business data steward | Business data stewards and SME | Data domain data owner | Business data stewards and SME |
| Gather technical metadata requirements | Metadata requirements documented and shared | Executive DM and IT stewards | DM and IT stewards | Data domain system owner | DM and IT stewards |
| Gather operational metadata requirements | Metadata requirements documented and shared | Executive DM and IT stewards | DM and IT stewards | Data domain IT owner | DM and IT stewards |
| Build a metamodel of metadata | The metamodel developed, approved, and shared | Chief EA or CDO | DM and IT stewards | Data domain data owner | DM and IT stewards |

# Data Governance Coordinates and Controls Establishing the Data Management Framework



# We Will Design the Data Quality Capability in 6 Steps




❑Budget

❑Information and data quality dimensions
❑Information and data quality requirements
❑A data quality issue log
❑Data profiling and validation analysis
❑Data checks and controls

❑A data quality profiling and analysis tool
❑A validations (DQ) rules' repository
❑A data quality checks and controls repository

❑A policy "Data quality"
❑A standard "Data quality dimensions and requirements"
❑A data quality control framework

❑DM stewards (data modelers)
❑Business data stewards (subject matter experts)
❑Technical data stewards

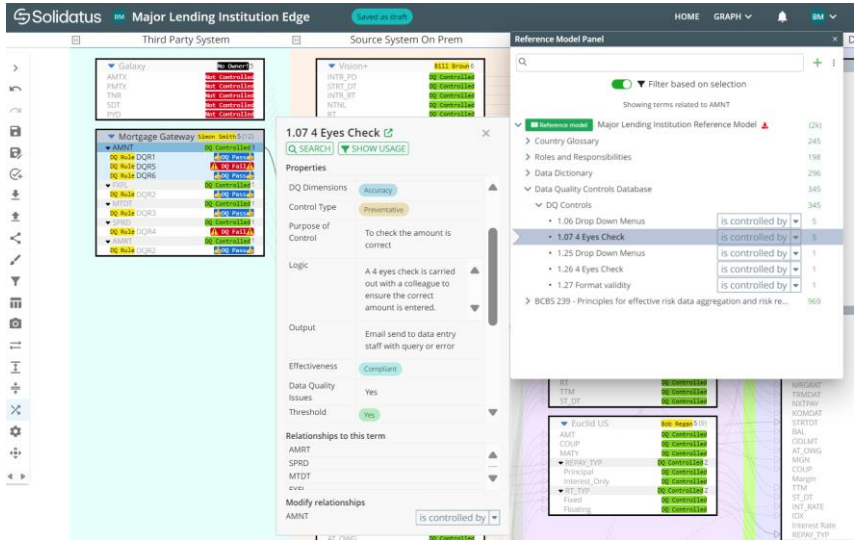
❑Gather and distribute data quality requirements
❑Build data quality checks and controls
❑Profile, validate, monitor the quality of data
❑Resolve data quality issues

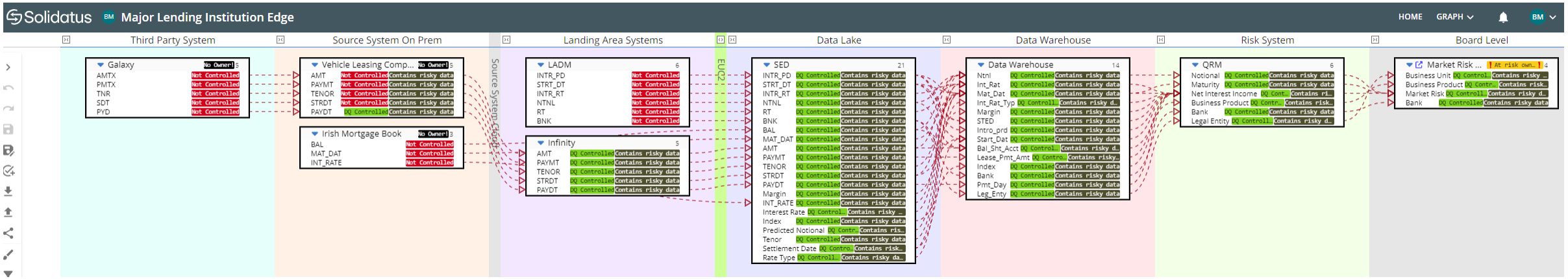
# The Accountabilities of Data Stewards Regarding Data Quality Management Differ Per Data Architecture Style

| ID | Process | Deliverable | RACI (accountable and responsible) | | | |
|---|---|---|---|---|---|---|
| | | | Centralized architecture | | Decentralized architecture | |
| | | | A | R | A | R |
| 1 | Set up data quality requirements, and identify and document data quality issues | 1. Data quality requirements<br>2. DQ issue log | Executive data user (business unit manager) | 1. Data user (business data steward)<br>2. Data analyst<br>3. System owner | Data user (business domain data owner) | 1. Data user (business data steward)<br>2. Data analyst<br>3. Domain platform owner |
| 2 | Resolve DQ issues | DQ issue resolved | Executive data owner (business unit manager) | 1. Data user (business data steward)<br>2. Data analyst<br>3. System owner | Data owner (business domain data owner) | 1. Data user (business data steward)<br>2. Data analyst<br>3. Domain platform owner |

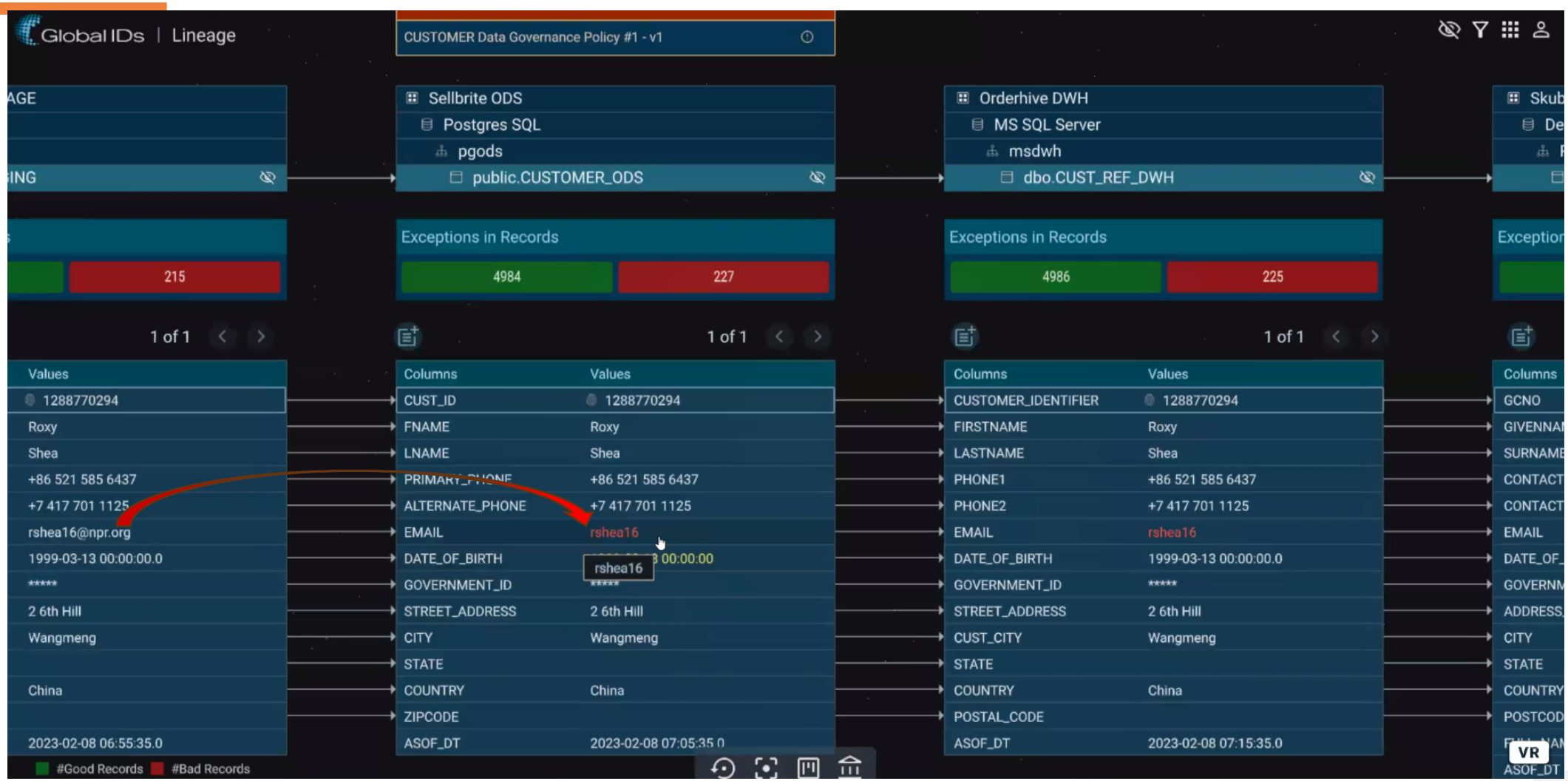
# Data Quality Can Be Measured Along Data Pipelines by Applying DQ Rules

Solidatus

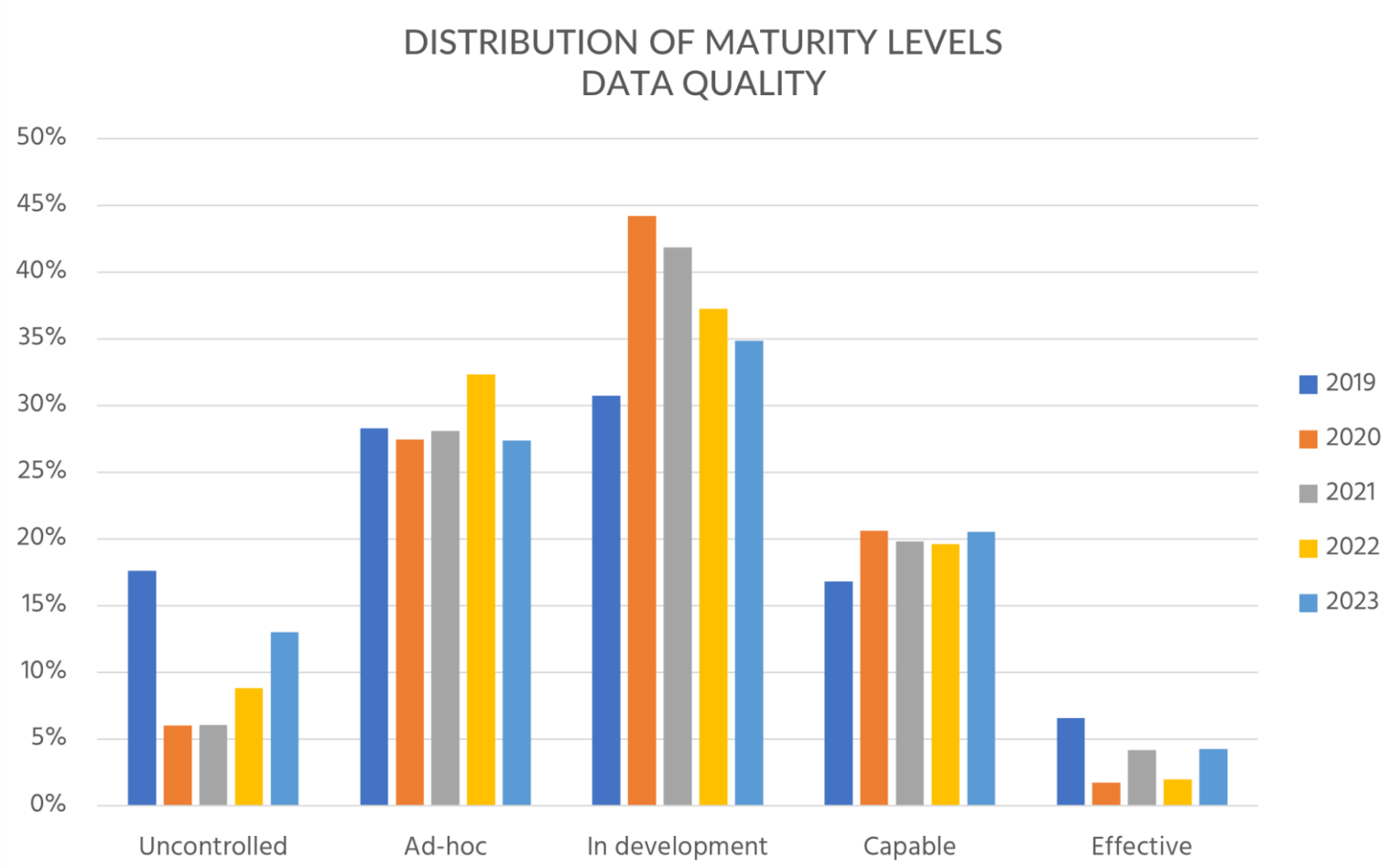


# Graph Technologies Enable Tracing Data Quality at the Data Instance Level



# Data Chain Management Demonstrates Somewhat Negative Trends



# You Must Combine DM Capabilities Processes, Deliverables, and Roles with RACI Accountabilities

| Process | Activity | Deliverable | Governing body | Data stewards | | |
|---|---|---|---|---|---|---|
| | | | | Business | DM | Technical |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# To Develop a Data Governance Framework, We Will Discuss:

1. **Data Management vs. Governance**
   The O.R.A.N.G.E. Terminology
2. **Business Drivers & Stakeholders**
   Strategic S.C.O.P.E. Formula
3. **The Scope of a DG Initiative**
   Strategic S.C.O.P.E. Formula
4. **Preliminary DG Maturity Assessment**
   P.L.A.N. Maturity Assessment Approach
5. **DG Operating Model**
   Capability Customization D.I.A.G.R.A.M.
6. **DG and DM Roles and Bodies**
   Capability Customization D.I.A.G.R.A.M.
7. **DG set up for various DM capabilities**
   Capability Customization D.I.A.G.R.A.M.
8. **Implementation Roadmap**
   Integrated Implementation R.O.A.D. Maps

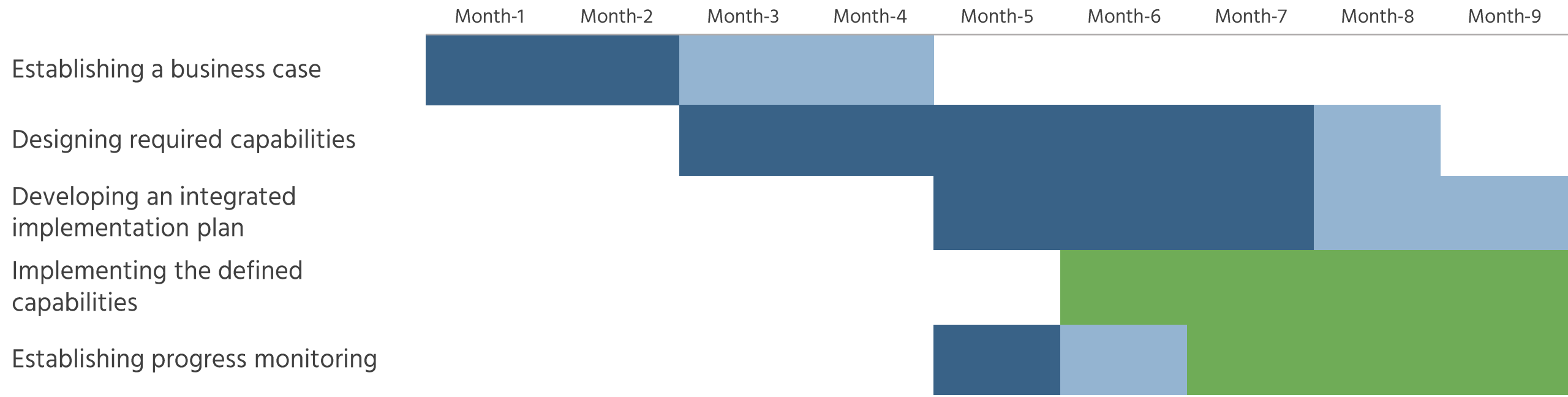
# Schedule

| Time, CET | Topic | Presentation slides | Exercise | Templates |
|---|---|---|---|---|
| 9.00 – 9.20 | Introduction to the course | 1-11 | | |
| 9.20-10.00 | Data Management (DM) vs. Data Governance (DG) | 12-28 | | |
| 10.00-10.45 | Business drivers and stakeholders | 29-43 | Exercise 1 | Templates 1,2 |
| 10.45-11.45 | The scope of a DG initiative | 44-80 | Exercise 2 | Templates 3,4,5,6 |
| 11.45-12.15 | Preliminary DG maturity assessment | 81-89 | Exercise 3 | Templates 7,8 |
| 12.15-13.15 | Break | | | |
| 13.15-14.45 | DG operating model<br>DG and DM roles | 90-155 | Exercises 4,5,6 | Templates 9,10,11,12 |
| 14.45-15.45 | DG set up for various DM capabilities | 156-217 | | |
| 15.45-16.00 | An integrated implementation approach | 218-223 | | |
| | Templates | 224-237 | | |

# A Feasible Scope is a Key Factor of a (Meta)Data Initiative Success

| S. | C. | O. | P. | E. |
|---|---|---|---|---|
| **Stimulus** | **Contributor** | **Outlook** | **Plan** | **Establishment** |
| Answer the question why does your company need this initiative | Find out stakeholders that would support and benefit from this initiative | Make a scope feasible | Set up long-term plans :<br>• Strategy<br>• Roadmap | Establish a business case/ program/ project |

# A Business Case for Metadata Management Must Include Design and Implementation Phases




Design: minimum duration

Design: maximum duration

Implementation

# XYZ Company, Example: Detailed Implementation Plan

| Capability | Action and deliverable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Accountable | Responsible |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data governance | 1. Map required data management capabilities, processes, deliverables, and roles | | | | | | | | | | CDO | CDO Office |
| ISA | 2. Document and analyze reports | | | | | | | | | | Business DS | DM stewards |
| Data modeling | 3. Identify information requirements | | | | | | | | | | Business DS | DM stewards |
| Data modeling | 4. Identify critical reports and information elements | | | | | | | | | | Business DS | DM stewards |
| Metadata management | 5. Define the scope of metadata to document | | | | | | | | | | CDO | DM stewards |
| Data modeling | 6. Design a business glossary | | | | | | | | | | Business DS | DM stewards |
| Business modeling | 7. Design business models | | | | | | | | | | Chief Architect | DM stewards |
| Business modeling | 8. Document business processes | | | | | | | | | | Business DS | Business DS |
| Data modeling | 9. Design data models | | | | | | | | | | Chief Architect | DM stewards |
| ISA | 10. Document data and application flows | | | | | | | | | | Chief Architect | DM and Technical stewards |
| Metadata management | 11. Document data lineage | | | | | | | | | | CDO | Technical stewards |

# XYZ Company, Example: Detailed Implementation Plan

| Capability | Action and deliverable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Accountable | Responsible |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data modeling | 12. Define data requirements | | | | | | | | | | CDO | DM and Technical stewards |
| DQ | 13. Gather information and data quality requirements | | | | | | | | | | CDO | Business and DM Stewards |
| DQ | 14. Perform data profiling and analysis | | | | | | | | | | CDO | DM and Business Data Stewards |
| DQ | 15. Identify and resolve data quality issues | | | | | | | | | | Business Data Stewards | Business Data and DM Stewards |
| DQ | 16. Build data quality checks and controls | | | | | | | | | | | |

# Templates

## List

Template 1: Business Driver Prioritization

Template 2: Stakeholder Map

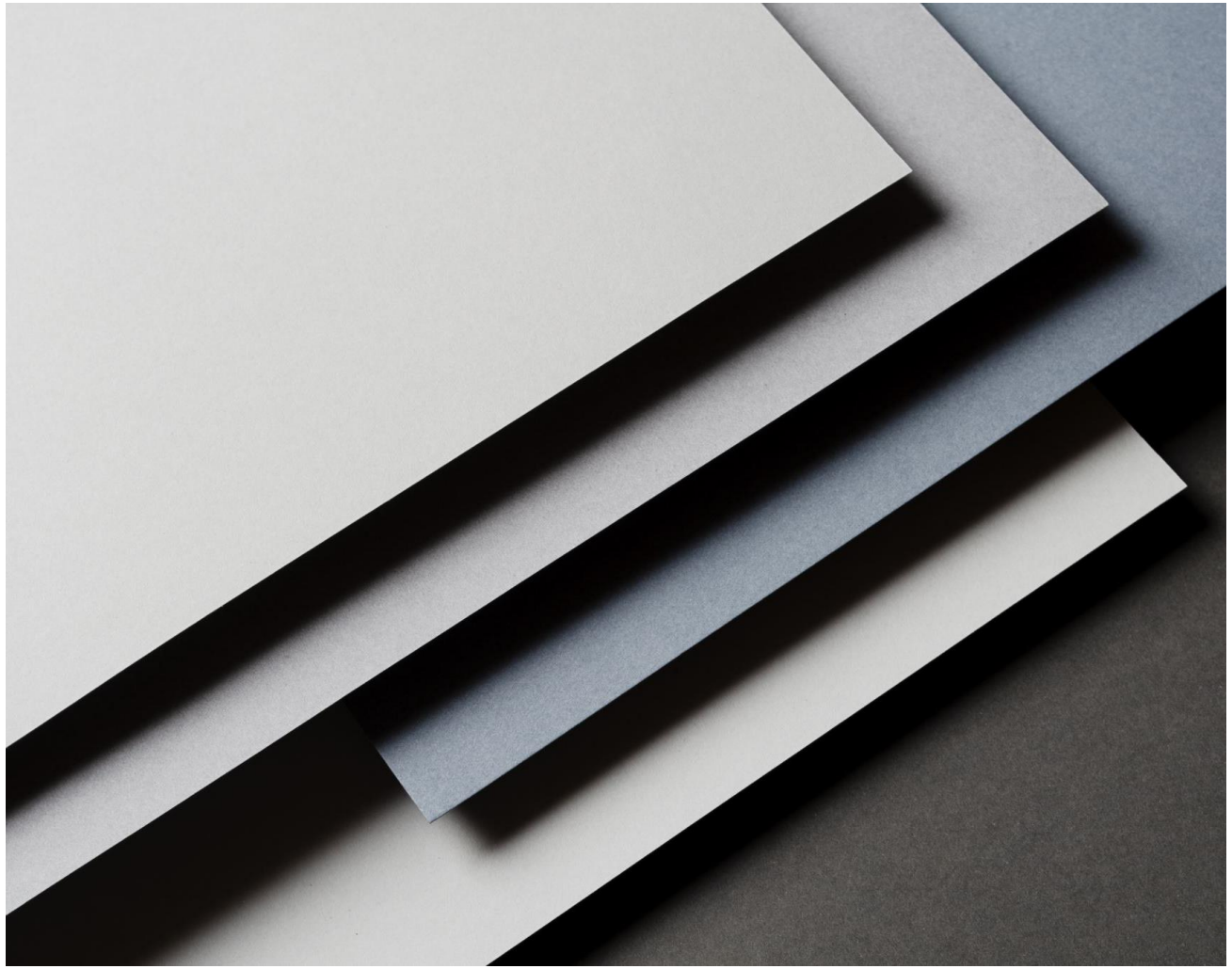
Template 3: The Data Management Scope

Template 4: The Data Governance Scope

Template 5: An Organization Classification

Template 6: View on Data Architecture Development

Template 7: DG Maturity Assessment



# Templates (Continuation)

## List

Template 8: DM/DG Role

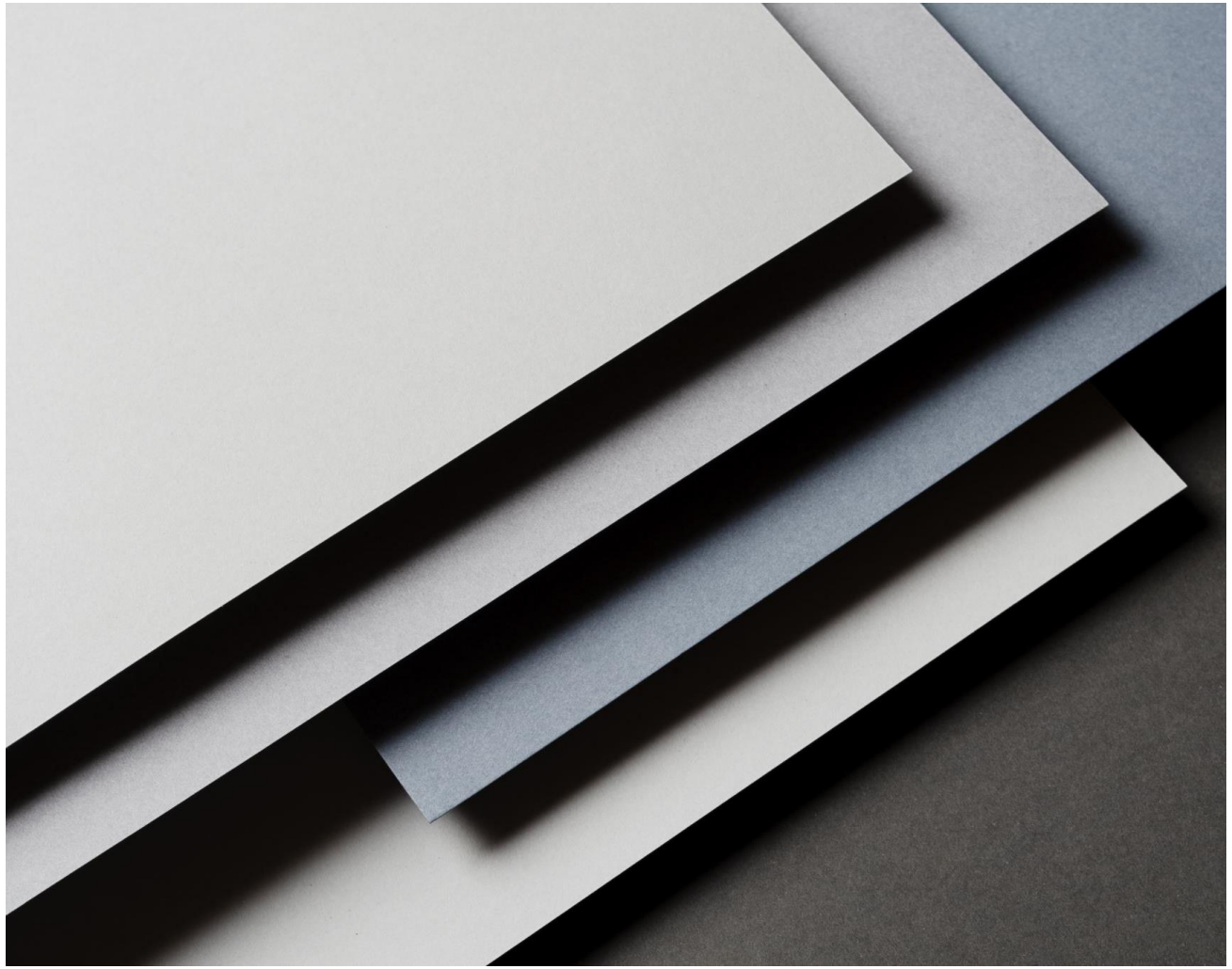
Template 9: DM Operating Model

Template 10: Functional Roles vs. Data Steward Types

Template 11: Data Owner and User Roles

Template 12: DM Role Structure

Template 13: DM Governing Bodies



# Template 1: Business Driver Prioritization

| Business driver | Benefits: 0 (low) – 10 (high) | | | | | | | Total score |
|---|---|---|---|---|---|---|---|---|
| | Increase revenue | Reduce cost | Reduce risk | Improve process | Business continuity | Improve efficiency | Protect reputation | |
| | | | | | | | | |
| | | | | | | | | |
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# Template 2: Stakeholder Map

| Stakeholder group | Stakeholder position | Business driver 1 | | | Business driver 2 | | |
|---|---|---|---|---|---|---|---|
| | | Concerns | Level of influence (Low, High) | Level of involvement (Low, High) | Concerns | Level of influence (Low, High) | Level of involvement (Low, High) |
| | | | | | | | |
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# Template 3: The Data Management Capability Scope

| A DM (data) governance deliverable: | Business driver 1 | Business driver 2 | Scope (Yes/No) |
|---|---|---|---|
| Data modeling | | | |
| Data architecture | | | |
| Data quality | | | |
| Metadata management | | | |
| Data lifecycle management | | | |
| Data security | | | |
| Data analytics | | | |
| | | | |
| | | | |
| | | | |
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# Template 4: The Data Governance Capability Scope

| A DM (data) governance deliverable: | Business driver 1 | Business driver 2 | Scope (Yes/No) |
|---|---|---|---|
| DM Strategy and strategic planning | | | |
| DM Tactical and operational planning | | | |
| DM training and education | | | |
| DM issue management | | | |
| DM change management | | | |
| DM SLA and DSA management | | | |
| DM business processes | | | |
| DM regulations | | | |
| DM operating model | | | |
| DM roles | | | |
| DM maturity | | | |
| DM performance management | | | |

# Template 5: An Organization Classification

| Classification criteria | Classification parameter | Company |
| --- | --- | --- |
| Size-based | | |
| Business model-based | | |
| Geography | | |
| Financial background | | |

# Template 6: View on Data Architecture Development

| Factors that influence the design of data architecture | Data architecture | |
|---|---|---|
| | Current status | Future status |
| A company's size | | |
| Geographical locations | | |
| Data types and volumes | | |
| Network architecture | | |
| Technology/ data management system/ data lifecycle organization | | |
| Platform | | |

# Template 7: The Data Governance Maturity Assessment

| A DM (data) governance deliverable: | Current maturity level | Targeted period | Required maturity level | Actions to close the GAP |
|---|---|---|---|---|
| Data management framework | | | | |
| Data management scope | | | | |
| Data (management) strategy | | | | |
| DM operating model/structure | | | | |
| DM organizational structure | | | | |
| DM roles | | | | |
| DM regulations | | | | |
| DM processes | | | | |



Does not exist | Ad-hoc | In design | In implementation | Operational

# Template 8: Data Management / Governance Role

| DM Role | Functional/ Virtual | Status (Exist/To be created) | Involved in: | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Business architecture | DG | Data modeling | IS architecture | Metadata management | Data quality |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# Template 9: DM Operating Model

| Data management tasks | Data management operating structure: | |
|---|---|---|
| | Central office | Local offices |
| | | |
| | | |
| | | |

# Template 10: Functional Role vs. Data Steward Type

| Functional role | Business unit | Data steward type | | |
|---|---|---|---|---|
| | | Business data steward | Data management steward | Technical data steward |
| | | | | |
| | | | | |
| | | | | |

# Template 12: DM Role Structure

| Data management role types | Data management roles sub-types | Type of data steward | A data management role by: | | | | |
|---|---|---|---|---|---|---|---|
| | | | Presence in the organizational structure | | The position in the management structure | | |
| | | | Functional | Virtual | Strategic | Tactical | Operational |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

# Template 13: DM Governing Bodies

| Management level | Governing body | Participants | RACI | |
|---|---|---|---|---|
| | | | Accountabilities | Responsibilities |
| Strategic | | | | |
| Tactical | | | | |
| Operational | | | | |

# Q & A

# THANK YOU!

Do you have any questions?
Get in touch with us at

**DATACROSSROADS.NL**

https://datacrossroads.nl/free-strategy-session/

Or let's connect on LinkedIn:

www.linkedin.com/in/irina-steenbeek

# DATA GOVERNANCE AND MASTER DATA MANAGEMENT CONFERENCE EUROPE

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