Data quality

A comprehensive approach
Why bother with data quality?
Why bother with Information?

- Increased effectiveness
- Reduced Cost
- Reduced Risk

Enterprise

Decisions

Responsive to change

Identify Business Opportunities

Information

Information Junction
What does an Information System cost?

Survey by Daratech, Inc

Hardware: The cost of additional infrastructure required for the project.
Software: The cost of licenses for the software used, or the cost of software developed.
Systems Integration: Cost of interfaces between applications in a system.
Data: The business cost of creating the data to configure and use a system.
Training: Cost of training and the 'cost' of getting accustomed to a new system.
Information Quality Myths
Information Quality is difficult

• There is no great intellectual challenge to information quality
• It is about attention to detail
• The problem with managing information quality is that it is not done
Information quality adds cost

• It is not about adding quality checks, but ensuring information is right first time
• Quality is not about being more accurate, it is about being fit for purpose – being better than is needed can reduce quality because it adds cost
• It is a lack of information quality that adds cost
• When information is not fit for purpose there are costs in fixing it, or in fixing any mistakes that are made in using it
Information quality basics
Information Quality

customer → information → supplier

requirements
Key Properties of Information

Definition

- Clarity
- Accessibility/Security
- Consistency
- Relevance
- Provenance
- Cost/Benefit
- Accuracy
- Timeliness/Completeness

Values

Information Quality
Process Based Quality Management System (ISO 9001)

- Customers
- Management Responsibility
- Resource Management
- Measurement analysis and improvement
- Information Product Realization
- Information Product
- Satisfaction
- Requirements

Information Junction
Enterprise Architecture

the infrastructure for a quality management system for information
Relevance of IM Framework elements to Information Quality

Information Quality

- Clarity
- Accessibility/Security
- Consistency
- Provenance
- Timeliness/Completeness
- Accuracy
- Cost/Benefit
- Relevance
- Key Performance Indicators
- Enterprise Data Model

Definition Values

Business Process Model
Strategy & Operating Model
Plans & Justification
Application Portfolio
Key Performance Indicators
Enterprise Data Model
Reference Data
Integration Architecture
Physical Data Models
Consistency
Data Quality Standards
Automated Processes
Interface Operations
Provenance

Information Junction
Relevance of IM Framework to the Quality Management System for Information

- Governance
- Communications
- Policy/Controls Framework
- Strategy & Operating Model
- Roles and Responsibilities
- IM Community
- Measurement analysis and improvement
- Knowledge Management
- Training
- Information Product
- Reports
- Information Junction
- Customer
- Customer
- Requirements
- Data Quality Standards
- Enterprise Architecture Standards
- Application Portfolio
- Resource Management
- Positions
- Plans & Justification
- Management Responsibility
- IT Support
- Enterprise Development Methodology
- Business Process Model
- Data Quality Standards
- Key Performance Indicators
- Physical Data Models
- Information Product Realisation
- Reference Data
- Transactions
- Enterprise Development Methodology
- Business Process Model
- Data Quality Standards
- Key Performance Indicators
- Physical Data Models
- Information Product Realisation
- Reference Data
- Transactions
Information Management Maturity and how to achieve it
## Information Management Maturity

<table>
<thead>
<tr>
<th>Level</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial</strong></td>
<td>• Management has no comprehension of information quality, and&lt;br&gt;• Information management is ad hoc, and&lt;br&gt;• There is scepticism about the benefits of information quality, and&lt;br&gt;• &quot;We don't know why we have problems.&quot;</td>
</tr>
<tr>
<td><strong>Recognising</strong></td>
<td>• Management recognises that information quality management may be of value, and&lt;br&gt;• Poor quality information is addressed ad hoc, and&lt;br&gt;• The uses of information created in your organisation and its governance are documented, and&lt;br&gt;• There are plans to adopt or develop enterprise wide information standards.&lt;br&gt;• &quot;Is it absolutely necessary to always have problems with information quality?&quot;</td>
</tr>
<tr>
<td><strong>Specifying</strong></td>
<td>• Management understands the importance of Information Quality, and&lt;br&gt;• Global standards and processes for information implemented, and&lt;br&gt;• Global Corporate Data Models in place, and&lt;br&gt;• Quality requirements for information explicitly defined (e.g. SLA) and&lt;br&gt;• &quot;Through management commitment and information quality improvement we are identifying and resolving our problems.&quot;</td>
</tr>
<tr>
<td><strong>Managing</strong></td>
<td>• Management understands their role in information management, and&lt;br&gt;• Performance measures collected regularly, and&lt;br&gt;• Corrective actions in place for critical data, and&lt;br&gt;• Enterprise Architecture in place and in use, and&lt;br&gt;• &quot;Information quality problem prevention is a routine part of our operation.&quot;</td>
</tr>
<tr>
<td><strong>Optimising</strong></td>
<td>• Management consider information management an essential part of the enterprise, and&lt;br&gt;• There is a change management process in place and in use around the Enterprise Architecture, and&lt;br&gt;• Root causes of Information quality problems are addressed routinely - usually before they are a problem&lt;br&gt;• &quot;We know why we do not have problems with information quality.&quot;</td>
</tr>
</tbody>
</table>

Some material taken from Improving Data Warehouse and Business Information Quality: Methods for Reducing Costs and Increasing Profits by Larry P. English
The Information Management Landscape: Initial

Infrastructure

IT Support

Information Junction

Methodologies and Standards

Policy/Controls Framework

Organization

Positions

Information Operations

Reports

Transactions

Reference Data

Interface Operations

Architectural mapping

Definitional mapping

Usage mapping
The Information Management Landscape: Initial to Recognising

- **Management**
  - Governance
  - Strategy & Operating Model
  - Plans & Justification

- **Methodologies and Standards**
  - Policy/Controls Framework

- **Organization**
  - Positions

- **Business Process Model**
  - System Independent Processes

- **Information Architecture**
  - Physical Data Models
  - Integration Architecture

- **Infrastructure**
  - Application Portfolio
  - IT Support

- **Information Operations**
  - Reports
  - Transactions
  - Reference Data
  - Interface Operations

- **Information Junction**
  - Architectural mapping
  - Definitional mapping
  - Usage mapping
Information Management Landscape: Recognising to Specifying

- Management
  - Governance
  - Strategy & Operating Model
  - Plans & Justification
- Methodologies and Standards
  - Policy/Controls Framework
  - Data Quality Standards
- Information Operations
  - Reports
  - Transactions
  - Reference Data
  - Interface Operations

Enterprise Architecture
- Organization
  - Positions
  - Roles and Responsibilities
- Business Process Model
  - System Independent Processes
- System Interactions
  - Automated Processes
- Information Architecture
  - Key Performance Indicators
  - Corporate Data Model
  - Physical Data Models
  - Integration Architecture

Infrastructure
- Application Portfolio
- IT Support
- Training

Architectural mapping
- Definitional mapping
- Usage mapping
The Information Management Landscape: Specifying to Managing

- Management
  - Governance
  - Strategy & Operating Model
  - Plans & Justification
  - Communications

- Methodologies and Standards
  - Policy/Controls Framework
  - Enterprise Development Methodology
  - Enterprise Architecture Standards
  - Data Quality Standards

- Enterprise Architecture
  - Organization
    - Positions
    - Roles and Responsibilities
  - Business Process Model
    - System Independent Processes
  - Information Architecture
    - Key Performance Indicators
    - Corporate Data Model
    - Physical Data Models
    - Integration Architecture

- Information Operations
  - Reports
  - Transactions
  - Reference Data
  - Interface Operations

- Infrastructure
  - Application Portfolio
  - IT Support
  - Training
  - IM Community
  - Knowledge Management

- Information Junction

- Architectural mapping
- Definitional mapping
- Usage mapping
The Information Management Landscape: Optimising

Management
- Governance
- Strategy & Operating Model
- Plans & Justification
- Communications

Methodologies and Standards
- Policy/Controls Framework
- Enterprise Development Methodology
- Enterprise Architecture Standards
- Data Quality Standards

Enterprise Architecture
- Organization
  - Positions
  - Roles and Responsibilities
- Business Process Model
  - System Independent Processes
- System Interactions
  - Automated Processes
- Integration Architecture
  - Corporate Data Model
  - Physical Data Models
- Information Architecture
  - Key Performance Indicators

Information Operations
- Reports
- Transactions
- Reference Data
- Interface Operations

Wider Infrastructure
- Application Portfolio
- IT Support
- Training
- IM Community
- Knowledge Management

Information Junction

Architectural mapping
Definitional mapping
Usage mapping
Progression from Level to Level

Current Level

- Change Attitudes
- Gain support for improvements

Next Steps:
- Make improvements
- Consolidate position
Questions?