



### Live Streaming Public Courses & In-House Training 2022

Presented by the World's Leading Business & IT Management Experts

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Group Booking &  
Multiple Course  
Discounts Available

# Mastering the Requirements Process: Getting Requirements Right

Adrian Reed

Via Live Streaming Only

2-4 March 2022

Live Streaming Fee £1,295 + VAT  
Group Booking & Multiple Seminar Discounts Available

## Business Analysis and Business Change Public Courses via Live Streaming

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Only one discount can be applied at any one time

## Presenter



Adrian Reed is a true advocate of the analysis profession. He is a Principal Consultant and Director at Blackmetric Business Solutions where he provides Business Analysis consultancy and training solutions to a range of clients in varying industries. Adrian is Immediate Past President of the UK chapter of the IIBA and he speaks internationally on topics relating to Business Analysis and business change.

*"Gave me lots to think about - particularly to my company. Good clear speaker, excellent facilitation."*

Malcolm Riseley, Requirements Manager,  
Sellafield UK

*"Lively, knowledgeable, articulate - absolutely excellent"*

Steve Coe, Requirements & Testing  
Manager, Department of Work & Pensions

*"One of the best!"*

Helena Bone, Senior Business Analyst,  
HBOS General Insurance

## Overview

Requirements is the most crucial part of development. Requirements today is about uncovering the real needs of the problem space, understanding the needs of the people who use your solution, recognising the environment for the solution, then, in a timely manner, delivering requirements that are concise, clear and testable. This workshop, presented by a real business analyst, gives you a thorough and well-established process for uncovering the real requirements, testing them for correctness, and ensuring that all the requirements have been discovered. The process is used with variations by both agile and traditional projects. It starts with the business, for it is only within the business that you discover the real needs. When you know the real needs, it becomes possible to determine what will best serve those needs, and to write the requirements or stories to build the right solution.

## Learning Objectives

- Determine the real needs of your stakeholders
- Understand the role of the business analyst in agile projects
- Write agile stories that are more effective and accurate
- Write requirements that are complete, traceable, and testable
- Learn diverse elicitation techniques to uncover the real requirements
- Use the Volere Knowledge Model to ensure you have all the needed information, and nothing that is not needed
- Understand the need for, and how to write, functional and non-functional requirements.
- Precisely define the scope of the problem
- Discover all the stakeholders and keep them involved
- Uncover the essence of the business
- Use prototypes, sketches and storyboards to discover hidden needs
- Use state of the art requirements techniques
- Get the requirements quickly, and incrementally
- Write the right requirements and stories

## Course Outline

### The Requirements Process

- An overview of the process for gathering and verifying requirements
- A discussion on how this process can fit into your organization
- A demonstration of how requirements fit into agile processes

### Project Blast-Off

- Scope, Stakeholder, and Goals; the holy trinity of requirements gathering
- How to define a precise scope for the business area to be studied
- How to "Step Back" for a better look at the business
- How to use stakeholder maps to find all the stakeholders
- How to ensure the project's goal is measurable and testable

### Trawling for Requirements

- How to use business events and business use cases to find the right business
- How to use apprenticeship, workshops and other elicitation techniques
- Using the Brown Cow model to see the work more clearly
- How to be more innovative with requirements

### Functional Requirements

- Use case scenarios, and how they are used to find the right product to build
- Determining the system boundary
- How to find the requirements, and write them clearly
- How to write requirements, not solutions
- How to handle requirements for agile projects

### Non-functional Requirements

- The importance of non-functional requirements
- Usability, look and feel, performance, security and other non-functional requirements.
- How to find the non-functional qualities the product must have

## Audience

If you want to be involved in delivering the right systems—the ones that get used, then this course is for you. Typical delegates include:

- Business Analyst
- Agile Team Members
- Systems Analyst
- Requirements Manager
- Requirements Engineer
- Project Leader / Manager
- Product or Program manager
- Product Owner
- Consultant

## Special Features

- Your instructor is not an "announcer". He is a practicing business analyst who also happens to be an excellent instructor.
- The course is written to show real-world situations and provide real-world solutions. You will be able to relate your own work situation to the course.
- You can discuss your own requirements issues with your instructor.
- You learn that requirements come from understanding the business and its internal processes, and how the business interacts with its external customers.
- The course provides a realistic framework for requirements discovery, not a strict methodology. The framework provides the freedom and encouragement to adapt to your own organizational needs.
- The techniques are applicable regardless of your development method – agile, traditional or anything else.
- The Brown Cow model to give you different and beneficial ways to look at the problem.
- The Volere requirements knowledge model which ensures you collect the right information, and the right amount of it.
- You receive the Volere Requirements Specification Template (downloaded over 20,000 times) with advice on how to make this your own template.
- A free copy of Suzanne and James Robertson's best-selling book, Mastering the Requirements Process – 3rd Edition, Getting Requirements Right.

In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Pre-Project Problem Analysis:

## Practical Techniques for Early Business Analysis Engagement

Adrian Reed

Via Live Streaming only

### Overview

Increasingly, organisations are operating in fast-moving and often volatile business environments. Project teams need to respond quickly to tricky and often ill-defined problem situations, enabling the organisation to adapt and meet the ongoing demands of its customers and environment. In these contexts the pre-project stage is crucial: For our change initiatives to be successful, we need to truly understand the problem we are trying to solve. By understanding the problem we can ensure that any future project activity is built upon a firm foundation, and is heading towards a set of goals that are concise, precise and have been agreed upon.

This practical, hands-on workshop, focusses on the problem-solving skills that practitioners need in order to collaboratively explore and describe problems, and to co-create potential options for improvement. These skills are extremely valuable pre-project and early in the project lifecycle, and this course will be of interest to business analysts and other practitioners who help analyse, assess and solve tricky organisational problems.

### Learning Objectives

- Understand what pre-project problem analysis is, and its significance in the analysis and project lifecycle
- Understand the importance of stakeholder identification, categorisation and management
- Be able to use a range of problem analysis techniques to understand problem situations
- Be able to define a problem using a 'problem statement' and understand how successful outcomes can be articulated with Critical Success Factors and Key Performance Indicators
- Understand what a Business Use Case diagram is and understand its value in articulating scope during pre-project problem analysis
- Use a 1 page 'Project Concept Summary' template to bring together a potential project idea onto a page

### Course Outline

#### Introduction

- What is 'Problem Analysis?': A brief introduction to the course, and a discussion of why it is important that we analyse the problem before assuming or implementing a solution

#### Stakeholders in Problem Analysis

- Identifying Stakeholders: Tips for identifying likely stakeholders, along with suggestions of potential 'generic' stakeholder types that regularly warrant consideration
- Stakeholder Analysis: Categorisation of stakeholders
- Communication/Engagement Planning: Planning how to liaise with stakeholders in the early stages of problem investigation
- Power & Politics: Discussion of how power & politics can affect problem solving, and how it affects us as practitioners

#### Understanding the Problem Situation

- Elicitation Techniques: Overview of a range of techniques for eliciting information about a problem situation (Interviews, Workshops, Observation, Document Analysis)
- Categorising Problematic Situations: The difference between a 'difficulty' and a 'mess'
- Problem Analysis Techniques: Practical overview of:
  - 5 Whys
  - Fishbone Diagram
  - Multiple Cause Diagram
  - Causal Loops
- External Environment Analysis: Practical overview of STEEPLE technique for analysing the broader business or organisational context
- Perspectives: The importance of understanding that different stakeholders may perceive the problem situation differently
- Defining the Problem: Overview of a typical 'Problem Statement', along with a discussion of pros/cons and when it is most useful
- Defining Success: Critical Success Factors (CSFs), Key

### Audience

This course is well suited for anyone needing to understand how to undertake problem analysis early in the project lifecycle. It will be of particular interest to BA teams that are looking to 'left shift' and seek early engagement. Typical delegates include:

- Business Analysts
- Business Systems Analyst
- Consultants
- Requirements Manager
- Requirements Engineers
- Product Owner

Performance Indicators (KPIs), Balanced Business Scorecard

#### Defining Business Requirement Scope

- Roles & Goals: Defining the 'roles' that are involved in the problem space and their (business) goals
- Business Use Case Diagram: Introduction to Business Use Case diagrams as a way of scoping out the high level business requirements on a problem situation/potential project concept
- Requirement Types: Brief discussion of other requirement types that may emerge early in the project lifecycle

#### Identifying Areas for Change

- Gap Analysis: Comparing the output from the techniques in previous sections to identify areas where change is desirable
- Existing Solution Evaluation: Discussion on approaches for benchmarking/measuring existing solutions to determine where improvement may be needed

#### Generating Improvement Ideas

- Creative Thinking Techniques: Techniques for generating a range of potential ideas for improvement:
  - Brainstorming
  - Brainstorming Enhancers
- Types of Improvement Approach: Discussion of the breadth of improvement approaches that are generally available, which is often wider than initially anticipated. Discussion on feasibility: What might stop or inhibit an approach being acceptable

#### Bringing It All Together

- Project Concept Summary: Overview of a one page 'project concept summary' outlining the problem, likely requirement scope, and potential solutions
- Validation: How to ensure the 'project concept summary' is validated by key stakeholders
- Next steps: What next after the 'project concept summary'

17-18 March 2022

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Solutions where he provides Business Analysis consultancy and training solutions to a range of clients in varying industries. Adrian is Immediate Past President of the UK chapter of the IIBA and he speaks internationally on topics relating to Business Analysis and business change.

**IIBA** Endorsed Education  
Provider

This course, Pre-Project Problem Analysis: Practical Techniques for Early Business Analysis Engagement, is a course endorsed by the IIBA. The course is aligned with the BABOK v3. By attending this course you will earn 14 PDs (Professional Development hours) or 14 CDUs (Continuing Development Units).

# Successful Stakeholder Engagement:

## Practical Techniques to Build Connection and Rapport



Kathy Berkidge

Via Live Streaming only

25 March 2022

Fee: £695 + VAT

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#### Presenter



With a background in software development, Kathy is a BA professional with over 30 years of experience in I.T.

She provides business analysis and agile training and consulting services to many organisations in a variety of industries, as well as speaks internationally on topics relating to agile, mindset and business analysis. Kathy works with teams to improve teamwork, be more innovative and deliver better customer value. She is passionate about seeing people, teams and organisations thrive in an environment of collaboration and harmony.

## Overview

Successful projects rely on effective stakeholder engagement. We must understand various stakeholder types, perspectives and attitudes to ensure they are fully engaged and willing to work with us. It is critical to build rapport and trust, while avoiding conflict and misunderstanding. While there are many tools and techniques we can use to plan, analyse and monitor stakeholder engagement, we must also analyse the mindset of our stakeholders – a deeper level of analysis – to understand how they might view various situations, and how we can best respond to them.

This practical, interactive workshop explores tools and techniques that enable greater understanding and connection with our stakeholders including the 'Stakeholder Engagement Canvas'. The canvas is a new tool that examines our stakeholders' needs and mindset in depth to enable better planning and monitoring of the engagement process. Kathy will present key principles of effective stakeholder engagement that allow a more insightful level of stakeholder analysis, along with how we can be more mindful working with them.

## Learning Objectives

- Understand the stakeholder engagement process and how to plan for successful stakeholder engagement.
- Identify different stakeholder types and segments.
- Learn various techniques to categorise and analyse stakeholders.
- Understand the importance of remaining mindful when working with stakeholders.
- Use the 'Stakeholder Engagement Canvas' to perform stakeholder analysis.
- Understand communication styles and how to communicate more effectively.
- Apply methods to increase connection and build rapport with stakeholders.

## Course Outline

### Stakeholders and engagement principles

- Defining stakeholders and stakeholder types
- The stakeholder engagement process
- Stakeholder identification
- Classifying and categorising stakeholders
- Stakeholder engagement planning

### Stakeholder analysis

- Common stakeholder management tools:
  - Mendelow matrix
  - RACI
- Using personas
- Empathy mapping
- Introducing the 'Stakeholder Engagement Canvas'

### Creating connection and rapport

- Barriers to stakeholder engagement
- Building rapport and trust
- The importance of mindfulness and empathy
- Communication styles and effective communication techniques
- Mindful listening and remaining present

### Plan and practice

- Using the 'Stakeholder Engagement Canvas' to plan successful stakeholder engagement
- Monitoring and reviewing stakeholder engagement
- Managing conflict
- Practices to maintain connection and awareness

## Audience

This course is for anyone who works with stakeholders, as well as anyone involved in organisational, project, product or business change. Typical participants include:

- Business Analysts
- Project / Program Managers
- Scrum Masters / Iteration Managers
- Product Owners / Product Managers
- Delivery Leads
- Agile Coaches
- Consultants

**In-House Training:** This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Working with Business Processes: Process Change in Agile Timeframes

Alec Sharp

Via Live Streaming only

## Overview

Delegates to this course will first learn exactly what a “business process” is, and techniques to effectively convey the concept to others. The key factors to consider when working with processes and how to avoid the most common pitfalls are also introduced. On this foundation, the course then shows how to discover and scope a business process, clarify its context, assess it and establish improvement objectives, apply various approaches for modelling it to an appropriate level of detail, re-assess it in light of findings from modelling, and employ a structured approach to designing a new process. A modular, “feature-based” approach to process design is described that delivers significant change in Agile timeframes, often in as little as a few days. Everything is backed up with real-world examples, repeatable guidelines, workshop exercises, and group discussions.

## Learning Objectives

- Identify a “true” business process, and specify its boundaries and goals
- Describe the key factors that differentiate process and functional approaches
- Employ a variety of techniques to keep stakeholders involved, and promote “process orientation”
- Establish the scope, issues, and goals for a business process
- Model process workflow at progressive levels of detail using Swimlane Diagrams
- Stop process modeling at the appropriate point, and move on to other techniques or phases
- Conduct a structured assessment of a business process
- Transition to the design of a new process while avoiding common (and serious!) pitfalls

## Course Outline

### Business Processes – What They are and How to Discover Them

- Variations on what is meant by “process” and business processes
- Impacts of incorrectly identifying business processes
- Example – using this method in identifying “true” business processes
- Summary – six rules for business processes

### Working with Business Processes – Frameworks, Difficulties and Methods

- Two perspectives: functional (skills and resources) and business process (results and value)
- Reconciling the two – philosophies and methods for helping functions and processes get along
- Impact of business processes for application and process architects
- Introduction to process modeling techniques – decomposition, flow, and other techniques
- Progressive detail – working through the scope, concept, and specification levels
- Understanding the six enablers of a business process – a critical framework
- Methodology overview – a three-phase approach to completing a process-oriented project

### Discovering your Enterprise’s Business Processes

- Depicting “process areas” with an “overall process map” or “process landscape”
- Using “off the shelf” frameworks
- Contrasting top-down and bottom-up methods for process discovery
- When to use one-on-one interviews, when to use group sessions
- Beginning your analysis by clarifying terminology – a structured approach
- Process patterns and inter-process relationships that will emerge

Case study: hands-on practice with process discovery, team work and group debrief

### Framing the Process – Determining Scope, Issues, and Goals

- Separating the “what” from the “who and how”
- Defining “what” (the essence) and “who and how” (the current implementation)
- Case study – defining process scope
- Initial assessment of the “as-is” process and goal-setting for the “to-be” process
- Clarifying strategic direction – the process “differentiator”
- Issues and opportunities in applying the differentiator framework to a business process

Case study – process assessment, goals, and differentiator

### Workflow Models – the Essentials

- The philosophy behind workflow models (“swimlane diagrams”) – why we really do it
- The three most common errors in workflow modeling, and three keys to success
- Real examples of effective and ineffective process flow models
- Getting started – three questions to drive your initial swimlane diagram
- The three questions in practice – a real example
- Knowing when to stop – controlling the detail of your models
- Real example – what happens when detail gets out of control
- Three levels of workflow model (“handoff,” “service,” and “task”) with examples and guidelines
- A warning sign that you’ve crossed the line and aren’t modeling workflow anymore
- Making the transition to use cases, procedures, work instructions, and other job aids

### Workflow Models – the Finer Points

- Guidelines for actors – who or what can or cannot be an actor on a swimlane diagram
- Special cases – depicting systems or machines, holding areas, and other processes as actors
- Guidelines for steps – naming, multi-actor, and sequential, parallel, and collaborative steps

- A translation guide – correcting unclear or misleading step names
- Guidelines for flow – what that arrow really means, common errors, parallel vs. exclusive flows
- Ensuring clarity with parallel vs. collaborative steps
- Additional symbols, keeping it simple, transition to BPMN

### Techniques for Facilitating an As-Is workflow Modelling Session

- A reminder – why we really model the as-is process (to enable a holistic, fact-based assessment)
- The basics – participants, resources, and tools
- Facilitated session ground rules – specifics for “process” sessions
- How to actually finish a flow diagram – one process, case, scenario, and path at a time
- Recap – the three questions to drive your initial “handoff level” workflow model

Case study – hands on practice with developing the initial workflow model

- Five more questions to validate and extend the initial model

Case study – hands on practice with refining the initial workflow model

### Transition to Process Design

- Three common redesign problems, three techniques to avoid them
  - (1) Enabler-based assessment of the as-is process – a proven framework and its role in redesign
  - A decision point – five options for going forward
  - (2) Challenging process assumptions – a practical technique for generating creative improvements
  - (3) Uncovering unanticipated consequences – an enabler-based assessment of characteristics
  - Finalising to-be process characteristics in a “process requirements document”
- Case study – assessing the as-is and characterizing the to-be process
- The to-be workflow – from characteristics to workflow model
  - A reminder – factors to make the new process sustainable

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## Presenter



Alec Sharp’s expertise includes business analysis, data modelling, project recovery, facilitation, and, especially, business process change. In addition to his consulting practice, he conducts top-rated workshops and conference presentations on five continents a year. Alec is the author of “Workflow Modeling, second edition” which is widely used as a consulting guide and university text.

*“Excellent. Best seminar ever attended. Outstanding, engaging, knowledgeable, inspiring.”*

Stella Reynard, Business Analyst, Aveva

*“An outstanding, engaging lecturer. Very impressive.”*

Ian Wells, Business Analyst, European Bank for Reconstruction & Development - UK

*“Quite simply the best seminar I have been on. Used techniques I’ve never seen used before to engage the audience, keep us entertained, help us learn and understand and ... make us laugh. I was expecting great things and it delivered.”*

Susan Allan, Business Systems Manager, Wood Group PSN

## Audience

**Business Analysts** who are responsible for requirements specification or are involved in business process re-design or improvement.

**Business and Process Architects** responsible for establishing frameworks and direction for enterprise processes

**Business Managers and Content Experts** who will participate in process re-design or process-oriented application development efforts.

**Prerequisites:** There are no prerequisites in this course. However, Business Analysts who expect to do extensive process analysis will find that some understanding of information systems concepts may be helpful in establishing context.

**In-House Training:** This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Business Architecture Best Practices: Practical Methods to Enable Business Change

Roger Burlton

Via Live Streaming only

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2-4 November 2022

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### Presenter



Roger T Burlton is the co-founder of BPTrends Associates, founder of Process Renewal Group and the author of 'Business Process Management: Profiting from Process'. He is considered an industry leader in the introduction of innovative approaches for organizational change. To date, he has conducted over seven hundred seminars and has presented to over fifty thousand professionals. His seminars have been translated for diverse audiences around the globe.

*"The course content was incredibly rich and useful and the speaker was engaging and extremely knowledgeable."*

Dave Magson, Business Architect,  
Department for Work and Pensions

*"Brilliant content – took so much away that I will use, very engaging, clear and logical with useful examples. Beyond expectations, the best course I have been on."*

Kay Butterworth, Business Architect,  
Department for Work and Pensions

*"Great real life experiences that brought the subject to life."*

Sheldon Bedwell, Senior Manager  
Business Architect, Carnival UK Group

## Overview

Quick and effective business change means that Business Architects must know the interconnections among business elements so that as the business model is updated, they can identify what's impacted and design with deliberate integrity and reuse in mind. A solid business architecture that assures the avoidance of redundancy, maximizes the sharing of capabilities and makes best use of supporting resources, is essential. With a sound architectural foundation, business-wide transformation, digitalization and continuous optimization can be accomplished and change efforts can progress smoothly. This is a highly participative workshop and will delve into all aspects of Business Architecture, as defined by the **Business Architecture Guild's BIZBOK** along with other established and new methods, leaving the participant with the skills required to make Business Architecture disciplined, repeatable and yet practical.

## Learning Objectives

- Understand what a straight forward and useful Business Architecture looks like
- Learn how to implement the concepts and practices of the **BIZBOK**
- Understand what outputs the business produces and how it delivers them to create value for its customers and other stakeholders (**Business Model**)
- Define how the business is organized and how it operates in the context of broader business ecosystems (**Operating Model**)
- Align what investments in resources the business should make (**Resources Model**)
- Learn to build information, capability and process architecture models and interconnect them through a business performance lens
- Be able to use the architecture to accelerate change projects and deliver breakthrough digital technologies

## Course Outline

### Why Business Architecture?

- Enable Transformation, Disruption and need for Innovation
- Requirement for Business Agility

### Business Architecture and Related Disciplines

- Zachman, TOGAF
- BIZBOK
- The Business Architecture Landscape

Workshop: What is your Architecture maturity and readiness?

### Architecture Scoping and Value Chain Identification

- Whole company or one Value Chain?
- Intercompany Value Chains?

Workshop: What Value Chains do you have and what's in scope for Business Architecture?

### Business Strategy Understanding

- Business Ecosystem Analysis: Uncertainties, Scenarios, Opportunities and Threats
- Stakeholder Context Model: Item exchanges
- Stakeholder Value Proposition: Expectations and Experience Assessment, KPIs and Objectives
- Business Motivation Model: Ends before Means

Workshop: Who are your stakeholders and what is of value to them?

### Framing the Strategy for Business Architecture Consumption

- Building your 'North Star': Goals and Objectives
- Establishing Strategic Capabilities and Requirements
- Choosing your Architecture scenario and plan of attack

Workshop: What are the Critical Capabilities and Requirements for the Business Architecture?

### Business Object/Concept Modeling: The Basis for Information, Capability and Process Architecture Models

- Business Objects
- Concept Model
- Business Vocabulary
- Deriving the Information Model

Workshop: What is your Business Object/Concept Model?

## Audience

This course will be of benefit to professionals and managers of all types involved with planning and designing organizational change and building business capability to adapt and innovate continuously.

- Business Architects
- Business Analysts
- Process Architects and Analysts
- Enterprise Architects
- Change Agents
- Strategic Planners
- Business Managers
- Anyone preparing for Business Architecture Certification

**In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.**

### Business Capabilities

- What is a Business Capability?
- BIZBOK view
- Capability Modeling
- Assuring unique non-redundant Capabilities
- The Burlton Capability Hexagon

Workshop: What are your Business Capabilities?

### Business Process Architecture: Value Streams: and an End-to-End view

- Value Streams and Business Processes: BIZBOK view
- Stakeholder Journeys and Lifecycle
- The Skeleton Process Architecture
- Value Streams and Value Stream Stages
- Deriving a value-focused Process Architecture
- Using Business/Industry Frameworks
- Examples of real company Architectures

Workshop: What are your Value Streams and End-to-End Processes?

### Alignment to Decisions and Business Rules

- Policies, Decisions and Business Rules and their architectural alignment
- The Operational Decision Questions Hierarchy

Workshop: Articulating critical Decisions and Business Rules?

### Business Performance Models

- Characteristics of Good Performance Indicators
- The new Balanced Scorecard
- Lagging and Leading Indicators
- Measurement Traceability to Strategic Objectives
- Measuring Operating Processes

Workshop: What is your Performance Scorecard?

### Alignment of Business Architecture with IT Enablement

- Services, Microservices and APIs
- BPMS (process engines)
- BRMS (rules engines)
- Business Activity Monitoring and Analytics (measurement)
- ERP

### Alignment with Human Competencies

- Competence
- Motivation, Behavior and Culture
- Structural and Cultural Maturity

### Prioritization of Change: Heat Maps

- Evaluating Process, Information and Capability Value and Performance Gaps
- Heat Map Grids
- Pain – Gain Analysis for assessment of Capabilities, information and Processes
- The Burlton Capability Framework for Resource Change Planning
- Defining Change Priorities

Workshop: What are your Business Process and Capability Priorities?

### Leveraging the Architecture into a Business Change Portfolio

- Using the Business Architecture Models in Business Change
- Cross Mapping Capabilities and Processes: Impact Analysis
- Defining the Portfolio of Process and Capability Changes
- Scoping a Change Project
- Building the Roadmap

Workshop: Which Processes and Capabilities are in scope for projects.

### Sustaining the Architecture through Governance

- Governance Maturity Checklist
- Architecture Sustainment – CoE Support

### Summary

- Lessons Learned



IIBA Endorsed Education Provider

This course, Business Architecture, is a course endorsed by the IIBA and registered under BPTrends Associates, an IIBA Endorsed Educational Provider. The course is aligned with the BABOK v2.0. Attendees will earn 24 PDUs (Professional Development) hours or 24 CDUs (Continuing Development Units) for attending this course.

# Digital Process Analysis and Design: Optimising the Customer Experience through Digital Innovation

Roger Burlton

Via Live Streaming only

## Overview

This course will address what degree of process work is required for today's organizations striving to establish digital business capabilities to optimize the end to end customer journey and leverage resources in the most effective manner. It will emphasize the customer aspects of the challenge given that customers are no longer recipients of what we do but are key actors with us in doing it. They are a part of newly conceived business processes in partnership with us. We have to design shared processes with them in mind. This course deals with the development of digitalized processes and services. It does not address digital strategies or digital architecture directly.

## Learning Objectives

- Build a customer journey and find moments of truth
- Segment customer types and define personas
- Understand existing customer bottlenecks and constraints and opportunities to remove them
- Identify potentially useful digital technologies
- Design end to end value stream processes that start and end with the customer process
- Reconceptualise the customer interaction with our processes
- Recognize genuine design constraints from other outside stakeholders
- Deal with behavioral and cultural change
- Define the change program

## Course Outline

### The Digital Challenge

- Drivers and Trends of Digitalization
- Digital Strategy
- Digital vs Digitalization
- Some definitions and truths

Examples: Uber, AirBnB and other usual suspects

### Process Methodology Response

- Traditional approaches
- Process Analysis and Design for the digital world
- The Concept Model as home base
- The Burlton Capability Hexagon

Case study Workshop: Developing your concept model

### Understand: Stakeholders, Vision and Scope

- Value Chain and the scope of your included processes
- External Stakeholders classification
- Segmentation and Personalization
- The use of Personas
- Customer needs and value proposition
- Customer experience
- The North Star for your design

Example: Ordering of customized confectionery

Case study Workshop: Analyzing the Stakeholders

Case study Workshop: Defining the North Star

### Analysis: Modelling and Analyzing the Process

- How much current analysis and modeling is needed
- Analysis and Modeling options
- Dealing with the data

Case study Workshop: Analysing the current capability

### Customer Process Experience Baseline

- A typical Customer Experience pattern
- Finding Moments of Truth
- The Customer Journey map
- Attributes of a great customer experience

Case study Workshop: Developing the Customer Journey

### Digital Inspirations

- Digital Solution Patterns and Benchmarks
- Omni-Channel characteristics
- Mobile characteristics
- RPA (Robotic Process Automation) characteristics
- AI and Cognitive characteristics
- Automating Decisions and Business Rules
- Additional Technology potential

Example: Mortgage Decisioning Redesign

### Design the Process and Capabilities

- Small Change vs Substantive change
- Design principles

- Creative workshops to leverage the inspiration
- The new digital process
- Designing measurement and feedback
- Detailed mapping
- The required capabilities and resources

Example: Justice System peer to peer case resolution

Case study Workshop: Designing the digitalized process workflow

Case study Workshop: Validating with the process scenarios

Case study Workshop: Defining the digitalized process capabilities and resources

### Culture and Behavioural Change

- Developing the competencies: the core skills needed
- Specifying the group behaviour as a set of requirements
- Overcoming internal stakeholder concerns
- Communication: what to say and when
- Sustaining the journey: measuring, monitoring and coaching

Example: Board of Directors Digitalization

### Implementation Options

- Digital Base Capabilities
- The role of iPMS, Decision and Rules engines
- Standards and Protocols
- Technical Foundation

24-25 November 2022

Fee: £995 + VAT

Group Booking & Multiple Seminar Discounts Available

## Business Analysis and Business Change Public Courses via Live Streaming

Mastering the Requirements Process  
2-4 March 2022

Pre-Project Problem Analysis  
17-18 March 2022  
6-7 October 2022

Business Architecture Best Practices  
16-18 March 2022  
2-4 November 2022

Successful Stakeholder Engagement:  
Practical Techniques to Build Connection  
and Rapport  
25 March 2022

Digital Process Analysis and Design  
24-25 November 2022

Working with Business Processes  
8-10 November 2022 (3.5 hours x 3 days)

## Multiple Booking Discount

Attend more than one of our public course and you will be entitled to the following discounts:

2nd course	10%
3rd course	15%
4th course	20%
5th+course	25%

## Group Booking Discount

2-3 Delegates	10%
4-5 Delegates	20%
6+ Delegates	25%

Only one discount can be applied at any one time

## Presenter

Roger T Burlton is the co-founder of BPTrends Associates,



founder of Process Renewal Group and the author of 'Business Process Management: Profiting

from Process'. He is considered an industry leader in the introduction of innovative approaches for organizational change. To date, he has conducted over seven hundred seminars and has presented to over fifty thousand professionals. His seminars have been translated for diverse audiences around the globe.

## Audience

- Process Analysts and Designers
- Business Analysts
- Business Leaders
- Agilists
- Business Architects
- Anyone else concerned with designing and sustaining an agile business

This class will be of benefit to professionals and managers of all types involved with designing and developing digitalized business processes.

## Special Features

- Modernizes process analysis and design work to optimize digital processes
- Deals with customer-in-command processes and business solutions: Journeys and Experiences
- Minimizes Process Analysis for Digital Process to only enough of what you really need?
- Brings a wealth of opportunities for Process Innovation
- Features several examples of digitalized processes
- Involves a series of hands on progressive exercises in designing a digital process solution

**In-House Training:** This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Zachman Enterprise Architecture Certification: Modelling Workshop (11:00 – 17:00)

John Zachman and Cort Coghill

Via Live Streaming only

8-11 March 2022 11:00 – 17:00 GMT  
13-16 September 2022 11:00 – 17:00  
BST

Fee: £1,595 + VAT

This fee includes Level 1 and Level 2 Certification  
Group Booking & Multiple Seminar Discounts Available

## Enterprise Architecture Public Courses via Live Streaming

Zachman Enterprise Architecture Certification  
8-11 March 2022  
13-16 September 2022

### Multiple Booking Discount

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2nd course	10%
3rd course	15%
4th course	20%
5th+course	25%

### Group Booking Discount

2-3 Delegates	10%
4-5 Delegates	20%
6+ Delegates	25%

Only one discount can be applied at any one time

## Presenters



John Zachman is the originator of the "Framework for Enterprise Architecture" which has received broad acceptance around the world as an integrative framework, or "periodic table" of descriptive representations for Enterprises.



Cort Coghill, is a Director of FEAC Education Operations. He is also one of the very few Zachman Certified - Enterprise Architect Educators (Level 3) in the world, setting Cort apart as one of the foremost experts on the Zachman Framework, in both education and project work.

*"He designed the Framework. Nobody can deliver the same quality of lecture as John"*

Kitty Hung, Senior Business Analyst,  
Metropolitan Police Service

*"Finally it all comes together. Great examples and stories. Continue with passion – it's really good.."*

Willem van den Brink, Team Manager  
Enterprise Architecture, APG Asset  
Management

*"Fun, informative and eye-opening. Very educational, friendly and helpful lecturers"*

Shiraz Adam, Application &  
Intelligence Architect, Next Group PLC

## Overview

Enterprise Architecture is fundamental for enabling an enterprise to assimilate internal and external changes in response to the dynamics and uncertainties of the information age environment. Enterprise architecture not only constitutes a baseline for managing change but also provides the mechanism by which the reality of the enterprise and its systems can be aligned with management intentions. This updated workshop is based on the Zachman Framework V3.0, and incorporates actual modelling practice. **The workshop consists of 6-8 hours of guided self-learning through a series of videos and assignments and culminates in a three-day instructor-led workshop.** The workshop is based on actual Enterprise experience and is designed to give the participants hands-on experience creating both "Primitive" (architecture) models as well as "Composite" (implementation) models. **The workshop prepares delegates for both levels of the Zachman Certified-Enterprise Architect program: Zachman Certified™ – Enterprise Architect Associate (Level1) and Zachman Certified™ – Enterprise Architect Professional (Level 2).** The certification fee both Level 1 & Level 2 are included in the registration fee. The "Zachman Certified - Enterprise Architect" examination is a two hour, online examination that upon passing, results in the award of Enterprise Architect Associate (Level 1) Certification. Delegates will then subsequently be awarded the Enterprise Architect Associate (Level 2) Certification upon submitting a case study. If you want to understand the "Complexity & Contradiction" in Enterprise Architecture and are struggling to manage a non-adaptive enterprise and dysfunctional systems, this will be an essential experience! Learn how an ontology allows you to make use of multiple frameworks (e.g. architecture, sales, software development, innovation, etc.) in an enterprise.

## Learning Objectives

- Identify the sense of urgency for aggressively pursuing Enterprise Architecture
- Identify a comprehensive definition (description) of Enterprise Architecture
- Differentiate between Enterprise Architecture from Systems Implementation
- Differentiate an Ontology from Methodology
- Utilizing Enterprise Architecture for operational decision making
- Identify the elements for creating a strategy for reducing "time-to-market" for systems implementations to virtually zero
- Create a strategy for integration beyond jurisdiction (Interoperability)
- Identify architectural principles for meeting enterprise requirements
- Develop traceability across the artifacts for impact analysis and change management
- Employ primitive problem patterns to address complex issues facing any enterprise.

## Course Outline

### Setting the Context for Enterprise Architecture (EA)

- The contribution of IT People to an Information Age Enterprise
- Global Environment: Escalating Complexity and Escalating Change
- Applying the Concept of Mass-Customization to the Enterprise

### Introduction to Enterprise Architecture (The Zachman Framework V3.0)

The Zachman Framework is perhaps the most referenced in the industry. This session provides participants with a unique opportunity to learn first-hand about its concept and utility, directly from the man who developed it. Discussions include version 3.0 of the framework and its evolution.

- Definition of Enterprise Architecture
- The Zachman Framework – Architecture Is Architecture Is Architecture
- Ontologies Versus Methodologies

**Workshop: Row 1 Models: Defining enterprise scope and developing the enterprise lexicon**

**Workshop: Row 2: Defining business concepts and business value**

**Workshop: Row 3: Developing enterprise logic to support technology and implementation decisions.**

### Enterprise Engineering

- Models from My Bookshelf – 75 years of experience (Implementation, Composite Models)
- The Elegance of Primitives (Their essential contribution)
- Enterprise Entropy – Removing Internal Cost of Operations
- Enterprise Engineering Design Objectives
- Alignment, Integration, Reusability, Flexibility, Interoperability
- Reducing Cycle Time from Order to Implementations (Mass-Customization)
- Implementation Practicalities
- "Federated Architecture" (Integrating Beyond Jurisdictional Boundaries)
- Migrating from Legacy to Architecture

**Workshop: Using Primitives to create horizontal Integration and Vertical Transformation**

**Case Study: Application Rationalization Using Primitives**

**Workshop: Identify Framework Cells for Given Enterprise Problem Definitions**

**Workshop: Using Primitives to solve for enterprise entropy**

## Audience

- CIOs
- Enterprise Architects
- Chief Architects
- Business Architects
- IT Architects
- Process Architects
- Application Architects
- Solution Architects
- Software Architects
- Technology Architects
- Data Architects
- Business Analysts
- System Analysts
- IT Strategists
- Business Strategists
- Strategic Planners
- Program Managers
- Information Systems Management
- Business Process Managers
- Data, Applications, Technology Management
- Consultants

**In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.**

# Creating Data Products in a Data Mesh, Data Lake or Lakehouse for Use in Analytics

Mike Ferguson

Via Live Streaming only

## Overview

In most companies today, analytical systems are centralised and siloed with data integration occurring in each system and inconsistent data being made available across all of them. To address these issues, new data architectures like Data Mesh and, Data Lakehouse have emerged.

This 2-day class examines the strengths, and weaknesses of data lakes, data mesh and data lakehouses and at how decentralised teams can create trusted, compliant, reusable, data products for others to consume and analyse to drive value.

## Learning Objectives

- Strengths and weaknesses of centralised data architectures used in analytics
- What is a Data Mesh, a Data Lake and a Data Lakehouse? What benefits do they offer?
- The critical importance of a data catalog, business glossary and data fabric software
- An Implementation methodology to rapidly produce ready-made, trusted, reusable data products using DataOps pipelines
- How to govern data quality, privacy, access security, versioning, and lifecycle of data products in a shared analytical environment

## Course Outline

### What Is Data Mesh, Data Lake And A Data Lakehouse? Why Use Them?

- Data complexity and the growth in data sources
- Centralised analytical data architectures and their pros & cons
- Introducing Data Mesh, its principles and how it works
- What is a data product?
- Is federated data governance possible?
- Decentralised development of data products
- Pros and cons of Data Mesh and how it impacts your current IT organisation
- Introducing Data Lakehouse and its pros and cons
- Requirements to implement a Data Mesh or Data Lakehouse
- Key technologies needed: Data Fabric, Data Catalogs, Data Marketplace
- Vendor software offerings in the market

### Methodologies For Creating Data Products

- Creating a program office
- Decentralised development of data products, in a Data Mesh, Data Lake or Lakehouse
- The special and critical case of master data
- A best practice step-by-step methodology for building reusable data products
- Applying DataOps development practices to data product development?

### Using A Business Glossary To Define Data Products

- Why is a common vocabulary relevant?
- Data catalogs and the business glossary

- Vendors in the Data Catalog market
- Roles, responsibilities, and processes needed to manage a business glossary
- Jumpstarting a business glossary with a data concept model
- Defining semantically linked data products using glossary terms

### Standardising Development And Operations In A Data Mesh, Data Lake Or Lakehouse

- The importance of a program office
- Implementing Data Mesh on a single cloud Versus a hybrid multi-cloud environment
- Implementing a Data Lake or Lakehouse
- Standardising the domain implementation process - ingest, process, persist, serve
- Selecting Data fabric software for building data products
- Step-by-step data product development
  - Data source registration
  - Automated data discovery, profiling, sensitive data detection, governance classification, lineage extraction and cataloguing
  - Data ingestion
  - Global and domain policy creation for federated governance of classified data
  - Data product pipeline development
  - Data product publishing for consumption

### Building DataOps Pipelines To Create Multi-Purpose Data Products

- Designing component based DataOps pipelines to produce data products
- Using CI/CD to accelerate development, testing and deployment
- Designing in sensitive data protection
- Processing streaming data and unstructured data in a pipeline

- Generating data pipelines using Data Warehouse Automation tools
- The Enterprise Data Marketplace - enabling consumers to shop for data products
- Serving up trusted data products for use in multiple analytical systems and in MDM

### Implementing Federated Data Governance To Produce And Use Compliant Data Products

- Implementing federated data governance
- Across a hybrid, multi-cloud distributed data landscape
- Understanding compliance obligations
- Types, global Vs local data governance policies when creating a Data Mesh, a Data Lake or Data Lakehouse
- Using the data catalog for automated data profiling, quality scoring and sensitive data type classification
- Defining and attaching policies to classified data in a data catalog
- Protecting sensitive data in data product development for data privacy compliance
- Governing data product version management
- Creating sharable master data products and reference data products for MDM and RDM
- Governing consumer access to data products containing sensitive data
- Prevent accidental oversharing of sensitive data products using DLP
- Governing data retention of data products in-line with compliance and legal holds
- Monitoring and data stewarding to ensure policy enforcement
- Technologies to help govern data across a distributed data landscape

3-4 March 2022

**Live Streaming Fee: £995 + VAT**  
Group Booking & Multiple Seminar Discounts Available

## Enterprise Data Courses via Live Streaming

**Creating Data Products in a Data Mesh, Data Lake or Lakehouse for Use in Analytics**  
3-4 March 2022

**Information Management Fundamentals**  
29-31 March 2022 & 28-30 September 2022

**Practical Steps for Developing a Business Aligned Data Strategy**  
24-25 October 2022

**Data Modelling Essentials**  
22-23 March 2022 & 26-27 September 2022

**Data Governance: a Practical Guide**  
26-27 April 2022 & 1-2 November 2022

**Ten Steps to Quality Data**  
15-17 June 2022 & 30 November - 2 December 2022

**Business-Oriented Data Modelling Masterclass**  
13-17 June 2022 (3.5 hours x 5 days)  
5-9 December 2022 (3.5 hours x 5 days)

**Essentials of Data Warehouses, Lakes and BI in Digital Business**  
15-16 March 2022

**Practical Guidelines for Designing Modern Data Architectures**  
11 May 2022

**Data Minimization: The New Challenge for Data Architectures**  
7 June 2022

**The Complete Guide to Data Stewardship**  
8-9 September 2022

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2-3 Delegates	10%
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6+ Delegates	25%

Only one discount can be applied at any one time

## Presenter



Mike Ferguson is Managing Director of Intelligent Business Strategies Limited. As an independent analyst and consultant, he specialises in data management and analytics. With over 40 years of IT experience, Mike has consulted for dozens of companies. He has spoken at events all over the world and written numerous articles. Mike is Chairman of Big Data LDN - the fastest growing Big Data conference in Europe. Formerly he was a principal and co-founder of Codd and Date Europe Limited - the inventors of the Relational Model, a Chief Architect at Teradata on the Teradata DBMS, and European Managing Director of Database Associates. He teaches popular master classes on Big Data Fundamentals, Modern Data Architecture, Data Governance of a Distributed Data Landscape, Data Warehouse Modernisation, Migrating to a Cloud Data Warehouse, Master Data Management and Machine Learning and Advanced Analytics.

## Audience

- Chief Data Officers
- Data Architects
- Business Data Analysts
- Data Scientists
- IT ETL developers
- Data Governance Professionals

It assumes a basic understanding of data management, data architecture, data integration, data catalogs, data lakes and data governance.

**In-House Training:** This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Information Management Fundamentals

(with optional CDMP Professional Certification)

Chris Bradley

Via Live Streaming only

29-31 March 2022  
28-30 September 2022  
Live Streaming Fee: £1,295 + VAT  
Group Booking & Multiple Seminar Discounts Available

## Enterprise Data Courses via Live Streaming

Creating Data Products in a Data Mesh, Data Lake or Lakehouse for Use in Analytics  
3-4 March 2022

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**Group Booking Discount**  
2-3 Delegates 10%  
4-5 Delegates 20%  
6+ Delegates 25%  
Only one discount can be applied at any one time

## Presenter



Chris Bradley has spent 37 years in the forefront of the Information Management field, working for international organisations in Information Management Strategy, Data Governance, Data Quality, Information Assurance, Master Data Management, Metadata Management, Data Warehouse and Business Intelligence. Chris is Director of the E&P standards committee "DMBoard", an author of several books including "Data Modelling for The Business" and "DMBoK 2.0", a member of the Meta Data Professionals Organisation (MPO) a Fellow of BCS and DAMA CDMP, recipient of the DAMA Lifetime Achievement Award for Data Management Excellence, and author of significant parts of professional certifications. Chris is an acknowledged thought leader in Data Modelling and Data Governance, author of several papers and books including "Data Modelling for the Business".

"Clearly an enthusiast and master of his craft. Was quite a privilege to be tutored by him."

Mandy Mungall, Data Governance Manager, Phoenix Group

"Great content. Very comprehensive. Very knowledgeable and experience presenter."

Caroline Kempner, Head of Data Transformation, Department of Education

## Overview

This course provides a solid foundation of the different information disciplines across the complete Information Management spectrum. It also prepares delegates for the CDMP Data Management Fundamentals exams. By attending the course, delegates will get a firm grounding of the core Information Management concepts and illustrate their practical application with real examples of how they are applied. This course highlights the key curriculum items for students wishing to take the Industry professional certification the DAMA Certified Data Management Professional (CDMP). At the end of day 3 of the course, students will optionally have the opportunity to take the CDMP examination. Full details of the CDMP examinations, levels and costs are available at <https://cdmp.info/>.

## Learning Objectives

Level set understanding & terminology:

- Learn about the need for and the application of Information Management disciplines for different categories of challenges
- Explore an Information Management framework and understand how it aligns with other architecture frameworks
- Explore concepts such as lifecycle management, normalisation, dimensional modelling and data virtualisation and appreciate why they

are important

- Understand the difference between Master Data Management and Data Governance and how to effectively apply them

Pragmatic Learning:

- Learn the different MDM architectures, their suitability for different needs and how best to implement Master Data Management approaches;
- Understand the different facets (dimensions) of Data Quality and

explore a workable Data Quality framework;

- Discover the major considerations for successful Data Governance and how it can be introduced in bite-sized pieces;
- Develop a set of usable techniques that can be applied to a range of information management challenges
- Learn the best practices for managing Enterprise Information needs
- Through practical examples, learn how to apply techniques in information architecture planning

## Course Outline

### Introduction to Data Management, DMBoK & overview of the CDMP certification

- What is Data Management, the drivers and issues if it goes wrong.
- What is the DMBoK, its intended purpose and audience of the DMBoK
- What are the disciplines of Data Management in the DMBoK
- Overview of the DAMA CDMP professional certification, what are the levels and how can you progress from one level to the next.

### Data Governance

- What is Data Governance.
- Why Data Governance is at the heart of successful Information Management.
- A typical Data Governance reference model.
- Data Governance roles & responsibilities.
- Organisation structures & type of Operating models to support Data Governance.
- Principles for Data Governance
- The role of the Data Governance Office (DGO) & its relationship with the PMO.
- How to get started with Data Governance.

### Data Quality Management

- The different facets of Data Quality, and why "Validity" is often confused with "Quality"
- The different Dimensions of Data Quality.
- The policies, procedures, metrics, technology and resources for ensuring Data Quality is measured and ultimately continually improved.
- A Data Quality reference model & how to apply it.
- Root cause analysis & 5-whys
- Capabilities & functionality of tools to support Data Quality management.
- Data Quality measures – guidelines for their creation & monitoring.

### Master & Reference Data Management

- The differences between Reference & Master Data.
- Identification and management of Master Data across the enterprise.
- 4 generic Master Data Management

architectures & their suitability in different cases.

- The different genres of Master Data Management solutions & pitfalls to avoid
- Different approaches for Master Data Management implementation
- The essential relationship between Master Data Management, Data Quality, and Data Governance
- The under looked but critical aspect of Reference Data Management

### Data Warehousing & BI Management

- What is a Data Warehouse & why are they used.
- Provision of Business Intelligence (BI) to the enterprise and the way data consumed by BI solutions and the resulting reports are managed. Particularly important if the data is replicated into a Data Warehouse.
- The major DW architectures (Inmon & Kimball)
- Introduction to Dimensional Data Modelling
- Overview of slowly changing dimensions and why they are required

### Data Modelling

- What are Data Models & why do we need them.
- What are the different types of Data models, their use and how they interrelate
- The development, and exploitation of data models, ranging from Enterprise, through Conceptual to Logical, Physical and Dimensional.
- Data modelling & Big Data - why data modelling is NOT just about Relational Database design
- The use of data models in Data Governance, and Data Quality Management.

### Metadata Management

- What is (and isn't) Metadata
- The provision of metadata repositories and the means of providing business user access and glossaries from these.
- Different types of Metadata & their uses
- Where is metadata found – the different sources of metadata

- What metadata do we need to manage.
- Metadata & Business Glossaries. What's the connection?

### Data Integration & Interoperability

- Data integration & Data interoperability – What's the difference?
- What are the business (and technology) issues that Data Integration is seeking to address?
- The different styles of Data Integration & Interoperability, their applicability and implications.
- The approaches, plans, considerations and guidelines for provision of Data Integration and access.
- Consideration of Data integration & interoperability approaches including: P2P, ETL, ELT, CDC, Hub & Spoke, Services Oriented Architecture (SOA), Data Virtualization, and an assessment of their suitability in different cases.

### Data Architecture & Data Lifecycle Management

- Types of Enterprise Architectures
- Proactive planning for the management of Data across its entire lifecycle from inception through, acquisition, provisioning, exploitation eventually to destruction.
- Considerations for Data across the value chain.
- Differences between Data Life cycle & a Systems Development LifeCycle (SDLC).

### Data Risk Management, Security, Privacy & Regulatory compliance

- Identification of threats and the adoption of defences to prevent unauthorized access, use or loss of data and particularly abuse of personal data.
- Exploration of threat categories, defence mechanisms & approaches, and implications of security & privacy breaches.

### Data Operations Management

- Core roles & considerations for data operations
- Obstacles to performance
- Good Data Operations practices

### Records & Content Management

- Why document & records management is important
- The records management lifecycle

## Audience

- Business Intelligence & Data Warehouse Developers & Architects
- Data Architects / Analysts
- Data Governance Managers
- Data Quality Managers
- Information Quality Practitioners
- Enterprise / Solution / Application / Information Architects
- Business Analysts
- Data Modellers
- Developers
- Project / Programme Managers
- IT Consultants

In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Practical Steps for Developing a Business Aligned Data Strategy

Chris Bradley

Via Live Streaming only

## Overview

With data being at the forefront of ALL business, the need for organisations to produce a wide-ranging Data Strategy is greater than ever, with both the increase in data regulations and the focus on data driven business outcomes. Yet, creating an enterprise wide data strategy and the governance to support it can be a formidable task. Often, it is difficult to know where to begin, and how best to prioritise efforts due to the large number of stakeholders and many competing initiatives. Data is at the heart of all organizations, almost like blood flowing through its arteries and veins. However, all too often Information is not professionally managed with the rigour and discipline that it demands. Nonetheless the implications of poorly managed information can be catastrophic, from legal and other regulatory sanctions ultimately to business collapse. Professor Joe Peppard (European School of Management, Cranfield) summed it up when he said: "The very existence of an organisation can be threatened by poor data". This 2-day course will provide concrete practical approaches to get you started on your Data Strategy, the typical contents of a Data Strategy, and the ways in which your supporting Data Governance framework can be organised.

## Learning Objectives

Level set understanding & terminology:

- Understand the key components that comprise a Data Strategy.
- Learn how to create a case for obtaining business buy-in for a data strategy.
- Understand the different types of Data Strategy and how to set the scope for it
- Learn how to create metrics for tracking the progress of your data strategy.
- Learn about the need for and the application of Data Asset management and Governance for

different categories of challenges

- Understand why a Business focused Data Governance framework must be aligned with your emerging data strategy.
- Appreciate the critical role that Data Governance plays in the core Information disciplines including Master Data Management and Data Quality management, and why this should be recognised in you Data Strategy.

Pragmatic Learning:

- Discover the different types of data strategies and which is most

appropriate and practical for you.

- Learn the different motivations for Data Asset management and Governance and how best to implement DG approaches
- Develop a set of usable techniques that can be applied to a range of information management challenges
- Learn the best practices for managing Enterprise Information needs
- Learn how to create an actionable road map to implement your data strategy.
- Understand how to identify the additional activities that are necessary to support the data strategy.

## Course Outline

### Components of a Data Strategy

- Where do I Start & What is the Scope of the Data Strategy?
- Building Blocks of a Data Strategy & Architecture

### Establishing Goals & Gaining Buy-In

- Motivation and Drivers
- Internal Factors
- External factors

### Data Management Maturity Assessment

- Data Management Maturity Assessment of the Disciplines of Data Management.
- Maturity for Organisational Enablers of Information Management
  - People
  - Executive Sponsorship/Policy
  - Technology
  - Compliance
  - Measurement
  - Data Management Processes / Practice

### Data Governance: Managing people, Organisation & Process

- Steering and Governance
  - The organisation structure for data governance
  - Charters or terms of reference for steering group(s) and the recommended constitution of each group.
  - Sponsorship.
- Roles & Responsibilities & People Capabilities
  - The essential Data Governance roles & activities.
  - Capabilities for core Data Management roles may be covered in a strategy.
- Data Management Process
  - A Data strategy should tie in the Change Management Process, and

Solutions Development Process with data touch points during the Systems Delivery Life Cycle (SDLC).

### Prioritising Business Critical Data and Capabilities

- Capabilities & Critical Data
  - Defining & managing the business-critical data and the people capabilities required for their management.
- Architecture
  - Building the appropriate technical architecture for the known and anticipated data needs, incorporating the need for flexibility and emerging trends.
  - Recommending the overall Technical Data Architecture for actioning the priority needs of the data strategy.
- Principles & Minimum Standards for Data
  - The principles for data management with rationale, implications minimum standards and metrics.

### Defining an Actionable Roadmap

- Success Metrics
  - From the Principles and Minimum standards, quantifiable success metrics can be developed. Examples will be used to illustrate this.
- Priorities & Quick Wins
  - Business initiatives and priorities that are used in the formulation of the roadmap and transition steps. In particular, the transition steps will be aligned with business initiatives.
- Roadmap, Dependencies and Transition Steps
  - Roadmap of the recommended activities to move the data initiative forward.
  - The overall roadmap must make it clear that there will be dependencies

with some activities, for example to undertake XYZ Master Data Management, a minimum viable Data Governance process and responsibilities must be established for area XYZ.

- The overall "Roadmap" is made up of Transition steps which can be bundled into Transition projects. The key consideration here is that the most successful transitions are where they are aligned with business initiatives and are not simply "data projects".
- Culture, Communication, Sustainability & Education
  - Development of a communication plan regarding the data strategy. The communication plan needs to have at least: Audience, Message, Method, Frequency.
  - Development of an education plan to raise Data Management competencies across the organisation & ensure the sustainability of the strategy.
- Funding Model
  - Recommendations on funding approach for Data initiatives.

### Additional Activities to Support the Strategy

- Identify Candidates for Roles
- Determine Data Owners & Stewards
- Assess Current Roles and Skills, Perform Gap Analysis
- Identify Training Required to Address Gaps
- Brief and Mentor Data Owners
- Define Data Subject Areas & Develop Conceptual Data Model
- Determine & Prioritise Business Area for Data Governance Rollout

24-25 October 2022

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Only one discount can be applied at any one time

### Presenter



Christopher Bradley has spent 39 years in the forefront of the Information Management field, working for International organisations in Information Management Strategy, Data Governance, Data Quality, Information Assurance, Master Data

Management, Metadata Management, Data Warehouse and Business Intelligence. Chris is an Information Strategist and a recognised thought leader. He advises clients including, Alinma Bank, American Express, ANZ, British Gas, Bank of England, BP, Celgene, Cigna Insurance, EDP, Emirates NBD, Enterprise Oil, ExxonMobil, GSK, HSBC, NAB, National Grid, Riyad Bank, SABB, SAMA, Saudi NIC, Saudi Aramco, Shell, Statoil, and TOTAL. He is VP of Professional Development for DAMA-International, the inaugural Fellow of DAMA CDMP, past president of DAMA UK. He is an author of the DMBOK 2 and author and examiner for professional certifications. In 2016 Chris received the lifetime achievement award from DAMA International for exceptional services to furthering Data Management education & to the International Data Management community. Chris is Director of the E&P standards committee "DMBoard", sits on several International Data Standards committees, teaches at several Master's Degree University Classes Internationally. He authored "Data Modelling for the Business", is a primary author of DMBOK 2.0, a member of the Meta Data Professionals Organisation (MPO) and a holder at "Fellow" level of CDMP and examiner for several professional certifications.

## Audience

- Data Strategists
- Data Governance Managers
- Data Quality Managers
- Data Analysts
- Data Architects
- MDM Managers
- Information Architects
- Business Intelligence & Data Warehouse Developers & Architects
- Enterprise Architects
- Solution Architects
- Application Architects
- Business Analysts
- Project / Programme Managers
- IT Consultants
- Information Quality Practitioners

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# Data Modelling Essentials

Chris Bradley

Via Live Streaming only

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## Presenter



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Information Management Strategy, Data Governance, Data Quality, Information Assurance, Master Data Management, Metadata Management, Data Warehouse and Business Intelligence. He advises clients including National Grid, EDP, BP, Enterprise Oil, Saudi Aramco, Shell, Statoil, TOTAL, Qatar Gas, Alba Leasing, Alinma Bank, American Express, ANZ, Bank of England, Celgene, Cigna Insurance, Emirates NBD, GSK, HSBC, NAB, SABB and Riyad Bank. Chris is Director of the E&P standards committee "DMBoard", an author of several books including "Data Modelling for The Business" and "DMBoK 2.0", a member of the Meta Data Professionals Organisation (MPO) a Fellow of BCS and DAMA CDMP, recipient of the DAMA Lifetime Achievement Award for Data Management Excellence, and author of significant parts of professional certifications. Chris is an acknowledged thought leader in Data Modelling and Data Governance, author of several papers and books including "Data Modelling for the Business".

## Overview

This 2-day course addresses the core data management topic of data modelling. It also prepares delegates for the CDMP Data Modelling Specialist exam. Often misunderstood and relegated to just the technical aspect of "database design", data modelling is one of the most important disciplines of data management. The course introduces delegates to data modelling, its purpose, the different types of models, how to construct and read a data model, and the wider use of data models beyond the traditional area of database design. It contains a wide-ranging clarification of data modelling concepts and terminology, together with techniques for producing usable data models. This course covers the CDMP Data Modelling specialist exam syllabus, practices with sample questions, and prepares candidates to take the DAMA CDMP specialist Data Modelling exam.

## Learning Objectives

This course explains the essential data modelling building blocks. It will help students to understand the differences between relational and dimensional models, and between the different levels of Conceptual, Logical and Physical models. On completion they will be able to:

- Describe the purpose of, Conceptual, Logical, and Physical data models
- Create a Conceptual and a Logical Data model
- Read and interpret a data model
- Understand different approaches for fact finding and how to apply normalisation techniques
- Understand how to validate a data model.

At the end of the course, delegates would have gained the following:

### Level Set Understanding & Terminology:

- Learn about the need for and application of Data Models
- See the areas where Data modelling adds value to Data

Management activities

- Understand the critical role of Data models in Master Data Management and Data Governance.

### Pragmatic Learning:

- Understand the difference between, Conceptual, Logical, Physical and Dimensional Data models
- Learn the best practices for developing Data models that can be read by humans
- Through practical examples, learn how to apply techniques in Data modelling

## Course Outline

### Data Modelling Basics

- What is Data Modelling and why does it matter
- What is the relationship between a data model and other types of models in the Enterprise Architecture
- What is a Conceptual Data model, why it's important and the pivotal role it plays in all architecture disciplines
- The major differences between Enterprise, Conceptual, Logical, Physical and Dimensional data models
- Data vs MetaData; what's the difference and why does it matter

### Data Model Components

- Data Modelling Basics; Entities, Attributes, Relationships
- How to identify Entities and Subtypes
- What are the differences between exclusive and non-exclusive subtypes?
- How do different data modelling notations represent subtypes?
- Basic standards that you can use right away
- Relationships: Cardinality & Optionality, Identifying, Non-identifying, recursive, and many-to-many
- How does cardinality and referential integrity lead to better data quality?
- Rules for handling Super types, subtypes, many to many and recursive relationships
- Keys: Primary, Natural, Surrogate, Alternate, Inverted, Foreign
- What are the alleged and actual benefits of surrogate keys?
- Attribute properties & attribute domains

### Creating Data Models

- How to get started with data models
- What core information is needed to create a data model, how this can be easily communicated to business people, and what visual constructs to use to get their attention
- Templates and guidelines for a step-by-step approach to implementing a high-level data model in your organization
- How to capture requirements for data models

- Approaches for creating a data model (Top Down, Bottom Up, Middle out) and when to use them.

### Using Data Models

- How to use high-level data models to communicate with business people to get the core information you require to build robust applications.
- The critical role played by Data Models in all disciplines of Information Management.
- Why Data Models are required for software package implementation
- Data models are not just for DBMS design, the other areas where models are critical.
- Maturity assessment to consider the way in which models are utilized in the enterprise and their integration in the System Development Life Cycle (SDLC).

### Dimensional Data Modelling Basics

- Facts and Dimensions, the basics of Dimensional models
- The key differences between Dimensional & Relational models
- The use of Dimensional data models in Business Intelligence & Data Warehousing
- Inmon vs Kimball Data Warehouse approaches
- How to cater for change in Dimensional models; the different types of slowly changing dimensions
- Aggregation and Summarisation – what you really need to know
- Columnar Database & Data warehouse – a forgotten treasure?

### Improving your Data Models

- Data Modelling Notations and tooling
- Normalisation: 1st, 2nd and 3rd normal form and a brief overview of other normal forms
- Ten steps for checking the quality of your data models
- Layout, presenting, and communicating a data model to non-modellers

## Audience

Practitioners who will need to read, consume or create data models to gain a better understanding of data during Information Management initiatives including:

- Business Intelligence & Data Warehouse Developers & Architects
- Data Modellers
- Data Architects
- Data Analysts
- Enterprise Architects
- Solution Architects
- Application Architects
- Information Architects
- Business Analysts
- Developers
- Database Administrators
- Project / Programme Managers
- IT Consultants
- Data Governance Managers
- Data Quality Managers
- Information Quality Practitioners

In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Data Governance: A Practical Guide

Nigel Turner

Via Live Streaming only

## Overview

Data Governance is rapidly becoming a 'must have' for any organisation wanting to manage its data, improve its quality, and control its security, access and uses. An average organisation's data is doubling every 15 months. Propelled by Big Data, Cloud Computing and other innovations, this rapid increase in volumes is compounded by the increasing speed and complexity with which data is created and stored. Organisations are also under increasing customer, regulatory and legal pressures to get data right. Data Governance is seen as a keystone in any solution to address these challenges. Many organisations have already recognised the potential value of Data Governance and have started governance initiatives. Though some have succeeded, many are faltering or have failed. Attending this 2-day seminar & workshop will ensure that you set off on the right path to successful and sustainable Data Governance. Key Topics include:

- What is Data Governance?
- Why is it increasingly a 'must have' for organisations
- Building the internal case for Data Governance
- How and where do you start to
- introduce Data Governance
- What are the main components of a successful Data Governance initiative
- How can you revitalise or recover a faltering Data Governance programme
- Creating the Data Governance roadmap
- What benefits can you expect and how you measure them
- Real life Data Governance success stories
- Your role in Data Governance - how to prepare yourself to win

Note that course will help you whether you are new to Data Governance or already working as part of an existing Data Governance team or programme.

## Learning Objectives

- Understand what Data Governance is, and what it isn't
- Assess the readiness of your organisation for Data Governance
- Be able to align a Data Governance proposal and initiative with your key organisational and / or departmental drivers
- Make the internal business case for investment in Data Governance
- Be able to identify and apply the six necessary components of a Data Governance framework
- Create a realistic plan of action for Data Governance
- Apply these practices to a fictional, but highly realistic organisation via a hands on case study
- Learn from best practices in other organisations who are already implementing Data Governance

## Course Outline

### Scene Setting & Introductions

- Scope & objectives of the course
- Course agenda & participant expectations

### Data Governance Context & Drivers

- The impact of good and bad data
- The Chamber of Data Horrors
- The overall impact of poor data
- Data and the digital business
- Drivers for change
- Why poor quality data persists

### Data Governance - An Industry Assessment

- The need for Data Governance
- The DAMA DMBOK wheel: the centrality of Data Governance
- Data Governance: definitions and focus
- Key principles of Data Governance
- The Data Governance paradox
- Why Data Governance can fail
- Key components of success: breaking down the barriers
- Assessing Data Governance maturity & readiness
- Introduction to the case study
- Case study exercise 1: Context and maturity assessment

### The Components of Successful Data Governance

- Tackling Data Governance barriers
- The Data Governance Framework overview
  - Vision & Strategy
  - Organisation & People
  - Processes & Workflows
  - Data Management & Measures
  - Culture & Communications
  - Tools & Technology

### Building the Data Governance Strategy & Framework

- Vision & Strategy
  - Creating a clear Data Governance vision
  - Understanding business drivers
  - Identifying key data challenges
  - Producing a Motivation Model
  - Building a business case & strategy for Data Governance
  - Case study exercise 2: Creating a Motivation Model
- Organisation & People
  - Organising for Data Governance
  - Data Ownership & Stewardship
  - Data Governance: getting organised
  - The five basic models of Data Governance
  - The pros & cons of each model
  - Deciding on the right model for any specific organisation
- Processes & Workflows
  - Designing Data Governance processes & workflows
  - Data Governance processes & workflows explained
- Data Management & Measures
  - How to identify key data
  - The importance of measurement in Data Governance
  - Defining 'fit for purpose' data
  - Establishing baselines and improvement targets
- Culture & Communications
  - The importance of selling Data Governance
  - Culture change & Data Governance
  - Key lessons for effective culture change
  - Communications strategies and plans
- Tools & Technology

- Data Governance toolset
- The role of IT

### Applying the Data Governance Framework

- Using the Data Governance Framework: maturity assessment & creating the vision
- Case study exercise 3: Maturity assessment
- Setting Data Governance goals and objectives
- The benefits of the Data Governance Framework
- Potential Data Governance Framework deliverables & activities

### Creating the Data Governance Roadmap & Data Improvement Plans

- Bringing it all together - the Data Governance Roadmap
- Hints & tips for developing Roadmaps
- Data Improvement Plans
- Issue logging
- Setting Data Improvement Plan priorities
- Case study exercise 4: Issue Logging, Data Improvement Plans, Roadmap

### Data Governance in Practice

- A summary of real life Data Governance success stories:
  - Telecommunications
  - Social Services
  - Utilities
  - Professional Certification Organisation
  - Manufacturing

### Summary & Conclusions

- Recap of course objectives
- Review of participant objectives
- Call to action

26-27 April 2022

1-2 November 2022

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## Presenter



Nigel Turner is Principal Information Management Consultant for EMEA at Global Data Strategy Ltd. and Vice-Chair of the Data

Management Association of the UK. Nigel has worked in Information Management for over 25 years, both as an in-house implementer of Information Management solutions at British Telecommunications plc and subsequently as an external consultant to more than 150 clients, including the Environment Agency, British Gas, HSBC, Intel US and others.

# Ten Steps to Quality Data

Danette McGilvray

Via Live Streaming only

15-17 June 2022  
30 November - 2 December 2022

Fee: £1,295 + VAT

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## Presenter



Danette McGilvray is an experienced trainer, consultant and author of Executing Data Quality Projects: Ten Steps to Quality Data and Trusted Information™. An internationally respected expert, her Ten Steps™ approach to information quality has been embraced as a proven method for creating, improving, and managing the quality of all types of data for any kind of organization. Her book is used as a textbook in university graduate programs.

*"Danette McGilvray was brilliant. I would definitely recommend this course to colleagues."*

Graham Wall, Data Management Analyst, PageGroup

*"Danette McGilvray is very inspirational"*

Radhia Ghanem, Data Quality Analyst, NHS PS, UK

## Overview

This course is based on recently-released second edition of Executing Data Quality Projects: Ten Steps to Quality Data and Trusted Information™. Simply put, information quality is providing the correct set of accurate information, at the correct time and place, to the correct people. However, ensuring quality information is far from simple. Whether you are just starting a project or are already in production, it is not unusual to find that data quality issues prevent organizations from realizing the full benefit of their investments in business processes and systems. The Ten Steps to Quality Data course teaches a practical approach to creating, improving, sustaining, and managing the quality of information critical to providing products and services, satisfying customers, and achieving goals for any type of organization. If you are working on business issues where data is a component or data quality-related issues that need real results, this is the course for you. What is learned applies to all kinds of data and every type of organization – for-profit businesses of all sizes, education, government, healthcare, and nonprofit – because all depend on trusted information to succeed. Both concepts and practical application are included. Concepts provide a foundation for understanding data quality. Concepts are put into action through the Ten Steps™ process. Both are needed to apply the methodology appropriately to the many data quality related situations that attendees will face within their organizations. In addition to discussion and exercises (individual and as a group), attendees will practice what is learned by applying the steps and techniques to a course project of their choice. Come with your particular needs in mind, be ready to participate, practice applying what is learned to your situation and leave with realistic methods for managing data quality.

## Learning Objectives

- Have the background needed to conduct their own data quality project using the Ten Steps methodology – a proven approach for creating, improving, sustaining, and managing data and information quality within any organization
- Understand how the Ten Steps methodology applies to three ways that data quality work gets done in most organizations (through programs, projects, and operational processes)
- Turn data quality challenges into actionable projects with clear objectives
- Connect data quality issues with business priorities
- Use business impact techniques to show the value and impact of data quality
- Use data quality dimensions to assess the data that supports business needs and project objectives
- Use root cause analysis techniques to address the true causes of data quality issues
- Select the appropriate steps, activities, and techniques from the Ten Steps™ process to address business needs
- Incorporate data management topics such as data governance, data modeling, metadata, business rules, master data, reference data, and data standards into the process for ensuring high quality data
- Apply concepts such as the Framework for Information Quality and the information life cycle to data quality management
- Apply templates and examples to address their own data quality concerns

## Course Outline

### The Data and Information Quality Challenge

- Information and data quality defined
- Why we care about data quality
- Data quality in action through programs, projects, and operational processes
- The Ten Steps™ methodology – key concepts plus the Ten Steps™ process

### Key Concepts – A Necessary Foundation for Addressing Information Quality

- Framework for Information Quality (FIQ) – Components that impact information quality:
  - Business needs (customers, products, services, strategies, goals, issues, opportunities)
  - Information life cycle (POSMA – Plan, Obtain, Store and Share, Maintain, Apply, Dispose)
  - Key components that affect information quality (data, processes, people/organizations, technology)
  - Interaction between the information life cycle and the key components
  - Location (where) and time (when and how long)
  - Broad-impact components (RRISCE – Requirements and constraints, Responsibility, Improvement and prevention, Structure and meaning, Communication, Change, Ethics)
- The relationship between Data Governance, Stewardship, and Data Quality

### Step-by-Step: The Ten Steps™ Process

- Each of the Ten Steps is covered in the seminar with instructions, techniques, examples, templates and best practices
- Data quality tools will be discussed in the applicable steps
- Exercises and working on a course project with small teams give attendees the opportunity to practice what is learned

### Step 1 Determine Business Needs and Approach

- Identify and agree on business needs and data quality issues within scope of the project
- Reference them to guide work and keep at the forefront of all activities throughout the project.
- Determine project type and approach:
  - Focused data quality improvement project
  - Data quality activities in another project
  - Ad hoc use of data quality steps, activities, or techniques

### Step 2 Analyze Information Environment

- Learn about the information environment surrounding the business needs and data quality issues within scope
- Determine what is within scope of the project and the appropriate level of detail for each element of the information environment:
  - requirements and constraints
  - data and data specifications

## Audience

Individual contributors and team members responsible for or interested in the quality of data in their business processes, systems or databases. This includes roles such as:

- Data Analysts
- Data Quality Analysts
- Business Analysts
- Data Designers/Modellers

- Data Stewards
- Business Process Modellers
- Application Developers
- Any data professional impacting the quality of data upon which their business depends

**In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.**

# Business-Oriented Data Modelling Masterclass

(3.5 hours x 5 days)

Alec Sharp

via Live Streaming only

## Overview

This workshop, suitable for both new and experienced modellers, will explore unique techniques for rapidly developing high-quality models while maintaining the involvement of business professionals. It then provides hands-on practice with skills in more challenging topics such as generalisation, recursion, subtyping, modelling time and history, presenting models to non-technical groups, the connection between E-R modelling and dimensional modelling, and many more.

## Learning Objectives

- Apply techniques that engage business professionals in developing a concept model / conceptual data model;
- Use entity-relationship modelling to depict entities, facts, and rules at three levels of modelling – contextual, conceptual and logical models;
- Utilise the three “learning modes” in developing and presenting a model – Visual, Auditory, and Kinesthetic;
- Apply event analysis and other techniques to discover and meet additional requirements;
- Use subtyping, recursion, multi-way associations, and other structures to model difficult rules;
- Model change, correction, and time-dependent business rules with “temporal data models”;
- Rapidly develop a first-cut dimensional model from a well-structured ER model;
- Prepare and deliver a data model review presentation to a non-technical audience.

## Course Outline

### Essentials of Data Modelling

- What really is a data model or concept model?
- Essential components – entities, relationships, attributes, and rules
- Hands-on case study – how data modelling resolved business issues, and supported other business analysis techniques
- Guidelines for comprehension – how to lay out Entity-Relationship Diagrams (“ERDs”)
- The narrative parts of a data model – definitions and assertions
- Group exercise – getting started on a data model, then refining it
- Common misconceptions about data models and data modelling
- The real purpose of a data model
- Contextual, Conceptual, and Logical Data Models – purpose, audience, definition, and examples
- Overview of a three-phase methodology for developing a data model

### Establishing the Initial Conceptual Data Model

- Top down vs. bottom up approaches to beginning a data model – when is each appropriate?
- A bottom-up approach focusing on collecting and analyzing terminology
- A structure for sorting terms and discovering entities
- Exercise – developing an initial conceptual data model
- Entities – what they are and are not
- Guidelines for naming and defining entities
- Three questions to help you quickly develop clear, useful entity definitions
- Exercise – identifying flawed entities
- Six criteria that entities must satisfy, and four common errors in identifying entities
- Identifying relationships
- Fundamental vs. irrelevant or transitive relationships
- Good and bad relationship names
- Multiplicity or cardinality – 1:1, 1:M, and M:M relationships, and useful facts about each
- Common errors and special cases – recursive, multiple, and supertype-subtype relationships
- Attributes – guidelines and types
- Attributes in conceptual models vs. logical models

### Developing the Initial Logical Data Model by Adding Rigor, Structure and Detail

- Transition to the logical model – shifting the focus from entities to attributes
- Multi-valued, redundant, and constrained attributes, with simple patterns for dealing with each
- An understandable guide to normalisation – first, second, and third normal forms
- Higher order (fourth and fifth) and Boyce-Codd normal forms
- Exercise – developing the initial logical data model
- Four types of entities – kernel, characteristic, associative, and reference
- Guidelines and patterns for dealing with each type of entity
- How to draw your E-R Diagram for maximum readability and correctness
- Optional and mandatory relationships
- Considering time and history when looking at relationships
- Typical attribute documentation
- A common source of confusion and disagreement – primary keys
- What primary keys are, what they’re really for, and three essential criteria
- The four Ds of data modelling – definition, dependency, detail, and demonstration
- E-R Diagramming – symbol sets and their problems, rules for readability and comprehension

### Correctly Handling Attributes

- Granularity – dealing with non-atomic and semantically overloaded attributes
- Dealing with reference data and the “types vs. instances” problem
- Three attributes that always need a qualifier
- Vector modelling – entity or attribute?

### Interesting Structures – Generalisation, Recursion and the Two Together

- Generalisation (subtyping) – when to use it, and when not to
- Generalisation with and without specification
- Guidelines for using recursive relationships
- Generalisation and recursion working hand-in-hand as a cure for literalism
- Recognizing lists, trees, and networks, and modelling them with recursive relationships
- Modelling difficult rules by combining

- generalisation (subtyping) and recursion
- Staying clear on generalisation vs. roles, states, and aggregation

### Modelling Time, History and Time-Dependent Business Rules

- Historical vs. audit data, and when to show them on a data model
- Thanks, Sarbanes-Oxley! Why we need “as-of reporting” and how to model data corrections
- “Do you need history?” – how to tell when your client is misleading you
- Modelling time – special considerations for recording past, present, and future values
- Four variations on capturing history in a data model
- Seven questions you should always ask when a date range appears

### Modelling Rules on Relationships and Associations

- Using multi-way associations to handle complex rules
- “Use your words” – how assertions, scenarios, and other techniques will improve your modelling
- Associative entities – circular relationships, shared parentage, and other issues
- Alternatives for modelling constraints across relationships
- Advanced normal forms – how to quickly recognize potential 4NF and 5NF issues
- A simpler view – why the five normal forms could be reduced to three

### Preparing and Delivering a Data Model Review Presentation

- Context – your audience, and why the model matters to them
- It’s a story, not a data model! Building a storyboard
- Five key techniques for presenting data models or other technical subjects
- The mechanics of the data model review presentation
- A demonstration

### Bridging the “E-R vs. Dimensional” Divide – the World’s Shortest Course on Dimensional Modelling

- The perils of dimensional modelling without understanding the underlying E-R model
- Spotting facts and dimensions – the relationship between dimensional models and E-R models
- Saving time – building a first-cut dimensional model from an ER model

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Only one discount can be applied at any one time

## Presenter



Alec Sharp has deep expertise in a rare combination of fields – process modelling, analysis, and redesign; business analysis and requirements specification; and business-oriented data modelling. Increasingly, his work involves facilitation and organisational change. He is a popular conference speaker and wrote the book on business process modelling, “Workflow Modelling: Tools for Process Improvement and Application Development.” Popular with process improvement specialists, business analysts, consultants, and business professionals, it is consistently a top-selling title on business process modelling, analysis, and design, and is widely used as an MBA textbook. He was awarded DAMA’s Professional Achievement Award, a global award given to one professional a year for contributions to the Data Management profession.

## Audience

- Specialist data modellers, data architects, data analysts, and DBAs who wish to hone their skills.
- Business analysts, business architects, enterprise architects, and application architects
- Application / solution developers
- (especially on Agile teams) Business professionals, Subject Matter Experts, and Project / Programme Managers involved in the analysis, design, and development (or selection and configuration) of a system.
- BI (Business Intelligence) professionals, DW (Data Warehouse) professionals, big data specialists, data scientists, analytics specialists, and data lake implementers

**In-House Training:** This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Essentials of Data Warehouses, Lakes and BI in Digital Business

Dr. Barry Devlin

Via Live Streaming only

15-16 March 2022

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## Presenter



Dr. Barry Devlin is among the foremost authorities on business insight and one of the founders of data warehousing, having published the first architectural paper in 1988. With over 30 years of IT experience, including 20 years with IBM as a Distinguished Engineer, he is a widely respected analyst, consultant, lecturer and author of the seminal book, "Data Warehouse—from Architecture to Implementation" and numerous White Papers. His 2013 book, "Business unIntelligence—Insight and Innovation beyond Analytics and Big Data" is available in both hardcopy and e-book formats. Barry provides strategic consulting and thought-leadership to buyers and vendors of BI solutions. He is continuously developing new architectural models for all aspects of decision-making and action-taking support.

## Overview

Business Intelligence (BI) has made data the foundation of decision making since the 1990s. Today, digital business is fundamentally reinventing decision making, by putting information from every person and data from every sensor at decision makers' fingertips. It challenges them to use it to address every aspect of business, to create anew every existing process, and to reinvent, not just decision making, but the entire enterprise.

Call it BI or analytics, serve it from a warehouse or a lake, it doesn't matter. The implications span the entire business and IT environments across the full breadth of the organisation.

Modern architectures, technologies, and methods in data management and analytics incorporate all today's technological advances in databases, NoSQL stores, and data preparation, as well as SOA, metadata, distributed access, collaboration, etc. And they directly address current issues, such as operational BI and analytics, strategic decision making, analytics, information discovery, and enterprise-wide decision management.

Expanding from his comprehensive and respected "Business unIntelligence" architecture to emerging topics such as the Internet of Things, algorithms, and artificial intelligence, Dr. Barry Devlin charts the essentials of data warehouses and data lakes, BI and analytics to build a digital business from the existing data warehouse and BI systems running enterprises today.

## Learning Objectives

- The meaning and implications of digital business
- Drivers, structure and components of decision-making support architectures
- Data and Information—for data warehouses, marts and lakes
- Possibilities and challenges of new database and data management technologies
- Formal and Informal processes—getting from information to action
- Data virtualization and preparation tools for integration across warehouses and lakes
- Positioning and using algorithms and analytics in support of decision making
- People—action-oriented decision making
- The importance of business context and user roles in decision processes
- Planning and implementation—practical steps for building modern warehouses, lakes and BI

## Course Outline

### Digital Business—History and Emergence

- A brief history of decision-making support
- Origins and meaning of digital business

### An Architecture Combining Data Warehouses and Data Lakes

- The emergence and impact of big data, the Internet of Things and artificial intelligence
- A new layering approach—Information, Process, and People
- The pillars of a new architecture that supports multiple storage technologies

### The Information Resource—the Foundation for Everything

- Information/data classes—human-sourced, machine-generated and process-mediated
- Big data—hype and reality, sources and types, implications for business and IT
- Key considerations—timeliness/consistency, structure/context, and reliance/usage
- Metadata as information—sources

## Audience

- Enterprise, systems, solutions and data warehouse architects
- Systems, strategy and BI/analytics managers
- Data warehouse/lake and systems designers and developers
- Data and database administrators
- Tech-savvy business analysts

and stores, tools and techniques

- Relational database evolution—structures, software and hardware
- NoSQL data stores, Hadoop-based databases, XML, JSON-based and other data stores

### The Business Processes—Getting from Decisions to Actions

- Data Preparation, ETL, Data Warehouse Automation, Wrangling, and Data Virtualisation
- The new role of users in "application development"
- Understanding adaptive, closed-loop business processes
- Service Oriented Architecture and Microservices
- A model for decision making and action taking—the adaptive decision loop

### The People—Understanding Needs and Engaging Innovation

- Motivation and the workings of the human mind in business systems
- Classes of BI—information-centric, process-centric and collaborative
- BI, analytic and other decision support tools

- Decision-making and action-taking in a closed-loop, real-time environment
- Augmenting and/or Automating decision making and action taking
- The emergence and importance of artificial intelligence

### Planning and Implementation

- Evolution—not revolution
- The Staged Implementation Roadmap
- Organisational considerations; changes in IT culture and responsibilities
- Selected possible first migration steps

In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

# Practical Guidelines for Designing Modern Data Architectures

Rick van der Lans

Via Live Streaming only

## Overview

So many organisations are designing a new architecture for data processing. The introduction of new technology, the change of data usage, and the new regulations for data privacy have convinced organisations they need a new data architecture. Examples of new forms of data usage are data science, real-time data analytics, embedded BI, and customer-driven BI. Examples of new technologies are Hadoop, NoSQL, analytical SQ, Spark, and Kafka. Sometimes a new data architecture is needed to fulfil the digital transformation dream or to become a more data driven organisation. Both terms imply that the organisation wants to exploit their data investment more intensely. A new data architecture may also be required because the old data warehouse architecture cannot be extended anymore. It has reached its expiration date. And implementing a data lake isn't always the right solution. Therefore, numerous organisations need to design a new data architecture. But how? Where do you start? This tutorial explains all the aspects involved in designing a modern data architecture. What should be included in such an architecture? Is one high-level PowerPoint slide showing all the databases and data streams sufficient? What constitutes a good data architecture? Guidelines are given on the topics that should be included, including data streams and data stores, data quality, data security and privacy, governance, and metadata specifications. The tutorial is based on years of experiences with designing modern and evaluating existing data architectures for all kinds of organisations, from small to large, and from non-commercial to commercial. Good and bad examples from real life situations are discussed

as examples. Topics include:

- Introduction – what is a Data Architecture?
- Overview of New Technologies for Data Storage, Data Processing, and Data Analytics
- Design Aspects for Data Architectures
- Innovative New Data Architectures
- Action Plan for Developing a Complete and Correct Data Architecture

## Learning Objectives

- What are the steps to take to come up with the perfect data architecture? From requirement analysis via proof of concepts to a data architecture.
- What is the importance of a holistic approach to analyzing technology, organization, and architecture in conjunction?
- What are real life examples of new data architectures?
- How can the new technology use optimally within a new data architecture?
- How do you develop a data architecture?
- Which components make up a data architecture?
- What are the use cases, pros and cons of new technologies and how do they influence data architectures?
- What is the value of well-known reference architectures, such as the Lambda architecture, the logical data warehouse architecture and the data lake?
- What are the right criteria for a data architecture?

## Course Outline

### Introduction – what is a Data Architecture?

- Why a new data architecture?
- Examples of real life data architectures
- What are the key elements of a data architecture?
- What are the differences between a data architecture and a solutions-architecture?
- From batch via Lambda to the Kappa architecture
- Benefits, drawbacks, and shortcomings of well-known reference architectures, such as the classic data warehouse architecture, the data lake, and transactional systems
- From vision to implementation plan

### Overview of New Technologies for Data Storage, Data Processing, and Data Analytics

- Benefits, drawbacks, features, and use cases of each technology
- Data storage: analytical SQL, NoSQL, Hadoop, cubes
- Data integration: ETL, data virtualization, data replication, data warehouse automation, enterprise service bus, API gateway
- Data cleansing: home-made, professional
- Data streaming: messaging, Kafka, streaming SQL
- Data documentation: data glossary, data catalog, metadata management
- Reporting tools: self-service BI, dashboards, embedded BI
- Data science tools: programming languages, such as R and Python, machine learning automation tools, data science workbenches
- Data security: anonymization, authorization

### Design Aspects for Data Architectures

- First the technology or first the data architecture?
- The importance of reusable transformation specifications for e.g. integration, filtering, correcting, and aggregation of data
- Influence of specialized technology on data architectures

- Why migration to the cloud: unburdening, high performance, scalability, available software?
- Are all software products suitable for the cloud?
- Design principles for dealing with data history and data cleansing
- Modernization of a classic data warehouse architecture
- Generating a data warehouse architecture with data warehouse automation tools
- New requirements for transactional systems, such as storing historic data and continuous logging
- The influence of GDPR: deleting customer data
- Responsibility of data quality

### Innovative New Data Architectures

- The logical data warehouse architecture as an agile alternative
- Design rules, do's and don'ts for a logical data warehouse architecture
- From a single-purpose to a multi-purpose data lake
- Requirements for implementing data science models, such as transparency, immutability, and version control
- The changing role of the data lake: from data delivery system for data scientists to a platform for storing all the enterprise and external data
- A data streaming architecture; when every microsecond counts
- Technical challenges: performance, inconsistent data streams, storing massive amounts of messages for analytics afterwards
- Operationalization of data science models
- Merging data architectures to one unified data delivery platform
- Differences between data hub and data warehouse
- The data marketplace: from tailor-made to ready-made

### Action Plan for Developing a Complete and Correct Data Architecture

- What is the business motivation for a new data architecture: ICT cost reduction, competitive improvement, new business model, new laws and regulations, improving reaction speed to business demands, or a more efficient exploitation of available data?
- The importance of a business strategy and data strategy and the relationship with the data architecture
- Who are the stakeholders and what is the C-level support?
- Maturity level of the ICT organization
- Description of the current data architecture; data flow, data storage, quantities, and technologies in use
- Stock-taking of current bottlenecks; business and ICT, performance, functionality, costs, ICT organization and the immediate environment
- Constraining rules, such as laws and regulations, budget restrictions, software limitations, and legacy systems.
- Requirements and needs of the new data architecture; financial, available expertise, software, quantities, uptime, speed of data delivery, and level of unburdening.
- Architecture and design principles
- Current and future forms of data usage: standard reports, self-service BI, data science, customer-driven, mobile apps
- Forms of data usage; batch, manual internally, manual external, and sensors
- Data types in use, including structured, unstructured, audio, video, text, and geo/gis.
- Setting up the data architecture project; which choices must be made, which steps to take, is a PoC or Pilot required, what are key questions in a RfI, and convincing the organization

11 May 2022

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### Presenter



Rick van der Lans is a highly respected independent analyst, consultant, author, and internationally acclaimed lecturer specialising in data architectures, data warehousing, business intelligence, big data, and database technology. In 2018 he was selected the sixth most influential BI analyst worldwide by [analytica.com](http://analytica.com). He has presented countless seminars, webinars, and keynotes at industry-leading conferences. For many years, he served as the chairman of the annual European Enterprise Data and Business Intelligence Conference in London and the annual Data Warehousing and Business Intelligence Summit in The Netherlands. Rick helps clients worldwide to design their data warehouse, big data, and business intelligence architectures and solutions and assists them with selecting the right products. He has been influential in introducing the new logical data warehouse architecture worldwide, which helps organisations to develop more agile business intelligence systems.

## Audience

- Business Intelligence Specialists
- Data Analysts
- Data Warehouse Designers
- Business Analysts
- Data Scientists
- Technology Planners
- Technical Architects
- Enterprise Architects
- IT Consultants
- IT Strategists
- Systems Analysts
- Database Developers
- Database Administrators
- Solutions Architects
- Data Architects
- IT Managers

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## Overview

Organizations store more and more data in ever-larger volumes. However, most of that data is not new or original, but copied. Companies excel at duplicating data. For example, information about a customer is stored in a CRM system, a staging area, a data warehouse, several data marts, and a data lake. Even within one database, data is stored multiple times to support different users. In addition, copies of data are stored in development and test environments. And don't forget the users who copy data from central databases to private files and spreadsheets. There is also data redundancy between organizations when exchanging data. Usually, the receiving organization stores the data in its own systems, resulting in even more copies.

The unrestrained duplication of data has many disadvantages and challenges:

- Higher data latency
- Missed opportunities
- Complex data synchronization
- More complex data security
- More complex data privacy
- Higher development costs
- Higher maintenance costs
- Higher technology costs
- More complex database administration
- More complex metadata administration
- Reduced data quality

Data minimization is therefore one of the most important preconditions for existing and new data architectures. During this masterclass, Rick van der Lans explains how you can work towards a data-on-demand architecture and with which solutions and technologies this becomes a reality. He will discuss, among other things, what data minimization is, what influence it has on data architectures and how data virtualization enables you to reduce redundant data.

## Learning Objectives

- How the design principle called data minimization is related to simpler data architectures.
- What the two pillars of data minimization mean: data-on-demand and accessing original data.
- What the real drawbacks are of creating too many copies of the data are, including higher data latency, complex data synchronization, more complex data security and privacy, and higher development and maintenance costs.
- How new database, integration, and cloud technology can help to design simpler data architectures that contain less copied data.
- What the effect is of applying data minimization to data warehouse and data lake architectures.
- How managed-file-transfer can be replaced data-on-demand, and how the number of data flows between organizations can be reduced.
- How data architectures should be designed from the perspective of data processing specifications and not data stores.

## Course Outline

### Introduction

- What is data minimization?
- The influence of data minimization on data architectures
- Pillars of data minimization
- From data-by-delivery to data-on-demand
- From copied data to original data
- Reasons why data minimization is important
- Risks of unrestrained copying and repeated storage of data
- The business advantages of data minimization

### New technologies can simplify data architectures

- Analytical SQL database servers and their distributed, share-based architecture
- Translytical database servers: combining transactions and analysis
- Data virtualization enables reduction of redundant data
- Messaging technology

### Applying data minimization to current data architectures

- From traditional data warehouse architectures to logical data warehouse architectures
- From physical data lake with zones and tiers to virtual data lakes
- From data lakehouses to logical data lake houses

## Audience

- Business Intelligence Specialists
- Data Analysts
- Data Warehouse Designers
- Business Analysts
- Data Scientists
- Technology Planners
- Technical Architects
- Enterprise Architects
- IT Consultants
- IT Strategists
- Systems Analysts
- Database Developers
- Database Administrators
- Solutions Architects
- Data Architects
- IT Managers

- From data fabrics to logical data fabrics

### Data track diagrams for designing data architectures

- What are data track diagrams?
- Designing a data architecture based on data processing specifications
- From data track diagrams to data minimization
- Do not design from a database-centric point of view

### From data-by-delivery to data-on-demand

- Disadvantages of data exchange using files (data-by-mail)
- Advantages of data-on-demand
- Accessing geographically dispersed data sources
- What can we learn from Netflix?

### Closing remarks

- General recommendations for implementing data minimization
- 'Youtubing' your data

In-House Training: This course is available on-site. E-mail [customerservice@irmuk.co.uk](mailto:customerservice@irmuk.co.uk) with your enquiries.

## Overview

Data Governance is crucial to properly using your data and improving the quality of your data. And Data Stewardship is a critical piece of Data Governance – data stewards are your decision-makers about what data means, how it is derived, what rules to apply to determine data quality, and what data quality issues are worth spending resources on. More and more companies are coming to terms with the fact that they need to have a data stewardship function in order to be effective in collecting metadata (including definitions, derivations, and data quality rules), MDM, and data quality. A lot has been said and spoken about why stewardship is important, but HOW do you do it and be effective with limited resources (in the “real world”)? This seminar details how to set up a data stewardship function, provide training for your stewards, and run the entire stewardship effort – including managing the Data Stewardship Committee. You’ll need help from IT for folks who know the systems and ETL, and this presentation tells you how to coordinate your efforts, including recruiting help from IT for technical stewards, evaluating and installing Data Governance / Stewardship toolsets, and leveraging an IT sponsor. We will go into considerable detail on what the roles and responsibilities of the data stewards are, what decisions they have to make, and what processes have to be used in order to make those decisions. In addition, it covers how to staff projects for stewardship and funnel the information from projects back into the overall stewardship process. Communications are another important part of stewardship, and we’ll discuss what meetings are needed, what a communications plan looks like, how to report on your stewardship progress, and how to avoid getting overwhelmed by meetings by leveraging modern collaboration tools.

## Learning Objectives

- The relationship between data governance and data stewardship
- How to build and staff governance and stewardship organization
- How to recruit stewards and who in the organization is responsible for designating stewards
- What type of person you need in the stewardship role
- What the steward’s responsibilities are
- What the stewardship process looks like
- How to break up responsibilities by functional area
- Resources you can use to minimize endless meetings
- What the decision process is
- How to avoid overwhelming stewards when you have a lot of projects
- What and how to document decisions
- A list of Data Stewardship Best Practices
- How to train your stewards to do what they must do
- How to orchestrate a communications plan
- How to build a status report for stewardship and governance
- How to incorporate your stewards into the responsibilities of Information Security
- What the Stewardship maturity model looks like, and how to rank your stewardship effort

## Course Outline

### Introduction

- Current Data Challenges: User, System, Executive, Interpretation and Managing issues
- Getting to an Ideal State: Proper Data Warehousing, Master Data Management, Identity Resolution, Data Quality Improvement, New System Implementation

### Data Governance – Execution of Authority over Data Management

- Understanding Data Governance: Definitions and Overview
- How to Ensure the Enterprise’s Data Assets are Formally Managed
- Practical Data Governance: Metadata, Data Quality, Policies and Procedures
- Where Stewardship fits into the overall Data Governance program

### Data Stewardship – Operational Aspect of Data Governance

- Three Main Types of Stewards: Business, Technical and Project Data Stewards
- Roles of Data Stewards – what they help Determine, Decide, Enforce and Ensure
- The importance of Data Stewardship
- What Happens Without Data Stewardship?

### Setting up Your Data Stewardship Organization

- Championing Stewardship – Well Executed Data Stewardship Programs
- Keys to Successful Implementation:
  - Fitting Stewardship into the Data Governance Organization
  - Organizing the Stewardship & Creating a Council
  - Assigning Responsibilities & Relationships
  - Raising Awareness & Communication
  - Training Data Stewards

### Enterprise Resources – Figuring Out What You’ve Got and Where To Put It

- Governing Data: The Information Chain, Source Data Capturing, ETL, Reporting
- Metadata: Definition, Derivations, Tracking ETL, Supporting Capture and Validation
- Data Quality – Quality Issues, Documentation, Trouble Tickets, Project Development
- Tools: Metadata Capture Tools, Data Quality Tools, Stewardship and Governance Tools
- Business Glossary: Context, Hierarchy, Terms, Workflow, Statistics

### Adjusting Methodology – Data Governance Process Integration

- Adding Governance To Project Methodology – We are here to help!
- Adjusting Project Methodology:
  - Working with Project Managers & Project Data Stewards
  - Project and Solution Evaluations
  - Metadata and Data Quality – Resources, Definitions/Derivations, Validate Rules, Metrics
  - Documentation and QA Test Cases

### Working With Stewards – Day-To-Day Practical Aspects

- Steward Assignment, Duties and Relationships:
  - Chief Data Steward – Strategic Leadership
  - Enterprise Data Steward – Leading Data Stewards, Program Management, Measurement
  - Business Data Stewards – Business Alignment & Management
  - Data Domain Stewards: Alignment & Data Management
  - Project Data Stewards: Metadata and

### Data Quality

- Business, Data Owners and IT Stewardship
- Decision Documentation Process & Creating Communication Plan
- Work Flow: Logistics, Working Groups and Stewardship Council
- Infrastructure Needs & Staffing Requirements

### Practical Stewardship – Maintaining What We Have Accomplished

- Definitions & Derivations – Rationalization, Assignment, Creation and Approval Process
- Data Quality – Support, Rules, Enforcement, Results
- Reference Data Setup & Repeatable Processes
- Information Security: Classify Data, Document Classifications, User Access, Build Structures

### Data Stewardship Metrics

- Business Results Metrics – Business Value Measurements
- Operational Metrics – Operational Considerations for Effective Stewardship
- Work Progress Reporting
- Critical Success Factors

### Measuring Maturity and Summary

- Stewardship Maturity – Measuring your Progress
- The Data Governance Maturity Model
- Maturity Levels: Initial, Repeatable, Defined, Managed and Optimized
- Improvement Challenges and Opportunities
- Data Governance Best Practices

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### Presenter



David Plotkin is the Director of Metadata Services at a large financial services institution, directing metadata activity in support of data management,

including implementing data governance and data stewardship in applications such as Collibra Data Governance Center. He is also responsible for the creation of metadata quality standards, enforcement of business rules through the use of workflows and coordination of personnel across the enterprise, and communication of metadata protocols. He was formerly the Data Governance Competency Center Manager for Wells Fargo, working heavily in Data Stewardship and Metadata. He was also Global Head of Data Stewardship for AIG, where he was responsible for rolling out data stewardship as part of an overall Data Governance and Data Management effort. He has previously been a consultant for EMC, working on data quality, data governance and master data management engagements at client companies. He has also previously managed Data Governance at an insurance company and managed data quality at two large banks.

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