The Road to Enterprise Data Governance: Applying the Data Management Maturity Model in a Financial Services Firm

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What is the DMM

Formal collaboration between the EDM Council and Carnegie Mellon University to create a standard assessment model for evaluating capability and maturity of data management.

Developed via collaboration among data management practitioners, operational managers, IT professionals and representatives of various lines-of-business.
What is the DMM

Presented as a management view definition of the components of data management at a precise level as defined by practitioners

Mechanism for achieving a common view of the scope, complexity and interdependences of data management

Operational roadmap of established practices for use in evaluating and measuring an organization’s data management program
Development Timeline

- **2005**: Documentation about the practice of data management (case studies)
- **2008**: Anatomy of Data Management Report from EDM Council
- **2009**: Research with members and launch of core development team (3x per week meetings)
- **2010**: Initiation of daily working sessions to convert DMM into DMMI
- **2011**: Release of DMM core content model to membership (self-assessment process)
- **2012**: Formal partnership agreement with CMU to align DMM with CMMI
- **2013**: Formal MOU with SEI/CMU on data maturity measurement
- **SIFI requests to expedite development (MRSA and Senior Banking Supervisors reports)**
- **Final assessment and certification model to be released**
- **Creation of CMMI hybrid model (ideal statements of practice; competency and maturity)**
DMM Structure

The top level of the DMM is organized into **Core Categories**.

Each category contains a number of **primary components**.

Each component is organized into **process areas** containing the definition, purpose and goals of the process area, core questions that the organization should consider and statements of capability practices.

**Key**
- Explanatory Model Components
- Required for Model compliance
The **capability practices** are organized into **maturity levels** (0-5) and contain illustrative **work products** that are to be used as the basis of assessment by qualified appraisers.

- **Level 1: Performed**
  - Ad hoc, project-based, reactive

- **Level 2: Managed**
  - Defined and documented at the line of business level

- **Level 3: Defined**
  - Aligned with business strategy. Standardized and implemented consistently across the organization; the target state

- **Level 4: Measured**
  - Measured and traceable across the enterprise. Cross-functional dependencies reconciled

- **Level 5: Optimized**
  - Managed on continual basis. Innovation and process enhancement based on feedback
DMM Structure

Data Management Strategy
- Defines the organization's vision and overall strategy for data management, approved and adopted by stakeholders.

Data Management Operations
- Defines the functions and processes that are governed by formal policies and procedures.

Platform & Architecture
- Defines the technology implementation approach for data (access, modeling, messaging, structure, distribution, and integration).

Data Quality
- Defines the plans of action for improving the current state of data quality to meet the goals of the enterprise.
Data Management Strategy components establish how data is managed, organized, funded, governed and embedded into the operational philosophy of the organization. It defines the long-term plan of action and illustrates how the various components are linked. The organization must ensure that all components of the data management strategy align.
Data Management Operations determines how the organization structures and manages the components associated with implementation of data management.

STANDARDS AND PROCEDURES

- AREAS
- PROMULGATION
- BUSINESS PROCESS & DATA FLOWS
- DATA DEPENDENCIES LIFECYCLE
- BUSINESS SEMANTICS
- DATA CHANGE MANAGEMENT

DATA SOURCING

- SOURCING REQUIREMENTS
- PROCUREMENT AND PROVIDER MANAGEMENT
Data Platform and Technology defines the technical requirements and architectural framework associated with modeling, storing, delivering and integrating data into business processes and downstream systems of the organization (complete front-to-back downstream system integration). It includes the logical designs, hardware, and software (and their supporting processes) that are required for effective data management.
Data Quality describes the processes, criteria, and approaches used to ensure the delivery of consistent, accurate, complete and timely data to end user applications across the enterprise.

DATA QUALITY FRAMEWORK
- DATA QUALITY STRATEGY
- DATA PROFILING

DATA QUALITY ASSURANCE
- DATA QUALITY ASSESSMENT
- DATA CLEANSING
Citi’s Implementation of the DMM Model

BACKGROUND AND DRIVERS

- Citi’s Global Data Roadmap – Kick-Off (Q3 2009) - Part of the response to challenges of recent economic environment
  - Five year plan to elevate Citi’s data management capabilities (Q4 2009)
    - Establishment of Citi’s Chief Data Office (Q1 2010)
    - Citi Enterprise Data Governance Council established (Q2 2010)
  - Desired measurement that was:
    - Consistent across the global enterprise
    - Focused on business data management capabilities
    - Supported by the financial services industry
Citi’s Implementation of the DMM Model

Q2/3 2010
Citi’s first data management maturity assessment and action planning

Q1 2011
Work commences on the DMM with broad industry involvement

Q3 2011
Citi takes 6.30.11 version of the model and creates a self assessment
Citi rolls out the Self-Assessment

Q4 2010
EMD Council’s DMM initiative underway

Q2 2011
EMD Council releases draft version of DMM for review
Citi’s Data Management Policy issued requiring compliance with targeted DMM levels

Q4 2011
Citi develops gap analysis and policy compliance implementation plans

Two critical components implemented in parallel
- June 2011 - Establishment of Citi Data Management Policy
- June - August 2011 - Appointment of Data Governance Officers (DGOs)
Citi’s Implementation of the DMM Model

**Rollout and Approach**

- DMM self-assessment conducted July - August 2011
- Global scope in which all critical areas of the Bank participated

- Implementation playbook
- Kick-off overview w/training
- Assessment team skill requirements and participants identified
- Four week period to complete the assessment
- Automated tool used to capture self-assessment results

- Performed review session with Data Governance Officers and their teams normalize results
- Produced gap analysis using an automated tool to identify areas of focus to comply with Citi Data Management Policy and targeted DMM levels
- Worked with DGO teams to develop implementation plans reflecting organization-wide shared milestones
Citi’s Implementation of the DMM Model

Citi has derived significant benefits from this approach:

- Created a clear understanding of progress against data management targets with regulators
- Defined and aligned consistent data management practices across Citi
- Improved awareness of the importance of data management practices across the Enterprise
- Provided visibility into the strengths and challenges of Citi’s data management capabilities
Citi’s Implementation of the DMM Model

CITI HAS DERIVED SIGNIFICANT BENEFITS FROM THIS APPROACH:

DMM measurement establishes a new and important discipline at Citi, which includes a level of oversight and expectation in every part of the organization’s data management capabilities.

Collaboration upon the DMM model has been a significant event within our industry. The model and the team who developed it within the EDM Council have made a significant contribution to the evolution of safety and soundness practices within the financial industry.
Challenges

Awareness. Educating the business users that Data Management exists as its own discipline and is the responsibility of the organization as a whole. The common perception is bad data is an IT issue.
Focus. Businesses and functions that were required to self-assess their capabilities within the Data Management Maturity Model were more concerned with their score relative to their peers rather than focusing on how the model could help improve business processes.
Challenges

Skills. Despite recent focus on data management and data governance brought to light by the Financial Crisis and the advent of Big Data, there is still a significant shortage of skilled resources. However, the best talent may already be working for you in the form of business analysts or super users.
Data management plays a significant role in an organization’s ability to generate revenue, control costs and mitigate risks.

Data Maturity Model (DMM) details series of best practice recommendations and standard assessment criteria for evaluating data management capabilities.

DMM results provide roadmap to improve data management capabilities and improve awareness of the importance of data management practices across the Enterprise.
Thank you! Questions?

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