

# **Data Quality**

## **Specialist**

by Michele Valentini

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## Module 0: About the Course (8 min)

## Module 1: Data Management Introduction (54 min)

- Is Data the New Oil?
- What is Data Management?
- Data Management Goals
- DAMA International
  - DAMA Management Body of Knowledge (DMBOK)
  - o DAMA Wheel
  - o Environmental Factors Hexagon
  - Knowledge Area Context Diagram
  - DMBOK Pyramid Aiken
- What is the Meaning of Data?
- The Meaning of "Data" Outside of Data Management
- Data Lifecycle
- Data Management Challenges
- Data Management Strategy
- Other Data Management Frameworks
- Summary
- Knowledge Check #1
- Knowledge Check #2
- Knowledge Check #3
- Knowledge Check #4
- Knowledge Check #5
- Knowledge Check #6

### Module 2: Data Quality Definitions & Essential Concepts (59 min)

- How does Data Quality Affect Enterprises?
  - o Example: Dear Idiot Letter
  - Example: Google Maps Error
  - Example: UK Court Error
  - Example: Customer ID Error
  - Example: Logistics Data Quality
  - o Consequences of Data Quality Management Impacts
  - Consequences of Data Quality Management Causes
- The Definition of Data Quality 1
- The Definition of Data Quality 2
- Data Quality Must Be Managed
  - How Good Does Data Quality Need to Be?
  - o Risks of Poor Data Quality
  - Data Quality Goals
  - o Data Quality Principles

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- Data Quality Dimensions
- Consider Also...
- Data Quality Metrics & Indicators
  - o Dimensions, Metrics, and Indicators Example
  - o Data Quality Dimensions, Metrics, and Indicators Hierarchy
  - o Data Quality Indicators: TARMAC
  - $\circ$   $\;$  What is High Quality for Your Data  $\;$
  - $\circ$   $\;$  What is High Quality for Your Data Examples  $\;$
  - o What is High Quality for Your Template
- Summary
- Knowledge Check #1
- Knowledge Check #2
- Knowledge Check #3
- Knowledge Check #4
- Knowledge Check #5

### Module 3: Data Quality Tools and Techniques (60 min)

- Shewhart and Demining Cycle
- Data Quality Management Lifecycle: Key Activities
- Data Quality Issues
- Barriers to Effective Deployment of Information Assets
  - Lack of Leadership
  - o Data Entry Process
  - Data Processing Functions
  - System Design Issues
- Fixing Issues
- Categories of Techniques
  - Preventive Actions
  - o Corrective Actions
- Corrective Actions Through Data Processing
  - Corrective Actions Through Data Processing: Data Cleansing
  - o Corrective Actions Through Data Processing: Data Enhancement
  - Corrective Actions Through Data Processing: Parsing, Formatting, Transformation, Standardization
  - Statistical Process Control
  - Root Cause Analysis 1
  - Root Cause Analysis 2
  - o Root Case Analysis Step-by-Step
  - Root Case Analysis 5 Whys
  - Root Case Analysis 5 Whys Example
  - o Root Case Analysis Step-by-Step
  - Root Case Analysis 5 Whys
- Data Quality Tools Data Profiling
  - Data Profiling Typical Outputs
  - Data Profiling Software Tool

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- Use Case: Where should We act and How?
- Summary
- Knowledge Check #1
- Knowledge Check #2
- Knowledge Check #3
- Knowledge Check #4
- Knowledge Check #5

## Module 4: Key Data Quality Management Activities (50 min)

- Design
  - o Define High Quality Data
  - o Define a Data Quality Strategy
  - o Identify Critical Data Business Rules
  - o Perform Data Quality Assessment and Organizational Assessment
  - o Identify and Prioritize Potential Improvements
  - o Define Goals for Data Quality Improvement
  - o Set Up a Data Quality Program
  - o Plan for Change Management and Training
- Implement and Embed Data Quality
  - o Manage Data Quality Rules
  - o Operational Procedures for Managing Data Quality
  - o Establish Data Quality Service Level Agreement
- Monitor and Control Data Quality
- Becoming a Data Driven Organization
- Relationship Between Data Quality and Data Management
  - o Data Quality Requires Governance 1
  - o Data Quality Requires Governance 1
  - o Data Quality Requires Governance and Organization
  - Data Quality Requires Governance and Roles 1
  - Data Quality Requires Governance and Roles 2
  - o Data Quality Requires Master and Reference Data
  - $\circ$   $\;$  Data Quality and Architecture Modeling  $\;$
  - o Data Quality, Metadata, and DII
  - o Summary
  - Knowledge Check #1
  - Knowledge Check #2

### **Master and Reference Data**

Estimated Length: 3 hour(s) and 51 minute(s)