

BDO
Chartered Accountants
& Advisors

BDO Kendalls

Strategic Data Quality Management

Data Quality Metrics and IT Governance

Presenter:
Micheal Axelsen
Director Information Systems Consulting
BDO KENDALLS

BDO
Chartered Accountants
& Advisors

BDO Kendalls

Workshop agenda

- Today's purpose
- Data management frameworks
- Data management
- Reporting data quality metrics
- Conclusion



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Workshop Activity

Icebreaker

- Icebreaker activity – let's get to know each other (5 minutes)



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Today's purpose

- To explore the links between Data Quality Metrics and how to deliver this to operational, executive, and board management levels
- Identify frameworks for implementing data quality
- Relevant Data Quality Metrics
- Reporting Design
- And to provide tools and templates to assist with this process



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Today's Purpose

- To achieve the purpose, the activities will build on each other:
 - Identify the 'right' strategic effort to put into your data management strategy
 - Identify your key information systems
 - Identify business issues in data management
 - Identify your business' organisational 'readiness' for data management
 - Identify Key Goal Indicators
 - Identify Key Performance Indicators
 - Identify an appropriate reporting format for your management reporting



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Workshop Activity

Audience Contract

- Confirm participant expectations with an audience contract on the FlipChart or whiteboard
- This is to be used as an ongoing measure of success during the course of the workshop. (5 minutes)



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management frameworks

- Definition:
 - Data Resource Management** is the development and execution of architectures, policies, practices and procedures that properly manage the full data lifecycle needs of an enterprise."
- Definition
 - "**Data Quality** measures its fitness for the intended use in operations, decision making and planning"



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management frameworks

- A framework provides structure to our data management activities, and allows us to assess data management
- Metrics allow the data quality to be measured – and if it can be measured, it can be managed (and improved)
- Measuring data quality provides the opportunity for business improvement
- Generally we are concerned about the quality of data stored in large information management systems (quantitative data) rather than less structured information systems (qualitative data)



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management frameworks

- Relevant Data Management Frameworks, in a systems context, include:
 - Control Objectives for IT (COBIT)
 - Information Technology Infrastructure Library
 - Department of Commerce, NSW, Information Management Framework
- There are other options, but the COBIT approach is adopted in this workshop as a best practice tool and one particularly focused on metrics and governance



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management frameworks



Department of Commerce, NSW, Information Management Framework

BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management frameworks

- Accessibility: The extent to which data is available, or easily and quickly retrievable
- Appropriate amount of data: The extent to which the volume of data is appropriate for the task at hand
- Believability: The extent to which data is regarded as true and credible
- Completeness: The extent to which data is not missing and is of sufficient breadth and depth for the task at hand
- Concise Representation: The extent to which data is compactly represented

BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management frameworks

- Consistent Representation: The extent to which data is presented in the same format
- Ease of manipulation: The extent to which data is easy to manipulate and apply to different tasks
- Free-of-error: The extent to which data is correct and reliable
- Interpretability: The extent to which data is in appropriate languages, symbols, and units, and the definitions are clear
- Objectivity: The extent to which data is unbiased, unprejudiced, and impartial
- Relevancy: The extent to which data is applicable and helpful for the task at hand

BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management frameworks

- Reputation: The extent to which data is highly regarded in terms of its source or content
- Security: The extent to which access to data is restricted appropriately to maintain its security
- Timeliness: The extent to which the data is sufficiently up-to-date for the task at hand
- Understandability: the extent to which data is easily comprehended
- Value-added: The extent to which data is beneficial and provides advantages from its use.

BDO Chartered Accountants & Advisors **BDO Kendalls**

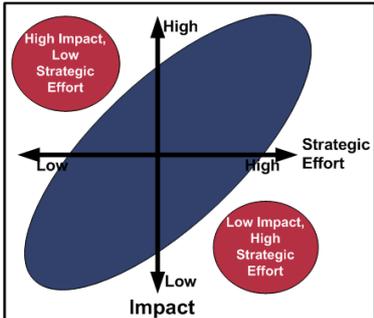
Data management strategy

- Data Management Strategy is an important component of the IT Strategic Plan.
- What does a data management strategy look like, at a high level? Unfortunately, the answer will depend upon your requirements as a business.
- However, like all strategic discussions, what is done depends upon the "bang for buck" return that you get for the effort.



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management strategy



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management strategy

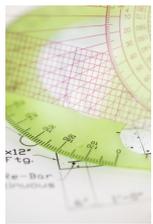
- A data management strategy will at its core:
 - Answer the "why do it" question
 - Identify business vision
 - Identify business mission
 - Identify business objectives
 - Identify business assumptions
 - Identify a program of work to achieve the business objectives.
- Build a small, agile IT plan that can be followed – keep it simple silly – if you do not currently have one, don't go straight to the top-level strategic plan, it may not be appropriate.



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management strategy

- A 3-5 page strategic plan that is adopted and followed is better than a 50-page one that is never finished and never used



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management strategy

Workshop Activity

- Activity: Strategic Self-assessment
- Note the Data Management Strategy Resource provided as a tool to use to develop a data management strategy in the workbook.

(15 minutes)



BDO Chartered Accountants & Advisors | **BDO** Kendalls

Data management

- COBIT is used in this workshop to provide a practical basis for the data quality metrics, reporting process, and governance arrangements to adopt.
- COBIT Overview
 - Control Objectives for Information Technology (COBIT) is a specific framework developed by ISACA (Information Systems Audit Control Association)
 - COBIT provides a framework for the governance of the information technology business function.
 - COBIT is a very large framework, with 34 processes identified, only one of which relates to data management.



BDO Chartered Accountants & Advisors | **BDO** Kendalls

Data management

- The relevant COBIT process is DS1 I Manage Data.
- There is a business requirement to ensure that data remain complete, accurate and valid during input, update and storage



BDO Chartered Accountants & Advisors | **BDO** Kendalls

Data management

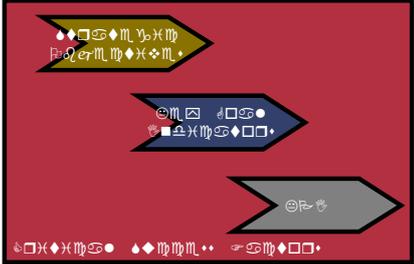
- There are three components to the measurement of the effectiveness of IT Governance.
 - Key Goal Indicators
 - Key Performance Indicators
 - Critical Success Factors
- Key Goal Indicators support objectives, and are supported by Key Performance Indicators.
- Critical Success Factors describe the world of effective data management



BDO Chartered Accountants & Advisors | **BDO** Kendalls

Data management

- The specifics of these will be different for each business.



BDO Chartered Accountants & Advisors | **BDO** Kendalls

Data management

- Critical Success Factors describe how the end-world looks.
- Critical success factors:
 - Data entry requirements are clearly stated, enforced and supported by automated techniques at all levels, including database and file interfaces
 - The responsibilities for data ownership and integrity requirements are clearly stated and accepted throughout the organisation
 - Data accuracy and standards are clearly communicated and incorporated into the training and personnel development processes
 - Data entry standards and correction are enforced at the point of entry



BDO Chartered Accountants & Advisors | **BDO** Kendalls

Data management

- Critical success factors:
 - Data input, processing and output integrity standards are formalised and enforced
 - Data are held in suspense until corrected
 - Effective detection methods are used to enforce data accuracy and integrity standards
 - Effective translation of data across platforms is implemented without loss of integrity or reliability to meet changing business demands
 - There is a decreased reliance on manual data input and re-keying processes
 - Efficient and flexible solutions promote effective use of data
 - Data are archived and protected and are readily available when needed for recovery



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management

- Information Management Lifecycle
 - collection:** creation, acquisition or capture of information needed to support your business processes;
 - storage:** retention of information resources to support business processes;
 - access:** locating and gaining entry to information resources to support business processes;
 - use:** exploitation of information resources by business processes;
 - disposal:** removing information resources that are no longer required to support business processes.



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management

Workshop Activity

- Activity: Key Information Systems (10 minutes)
- Activity: Business Issues in Data Management (15 minutes)



BDO Chartered Accountants & Advisors **BDO Kendalls**

BREAK

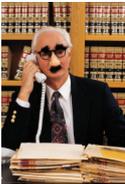
- Let's let that sit for the moment and – have a quick break!



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management

- The Maturity Model
 - 0 - Nonexistent
 - 1 - Initial/Ad Hoc
 - 2 - Repeatable but Intuitive
 - 3 - Defined Process
 - 4 - Managed and Measurable
 - 5 - Optimised
- The key to the reporting model developed in this workshop is that data quality management can only work when the organisation is ready for it.
- A great leap forward won't work for data management
- Activities and performance indicators must tailored for your readiness



BDO Chartered Accountants & Advisors **BDO Kendalls**

Data management

Workshop Activity

- Activity: Assessment of Organisational Maturity (10 minutes)



BDO Chartered Accountants & Advisors **BDO Kendalls**

Reporting

- A Key Goal Indicator indicates the overall aim of the data management framework. It is a statement, in plain English, of the outcome we are seeking to measure with our *Key Performance Indicators*.
- A Key Goal Indicator is a generic measure that is linked to the control objectives sought to be implemented.
- A Key Performance Indicator is the operational measure used to implement the KGI



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Reporting

- Key Goal Indicators
 - A measured reduction in the data preparation process and tasks
 - A measured improvement in the quality, timeline and availability of data
 - A measured increase in customer satisfaction and reliance upon the data
 - A measured decrease in corrective activities and exposure to data corruption
 - Reduced number of data defects, such as redundancy, duplication and inconsistency
 - No legal or regulatory data compliance conflicts
- A KGI is an overall business statement, not an operational measure



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Reporting

Workshop Activity

- Activity: Develop Key Goal Indicators (10 minutes)



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Reporting

- A Key Performance Indicator is an operational measure of performance. It is an objective measure, linked to the identified goals, and for maximum effect is derived from your information systems (probably, several!)
- Absolutely critical that *the most important* measures are implemented for the data management framework to be successful



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Reporting

- Key Performance Indicators
 - Percent of data input errors
 - Percent of updates reprocessed
 - Percent of automated data integrity checks incorporated into the applications
 - Percent of errors prevented at the point of entry
 - Number of automated data integrity checks run independently of the applications
 - Time interval between error occurrence, detection and correction
 - Reduced data output problems
 - Reduced time for recovery of archived data



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Reporting

Workshop Activity

- Activity: Your Practical and Relevant KPIs (30 minutes)



BDO
Chartered Accountants
& Advisors

BDO Kendalls

Reporting

- At a management level, timeliness and relevance are very important (over accuracy)
- Continuous monitoring is important – so a 'dashboard' approach is useful
- Data monitoring mechanisms can be used to validate data according to your required quality rules.
- The KPIs reported could be customised to the recipient's needs.
- A range of relevant KPIs can be reported upon



BDO Reporting **BDO Kendalls**
 Chartered Accountants & Advisors

BDO Reporting **BDO Kendalls**
 Chartered Accountants & Advisors

- At a board level, continuous monitoring and reporting is not as significant, and accordingly accuracy and relevance take precedence over timeliness.
- Additionally, the Board's time will be consumed by other concerns.
- Balanced scorecard, as in the previous example, is a popular approach to IT Governance
- Combine the monitoring report with an IT Governance calendar – and if it is an IT-reliant business, then perhaps a Board IT Committee

BDO Reporting **BDO Kendalls**
 Chartered Accountants & Advisors

- Balanced Scorecard has four quadrants
 - Financial
 - Customer
 - Business Process
 - Learning and Growth
- This would only be relevant if board receives other information under a balanced scorecard approach
- At the board level, only one or two powerful KPIs that indicate ongoing operational data quality is needed (under business process)

BDO Reporting **BDO Kendalls**
 Chartered Accountants & Advisors

Workshop Activity

- Activity: Your Operational, Executive and Board Reporting

BDO Reality Check **BDO Kendalls**
 Chartered Accountants & Advisors

- Let's revisit our audience contract – did we address the goals we set out to achieve?
- Feedback

BDO Conclusion **BDO Kendalls**
 Chartered Accountants & Advisors

- Questions and Answers
- Contact details:
 - Micheal Axelsen
 - Director Information Systems Consulting
 - BDO Kendalls

t: 07 3237 5967
 m: 0412 526 375
 e: maxelsen@bdokendalls.com.au
 b: www.michealaxelsen.com