A Holistic Framework for Enterprise Data Management

DAMA – NCR

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Agenda

- What is Enterprise Data Management?
- Why an EDM Framework?
- EDM High-Level Framework
- EDM Framework Components
- EDM Framework – Activity View
- EDM Framework – Artifact View
- Conclusion
What is Enterprise Data Management?

It’s a lot like an elephant

(from the parable “The Six Blind Men and the Elephant”)

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What is Enterprise Data Management?

It depends on what your perspective is:

- Chief Information Officer
- Data Strategist
- Data Architect
- Data Analyst
- Data Administrator
- Database Administrator
- Data Owner / Steward
- Data Sharing Stakeholder
- Data Quality Specialist
Why an EDM Framework?

Data Management professionals need to take a holistic approach to Enterprise Data Management that encompasses all perspectives to:

- Ensure that data is managed as an enterprise asset
- Ensure the definition and development of data solutions (transactional, analytical, portal) that are:
  - Robust
  - Scalable
  - High-Performance
  - Interoperable
  - Secure
  - High-Quality
# EDM High-Level Framework

<table>
<thead>
<tr>
<th>Data Strategy &amp; Planning</th>
<th>Data Architecture &amp; Design</th>
<th>Data Engineering &amp; Operations</th>
<th>Data Access &amp; Exchange</th>
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<td>Data Governance</td>
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<td>Data Tools &amp; Technologies</td>
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## EDM Framework Components

### Data Strategy & Planning

**Activities**
- Vision Definition
- Strategy Planning
- Investment Planning
- Goals & Objectives Setting
- Scope Definition
- Resource Planning
- Transition Planning

**Artifacts**
- Vision Statement
- Data Management Strategy
- Investment Management Plan
- Goals & Objectives
- Scope
- Resource Plan
- Transition Plan
# EDM Framework Components

## Data Architecture & Design

### Activities
- Data Requirements Definition
- Data Analysis
- Data Modeling
- Database Design
- Information Flow / Interface Definition
- Rule Definition

### Artifacts
- Data Requirements
- Conceptual Data Model
- Logical Data Model
- Physical Data Model / Database Design
- Data Interface / Service Specification
- Data Conversion Specification
- Business Rules
EDM Framework Components

Data Engineering & Operations

Activities
- Database Implementation & Maintenance
- Data Conversion
- Backup & Recovery
- Archiving & Retention
- Logging & Audit
- Performance Tuning

Artifacts
- Production Database
- Data Management Plan
- Disaster Recovery Plan
## EDM Framework Components

### Data Access & Exchange

#### Activities
- Data Security
- Data Profiling
- Data Harmonization
- Data Integration
- Data Registration
- DB Connection Configuration

#### Artifacts
- Data Access Privileges
- Privacy Impact Assessment
- Data Quality Assessment
- Data Registry
- Database Connections
EDM Framework Components

Data Governance

Activities
- Governance Establishment & Oversight
- Ownership & Stewardship
- Policy & Procedure Definition
- Service Level Agreements (SLA) & Metric Definition
- Education & Training
- Outreach

Artifacts
- Governance Framework
- Policy & Procedures
- Service Level Agreements (SLA) & Metrics
- Classes & Seminars
- Communications
EDM Framework Components

Metadata
- Name
- Definition & Semantics
- Domain
- Structure
- Lineage
- Rules

Quality
- Security & Privacy
- Stakeholders / Community of Interest (COI)
- Owner & Steward
- Implementation
- Operations
EDM Framework Components

Data Standards

- Modeling
- Metadata
- Documentation
- Data Access
- Data Exchange
EDM Framework Components

Data Tools & Technologies
- Repository
- Modeling
- Registry
- Conversion
- DBMS & Utilities
- Profiling & Cleansing

- Data Integration
- Database Access
- Business Intelligence
- Data / Text Mining
- Decision Analytics
- Statistical Analysis
## EDM Framework – Activity View

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<tr>
<th>DM Activities</th>
<th>Data Strategy &amp; Planning</th>
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<td>Vision Definition</td>
<td>Data Requirements Definition</td>
<td>Database Impl. &amp; Maintenance</td>
<td>Data Security</td>
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<td>Strategy Development</td>
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## EDM Framework – Artifact View

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| Data Governance           | • Governance Framework   | • Data Access              | • SLAs & Metrics              |
|                           | • Policy & Procedures    | • Data Exchange            | • Classes & Seminars          |

| Metadata                  | • Name                   | • Structure               | • Owner/Steward              |
|                           | • Definition & Semantics | • Lineage                 | • Implementation            |
|                           | • Domain                 | • Rules                   | • Operations                |
|                           |                           | • Quality                 |                            |
|                           |                           | • Security & Privacy      |                            |
|                           |                           | • Stakeholders/COI        |                            |

| Data Standards            | • Modeling               | • Data Access              | • Business Intelligence    |
|                           | • Metadata               | • Data Exchange            | • Statistical Analysis     |
|                           | • Documentation          |                           | • Decision Analytics       |

| Data Tools & Technologies | • Repository             | • DBMS & Utilities        | • Data Integration         |
|                           | • Modeling               | • Profiling & Cleansing   | • Database Access          |
|                           | • Registry               | • Conversion              | • Data Text Mining         |
|                           |                           |                           | • Business Intelligence    |
|                           |                           |                           | • Statistical Analysis     |
|                           |                           |                           | • Decision Analytics       |
Conclusion

- The scope of Enterprise Data Management is both broad and deep, requiring a holistic, disciplined approach to ensure the definition and development of robust, scalable, high-performance, interoperable, secure and high-quality data solutions and the management of data as an enterprise asset.

- Metadata, Data Standards and Data Tools and Technologies form the underlying foundation for all Data Management Activities and Artifacts.
Conclusion

- Don’t be one of the 6 blind men. There are many perspectives other than your own that comprise Enterprise Data Management, so remember to take a holistic view when working on a data-related initiative.