Data Stewardship:
The Foundation of Successful Data Governance

IRM UK Data Governance & MDM Europe 2024 Workshop

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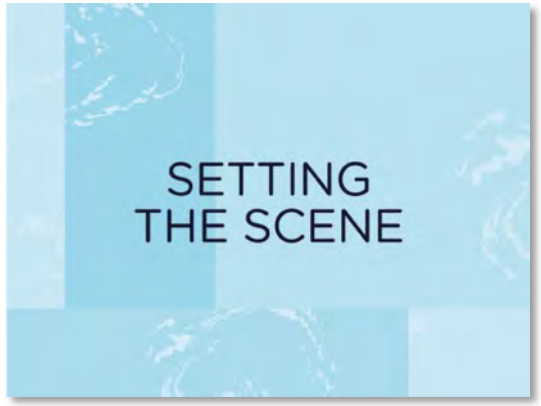
Global Data Strategy, Ltd.

DATA GOVERNANCE AND MASTER DATA MANAGEMENT CONFERENCE EUROPE
11 - 14 March 2024 | London, UK

Thursday 14 March 2024

Global Data Strategy
The Business of Data



Introductions & Scene Setting

Self Introductions

As we are a small group, let's get to know each other…

- Name and job role
- Organisation & location
- Experience of data governance & data management
- Why are you attending this workshop:
  - ➢ What are you hoping to learn from it?

NIGEL TURNER - Roles & Credentials

- 35 years' experience in IT & Business Strategy; 27 years in Data Management; previously a college and University lecturer in UK and Canada
- Initiated and coordinated BT's enterprise-wide data governance and information quality improvement programme
- Subsequently ran a 200 strong Information Management & CRM practice serving BT's global business customers
- Later VP of Strategic IM at Trillium Software, Principal Business Consultant at IPL & Principal IM Consultant at FromHereOn / Enterprise Architects
- Now Principal IM Consultant EMEA at Global Data Strategy
- Committee Member of DAMA UK, responsible for DAMA EMEA liaison
- Born and still live in Cardiff, Wales

DAMA UK
Nurturing a community of data professionals

Follow on X - @NigelTurner8
Follow on LinkedIn - https://www.linkedin.com/in/nigelturnerdataman/

Some organisations I have worked with on Data Management & Data Governance

WORKSHOP OBJECTIVES

- Define what data stewardship is, and reinforce its critical importance in delivering the promised benefits of data governance
- Outline the key roles of data stewards, both in relation to data owners and other key data governance roles
- Highlight required stewardship skill sets and capabilities
- Suggest how data stewards can achieve rapid success through a simple four step approach:
  - Data Domain Audit
  - Data Domain Analysis & Report
  - Initial Data Improvement Plan
  - Delivery of Quick Wins & Early Benefits
- Highlight the importance of creating and participating in a wider data stewardship community
- Point to current and future trends in data stewardship and how these will impact the role
- Enable participants to practise some key approaches above through exercises undertaken during the workshop

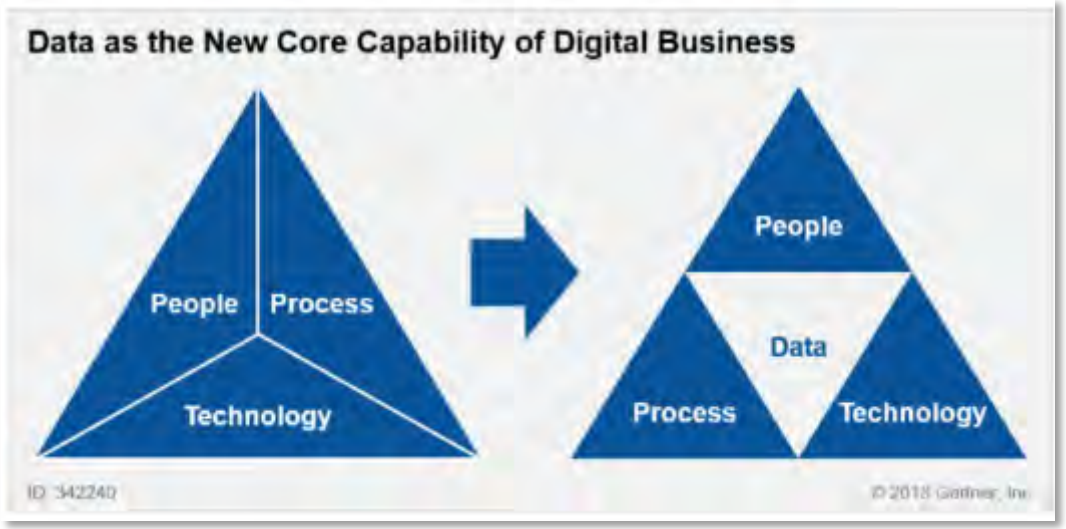
Data Stewardship Workshop – Agenda (9:00 to 16:00)

TITLE
Introductions & Scene Setting
Data Stewardship – Why Do Organisations Need It?
Data Stewardship – What Is It?
Morning Break (10:30 – 10:45)
Data Stewardship – Where to Start?
Data Stewardship – Suggested Initial Priorities: a Four Step Approach
Step 1: Data Domain / Area Audit
Lunch (12:15 - 13:15)
Step 2: Data Domain / Area Analysis & Report
Step 3: Agree Initial Priorities & Activities
Step 4: Run pilot(s) / proof of concept(s) (Part 1)
Afternoon Break (14:30 – 14:45)
Step 4: Run pilot(s) / proof of concept(s) (part 2)
Other Considerations & Wider Roles
Summary & Conclusions – Data Stewardship as the Foundation of Data Governance

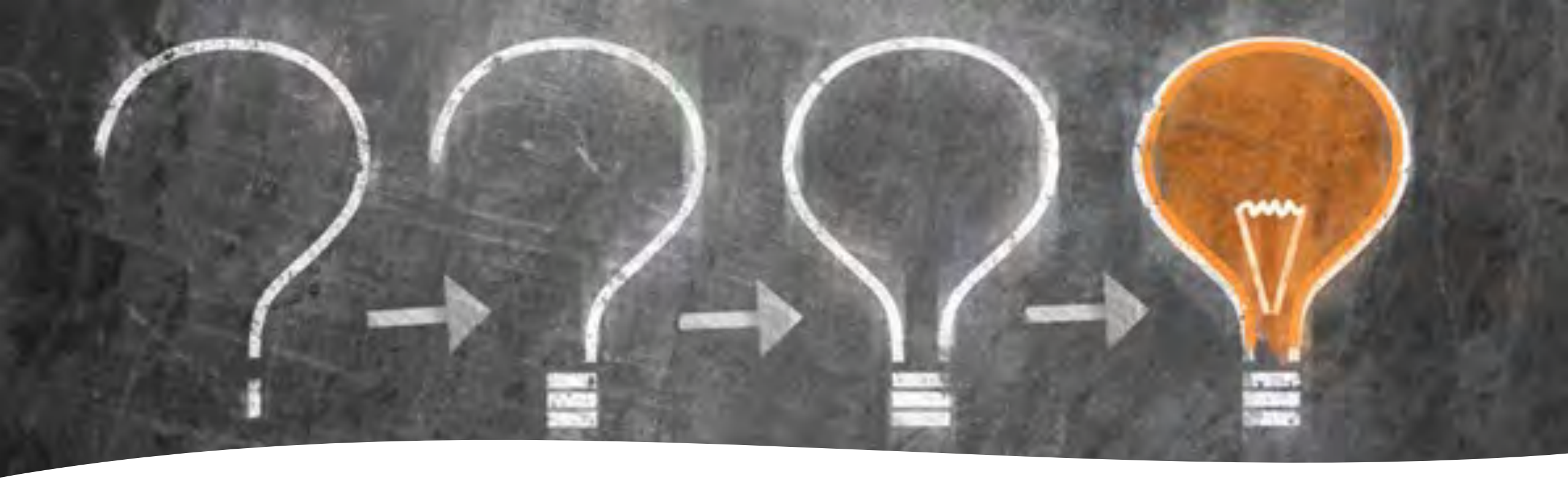
Aim for an Interactive Session…

Data Stewardship: Why do organisations need it?

The Need for Data Governance & Stewardship



- To manage its people, a digital company needs HR governance to steer recruitment, skills, professional development & retention
- To manage its IT, needs IT governance to ensure its technology investment supports its business aspirations
- To manage its processes, needs Process governance to drive the design, deployment & management of its automated and manual processes
- To manage its data, needs Data governance to develop & improve its data assets to underpin its People, Process & Technology



DISCUSSION

- If data is seen as an asset in its own right, who should be responsible for managing, maintaining and improving it?

Data as a Critical Asset

Often said that everyone is responsible for managing data in an organisation

BUT…

"If we are all supposed to be responsible, no one is responsible and nothing changes"

(Quote from senior GDS client – Professional Services Organisation 2019)

Data, like any business asset, does not manage itself. It needs to be managed, maintained and improved by the business to ensure it is fit for the purpose for which it is created and stored.

To solve this problem the disciplines of **data governance** and **data stewardship** have developed…

Data Governance – a simple view

What is Data Governance – the Global Data Strategy Definition

Data Governance is a business led continuous process to improve data for the benefit of all data stakeholders

Business Led Continuous Process

- Data is a business asset and so must be owned by the business
- Data Governance must be a business as usual activity; it's not a project

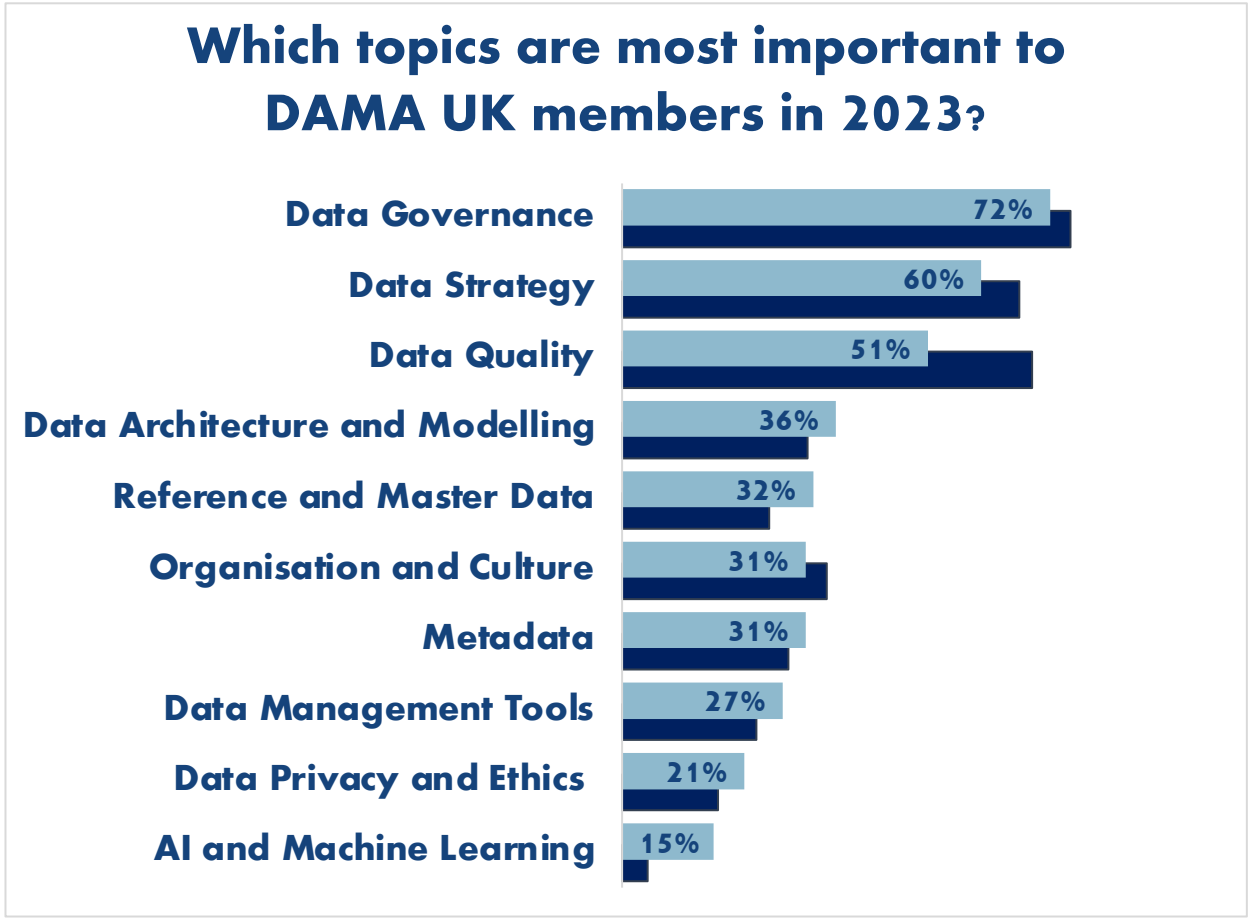
Improve Data

- Data Governance must demonstrate business improvement through better data
- Monitoring data without an improvement agenda is pointless

Benefit

- The benefits of Data Governance must be real and measurable
- All stakeholders (Business, IT, Customers, Suppliers, Regulators etc.) should recognise the benefits it brings to them

The Importance of Data Governance in the UK: Recent DAMA UK Members' Survey



Top 10 Data Management Priorities 2023

KEY:

2023

2022

Source:
DAMA UK Members Survey
June 2023

The Need for Data Governance

Reducing Risk (Defence)

- **Regulations** require the need to protect & account for customer data (e.g. GDPR, PCI)
- **Actions & decisions** driven by data require **quality & accountability of information**

Increasing Opportunity (Offence)

- **Data is a strategic asset** and must be managed accordingly **for competitive advantage**
- **Enabling a Data-driven organisation through quality, governed data**

Data Governance

Improving Efficiency

- Well-governed data allows teams to **spend less time looking for, managing, and cleaning data**, and more time using it for strategic advantage
- Governance helps **reduce redundancy and duplication of effort** across systems and teams

Driving Collaboration & Accountability

- Clear roles & responsibilities ensure that **individuals take active accountability for the quality & protection of data**
- Teams work together to **prioritise the best use of data for the benefit of the organisation and its customers**

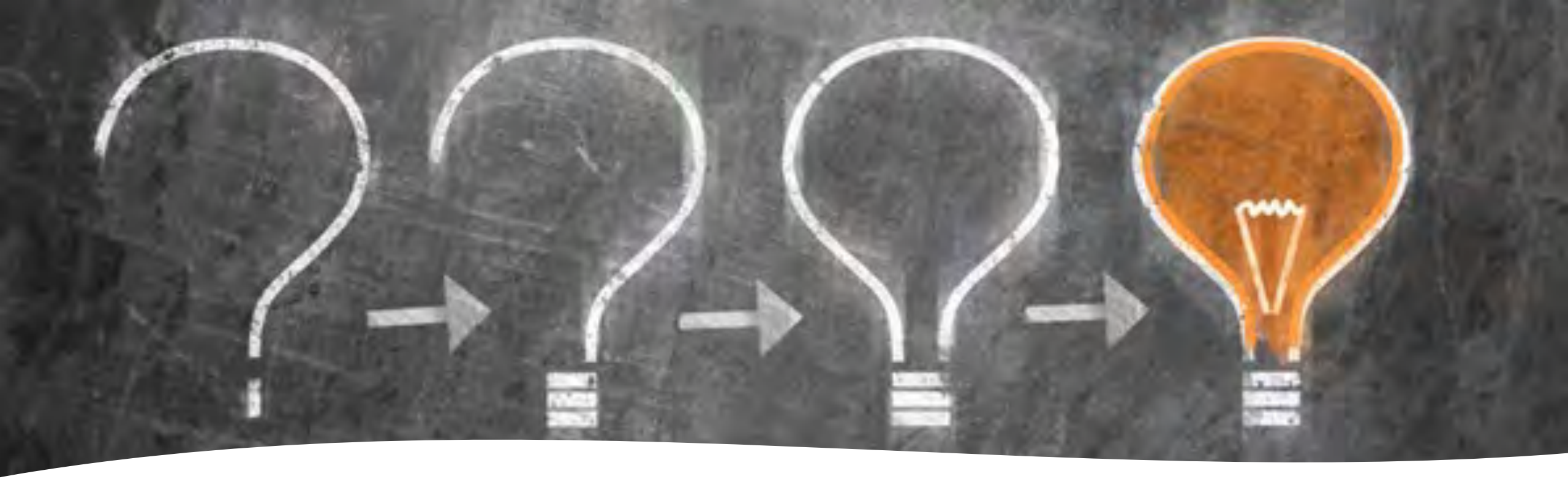
Law & Regulation: a reminder

Data Protection Act 2018: the Six Key Principles

Data should be:

1. Processed lawfully, fairly and in a transparent manner…
2. Collected for specified, explicit and legitimate purposes and not processed further in a manner that is incompatible with those purposes…
3. Adequate, relevant and limited to what is necessary…
4. Accurate, and where necessary, kept up to date…personal data that are inaccurate… are erased and rectified without delay
5. Kept in a form which permits identification of data subjects for no longer than is necessary…
6. Processed in a manner that ensures appropriate security…

Source: Quant Marketing



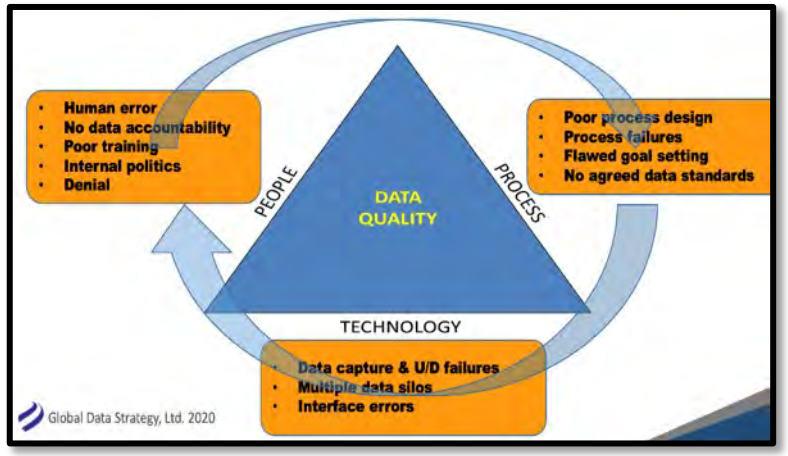
ACTIVITY

- What may cause data failures and problems?
- What are the impact of these on:
  - Organisations
  - Individuals

Why Does Poor Data Persist? (1)

The data world has become more complex & diffuse (Volume, Variety, Velocity)

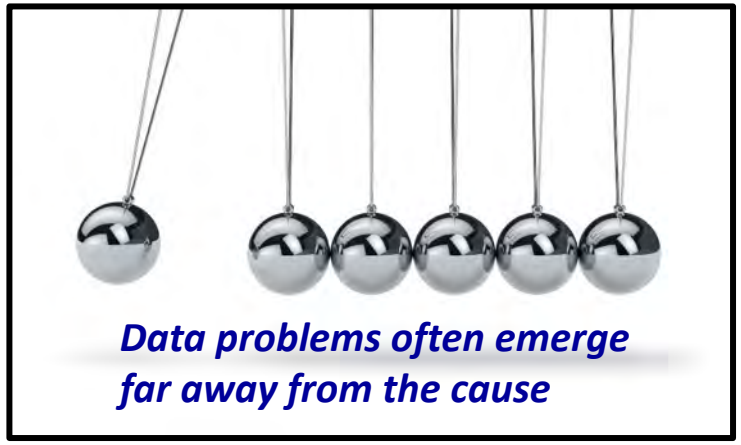
The world constantly changes, and data models the world



Poor data is a business problem, not an IT problem, so holistic solutions required

People will make mistakes with data (e.g. data entry, data amendment etc.)

Why Does Poor Data Persist? (2)



Data problems often emerge far away from the cause

Data flows horizontally, but organisational silos hinder collaboration

Absence or conflict of data definitions

This film was a great commercial and critical success in the UK and Europe but flopped on its initial release in the USA.

WHY?

Lack of context & metadata can cause misunderstandings and confusion

Lack of accountability for improving data

When Data Goes Wrong…

REAL LIFE DATA HORRORS QUIZ

Data Horrors Quiz – Question 1

In February 2021 Liam Thorp, a 32 year old living in Liverpool, UK was invited by letter to receive a priority Covid vaccination as he was 'morbidly obese'. Liam was 6 feet 2 inches tall and weighed around 12 stone.

This error occurred because:

a) ***The Health Board had confused him with another person in Liverpool also called Liam Thorp who was 'morbidly obese'***

b) ***Liam Thorp had deliberately exaggerated his weight to jump the vaccine queue***

c) ***The Health Board had recorded his height as 6.2 centimetres (cm) rather than his actual height of 6 feet 2 inches***

d) ***In estimating Liam Thorp's Body Mass Index (BMI) an internal calculation error in a system had resulted in him getting a recorded BMI of 28,000; the BMI needed to be classed as 'morbidly obese' is 40 and above.***

Data Horrors Quiz – Question 2

In April 2018, the UK bank TSB migrated all its customers to a new customer management platform. The migration was completed in one weekend.

Within days it became clear that the migration had been a disaster because:

a) Many business and personal customers could no longer access their bank accounts online

b) Many customers could access the accounts of other customers

c) Many customers who could access their accounts found that money had been withdrawn from their accounts

d) All of the above

e) None of the above

Data Horrors Quiz – Question 3

On 28 August 2023 the platform running the UK's air traffic control system failed. The back up system immediately came on-line, but it also failed.

UK air traffic control had to manage all flights over UK air space manually for 4 hours until the problem was fixed. Nearly 2,000 flights were cancelled, 250k passengers were stranded, and it took several days to return to normal.

This problem was caused by:

a) ***A major power failure which impacted both the primary and back-up systems***

b) ***An error by a pilot who submitted an incorrect flight plan for an aircraft which caused the system to fail***

c) ***In a valid flight plan submitted two 'waypoint' locations had identical names despite being geographically far apart and caused the system to shut down***

d) ***A cybersecurity attack which successfully brought the systems down***

Data Horrors Quiz – Question 4

In July and August 2023 newspaper headlines highlighted that millions of classified emails had been sent by both the US military and the UK Ministry of Defence to the government of Mali in Africa. The emails contained document attachments, passwords and travel plans of military personnel.

Mali is an ally of President Putin's Russian government.

This problem was caused by:

a) Spies within the Pentagon and the MoD who had leaked the emails

b) Officials in the Pentagon and the MoD had wrongly regarded Mali as a friendly country and so sent the emails on that basis

c) The emails were wrongly directed as they should have been sent to the domain name of .MIL (US Military) rather than .ML (Government of Mali)

d) Russian government operatives had hacked into military email servers and redirected them.

Data Horrors Quiz – Question 5

In a wide-ranging survey in 2017, The Harvard Business Review asked 75 executives across 75 different organisations to extract 100 records from core systems in their companies to analyse if the records contained Information Quality errors.

The results of the survey showed that the percentage of the 100 records which contained one or more critical Information Quality errors was:

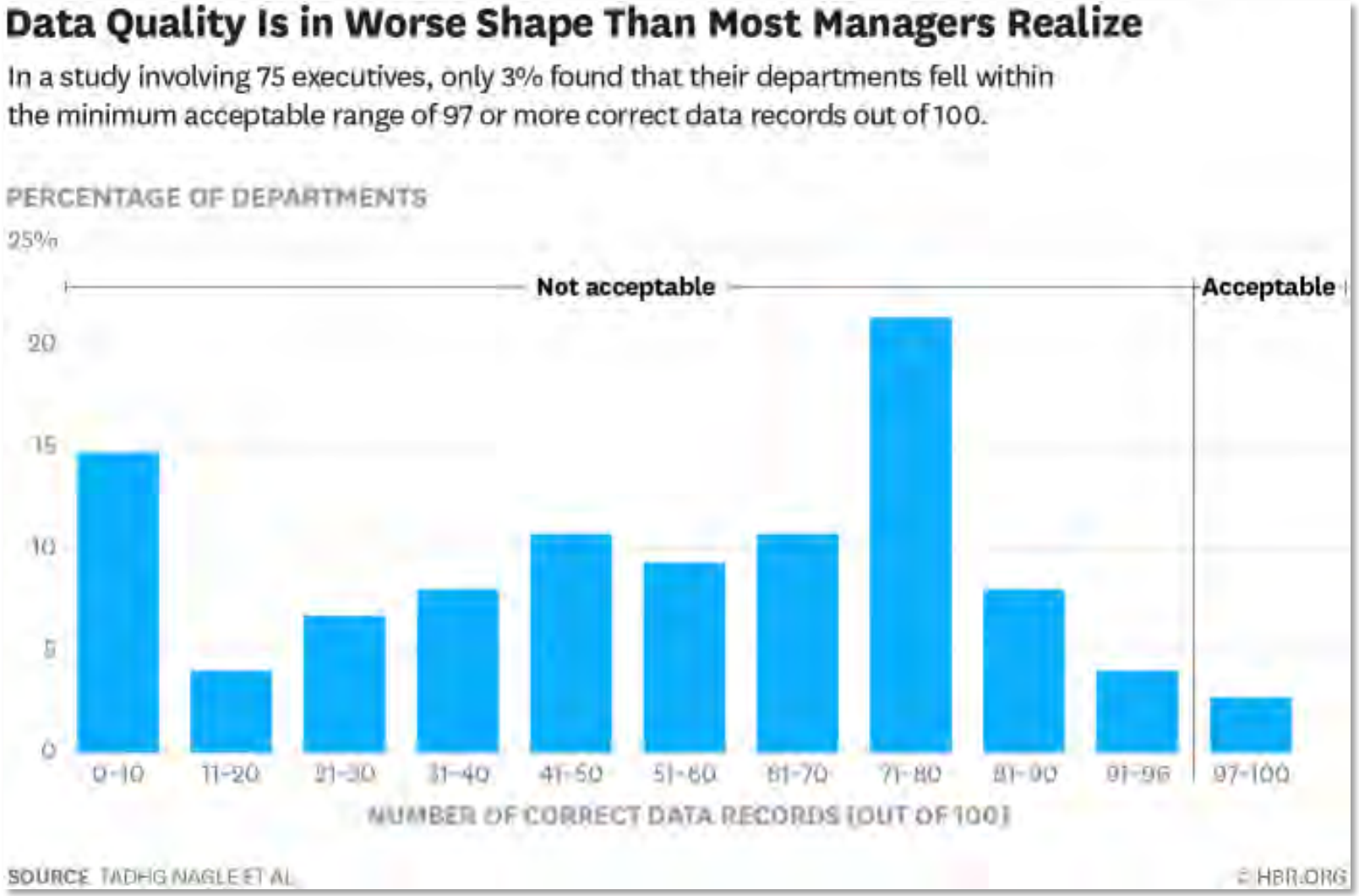
a) 17%

b) 47%

c) 77%

d) 97%

Horror Story 5: Evidence of Failure



Source:
Only 3% of Companies' Data Meets Basic Quality Standards

Tadhg Nagle, Thomas C. Redman & David Sammon

Source:
Harvard Business Review
September 11 2017

The Industry Impact of Poor Data – The Evidence

72% of executives believe that fragmented & poor quality data is the biggest issue for data analytics and artificial intelligence

(Source: Cap Gemini 2023)

On average, poor Information Quality costs companies between **15-25%** of revenue

(Source: MIT Sloan 2017)

77% of organisations say data-driven decision making is their leading goal; but **70%** struggle to trust their data and say data quality is their biggest issue

(Source: Precisely 2023)

Companies lose on average **$13 million** a year because of poor data

(Source: Gartner 2021)

Poor Data: Overall Impact

On Companies & Organisations

ECONOMIC IMPACT:
Hits Revenues, Costs, Profits

REPUTATION:
Impacts Brand & Customer Loyalty

LAW & REGULATION:
Increases risk & exposure

On Individuals

PERSONAL HARM:
Physical, mental or emotional

ANNOYANCE:
Creates anger & frustration

DESIRE FOR RETRIBUTION:
Social media gives individuals voice and influence

Data Stewardship: What Is It?

Basic Definitions: Stewardship

What is a Steward?

A **steward** is someone whose job is to manage the property of another person

DAMA DMBoK

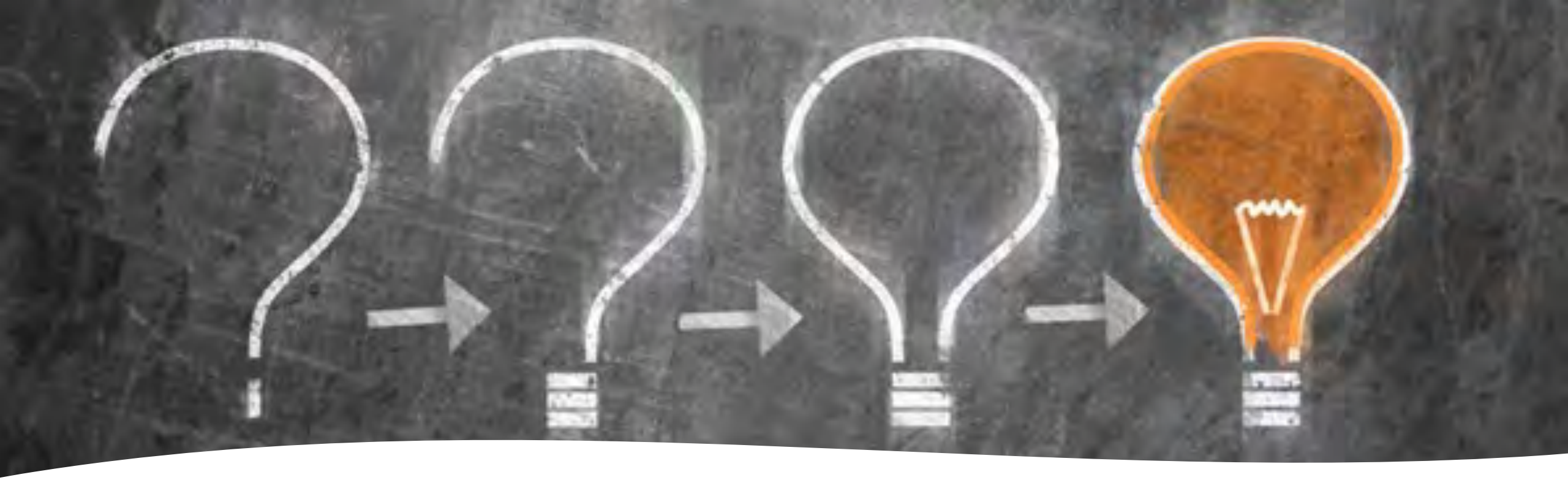
What is Stewardship?

The conducting, supervising, or managing of something, *especially* the careful and responsible management of something entrusted to one's care

Merriam-Webster

The responsible overseeing and protection of something considered worth caring for and preserving

Dictionary.com



DISCUSSION

If an individual is tasked with stewarding data what should their key responsibilities be?

What is Data Stewardship? Some Definitions

What is a Data Stewardship?

Data Stewardship is the most common label to describe accountability and responsibility for data and processes that ensure effective control and use of data assets *DAMA DMBoK*

Data Stewardship is the management and oversight of an organisation's data assets to help provide business users with high-quality data that is easily accessible in a consistent manner *SearchDataManagement*

What is a Data Steward?

A **Data Steward** is an oversight or data governance role within an organisation, and is responsible for ensuring the quality and fitness for purpose of the organisation's data assets, including the metadata for those data assets *Wikipedia*

A **Data Steward** is an individual who is responsible for promoting appropriate data use through planning, policy and protocols at your institution. Data Stewards provide university-level knowledge and understanding for a specific data area (e.g. student data, financial data, HR data or alumni development data) *EDUCAUSE ECAR*

Typical Key Data Governance Roles

Executive Sponsor (Part Time Role)

- Promotes Data Driven Culture
- Champions Best Practices
- Advocate with ELT and Board
- Escalation Point for Key Issues

Data Owner (Part Time Role)

- Represents the data needs for a particular functional area
- Defines key KPIs & data elements
- Defines key business rules
- Sanctions Data Quality Metrics & Thresholds

Business Data Steward (Part Time Role – usually)

- Responsible for the day-to-day management and quality of data
- Subject Matter Expert (SME) for a given business domain
- Aligns with the Data Owner to support business rules and to align with key KPIs

Technical Data Steward (Part Time Role)

- Digital / IT expert for a given business or data domain
- Subject matter expert for a given system and its usage
- Aligns with Business Data Stewards to ensure technical needs are met

Data Governance Lead*

- Acts as a cross-functional lead for the data governance effort, working with both business and IT roles
- Chair of the Data Governance Steering Committee

Data Architect*

- Oversees the holistic data architecture for the organisation, including data models, data standards, data integration, etc.
- Works with both business and technical stakeholders to ensure that systems implementations align with key business rules & needs

Data Security Lead*

- Ensures that the organisation adheres to the adequate security standards to support industry regulations and best practices
- Works with the Data Governance Lead and Data Architecture to ensure that data implementations support business needs in a secure way.

* Typically a full-time role

Data Stewardship: Key Functions

- **Business Data Owner**

The Business Data Owner is accountable for a specific and defined data domain / functional area. **The Data Owner is the formal lead and decision maker for data issues within a specified data domain.**

Key responsibilities include:

- Work to develop the vision and strategic plan for the data domain
- Champion his / her Data Domain / Area on the Data Governance Steering Group
- Liaise with, and report regularly to, the data domain Data Champion
- Define data domain policies and business rules
- Mentor & support the Data Steward and the Data Custodian
- Identify and drive data improvement initiatives within his / her data domain
- Oversee the Data Improvement Plans of all improvement initiatives within the data domain (see later)
- Monitor security & privacy compliance and ensure conformance with legal & regulatory requirements

Data Owner

Data Stewardship: Key Functions

- **Business Data Steward**

The **Business Data Steward** is responsible for the day to day activities of monitoring & improving a data domain or data area. He / she reports to the Data Owner (either directly or via a matrixed organisation).

Key responsibilities include:

- Monitor key data against defined data quality metrics & KPIs
- Lead & coordinate data improvement activities
- With the Data Owner, develop and manage Data Improvement Plans
- Engage and work with with domain stakeholders – data creators, modifiers and consumers – to improve data quality
- Create, monitor and update a Business Data Glossary & business definitions and business rules
- Create and maintain core business metadata for the data domain
- Review & enhance policies & processes for Data Retention & Data Archiving
- Actively participate in the wider Data Governance community, sharing best practices with other Data Stewards

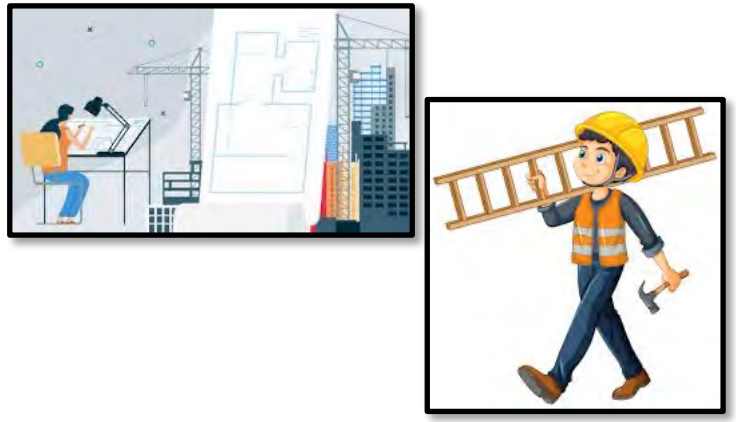
Business Data Steward

Relationship Between Data Owner & Data Steward Roles

Data Owner

DECISION MAKER

- Strategic Direction
- Policy
- Priority Setting
- Data Champion



Data Steward

TECHNICIAN / IMPLEMENTER

- Implementation
- Improvement
- Measurement
- Reporting

In practice, the split between the roles will vary according to:

- The relative personal skills and experience of the role holders
- Data improvement priorities and current improvement projects
- The maturity of the Data Governance programme

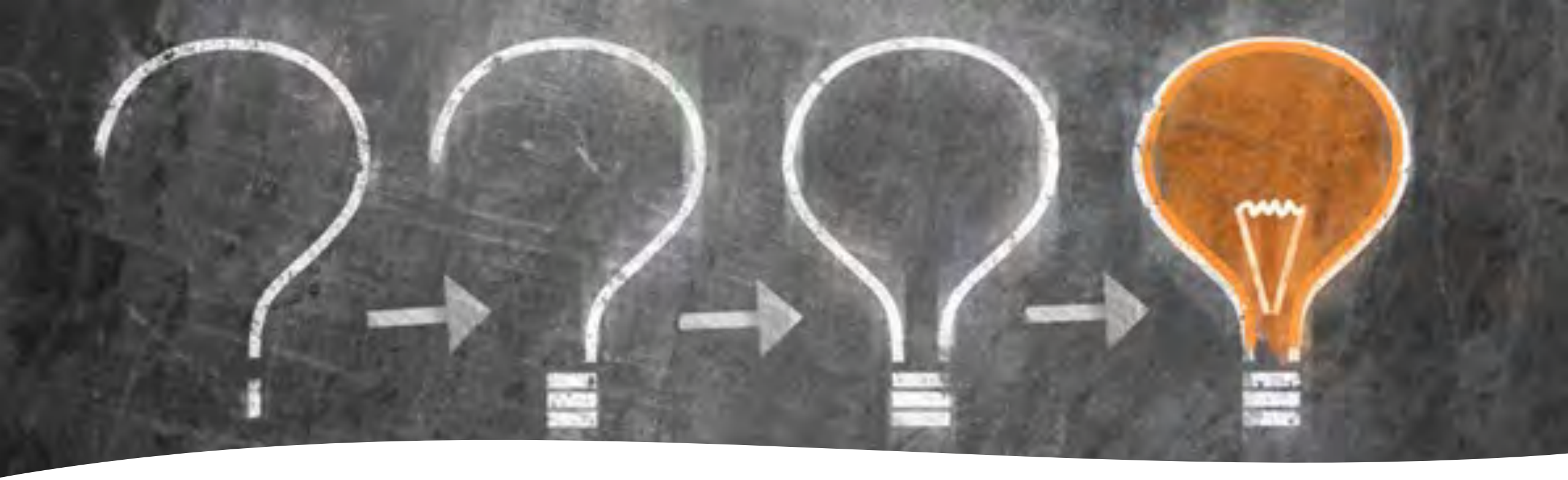
Data Ownership & Stewardship: Key Functions

- **Technical Data Steward / Data Custodian**

The Technical Data Steward / Data Custodian is responsible for providing IT and technical support to the Data Owner and Data Steward. Key responsibilities include:

- Be the IT subject matter expert for specified systems and platforms
- Provide technical & IT assistance to Data Owners and Business Data Stewards
- Provide data profiling, data quality improvement and technical data quality monitoring capabilities
- Design and support Data Dashboards
- Support the translation of data business rules to technical system rules (see later)
- Liaise with IT to effect systems changes in line with data improvement needs

Technical Data Steward / Data Custodian



DISCUSSION

- What skills & expertise would you expect Data Owners and Data Stewards to need?

The Skillset of a Successful Data Stewardship Team

Data Skills

- Good understanding of the business context in which the data is created & consumed
- Business data domain / area subject matter expert
- Knowledge & expertise in core data management disciplines including
  - Data quality
  - Master data
  - Data modelling

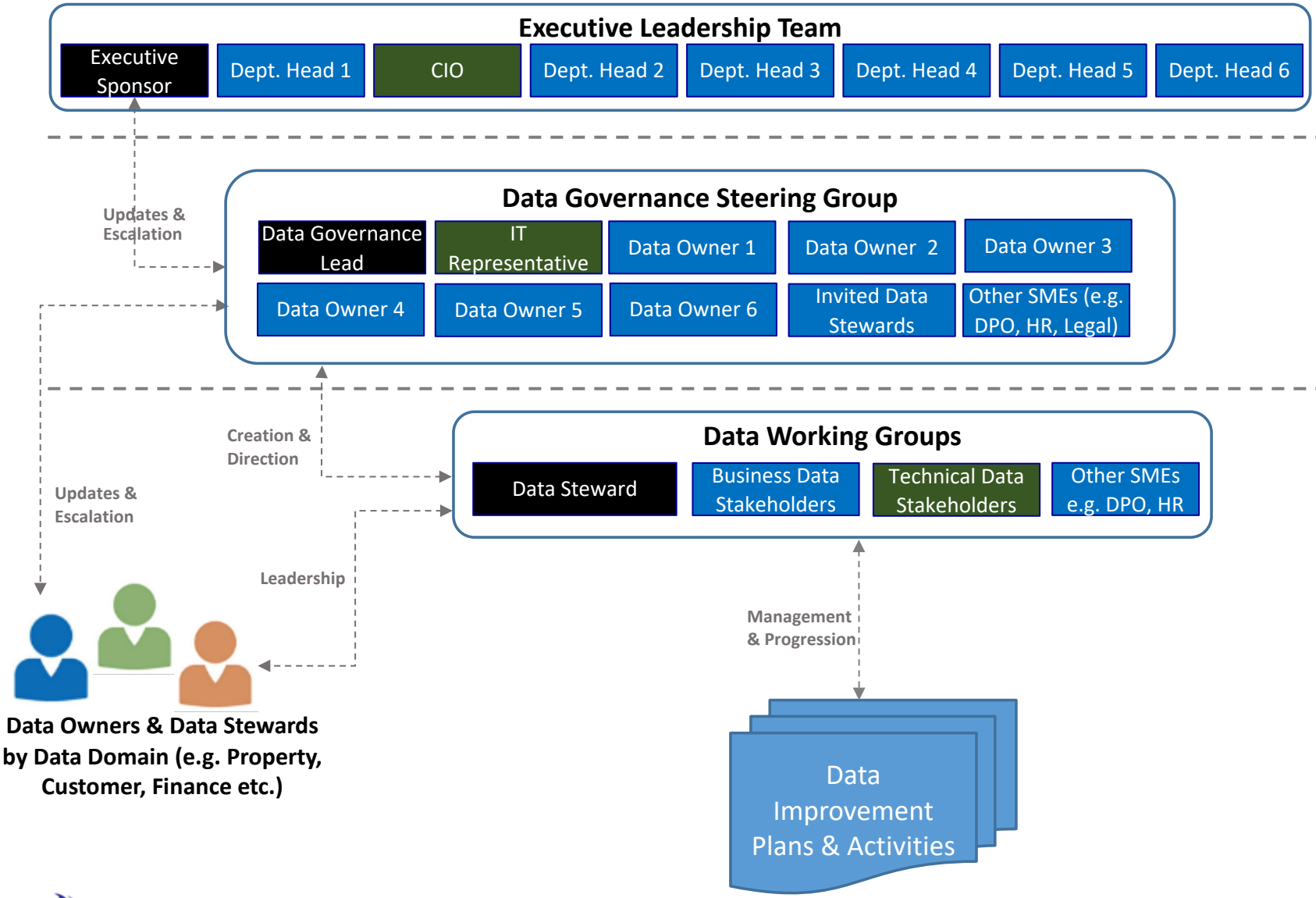
Team Skills

- Consensus builder
- Team builder
- Team player
- Organiser

Business Skills

- Leader
- Change agent
- Influencer
- Negotiator
- Decision maker
- Communicator
- Effective time manager

Example Data Governance Organisational Structure



Executive Level

- Executive support
- Data advocacy
- **Vital to have ELT level sponsor and champion**

Strategic Level

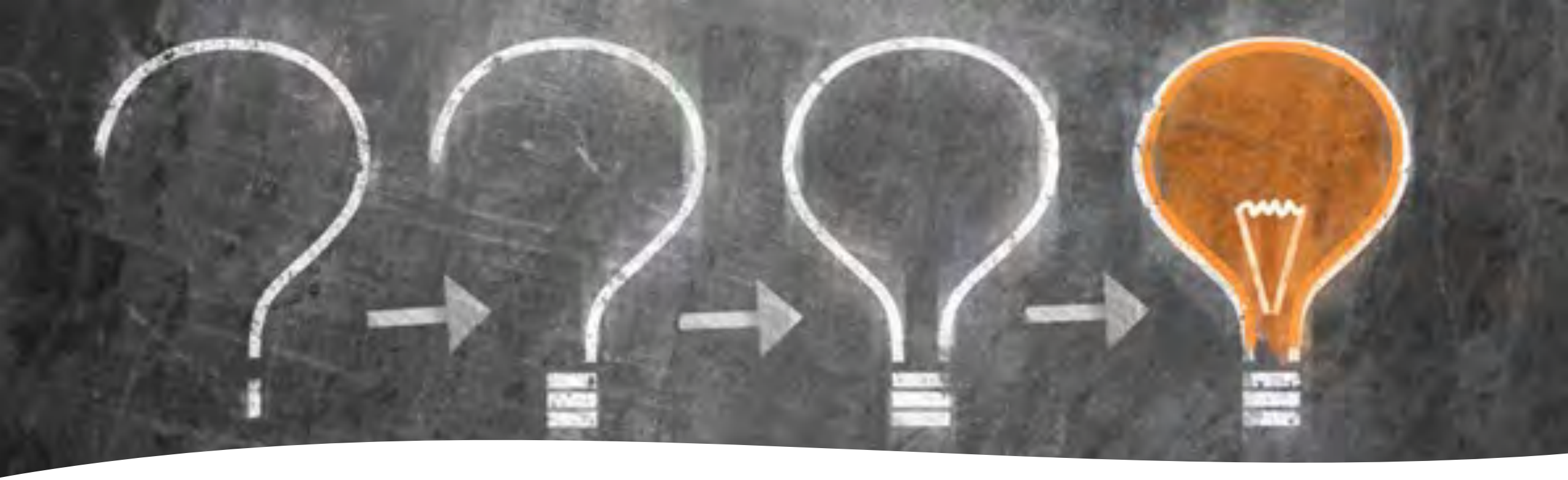
- Sets strategic direction for Data Governance
- **Owns the Data Governance Roadmap**
- Identification of working groups as needed
- Funding within budgeted amounts for data quality & governance
- Identification of data stewards for key data areas
- Arbiter in the case of conflicting needs, definitions, or priorities around cross-functional use of data.

Tactical Level

- **Create Data Improvement Plans for Data Areas etc.**
- Propose and progress data improvement initiatives
- Report progress to Data Governance Steering Group
- Escalate cross-domain issues and barriers to DG Steering Group

Key

- Lead Role
- Technical Role
- Business Role



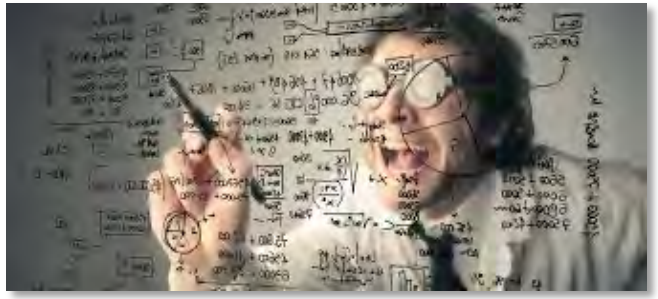
DISCUSSION

How might you determine who Data Owners and Data Stewards should be?

How to Find Potential Data Owners & Data Stewards (1)

De Facto (Maybe Unrecognised) Owners & Stewards

People Who Feel the Pain of Poor Data



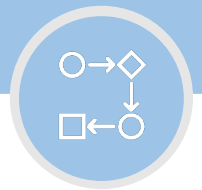
Data Domain Experts / Geeks (The 'Go To' person)

Enthusiasts Seeking a New Challenge

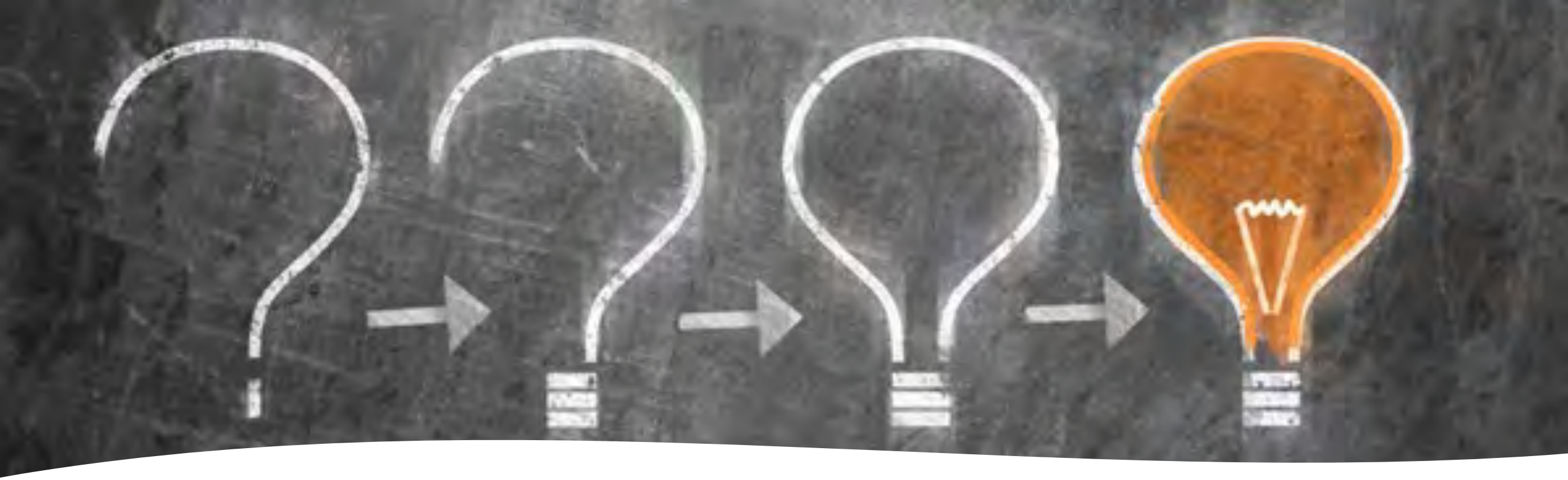
How to find Potential Data Owners & Data Stewards (2)

There are diverse ways to implement data ownership & stewardship, unique to each organisation

PROCESS CENTRIC	SYSTEMS CENTRIC	DATA DOMAIN CENTRIC	ORGANISATION CENTRIC	BLENDED
Process owners become the data owner for all data created, amended & deleted by the business process for which they are responsible *(e.g. Pricing, Billing)*	**System owners** become the data owner for all data created, amended & deleted by the IT system for which they are responsible *(e.g. CRM, Billing System)*	Business appointed roles accountable for improvement of **key data domains** used across an organisation *(e.g. Product, Customer)*	Business appointed roles accountable for improvement of key data domains on the basis of **departmental boundaries or geographic locations** *(e.g. Finance, Marketing, North American Sales)*	In large and complex organisations, an overall Data Governance programme may consist of **combinations of some or all of models**







DISCUSSION

What are the pros and cons of each Data Governance model?

Process Centric Data Governance

- **Process owner(s) become(s) the data owner for all data created, amended & deleted by the business process for which he / she is responsible**

PROS

- ✓ Processes create data
- ✓ Poor data a good measure of broken processes
- ✓ Data improvements need process change
- ✓ Works well where processes extend beyond organisational boundaries
- ✓ Facilitates business support
- ✓ Funding may sit with process owners

CONS

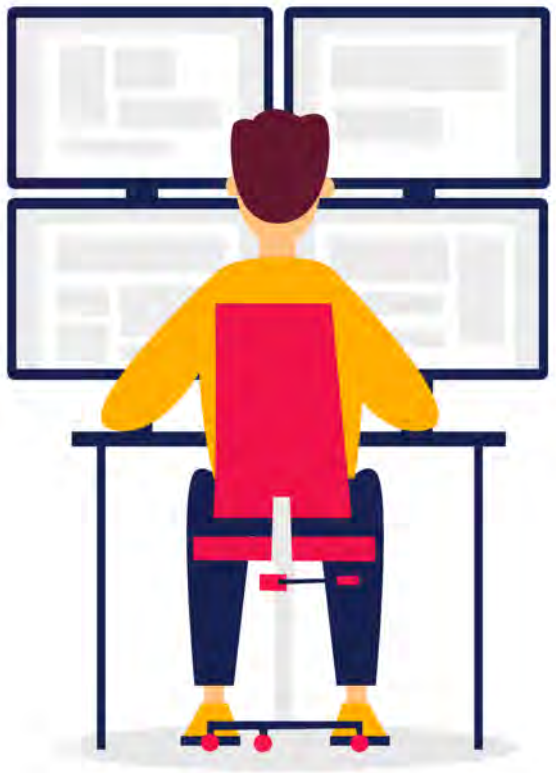
- Ø Partial data views, where data is used / shared between / across processes
- Ø Objectives may clash between process & data improvement
- Ø Can result in a process-centric view of data which may not solve long term problems

Systems Centric Data Governance

- **System owner(s) become(s) the data owner for all data created, amended & deleted by the system for which he / she is responsible**

PROS

- ✓ Works well where reference / master data sources exist or are being built
- ✓ Easier to obtain IT support for DQ initiatives
- ✓ Facilitates introduction & integration of embedded data toolsets
- ✓ Systems owners may have ready access to budget



CONS

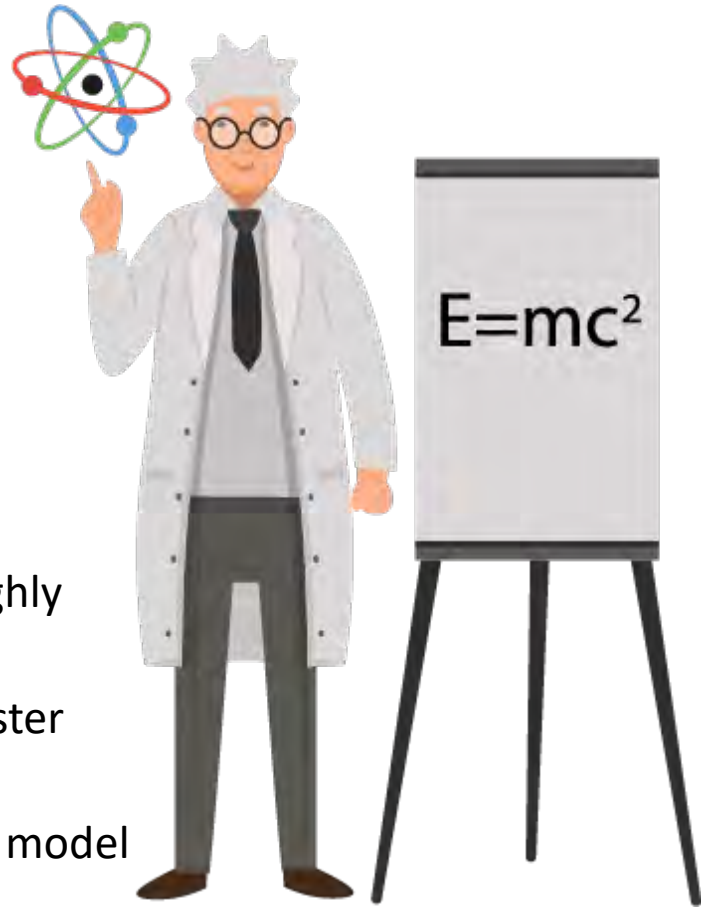
- Ø No end-to-end view of data problems, particularly sources & impacts
- Ø Solutions tend to be IT centric, rather than business centric

Data Centric Data Governance

- **Business appointed FT or PT roles accountable for improvement of key data domains wherever created or used across an organisation, e.g. Data Stewardship**

PROS

- ✓ Have potentially complete view & governance of data across the organisation
- ✓ Consistent data policies easier to implement & enforce
- ✓ Experienced stewards develop highly specialised skill sets / SME
- ✓ Works well where reference / master data sources exist
- ✓ Simplest and clearest governance model



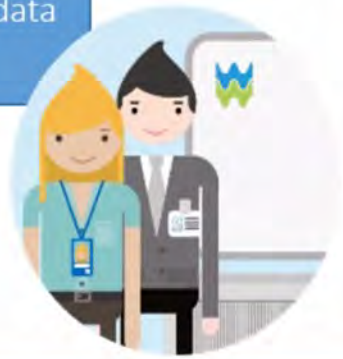
CONS

- Ø Only tends to work well in smaller, more mature organisations
- Ø How to fund?
- Ø Are people available with the right skills & aptitudes?
- Ø If part time, stewardship often seen as a low priority activity
- Ø Less effective where a majority of data used is owned outside the organisation
- Ø Danger that others feel data problems exclusively owned by steward

Giving data the status it deserves - Data Domains

Data Owner

- Accountable for the trustworthiness of the data, data monitoring and general safeguarding of data
- Final accountability and responsibility for the data in their domain
- Position of authority helping to set standards and resolve data issues
- Actively promotes data governance



ASSET DOMAIN

Data Owner

Data Stewards | Data Stewards

Data Stewards | Data Stewards

CUSTOMER DOMAIN

Data Owner

Data Stewards | Data Stewards

Data Stewards | Data Stewards

WATER QUALITY DOMAIN

Data Owner

Data Stewards | Data Stewards

Data Stewards | Data Stewards

TELEMETRY DOMAIN

Data Owner

Data Stewards | Data Stewards

Data Stewards | Data Stewards

FINANCIAL DOMAIN

Data Owner

Data Stewards | Data Stewards

Data Stewards | Data Stewards

Data Steward

- Champion data as a business asset
- Establishing requirements and assessing the quality of the data used across their business domain
- Custodians of data, supporting the interests of the business and IT.
- Will speak up when a decision will not work for their specific data domain

WELSH WATER / DWR CYMRU OWNERSHIP STRUCTURE: Example of Data Centric DG

Organisation Centric Data Governance

- **Business appointed FT or PT roles accountable for improvement of key data domains on the basis of departmental boundaries (e.g. Marketing, Finance) or geographical locations (e.g. Region, Country, Territory)**

PROS

- ✓ Can work well in global or widely dispersed organisations
- ✓ Aligns Data Governance with existing organisational boundaries and authority
- ✓ Clearly answers the 'What's in it for me?' question

CONS

- ø May reinforce silos and discourage cross-organisational collaboration
- ø Could discourage end to end data improvements and so not realise the full potential of Data Governance

Blended Data Governance

- **There is no single best model for data governance, either when initiating data improvement activities, or as Business As Usual. The best model is dependent on the type of data and the circumstances of each initiative, at each stage of maturity.**

PROS

- ✓ The particular context is unique to each organisation so this model allows flexible combinations of governance models
- ✓ Reflects the fact that Data Governance as a change programme and as Business as Usual demand different approaches

CONS

- ø Can create added complexity and uncertain responsibilities
- ø Requires strong leadership to work

Use Case: Assigning Accountability (Contingent / Blended)

University of Rochester, Rochester, USA

UNIVERSITY WIDE DATA DOMAINS

Alumni & Advance-ment	Facilities & Space Services	Faculty
Finance	Human Resources	Master & Reference
Research Administ-ration	Research Products & Outputs	Students

FUNCTIONAL / ORGANISATIONAL DOMAINS

Analytics	Information Security
Audit	Institutional Research & Academic Admin
Communications	Legal
Diversity	Library & Collections
External Relations	Technology
Global Engagement	


Time for
a BREAK
15 min

Data Stewardship: Where to Start?

Questions a Data Steward should seek to answer for their data domain

- What data do we store or have access to?
- How and where is it held?
- Who creates, modifies & consumes the data?
- Who has access to it and why?
- What does it mean - how well is it defined?
- How good is its quality & trustworthiness?
- How can the organisation better exploit it?
- How secure is it?
- What laws and regulations must the data comply with?
- **How do I start to answer these questions?**
- **How should I set about improving the data where improvement is needed?**

Use a Structured Data Governance Framework

What is a framework?
'A supporting structure around which something can be built'
(Cambridge English Dictionary)

What are the benefits of applying a Data Governance Framework?

- Ensures data governance aligns with high priority business needs and focuses on critical data
- Provides a holistic approach to data governance, encompassing people, process, technology & data
- Helps to identify areas where the necessary capabilities are in place, partly in place, or need to be developed
- Can be used to baseline current data governance capabilities, identify gaps and guide current & future activities

Data Governance Framework Domains

From day 1, addressing all these Data Governance framework activities for a data domain or data area is impossible…

Must look to focus & prioritise activities…

Domain	Definition
Vision & Strategy	The business rationale for data governance and its alignment with the strategic and operational goals of the organisation
Organisation & Roles	The formal individual roles & responsibilities for data governance, and how these roles are organised to deliver it.
Processes & Workflows	Covers both how business processes and data interact, and the specific processes and workflows required to operate data governance
Data Management & Measures	Specifies what data falls under the control of data governance and how data is monitored across the organisation, including key performance measures
Tools & Technology	The tools and platforms required to support data governance and how these should be deployed within a defined and consistent data architecture.
Culture & Communication	How data governance aims, processes and structures are promoted and embedded across the organisation, and how progress is communicated.

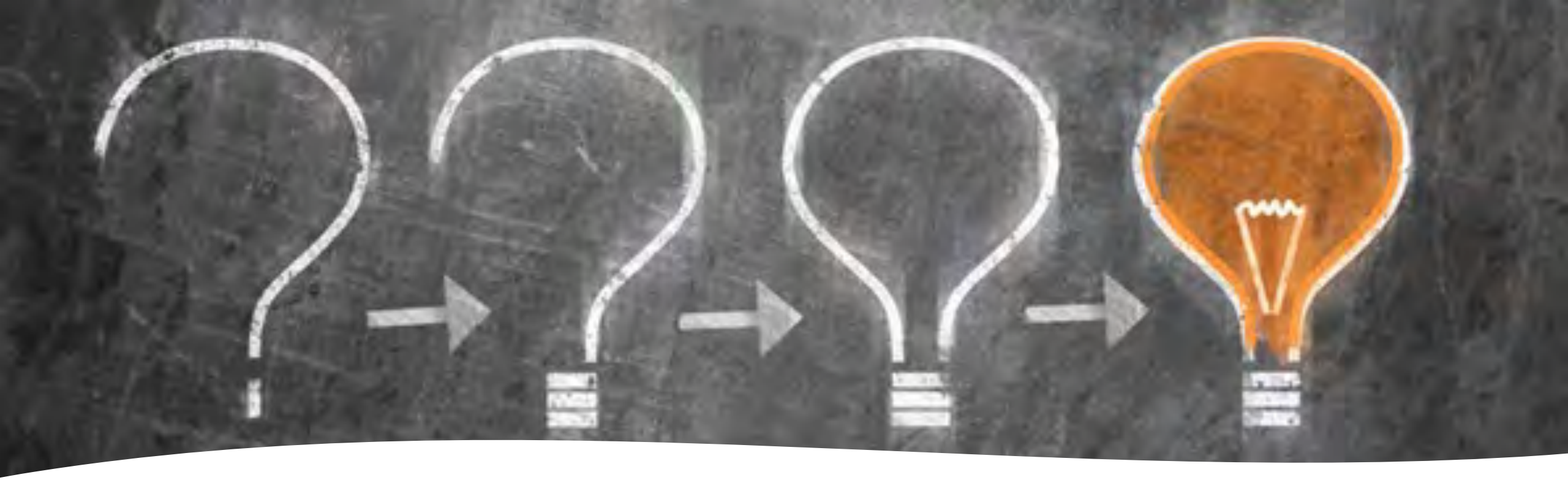
Data Stewardship: The Need for Clear Focus & Priority

Many potential tasks to perform

Must focus & prioritize my efforts

I am only doing this role part time

So where do I start & what do I focus on?



DISCUSSION

If appointed as a Data Owner or Data Steward, what would your initial priorities be?

Data Stewardship: Suggested Initial Priorities

Data Stewardship – First Steps to Success

STEP 1
Conduct Data Domain / Area data audit

STEP 2
Produce baseline Data Domain / Area Report

STEP 3
Agree initial priorities & activities with Executive Champion & Data Stakeholders

STEP 4
Run pilot / proof of concept improvement project(s)

Why These Four Priorities? The Benefits

- Starting with a Data Domain / Area audit:
  - Helps the Data Steward better understand his / her area of responsibility
  - Identifies key data stakeholders
  - Provides a baseline of the current state of the data
  - Helps to start to create a community around the data domain / area
- Producing an initial report of the data domain / area:
  - Acts as a high level business justification for investment & action
  - Helps gain consensus on the primary problems and opportunities to be addressed
  - Enables the Data Steward to communicate the importance and connections of the data domain / area to the wider Data Governance community
- Agreeing initial priorities for action:
  - Ensures a common focus for the Data Owner & Data Steward(s)
  - Enables the Data Owner & Data Stewards to manage available time
- Running Pilot(s) / Proof(s) of Concept:
  - Delivers potential 'quick wins' and early benefits
  - Validates the approach and applies lessons learnt for future activities

STEP 1: Data Domain / Data Area Audit

Step 1 – Data Domain / Data Area Audit: Purpose

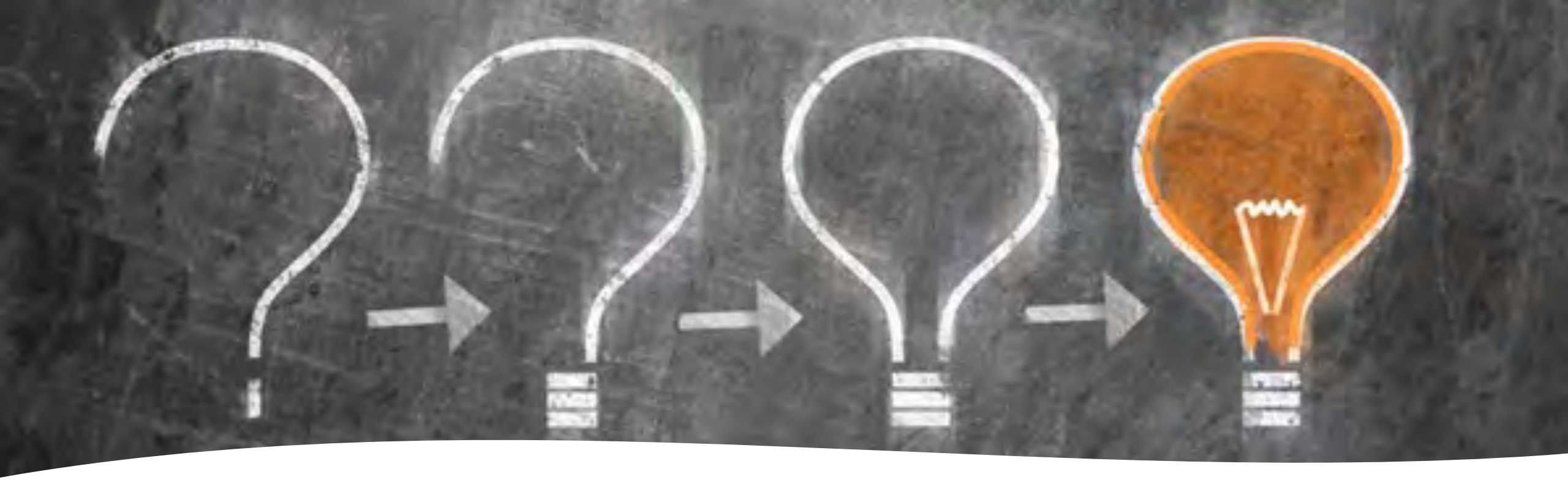
- To identify and engage with data domain / area stakeholders
- To understand expertise and skills across the data domain – business & technical
- To start to create a community of interest across the data domain
- To understand the scope and scale of the data domain / area
  - What are the most important data objects and attributes?
  - Who are the primary data creators, modifiers & consumers?
  - Where is the data stored, created and manipulated?
  - What are the current data volumes?
- To highlight current issues and problems with the data
- To identify future opportunities that better data may enable
- To understand what legal & regulatory requirements the data should comply with
- To assess current security controls over the data – access and update
- To gather any documentation or other artefacts (policies, procedures, processes, models etc.) used to document the data

Step 1 – Data Domain / Data Area Audit - Key Activities

- Agree Stewardship team responsibilities for the audit - Data Owner, Data Steward(s), Data Custodian(s), Others (e.g. Data Architect)
- Build a Stakeholder Matrix
  - Grow and maintain the matrix as the audit and stewardship role develops
  - Include data producers, data consumers, data subject matter experts, IT specialists, Data Protection, Data Security etc. as appropriate
- Set up 1-1 interviews, group interviews or workshops
- Six 'magic questions'
  - How are you currently using or managing data in your role?
  - What's working well?
  - What needs to be improved and why?
  - What future data needs do you have and what opportunities can be taken with better (use of) data?
  - What are the current costs / lost opportunities of current data shortcomings? (Quantify in financial terms if possible)
  - What is your One Wish for data?
- Additional audit areas
  - Platforms & Systems – what, where, how – check for available system documentation
  - Security – review existing security policies & processes
  - Legal & Regulatory requirements – review data protection policies and the Information Asset Register
- Record the findings and create
  - A consolidated Data Issues / Opportunities list & Issues Matrix
  - A high level Business Data Model of the data domain – to identify key data domain objects & attributes
  - An embryonic business glossary with data definitions for the data domain

And remember – take detailed notes of each interview / session; they will be invaluable

STEP 1 Activity: Build a Stakeholder Matrix



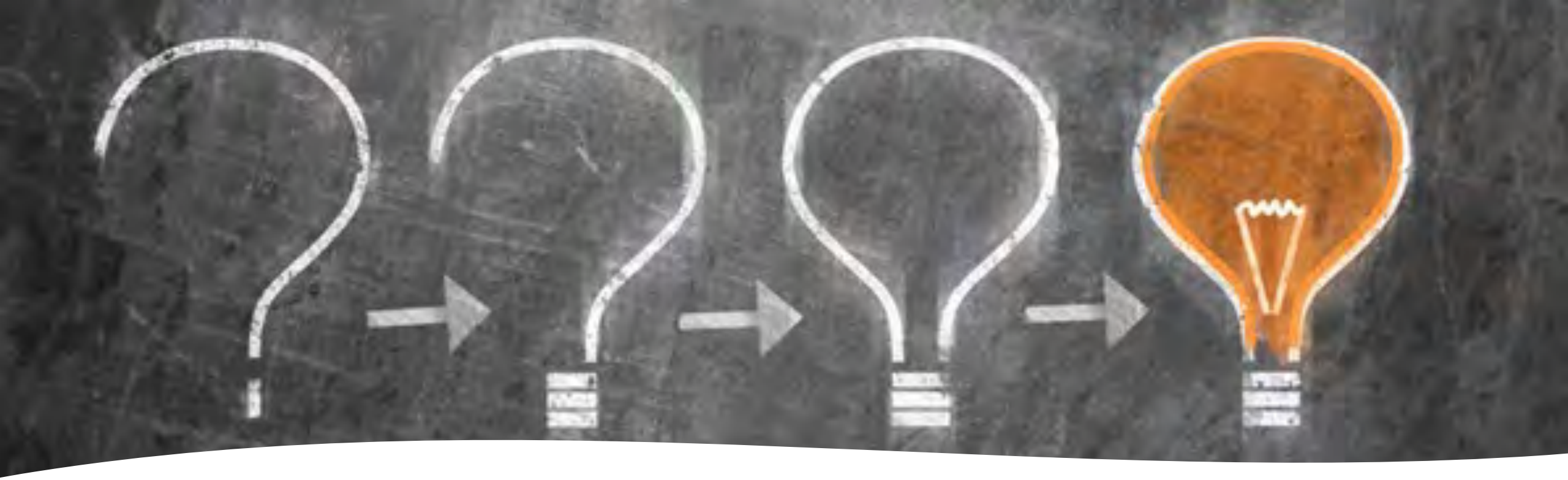
DISCUSSION

As a Data Steward, who would your likely data stakeholders be?

(Types of roles)

Potential Data Stakeholders

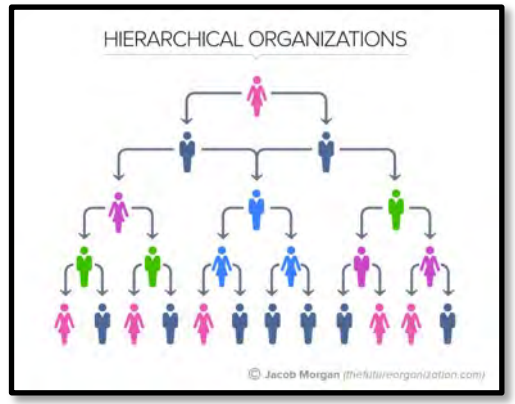
- Data Producers
  - People who create, amend or source the data
    - Internal (e.g. Sales, Marketing, Operations, Finance etc.)
    - External (e.g. third-party data suppliers)
- Data Consumers & Customers
  - People who use the data supplied by data producers
    - Internal (e.g. Operations, Finance, HR etc.)
    - External (e.g. customers, suppliers, regulators etc.)
- IT Subject Matter Experts
    - IT people responsible for the platforms & applications which create, process and store the data
- Other Roles (Depending on Data Type)
    - Data Protection & Privacy (e.g. Personally Identifiable Information)
    - Data Security



DISCUSSION

Why is it important to include stakeholders from different levels of the organisation?

e.g. Senior managers, data entry people etc.



The Importance of Capturing Different Perspectives

- It's important to speak to a wide range of roles across the organisation:
  - Senior Executives
  - Management roles (Business & IT)
  - Front line roles (Business & IT) – representative individuals
- Differing organisational roles will:
  - Offer a wider range of perspectives and knowledge
  - Often senior managers are not aware of data problems as they are hidden from them
  - Front line people usually have a good grasp of specific data problems and are a good source of potential improvements and or solutions
  - For long term data improvement it's vital that all stakeholders feel consulted and involved in the improvement effort

And remember… a Stakeholder Matrix should be a dynamic and permanent artefact maintained by the Data Steward: Stakeholders change!

Example Stakeholder Matrix

Stakeholder Matrix

Stakeholder Name / Group	Job Title/Role	Location	Involvement				Role on Project	Influence	Impacted	Phone	Email
			R	A	C	I		H / M / L	H / M / L		
EXECUTIVE REVIEW											
Mary Smith	CIO	Plano, TX	X			X	Executive Sponsor	H	H	+1 (214) 555-1212	mary.smith@thisco.com
Robert Quantiles	CFO	New York, NY			X	X	Executive Chamption for Finance data	H	H	+1 (212) 555-1212	robert.quantiles@thisco.com
STEERING GROUP											
Stuart Ling	Director of Enterprise Architecture	San Francisco, CA	X	X			Core working group	H	H	+1 (415) 555-1212	stuart.ling@thisco.com
Ian Wordingham	Director of Data Strategy	London, UK	X	X			Core working group	H	H	+44 (020) 1234 1234	ian.wordingham@thisco.com
Melissa Smith	Strategic Consultant	Edinburgh, UK			X		Core working group	H	L	+44 131 123 1234	melissa.smith@thisco.com
DATA ARCHITECTURE											
Eric Wong	Data Architect	Plano, TX			X	X	Recommendations & input on data architecture	M	H	+1 (214) 555-1212	eric.wong@thisco.com
Wendy Collington	Data Architect	San Francisco, CA			X	X	Recommendations & input on data architecture	M	H	+1 (415) 555-1212	wendy.collington@thisco.com
Myles Stuart	DBA	Plano, TX				X	Historical input on legacy systems	L	M	+1 (214) 555-1212	myles.stuart@thisco.com
ETC - Other IT Groups listed											
FINANCE											
Lisa Winston	Director of Finance	New York, NY			X	X	Input into US finance needs for data	H	H	+1 (214) 555-1212	lisa.winston@thisco.com
Timothy Preston	EMEA Finance Lead	London, UK			X	X	Input into EMEA finance needs for data	H	H	+44 (020) 1234 1234	timothy.preston@thisco.com
Juan Morales	Latin America Finance Lead	Santiago, CL			X	X	Input into LATAM finance needs for data	H	H	+56 2 12345678	juan.morales@thisco.com
ETC - Other Business Groups listed											

RACI *:
R: Responsible
A: Accountable
C: Consulted
I: Informed

STEP 1 Activity: Create an Issues & Opportunities Log

Data Issues & Opportunities Log: Suggested Template

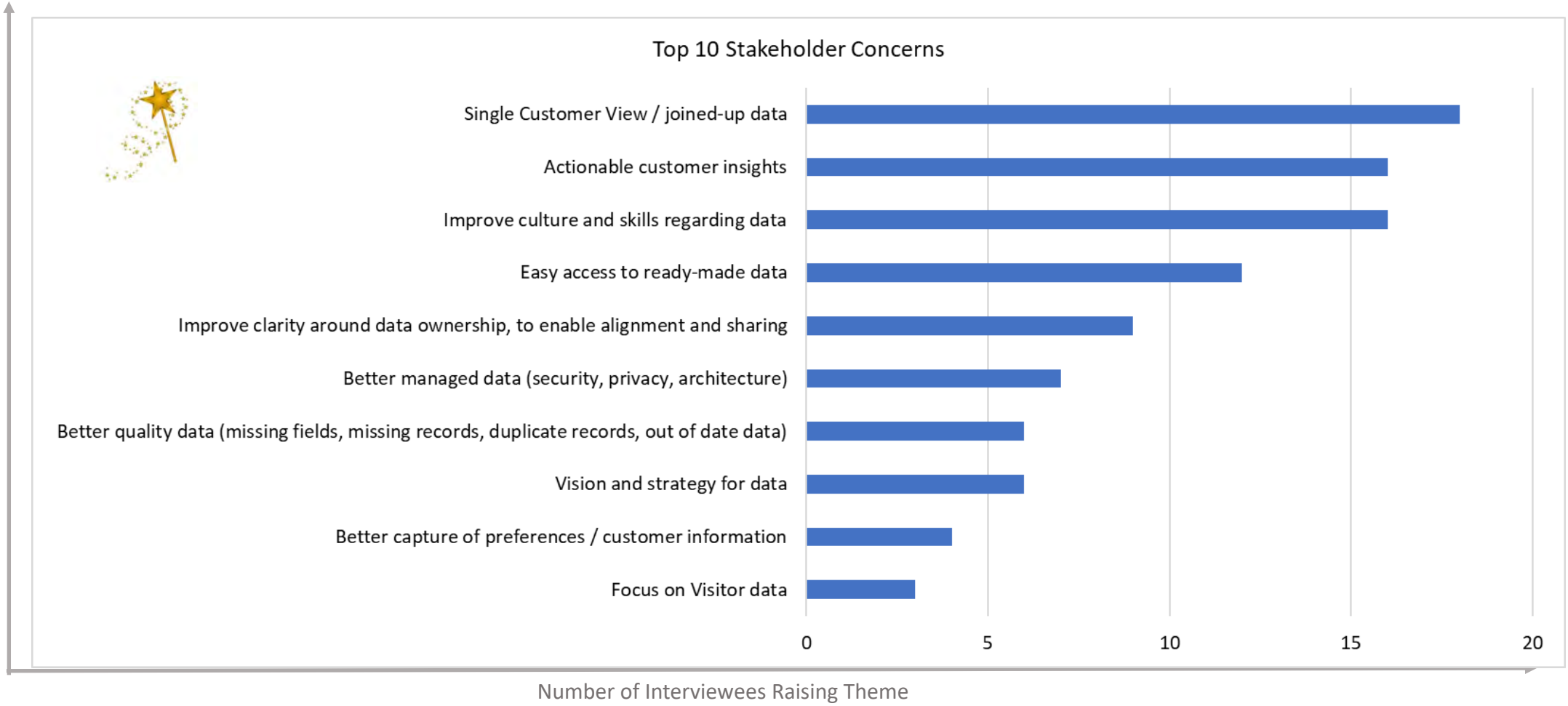
ID	Short Name	Brief Description	Impact of the Problem / Potential Opportunity (Business & IT)	Raised By
1	**Customer Data Duplication**	Both in the CRM platform and the Customer Data Warehouse there are known customer record duplications, mainly caused by marketing and salespeople not being able or willing to search for an existing customer record. One estimate is that up to 25% of CRM customer records are duplicates. Data Warehouse duplication unknown.	• Multiple marketing communications sent to the same customer, causing brand damage • Inability to evaluate total customer lifetime revenue value • Impossible to derive a single view of a customer • Risks contravening GDPR if customer submits Data Subject Access Request (DSAR) and all data not returned • Resolving this problem would accelerate MDM ambitions and enable better targeted 1-1 customer marketing	• Bob Mills (Marketing Manager) • Anna Ford (CRM Technical Architect) • George May (Senior Sales Rep)
2	**Product Data Inconsistencies**	Product data is held and processed in several different platforms and systems. Each system has its own set of product reference codes. Many inconsistencies have been caused by the company making several acquisitions over recent years. No attempt has yet been made to standardise codes despite wide awareness that this causes problems for the business.	• Product codes need to be manually amended and rekeyed when input into other systems. At preset it is estimated that around 3 person years are spent each year on this task. • The above process is subject to error and the incorrect codes are often input to systems. This can lead to the wrong product being dispatched, leading to customer complaints and rework.	• Rachel Smith (Product Manager) • Akhtar Abdul (IT Support) • Betty Willis (Dispatch Coordinator) • Arya Patel (Finance)
3	**Poor Data Training of Data Entry People**	Data entry people are distributed throughout the company in many different siloed parts of the organisation. This has led to many data entry people being unaware of where data they enter is used across the business, other than within their own immediate functional areas.	• Often data is not fit for purpose when processed by downstream business units, especially dispatch and finance functions. • This requires these units to contact data entry teams to try to resolve data errors, and this impacts the productivity of both data entry teams and downstream functions. • In general, awareness of the importance of accurate and complete data entry is low.	• Sara Braun (HR Director) • Fred Sarat (Sales Manager) • Rachel Smith (Product Manager) • Arya Patel (Finance)

Issue Matrix

- An Issue Matrix lists:
  - Key Themes & Issues around data
  - Which teams are interested in each issue / theme
- Creates a "heat map" of priorities

Key Issues & Themes	Leadership	Sales	Finance	Marketing	Support	R&D	HR	Legal	Compliance
Improved Customer Information	X	X	X	X	X	X	X	X	X
No Cross-Domain Integration view (Sales, Marketing, Support, etc.)	X	X	X	X	X	X	X	X	X
Inconsistent Definitions of Key Business Terms	X	X	X	X	X			X	X
Inconsistent Summarisation/Timing (e.g. Monthly view)	X	X	X						
External data integration needed				X	X				
Faster Time-to-Market for New Applications	X	X		X		X			
Lack of standards creating quality issues & rework					X	X			
Siloes of information slow development across teams	X	X		X	X	X	X		
Increase Efficiency & Reduce Costs									
System Redundancy	X	X	X	X	X	X			
Staff spend extra hours looking for information	X	X	X	X	X	X	X	X	X
Rework needed due to incorrect definitions			X		X	X			
Etc.									

Example: What is your One Wish related to data?
Top Themes: All Stakeholders



AnyCo faces some challenges due to its operating model of multiple businesses, and this came through strongly in the themes such as "Single Customer View / joined-up data" and "Improve clarity around data ownership, to enable alignment and sharing"

Total stakeholders interviewed = 63

See Appendix for list of Stakeholders, and details on Departmental findings

STEP 1 Activity: Create Initial Business Data Model

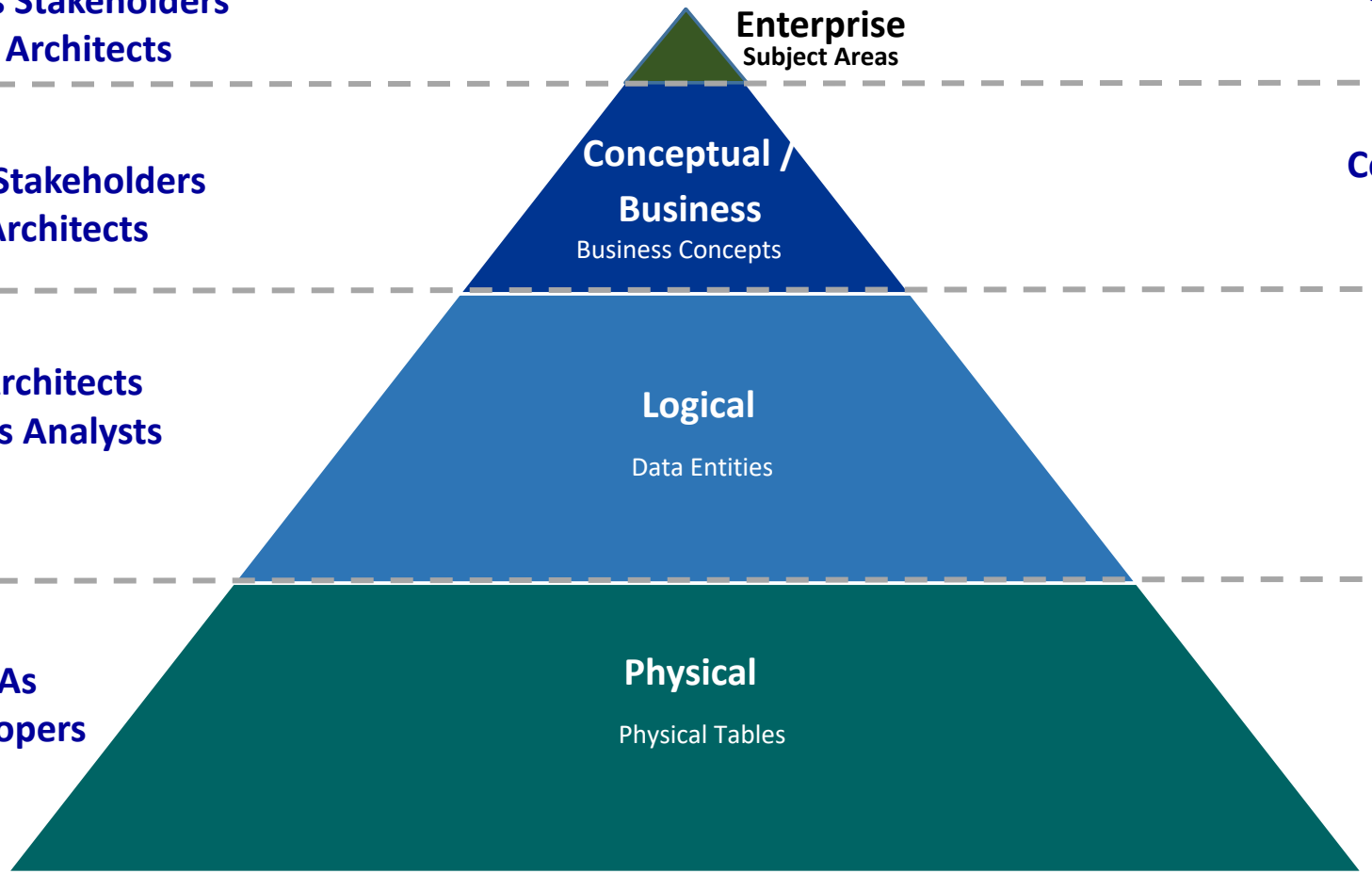
Levels of Data Models

Audience

Purpose

Business Stakeholders
Data Architects

Organization & Scoping of main business domain areas



Business Stakeholders
Data Architects

Communication & Definition of Business Concepts & Rules

Data Architects
Business Analysts

Clarification & Detail of Business Rules & Data Structures

DBAs
Developers

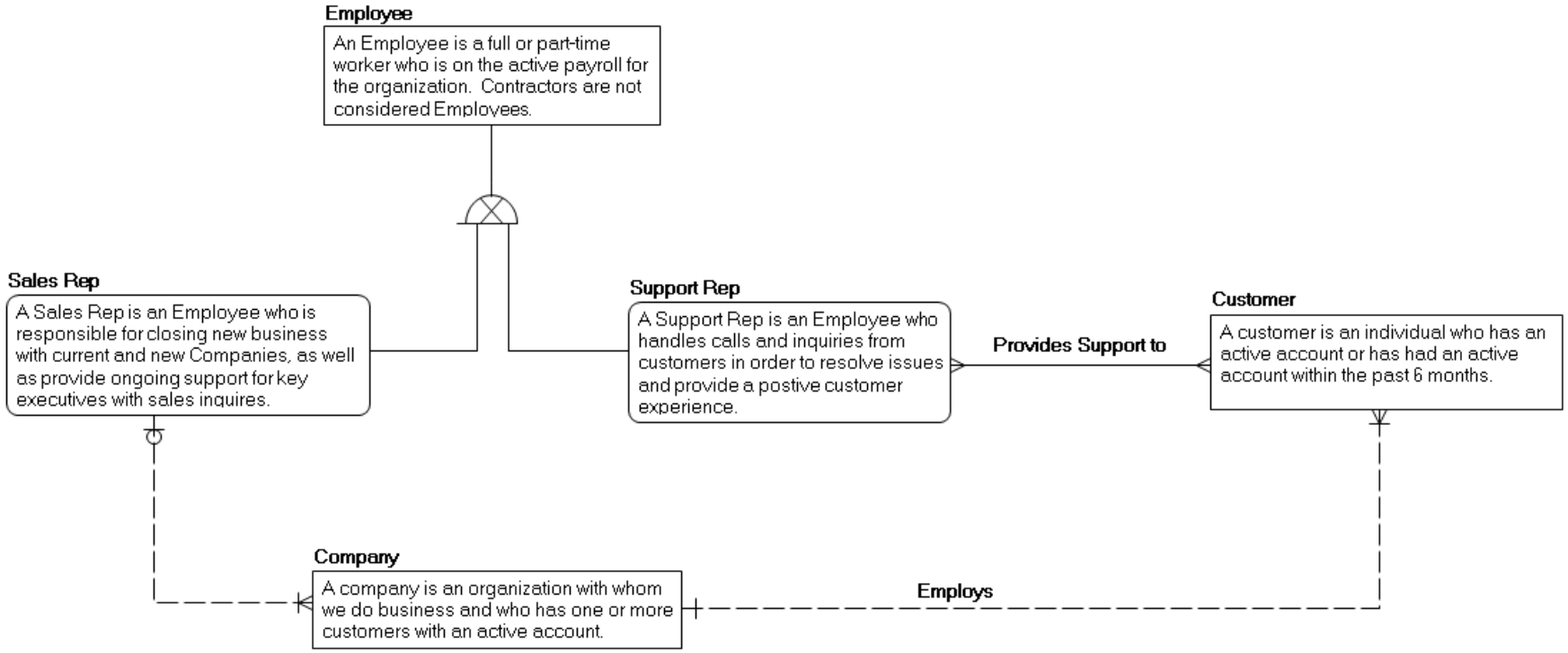
Technical Implementation on a Physical Database

Business Data Model (Conceptual)

- Communication & definition of core data concepts & their definitions

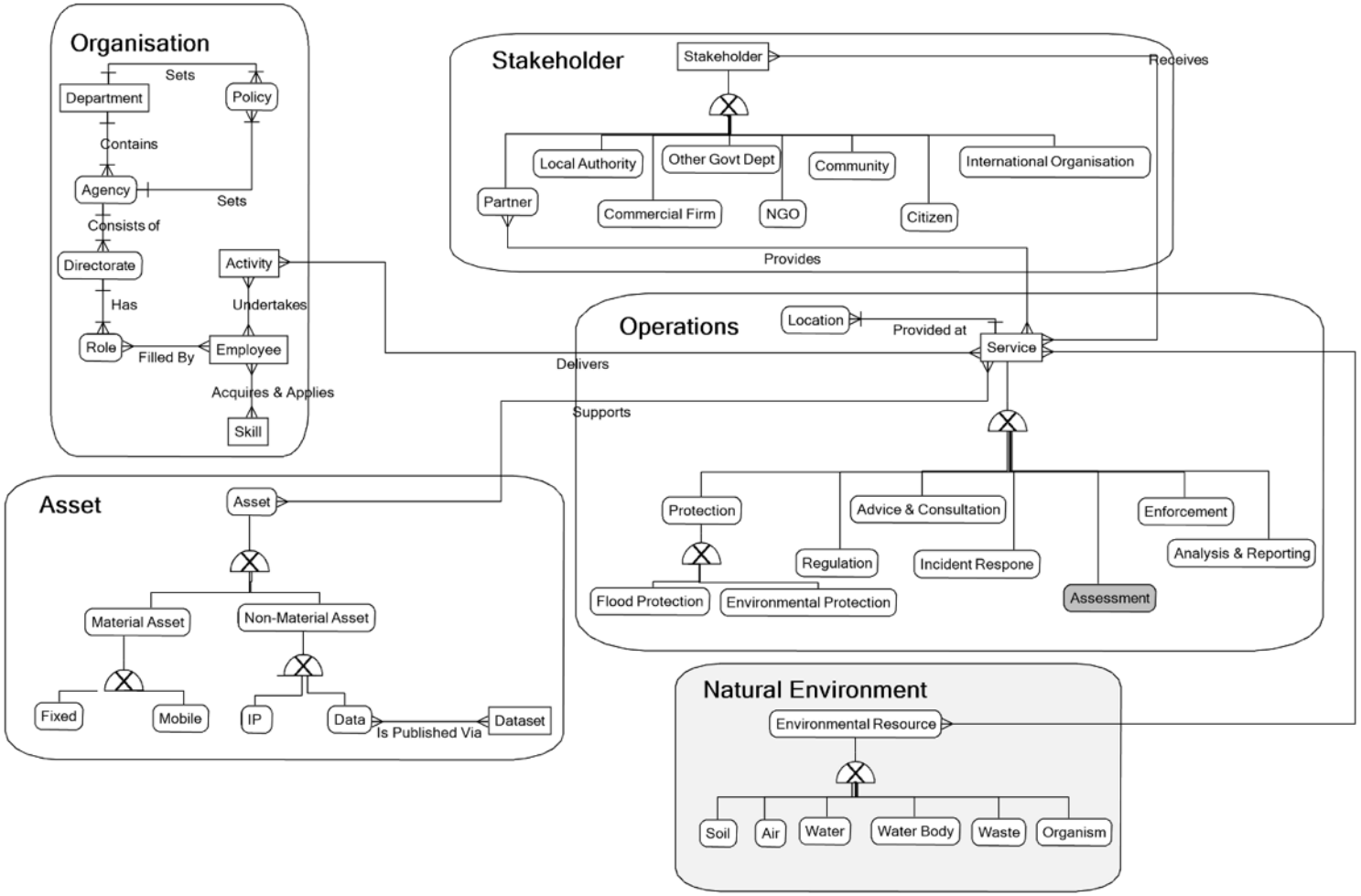
- A business data model provides core **definitions** of key data objects.
- It also shows key **relationships** between data objects.
- Even a simple diagram as the one on the right can tell a powerful **"story"**

…. and uncover key **business issues and opportunities**.



Hint: If you do not have the skills to create a BDM yourself, find a data modeller who can help

Example Business / Conceptual Data Model



Environment Agency

STEP 1 Activity: Create Business Glossary

Technical & Business Metadata

- **Technical Metadata** describes the structure, format, and rules for storing data
- **Business Metadata** describes the business definitions, rules, and context for data.
- **Data** represents actual instances (e.g. John Smith)

Technical Metadata

Focus of Data Dictionary

```
CREATE TABLE EMPLOYEE (
      employee_id         INTEGER NOT NULL,
      department_id       INTEGER NOT NULL,
      employee_fname      VARCHAR(50) NULL,
      employee_lname      VARCHAR(50) NULL,
      employee_ssn        CHAR(9) NULL);

CREATE TABLE CUSTOMER (
      customer_id         INTEGER NOT NULL,
      customer_name       VARCHAR(50) NULL,
      customer_address    VARCHAR(150) NULL,
      customer_city       VARCHAR(50) NULL,
      customer_state      CHAR(2) NULL,
      customer_zip        CHAR(9) NULL);
```

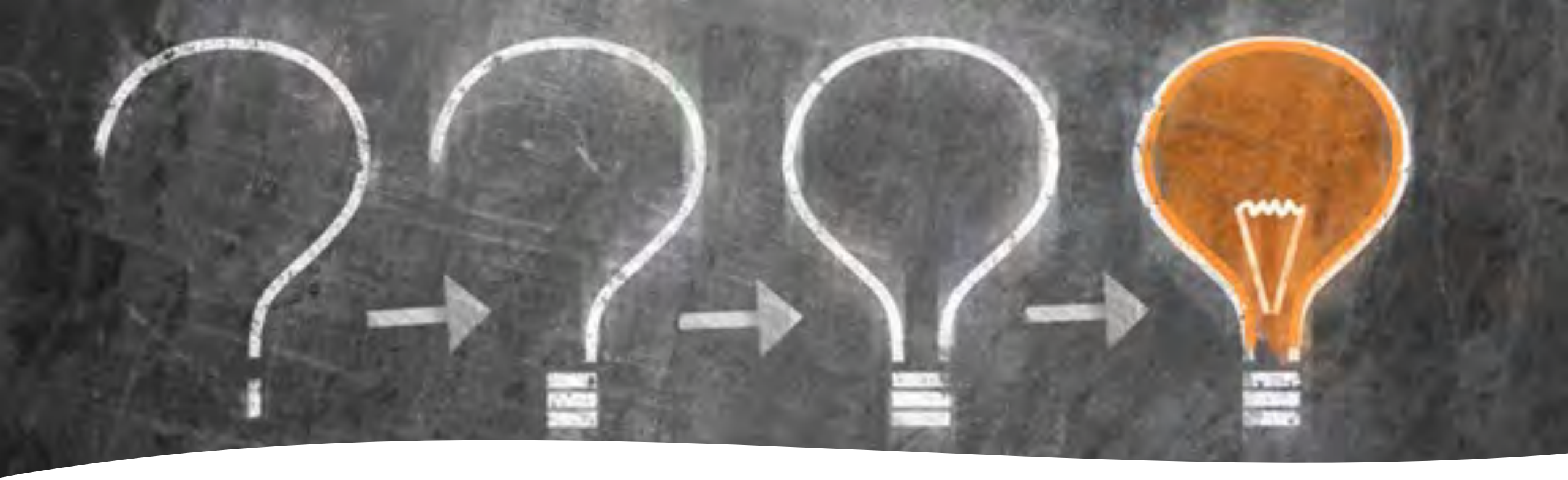
Business Metadata

Focus of Business Glossary

Term	Definition
Employee	An employee is an individual who currently works for the organisation or who has been recently employed within the past 6 months.
Customer	A customer is a person or organisation who has purchased from the organisation within the past 2 years and has an active loyalty card.

Data

John Smith



DISCUSSION

- What metadata would you expect to document for each business term or concept?

Business Glossary: Rationale & Contents

- **A Business Glossary is a:**
  - List of business terms and their definitions that organisations can use to ensure the same definitions are used company-wide
  - It forms a common business vocabulary, used by everyone in an organisation
- **A Glossary can be:**
  - A simple MS Excel spreadsheet (to start)
  - An integral capability of a Data Catalog or other Business Glossary tool
  - Start simple and expand
- **A Glossary must be maintained as a permanent artefact as:**
  - Business terms and definitions change
  - New or amended business terms & rules are created

- **Typical Contents should include:**
  - Data Type (from Conceptual Data Model)
  - Business Term (Full name)
  - Business Term (Abbreviated name)
  - Definition of Term
  - Allowable variations of definition
  - Data Owner
  - Business Data Steward
  - Technical Data Steward
  - Data Producer(s)
  - Data Consumer(s)
  - Source system(s)
  - Key Business & Data Quality Rules – see later – Format & Content
  - Other fields as required


Time for
a BREAK
60 min

STEP 2: Data Domain Analysis & Report

Data Domain Analysis & Report

- Report Purpose:
  - To document and socialise the findings of the audit
  - To gain a consensus view of the data domain across key data stakeholders
  - To present the maturity assessment and its implications
  - To highlight potential priority improvement areas and actions
  - To generate a high level business justification for action (and potentially seek resources & funding)
  - To act as a baseline to demonstrate future improvements

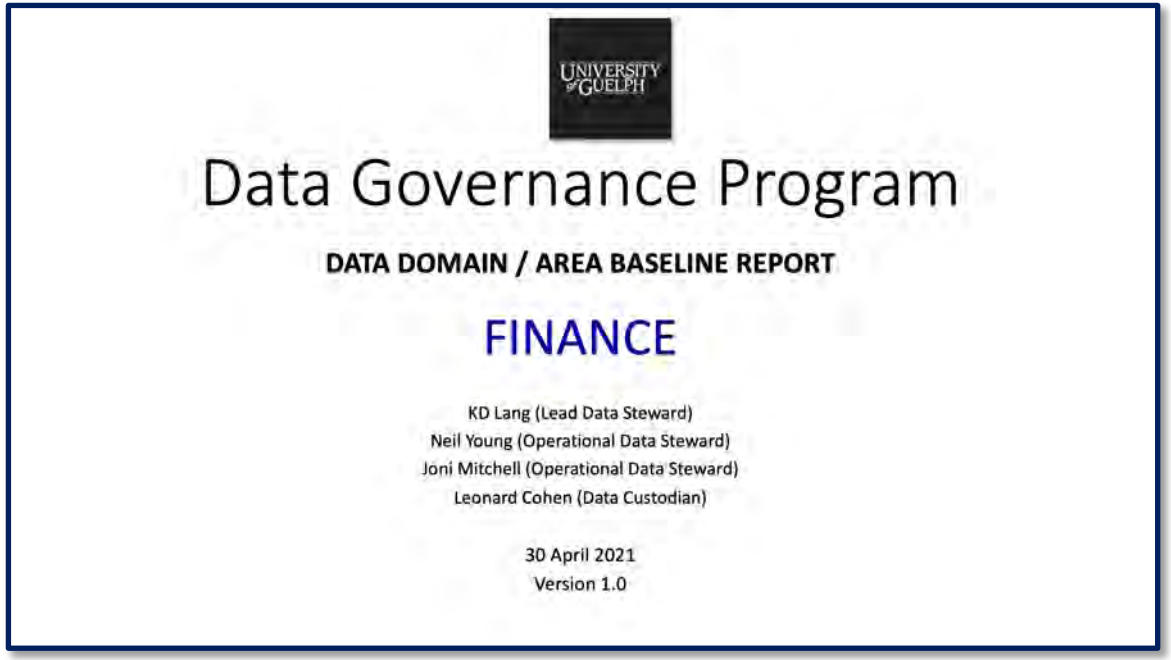
- Report Format & Tips:
  - The report should be owned by the Data Owner
  - Share drafts with the key data stakeholders and refine it in liaison with them
  - Present the report as a PowerPoint slide pack to keep it short and simple
  - Keep the pack short – maximum 20 slides with appendixes
  - Use graphics and diagrams as much as possible

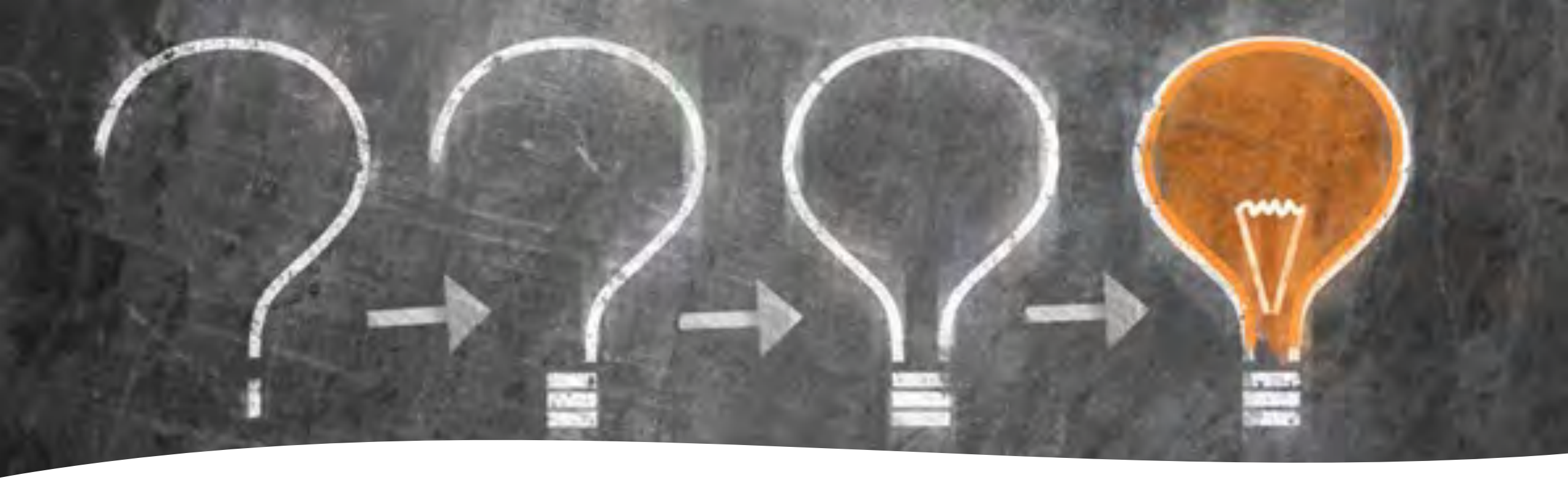
Data Domain / Data Area Audit – Baseline Report Contents

- Executive Summary

NB: The exact contents of a specific report will depend on the data domain / data area

- Data Domain / Area Analysis
  - Data Domain / Area Importance to the organisation
  - Scope & Scale of the Data Area
  - Uses of the Data in Business Processes
  - Primary Data Creators, Modifiers & Consumers
  - Data Objects & Key Attributes
  - Key Data Definitions & Business Rules
  - Platforms, Systems & Tools
- Data Problem Themes & Issues
  - Business Impact of Issues (Economic, Reputational, Risk etc.)
  - IT Impact of the Problems (Economic, Costs of Failure etc.)
- Data Domain / Area Maturity Assessment
  - Vision & Mission
  - Organisation & People
  - Processes & Workflows
  - Data Management & Measures
  - Tools & Platforms
  - Communication & Culture
- Proposed Actions to Address Issues
  - Existing Improvement Activities
  - Proposed Quick Wins
  - Medium Term Initiatives
- Background Slides





DISCUSSION

- The following Rich Picture is of a hotel chain and its data problems
- What are the main data problem themes that you can identify from the diagram?

RICH PICTURE OF DATA QUALITY PROBLEMS AT ACME HOTEL & CASINO GROUP

1 HOTEL = 1 DATABASE

DUPLICATE CUSTOMERS

Single Customer View

6 CASINOS

10 NIGHTCLUBS

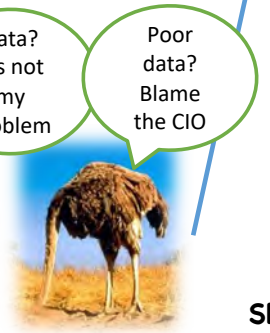
OUTMODED IT

CIO

60 HOTELS

POOR DATA QUALITY

BUSINESS & IT MEETINGS



BUSINESS

SHAREHOLDERS

CFO

Untrusted financial results

Finance data rework & delay

Stubs? Who cares? We don't.

Valet Parking: Stubs not submitted loss £2.5M pa

COO

41% of all supplies are Emergency Supplies; cost £21.7m

CMO

£315k lost on returned magazines

406 email addresses for Mickey Mouse in CRM

ACME TRAVEL MAGAZINE

RICH PICTURE OF DATA QUALITY PROBLEMS AT ACME HOTEL & CASINO GROUP

PROBLEM THEMES

Uncontrolled customer data duplication

1 HOTEL = 1 DATABASE

No single customer view

Single Customer View

6 CASINOS

10 NIGHTCLUBS

OUTMODED I

Potential need for IT investment

Help! I can't prove on own

CIO

CEO (VIEW)

COST REDUCTION

STOCK PRICE

LOYALTY SCHEME

60 HOTELS

We know our data stinks

POOR DATA QUALITY

Lack of business accountability for data

Data? It's not my problem

Poor data? Blame the CIO

BUSINESS

SHAREHOLDERS

Financial data trust and rework

CFO

Finance data rework & delay

Cultural issues about data capture

Stubs? Who cares? We don't.

Stubs not submitted loss

Poor marketing data quality

£315k lost on returned magazines

ACME TRAVEL MAGAZINE

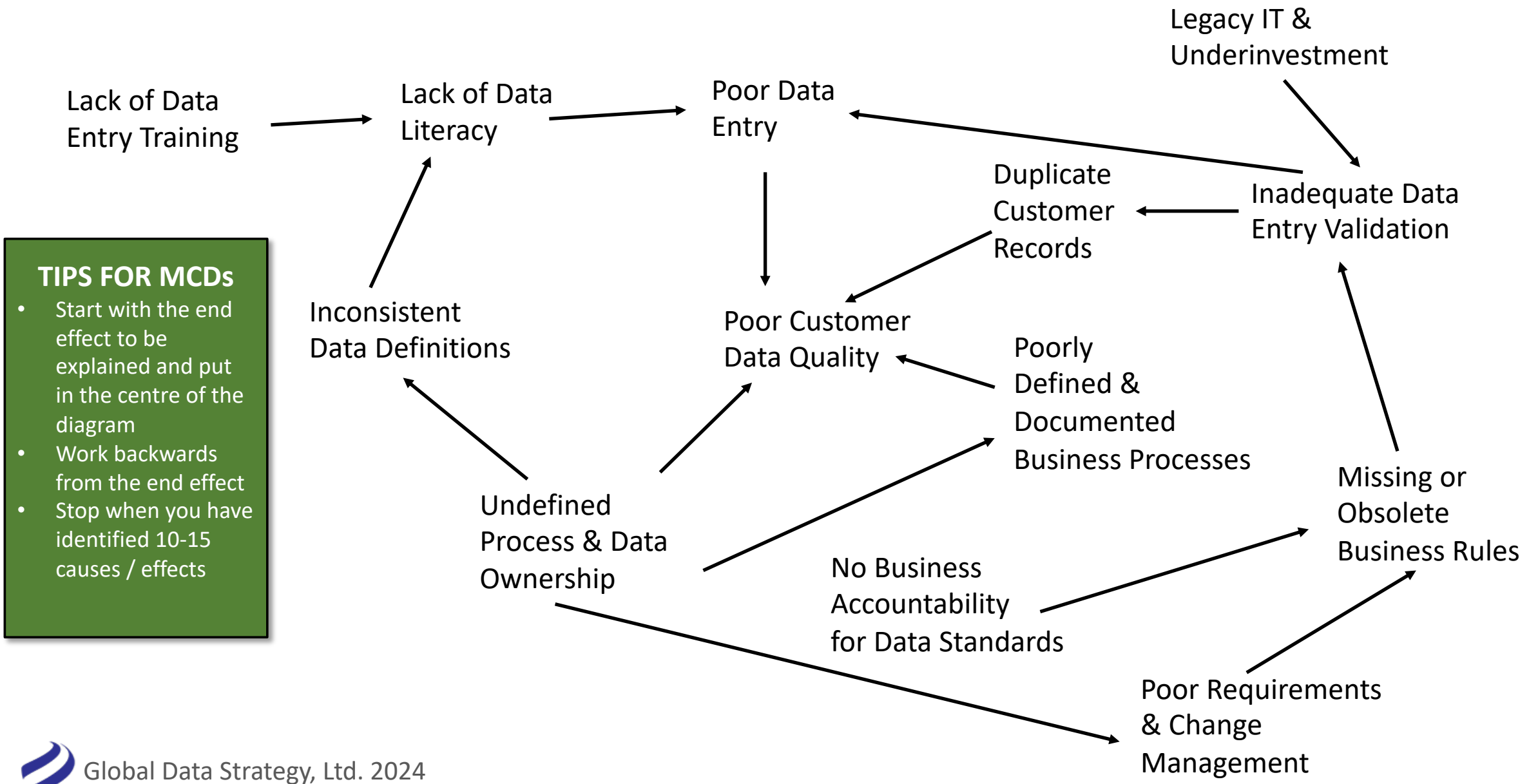
406 email addresses for Mickey Mouse in CRM

Supply management problems

41% of all supplies ar Emergency Supplies; cost £21.7m

COO

Multiple Cause Diagrams (Root Cause Analysis) – Example

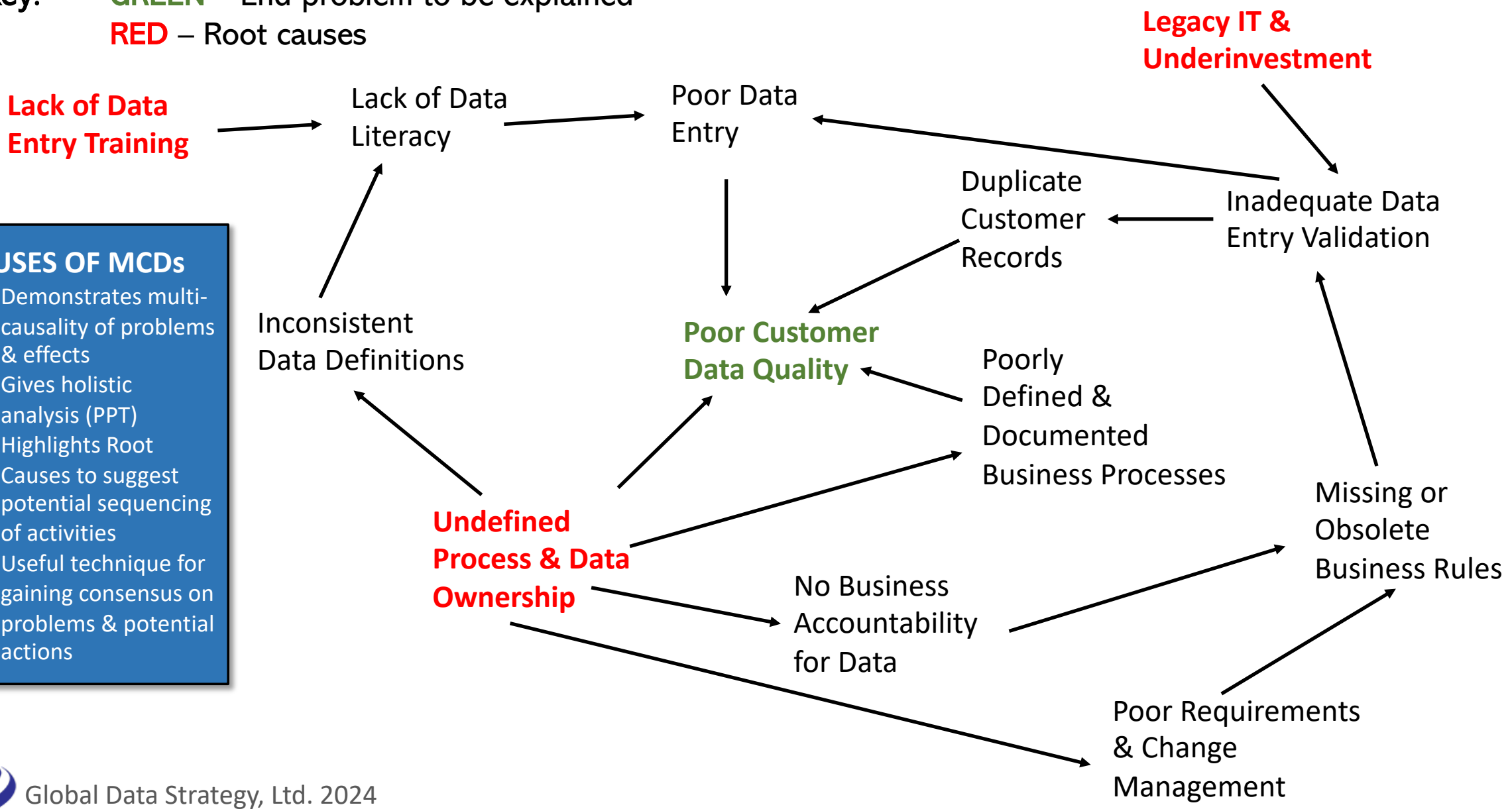


TIPS FOR MCDs

- Start with the end effect to be explained and put in the centre of the diagram
- Work backwards from the end effect
- Stop when you have identified 10-15 causes / effects

Multiple Cause Diagrams (Root Cause Analysis) – Value

Key: GREEN – End problem to be explained
RED – Root causes



USES OF MCDs

- Demonstrates multi-causality of problems & effects
- Gives holistic analysis (PPT)
- Highlights Root Causes to suggest potential sequencing of activities
- Useful technique for gaining consensus on problems & potential actions

Real Example of a Data Domain Motivation Model

Motivation for Customer Data Domain Improvement

External Drivers highlight changes in the external environment that need to be addressed

Internal Drivers highlight internal functional or company initiatives

XX - Current Customer Data Importance

To support and enable excellent personalised customer relationships

XX – Future Data Vision

To enable all future service provision via online customer interaction

External Drivers

Increased Competition	Digital Transformation	Rise of Online Sales Channels
Consumer Advocacy	Compliance and Regulation	Social Media & Online Community

Internal Drivers

Revenue & Market Share Growth	Direct To Consumer (DTC)	Digital Transformation
Efficiency & Process Automation	Risk Reduction	Mergers & Acquisitions

High Level Goals
Specify main goals of DQ Roadmap
(NB: Headings can be varied)

Customer Data Improvement – High Level Goals

Governance

- Personal responsibility for data
- Cross-functional collaboration
- Aligned projects to deliver enhanced customer data management foundation

Data Quality

- Single version of the truth
- Automate data entry & checking
- Ensure that key data is fit for business purposes

Innovation

- New perspectives into the business and the market
- Understand customers & their needs
- Feedback into new product & service development

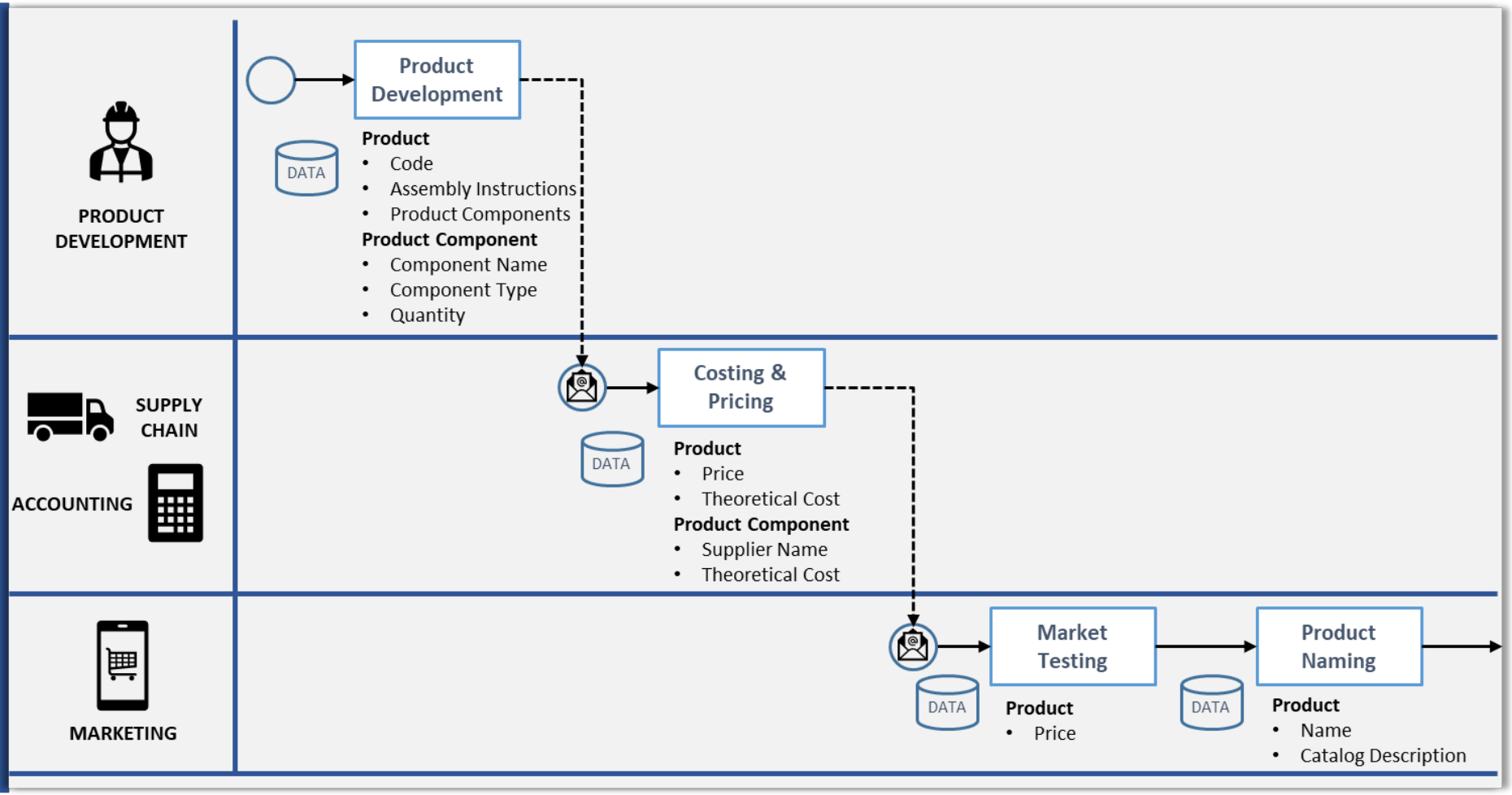
Business Insight

- Data-driven, fact-based decision making
- Data available to all who need it
- Real time operational & predictive analytics capability

Business Workflow Example 1: Business Process Model

Operational view of key data dependencies in core business processes

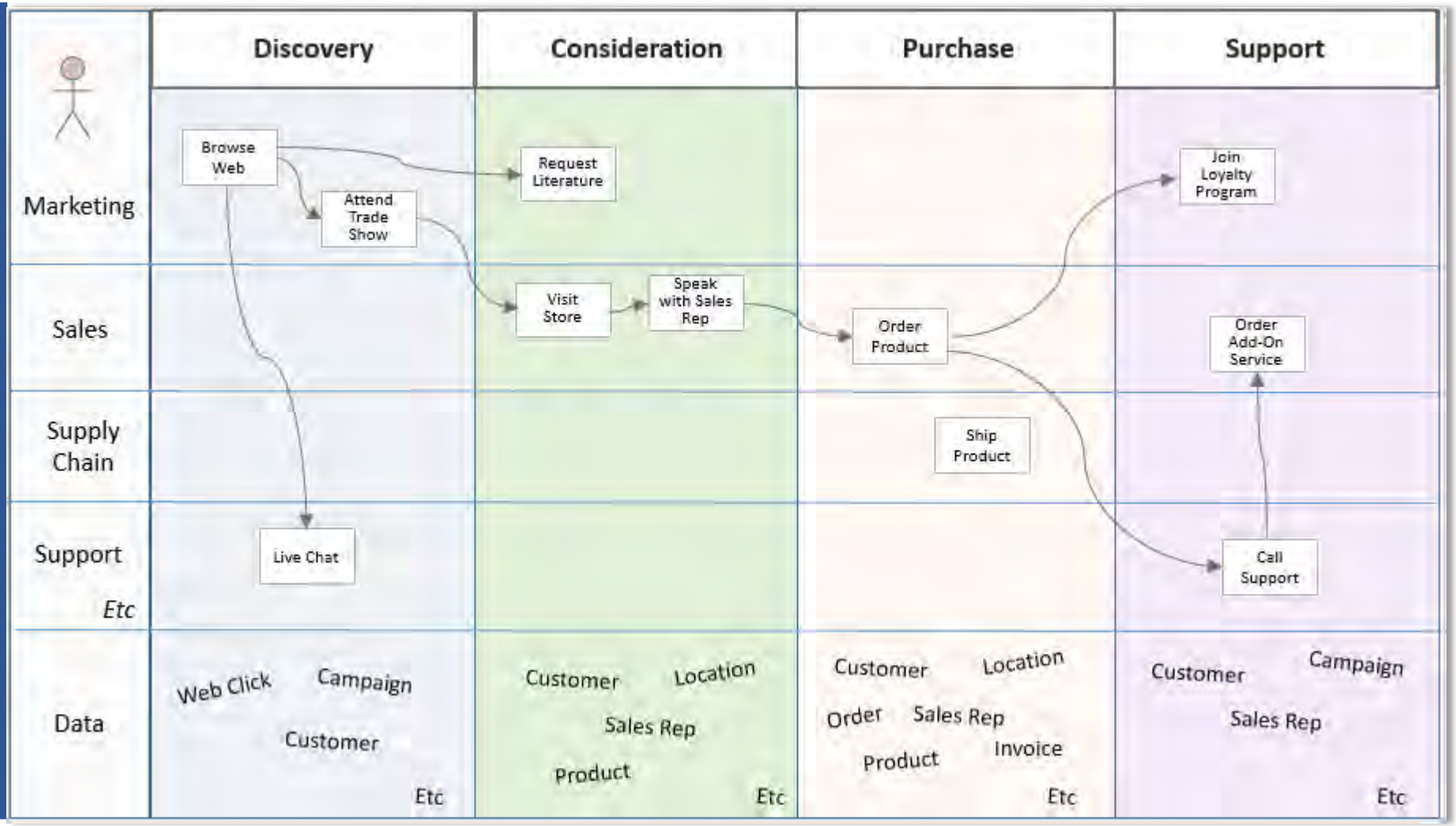
- Process models are a helpful tool for describing core business processes.
- "Swim lanes" outline organisational considerations
- Data can be mapped to key business processes to understand creation & usage of information.



Business Workflow Example 2: Customer Journey Map

Customer-centric view of key interactions and related data

- A customer journey map outlines key phases of the customer in their "journey".
- They are similar to a process model, but with a different focus & perspective.
- Creating a data overlay is a helpful way to see the key data touched at each point in the journey.
- Journey maps can be created for other data domains as well, e.g. Student, Patient, etc.



Data Management Example: CRUD Matrix

Create, Read, Update, Delete

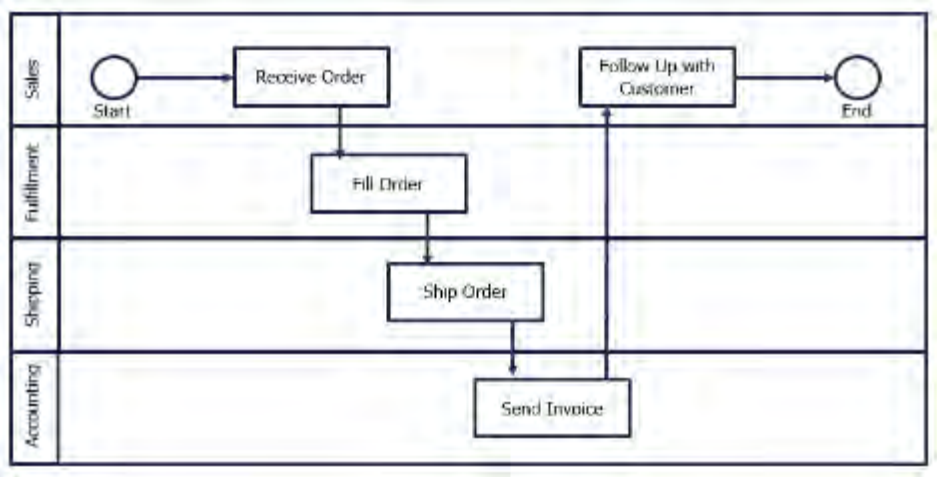
- CRUD Matrices shows where data is Created, Read, Updated or Deleted across the various areas of the organisation.
- They can be created by department, by system/application, etc.
- This can be a helpful tool in data governance & data quality.

	Product Development	Supply Chain Accounting	Marketing	Finance
Product Assembly Instructions	**C**	**R**		
Product Components	**C**	**R**		
Product Price		**C**	**U**	**R**
Product Name	**C**		**U,D**	
Etc.				

Process Models & CRUD Fit Well Together

- Business Process Models describe key activities within the organisation
- Linking these processes to the data that is Created, Updated, or Deleted (CRUD) is important to understanding data usage

Business Process Model



CRUD Matrix

	Customer	Order	Account	Invoice	Product
Receive Customer Order	R	C	C, R		
Process Customer Order	C,R,U		R,U		R
Fill Order	R,U		R,U		R,U
Send Invoice	R,U		R,U	C	

Current Data Architecture – Overview Data Flow Diagram

Sales Orders via EDI / ftp

Retail POS Data

Manual Entry

Careline

ORACLE SERVICE CLOUD

CRM

3rd Party Outsourcing

Media Graphics

Media Vault Content Mgt

Sales & Purchase Orders

MS Access

MSC Supply Chain

US UK EMEA

ERP

.csv flat file export

ERP Demand Planning

Product Information

Product Hierarchy

Marketing Campaigns

MS SQL Azure

Email registrations from web

Online Sales Platform

eCommerce

Budget

Forecast

IBM Cognos TM1

Cognos TM1 OLAP Cubes

Cognos BI OLAP Cubes

Cognos BI Reports

Commercial Finance

IBM Planning Analytics Excel Plugin

Marketing Analytics

Sales Spreadsheet

Regional Data Marts

Current Data Architecture – Data Problems

Manual Entry

Sales Orders via EDI / ft

Product Master Data not Kept in sync

No clearly-defined data stewardship roles

ORACLE SERVICE CLOUD

Care

Customer Service Data not Integrated with Enterprise Data

Inconsistent Product Master Data causes issues with partner warehousing, freight, fines, etc.

- Flat file exports from ERP not aligned to a common data model standard
- Manual/batch export not automated via API or other methods

US UK EMEA

ERP

Media Graphics

Product Media not easily integrated with internal master data or external partner sites

Sales & Purchase Orders

MS Access

MSC Supply Chain

ERP Demand Planning

Manual Product Master Data causes errors and wasted resource effort

Product Information

IBM Cognos TM1

Cognos TM1 OLA

Common, consistent metrics & KPIs across functions needed

Reports

Commercial Finance

IBM Planning Analytics Excel Plugin

OLAP-only access limited flexibility. Full Data Warehouse needed

Cognos BI OLAP Cubes

Marketing Campaigns

Consumer data from website limited, and not integrated with other sources

Email registrations from web

Product Hierarchy

Difficulty integrating new product hierarchies & SKUs for acquisition

eCommerce

Budget

Forecast

"Shadow IT" – many SAAS products not integrated with central architecture

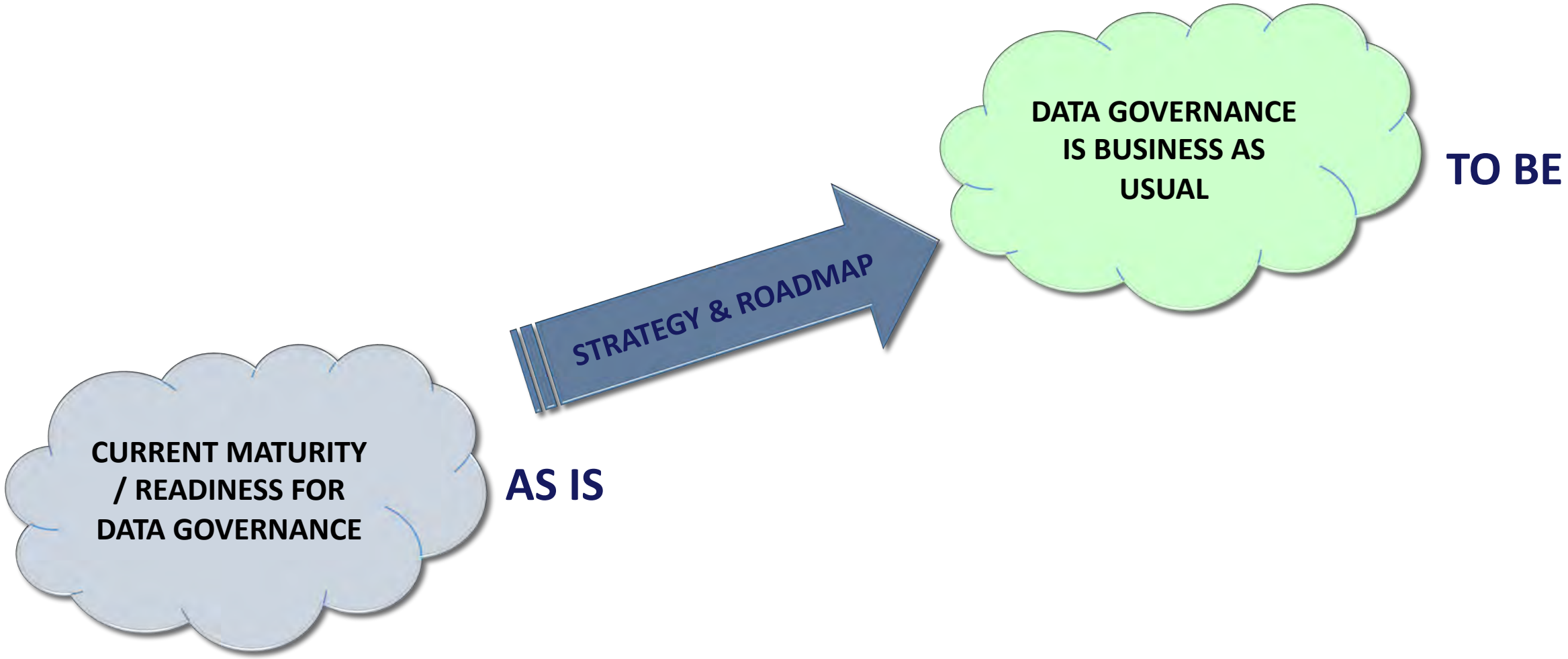
Sales Spreadsheet

Marketing Analytics not Integrated with Enterprise Data

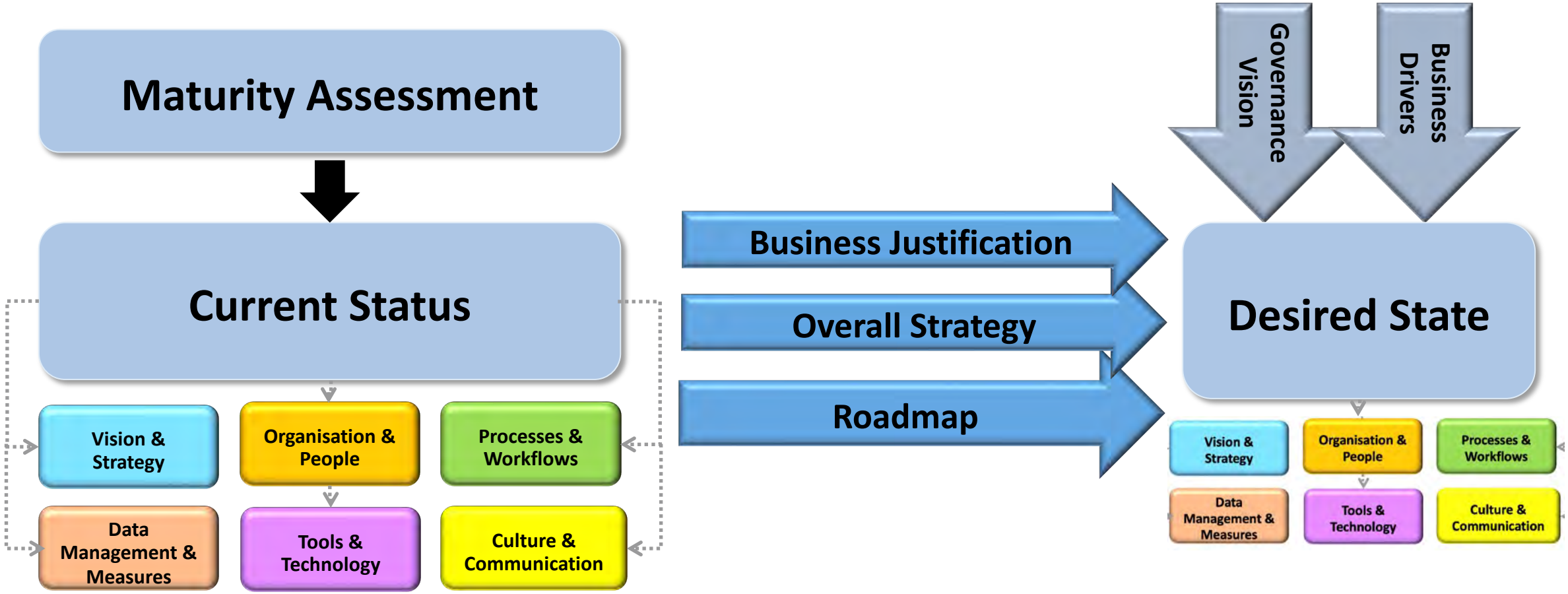
Regional Data Marts

Apply a Structured Data Governance Framework

Data Governance – Creating the Roadmap



Applying the Data Governance Framework: AS IS to TO BE



Data Governance Components: Key Questions (1)

VISION & STRATEGY	ORGANISATION & PEOPLE	PROCESSES & WORKFLOWS
• Is there a shared understanding of how data supports current and future business goals and strategies? • Has the relationship between data and its use in business functions and business processes been systematically analysed? • Have data problems (in particular data quality defects) been identified, logged and investigated? • Has the business impact of these data problems been assessed? If so, have any of these impacts been measured / quantified (financially or other)? • Are there any data policies or data strategies in place to guide management and usage of the data? • Have the business opportunities of using the data in new ways been considered? How does the data need to evolve to meet future needs and opportunities?	• Do you know who the key data stakeholders are, both inside and outside the organisation? • Who are the primary data producers, consumers & modifiers? • Are named individuals personally accountable and responsible for the data and its management? • Do cross-organisational bodies and groups exist to discuss data problems and data management? • Is data management included in job descriptions and job objectives? • Do the business and IT work together to investigate and resolve data issues and problems? • Are there any channels through which data shortcomings can be highlighted and investigated?	• Do business process design and operations management take data needs into account? • Has there been any analysis of the efficiency and effectiveness of how data is managed within operational business processes? • Are there any specific data management / improvement processes / workflows in place? • Are there systematic and formally defined processes for logging data issues and managing data improvement? • Are data quality issues mainly tackled reactively (i.e. after the event) or proactively (to prevent problems)?

Data Governance Components: Key Questions (2)

DATA MANAGEMENT & MEASURES	CULTURE & COMMUNICATION	TOOLS & TECHNOLOGY
• Has key data (both entities and attributes) been identified, defined and analysed? • Have data models been built – conceptual / logical / physical? • Are data shortcomings known, measured & recorded? • Are there any formal data definitions, data standards & business rules specifying how data should be managed and improved? • Is data quality measured regularly and systematically? Are there any defined KPIs or thresholds for data quality? • Is data input and modification validated on entry? • Are data quality improvement initiatives already underway? If so, are these effective?	• Does the organisational culture recognise data as a critical asset? • Has the importance of data been communicated across the organisation? • Is there a data communications plan? • Is the value of good data management understood and championed by senior managers? • Do all employees and third parties receive data awareness and improvement education and training? • Do data producers and modifiers understand the downstream impact and uses of the data they produce in other parts of the organisation? • Are there communication channels for communicating best practice in data management? • Are there internal success stories that could be used to promote better data management across the organisation?	• Is there a coherent data architecture in place to define and guide how data is captured, processed, stored and used? • Are the primary IT systems and platforms used to store and process key data identified and documented? • If appropriate, are external data sources defined and documented? • If appropriate, are SLAs in place with third party data suppliers to specify required data standards and data quality? • Do design gateways exist to ensure data needs are taken into account in new & modified platforms / applications? • Are specialist data management tools currently in use (e.g. data quality, Business Intelligence etc.)? • Is metadata (data about data) captured, stored and made available to data stakeholders?

Perform a Current State Maturity Assessment of Data Area

- Perform a realistic maturity assessment of the organisation's data management capabilities:
  - Current state by discipline
  - Future Goals
  - Gaps that need to be filled

Global Data Strategy's Data Governance Maturity Assessment

Example Summary Maturity Assessment (Real Organisation)

Description	+	-	RAG
Vision & Strategy	Strong recognition of the need for DG	No clear alignment between DG and the goals of the organisation	
Organisation & People	Widespread recognition that ownership of data is required	DG is not seen as business as usual therefore there is a lack of awareness	
Culture & Communication	Access to shared platforms to help communicate DG messages	No communications plan or ownership of DG communications	
Processes & Workflows	Elements of DG methodology in place in parts of the business	No overarching and consistent approach to DG	
Data Management & Measures	Some validation of data formats	Insufficient focus on verification of data	
Tools & Technology	Distributed data sources allow user flexibility and independence	Complex, disjointed and unplanned infrastructure	
OVERALL	Some components of Governance are in place, but needs a more structured approach	Lack of business alignment & clear goals. Need for a delivery roadmap	

Maturity Assessment: Definitions

Key To Maturity RAG

Priority Level	Description
1 – High	Structure or strategy required to realise Data Governance capabilities are not yet in place so requires high priority action to develop them to enable the Framework to meet the requirements
2 – Medium	The foundations or part of the required structure or strategy are partly in place but require further development to enable the Framework to meet the requirements
3 – Low	The capability is already in place and only requires minor actions to enable the Framework to meet the requirements

STEP 3 - Agree Initial Priorities & Activities

Setting Priorities & Activities

WHY?

- As a part time role, ensure clear focus & priority to manage limited time
- Important to make an early impact to gain credibility
- Need to gain support of DG SG
- Build confidence in DG principles & approaches

HOW?

- Prioritise Issues List & agree priorities with the Lead Data Steward
- Sell the data domain vision to the DG Steering Group
- Specify any support (Financial and / or resources) required
- Create & lead a team to deliver the data domain vision

WHAT?

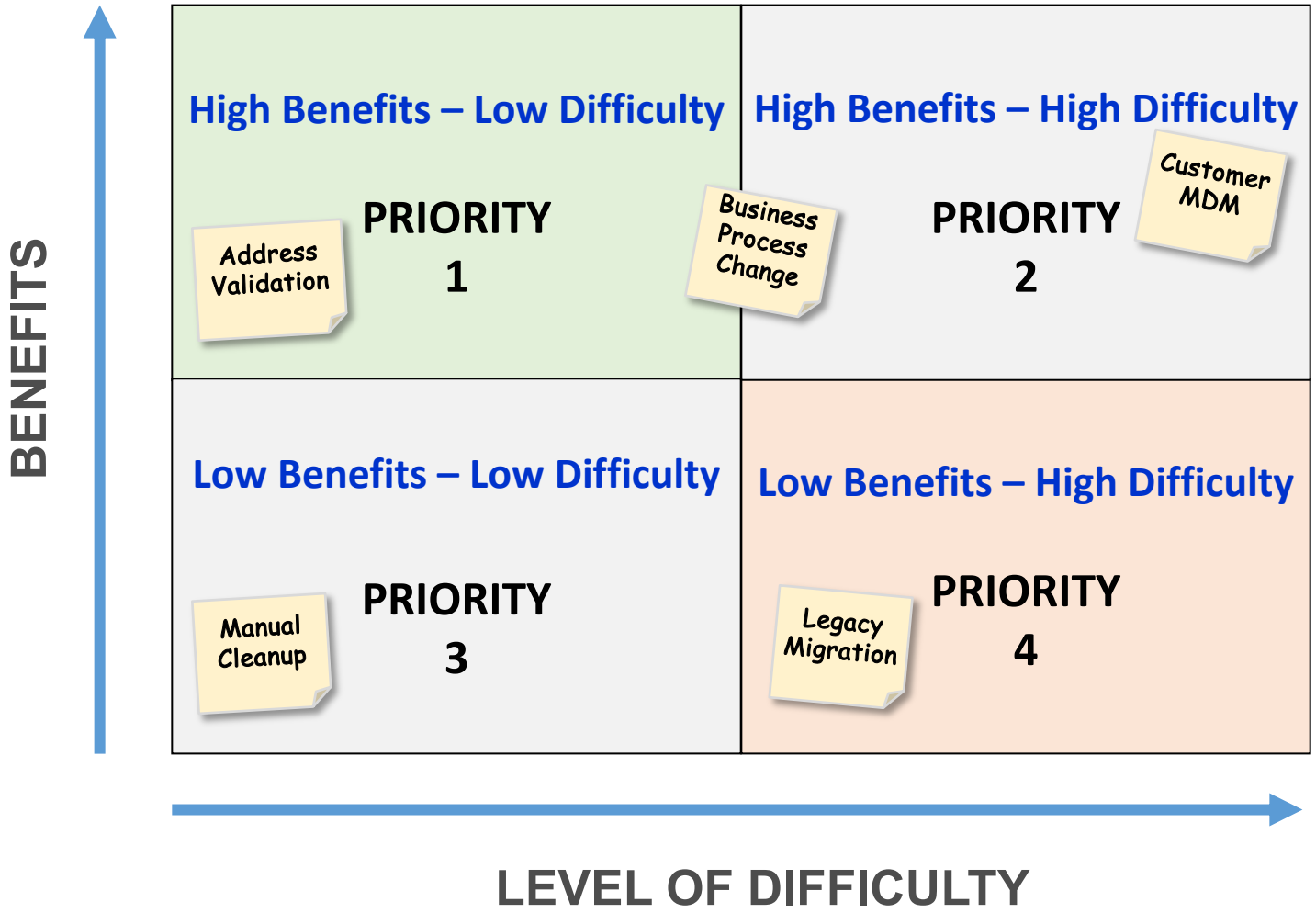
- Look for 'quick wins'
- Data Quality improvement projects often a good source
- Create a use case for promoting the value of the role
- Build a foundation for longer term success

WHEN?

- As soon as possible after the initial Data Domain audit is complete
- Start a pilot / PoC project as the top priority
- Use the pilot / PoC to introduce DG principles & practices to prove the approach
- Apply to further pilots / POCs

Setting Priorities: Priority Grid

- Priorities based on Benefits vs. Level of Difficulty can often be easily determined via a Priority Grid



Data Issues & Opportunities Log: Updating Priority

ID	Short Name	Brief Description	Priority Score 1 – High Benefits / Low Difficulty 2 – High Benefits / High Difficulty 3 – Low Benefits / Low Difficulty 4 – Low Benefits / High Difficulty
1	**Customer Data Duplication**	Both in the CRM platform and the Customer Data Warehouse there are known customer record duplications, mainly caused by marketing and salespeople not being able or willing to search for an existing customer record. One estimate is that up to 25% of CRM customer records are duplicates. Data Warehouse duplication unknown.	2 Further analysis needed to understand the root causes of data duplication. Conducting an initial data cleanse of the CRM platform may be a potential quick win and a starting point for a more strategic solution
2	**Product Data Inconsistencies**	Product data is held and processed in several different platforms and systems. Each system has its own set of product reference codes. Many inconsistencies have been caused by the company making several acquisitions over recent years. No attempt has yet been made to standardise codes despite wide awareness that this causes problems for the business.	2 There is a widely accepted need for a single, consistent reference source for all product data. The first step is to get data owners to agree definitive product codes and then to design a solution embracing people, process and technology to implement it
3	**Poor Data Training of Data Entry People**	Data entry people are distributed throughout the company in many different siloed parts of the organisation. This has led to many data entry people being unaware of where data they enter is used across the business, other than within their own immediate functional areas.	1 Consistent data literacy and data entry awareness training could be introduced for all existing data entry people and new starters. This could be done quite quickly to include around 30 data entry people.

Making the Case for Action

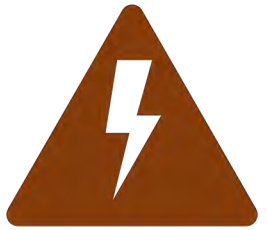
While Business Cases and ROI Calculations can be complex, they generally fall into 4 categories:

Decreasing Costs

- **Wasted labour costs due to manual efforts**
  (Data cleansing, finding data, manual integration, etc.)
- **Inefficient business processes for data management**
  (Product Master Data process)
- **Data quality cost avoidance**
  (Wasted mailings sent to wrong addresses)

Increasing Revenue

- **Price optimisation through Analytics**
- **Improved marketing campaigns through quality customer data**
- **Data-driven recommendation engines to enhance the sales cycle**
- **Better grant applications through data-driven needs analysis**



Reducing Risk

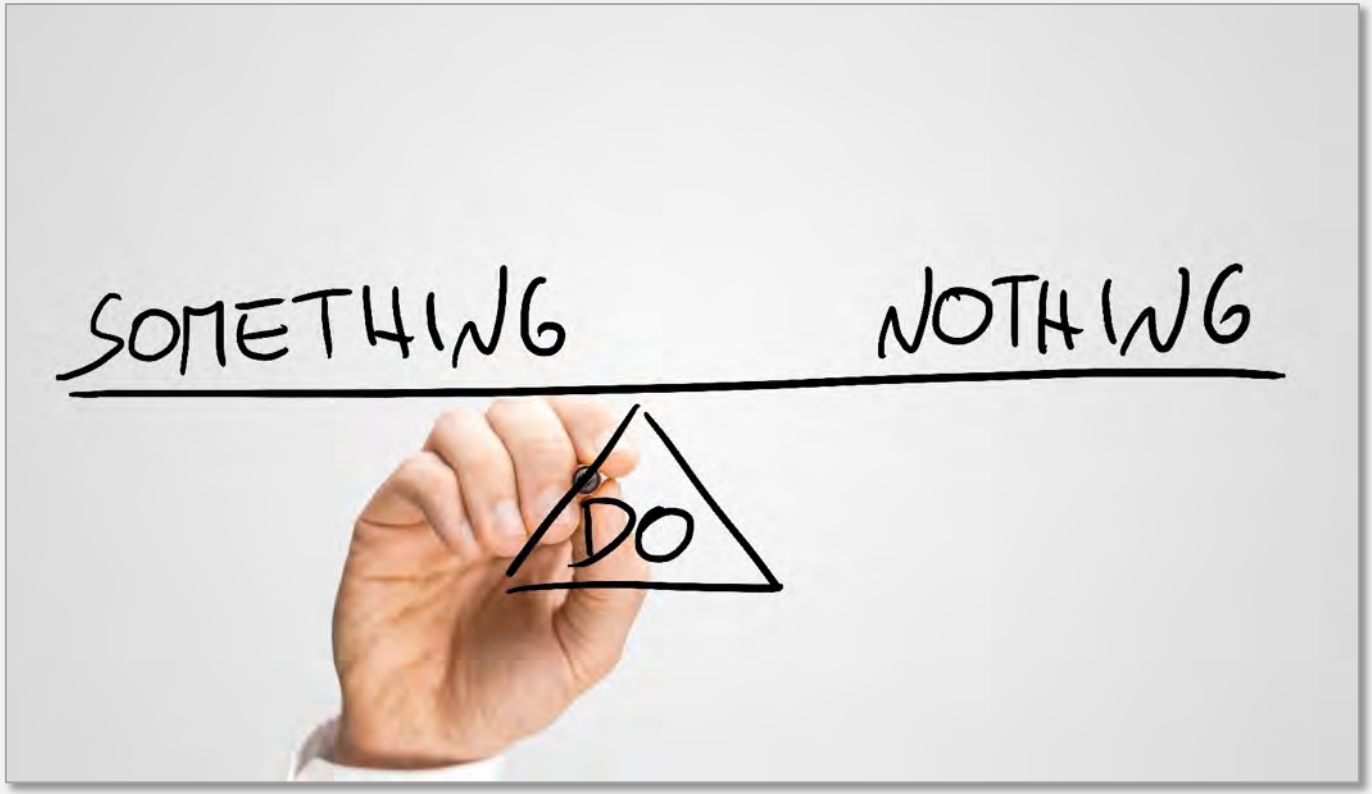
- **Industry regulations**
  (GDPR, HIPAA, BCBS 239, Spice, HIPAA, etc.)
- **Product traceability**
  (Food lineage from farm/catch)
- **Litigation due to data breaches**
- **Health and safety audits**

Protecting Reputation

- **Customer satisfaction**
- **Brand trust**
- **Social media voice of consumer**
- **Loyalty & 'stickiness'**

Include the Risk of Doing Nothing

- There is significant cost and risk in the status quo
- Doing nothing often has a higher cost than investing in data management
- Make sure to include the “do nothing” option in your analysis



Tell the Story – Explain Vision and the Journey to Get There

- Storytelling and vision-building is a key part to any strategy.
  - Build a sense of excitement
  - Provide a vision for what the future will look like
  - Show the journey and the effort required
  - Explain the steps to achieve the journey
  - Clarify everyone's role in the journey – where do they fit, and what skills do they need?

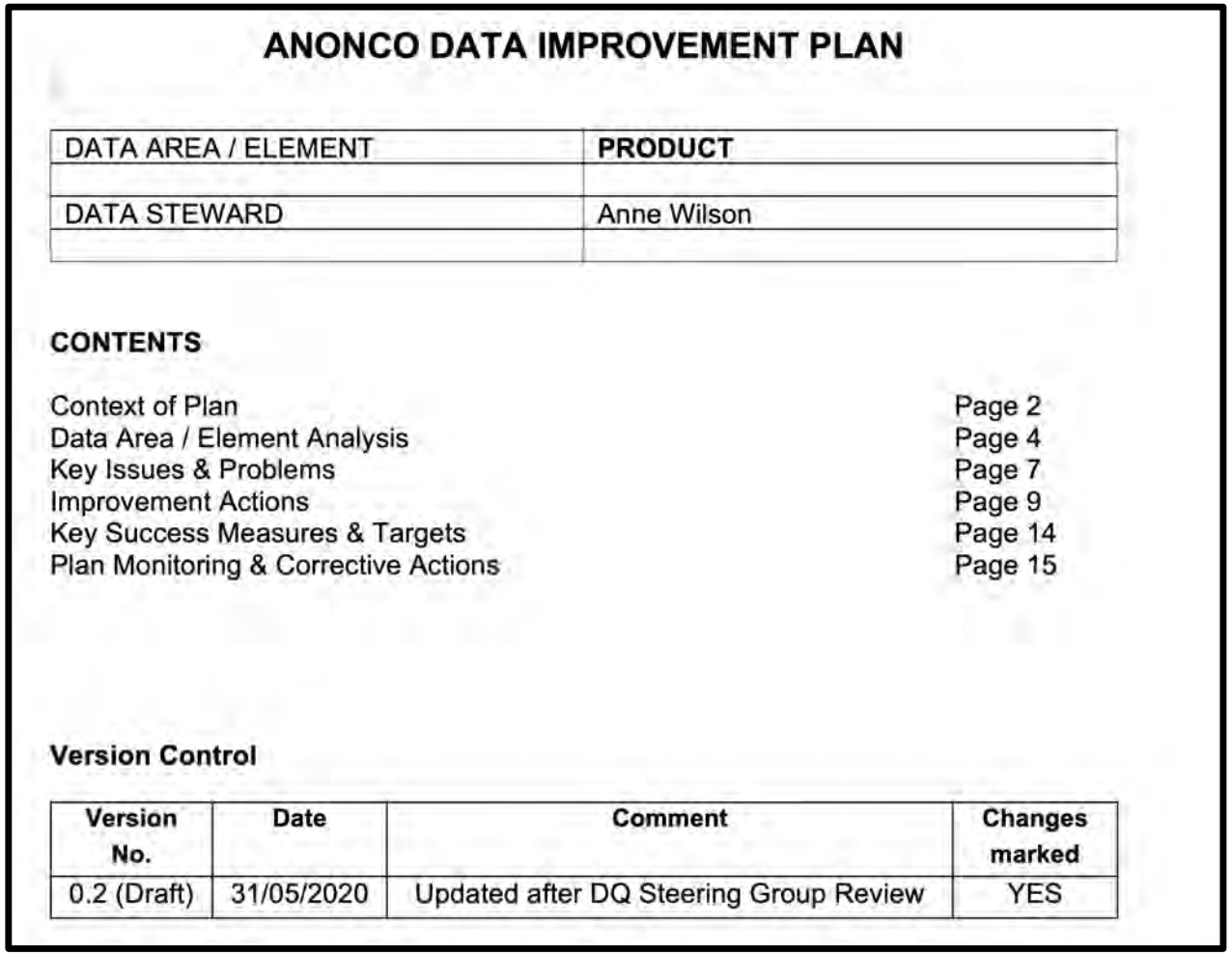
Data Improvement Plan

A Data Improvement Plan is a formal plan to specify and manage improvements to a specified data domain and / or data problem area

The benefits of a Data Improvement Plan are that it:

- Sets out goals and expectations for data improvement
- Acts as a focal point for all data improvement activities
- Prioritises improvement activities
- Can be used to track improvements and communicate successes
- Can evolve to align with the changing needs of the business

Data domain DIPs can be rolled up to form the core of a company wide Data Quality Improvement Program



ANONCO DATA IMPROVEMENT PLAN

DATA AREA / ELEMENT	**PRODUCT**
DATA STEWARD	Anne Wilson

CONTENTS

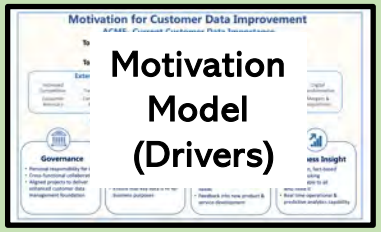
Context of Plan Page 2
Data Area / Element Analysis Page 4
Key Issues & Problems Page 7
Improvement Actions Page 9
Key Success Measures & Targets Page 14
Plan Monitoring & Corrective Actions Page 15

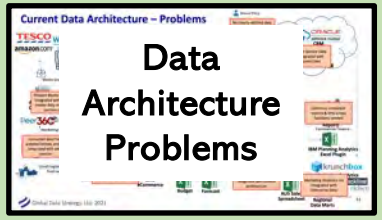
Version Control

Version No.	Date	Comment	Changes marked
0.2 (Draft)	31/05/2020	Updated after DQ Steering Group Review	YES

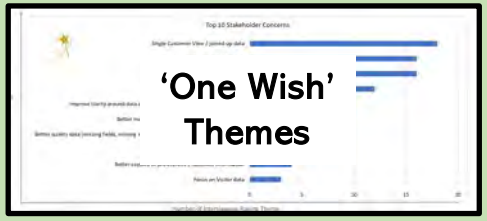
Data Audit & Analysis – Summary Potential Deliverables

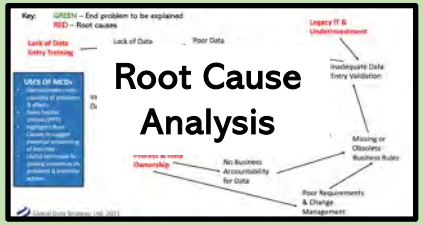
Data Domain Analysis





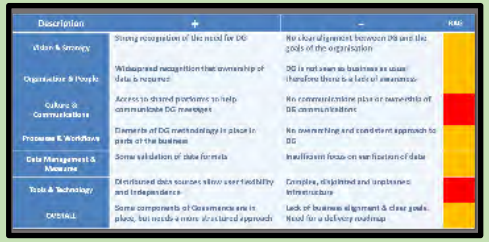
Data Problem Themes & Issues





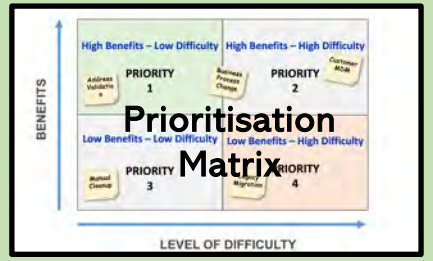
Data Maturity Assessment

Data Governance Framework



Data Maturity Assessment

Proposed Goals & Actions



STEP 4 - Run PoC / Pilot Project(s

A “Quick Win” is Not a “Quick Fix”

A Quick Win is not a sloppy, “quick fix” that will not scale for future use.

NO

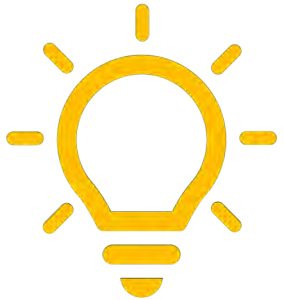
A Quick Win is well-planned first step to build a strong foundation for future efforts.

YES

Making a Difference: The Importance of Quick Wins

Quick Win Project: A "Quick Win" Project is a project that shows early value while at the same time building towards a long term goal. A successful "quick win":

- Aligns with business objectives and **solves a high-value business problem** *or*
- Creates a **proof of concept for a high-value business opportunity**.
- Sets a **solid foundation for future efforts**
- Acts as a **"light bulb moment" for key stakeholders** to understand the value of data-centric activities.



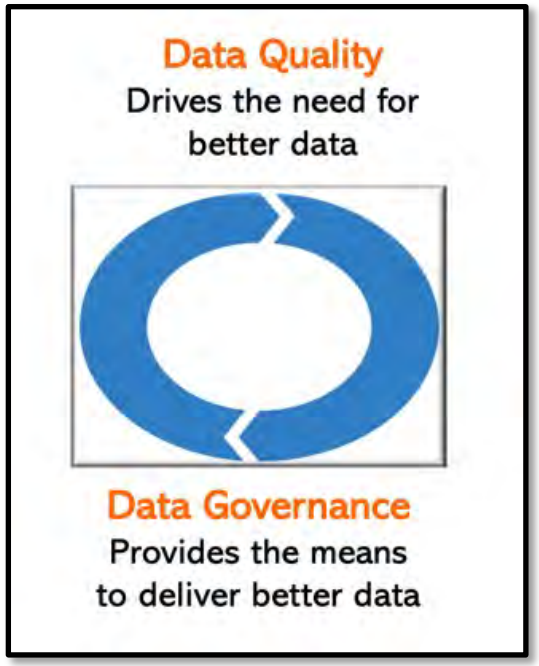
Example 'Quick Win' activities could include:

- Set up data domain working group
- Run refresher training for data entry people
- Improve data quality of key data fields
- Pilot new data quality business rules in one region
- et al

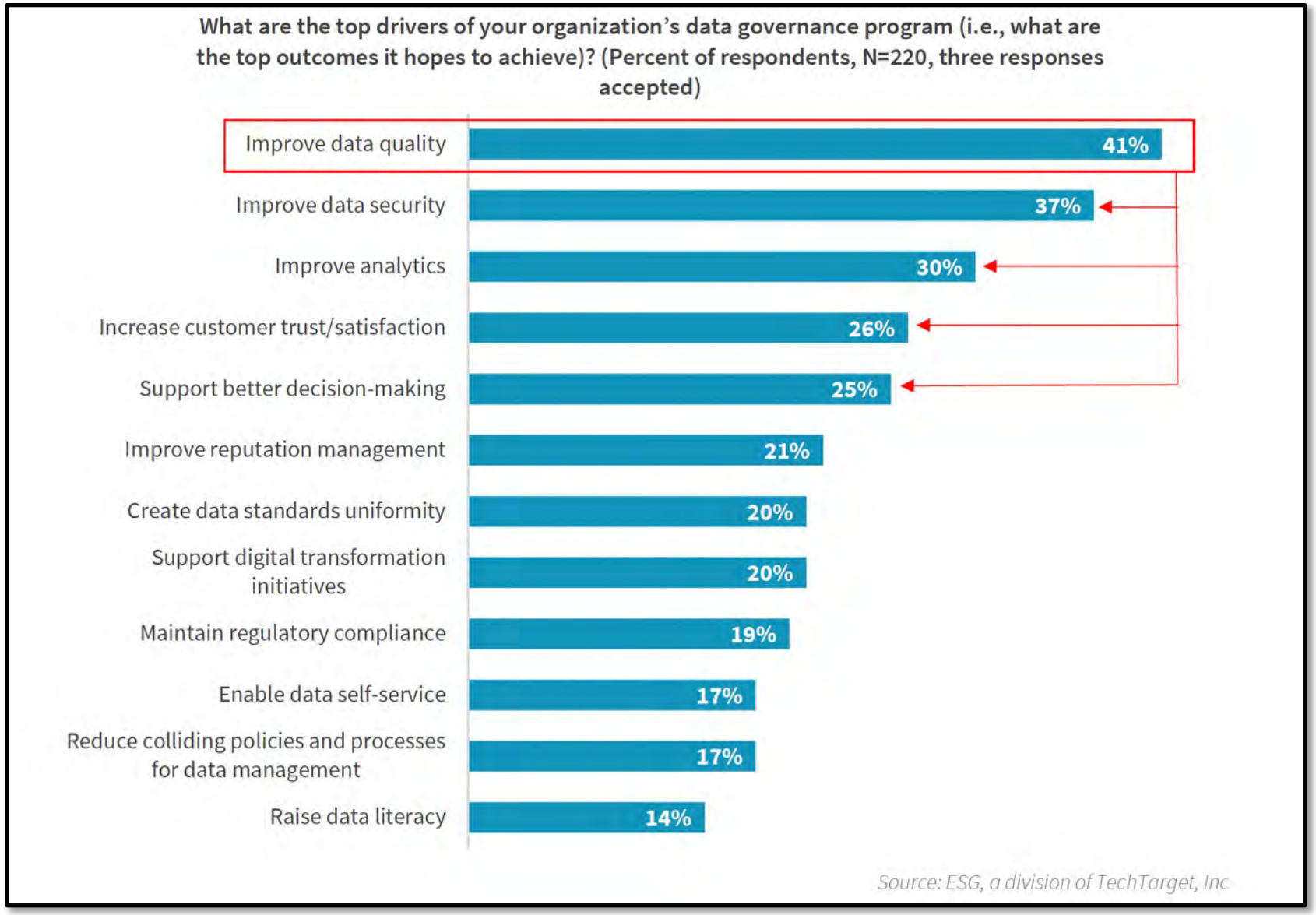
Data Governance & Data Quality: the synergies

- Data Quality improvement is a primary reason why many organisations implement data governance:
  - Realise that Data Quality is a business problem and not an IT problem
  - Recognise that Data Quality improvement cannot be sustained without business leadership
  - Have learnt that Data Quality is NOT a synonym for data cleanse; data cleanse is a repeated cost of failure and usually does not remove the root causes of poor Data Quality
  - Data is volatile and so Data Quality has to be a perpetual business as usual activity enabled through data governance

- Better Data Quality is usually a very effective way of demonstrating the value of Data Governance:
  - Enhancing Data Quality can deliver 'quick wins'
  - The benefits of reducing the 'costs of failure' caused by poor Data Quality can be significant & measurable
  - A sound Data Quality foundation enhances the value & success of other data management investments (e.g. Business Intelligence, Data Science, Analytics, CRM et al)

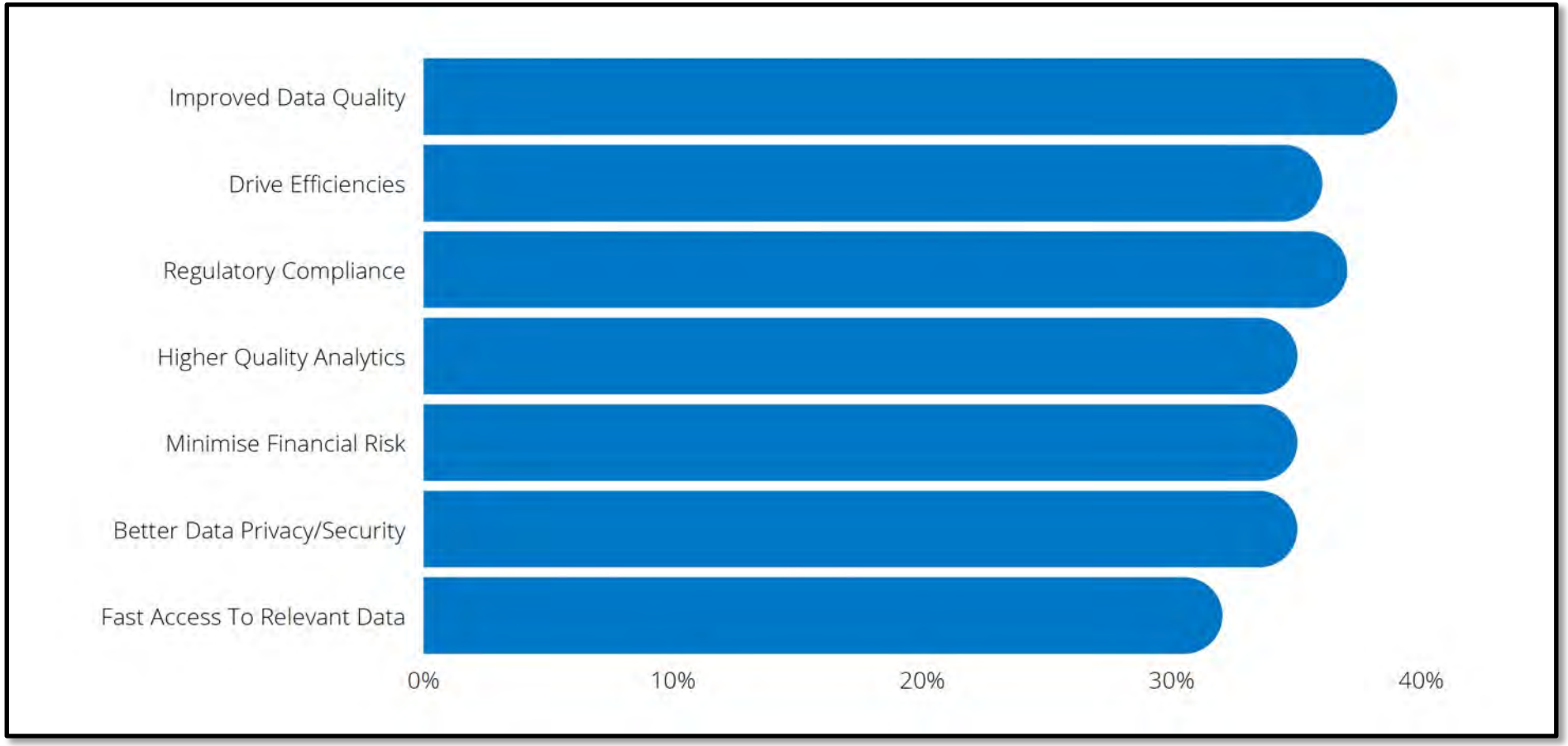


Key Data Governance Drivers 2022 – Survey 1



Source:
'2022 State of Data Governance and Empowerment'
ESG Research Insights
July 2022

Key Data Governance Drivers 2022 – Survey 2



Source:
'2022 Data Governance Survey' Nephos Technologies 2022

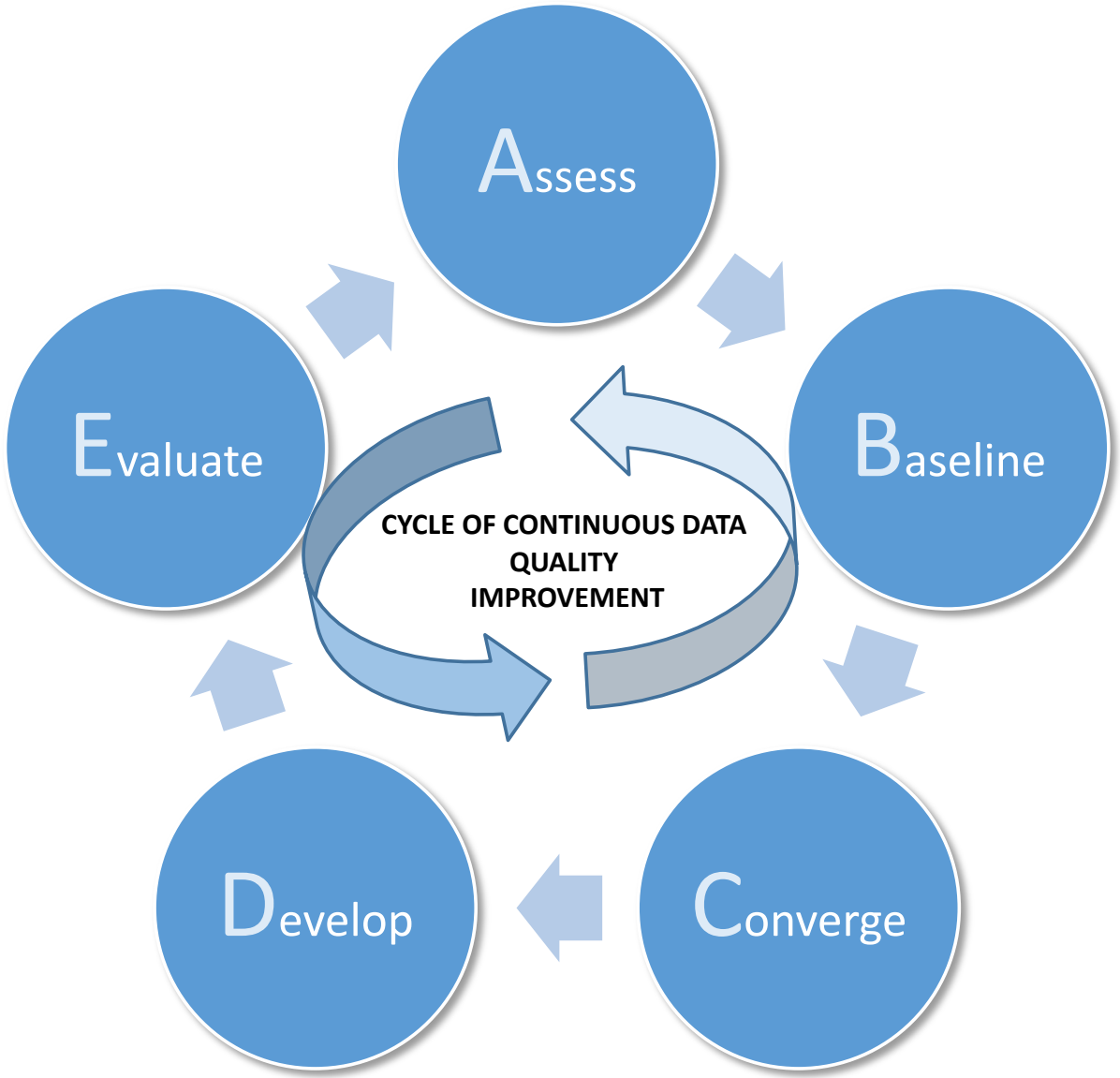
Data Quality – A Simple Definition

Data that is demonstrably fit for purpose

Demonstrably: Implies that improvement can be measured and business impact demonstrated

Fit for Purpose: Data quality must meet the needs of the business

Tackling Data Quality Problems: the A2E approach



Step	Purpose
Assess Business Usage	Understand what data exists and how it is used within the organization
Baseline Data Sources	Baseline the current quality of the data and assess how well it is meeting business needs
Converge on Business Critical Areas	Focus priorities to optimise early business benefits and set 'fit for purpose' quality targets to guide improvement activities
Develop Improvements	Design & deploy improvement initiatives (encompassing people, process, and technology) and measure the impact against targets
Evaluate Benefits & ROI	Regularly measure the data and continue to improve it so that it continues to meet current and future business needs

A2E Step 2: Baseline

BASELINE KEY DATA SOURCES

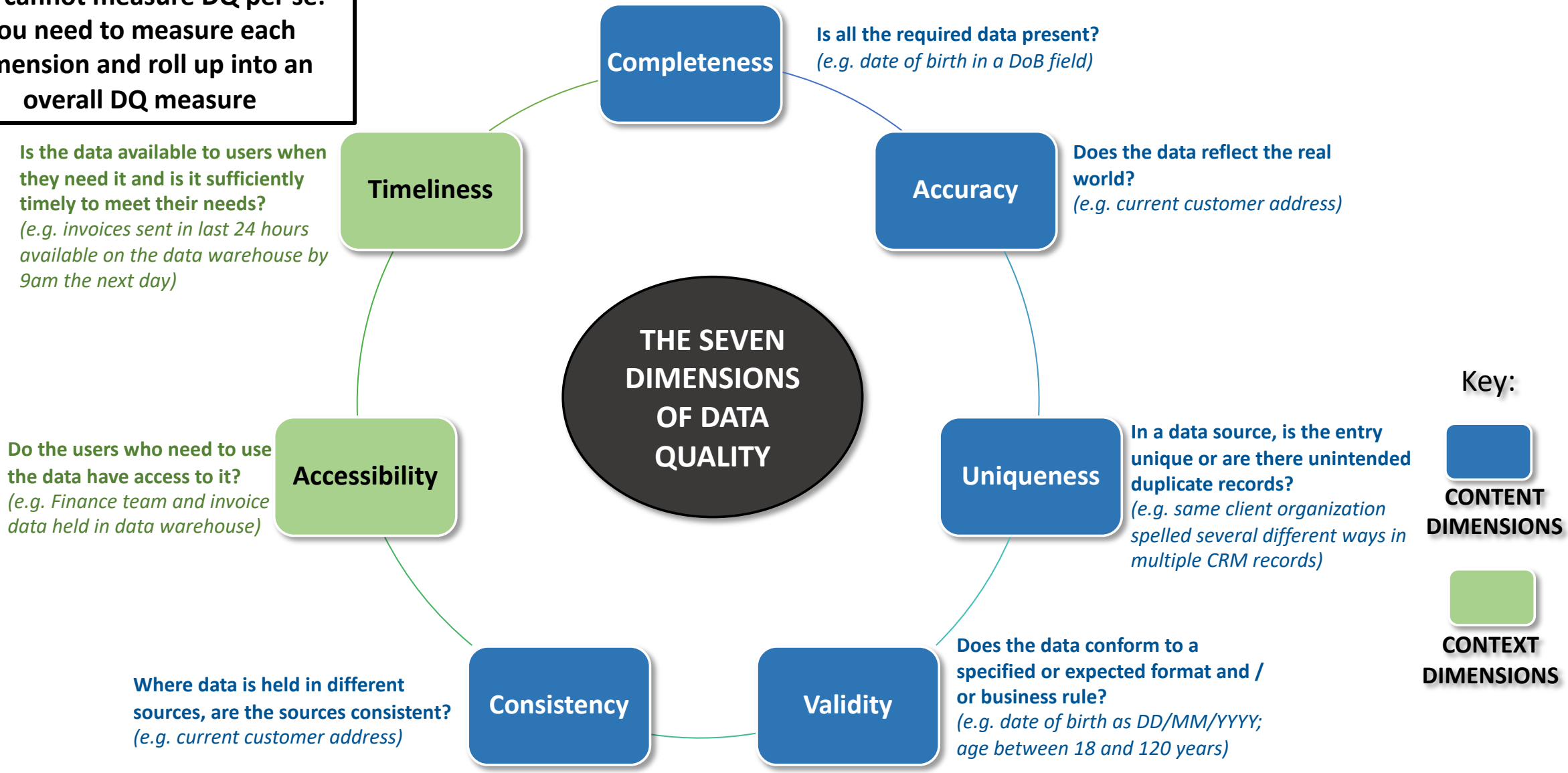
- Gives a quantitative view of key data quality problems
  - Measure the baseline quality of key data sources to quantify the issues
- To do this:
  - Select the key data sources and data domains identified in the Step 1 Assessment
  - Profile the data (ideally use a data profiling tool) and focus on key objects and attributes
  - Assess the data according to the 7 Dimensions of Data Quality
  - Present the results to relevant stakeholders - gain consensus on the business impact of the problems found
  - Expand and refine the Data Quality issues log

POTENTIAL OUTPUTS & TOOLS

- Data Quality Report(s)
- Data Profiling outputs – derived metadata
- Updated Issues Log, with quantification of financial costs and other business impacts

Baselining & Setting KPIs: the 7 Dimensions of Data Quality

You cannot measure DQ per se: you need to measure each dimension and roll up into an overall DQ measure

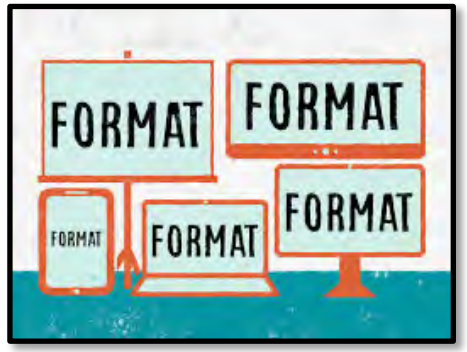


Data Improvement: The Importance of Business Rules

"A Business Rule is a criterion used to guide day-to-day business activity, shape operational business judgments, or make operational business decisions."

Ronald Ross, quoted in architectureandgovernance.com

- In a data context, business rules are used to define and enforce the standards that data must conform to
- Therefore have a key role in assessing, baselining and improving data quality
- Are used to specify data design, e.g. drop down lists, data input validation etc.
- A simple typology of Business Rules as applied to data is:
  - **Format business rules** – specify the format standards data should comply with
  - **Content business rules** – specify the allowable content of records or fields



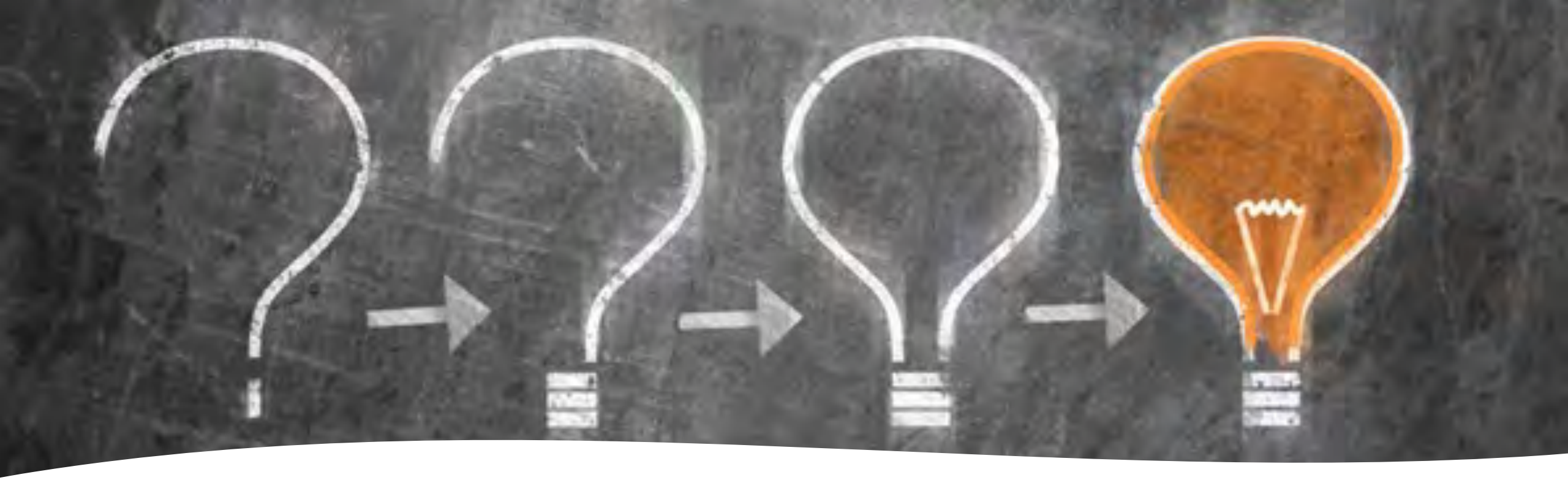
Example Data Related Business Rules

FORMAT RULES

- A UK National Insurance Number must be in the format: aa nn nn nn a
- An employee must have a unique Employee ID in the format: aa nnnn
- Date of birth should be in North American format of MM/DD/YYYY
- A full US zip code must be in the format nnnnn-nnnn
- Internet router identifier must be in the format Aaa_Nan_Naa

CONTENT RULES

- Every Sales Representative must be assigned to one and only one Sales Region
- A valid email address must be entered by a customer to enable a customer's order to be accepted
- Gender codes must have the valid value of Male, Female or Unknown
- A supplier must have at least one associated geographical address
- Product Price should be Product Unit Cost + 25%



DISCUSSION

- How would you identify format & content business rules in an organisation?

How Do You Identify Business Rules?

- Business rules can be discovered or derived from:
  - Data models (Business / Logical / Physical)
  - Business documentation (e.g. Process Descriptions, User Instructions)
  - IT Documentation (e.g. requirements specifications, system manuals)
  - Source code (e.g. If 'A Then B' statements)
  - Master and / or Reference Data Sources (e.g. currency codes, product master data)
  - Documented metadata (e.g. Business Glossaries, Data Dictionaries, Metadata Repositories)
  - Data profiling outputs
  - **Talking to key stakeholders**:
    - Data owners and data stewards (if in place)
    - Data producers and consumers
    - Other business and IT subject matter experts

VITAL IMPORTANCE OF STAKEHOLDER ENGAGEMENT:

- Business rules are frequently implicit (i.e. locked in people's heads) and not formally documented
- Where business rules are documented, documentation is often out of date and not updated in line with system changes

Deploying Business Rules - Approaches

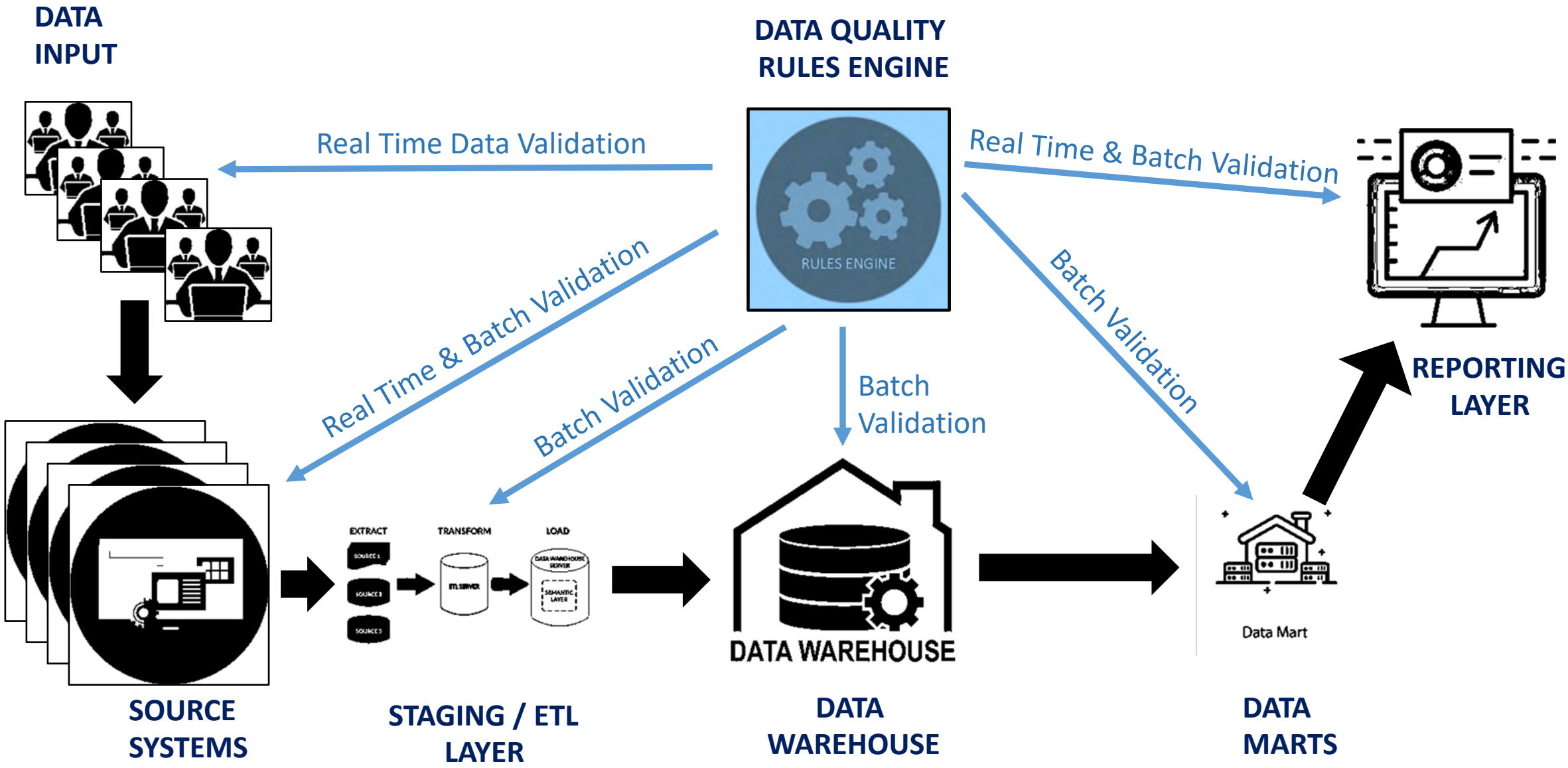
Data Entry Guidelines, Business Glossary & Training

Master & Reference Data Management

Application Code (e.g. data input validation)

Data Quality Tool: DQ Business Rules Engine

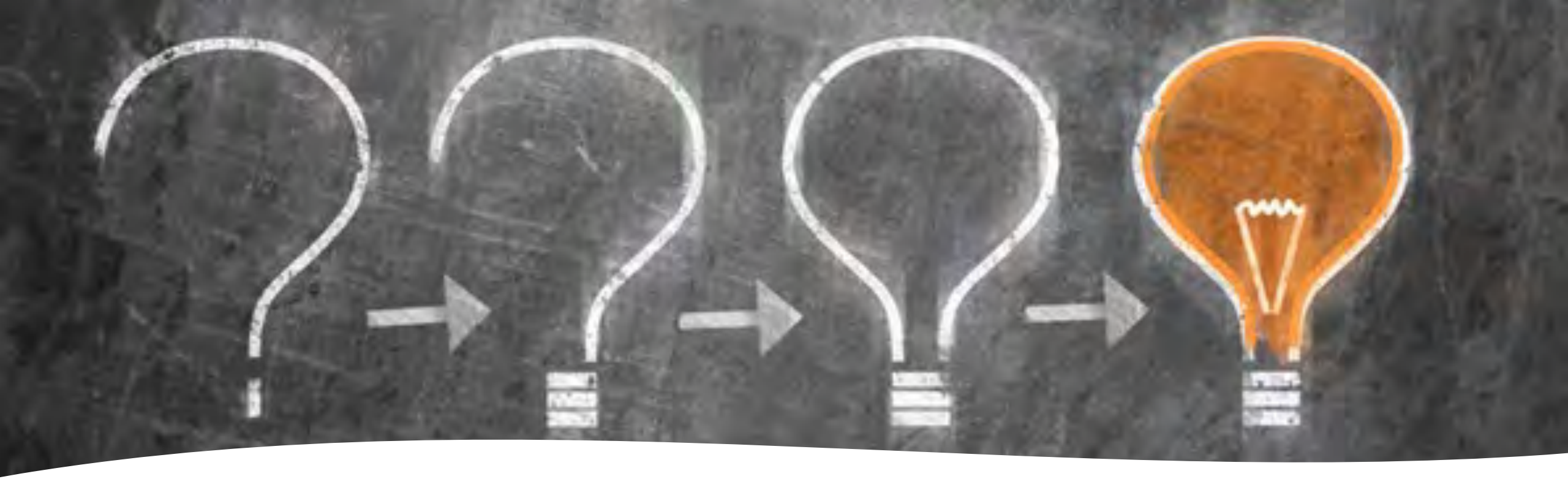
Automating Data Quality Business Rules via a DQ Rules Engine



Time for

a BREAK

15 min



ACTIVITY

HINT! There are at least 13 potential DQ errors

- **TASK 1 - List all the anomalies / duplicates / gaps / errors you can identify in this small sample of a real dataset**
- **TASK 2 – Derive 5 Format and 5 Content Business Rules that could be used to help clean up the data and ensure the validity of future data entries**
- **TASK 3 – There is a potential duplicated row in the dataset. Derive 3 suggested business rules to help de-duplicate the data**

SAMPLE HR FILE RECORDS

EMP NO	SURNAME	FIRST NAME	GENDER	DATE OF BIRTH	ROLE CODE
802540	Smith	Brian	Female	31/01/56	PM16
YN4176B	Gregg		Male	07/09/80	9999
811609	Patel	Priya	XXXX	25/12/78	AL60
22298	Bothroyd	Bridget	Female	28/08/09	TBD
802540	Smith	Bryan	Male	31/01/56	PM10
855265	Hayes	Leslie	Female	00/00/00	AL76
	Taylor	Kevin	Unknown	12/30/69	US18

NB: Records extracted from an actual HR database

ACTIVITY: DATA AUDIT & ANALYSIS

POTENTIAL / SUSPECTED DATA QUALITY PROBLEMS			
1		11	
2		12	
3		13	
4		14	
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

EXAMPLE POTENTIAL BUSINESS RULES			
FORMAT BUSINESS RULES		CONTENT BUSINESS RULES	
1		1	
2		2	
3		3	
4		4	
5		5	

CONTENT BUSINESS RULES FOR POTENTIAL DATA DEDUPLICATION			
1		4	
2		5	
3		6	

SMAPLE HR FILE RECORDS: Potential Answer

EMP NO	SURNAME	FIRST NAME	GENDER	DATE OF BIRTH	ROLE CODE
802540	Smith	Brian	Female	31/01/56	PM16
YN4176B	Gregg		Male	07/09/80	9999
811609	Patel	Priya	XXXX	25/12/78	AL60
22298	Bothroyd	Bridget	Female	28/08/09	TBD
802540	Smith	Bryan	Male	31/01/56	PM10
855265	Hayes	Leslie	Female	00/00/00	AL76
	Taylor	Kevin	Unknown	12/30/69	US18

ANSWER: Total number of problems is 13 or 19, depending on whether Smith is a duplicate

Quantifying Data Problems: The Value of Data Profiling Tools

- Data profiling tools automate the process of assessing and reporting on the quality of data sources
- The benefits of data profiling include:
  - Fast processing of large data sets
  - Complete analysis of an entire data set, so identifies all outliers
  - Many profilers enable drill down to individual records / rows
  - Checks conformance of the dataset with business rules
  - Enables fact based discussion of the causes and impacts of data problems
  - Great starting point for DQ improvement workshops
  - **Automatic generation of metadata**
    - Supports both data quality focus & improvement and metadata capture

Results Browser

Job: US Customer Data Profiling

Input Field	Total Number	Minimum Length	Maximum Length	Minimum Value	Maximum Value
ID	5438	9	9	AAC434152	ZZZ642455
Name	5438	11	39	Anne Mullen	de Chana, Sergio Marques
Street	5438	2	41	# 3 Riverdrive Rd. East	Wilson & Kirk Road
City	5438	3	20	ABERDEEN	waterloo
State	5438	2	2	AB	WY
ZIP	5438	4	10	01801-6202	n2j4a9
Country	5438	1	13		United States
Phone	5438	1	25	(113) 072 3578	x
Cell	5438	4	14	(113) 575 3765	9978 158
Work	5438	4	28	(113) 007 6029	x7562
eMail	5438	16	35	Aaron.A.Koontz@thu.com	zoi.gibso@snomail.com
DoB	5438	19	19	Jan 1, 1900 12:00:00 AM	Mar 29, 2007 12:00:00 AM
Gender	5438	1	1	F	U
Active	5438	1	1	0	Y
CreditLimit	5438	1	5	0	32800
StartDate	5438	19	19	Apr 1, 2006 12:00:00 AM	Apr 1, 2009 12:00:00 AM
EndDate	5438	19	19	Apr 1, 2008 12:00:00 AM	Apr 1, 2014 12:00:00 AM

Min and Max Profile | Data

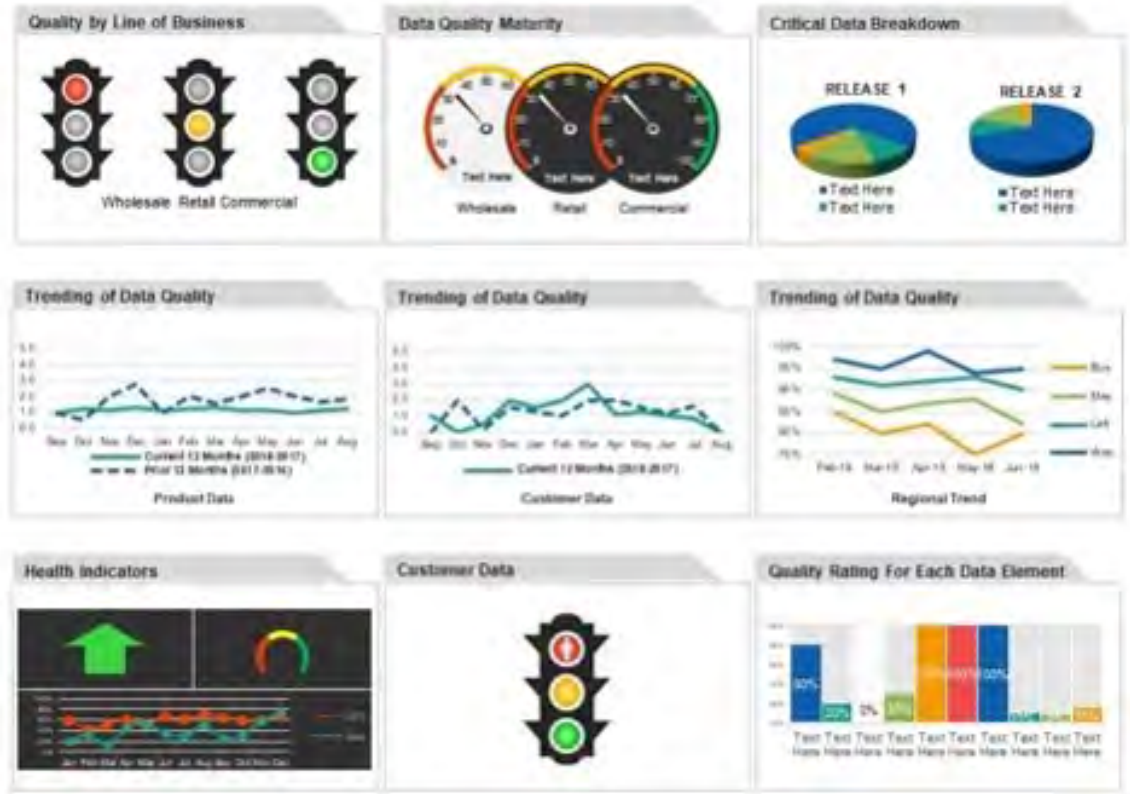
Example partial Data Profiling report

The Importance of Business Review & Validation

- Data profiling findings should be reviewed by appropriate business & IT stakeholders
  - If formal Data Governance in place, this should ideally led by the Data Stewards responsible for the specific data areas (see later)
- Aim to reach consensus on what the business impact is
- Ways of doing this:
  - Workshops and / or meetings (virtual or F2F)
  - By workflows, seeking views on the potential problem areas
- For priority areas, agree Business Rules which should be in place to baseline current data quality and measure data quality improvement (covered later)

Monitor & Report Business Rule Adherence

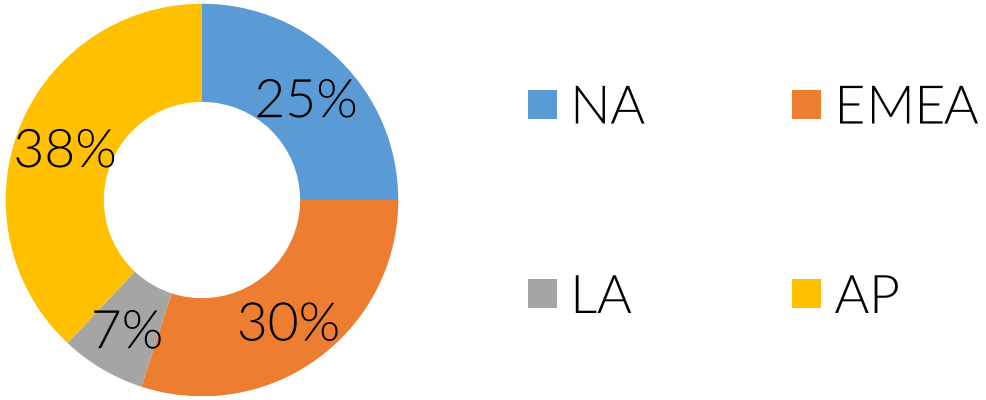
- When Business Rules are implemented can be used to:
  - Check continued adherence of existing data
  - Enforce the rules on new data to prevent new problems
- Best monitored via Data Quality Dashboards
  - Provide regular reports on adherence of data to Business Rules
  - Set KPIs to drive continuous data improvement
  - Identify data quality trends
  - Highlight areas where corrective action required
  - Indicate where / if Business Rules may need to be amended to meet changing business needs
- When reporting always try to relate data quality to business outcomes
  - Address the 'so what' objection
  - Puts a financial or other benefit on continued data quality improvement



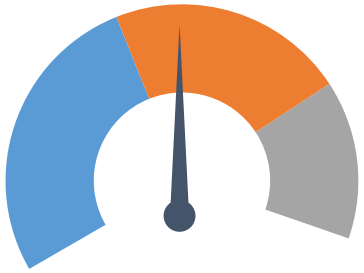
Data Quality Dashboard

Data Management & Measures: Example Data Quality Dashboard

DUPLICATE ACCOUNTS BY REGION



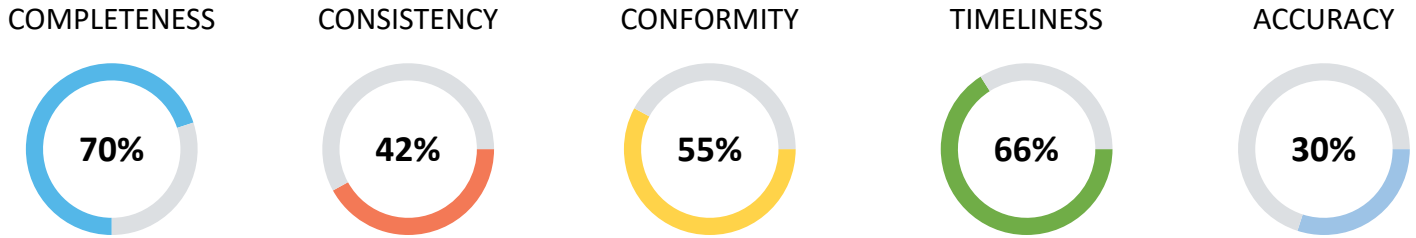
WEEKLY COMPARISON



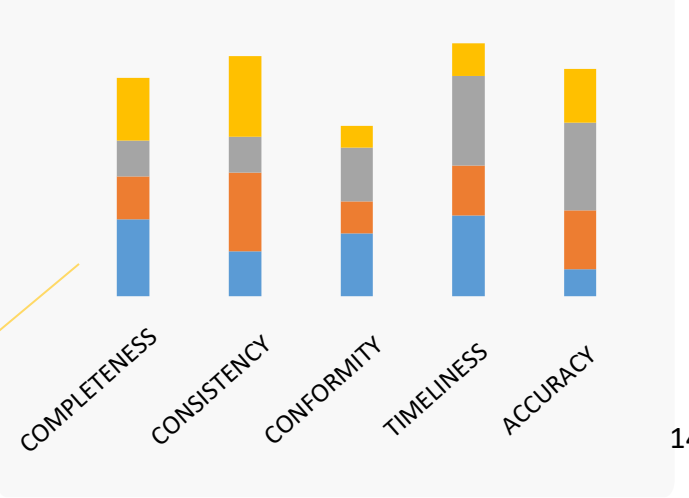
LAST WEEK
DUPLICATES RESOLVED

THIS WEEK
DUPLICATES RESOLVED

DIMENSION SCORES



RULE COUNTS BY DIMENSION



Drill down to result set that Data Steward can action

Other Considerations & Wider Roles

Other Considerations: Managing Cross-Organisational Data

- Some data objects can be considered master or core data and so by definition are used and updated widely by several functions across the organization
- This data can be identified and documented via:
  - Data Models
  - Process Maps
  - Issues Matrix
  - CRUD matrixes
- Widely shared data may be harder to govern and steward as accountability may be diffuse and business rules harder to specify
- This data can be handled in several ways. The two most common approaches are:
  - By allocating stewardship at data attribute level
  - By shared / joint data stewardship

Option 1: Shared Data Stewardship

- Here Stewardship is shared at the Object / Entity level
- In this case HR & Finance jointly steward the data object (EMPLOYEE) and all its attributes
- Decisions about EMPLOYEE data (e.g. business rules, privacy etc.) are made jointly by the HR & Finance Lead Data Stewards & Operational Data Stewards
- Regular meetings held between HR and Finance Data Stewards to ensure alignment of overall governance

HR Lead Data Steward

Finance Lead Data Steward

ATTRIBUTE	DATA STEWARD
Employee ID	HR & Finance
First Name	HR & Finance
Middle Name	HR & Finance
Second Name	HR & Finance
Work Address	HR & Finance
Home Address	HR & Finance
Social Insurance Number	HR & Finance
Role Grade	HR & Finance
Salary Band	HR & Finance
Current Monthly Salary	HR & Finance
Email address	HR & Finance
Other Attributes	HR & Finance

HR Operational Data Stewards

Finance Operational Data Stewards

Option 2: Allocate Data Stewardship at Data Attribute Level

Employee Data Object / Entity Example

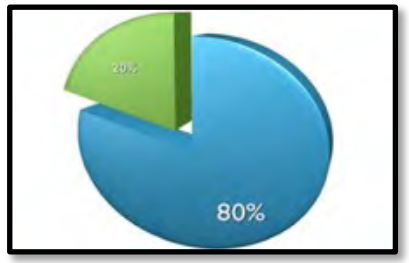
- Identify the attributes for EMPLOYEE from a Logical Data Model (ideally) or other means
- Determine which function has primary responsibility for creating and updating each attribute
- Lead Data Stewards agree where accountability for each attribute should sit (in this case HR or Finance)
- Ensure HR and Finance Data Stewards work together to ensure effective overall governance of the EMPLOYEE object as a whole

ATTRIBUTE	DATA STEWARD
Employee ID	HR
First Name	HR
Middle Name	HR
Second Name	HR
Work Address	HR
Home Address	HR
Social Insurance Number	FINANCE
Role Grade	HR
Salary Band	FINANCE
Current Monthly Salary	FINANCE
Email address	HR
Other Attributes	HR or FINANCE

Use Cases of Data Attribute Level Stewardship

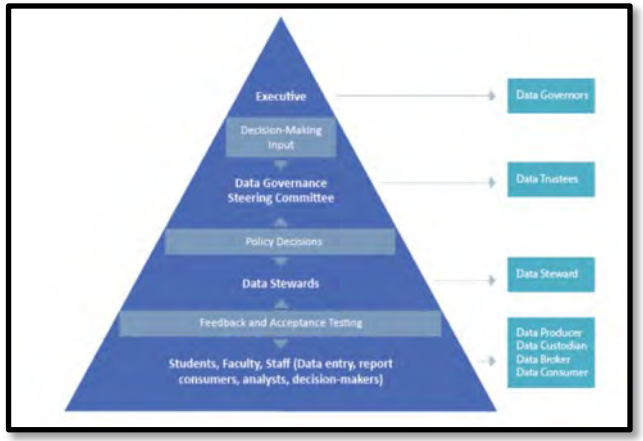
British Gas

- Established a Data Governance program around 10 years ago
- Analysed main data quality problems and prioritised top 120 data objects & attributes where DQ needed to be fit for purpose (e.g. Meter ID, Customer Address etc.)
- Appointed 15 part time Data Stewards to manage the 120 data objects & attributes
- Demonstrated significant business benefits



UBC

- University of British Columbia (UBC), Canada have a mature Data Governance programme
- Have appointed Data Governors (aka Executive Level Champions) & Data Owners
- 130 Data Stewards in post to manage the day to day running of the Data Governance program
- Assign stewardship by data object & attribute



Wider Roles of Data Stewards

- Be active participants in any Data Governance Advisory / Working Groups
- Work with other Data Stewards to ensure best practices are shared and reused
- Support the Head of Data Governance to develop the strategic Data Governance framework and roadmap
- Play an active role in wider Data Governance programme including:
  - Business / Data Glossary development and maintenance
  - Metadata repository development and its population
  - Communications planning and delivery
- Ensure policies & processes are in place for:
  - Data domain problem capture & reporting
  - The development & maintenance of data definitions, data standards and business rules
- Build close relationships with the appropriate Technical Data Stewards to better understand the technical landscape which stores and processes key domain data
- Liaise closely with the Data Protection Officer (DPO) and the Security team to:
  - Audit & review data protection & security policies and procedures, as appropriate
  - Specify and agree appropriate actions to remedy any identified shortcomings

Trends in Data Stewardship

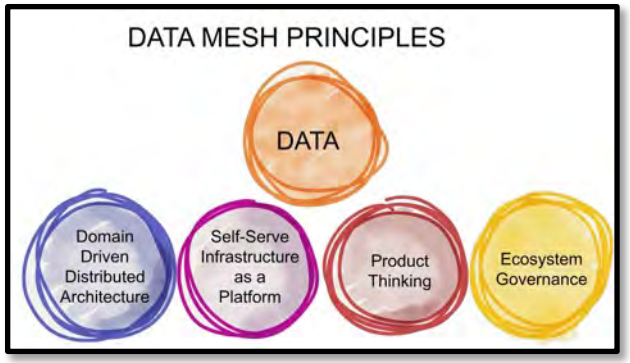
More emphasis on externally sourced data

As more data is sourced from outside organisations, stewardship will become more outward facing, e.g. SLAs, data contracts etc.

Becoming more influential within the organisation

As organisations become more data driven, data owners and data stewards will become increasingly important decision makers & opinion formers

Data Mesh: Stewardship & Data Product Ownership



As Data Mesh concepts & practices spread, owners & stewards may evolve into Data Product Owners & Product Developers

Data Fabric: Growing Emphasis on Metadata

As Data Fabric tools & techniques mature, active metadata management becomes a 'must have', putting business & technical stewards at the forefront

Summary & Conclusions

WORKSHOP OBJECTIVES

- Define what data stewardship is, and reinforce its critical importance in delivering the promised benefits of data governance
- Outline the key roles of data stewards, both in relation to data owners and other key data governance roles
- Highlight required stewardship skill sets and capabilities
- Suggest how data stewards can achieve rapid success through a simple four step approach:
  - Data Domain Audit
  - Data Domain Analysis & Report
  - Initial Data Improvement Plan
  - Delivery of Quick Wins & Early Benefits
- Highlight the importance of creating and participating in a wider data stewardship community
- Point to current and future trends in data stewardship and how these will impact the role
- Enable participants to practise some key approaches above through exercises undertaken during the workshop

Did it meet your objectives?

Stewardship: Recap of Key Messages

- To succeed in stewardship focus and prioritisation of activities is critical
- Conduct an initial audit to:
  - Deepen your understanding of the data domain and its importance
  - Start to build a community across the domain
  - Identify the key data problems and opportunities improved data will address
- Run pilot(s) / PoC(s) asap to show early results and benefits
  - Seek out 'quick wins' - focus on at least one Data Quality project
  - Refine the approach and tackle further problems iteratively
- Remember you also have a key wider role in the overall Data Governance initiative:
  - Work closely with the Data Owner to enable her / him to champion your data domain
  - Work with other Data Stewards to tackle cross-domain data issues and share best practice
  - Help to communicate and promote the value of Data Governance and so foster the culture change needed for the organisation to become truly data driven

Without data stewardship Data Governance is no more than a talking shop.

Stewardship is the engine room of data improvement and will make or break any Data Governance programme.

Contact Info

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Please feel free to get in touch if you have any follow up questions / suggestions etc.

DATA GOVERNANCE AND MASTER DATA MANAGEMENT CONFERENCE EUROPE

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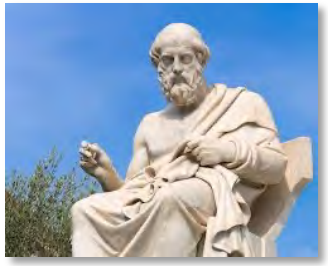
IRMUK

Final wise words…

"Never discourage anyone who continually makes progress, no matter how slow… even if that someone is yourself!"

PLATO



"I should stop talking now. Somebody's boring me. I think it's me"

DYLAN THOMAS

THANK YOU FOR YOUR TIME, INPUTS & CONTRIBUTIONS
THE VERY BEST OF LUCK IN YOUR STEWARDSHIP JOURNEY!