Why We Need Models

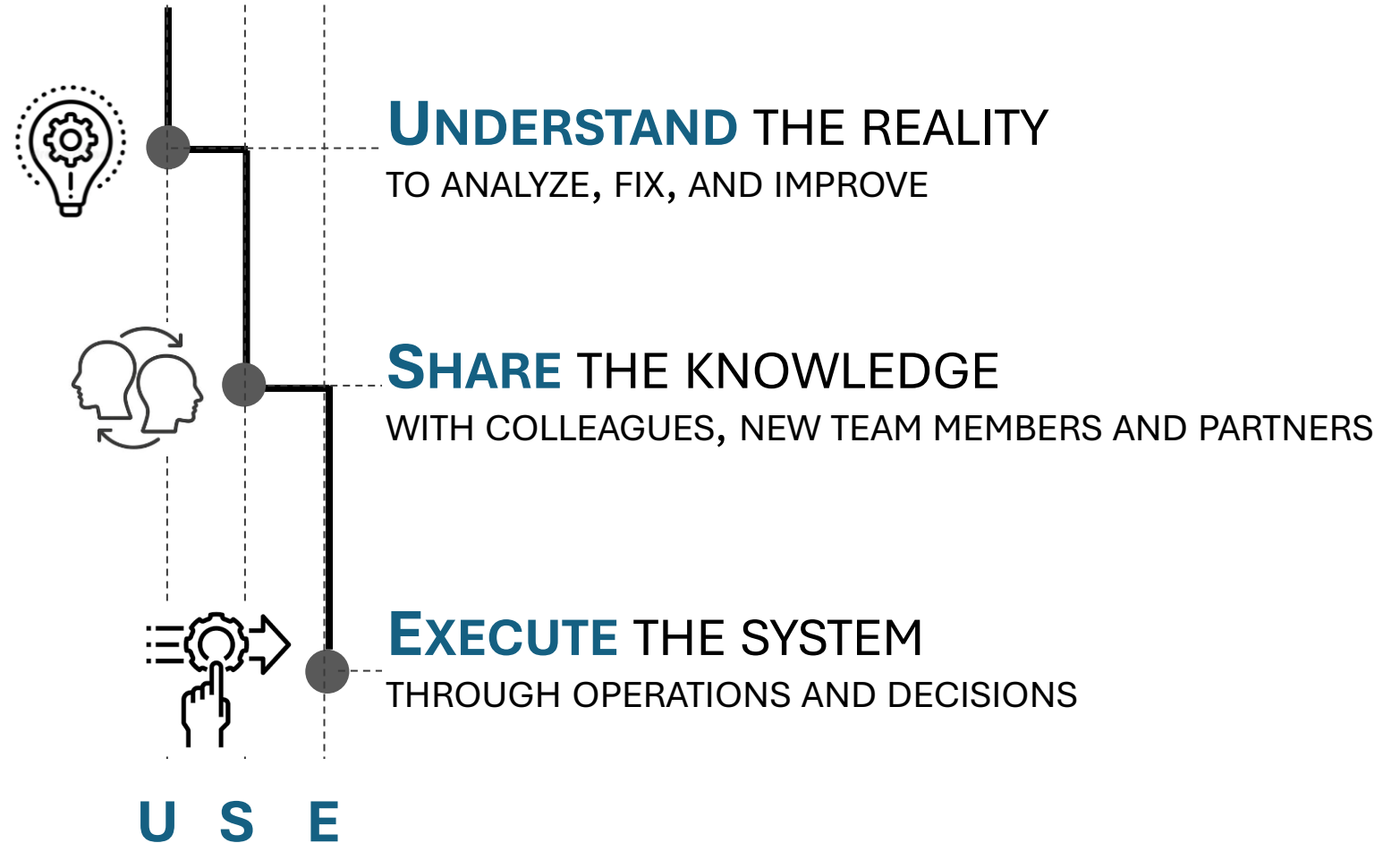## Strengthening Data Governance for AI

September 23, 2025

DEFINITION

In the AI era models are not optional. They are the foundation for efficiency, governance, and trust

What is a model?

A model is a structured representation of reality that helps to understand and communicate complexity


Understand the reality
to analyze, fix, and improve

Share the knowledge
with colleagues, new team members and partners

Execute the system
through operations and decisions

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THE MODEL IS A TOOL FOR OPERATIONAL EFFICIENCY

OPERATIONAL EFFICIENCY

"In a business context, **operational efficiency** is a measurement of resource allocation and can be defined as the ratio between an output gained from the business and an input to run a business operation. When improving operational efficiency, the output to input ratio improves."

WIKIPEDIA: HTTPS://EN.WIKIPEDIA.ORG/WIKI/OPERATIONAL_EFFICIENCY
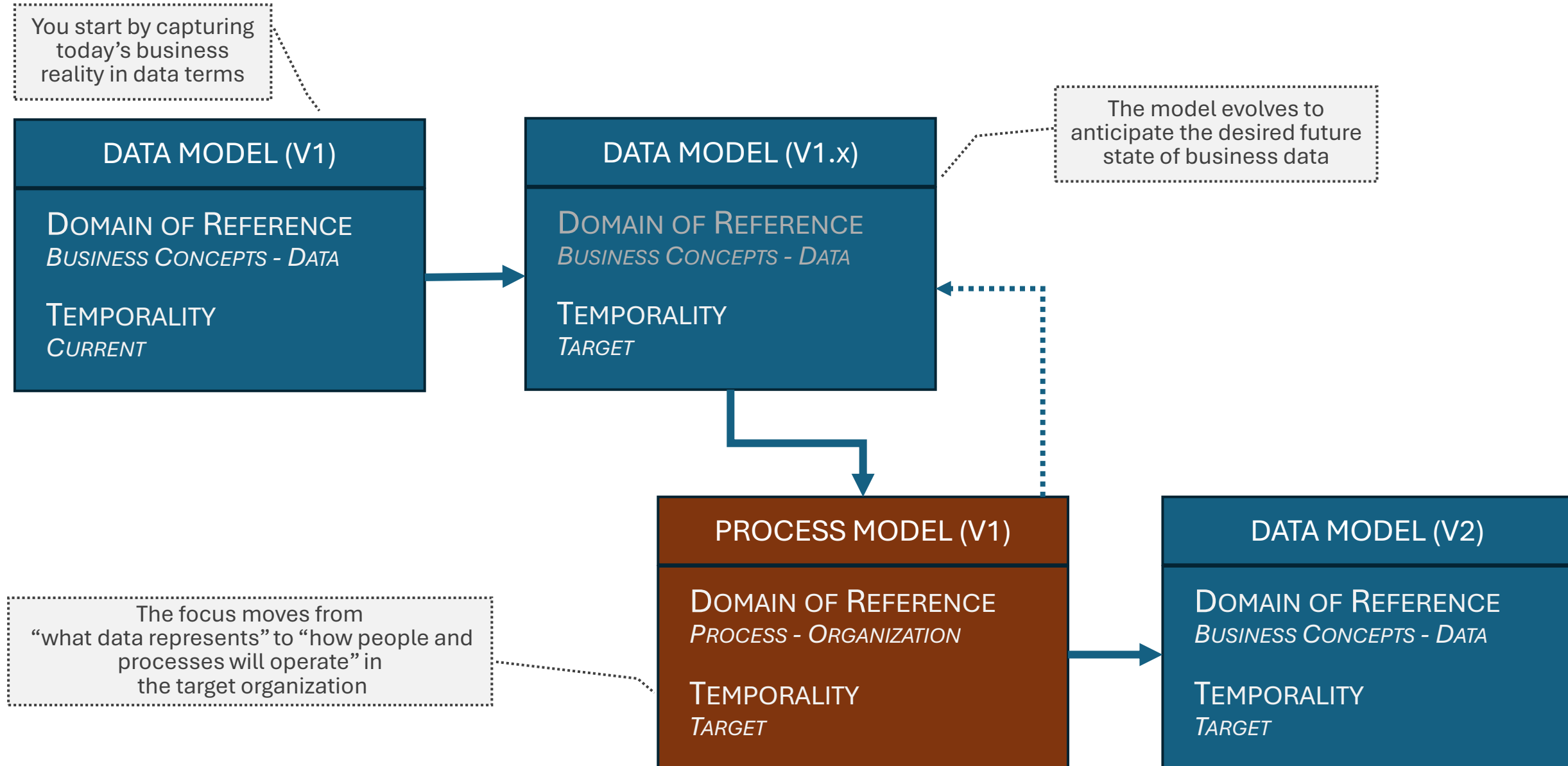
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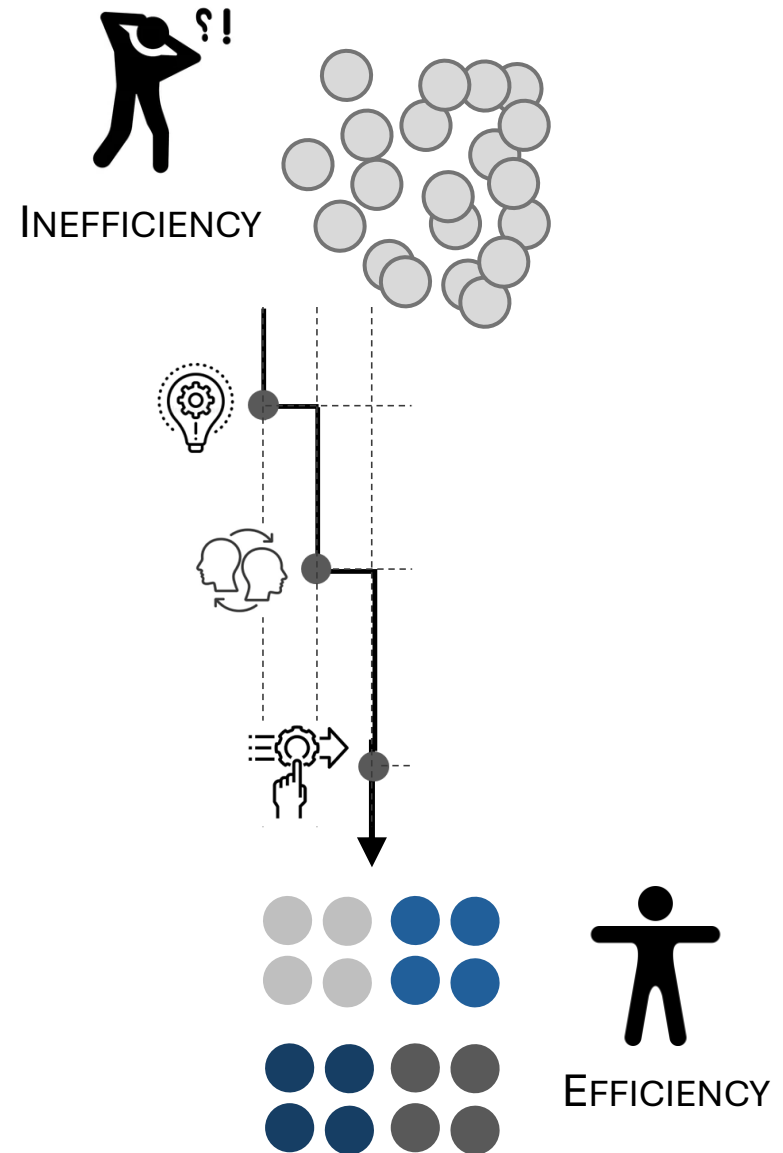
MODELING CYCLE

MODELS ARE STRUCTURED ALONG TWO AXES

THIS PREVENTS MIXING VIEWPOINTS IN THE SAME MODEL
HELPING CONTROL COMPLEXITY AND KEEP KNOWLEDGE CLEAR

AXIS	PERSPECTIVE #1	PERSPECTIVE #2
Domaine of Reference	DATA MODEL: Business Concepts	WORKFLOW: Process – Automation
Temporality	Current (As-Is) – Reality today	Target (To-Be) – Desired or Future State

Modeling Guided by Axes

You start by capturing today's business reality in data terms

The model evolves to anticipate the desired future state of business data

DATA MODEL (V1)

DOMAIN OF REFERENCE
BUSINESS CONCEPTS - DATA

TEMPORALITY
CURRENT

DATA MODEL (V1.x)

DOMAIN OF REFERENCE
BUSINESS CONCEPTS - DATA

TEMPORALITY
TARGET

The focus moves from "what data represents" to "how people and processes will operate" in the target organization

PROCESS MODEL (V1)

DOMAIN OF REFERENCE
PROCESS - ORGANIZATION

TEMPORALITY
TARGET

DATA MODEL (V2)

DOMAIN OF REFERENCE
BUSINESS CONCEPTS - DATA

TEMPORALITY
TARGET

BEST PRACTICE – **OCCAM'S RAZOR**

OCCAM'S RAZOR STATES THAT THE BEST MODEL IS SIMPLE, INCREMENTAL, AND GENERIC — CAPTURING ONLY WHAT IS ESSENTIAL WHILE REMAINING EXTENSIBLE

Occam's razor

"In philosophy, Occam's razor is the problem-solving principle that recommends searching for explanations constructed with the smallest possible set of elements. It is also known as the principle of parsimony or the law of parsimony." – Wikipedia:

https://en.wikipedia.org/wiki/Occam's_razor

THE MODEL ENGINEERING CYCLE
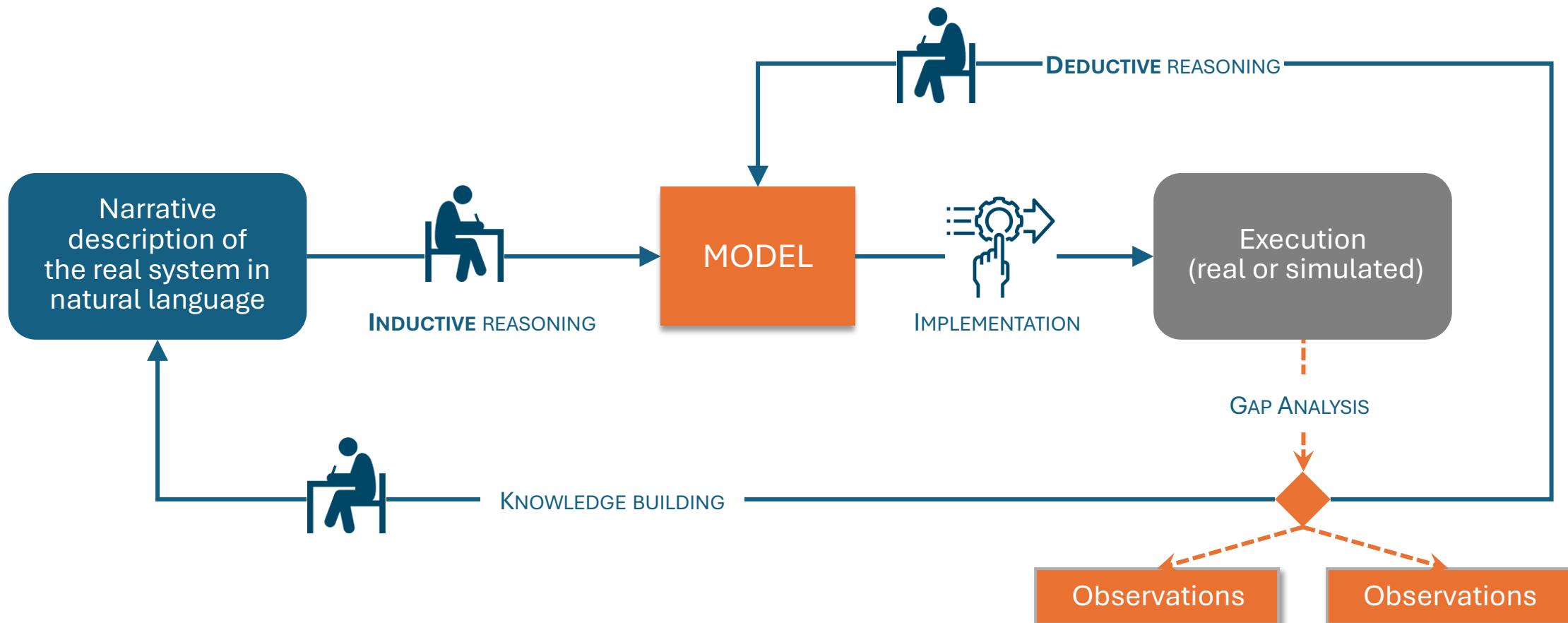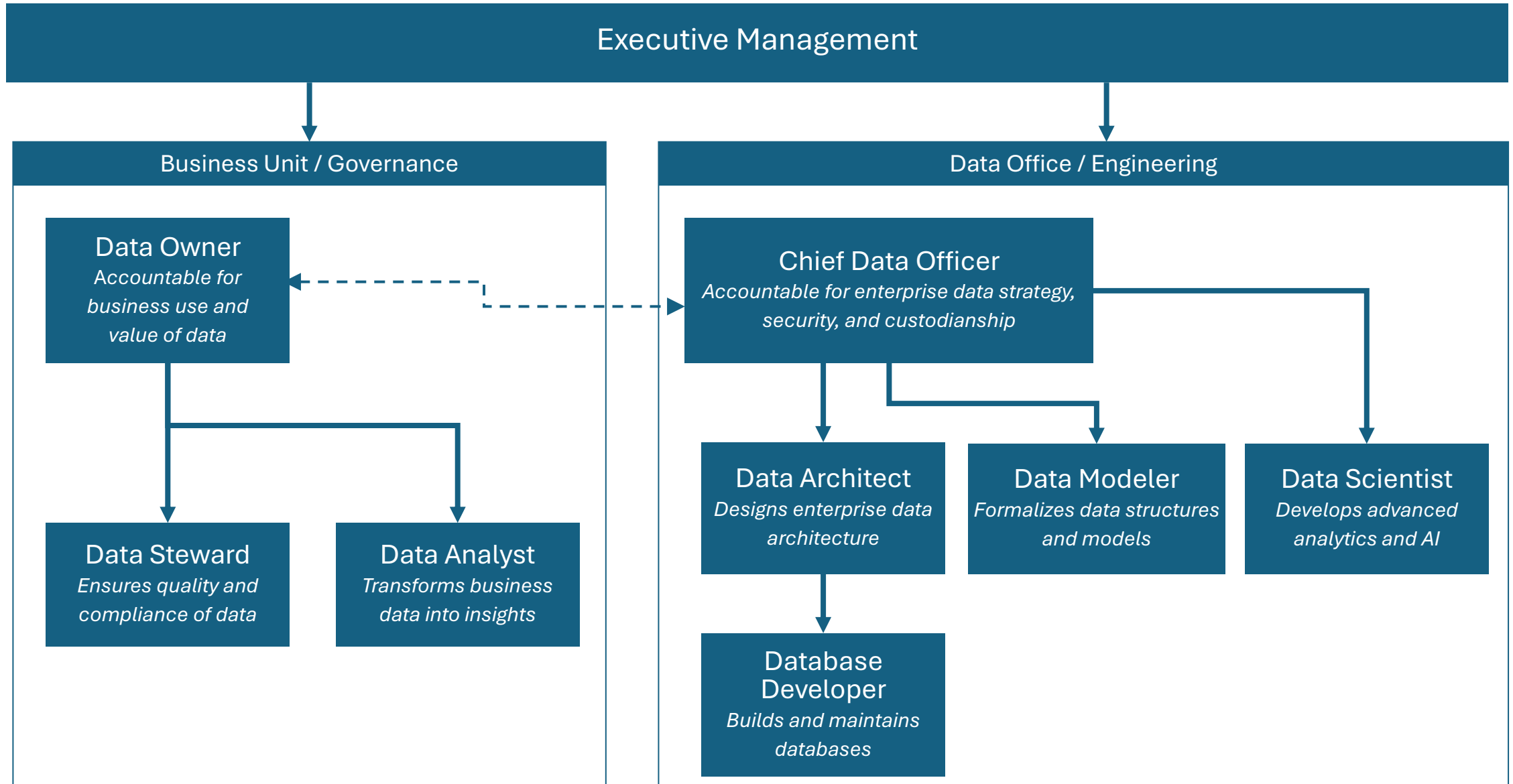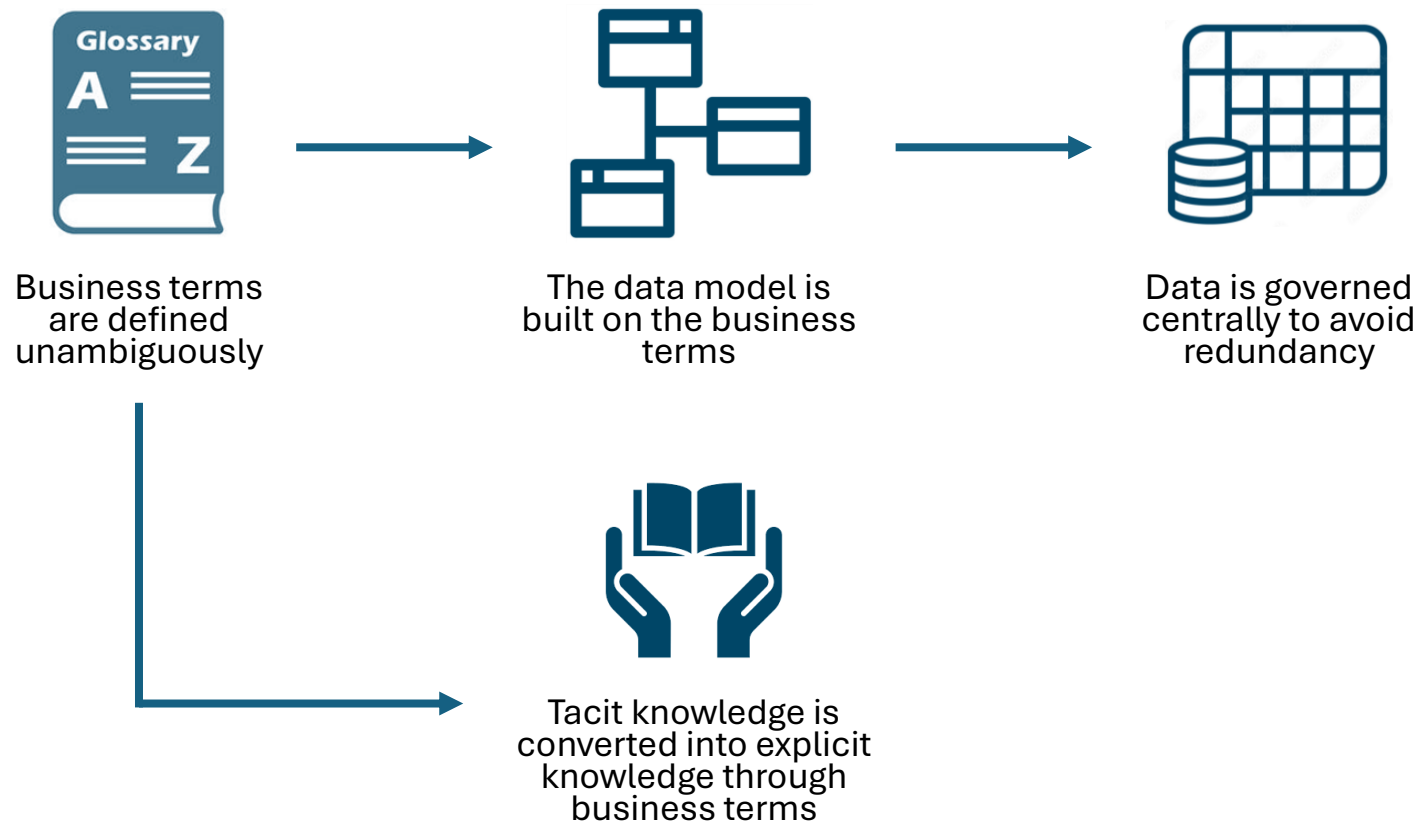
MODELS ARE ONLY AS GOOD AS
THE GOVERNANCE THAT SUSTAINS THEM

DATA MANAGEMENT ORGANIZATION STRUCTURE

DATA QUALITY

Business terms are defined unambiguously

The data model is built on the business terms

Data is governed centrally to avoid redundancy

Tacit knowledge is converted into explicit knowledge through business terms

Data Quality Indicators

Accuracy - data correctly represents the real-world object or event

Completeness - no missing values or records

Consistency - data is the same across different systems

Timeliness - data is up to date and available when needed

Validity - data conforms to business rules, formats, or standards

Uniqueness - no duplicate records

Integrity - relationships between data elements are maintained (e.g., foreign keys, references)

Reliability - data is trustworthy and comes from authoritative sources

Accessibility - data can be easily retrieved and used by authorized people
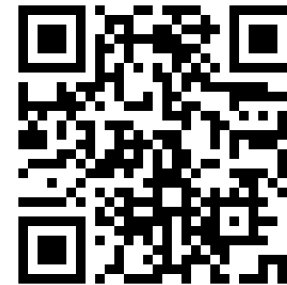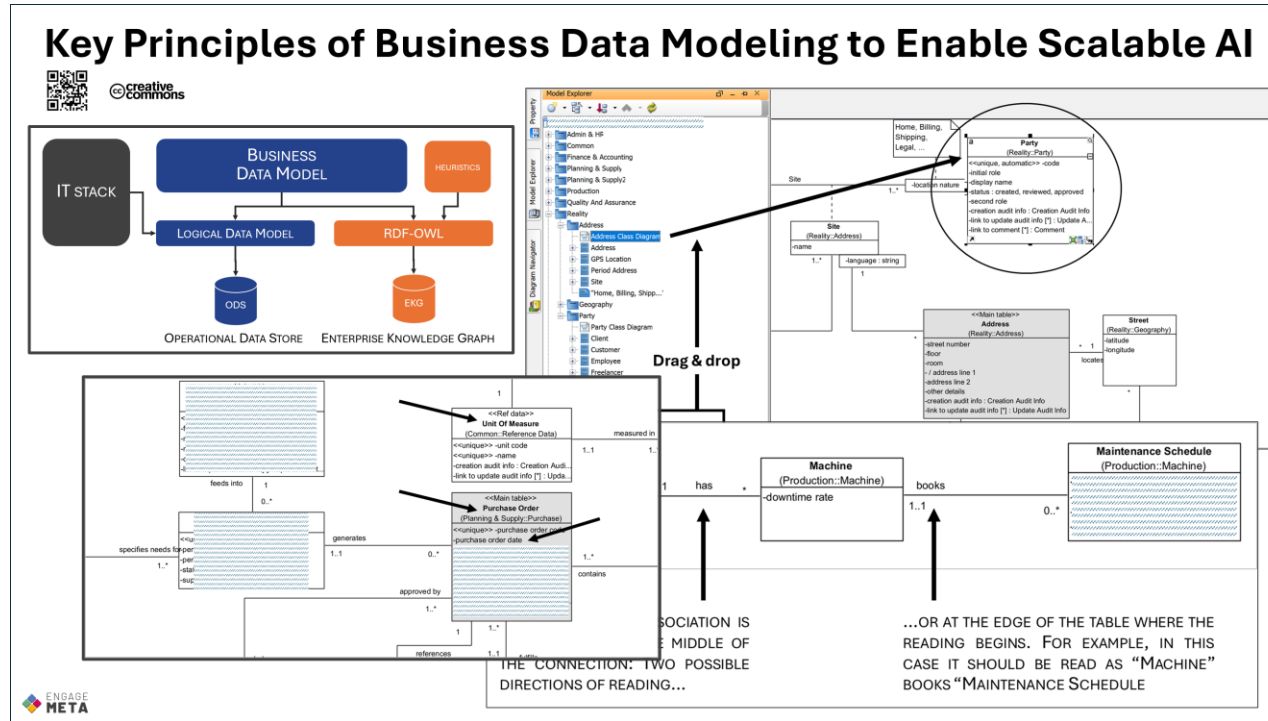
Traceability - data lineage and transformations are documented
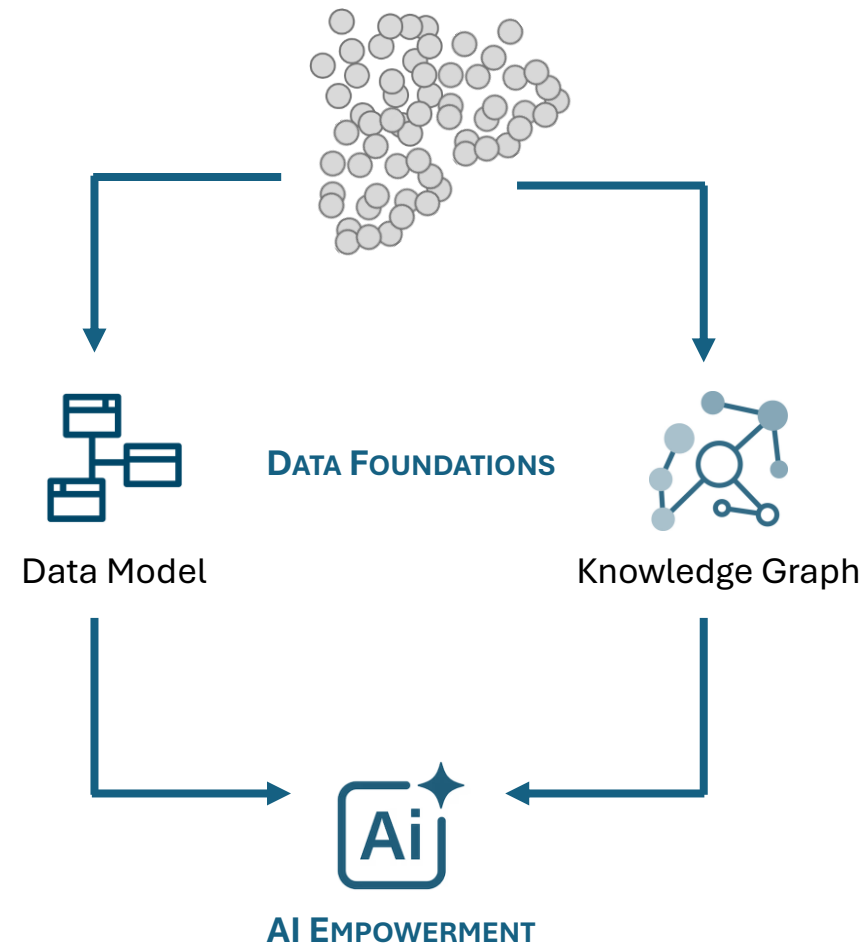
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DATA MODEL VALIDATION

Training deck

Business Data Modeling to Enable Scalable AI

https://engage-meta.com/traida-framework/

BOOST EMPLOYABILITY THROUGH DATA AND AI

Without data and AI skills, employees risk falling behind, limiting both their productivity and long-term employability

DATA FOUNDATIONS

Data Model

Knowledge Graph

AI EMPOWERMENT

Employee → current role without AI

THE AI JOURNEY
Boosting skills and employability with AI

AI-ENABLED EMPLOYEE → develops and uses AI skills to enhance work

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CONCLUSION

To succeed with AI we must
invest in model, governance
and people

End