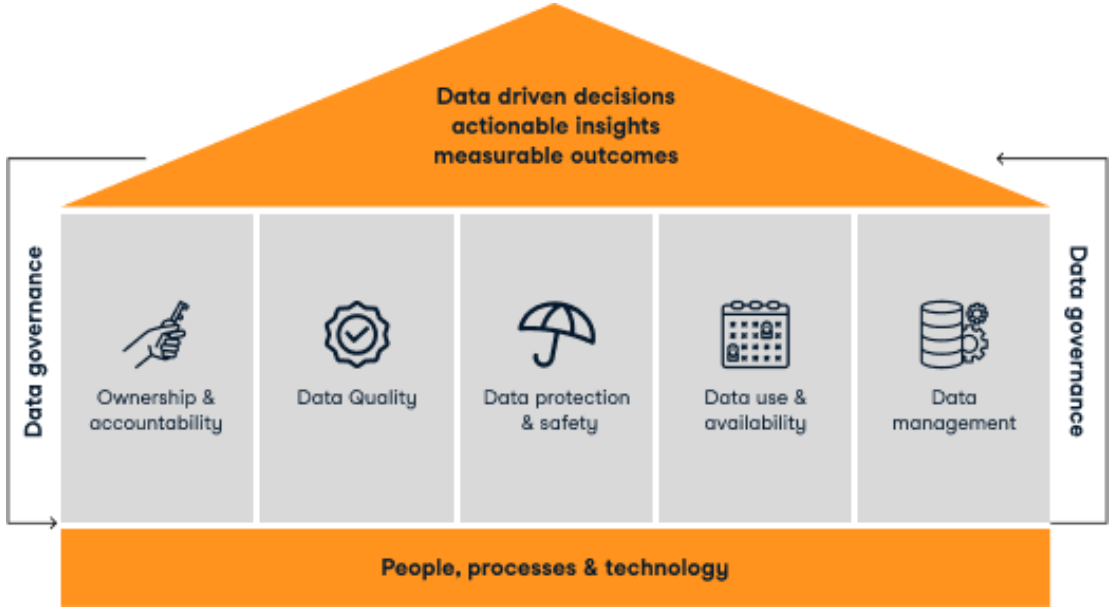
Maturity Models

IS465: Data Management and Governance

Assessing and Improving Data Management Capabilities

- Data management and governance are critical for organizations to make informed decisions and achieve business objectives
- Maturity models provide a framework for assessing and improving data management capabilities



Characteristics of Maturity Models

- Define a set of maturity levels (e.g. initial, repeatable, defined, managed, optimized)
- Assess data management capabilities across multiple dimensions (e.g. data quality, data security, data governance)
- Provide a roadmap for improvement and a framework for measuring progress
- Are industry-agnostic and can be applied to various organizations

Benefits

- Improved data quality and reduced errors
- Enhanced data security and compliance
- Increased transparency and accountability
- Better decision-making and business outcomes
- Improved collaboration and communication across the organization
- Identification of areas for cost reduction and optimization

Examples

- CMMI's Data Management Maturity (DMM) Model
- DM-BOK (Data Management Body of Knowledge) Maturity Model
- Gartner's Data Management Maturity Model
- IBM's Data Governance Maturity Model

What is a Data Management Maturity Model?

- A Data Management Maturity Model is a framework or set of frameworks for evaluating the maturity level of an organization's data-related capabilities.
- It may be used to identify opportunities for improvement through internal assessment (rather than by benchmarking against competitors).
- It can serve as a yardstick for measuring capability development over time, evaluating progress against specific objectives, or understanding gaps to best practice.

How do I choose the best one for my organization?

- Selecting the right model involves evaluating your organization's specific Data Management needs, industry requirements, organizational goals, and available resources.
- Assess the strengths and weaknesses of each model within the context of your organization.
- Look for alignment with your objectives, scalability, adaptability, ease of implementation, and potential fit for effectively addressing your specific Data Management challenges.

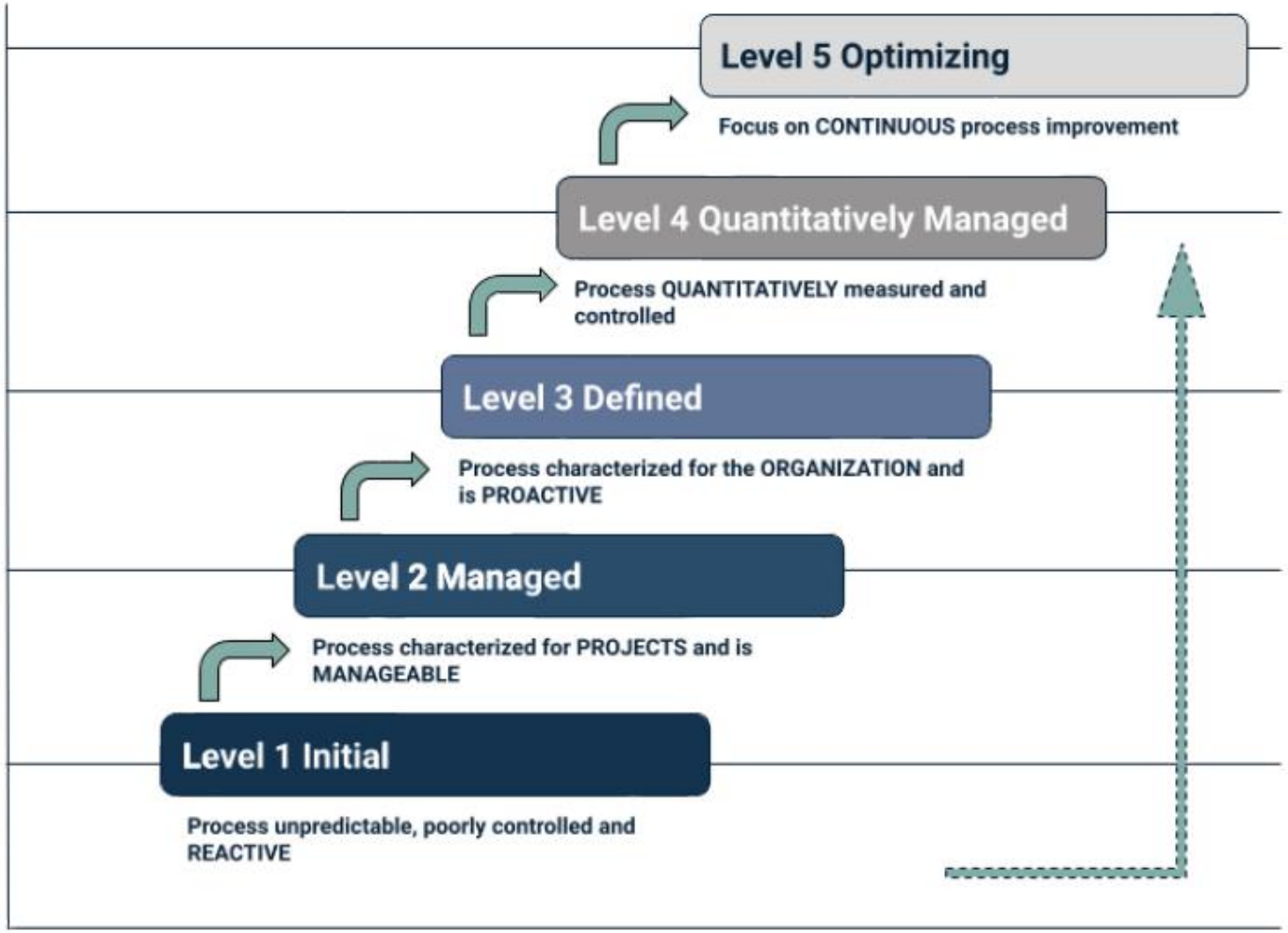
What are the key steps involved in implementing Maturity Model?

- Implementing a Data Management Maturity Model typically involves numerous steps.
- First, assess organizational needs, then select a suitable model, engage stakeholders, and plan for implementation.
- Next, pilot the model in a specific data domain and evaluate the results before rolling out to the broader organization.
- You may choose to seek external support if needed.
- As you and your team conduct the assessment, it's important to adapt the chosen model based on your organization's needs.

Rationale for Conducting a DMMA

- Knowing where you stand
- Finding the gaps
- Avoiding problems
- Working smarter
- Making better decisions
- Alignment with objectives
- Getting better over time
- Improved data quality
- Reduced data risk
- Enhanced data-driven decision-making

IBM's Data Governance Council Maturity Model



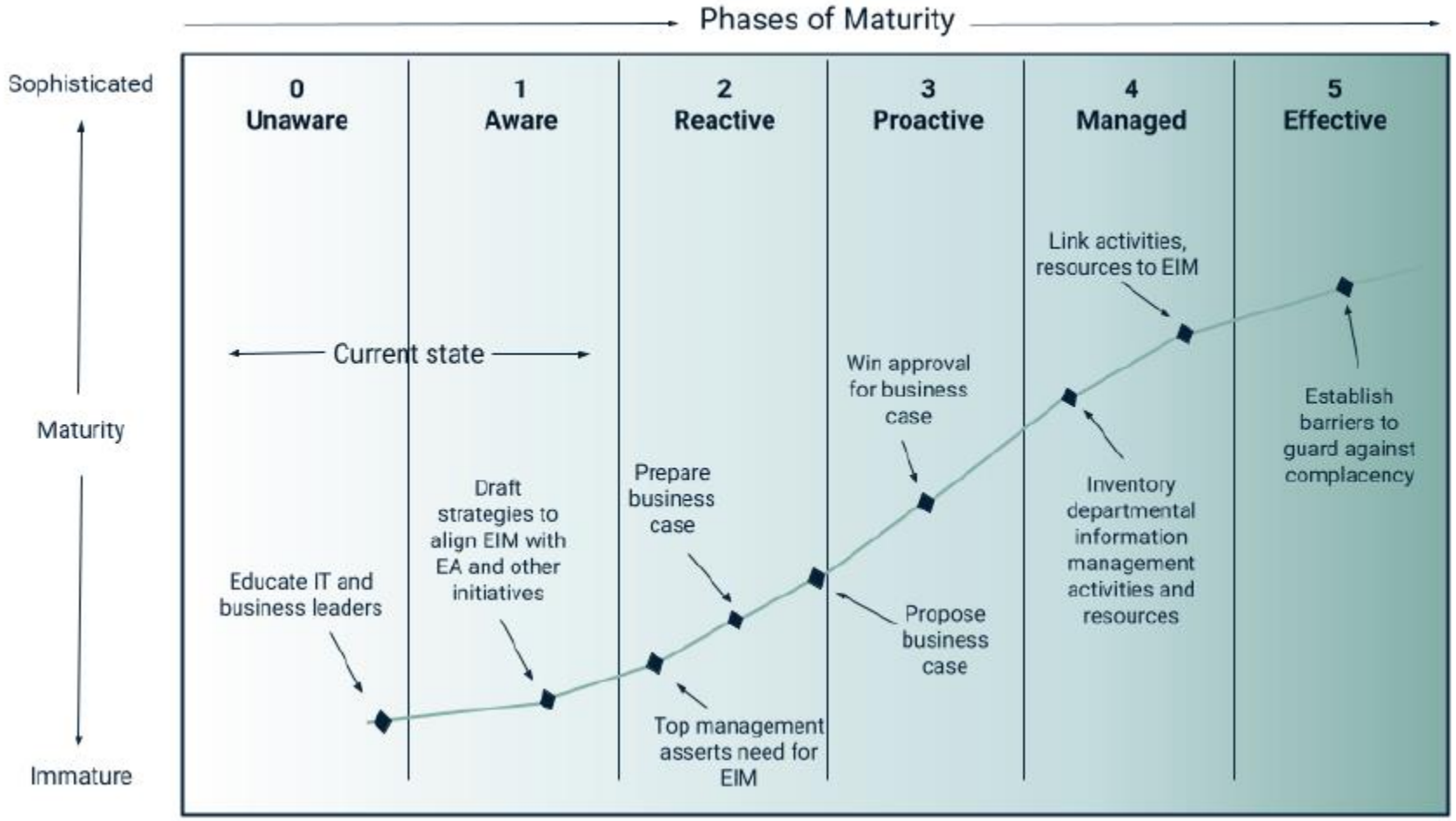
IBM's Data Governance Council Maturity Model

- The model measures maturity on a scale of five levels of maturity.
- It features 11 Data Governance categories composed of many subcategories.
- These categories and subcategories can be individually assessed for their current maturity level, resulting in concrete steps for improvement.
- Assessing domains individually allows for the DMMA to be better tailored to the specific needs of a given organization.
- Best suited for:
  - an organization looking to establish, evaluate, or refine their Data Governance office; the model helps assess current practices and design effective programs aligned with industry standards

IBM's Data Governance Council Maturity Model

- Benefits:
  - Builds on best practices contributed by real world data leaders
  - Each of the 11 separate data domains identified by the model can be individually assessed, contributing to the ability to prioritize the assessment based on immediate business need
  - Clear criteria for each of the five capability levels
- Drawbacks:
  - Lacks implementation support and limited guidance on actual implementation
  - Establishes near-unobtainable standards for Level 4 (Quantitatively Managed) and Level 5 (Optimizing)

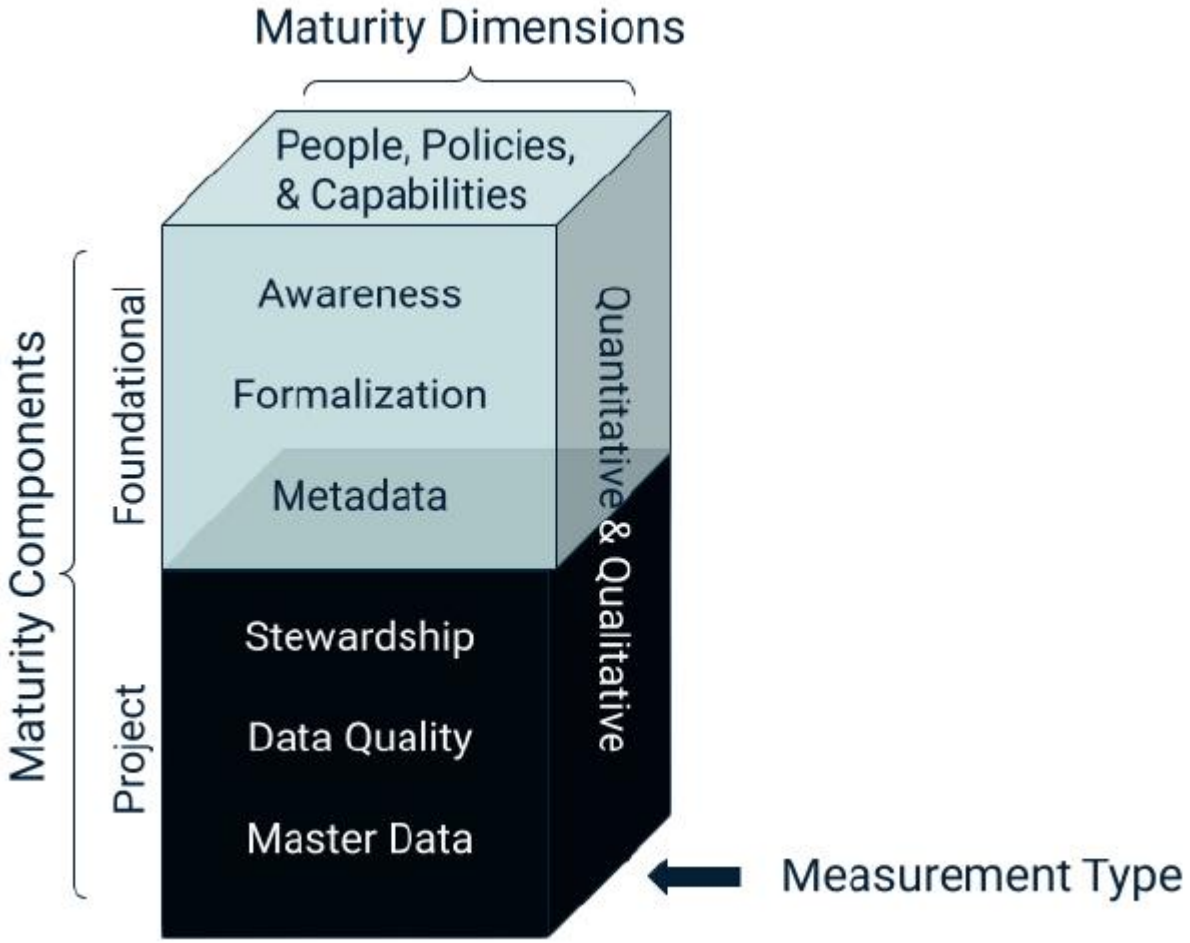
Gartner's Enterprise Information Management Maturity Model



Gartner's Enterprise Information Management Maturity Model

- This model consists of six maturity phases, each delineating unique attributes and actionable steps.
- Best suited for:
  - a Gartner customer who interested in assessing current maturity level, identifying areas for improvement, developing an EIM strategy, and measuring progress over time
- Benefits:
  - Uses a straightforward six-level scale to measure maturity
  - Provides clear action items to achieve improvements
  - Backed by research-based best practices and support
- Drawbacks:
  - Proprietary tool that requires a Gartner subscription, starting at $30,000 per year
  - Effectiveness relies on continued subscription and Gartner's periodic updates and revisions

Stanford's Data Governance Maturity Model



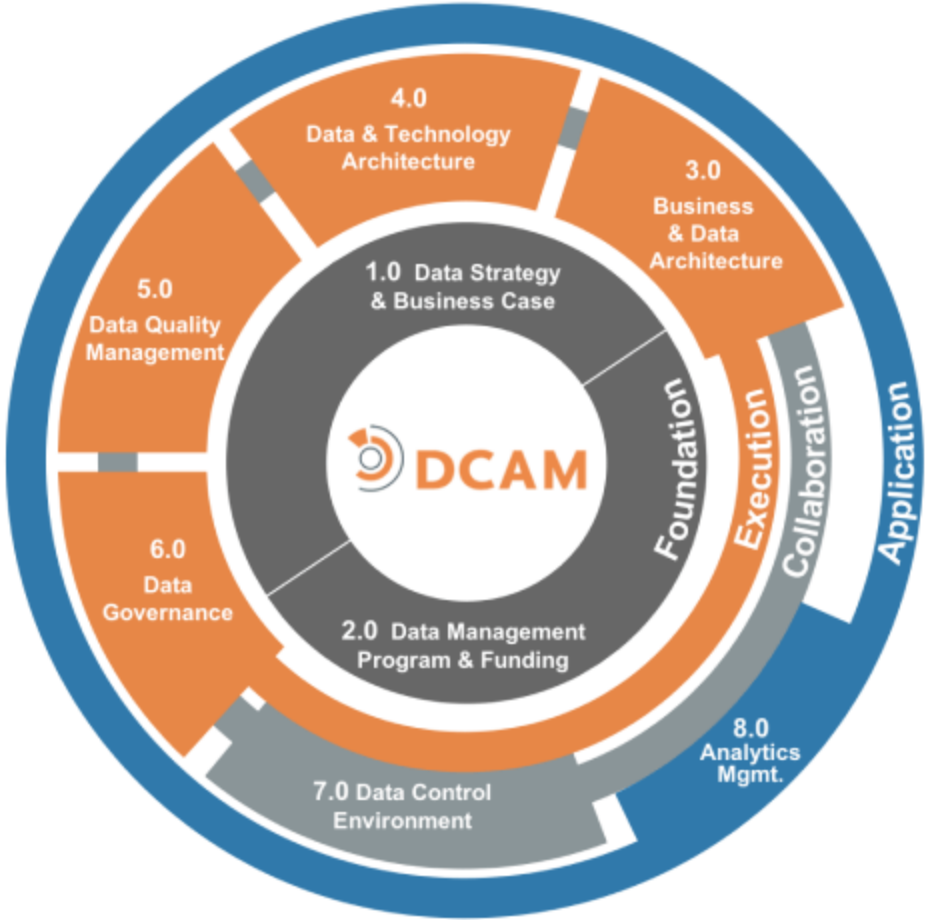
Stanford's Data Governance Maturity Model

- It serves as a good example of a model that provides practical guidance.
- It focuses on Data Governance and separates the foundational competencies of this domain (awareness, formalization, and metadata) from project-related applications (such as stewardship, data quality, and master data).
- In each section, it helps explain what motivates people, policies, and capabilities.
- Best suited for:
  - an organization seeking to evaluate and enhance their Data Governance office

Stanford's Data Governance Maturity Model

- Benefits:
  - Easy to understand and use
  - Practical and project-oriented
  - Adaptable to different organizational contexts, customizable to meet specific needs
- Drawbacks:
  - May be difficult to scale and inappropriate for more complex organizations
  - Specific focus on Data Governance may not be helpful for organizations that are seeking a broader assessment of Data Management capabilities
  - Lack of clear recommendations based on result of assessment
  - Limited information and lack of support

EDM Council's Data Management Capability Assessment Model (DCAM)



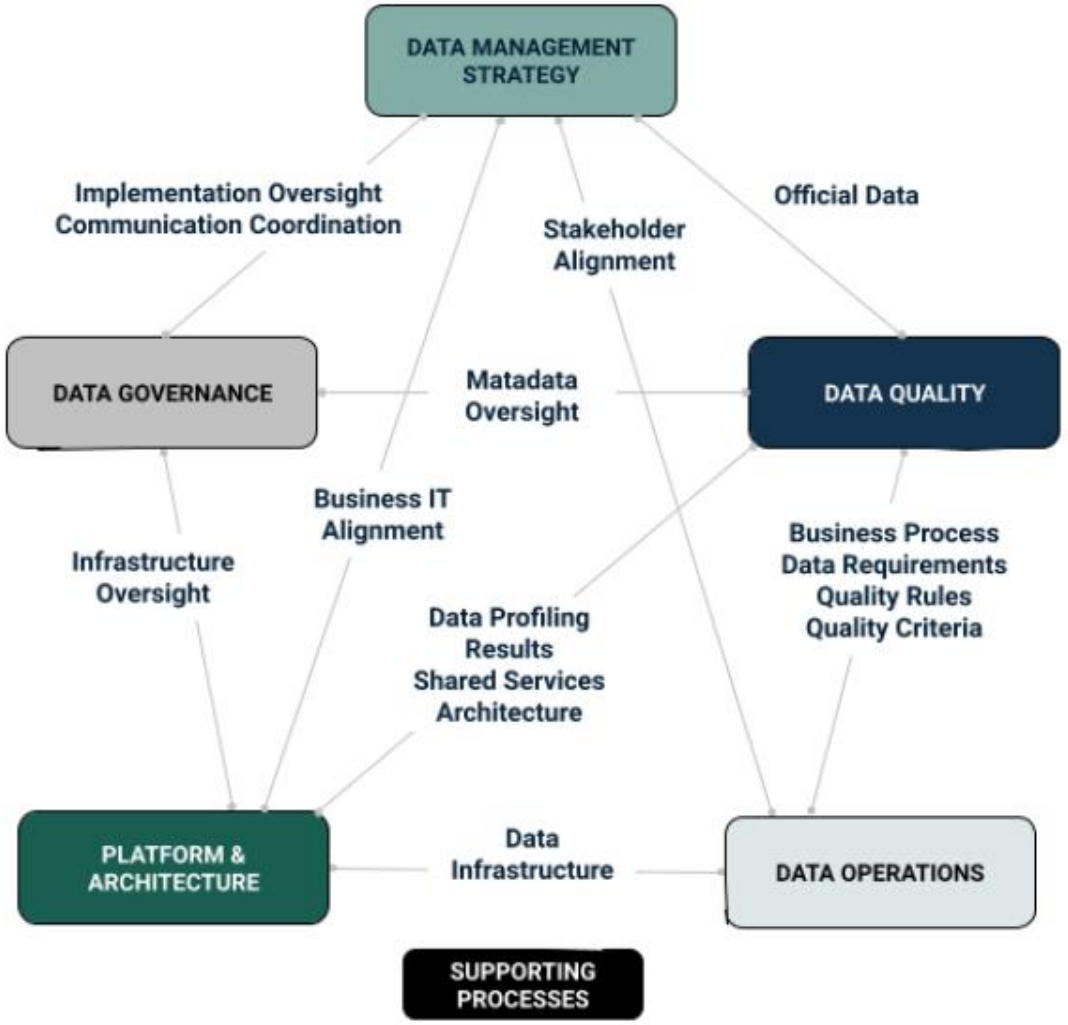
EDM Council's Data Management Capability Assessment Model (DCAM)

- DCAM emerged as a framework for evaluating governance, quality, and architecture within data functions.
- The framework helps organizations to identify Data Management areas needing improvement.
- The DCAM framework is available for download and use exclusively by member firms of EDM Council for their in-house data management programs.
- DCAM Authorized Partners are also entitled to use DCAM in their client assessments and engagements.
- Best suited for:
  - an organization in the finance industry or another heavily regulated field, particularly one that may prefer support in assessment and implementation

EDM Council's Data Management Capability Assessment Model (DCAM)

- Benefits:
  - Rigorous evaluation criteria
  - Benchmark Data Management practices against industry standards
  - Simplifies regulatory compliance
  - Potential support from DCAM-certified consultants
- Drawbacks:
  - Potential lack of adaptability outside financial institutions
  - May not be appropriate for assessing the capabilities of smaller organizations
  - Relatively complex with components, capabilities, and sub-capabilities
  - Access requires becoming or partnering with a member of EDM Council

CMMI's Data Management Maturity (DMM) Model



DATA MANAGEMENT STRATEGY
- Data Management Strategy
- Communications
- Data Management Funcion
- Business Case
- Funding

DATA GOVERNANCE
- Governance Management
- Business Glossary
- Metadata Management

DATA QUALITY
- Data Quality Strategy
- Data Profiling
- Data Quality Assessment
- Data Cleansing

DATA OPERATIONS
- Data Requirements Definition
- Data Lifecycle Management
- Provider Management

PLATFORM & ARCHITECTURE
- Architectural Approach
- Architectural Standards
- Data Management Platform
- Data Integration
- Historical Data & Archiving

SUPPORTING PROCESSES
- Measurement & Analysis
- Process Management
- Process Quality Assurance
- Risk Management
- Configuration Management

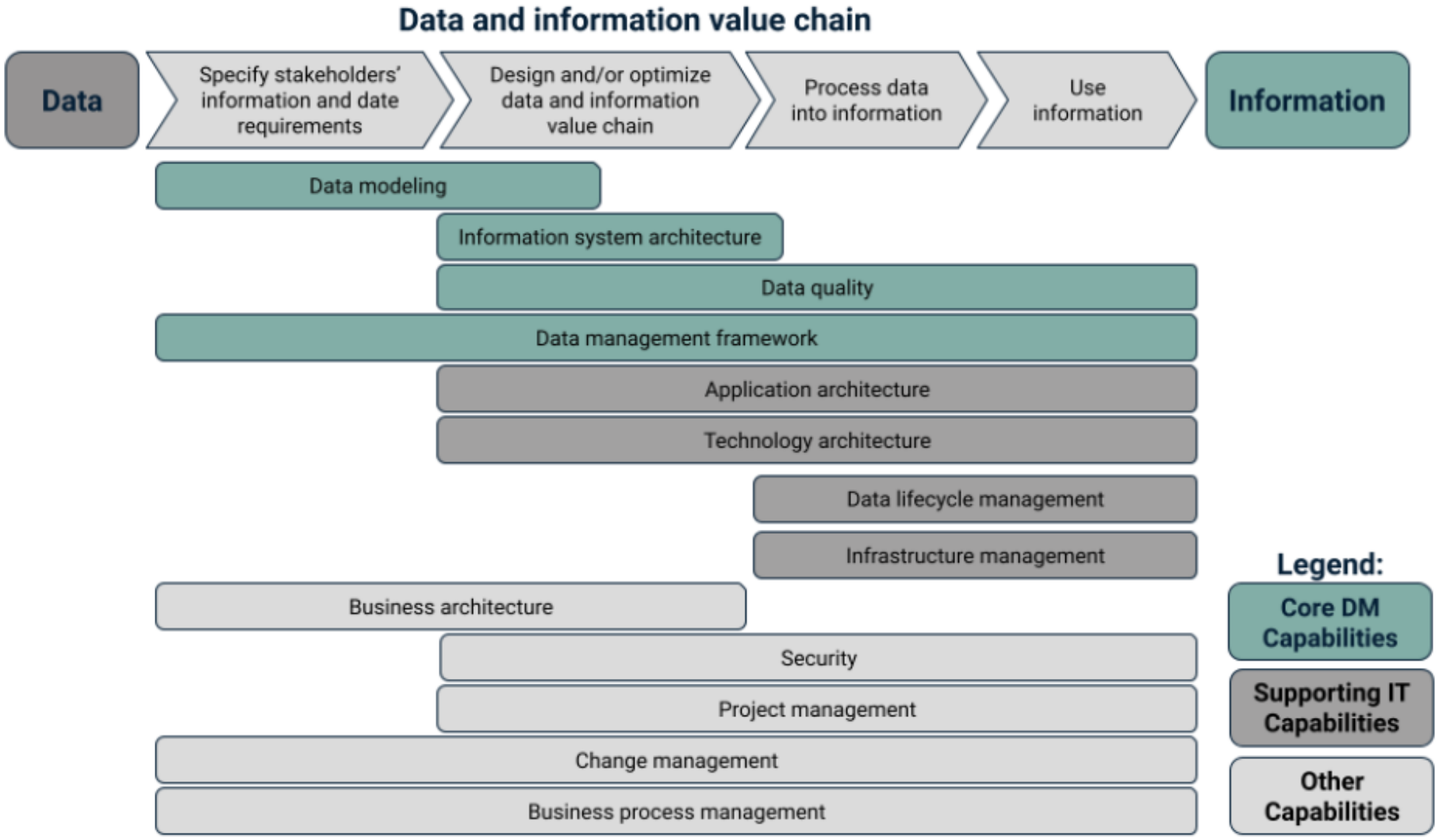
CMMI's Data Management Maturity (DMM) Model

- This framework provides a structured approach, delineating maturity levels and domains for assessing Data Management practices.
- Its subsequent versions have evolved with technological advancements, gaining traction across various industries.
- DMM was discontinued in January 2022.
- It enables businesses to fortify Data Governance, adopt effective practices, and navigate complex data challenges, thereby demonstrating its ongoing relevance and adaptability.
- Best suited for:
  - an organization seeking to understand alternative methodologies to compare fundamental principles of different approaches

CMMI's Data Management Maturity (DMM) Model

- Benefits:
  - Based on how organizations typically build their Data Management program
  - Scores are based on the scope of the organization, so this model scales well for small organizations
- Drawbacks:
  - No longer updated or supported by CMMI Institute

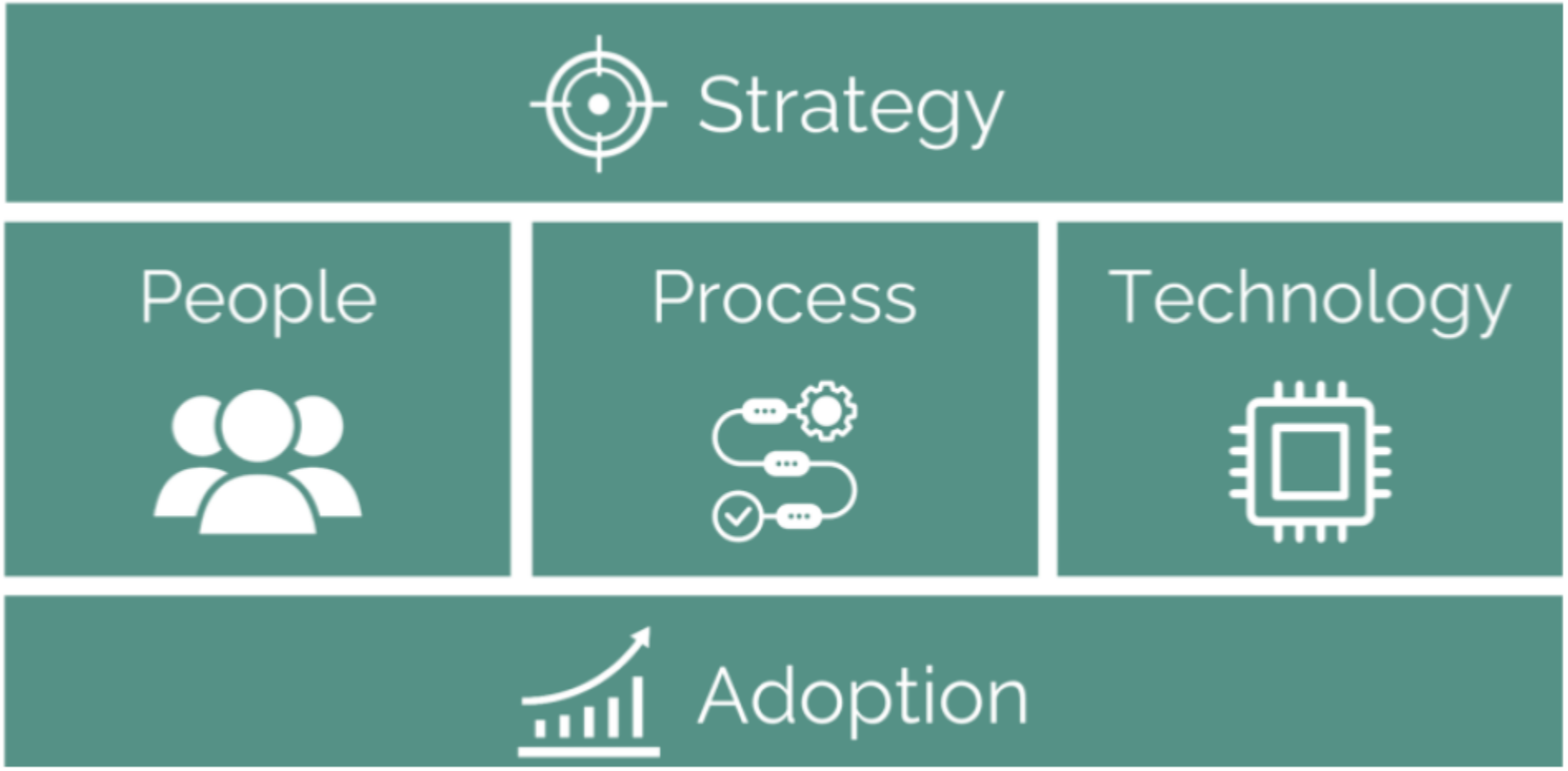
Data Crossroads' "Orange" Data Management Framework (DMF)



Data Crossroads' "Orange" Data Management Framework (DMF)

- It is a combination of models, methods, and templates whose design has been informed by assessments of other common models such as DCAM to improve Data Management practices such as DMMAs.
- Best suited for:
  - particularly useful for an organizations seeking to implement Data Management function from scratch or develop a new Data Management sub-capability due to comprehensive nature of DMF approach
- Benefits:
  - Provides assessment of Data Management capabilities and maturity level
  - Supports implementation of Data Management function
  - Methodology to document data lineage and develop a knowledge graph of data assets
- Drawbacks:
  - Broad scope may be less useful for practitioners seeking a straightforward capability assessment

ZS' Data Maturity Compass (DMC)



ZS' Data Maturity Compass (DMC)

- The Data Maturity Compass (DMC) is a largely automated DMMA system that uses Generative AI, standard benchmarks, and best practices to streamline the assessment process within organizations.
- The DMC consists of three modules:
  - Input
  - Analysis
  - Insights
- Best suited for:
  - an organization ready for an automated approach to data management maturity assessment

ZS' Data Maturity Compass (DMC)

- Benefits:
  - Offers tailored recommendations in the form of strategic profiles
  - Logical roadmap stages toward improvement auto-generated in real time
  - Automated end-to-end process using cloud-native infrastructure that efficiently connects individual system components and automates key processes, reducing costs
- Drawbacks:
  - Given the recent development of the model, there are limited customer reviews and a lack of proven effectiveness
  - Reliance on complex automations could generate unexpected results