ENTERPRISE DATA MANAGEMENT COUNCIL

DATA CAPABILITY ASSESSMENT MODEL (DCAM) OVERVIEW
An Innovative Approach to Data Management

DCAM is structured to define and measure capability – the definition of precisely what is required to develop, implement and sustain data management program.

Based on Collective Industry Experience

- Synthesis of research and analysis among practitioners since formation of EDM Council (case studies, regulatory pressure, collaborative research)
- Involves the integration of
  - Data Management Strategy
  - Program Design
  - Organizational Change
  - Dedicated Funding
  - Data Engineering
  - Technology Architecture
  - Governance
  - Collaboration
- Aligns with organizational mandate (practical, works in real world, understandable by non-specialists, based on collaboration, structured for continual improvement)

How the model is designed

- Model is made up of 8 components.
- Each component is made up of a series of capabilities.
- Each capability is made up of a series of sub-capabilities.
- Each sub-capability is defined by a series of objectives.
- All supported by artifacts of evidence.
Data Capability Assessment Model

Foundational Tenets

Management of Content: Identify, Define, Locate
• Unique identification of “things” (products; customers; entities, transactions; etc.)
• Assignment of precise definition of meaning (unambiguous, shared, agreed)
• Data discovery via the development of comprehensive inventories (where data resides)

Establishing the Program: Build and Sustain
• Identify and develop essential skill-sets, executive support; stakeholders, etc.
• Ensure that data governance is enforceable (authority)
• Drive culture change - sanctioned by executive management, based on standards, harmonized across the lifecycle, governed by policy and monitored by audit

Data Fit-for-Purpose: Data Quality
• Establish formal discipline of best practice for data quality
• Clear assignment and accountability for quality assurance
• Minimize manual processes/maximize automation

Collaboration: Cross Organizational Discipline
• Business driven → technology enabled → operations driven
• Partner and align with technology (dotted line relationship)
• Collaborate with enterprise control functions
DCAM

MODEL STRUCTURE
The justification for the data management program. The mechanism for ensuring sufficient and sustainable capital. The approach for measuring the costs and benefits of EDM.

The mechanism for EDM implementation. Stakeholder engagement. Communications program and education on the concepts of data CONTENT management. Engagement model and operational routines.

The rules of engagement for implementation of the data management program. The focus is on implementation of policies, standards and operational procedures necessary to ensure that stakeholders “behave”.

The “design of information content” including the identification of data domains, establishment of taxonomies, alignment with contractual obligations, documentation of metadata and designation of CDEs.

The “design of physical architecture” including the platforms and tools in support of data management implementation. This is domain of IT and defines how data is acquired, stored, integrated and distributed.

Deliver to business users data that is fit-for-purpose. The goal is data that users trust and have confidence in to be exactly what they expect it to be without the need for reconciliation and data transformation.

Coordination of the components into a cohesive operational model; ensure that controls are in place for consistency across the lifecycle; align with organizational privacy and security policies.

The “design of information content” including the identification of data domains, establishment of taxonomies, alignment with contractual obligations, documentation of metadata and designation of CDEs.

The long term goal of the data management program. The blueprint to gain internal alignment among stakeholders and to define how the organization will approach the management of data content.

The rules of engagement for implementation of the data management program. The focus is on implementation of policies, standards and operational procedures necessary to ensure that stakeholders “behave”.

The “design of physical architecture” including the platforms and tools in support of data management implementation. This is domain of IT and defines how data is acquired, stored, integrated and distributed.
Data governance structure is created.

Content governance is defined.

Policy/standards are written and approved.

Program governance controls are in place.

Objectives
- Policy and standards are developed in collaboration with (business, technology and operations)
- Policy and standards are complete and verified
- Policy and standards are in alignment with Data Management Strategy

Sample Artifacts
- Documented policy and standards (cross-border, privacy, data acquisition, entitlement, access, data retention, quality control process, training, data content, data format)

Sub-Capability
- Policy and standards are written and complete
- Policy and standards have been reviewed and approved by relevant program stakeholders
- Policy and standards have been reviewed and approved by senior executive governing bodies

Cross-organizational enterprise data governance is aligned.

Technology governance is aligned.

Program governance is operational.

Policy and standards have been reviewed and approved by senior executive governing bodies.

Program governance is operational.

Policy and standards have been reviewed and approved by relevant program stakeholders.

Policy and standards have been validated and approved.

Sample Artifacts
- Distribution lists, e-mail thread (stakeholders and governance committee), stakeholder approvals, meeting notices and minutes, governance committee approval, internal memos
- Policy/standards submitted to the organizational governance mechanism for evaluation
- Policy and Standards have been approved

Policy and standards are written and complete.

Policy and standards are developed in collaboration with (business, technology and operations).

Policy and standards are complete and verified.

Policy and standards are in alignment with Data Management Strategy.

Policy and standards have been shared and reviewed by relevant stakeholders.

Feedback from stakeholders incorporated into the final version of the policy and standards.

Policy and standards have been validated and approved.

Policy/standards submitted to the organizational governance mechanism for evaluation.

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## 4.2.3. Data domain taxonomies are actively implemented, maintained and enforced

<table>
<thead>
<tr>
<th>Sub-Capability Objectives</th>
<th>Advice</th>
<th>Questions</th>
<th>Artifacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Authorized data domains are verified by business subject matter experts.</td>
<td>- Taxonomies define hierarchical relationships. Ontologies define how financial instruments and processes work in the real world. Once designated, they need to be managed (via policy) to ensure that they are implemented, maintained and used. Adjustment to data domain taxonomies and conceptual/logical models should be formally aligned with the firm’s change management policies (including change approvals, impact analysis, controlled implementation/rollout).</td>
<td>- Have data domain taxonomies (and conceptual/logical models) been verified by business subject experts?</td>
<td>- Policy and standards on use and maintenance</td>
</tr>
<tr>
<td>- Authorized data domain taxonomies are being published and are being used by upstream/downstream systems (existing and new).</td>
<td></td>
<td>- Have data taxonomies and models being published and are being used in existing and new systems?</td>
<td>- Mapping and transformation to ensure implementation by upstream and downstream systems</td>
</tr>
<tr>
<td>- Internal taxonomies are aligned with (and cross referenced to) global standards</td>
<td></td>
<td>- Have policies and standards for managing taxonomies/models been defined, verified, sanctioned and published?</td>
<td>- Bi-directional communication (verification, approvals, agreements)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Not Initiated</th>
<th>Conceptual</th>
<th>Developmental</th>
<th>Defined</th>
<th>Capability Achieved</th>
<th>Capability Enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data domain taxonomy governance does not exist</td>
<td>Data taxonomy governance is being debated by relevant stakeholders</td>
<td>Policies to ensure the maintenance and use of established data taxonomies and being developed in collaboration with business and IT subject matter experts</td>
<td>Policies related to the use and maintenance of authorized data taxonomies have been defined, and have been reviewed and approved by relevant stakeholders</td>
<td>Taxonomies are being used by upstream and downstream systems. Data is shared across business processes. Data harmonization is achieved.</td>
<td>Operational taxonomies are aligned with (and cross-referenced to) industry standards</td>
</tr>
</tbody>
</table>
## DCAM SCORING

### Questions Framed in Requirements to Achieve Capability ("5")

<table>
<thead>
<tr>
<th>Stage</th>
<th>Process</th>
<th>Formality</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Initiated</td>
<td>Capabilities are not Being Performed</td>
<td>Tactical</td>
<td>Heroes</td>
</tr>
<tr>
<td>In Process (Conceptual)</td>
<td>Capabilities are in their Initial Planning Stages</td>
<td>Issues are under debate</td>
<td>White board planning</td>
</tr>
<tr>
<td>In Process (Developmental)</td>
<td>Capabilities are Being Developed</td>
<td>Policies, procedures, standards, roles and accountabilities are being established</td>
<td>Meetings are underway (notes and planning documents)</td>
</tr>
<tr>
<td>In Process (Defined)</td>
<td>Capabilities are Defined and Formalized</td>
<td>Policies and standards exist (roles, responsibilities and accountabilities are being coordinated)</td>
<td>Routines exist (structured documentation)</td>
</tr>
<tr>
<td>Achieved</td>
<td>Capabilities are Achieved and Implemented</td>
<td>Policies and standards are implemented (proactive issue management)</td>
<td>Capabilities are embedded into operations (standardized methodologies)</td>
</tr>
<tr>
<td>Enhanced</td>
<td>Capabilities are fully integrated into the operating culture of the organization</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The “leap” from developmental capability to defined capability is the most difficult challenge.
DCAM
PERFORMING AN ASSESSMENT
Purpose of an Assessment

**Compare**

Compare and contrast group to group, division to division; firm to industry

**Identify strengths and weaknesses**

Assess regional capability – direct appropriate funding

**Align with proven industry best practices**

Follow industry proven practices

**Introduce a dimension of quantifiable measurements and metrics**

Drive a measurable and methodical program

**Establish a benchmark**

Capture current state and compare to future progress
DCAM ASSESSMENT

Maturity Analysis: Assignment Overview
BBH DCAM 2016 Assessment

1. Data Management Strategy
   - Completed Components: 0/6
   - Not Initiated: 0
   - In Process: Conceptual: 0
   - In Process: Developmental: 0
   - In Process: Defined: 0
   - Achieved: 0
   - Enhanced: 0

2. Business Case
   - Completed Components: 0/5
   - Not Initiated: 0
   - In Process: Conceptual: 0
   - In Process: Developmental: 0
   - In Process: Defined: 0
   - Achieved: 0
   - Enhanced: 0

3. Data Management Program
   - Completed Components: 0/5
   - Not Initiated: 0
   - In Process: Conceptual: 0
   - In Process: Developmental: 0
   - In Process: Defined: 0
   - Achieved: 0
   - Enhanced: 0

4. Data Governance
   - Completed Components: 0/7
   - Not Initiated: 0
   - In Process: Conceptual: 0
   - In Process: Developmental: 0
   - In Process: Defined: 0
   - Achieved: 0
   - Enhanced: 0

5. Data Architecture
   - Completed Components: 0/5
   - Not Initiated: 0
   - In Process: Conceptual: 0
   - In Process: Developmental: 0
   - In Process: Defined: 0
   - Achieved: 0
   - Enhanced: 0

6. Technology Architecture
   - Completed Components: 0/5
   - Not Initiated: 0
   - In Process: Conceptual: 0
   - In Process: Developmental: 0
   - In Process: Defined: 0
   - Achieved: 0
   - Enhanced: 0
DCAM ASSESSMENT

Maturity Analysis: Assignment Overview
BBH DCAM 2015 Assessment

1. Data Management Strategy
   Completed Components: 0/4

1.1 Data Management Strategy is Specified and Shared
   Completed Capabilities: 0/4

1.1.1 Data management strategy is developed
   Comment(s): 
   Evidence(s): 

1.1.2 DMS is aligned with high-level organizational objectives
   Comment(s): 
   Evidence(s): 

There is no data management strategy
There is no alignment with high-level objectives
Discussions about the role, function and structure of the DMS are underway
The alignment between DMS and high-level objectives are in the
The DMS concepts are being discussed in collaboration with relevant stakeholders
The high level objectives have
The DMS has been documented and published to all relevant stakeholders. The alignment of the DMS with IT, business and operations is verified
Data management capability is considered as industry best practice
The alignment of the DMS with IT, business and operations is verified
The working draft of the DMS is created. The draft has been aligned with business, IT and operations. Discussions are underway with relevant stakeholders
A process is established to
DCAM

ASSESSMENT METRICS
DCAM ASSESSMENT
DCAM ASSESSMENT

GOAL: Translate the Practice of Data Management into Science