



Data Quality in Shell: Building IQ Knowledge and Skills

International Conference on Information Quality

November 2011

University of South Australia

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About Shell



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Information Management is like a refinery

Oil

- Receive crudes
- Distil
- Crack
- Store
- Blend
- Distribute



- Supply high quality oil

Data

- Collect raw data
- Validate and classify
- Normalise
- Store
- Integrate
- Distribute



- Supply high quality data

To get high quality data (or oil) we need to get the process right

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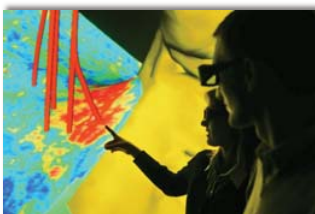
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Why do Data Training



"Develop greater breadth and depth on data quality" - Redman review 2009

World Class People



End-to-end Process and Data Management

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What Makes a Data Professional?

Understands
business
processes that
generate
data

Business
Knowledge

Understands
business
processes that
use data

"Most issues occur on interfaces between organizations. Data quality requires end-to-end, horizontal management." -
Redman

Understands
best practice
data process

Functional
Knowledge

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Key Business Processes and related Data Objects

- Asset Integrity
 - Asset, equipment, functional location
- Hydrocarbon Inventory Management
 - Product, plant, storage location
- Offer to Cash
 - Customer, product, pricing
- Requisition to Pay
 - Material, service, vendor, contract
- Well and Reservoir Management
 - Field, reservoir, well



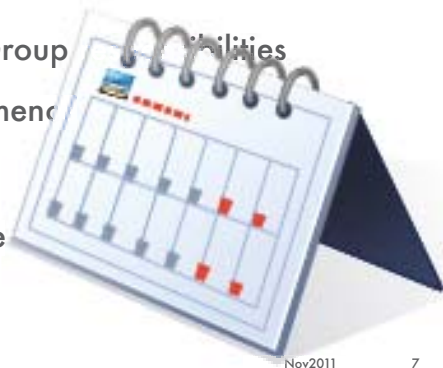
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Where we have been - timeline

- 2004 Formed a global team in Downstream focussing on master data
- 2005 Data Quality Standards applied
- 2006 Central data management operations goes live
- 2007 Automation of quality checking
- 2008 Data Process established with Group Utilities
- 2009 Upstream data operations commenced
- 2010 External benchmarking
- 2011 Data quality training programme



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Imperatives for 2011

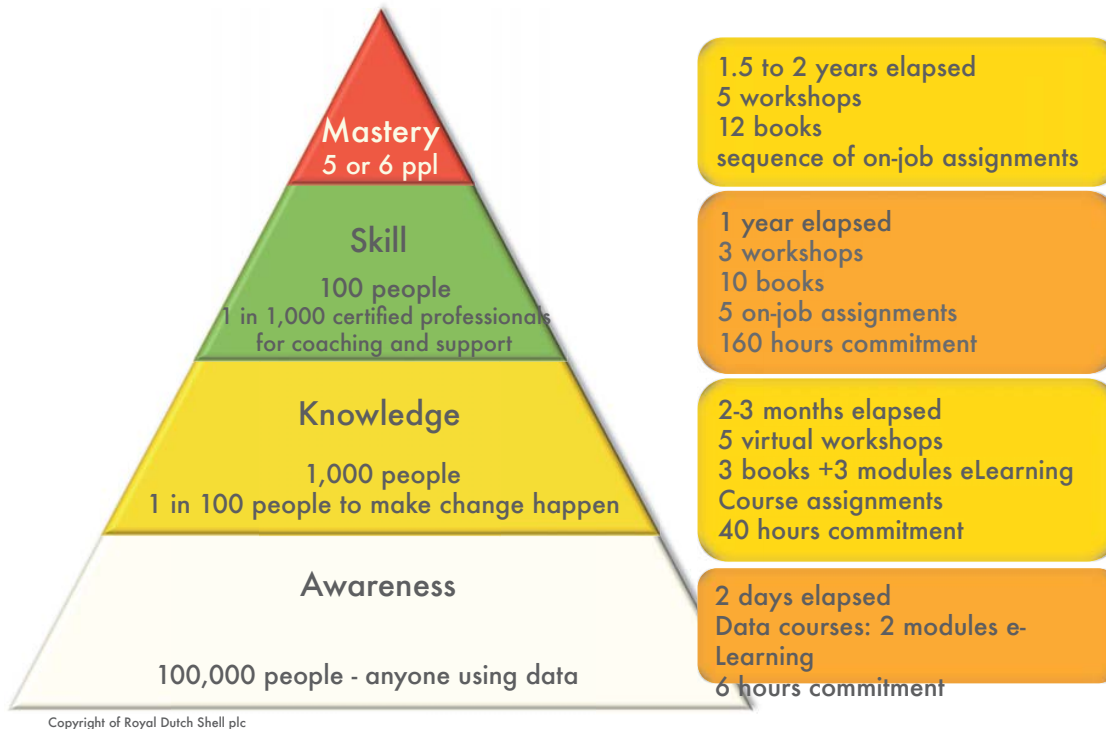
- "Finish what we have started"
 - Develop data professionals
- More business impact
 - Improve understanding of cost of poor quality data
- Continuous functional improvement
 - Continuous improvement of the data process
- World-class people
 - Certification for data professionals

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Competence development for Information Management



Information Management Awareness Course (2010)

For anyone working with data to help them:

- Engage stakeholders
 - Understand the impact of defective data on business.
 - Understand the roles that people play in delivering reliable data
- Contribute to resolving data issues
 - Understand the causes of defective data
 - Understand the importance of error prevention
- In house developed e-learning: 1 hour duration

Information Management Fundamentals Course (2010)

Awareness level for recently started IM practitioners to help them:

- Analyse data issues
 - Understand the e2e processes for data management
 - Understand how people, policies and practices affect data quality
- Develop solutions to data issues
 - Understand the tools and techniques used in data management:
 - Understand how different elements of data management fit together
- Engage stakeholders
 - Understand the roles that people play in data governance
 - Understand the principles followed by data professionals

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Data Quality and You (2011)

Knowledge level course for established data practitioners (1 year +)

- Identify customer needs
 - Know who all their customers are
 - Effective techniques to understand customer needs
- Analyse data issues
 - Treat data as a product of a process that affects quality.
 - Identify process customers and suppliers
- Develop effective data controls
 - Build quality controls and metrics around the customer viewpoint
- Apply Lean Sigma to continuously improve data processes
- Proactively address data quality issues

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Data Quality and You (2011)

- Developed with Tom Redman and professional learning designer
- Blended learning
 - Five facilitated virtual workshops @ 1.5 hours
 - 3 books + 3 modules eLearning for details
 - Work-oriented assignments to apply the theory
- Line manager involvement encouraged
 - Set participant objectives
 - Coaching and guidance
 - 3-way feedback of course results, gaps, next steps
- ~40 hours commitment over 3 months

Next: Knowledge training for the business (2011)

- Knowledge training for business people for whom IM is a critical, but non-core activity (e.g. Business process managers)
- Lead continuous improvement of business processes using data quality controls and measurements as drivers
 - Contribute to continuous improvement of data processes to improve data quality
 - "Light" version of "Data Quality and You" training
 - Challenge: How to fit it all in to 2 hours or less

Next: Information Management Skill (2012)

For experienced IM professionals (3+ years)

- Blended learning
 - Extensive reading and workshops
 - Emphasis on practical application through projects
- IQCP exam and certification from IAIDQ
- Estimate 20 days duration over 1 year

What We Have Learnt

- People and processes impact quality more than systems
 - Consolidate the people and skills
 - Standardise the data process
- Changing behaviours requires ongoing effort
 - Raise awareness of quality issues
 - Communicate the need for data governance
- Continuous improvement (CI) can be applied to anything
 - Build skills in CI across the organisation
 - Apply to processes, data, data processes, meta-data, meta-processes...
- There are not many people with the skills needed
 - Few sources of training
 - Professional certification is just starting

Q & A

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