Information, data and metadata: why they need to be managed

Me

Soldier

Teacher

Data Manager

Engineer

Information Systems professional

Creating the IT Profession
Agenda

Why the interest in information?
Information v data?
Data v metadata?
Why we need to manage data?
What is Data Management?

Key business resources

What is Missing?

People
Money
Buildings
Equipment

Creating the IT Profession
Information is a business resource which supports:

1. Strategic planning for the future
2. Management of the business
3. Operational tasks and activities
Information?

It is the quality of the information which determines whether it is an asset or a liability to the business.

Information must be:
- Up-to-date and complete
- Sufficiently accurate for the purpose
- Available when required

Agenda

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Information v Data?

Legal team warns data on death of Baha Mousa
High court urged to force army to reveal documents

Richard Norton-Taylor

Lawyers representing the families of Iraqis detained by British soldiers voiced concern.

The Information Commissioner’s Office is the UK’s independent authority set up to
promote access to official information and to protect personal information.

The Information Commissioner’s Office
For the public
For organisations
Privacy Policies
Data Protection Act
Freedom of Information Act

Creating the IT Profession
Information = data in context
Data is a re-interpretable representation of information in a formalised manner suitable for communication, interpretation or processing.

**Agenda**

- Why the interest in information?
- Information v data?
- Data v metadata?
- Why we need to manage data?
- What is Data Management?
What is Metadata?

"Metadata is data about data"

- metadata for data management
- metadata for content management
- metadata for describing data values

Data v metadata?

<table>
<thead>
<tr>
<th>Author</th>
<th>GORDON, Keith</th>
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<tbody>
<tr>
<td>Title</td>
<td>Principles of Data Management: Facilitating Information Sharing</td>
</tr>
<tr>
<td>Publisher</td>
<td>British Computer Society</td>
</tr>
<tr>
<td>Publication date</td>
<td>August 2007</td>
</tr>
<tr>
<td>ISBN</td>
<td>978-1-902505-84-8</td>
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For a Librarian, this is Metadata
For a Data Manager, this is Data

For a Data Manager, this is Metadata

For a Librarian, this is Metadata

Or, as data in a table:

<table>
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<tr>
<th>ISBN</th>
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<th>Title</th>
<th>Pub</th>
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For a Data Manager, this is Metadata

Describing values?

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<th>Hair Colour</th>
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Is this metadata?
Agenda

- Why the interest in information?
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Data Problems?

- Poor data definition
- Poor data quality
- Inability to share data

Creating the IT Profession
A data problem?

Personnel

Customer

Sales

Marketing

Finance

Creating the IT Profession

Each Customer may be placer of one or more Orders

Order placed by
placé of

Customer

Creating the IT Profession

Each Customer must be placer of one or more Orders

Order placed by
placé of

Customer
A data problem?

ICT Department

Human Resources

Police

Marine Operations

Landside Operations

Secretariat

Marketing

Port Safety

Finance

Engineering

A data problem?

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Creating the IT Profession
A data problem?

Call centres!

Harrier?

Challenger?
A data problem?

Friendly fire?

Agenda

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What is Data Management?
What is Data Management?

... a corporate service which helps with the provision of Information Services by controlling and/or co-ordinating the definitions and usage of reliable and relevant data

Data Management

Strategically -
- it supports the corporate definition, management and use of business data

Operationally -
- it supports the development and maintenance of computerised systems

Data management goals

1) To achieve recognition of data as a valuable resource
2) To improve the quality of data
3) To facilitate data sharing across the business
4) To make line management accountable for data definition
5) To achieve a single source for reference data
Data management activities

- Co-ordination
- Information Service
- System Development Support
- Data Management Tools
- Data Identification (Models) (Standards) (Ownership)
- Data Management Policy and Strategy
- Education
- Facilitation

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Data management deliverables

- Knowledge base
- Co-ordination of data usage
- Quality assured data models
- Database schema
- Managed set of repositories and dictionaries populated to standards
- Training courses
- Seminars
- Articles
- Policy documents
- Plans
- Corporate data model
- Identified data owners
- Approved data definitions
The relationship to the business

Business

Drive

Data Management

Steer

Education

Data

Management

Policy and Strategy

Data Identification

- Models
- Standards
- Ownership

Information Service

System Development

Support

Data Management Tools

Co-ordination Facilitation

Terms of Reference

Data Management Roles

Data Management

... is concerned with mechanisms for the definition, quality control and accessibility of an organisation’s data

Data Administration

... is concerned with the management and control of the software used to access physical data

Database Administration

Repository Administration

‘Database Administration to support Data Administrators’
Data management responsibilities

**Data Administration**
- Corporate data modelling
- Metadata
- Data quality
- Educating the enterprise

**Database Administration**
- Database design
- DBMS selection
- Data accessibility
- Performance and measurement

**Repository Administration**
- DBA responsibilities + metadata

Data administration skills

**Background Knowledge of the Organisation**

**Interpersonal Skills**
- Communication
- Negotiation
- Arbitration

**Expertise in Methods and Techniques**
- Data Analysis
- Database Design
- Systems Development Methodologies
- Data Dictionaries / Repositories
Information Management

Data Management
- Data Administration
- Database Administration
- Repository Administration

Process Management
- System Management
- Business Information Support

Current data management themes

Master Data Management (MDM)
Customer Data Integration (CDI)
Information quality
Data Governance
Enterprise Information Management (EIM)

Creating the IT Profession
Master Data Management (MDM)

The authoritative, reliable foundation for data used across many applications and constituencies with the goal to provide a single version of the truth.

Master Data
= Reference Data (code tables, taxonomies) + Transaction Structure Data (product, customer) + Enterprise Structure Data (CoA, organisation structure)

Metadata
Reference Data
Transaction Structure Data
Enterprise Structure Data
Transaction Activity Data
Transaction Audit Data

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Customer Data Integration (CDI)

Processes and technologies for recognising a customer and its relationships at any touch-point.

360-degree view of Customer? Single view of Customer?

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**Information quality**

The fitness for use of information; information that meets the requirements of its authors, users, and administrators

*Data quality wearing a new dress?*

**Data Governance**

The formal orchestration of people, process and technology to enable an organisation to leverage data as an enterprise asset

Driven by regulations, for example:

- Sarbanes-Oxley (2002)
- Public Company Accounting Reform and Investor Protection Act
- SOX
- Data Protection Act (1998)
Enterprise Information Management (EIM)

The authoritative, reliable foundation for data used across many applications and constituencies with the goal to provide a single version of the truth.

Data management wearing a new dress?

Creating the IT Profession

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Creating the IT Profession
Any questions?

“The beginning of wisdom is the definition of terms”

Socrates

“There is nothing more difficult to take in hand, more perilous to conduct or more uncertain in its success than to take the lead in the introduction of a new order of things”

Niccolo Machiavelli, The Prince