"A Data Strategy For Becoming Data Driven"

Workshop

Van der Valk Hotel, Utrecht
Thursday 12 October 2023

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Global Data Strategy

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WORKSHOP AGENDA

- Data Strategy: Definition & Rationale

- Data Strategy: Where to Begin?

- The Four Step Data Strategy Approach:

  - **Step 1** – Business Goals & Objectives Aligned to Data

  - **Step 2** – Current State Capability Assessment

  - **Step 3** – Proposed / Required Future State

  - **Step 4** – Developing the Data Strategy Roadmap

- Implementing the Roadmap: the Need for Data Governance

- The Critical Importance of Change Management

- Key Messages and Conclusions

Aim for an Interactive Session

Everyone to do a quick introduction:
Name, Role, Organisation, Data Strategy Interest

What we'll be doing…

I hear and I forget. I see and I remember. I do and I understand.

– Confucius

AZ QUOTES
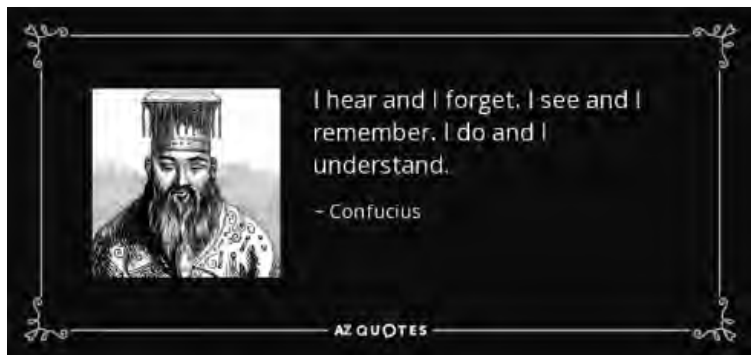
HANDS ON – A CHANCE TO PRACTISE

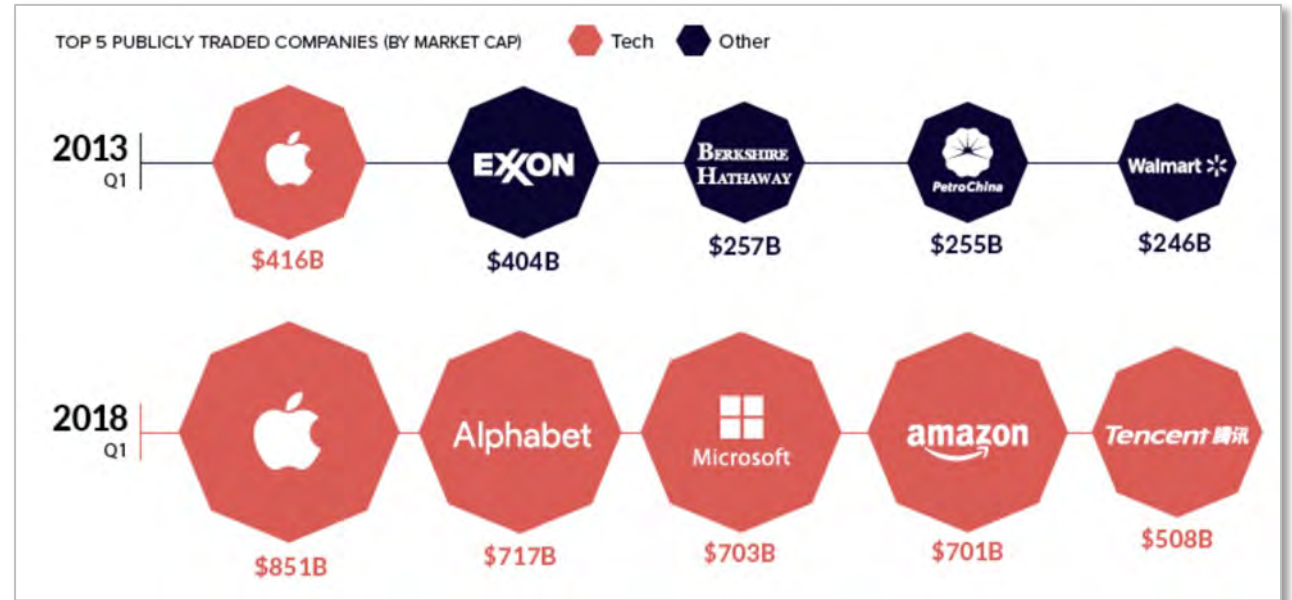**Building a Data Strategy**

Rationale & Definitions

Data is Driving the Future of the Global Economy

- "For most of the history of business, the world's leading companies have been industrially-focused…

- …But today's business reality is very different. We live in a world of bytes – and for the first time technology and commerce have collided in a way that **makes data far more valuable than physical, tangible objects**.

- The best place to see this is in how the market values businesses." [1]
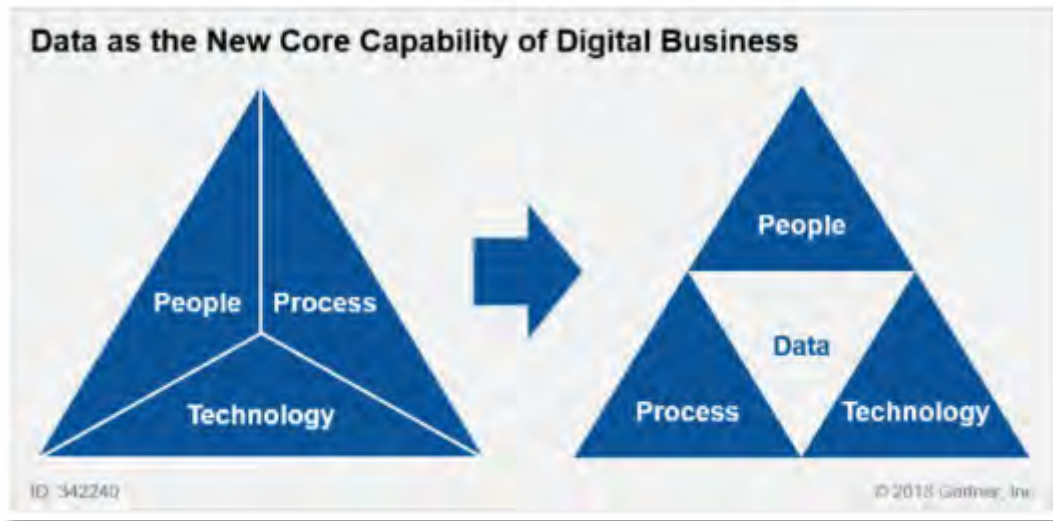
Product Focus

Data Focus

TOP 5 PUBLICLY TRADED COMPANIES (BY MARKET CAP) ● Tech ⬣ Other

2013 Q1 — Apple $416B — EXXON $404B — Berkshire Hathaway $257B — PetroChina $255B — Walmart $246B

2018 Q1 — Apple $851B — Alphabet $717B — Microsoft $703B — amazon $701B — Tencent $508B

[1] Oct 15, 2018, World Economic Forum, "These are the 8 major forces shaping the future of the global economy"

WORLD ECONOMIC FORUM

The World Economic Forum sees today's economy as driven by Data, not Goods & Services

Gartner's View – the data driven, digital business

Data as the New Core Capability of Digital Business

People | Process
Technology

ID 342240   © 2018 Gartner, Inc

People

Data

Process   Technology

- To manage its people, a digital company needs a **HR Strategy** to steer recruitment, skills & people retention

- To manage its IT, needs an **IT Strategy** to ensure its technology investment supports its business aspirations

- To manage its processes, needs a **Process Strategy** to drive the design, deployment & management of its automated and manual processes

- To manage its data, needs a **Data Strateg**y to develop & improve its data assets to underpin its People, Process & Technology strategies

Business Optimisation vs. Business Transformation

Digital Transformation is transforming business

Business Optimisation
Becoming a Data-Driven Company

- Improving Efficiency
    - Reduce Redundancy
    - Eliminate Manual Effort
- Growing Revenue
    - Improved Marketing Campaigns
    - Data-driven Product Development
- Etc.

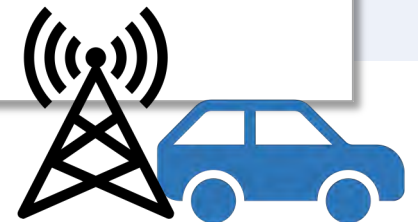*How do we do what we do better?*

Business Transformation
Becoming a Data Company

- New Business Models
    - Data is the product
    - Monetisation of information
- Digital Transformation
    - New Business Models
    - Data is the Business
- Etc.

How do we do something different?

DISCUSSION

What problems or opportunities are changing or driving an increased focus on data in your organisation / industry?

Why the need for a Data Strategy?

"If you don't know where you are going, you'll end up someplace else."
**YOGI BERRA,
US BASEBALL PLAYER**

"By failing to prepare, you are preparing to fail."
**BENJAMIN FRANKLIN,
US FOUNDING FATHER**

"Give me six hours to chop down a tree and I will spend the first four sharpening the axe"
**ABRAHAM LINCOLN,
US PRESIDENT**

"Strategy is a fancy word for coming up with a long term plan and putting it into action"
**ELLIE PIDOT,
VP STRATEGY,
MEDTREONIC**

Further good reasons for a Data Strategy – data volumes

2.5 QUINTILLION GRAINS OF SAND ON EARTH

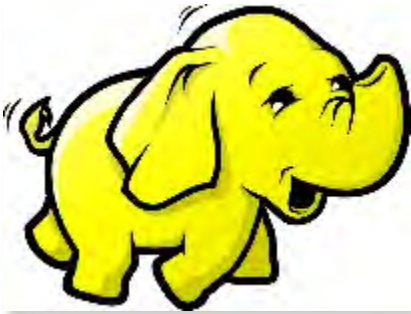

7.5 QUINTILLION BYTES OF NEW DATA CREATED EVERY DAY

90% OF ALL DATA HAS BEEN CREATED IN THE LAST 2 YEARS

AVERAGE BUSINESS DATA VOLUMES DOUBLE EVERY **1.2 YEARS**

Further good reasons for a Data Strategy – complexity and divergence

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

Which topics are most important to DAMA UK members in 2023?

Topic	2023
Data Governance	72%
Data Strategy	60%
Data Quality	51%
Data Architecture and Modelling	36%
Reference and Master Data	32%
Organisation and Culture	31%
Metadata	31%
Data Management Tools	27%
Data Privacy and Ethics	21%
AI and Machine Learning	15%
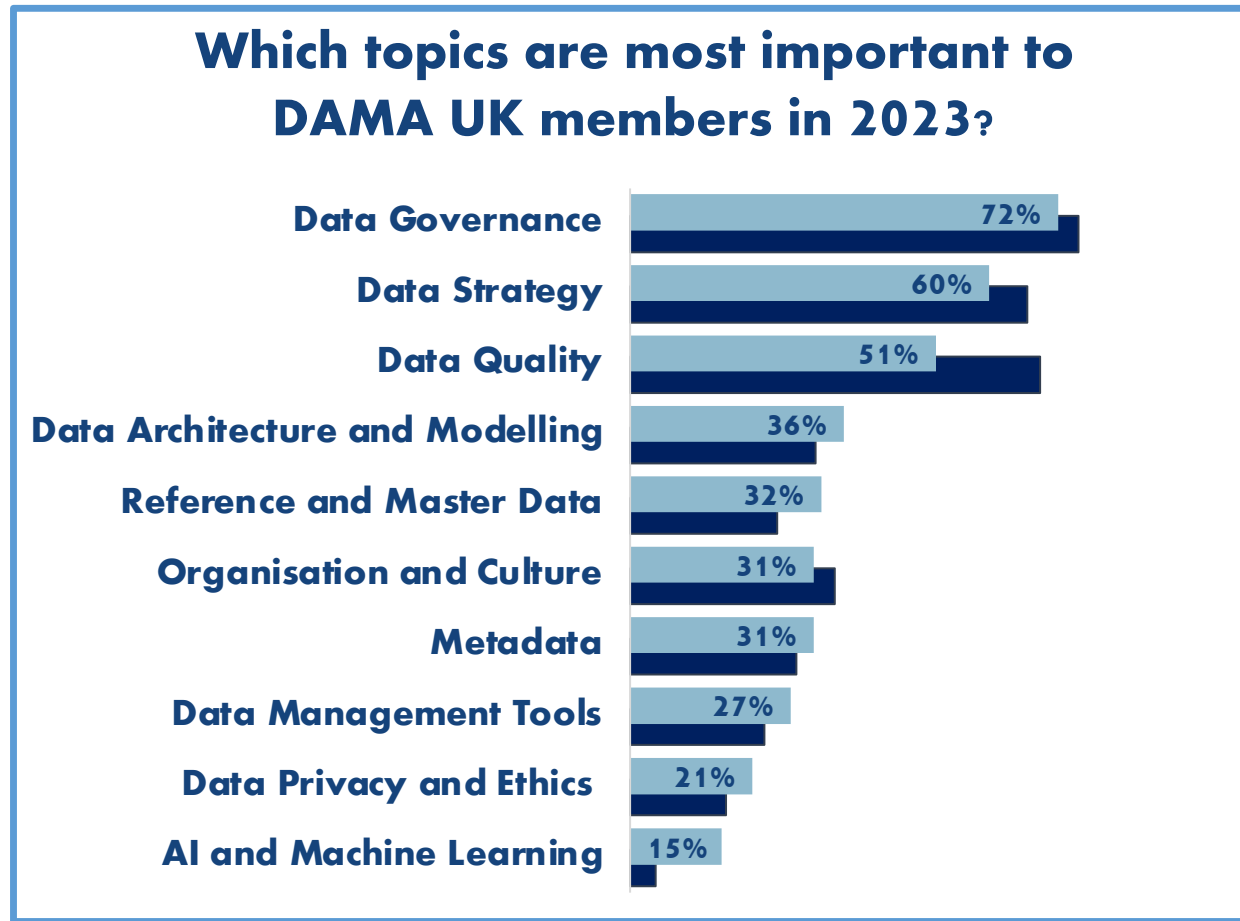
Top 10
Data Management Priorities 2023

KEY:
2023
2022

*Source:
DAMA UK Members Survey
June 2023*

Overview of the Data Strategy Approach : Key Questions

ANALYSE CURRENT STATE

What are the organisation's current business goals and objectives?

What are the current data strengths and what weaknesses prevent or impede its ability to deliver its goals?

DESIGN FUTURE STATE

What does the business aspire to do in the future that it does not / cannot do today?

What new data capabilities would it need to support this?

"The future starts today, not tomorrow"

Pope John Paul II

Where to begin? Developing a Data Strategy

STEP 1 | Business Goals & Strategy — *Identify Business Goals & Objectives Aligned to Data*

STEP 2 | Current State Assessment — *Understand Current Data Maturity & Environment*

STEP 3 | Proposed Future State — *Propose Future State Capabilities, Processes & Organisational Structure*

STEP 4 | Implementation Roadmap — *Prioritise Efforts & Identify "Quick Wins"*

STRATEGY DEVELOPMENT

ITERATION & EVOLUTION

Basic definitions

Business & Data Strategies

A BUSINESS STRATEGY is a medium to long term business plan which details the aims & objectives of a business and how it means to achieve them

A DATA STRATEGY is a medium to long term plan for the *improvement, management & exploitation of data across a business*, and how it is to be achieved

The traditional relationship between Business & Data Strategy

Sets requirements for

Business Strategy
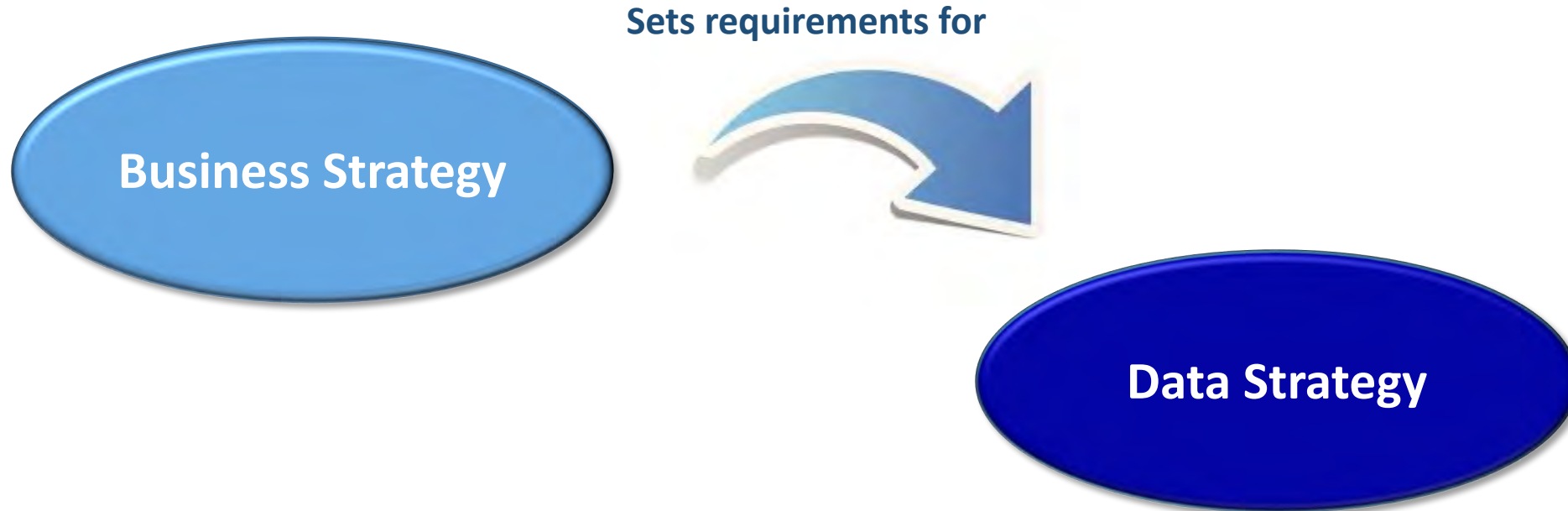
Data Strategy

The digital, data driven enterprise – equal partners

Informs & Guides

Business Strategy

Data Strategy

Informs & Guides

"**Only 30% of organisations have a data strategy that is aligned with their business strategy**"
McKinsey Survey, quoted in "Does Your Data & Analytics Strategy Have These 10 Crucial Elements", Ganes Kesari, Forbes, 31 May 2022

The role of the data professional in the data driven business

- In the current environment of data driven business, data professionals have an opportunity to have a seat at the table:
    - Finding new opportunities to leverage data for business benefit
    - Creating efficiencies & business process optimisation
    - Integrating data from disparate sources for new business insights
    - Supporting organisational change
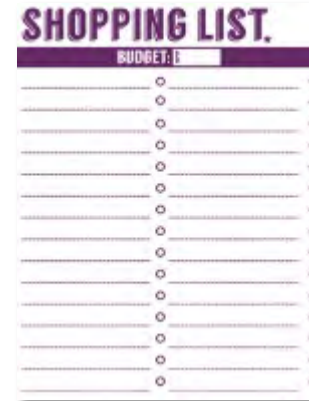
What a data strategy is NOT

... or 8 certain ways to make sure it fails

Encompass all corporate data & information

Owned and actioned by the IT Department

A technology shopping list

Led and developed exclusively by middle managers

A general strategy, reused from elsewhere

A set of noble principles & aspirations

Long term, with no immediate benefits

Set in stone and never changed

What a data strategy IS

... or 8 certain ways to ensure it succeeds

Closely focused on the key data that the organisation depends on
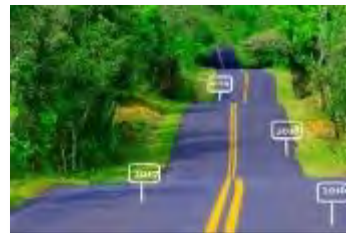

Actively owned by senior business executives

Unique to the specific organisation

Holistic, encompassing People, Process & Technology

Developed & maintained collaboratively across business & IT

An action roadmap, with milestones & deliverables

Include ' quick wins' but keep sight of the longer term goals

Evolutionary & dynamic, adapting to the changing needs of the organisation

Building a Data Strategy

Where to begin?

Where to begin? Developing a Data Strategy

STEP 1 Business Goals & Strategy *Identify Business Goals & Objectives Aligned to Data*

STEP 2 Current State Assessment *Understand Current Maturity & Environment*

STEP 3 Proposed Future State *Propose Future State Capabilities, Processes & Organisational Structure*

STEP 4 Implementation Roadmap *Prioritise Efforts & Identify "Quick Wins"*

STRATEGY DEVELOPMENT

ITERATION & EVOLUTION

Building a Data Strategy STEP 1

Identify Business Goals & Objectives Aligned to Data

Capturing business goals and drivers - research

- Look at company websites & documents (external and internal) to highlight:
  - Current Mission & Vision
  - Strategic business aims and goals
  - Current challenges – external and internal

- Consider how these depend on data and its effective management
  - For example, a business goal to **'Increase our revenues from our top 10% revenue generating customers'**
  - Data questions:
    - Can we identify our top 10% revenue generating customers?
    - What data issues may stop us doing that (data quality, data duplication, missing data etc.)
    - What are the implications if we can't?

Capturing & analysing data problems & opportunities

- Identify the primary data stakeholders (Include both Business & IT)

- Set up 1-1 interviews, group interviews or workshops to highlight:
  - 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?

- 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)

So tell me about your data...

Stakeholder Analysis

- Stakeholders are key to the success or failure of your data strategy. Like data assets, they should be analysed and managed.
  - They are the **"Who"** in the Zachman Framework
- A number of tools and techniques exist to help manage stakeholders

- **Stakeholder matrix:** Listing of key stakeholders with their roles, contact information, location, etc.
- **Interest/Influence matrix:** Rank stakeholders by level of interest vs. amount of influence they hold.
- **Interest matrix:** Identify key interest areas and map their importance to each stakeholders or stakeholder group.
- **Interview schedule & key questions:** Plan the interview schedule to respect stakeholders' time. Identify key questions ahead of the meeting.
- **Preferred communication styles:** Identify the styles of communication preferred by stakeholders & their communication styles (email, face to face meeting, coffee, introvert/extrovert, etc.)
- **Communication Plan**: Develop a phased communication plan including feedback, reporting, metrics, etc.

Example Stakeholder Matrix

Stakeholder Matrix

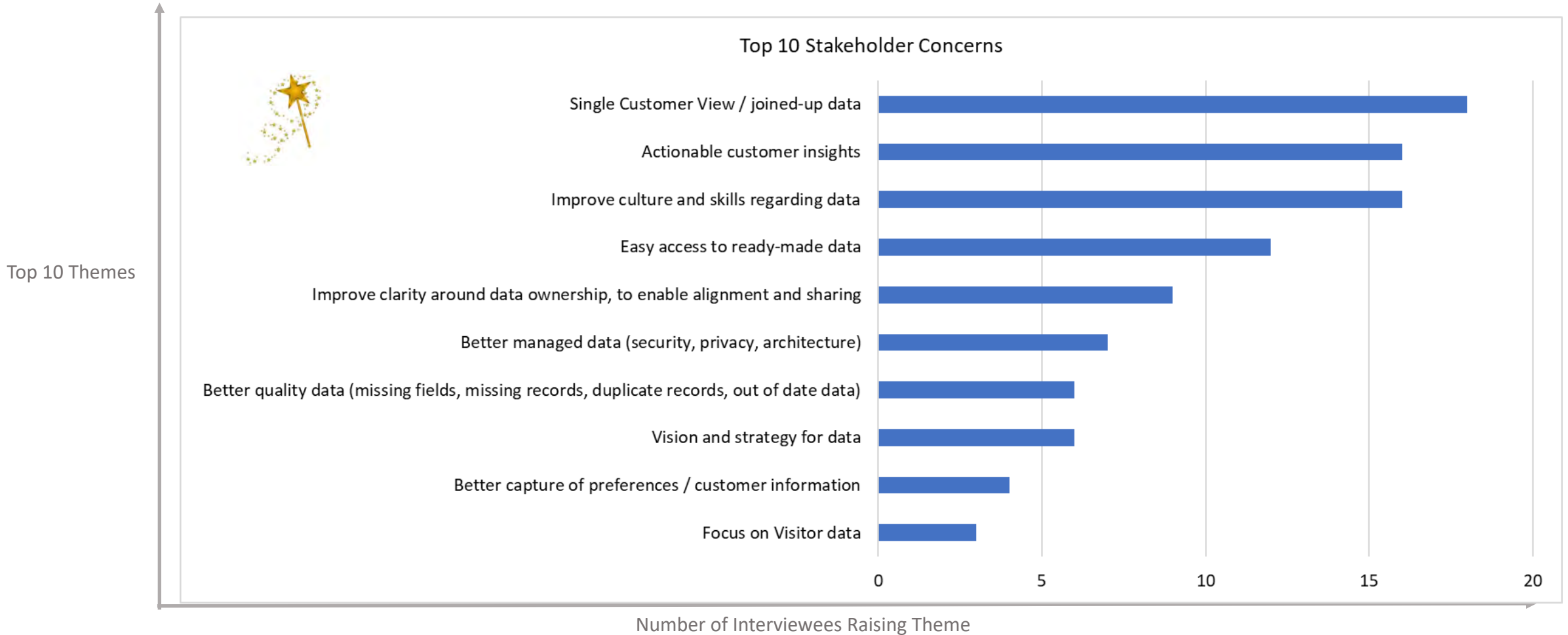| Stakeholder Name / Group	Job Title/Role	Location	Involvement R	A	C	I	Role on Project	Influence H / M / L	Impacted H / M / L	Phone	Email
EXECUTIVE REVIEW											
Mary Smith	CIO	Plano, TX	X			X	Executive Sponsor	H	H	+1 (214) 555-1212	mary.smith@thisco.com
Robert Quantiles	CFO	New York, NY			X	X	Executive Champion 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

Data Issues & Opportunities Log: Suggested Template from Interviews

Unique ID	Interview No.	Short Name	Description	Impact of the Problem	Raised By

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

Top 10 Themes

Top 10 Stakeholder Concerns

Theme	Number of Interviewees Raising Theme
Single Customer View / joined-up data	18
Actionable customer insights	16
Improve culture and skills regarding data	16
Easy access to ready-made data	12
Improve clarity around data ownership, to enable alignment and sharing	9
Better managed data (security, privacy, architecture)	7
Better quality data (missing fields, missing records, duplicate records, out of date data)	6
Vision and strategy for data	6
Better capture of preferences / customer information	4
Focus on Visitor data	3

Number of Interviewees Raising Theme

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

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.									

Legal Rider

This case study is based upon a purely fictional hotel business

Any resemblances to real hotel chains are unintentional and purely coincidental

Case Study:
Global Destinations & Spas (GDS) Hotel Chain

- The Global Destinations & Spas (GDS) Hotel Group is a hotel, casino, spa and nightclub chain.

- The hotel has grown rapidly through aggressive acquisition and now has 30,500 employees.

- Although the GDS Group has remained profitable, increasing competition from other chains & new accommodation services (e.g. Airbnb), and the rapid rise of online gambling, have been gradually eroding its profit margins over the last five years.

- There is a low level of confidence in the accuracy of financial reports and the CFO is nervous about the financial and regulatory implications of this.

- A new CEO was appointed six months ago. Her brief is to increase the profitability of the Group and assure its future.

ACTIVITY: Read the case study and then consider who would be the key stakeholders

Legal Disclaimer: This case study is based upon a purely fictional hotel business. Any resemblances to real hotel chains are unintentional and purely coincidental .

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Activity – Stakeholders

Who are the Key Stakeholders for the Hotel Chain?

For the key business initiatives you identified, who are the key stakeholders you need to speak with?

Include at least:

- **1 or more high-level managers or executives**

- **1 or more operational staff members from "the field"**

- **1 or more potential external stakeholders**

Key Stakeholders by Role/Title

1. _____

2. _____
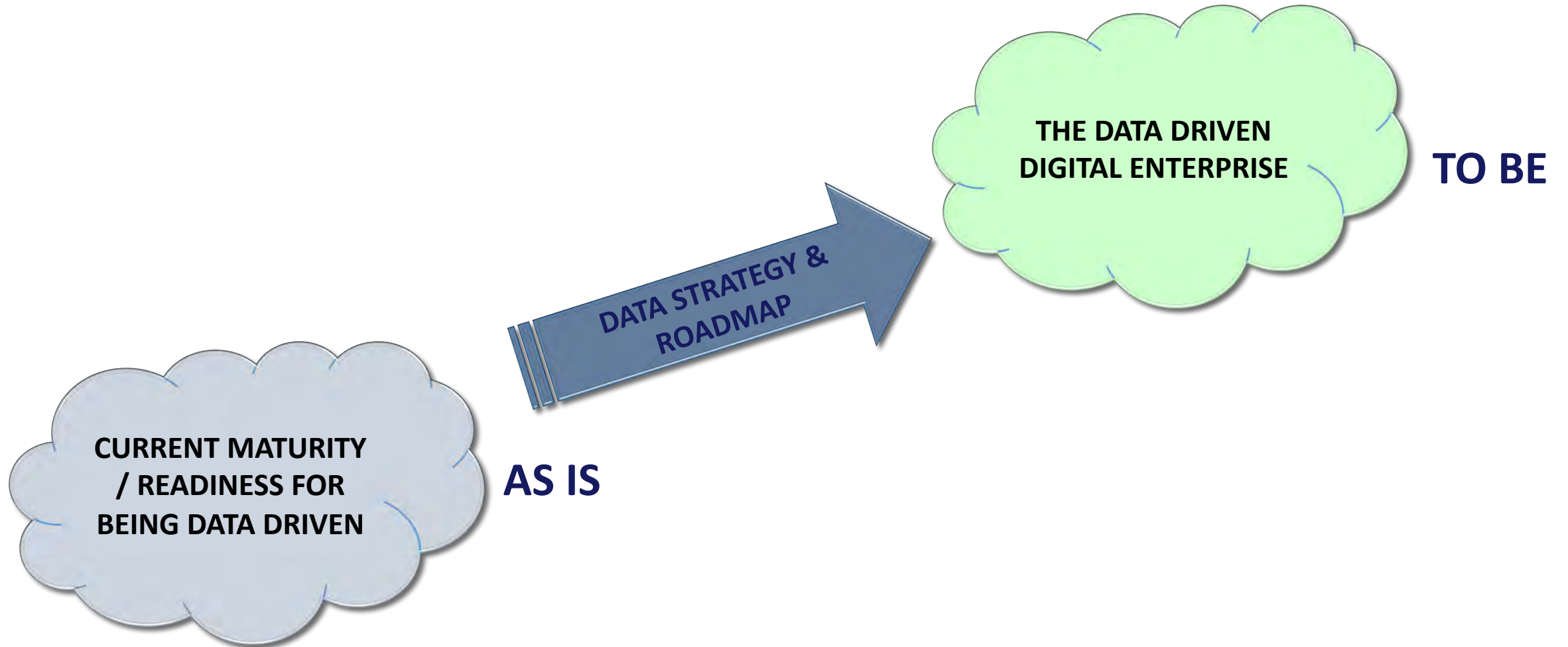
3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Building a Data Strategy STEP 2

Understand Current Data Maturity & Environment

Maturity baseline – plotting your data strategy

THE DATA DRIVEN DIGITAL ENTERPRISE

TO BE

DATA STRATEGY & ROADMAP

CURRENT MATURITY / READINESS FOR BEING DATA DRIVEN

AS IS

Discussion: "Offence" vs. "Defence"

Which style of data management fits your organisation?

Offence
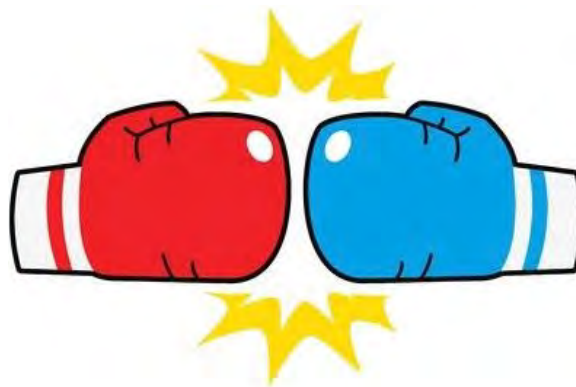
Defence

- Focused on Creating Opportunity
  - Improving Profitability
  - Increasing Revenue
  - Improving Customer Satisfaction
  - Competitive Advantage

- Focused on Reducing Risk
  - Compliance & Regulation
  - Avoiding Audits or Fines
  - Fraud Detection
  - Security & Privacy

Discussion: On which end of the spectrum is your organisation?

Discussion: "Offence" vs. "Defence"

Which style of data management would fit the Hotel Group?

Offence
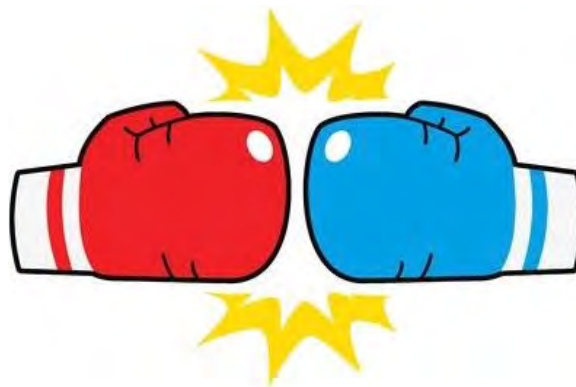
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  - Security & Privacy

Discussion: On which end of the spectrum is the Hotel Group?

Motivation Model: What is it?

Artful Art Supplies

ArtfulArt

Corporate Mission

To provide a full service online retail experience for art supplies and craft products.

Corporate Vision

To be the respected source of art products worldwide, creating an online community of art enthusiasts.

External Drivers

- Digital Self-Service
- Increasing Regulation Pressures
- Online Community & Social Media
- Customer Demand for Instant Provision

Internal Drivers

- Targeted Marketing
- 360 View of Customer
- Cost Minimisation
- Brand Reputation
- Community Building
- Revenue Growth

Goals & Objectives

Accountability

- Create a Data Governance Framework
- Define clear roles & responsibilities for both business & IT staff
- Publish a corporate information policy
- Document data standards
- Train all staff in data accountability

Quality

- Define measures & KPIs for key data items
- Report & monitor on data quality improvements
- Develop repeatable processes for data quality improvement
- Implement data quality checks as BAU business activities

Culture

- Ensure that all roles understand their contribution to data quality
- Promote business benefits of better data quality
- Engage in innovative ways to leverage data for strategic advantage
- Create data-centric communities of interest

- One page diagram, used to clarify and communicate the rationale for, and the main priorities of a Data Strategy

> Top half highlights the business need for better data and new data

> Bottom half summarises the primary focus, goals and objectives of the Data Strategy

- Consider how the Drivers depend on data and effective data management and highlight current weaknesses raised in interviews etc.

- Motivation Model overall can be the basis of a 2 minute 'elevator pitch' – see later

Motivation Model: How to Develop It

///Adept Events

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Mission & **Vision** can be identified from business strategies, annual reports etc.

Internal & **External Drivers** are the forces which are driving the need for change, including better data management. Can be derived from stakeholder interviews and documents e.g. Annual Report

External Drivers are the forces which are in the environment of the organisation and so cannot be directly controlled

Internal Drivers are the forces which are within the control of the organisation and reflect business challenges & initiatives

Top half of model (Business needs) can be completed after the end of the Vision stage of the framework

Bottom half of the model (Data Strategy goals) can be completed after Current & Future State analysis is complete (see later)

Real (Anonymised) Motivation Model

ACME MISSION
To champion better work and working lives by improving practices in people and organisation development, for the benefit of individuals, businesses and society

ACME VISION
To define and represent the international benchmark for excellence in people and organisation management and development

External Drivers

Hub for Professional Connections	Digitisation of Products & Services	Create a Collaborative Ecosystem	Brand & Reputation
Customer & Company Experience	Relevant & Timely Communication	Regulatory & Legal Compliance	Competitive Landscape

Internal Drivers

Coherent Customer View: Individual & B2B	Enhance Customer Insight	Increase Customer Satisfaction / NPS	Create & Leverage Partnerships
Faster Time to Market	Exploit Intellectual Property	Increase Surplus	Efficiency & Cost Minimisation

Strategy
- Develop a Data Strategy aligned with Business Strategy
- Identify high priority data issues and problems
- Review and join up ongoing data improvement initiatives
- Ensure focus & resources align with business priorities
- Make the case for investment in data and supporting IT

Accountability
- Define clear roles & responsibilities for both business & IT staff
- Set up cross-business governance to lead and implement change
- Make data fit for purpose through better data quality
- Manage master data to enable a coherent customer view

Architecture
- Develop an Architecture for the business of today and tomorrow
- Define & document supporting data models
- Develop and implement an IT Strategy to support the Data Strategy
- Manage architecture as a key business / IT function

Innovation
- Gain greater insight on the ACME market & ecosystem
- Better use and exploit data to gain new insights through BI & analytics
- Use data to drive & develop new products & services
- Share data with partners and others to enhance knowledge

Culture
- Communicate the goals and achievements of the Data Strategy to all
- Enhance digital skills of staff by organic development and recruitment
- Train all staff in data management best practices
- Encourage active participation in data improvement

Business Motivation for Global Destinations & Spas

- Revisit the Hotel Case Study:

1. What is the Group's stated Mission & Vision?

2. What are the top Internal & External Drivers? (Try to find at least 5 of each)

   See next slides for templates (see also workbook)

Global Data Strategy, Ltd. 2020

Activity – Business Motivation & Drivers

HOTEL GROUP MISSION:	HOTEL GROUP VISION:

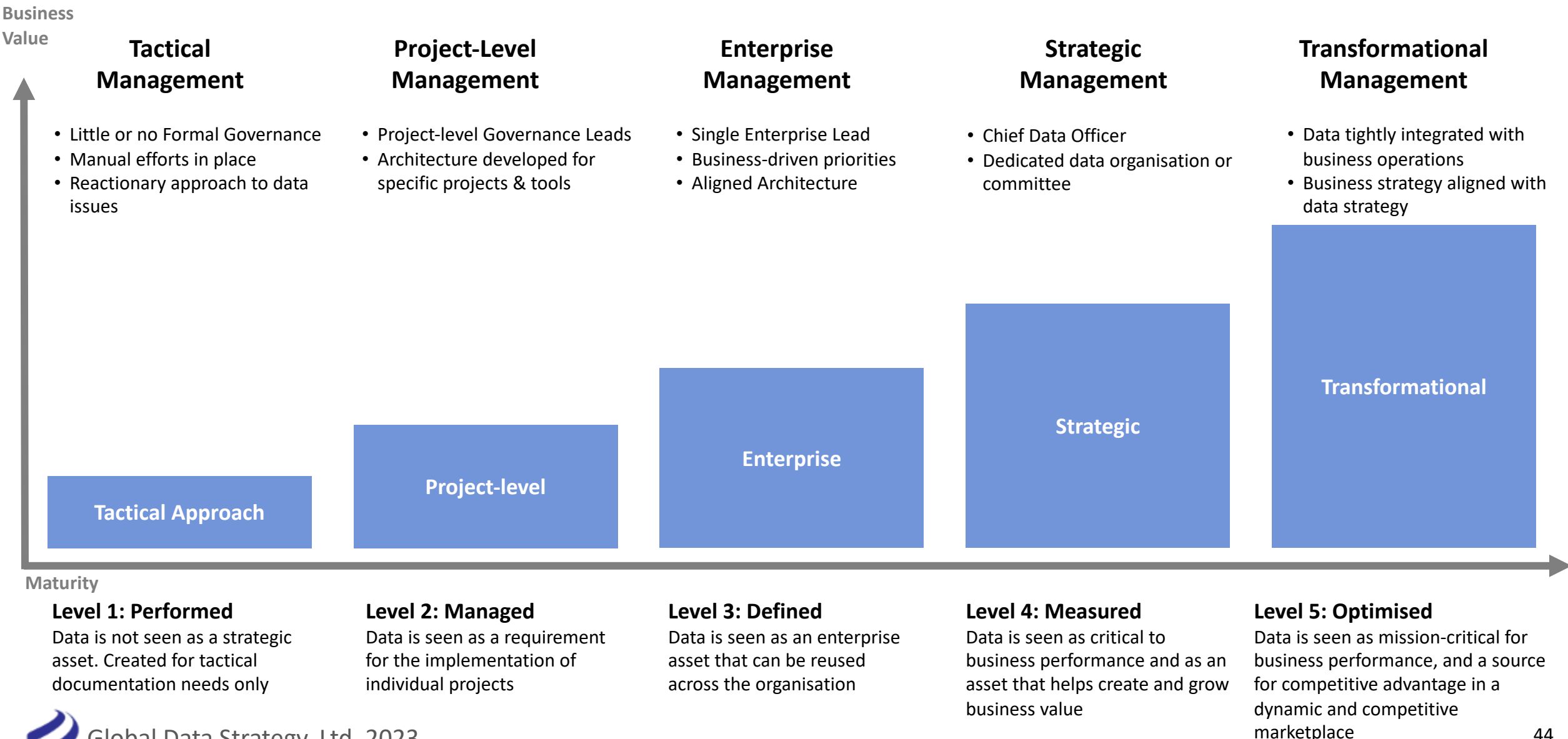**EXTERNAL DRIVERS**
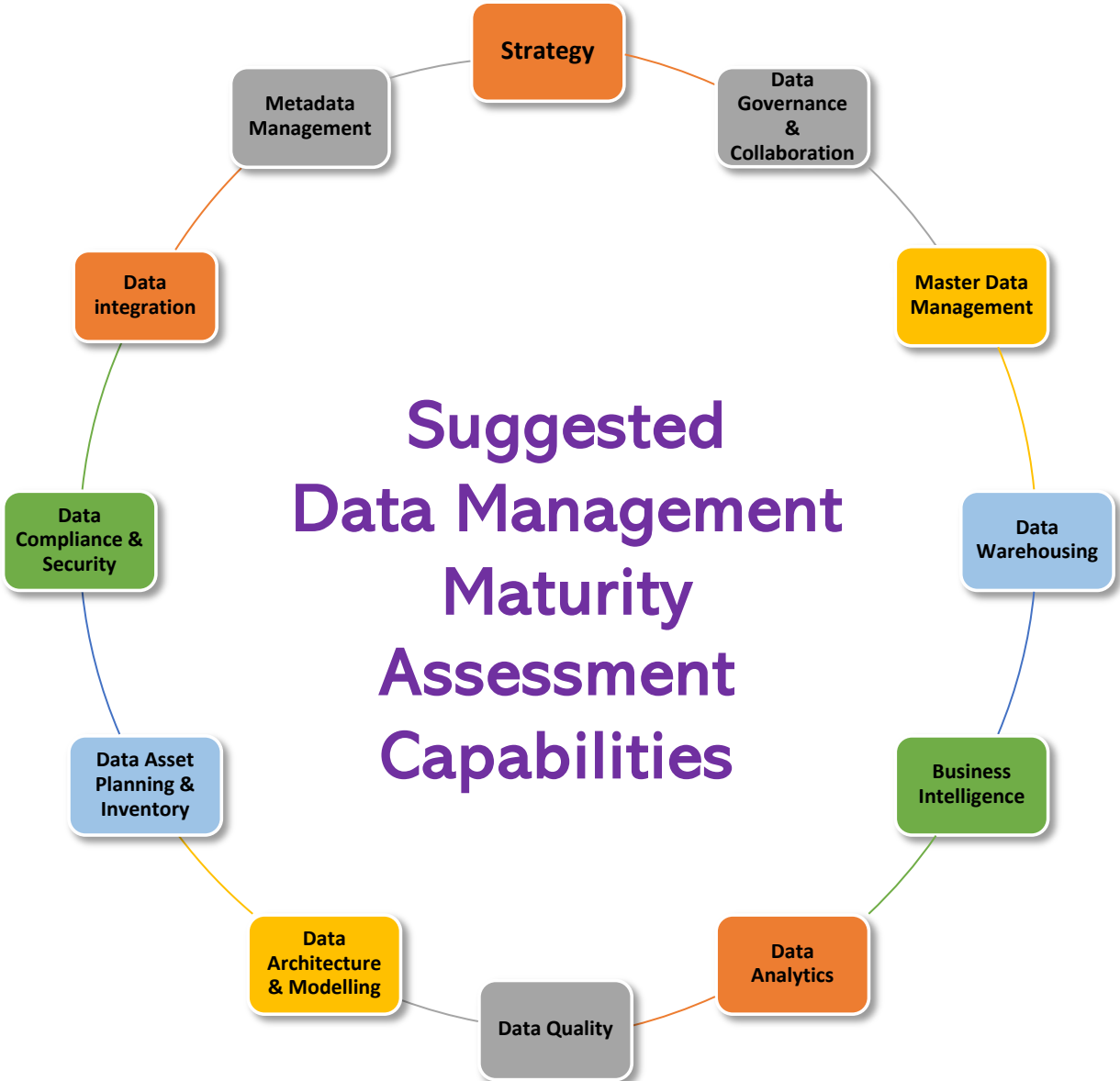
1. _____

2. _____

3. _____

4. _____

5. _____

INTERNAL DRIVERS

1. _____

2. _____

3. _____

4. _____

5. _____

Data Management is an Evolution

Business Value

Tactical Management	Project-Level Management	Enterprise Management	Strategic Management	Transformational Management
• Little or no Formal Governance • Manual efforts in place • Reactionary approach to data issues	• Project-level Governance Leads • Architecture developed for specific projects & tools	• Single Enterprise Lead • Business-driven priorities • Aligned Architecture	• Chief Data Officer • Dedicated data organisation or committee	• Data tightly integrated with business operations • Business strategy aligned with data strategy

Tactical Approach

Project-level

Enterprise

Strategic

Transformational

Maturity

Level 1: Performed
Data is not seen as a strategic asset. Created for tactical documentation needs only

Level 2: Managed
Data is seen as a requirement for the implementation of individual projects

Level 3: Defined
Data is seen as an enterprise asset that can be reused across the organisation

Level 4: Measured
Data is seen as critical to business performance and as an asset that helps create and grow business value

Level 5: Optimised
Data is seen as mission-critical for business performance, and a source for competitive advantage in a dynamic and competitive marketplace

Global Data Strategy, Ltd. 2023

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* From Global Data Strategy's Maturity Assessment Methodology, adapted from CMMI, DMBOK, and industry experience with Global Fortune 100 Companies

Performing a Current & Future State Assessment

Performing a Current & Future State Assessment: Capabilities

DATA MANAGEMENT CAPABILITY	EXAMPLE TOPICS ANALYSED
Data Strategy	Alignment of data to business strategy; budgets & resources; communication
Data Governance	Accountability; stewardship; data issue management; critical data identification
Master Data Management	Master & reference data storage & processing; matching rules; hierarchies; CDEs
Data Warehousing	DW capability; performance & scalability; documentation; design methodologies
Business Intelligence	Provision of user reports; tooling; self-service; semantic layer; visualisation
Data Analytics	Operational v predictive; use of data science, AI/ML; social media; geographic data
Data Quality	Measurement & KPIs; root cause analysis; tooling; enrichment; data entry validation
Data Architecture & Modelling	Models; data standards; process / data mapping; system architecture; documentation
Data Asset Planning & Inventory	Location & documentation of data assets; data lifecycle management; data retention
Data Compliance & Security	Legal & regulatory compliance processes; privacy tagging; access & security controls
Data Integration	Batch v real time capability; APIs ; common business logic; platforms & tools
Metadata Management	Business data glossary, dictionaries & catalogs; data lineage; maintenance processes

Data Management Maturity Assessment
Defining "As Is" and "To Be" maturity levels

Detailed Questionnaire for Each Capability Area   **"Heat Map" of Problem Areas**

	Current State	Future State
Strategy	2.8	4.3
We have a Data Strategy for maximizing the use of data within our organization	3	5
Our Data Strategy is aligned to our Business Strategy.	3	5
We have executive and/or senior-level business support and sponsorship for our strategy	2	4
We have published a plan to achieve our Data Strategy that includes organization support, process, and IT.	4	4
We have organizations and budgets in place to support our Data Strategy and Plan.	3	4
Our Data Strategy is published and well understood across lines of business and technology groups.	2	4
Data Governance	3.0	5.0
We have a standard, auditable process for resolving data governance issues, such as change management, priority management, conflict resolution, etc.	3	5
We have data stewards who manage key data used across functional groups. They have clearly defined and well understood roles and responsibilities.	4	5
We have identified business-critical data elements and define & store them in a commonly-accessible format.	4	5
All of our people understand the importance of data to the organization and their personal responsibilities for managing it.	3	5
We have a data communications strategy to ensure data policies and standards are reinforced across our organization.	3	5
Data related objectives and responsibilities are formally included in job descriptions and/or personal objectives.	1	5
Our data governance process has a senior business and IT sponsorship and stakeholder buy-in across the functional leaders.	3	5
Master Data Management	4	5
Etc....continue for each capability area	1	4

Summary of Strengths, Weakness & Target Maturity

Visualising Current vs. Target Maturity

Determine Relative Strengths

- It's important to take a realistic look at your organisation's current state maturity
  - Where you are
  - Where you want to be

Metadata Management meets Target Maturity

Significant Gap in Data Governance

We're "overdoing it" for Data Architecture

In general, there is an overall lack of data labelling and documentation. A POC with Data Catalog is underway within the Azure environment around the claims data assets but is still in the early stages of discovery.

Although XXX is currently engaged in efforts to modernise its external database platforms, a more comprehensive data strategy needs to be developed to align data mgmt capabilities for both internal and external applications. Sponsorship for the data strategy should be actively championed and visible at the highest level of senior leadership.
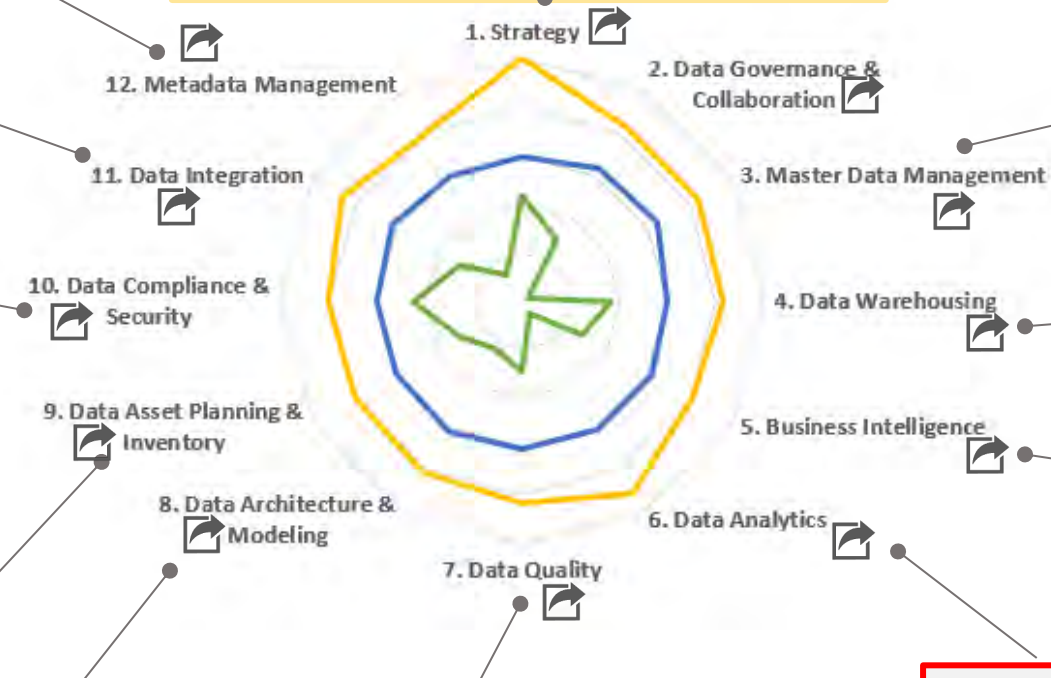
A formal Data Governance organisation has not yet been established. While the Data Solutions team and Data Governance Officer in particular have been critical in developing the initial framework of policies to date, the programme is challenged by lack of business involvement. The next step for XXX is to focus on building out and operationalising DG practices.

XXX has invested the capabilities in the MS Azure stack to start addressing system performance issues. However, current platforms and applications remain siloed, with limited ability to integrate data from these sources.

Master Data is not formally managed at XXX and key data domains (e.g. customer, product, employee) should be identified as a future priority. At present, master data is duplicated in inconsistent ways across several data sources. This causes inefficiencies and the need for significant manual matching of data.

An external audit of XXX's Information Security policies and practices has produced a 2021 Information Security roadmap, which is being executed to improve capabilities around internal/external technology assets and data access

XXX has migrated the existing DW repository to an Azure environment which includes a suite of products that support increased capacity for storage, data transformation, and reporting. Subsequent focus in this space should be on integrating and conforming data in an optimised data warehouse design.

Data assets cataloguing and classification exists at XXX, within the scope of meeting data protection and regulatory compliance around personal data. Performing a more comprehensive inventory of XXX's assets and definition of key domains and their lifecycles needs to be prioritised as critical activity for XXX.

PowerBI is currently being used as XXX's enterprise reporting tool and is increasingly replacing MS Excel reports. Future outputs in this area should also ensure enterprise-wide metrics and data sourcing consistency

There is a lack of any overall Data Architecture, with primary and secondary data sources not clearly identified and documented. Conceptual data models exists on a limited set processes, making it difficult for XXX to identify its key data objects and attributes and where these are physically held and mastered.

Data Quality practices have largely been done in an ad hoc, reactive & manually intensive way. XXX has recently acquired a data profiling tool and this can accelerate development of formal business rules and target KPIs / quality thresholds with wider business engagement.

XXX has access to an extensive amount of data held in its externally hosted databases around managed services which is only likely to increase with shifts in both technological and legislative advances within the industry. The organisation needs to be positioned with regards to its analytical and real time capabilities once a solid foundation in supporting data mgmt domains has been established.

Radar chart labels:
1. Strategy
2. Data Governance & Collaboration
3. Master Data Management
4. Data Warehousing
5. Business Intelligence
6. Data Analytics
7. Data Quality
8. Data Architecture & Modeling
9. Data Asset Planning & Inventory
10. Data Compliance & Security
11. Data Integration
12. Metadata Management

— Current State — Optimisation — Transformation Maturity Assessment Detail

Critical Data Element (CDE) Identification – One Way

High priority data items and attributes

Identify Key Business Drivers

e.g. Launch a New Product – Marketing Campaigns require better customer information

Filter Data Elements Aligned with Business Drivers

Focus Strategy Efforts on Key Data

Customer

Product

Region

Partner

Vendor

Targeted Projects in the Data Strategy to Deliver Short-Term Results

CDE Identification – Another Way

Audience

Purpose

**Business Stakeholders
Data Architects**

Enterprise
Subject Areas

Organisation & Scoping of main
business domain areas

**Business Stakeholders
Data Architects**

Conceptual
Business Concepts

Communication & Definition of
Business Concepts & Rules

**Data Architects
Business Analysts**

Logical
Data Entities

Clarification & Detail
of Business Rules &
Data Structures

**DBAs
Developers**

Physical
Physical Tables

**Technical
Implementation** on
a Physical Database

Actual Business / Conceptual Data Model
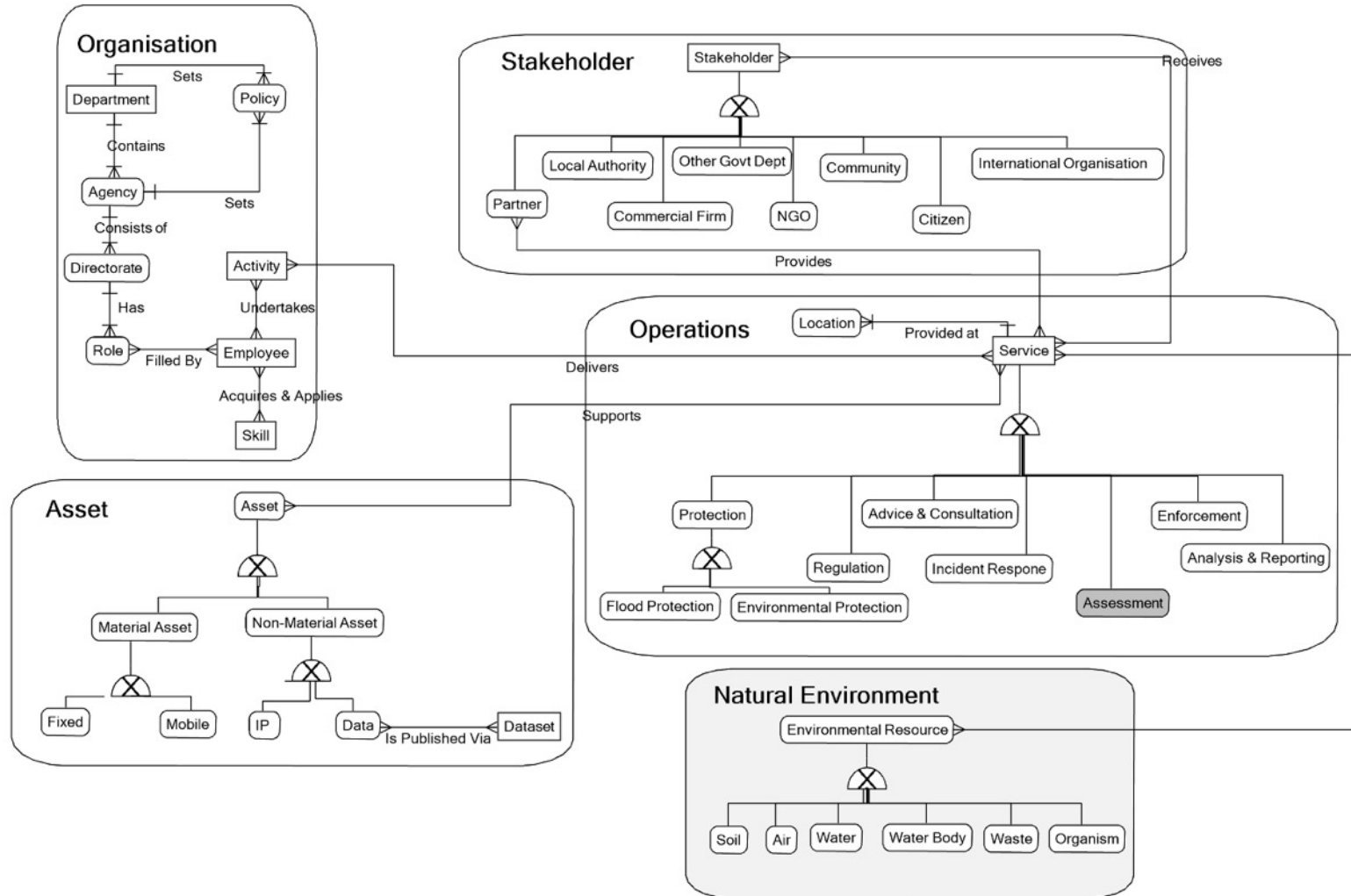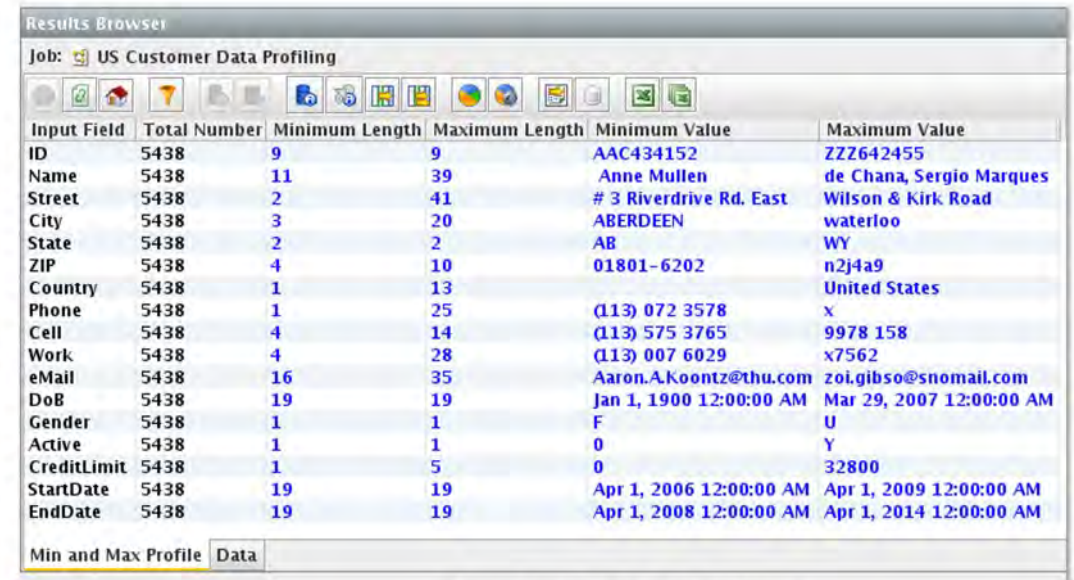
Baseline Key Data Sources

- Data quality will arise as a key problem in Step 1 – guaranteed!

- To quantify the scope and scale of data quality problems consider data profiling key data sources

- This will:
  - Provide real, concrete evidence for existing data problems
  - Help identify and quantify the state of critical data elements (CDEs)
  - Help to build the business case for action

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
  - Some profilers enable drill down to individual records / rows
  - Automatic generation of metadata
  - Checks conformance of the dataset with business rules (pre-built or added)
  - Enables fact based discussion of the causes and impacts of data problems
  - Excellent starting point in data quality workshops

Example partial Data Profiling report

Key Data Identification: Create a Business Glossary

The importance of definitions

- Definitions are as important as the data elements themselves

- Many data-related problems and issues are caused by unclear or ill-defined terms

What do you mean by "**customer**"?

How are we defining a "**household**"?

We're calculating "**total sales**" differently in each region!

What's the difference between an "**ingredient**" and a "**raw material**"?

Sales is using a different "**monthly calendar**" than Finance.

"**API**" as in "Application Programming Interface?" or "American Petroleum Institute"?

What's an "**equity derivative**"?
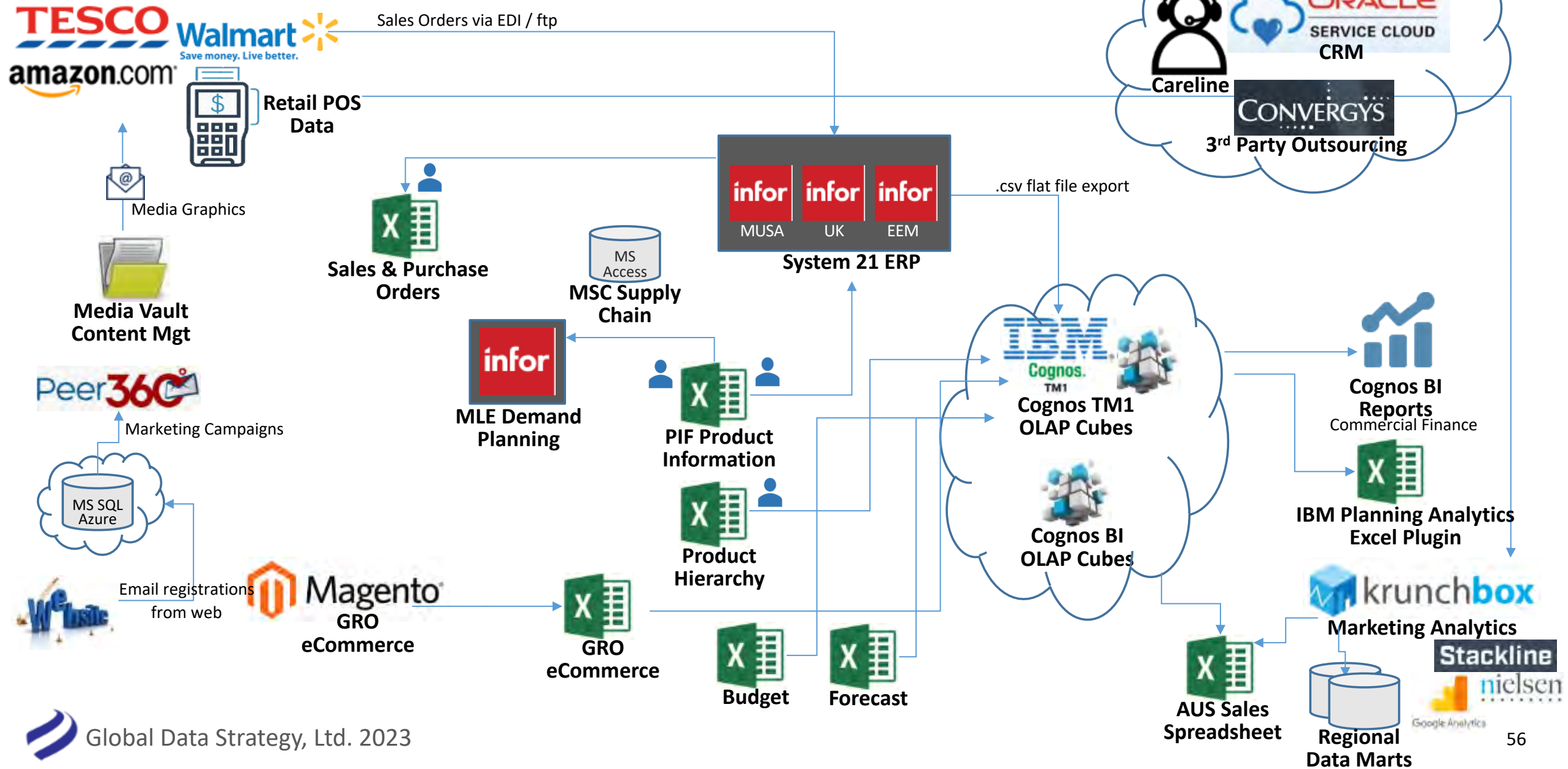
What's a "**PEG ratio**"?

Data Source Inventory

- Document key data sources across the organisation… as well as who is using them (i.e. key departments & stakeholders)
- Data models & other architecture tools can help document the technical structures & metadata

Data Sources	Leadership	Sales	Finance	Marketing	Support	R&D	HR	Legal	Compliance
Relational Databases									
MySQL				X					
Oracle		X	X	X	X	X	X	X	X
SQL Server		X	X						
Sybase			X						
Etc.									
BI Tools									
Tableau		X			X	X	X	X	X
Qlik	X		X	X					
Etc.									
Open Data									
Data.gov – agricultural data	X			X		X			
Etc.									

Example Current State Data Architecture

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Current Data Architecture – problems

Manual Entry

No clearly-defined data stewardship roles

AdeptEvents

ORACLE SERVICE CLOUD
CRM

Sales Orders via EDI / f...

Product Master Data not Kept in sync

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

Customer Service Data not Integrated with Enterprise Data

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

Media Graphics

Sales & Purchase Orders

MS Access

System 21 ERP
infor US | infor UK | infor EMEA

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

MSC Supply Chain

MLE Demand Planning

Manual Product Master Data causes errors and wasted resource effort

Cognos TM1 OLAP...

Common, consistent metrics & KPIs across functions needed

Reports
Commercial Finance

Peer360

Marketing Campaigns

PIF Product Information

OLAP-only access limited flexibility. Full Data Warehouse needed

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

Product Hierarchy

Cognos BI OLAP Cubes

IBM Planning Analytics Excel Plugin

Email registrations from web

Difficulty integrating new product hierarchies & SKUs for acquisition

GRO eCommerce

Budget | Forecast

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

krunchbox

Marketing Analytics not Integrated with Enterprise Data

AUS Sales Spreadsheet

nielsen

Regional Data Marts
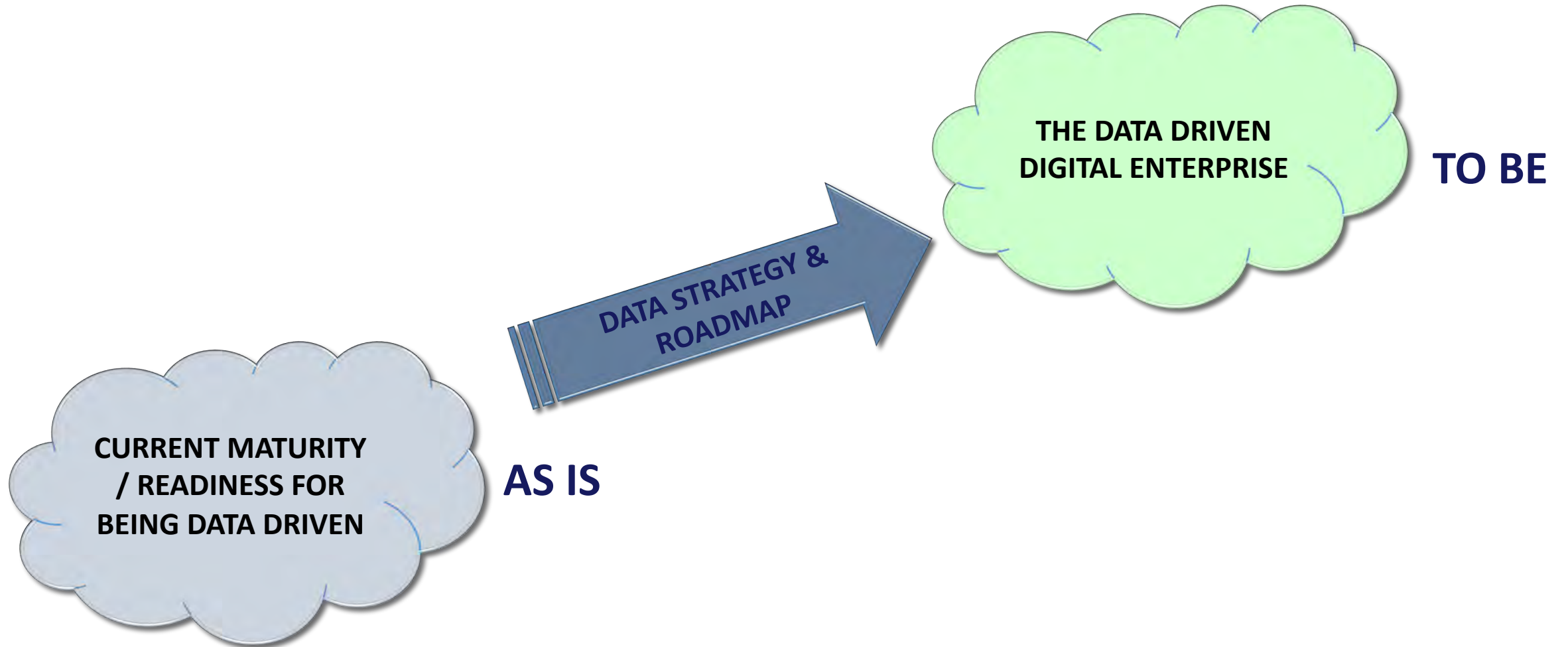
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Building a Data Strategy STEP 3

Propose Future State Capabilities, Processes & Organisational Structure

Maturity baseline – plotting your data strategy

THE DATA DRIVEN DIGITAL ENTERPRISE

TO BE

DATA STRATEGY & ROADMAP

CURRENT MATURITY / READINESS FOR BEING DATA DRIVEN

AS IS
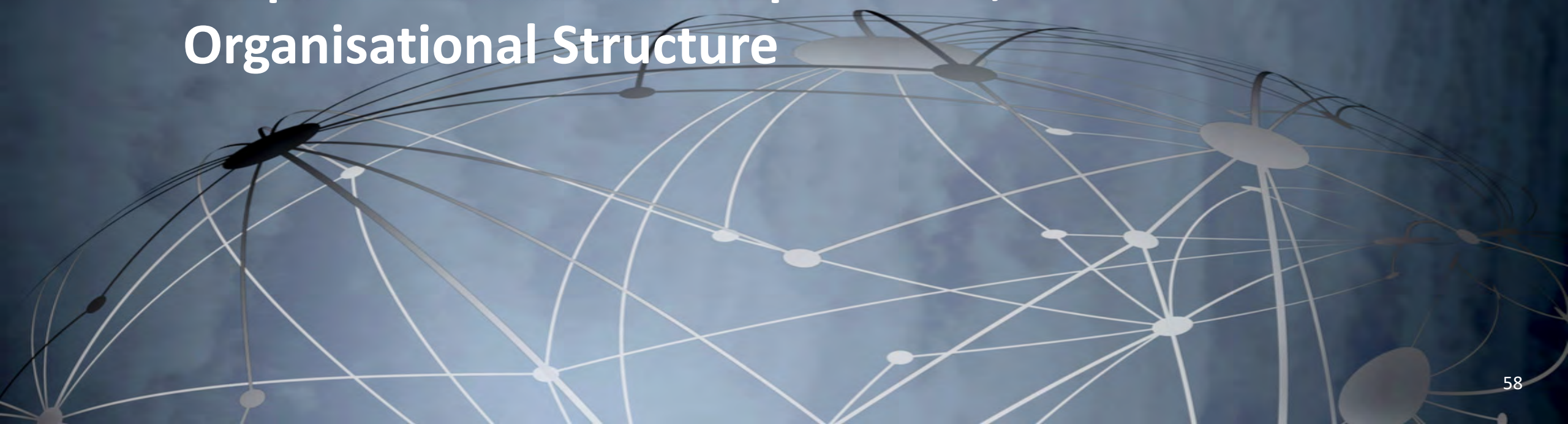
Example Future State Architecture

Customer Relationship (CRM) managers relationships and interactions with consumers and prospects.

eCommerce Platform builds Digital Storefront to sell products to customers digitally.

Branding & graphics

Product Information Management (PIM) ensures provides trusted product content for unified commerce.

Enterprise Resource Planning (ERP) provides operational end-to-end processes, such as finance, HR, distribution, manufacturing, service and the supply chain.

Consumer

Transactions

Product
Consumer

Transactions

Product

Location   Employee

Supplier   Consumer

Customer   Product

Product
Supplier
Consumer
Location
Employee

SQL Server

Supplier

Consumer   Region

Sales

Customer   Category

Product
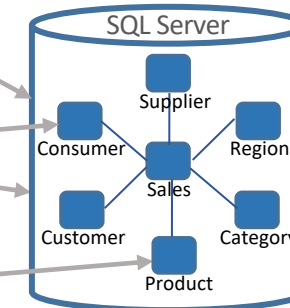
Business Intelligence (BI) tool provides the ability to visualise data via structure reports and graphs.

Data Warehouse stores data extracted from transaction systems, operational datastores and external sources for summarised reporting and easy "slice and dice" analysis.

Enhanced Customer Support through text mining & voice analytics and potential for automated chat bots.

Consumer

MDM Hub stores a Single, Consistent View of Customer, Product, Supplier, etc. to publish across all enterprise systems

Product
Consumer
Etc.

Social Media Platforms provide insight into customer sentiment and advocacy.

SQL Azure

R Studio
python

Data Lake stores structured & unstructured data in raw format for advanced analytics & insights.

Advanced Analytics uses sophisticated techniques and tools to discover deeper insights, make predictions, or generate recommendations.

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Future State Architecture: Benefits

Customer Relationship (CRM) managers relationships and interactions with consumers and prospects.

eCommerce Platform provides direct to consumer purchase with related data insights

eComm... ...Storefront to sell products to customers digitally.

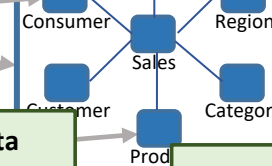**PIM ensures consistent product branding & content to eCommerce & Partner platforms, based on Product Master Data**

Branding & graphics

Produc... ...ensures provides trusted product content for unified commerce.

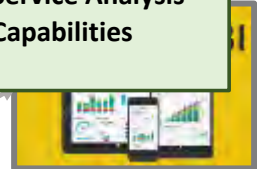**Enterprise Resource Planning** provides operational end-... processes, such as finance, HR, distribution, manufacturing, service and the supply chain.

Consumer Data integrated through MDM to support Marketing campaigns & analytics activities

Self Service Analysis Capabilities

Master Data Hub serves consistent data for key business data areas (Product, Consumer, etc.)

Business-friendly documentation of data structures & definitions

Business Intelligence (BI) tool provides the ability to visualise data via structure reports and graphs.

Transactions

Product
Consumer

Transactions

Product

Consumer

Supplier

Customer

Product
Supplier
Consumer
Location
Employee

Consumer   Region
Sales
Customer   Category
Prod...

Common data models & design across MDM, DW, and data exchange formats provide a consistent, business-focused view of enterprise data

Flexible, Customisable Data Warehouse for Enterprise Data

...ouse st... transaction systems... and external sou... reporting and easy "slice and dice" analysis.

Enhanced Customer Support through text mining & voice analytics and potential for automated chat bots.

Consumer

Product
Consumer
Etc.

MDM Hub stores a Single, Consistent View of Customer, Product, Supplier, etc. to publish across all enterprise systems.

Data Lake provides common source for unstructured data to provide analytics insights on consumer sentiment and other key areas

SQL Azure

Social M... insight int... ...advocacy.

...ata Lake stores structured & unstructured data in raw format for advanced analytics & insights.

Advanced Analytics uses sophisticated techniques and tools to discover deeper insights, make predictions, or generate recommendations.

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HOTEL GROUP CASE STUDY ACTIVITY

- Perform a high-level enterprise Data Management maturity assessment of the Hotel Group

- Use the Data Management Capability topics to help your assessment

- Highlight a score for each capability between 1 & 5 where:
  - 1 is lowest capability (Current or Desired)
  - 5 is highest capability (Current or Desired)

- Provide a brief reason for your scores

- Use the Assessing Maturity template and the Data Management Capability topics in the workbook to complete the activity

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Activity – Assessing Maturity

Data Maturity Capability	Current State Score	Desired Future State Score (within 3 years)	Reason
Data Strategy			
Data Governance & Collaboration			
Master Data Management			
Data Warehousing			
Business Intelligence			
Data Analytics			
Data Quality			
Data Architecture & Modelling			
Data Asset Planning & Inventory			
Data Compliance & Security			
Data Integration			
Metadata Management			

Rating Scale for Current State Score & Desired Future State Score:
1 = Lowest
5 = Highest

Performing a Current & Future State Assessment: Capabilities

DATA MANAGEMENT CAPABILITY	EXAMPLE TOPICS ANALYSED
Data Strategy	Alignment of data to business strategy; budgets & resources; communication
Data Governance	Accountability; stewardship; data issue management; critical data identification
Master Data Management	Master & reference data storage & processing; matching rules; hierarchies; CDEs
Data Warehousing	DW capability; performance & scalability; documentation; design methodologies
Business Intelligence	Provision of user reports; tooling; self-service; semantic layer; visualisation
Data Analytics	Operational v predictive; use of data science, AI/ML; social media; geographic data
Data Quality	Measurement & KPIs; root cause analysis; tooling; enrichment; data entry validation
Data Architecture & Modelling	Models; data standards; process / data mapping; system architecture; documentation
Data Asset Planning & Inventory	Location & documentation of data assets; data lifecycle management; data retention
Data Compliance & Security	Legal & regulatory compliance processes; privacy tagging; access & security controls
Data Integration	Batch v real time capability; APIs ; common business logic; platforms & tools
Metadata Management	Business data glossary, dictionaries & catalogs; data lineage; maintenance processes

Building the Business Case

Making the Case for Change

- Make the Right Business Case to the Right Audience

  - Know your audience – do they want a spreadsheet, quick PowerPoint, 100 page document, water cooler conversation?

  - Understand what detail is needed, i.e. don't "overkill" – sometimes simple is better

  - Focus on high-priority business needs

  - Define key business metrics for success aligned with data mgt deliverables

- Plan to start small, with a plan to build to a longer-term goal

- Lay out the current status quo including

  - Successes to date

  - Challenges with current structures & processes

- Include Metrics & Anecdotes where possible

  - Cost savings or revenue gains

  - Data quality improvements

  - Compliance & regulatory issues

  - Any real-world anecdotes that can be shared (e.g. We underreported sales last year due to data quality issues)

VS

Find Advocates Across the Organisation

- It's key to find champions for your data strategy effort across the business
  - Both "business" and "IT"
  - From senior level executives as champions to field staff as supporters

- In making the case for funding or buy-in, it's helpful to have someone else tell your story
  - Can marketing advocate the case for change to improve campaigns?
  - … Or sales discuss the potential increases in revenue?
  - …. Or Engineering point out the increases in efficiency and quality?

While we may want to take the "credit" for the data strategy, it is often most successful when other people have embraced it as their own

Making the Business Case

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

Decreasing Costs

- **Wasted Labor costs due to manual efforts**
  (Data cleansing, manual integration, etc.)

- **Inefficient business processes for data management**
  (Product Master Data process)

- **Data quality cost avoidance**
  (Wasted mailings sent to wrong address)

Increasing Revenue

- **Price Optimisation through Analytics**

- **Improved Marketing Campaigns through Quality Customer Data**

- **Data-Driven Recommendation Engines to enhance the sales cycle.**

- **Better Grant writing through data-driven needs analysis**
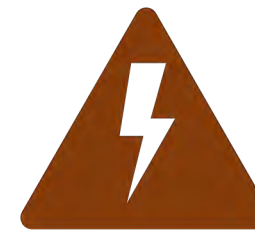
Reducing Risk

- **Industry regulations**
  (GDPR, HIPAA, BCBS 239, Spice, HIPAA, etc.)

- **Product Traceability**
  (Food lineage from farm/catch)

- **Litigation due to Data Breach**

- **Health and Safety Audit**

Protecting Reputation

- **Customer Satisfaction**

- **Brand Trust**

- **Social Media Voice of Consumer**

- **Loyalty & 'Stickiness'**

Activity: Making the Business Case

What are some key areas that can drive ROI for the hotel?

List some of the ROI drivers for the hotel chain in each of the areas below:

Decreasing Costs

1. _____
2. _____
3. _____
4. _____
5. _____

Increasing Revenue

1. _____
2. _____
3. _____
4. _____
5. _____

Reducing Risk

1. _____
2. _____
3. _____
4. _____
5. _____

Protecting Reputation

1. _____
2. _____
3. _____
4. _____
5. _____

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.

An outline for a documented Data Strategy

Typical Data Strategy 'headings' – document and / or presentation

- Executive Summary – Headlines
- Business Context
  - Current business drivers, strategy & goals (Motivation Model)
  - The overall dependence on data
- Key Data Focus – What is our key data?
- Current Problems with Key Data
  - What are the main issues – quality, accountability, accessibility, security, etc.
  - Potential benefits of improvement
  - Unrealised / future data opportunities
  - Implications of the 'Do Nothing' option
- Overall Approach – Key Objectives of the Data Strategy
  - Business priorities
  - Consequent data priorities
- Roadmap:
  - 0-3 Months
  - 3 – 6 Months
  - 6 – 12 Months
  - 12 – 24 Months
- Tracking Benefits and Progress – KPIs and Success Measures

Building a Data Strategy STEP 4

Developing the Data Strategy Roadmap: Prioritise Efforts & Identify Quick Wins

Setting Priorities & Activities

WHY?

- **Ensure clear focus & priority to manage limited time**
- **Important to make an early impact to gain credibility**
- **Need to gain support of Data Champion & Steering Group (see later)**
- **Build confidence & experience in principles & approaches**

WHAT?

- **Look for 'quick wins'**
- **Data Quality improvement projects often a good source of quick wins as benefits easier to quantify**
- **Create a use case for promoting the value of the Strategy**
- **Build a foundation for longer term success**

HOW?

- **Prioritise Issues List & agree priorities with the Data Champion**
- **Sell the data vision to the Steering Group**
- **Specify any support (financial and / or resources) required**
- **Create & lead a team to deliver the Data Strategy**

WHEN?

- **Don't spend too long doing analysis and reflection**
- **Start a pilot / PoC project as the top priority**
- **Use the pilot / PoC to introduce Strategy principles & practices**
- **Apply to further pilots / POCs**

Setting Priorities: Priority Grid

Priorities based on Benefits vs. Level of Difficulty can often be easily determined via a workshop activity using a Priority Grid.
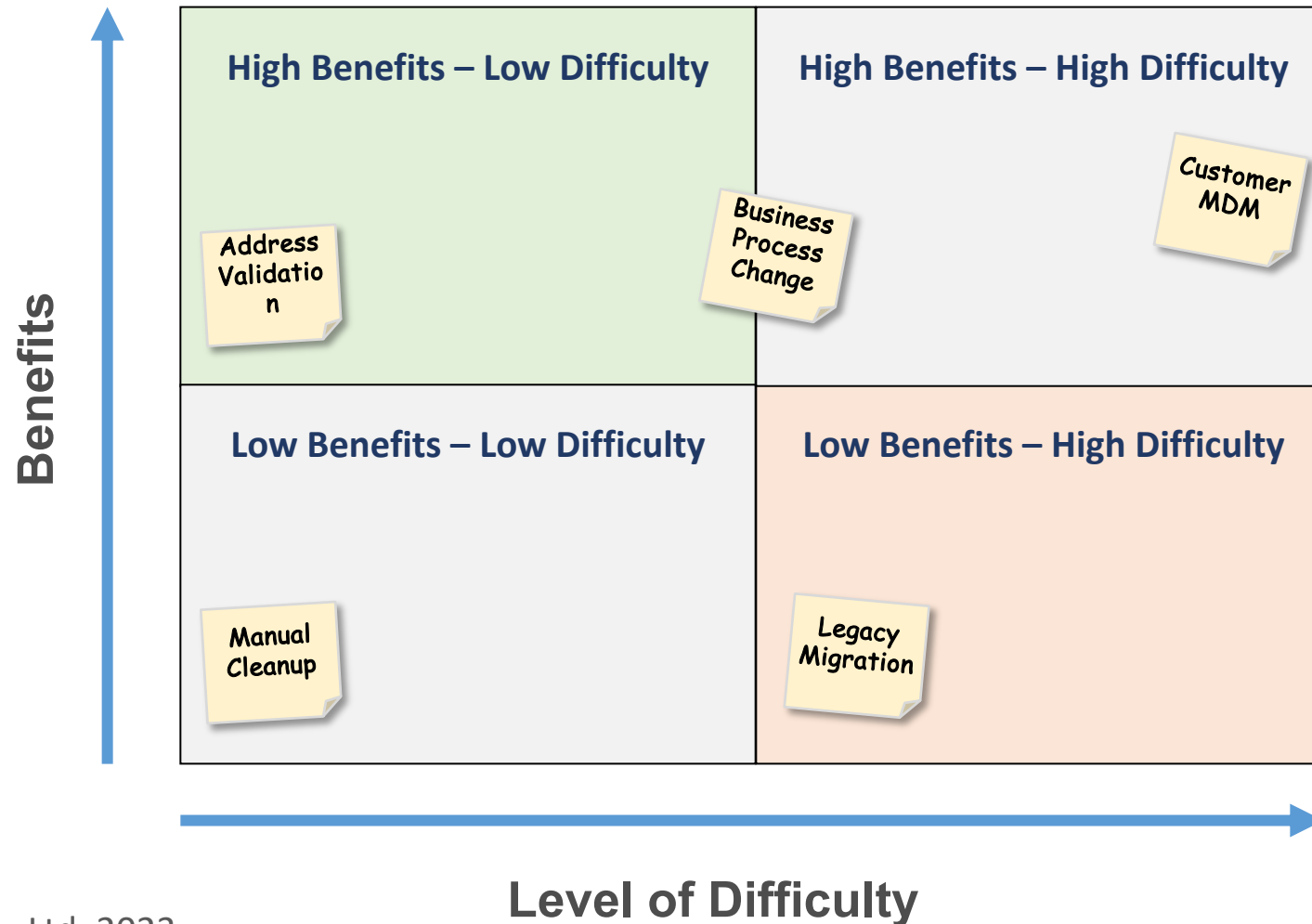
Who: Return to the Stakeholder Matrix

- When building the Roadmap, it's important to **consider the Key Stakeholders who will see benefits**

  - Document the departments, roles, etc. that will be affected

  - Consider the WIIFM factor (What's in it for me)?

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											

Look for "Quick Win" Projects

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

A "Quick Win" is Not a "Quick Fix"

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

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

NO

YES

Quick Wins Should Build Towards the Journey

- As part of the Roadmap Planning

  - Show how each Quick Win fits as a step towards the goal

  - Plan the timing and coordination accordingly

- Tie these steps into the larger Story and Vision

HOTEL GROUP CASE STUDY ACTIVITY

- Use the Boston Grid to identify at least 5 potential top priority activities which should be included in a Data Strategy for the Hotel Group

- Try to ensure that you identify at least 2 quick win projects

Activity: Defining Priorities

Pick 5 potential priority activities for the Hotel Chain and place them in the appropriate area of the matrix

Benefits

High Benefits – Low Difficulty	High Benefits – High Difficulty
Low Benefits – Low Difficulty	Low Benefits – High Difficulty

Level of Difficulty
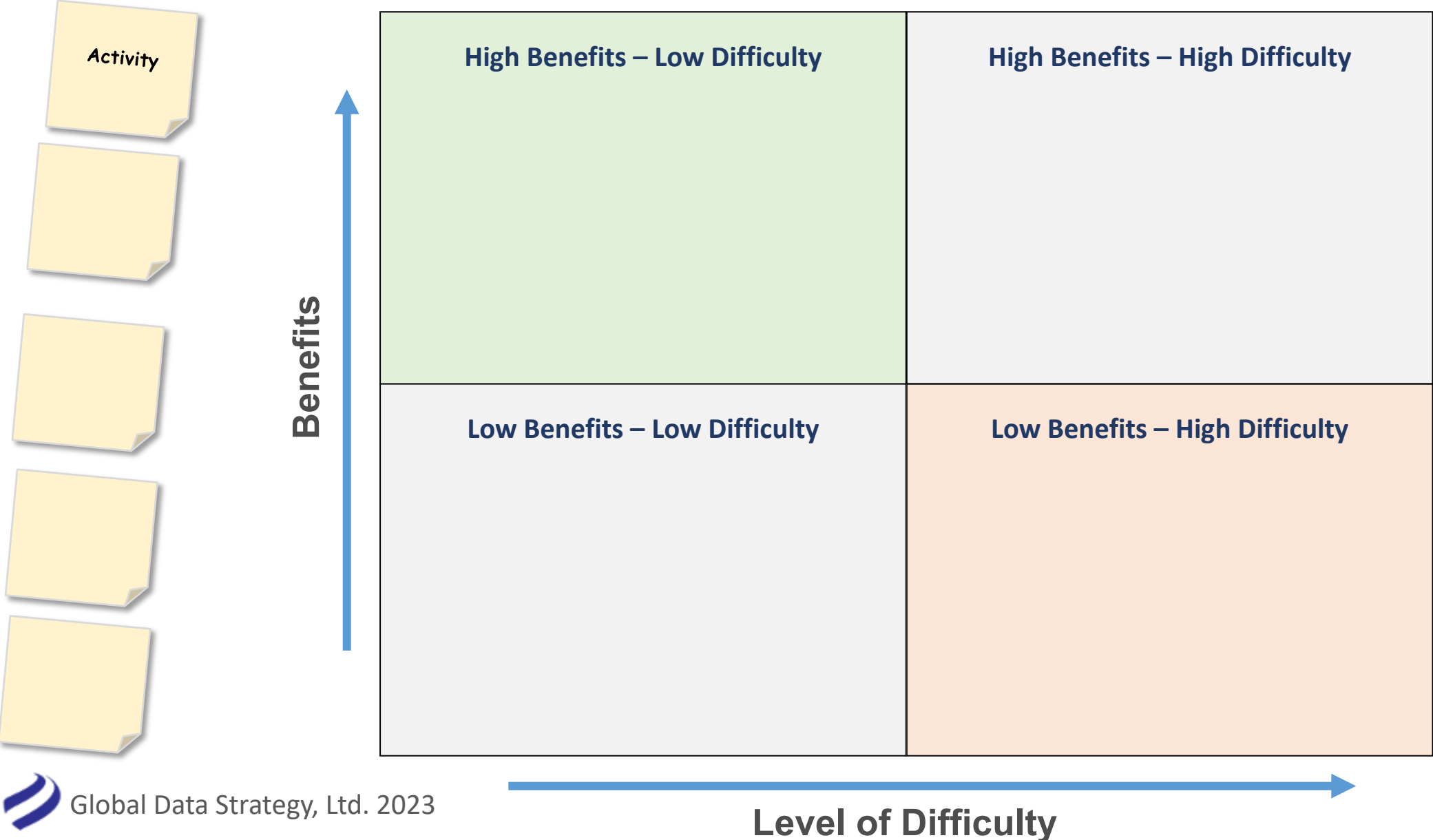
A Roadmap is Not a Laundry List

- A common error is to create a roadmap that reads like a "Laundry List" of activities

  - Create "themes" for each stage that tie into the vision

  - Call-out "quick wins" and value for each activity

  - Consider the WIIFM – what do key stakeholders care about?

Define Themes and Evolution

- Tell the "Story" of the Journey by defining an overarching theme for each year

Year 3:
Innovation & Market Leadership

Year 2:
Growth & Efficiency

Year 1:
Foundation & Trust
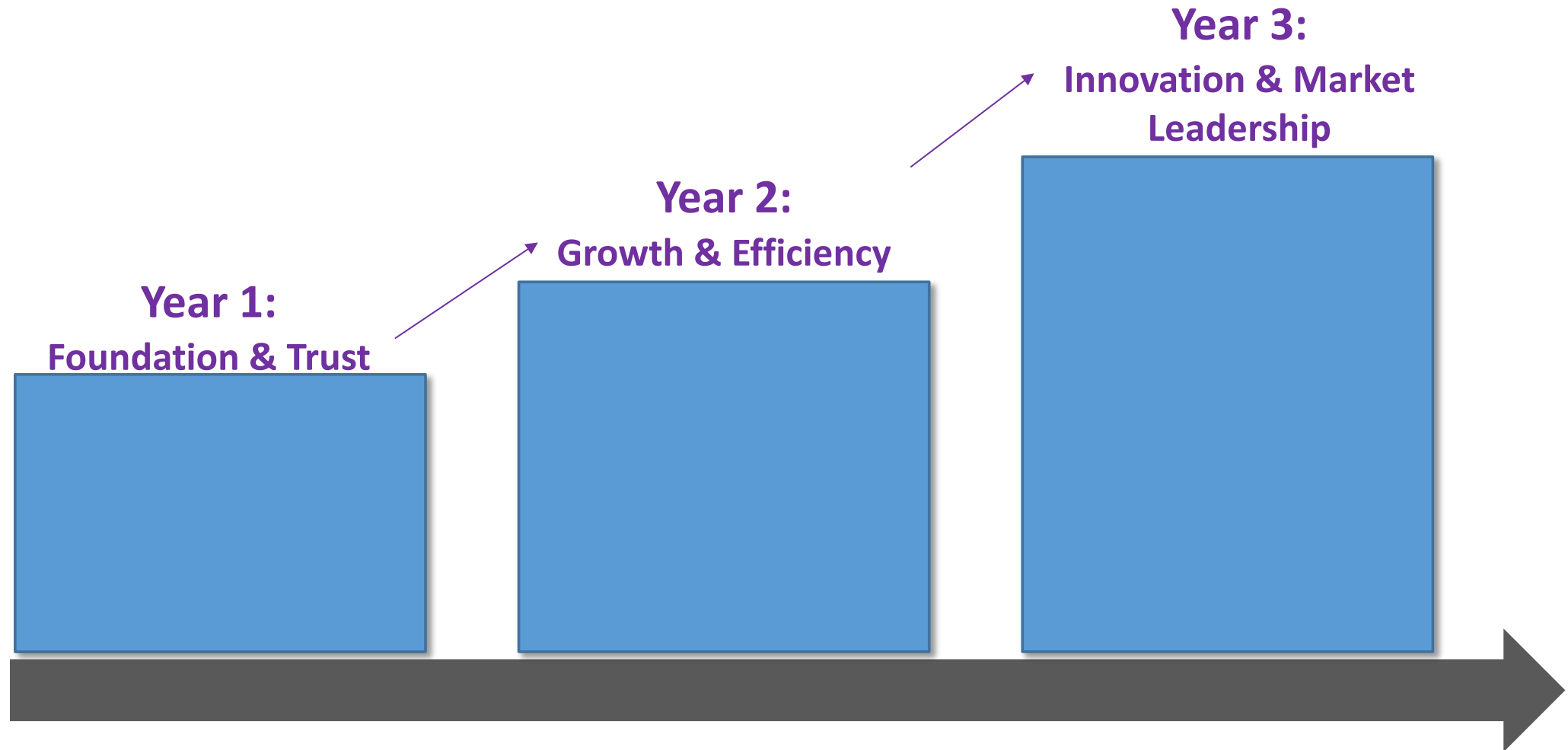
Define Themes and Evolution

- Build the roadmap around the themes

Year 3:

Innovation & Market Leadership

- Fully integrate data catalog into operational environment
- Complete customer & product MDM hubs
- Operationalise data analytics and data science capabilities
- Expand data warehouse to accommodate new reporting requirements
- Create comprehensive self-serve reporting environment

Year 2:

Growth & Efficiency

- Acquire Data Catalog & populate with CDEs
- Start MDM hub for product & customer data
- Create reporting semantic layer
- Deliver priority data quality improvement projects
- Run analytics and data science pilot projects etc.

Year 1:

Foundation & Trust

- Create Data Governance Framework & organisation
- Produce business cases for Yr 1 workstreams
- Baseline CDE data quality & establish KPIs
- Run data quality pilot projects etc.

DATA STRATEGY ROADMAP TIMELINE

How to Visualise the Roadmap

- The way the roadmap is visualised is highly subjective based on the audience.
- Understand your stakeholders & the level of detail and style they prefer. You may have several versions for different audiences.
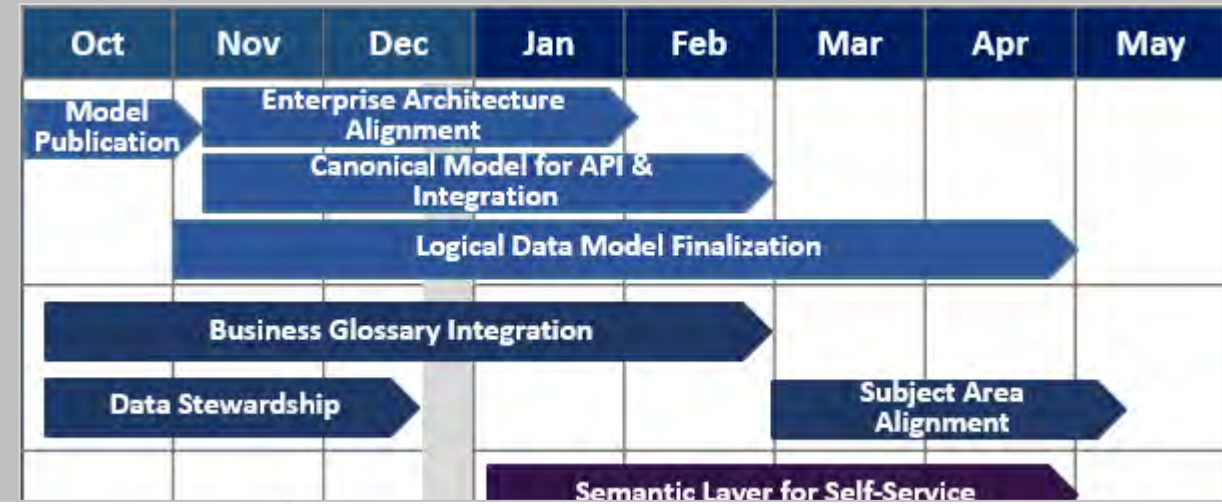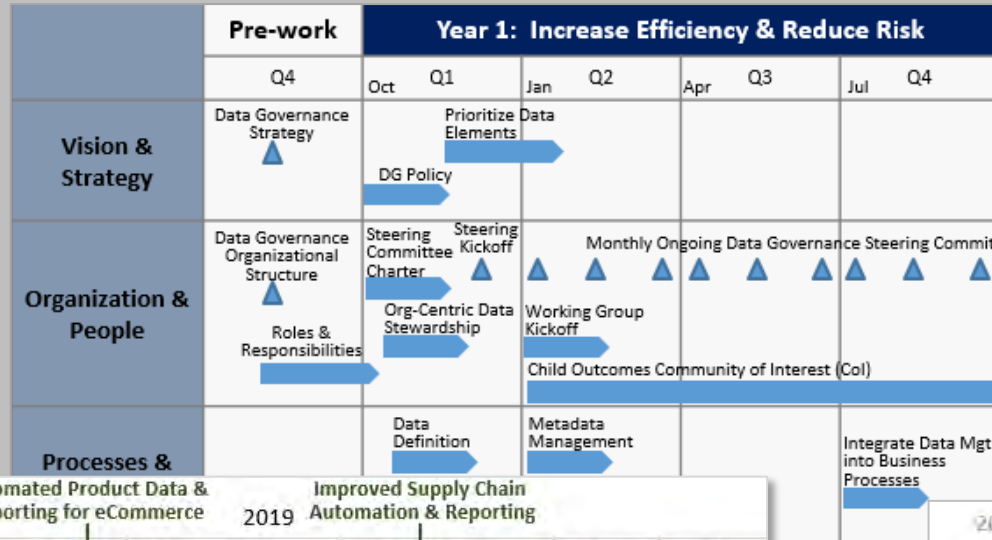
Create Themes for the Roadmap

- Tell the story of the evolution Year over Year
  - Showing a 3 year trajectory with a theme/aspiration for each year
  - High-level activities shown in a Gantt – like chart
  - "Quick wins" highlighted with narration"
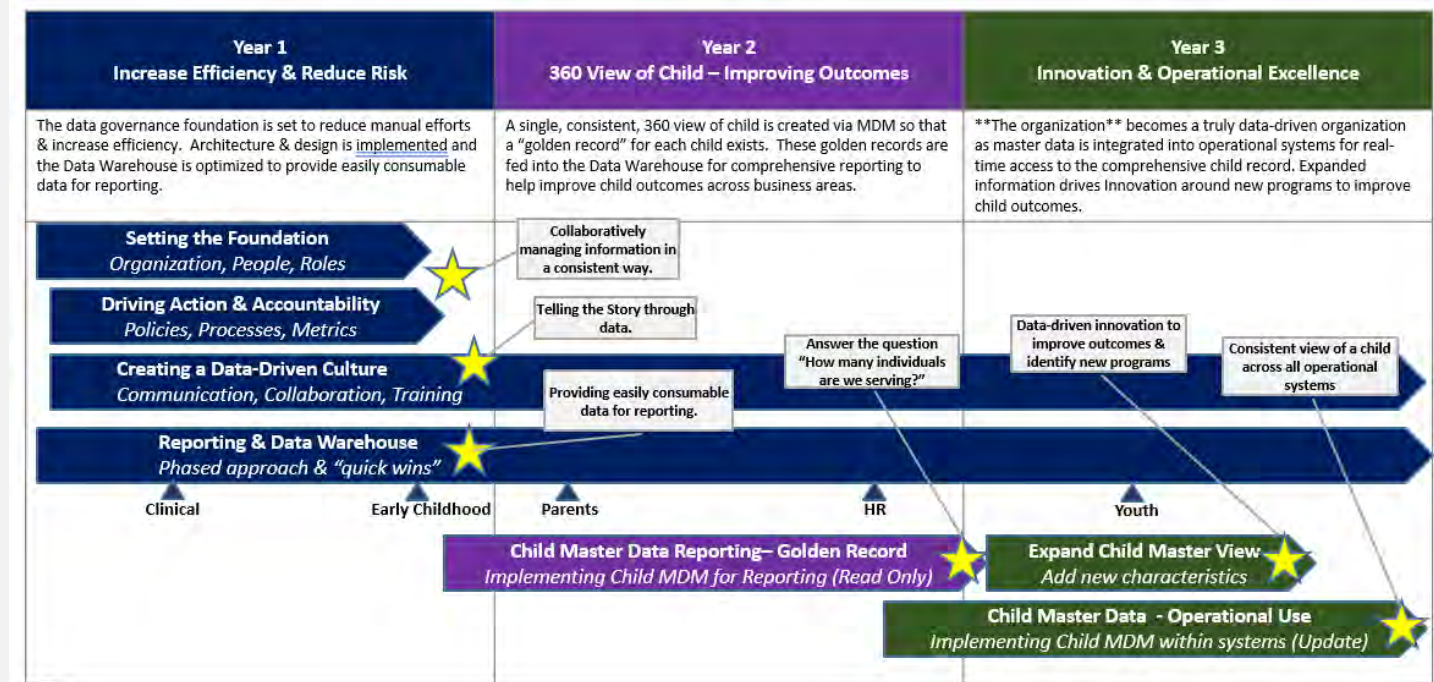
Align with Other Roadmaps

- When building the Data Strategy, it's important to align with other key Roadmaps being developed.

  - Can the Data Strategy provide benefits that support these Roadmaps?

  - Will there be any conflicting resources?

  - Are there marketing events or communications you can align with and leverage the momentum?

Data Strategy
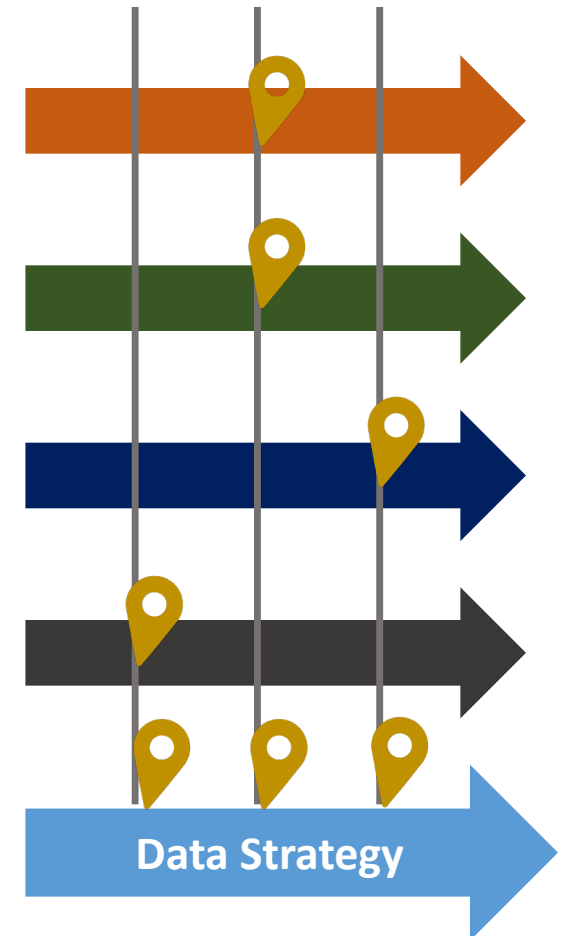
HOTEL GROUP CASE STUDY ACTIVITY

- From the Data Maturity assessment carried out earlier:

  - Identify 3-5 potential Roadmap themes and give each a 1or 2 word title
  - List 2-3 key objectives for each of the themes / objectives. The objectives should relate to potential data strategy work packages or projects

Activity: Roadmap Themes and Goals

Theme 1	Theme 2	Theme 3	Theme 4	Theme 5
Objectives	**Objectives**	**Objectives**	**Objectives**	**Objectives**
1.	1.	1.	1.	1.
2.	2.	2.	2.	2.
3.	3.	3.	3.	3.

Delivering the Roadmap

The Need for Data Governance

Data Governance – A Simple 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 so must be owned by the business
- Data Governance must be an ongoing 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

Data Governance: The Bridge Between Business & IT

TECHNICAL DATA TEAMS

DATA GOVERNANCE

BUSINESS FUNCTIONS

Data Strategy and Data Governance – mutual allies

Data Strategy

Sets overall direction & priorities for →

Data Governance

← **Provides means to deliver & enforce**
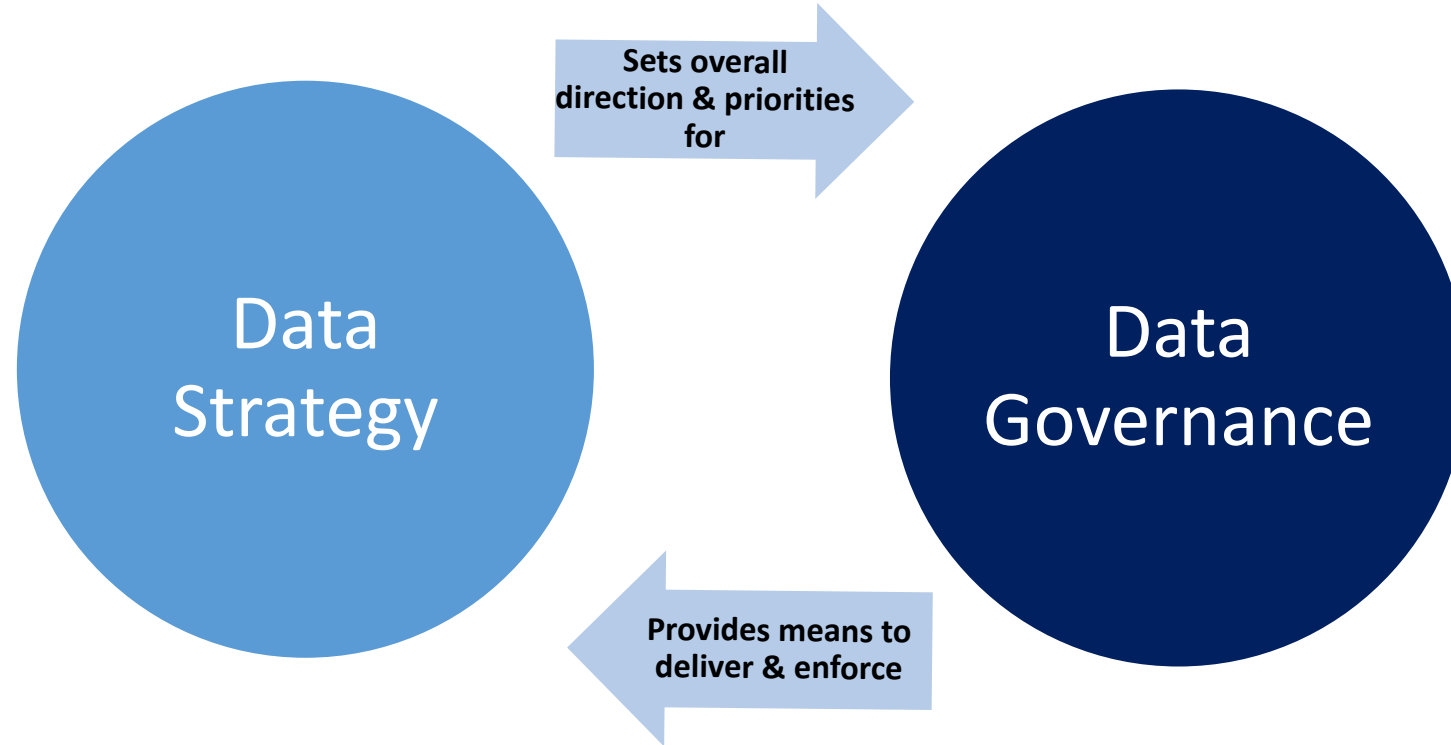
Most successful Data Strategies depend on Data Governance as the primary mechanism to deliver it

Data Governance – Relationships with Other Data Disciplines

11 DATA DISCIPLINES
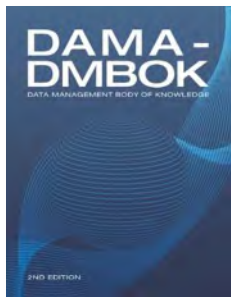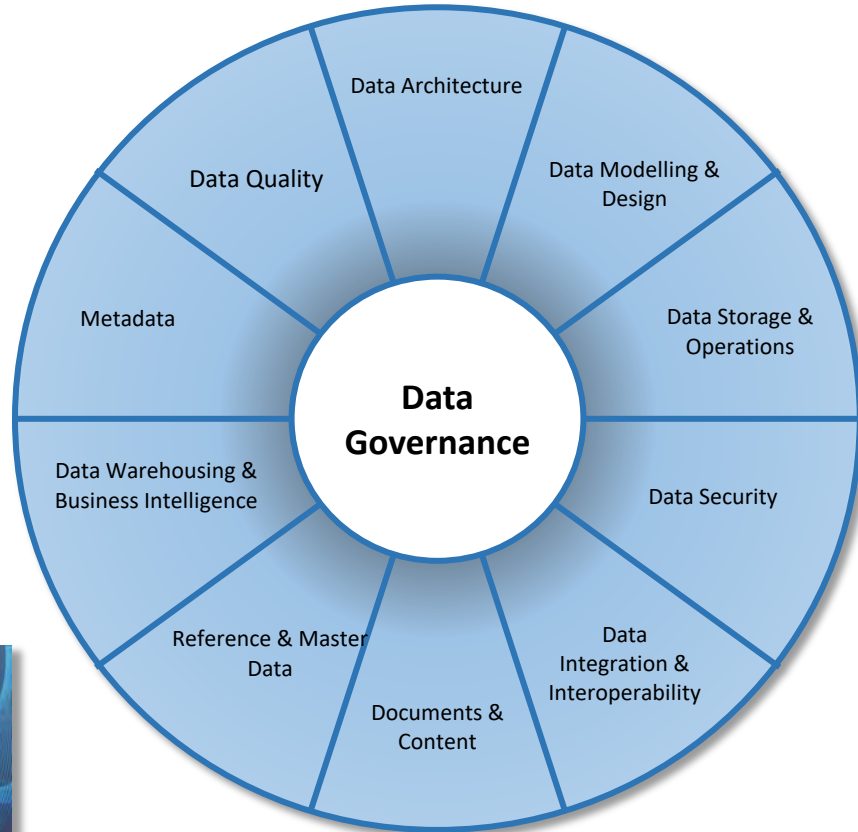
DAMA DMBOK – Version 2 2017

DISCIPLINE	EXAMPLE RELATIONSHIPS
Data Quality	Data Quality requires Data Governance to drive & sustain improvement so it becomes BaU
Data Architecture	Designs the structural framework for the management of data across platforms & systems
Data Modelling & Design	Identifies business definitions, entities & attributes to focus Data Governance activities
Data Storage & Operations	Lack of business accountability for data can impact Data Storage & Operations efficiency & reliability
Data Security	Lack of business accountability makes data less secure & more open to fraud
Data Integration & Interoperability	Depends on defined & consistent data formats & content
Documents & Content	Good Data Governance practices support Documents & Content, e.g. content ownership, version control, tagging, taxonomies
Reference & Master Data	Manages widely shared, business critical data, ensuring single truth data. Governance of the data is critical for success.
Data Warehousing & Business Intelligence	Data Governance is the foundation of effective DW&BI (e.g. business definitions for KPIs etc.). Also garbage in, garbage out is as true as ever.
Metadata	Metadata provides context & meaning to data and so supports effective Data Governance

Global Data Strategy, Ltd. 2023

Data Governance Roles

Executive Sponsor

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

Business Data Owner

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

Business Data Steward

- 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

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

Data Strategy and / or 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.

DISCUSSION

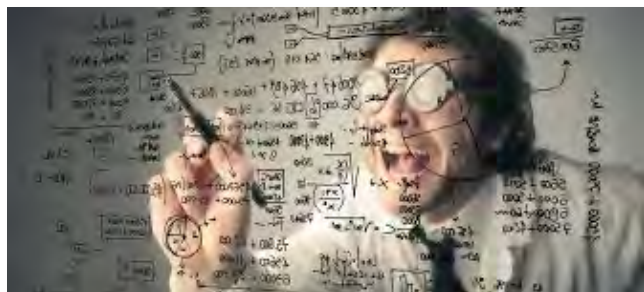How might you determine who Data Owners and Data Stewards should be?

How to Find Potential Data Owners & Data Stewards

**De Facto (Maybe Unrecognised)
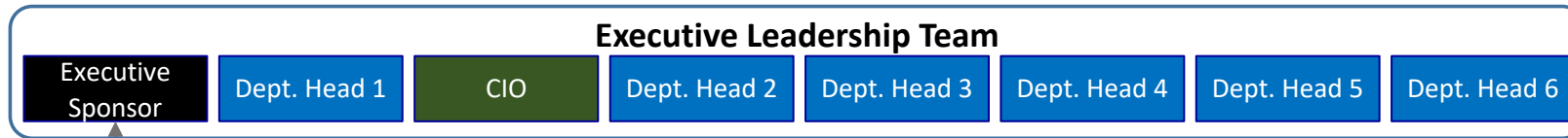Owners & Stewards**

People Who Feel the Pain of Poor Data

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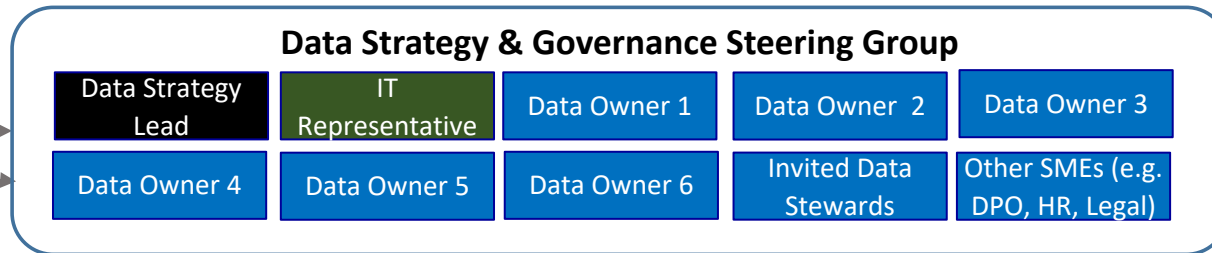(The 'Go To' person)**

Enthusiasts Seeking a New Challenge

Example Strategy / Governance Organisation

Executive Leadership Team

| Executive Sponsor | Dept. Head 1 | CIO | Dept. Head 2 | Dept. Head 3 | Dept. Head 4 | Dept. Head 5 | Dept. Head 6 |

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

Updates & Escalation

Data Strategy & Governance Steering Group

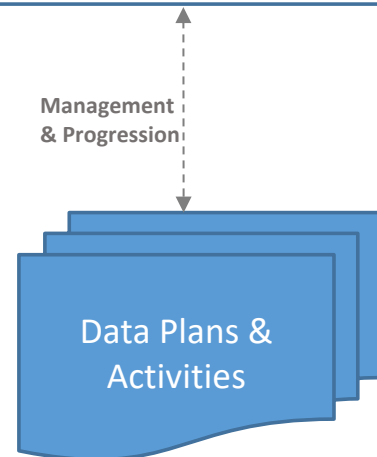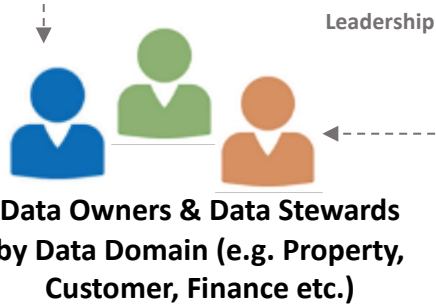| Data Strategy Lead | IT Representative | Data Owner 1 | Data Owner 2 | Data Owner 3 |
| Data Owner 4 | Data Owner 5 | Data Owner 6 | Invited Data Stewards | Other SMEs (e.g. DPO, HR, Legal) |

Strategic Level
- Owns and enacts the Data Strategy
- Sets strategic direction for Strategy & Data Governance
- **Owns the 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.

Creation & Direction

Data Strategy / Governance Working Groups

| Data Steward | Business Data Stakeholders | Technical Data Stakeholders | Other SMEs e.g. DPO, HR |

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

Updates & Escalation

Leadership

Management & Progression

Data Owners & Data Stewards by Data Domain (e.g. Property, Customer, Finance etc.)

Data Plans & Activities

Key

- ⬛ Lead Role
- ⬛ Technical Role
- 🟦 Business Role

Business & IT Roles in Data Strategy

BUSINESS ROLES	IT ROLES	JOINT ROLES
Establish a clear and communicable Business Strategy	Understand the Business Strategy & its potential technology implications and requirements	Formulate & execute the Data Strategy
Prioritise key data areas and problems	Evaluate, select & procure appropriate data technologies to support the Data Strategy	Ensure both business & IT senior management play an active role to ensure its success
Owns the Strategy through the establishment of Data Governance principles & practices	Understand and introduce Data Management industry best practices and methodologies	Exercise rapid and effective change control
Estimate, measure & realise potential and actual benefits delivered by the Data Strategy	Be aware of technology innovations and propose how these can be introduced to enhance the Data Strategy, e.g. Big Data, Cloud, Internet of Things, AI etc.	Monitor Data Strategy deliverables and instigate corrective action as required
Enact the business process and behavioural changes required to implement the Data Strategy	Proactively propose how future technologies might improve and enrich the Business Strategy	Ensure constant cross-business & IT collaboration to ensure continued alignment of Business & Data Strategies

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Data Strategy Development – Potential Deliverables & Useful Tools

POTENTIAL DELIVERABLES
Data Strategy Slide Deck + 2 /10 min. pitches
Motivation Model
Stakeholder Matrix
Data Issues & Opportunities Log / Matrix
Business / Conceptual Data Model
Outline Business Case
Maturity Assessment Report Summary
Roadmap (1-3 Year Horizon)
Data Strategy Steering Group Charter
Data Strategy Working Group Charter
Application Landscape Diagram (Current)
Application Landscape Diagram (Future)
Business Glossary
Communications Plan

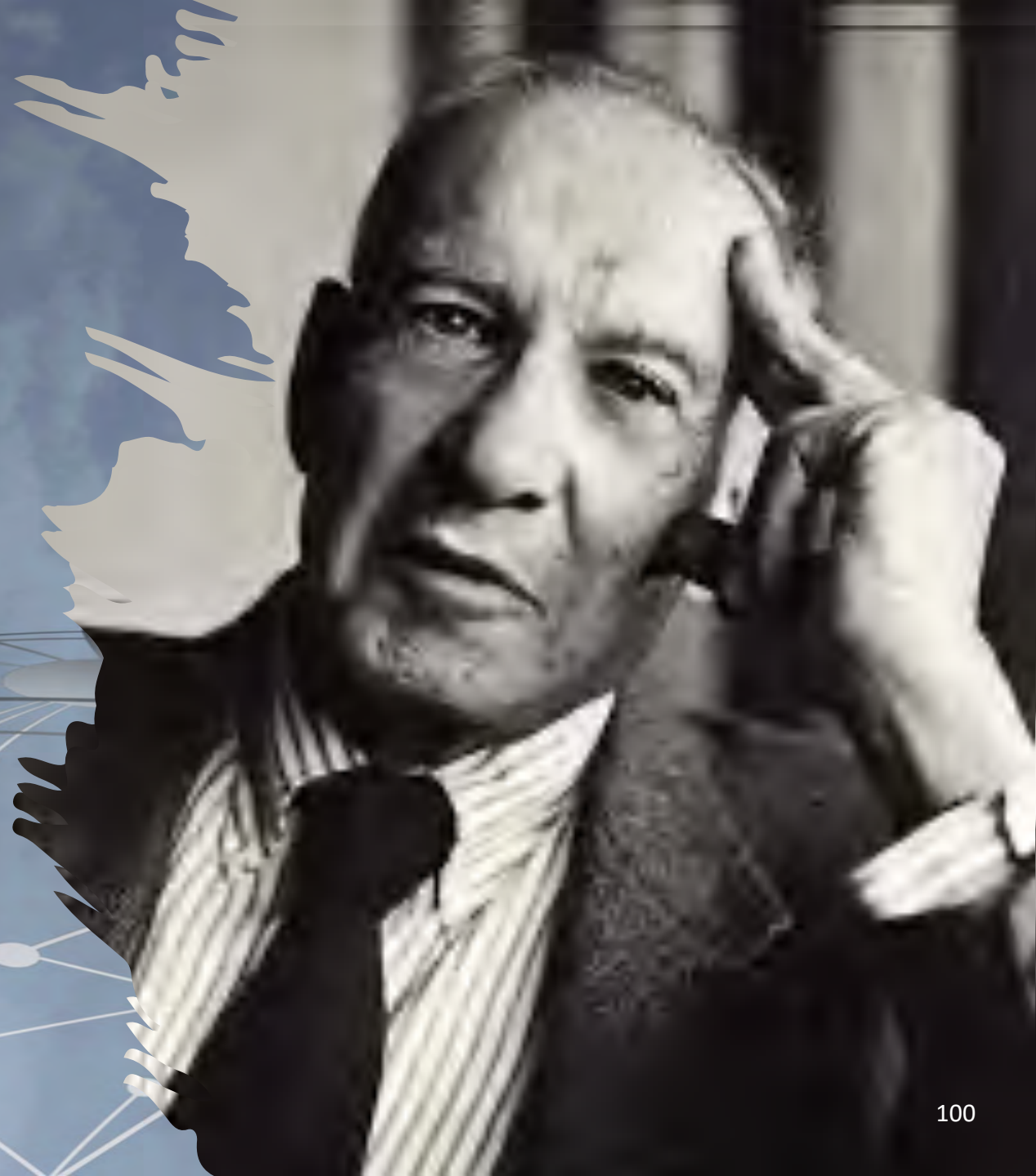| USEFUL TOOLS |
| --- |
| PowerPoint / Visio |
| Data Modelling Toolset (e.g. ERwin, ERStudio) |
| Data profiling tool to baseline data quality in current source systems |

Selling the Data Strategy

The Critical Importance of Change Management

'Culture eats strategy for breakfast.'

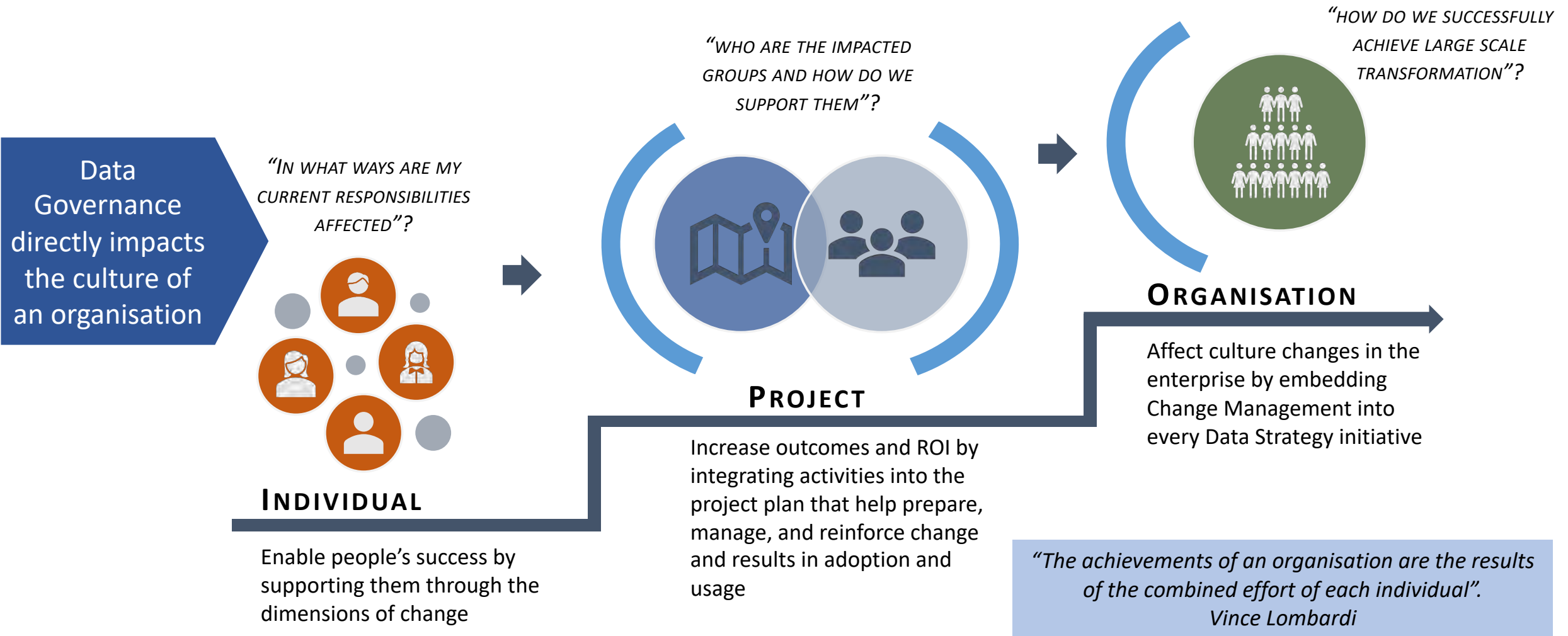*Peter Drucker, Management Strategist & Consultant*

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?

Organisational Change Happens at Three Levels

An organisational move to a future state requires individuals to reach their own future state

Data Governance directly impacts the culture of an organisation

"IN WHAT WAYS ARE MY CURRENT RESPONSIBILITIES AFFECTED"?

"WHO ARE THE IMPACTED GROUPS AND HOW DO WE SUPPORT THEM"?

"HOW DO WE SUCCESSFULLY ACHIEVE LARGE SCALE TRANSFORMATION"?

INDIVIDUAL

Enable people's success by supporting them through the dimensions of change

PROJECT

Increase outcomes and ROI by integrating activities into the project plan that help prepare, manage, and reinforce change and results in adoption and usage

ORGANISATION

Affect culture changes in the enterprise by embedding Change Management into every Data Strategy initiative

"The achievements of an organisation are the results of the combined effort of each individual".
Vince Lombardi

Methods for Managing the Change Impact of Data Strategy & Data Governance

1. Stakeholder Assessment

Identify, evaluate, and properly support people who can exert influence or pressure on your change, are responsible for creating your change, choose to use or not use the results of your change, & benefit from the work of your change

Key Success Enabler For:

Overall Adoption and ROI

2. Communication Planning

Aim to build awareness, interact with stakeholders, solicit feedback, elicit transparency, and publicly celebrate success as appropriate

Key Success Enabler For:

Awareness & Reinforcement

3. Knowledge & Coaching Plans

Develop a competency skill set in impacted stakeholders by providing tools, vocabulary, and best practices and other training they can utilise effectively in their roles and ensure their ability to be able to adopt changes appropriately

Key Success Enabler For:

Knowledge & Coaching

4. Resistance Management

Directly addresses barriers to successful adoption of change and increases the overall effectiveness of change management

Key Success Enabler For:

Interest & Excitement

Stakeholder Assessment Example

- Evaluate by using your stakeholder matrix and categorise into impacted groups
- Rate each group in each Change Phase from 1-5 (1 = least favorable 5 = most favorable)

The output score for each group allows the Change Mgt Team to prioritise the plans that are needed for each stakeholder group

Change Phase	Question	Group 1	Group 2	Group 3
Change Impact Scope	What aspects of the change will directly impact this group? *None or indirect impacts* *New data governance policies* *New technology* *Changes to process workflows* *Added responsibility to existing role* *New job role* *Deprecated responsibilities in existing role* *Changes in reporting structure*			
Awareness	What are the business drivers or issues for this change? Are there group-specific issues wrt to this change that need to be considered?			
Awareness	Will building awareness with the group be easy or difficult? Why			
Awareness Rating	What is the level of awareness of the need for this change with the impacted group? *1 = None, 2-4 Limited degrees, 5 = High*			
Motivation	What are the motivating forces in support of this change (what would cause someone in this group to support this change)?			
Motivation	What are the opposing forces to this change? (what would cause someone in this group to oppose this change)?			
Motivation Rating	Where would you label this group with regards to current level of support for the change? *1 = Resistant, 2 = Neutral/Unknown, 3 = Mixed , 4 = Supportive*			
Knowledge/Coaching	List the knowledge, skills, and behaviors needed to support this change with this impacted group			
Knowledge/Coaching	Considering the skills and knowledge needed, what potential challenges do you see for employees in this group successfully implementing the change?			
Knowledge/Coaching	What barriers may inhibit this group from implementing this change?			
Knowledge Rating	To what extent does this group have the ability to implement the new change? *(1 = None, 2-4 = Limited degrees, 5 = Sufficient)*			
Reinforcement	What reinforcements would be necessary to sustain the change in this group?			
Reinforcement	What characteristics of the group may cause the change not to be sustained?			
Reinforcement Rating	To what degree is this group receiving reinforcement for demonstrating the change? *1 = Low, 5 = High*			

The importance of culture change & communication

- Remember that a Data Strategy is transformational and so must impact and involve all in the organisation who touch data

- This includes Data Creators & Data Consumers in addition to formal roles such as Data Owners, Stewards etc.

- Communication is critical as:
  - Data Strategy is a collaborative activity
  - It requires alignment of business and IT
  - All people in the organisation are required to change behaviours to support new ways of working

- Develop a clear communications plan and disseminate to all

- Develop case studies / use cases of successes

- Use existing internal events, newsletters, web sites etc.

- Create a 'home' for Data Strategy materials (web site etc.)

Garnering Excitement - Engage Marketing & Branding

- It's beneficial to engage with your internal Marketing organisation and/or an external agency

- Include a number of activities and materials in your communication and marketing plan. Here are a few ideas:

  - Video Testimonial from users/stakeholders
  - Executive sponsor video
  - Lunch and learn sessions
  - Roadshows
  - Training sessions
  - Newsletters
  - Website for data initiative

  - Data initiative slogan
  - "Swag" – t-shirts, stickers, mugs, etc.
  - Posters
  - Badges and awards

AVOID DATA JARGON: USE BUSINESS LANGUAGE!

Selling & Communicating Your Data Strategy

- ## 2 minute 'Elevator Pitch'
  - This should simply state what a Data Strategy is, why your organisation needs it, how are you going to deliver it, and what the expected benefits will be.
  - It's best memorised and replayed whenever you need it. This is useful when asked what your job is and what you are trying to achieve.
  - It is also valuable when you are part of a Data Strategy core team to ensure all members of the team relay the same basic messages.

- ## 10 minute 'Taster Pitch'
  - Create a PowerPoint deck to expand on the above which can be delivered by you and others when you get an opportunity to talk to a senior manager or if you can get an invite to scheduled team meetings held across the organisation.
  - Try to use pictures to illustrate your key points – again these are more impactful than text lists and remember to include some of the stories you've collected. Use the ones most relevant to the audience of any particular pitch.

- ## 30 minute 'Full Pitch'
  - Expand on the Taster Pitch above to provide a more in depth overview of your Data Strategy & roadmap.
  - This can be used to brief key potential stakeholders and to convince people to become data owners and data stewards.

Discussion – Thinking of the Hotel Chain…

What do you think is the biggest resistance to change that a Data Strategy would face?

What would be the main excitement / opportunity drivers?

What do you think is the biggest resistance to change that a Data Strategy would face?

What would be the main excitement / opportunity drivers?

Summary

Use Cases & Key Messages & Conclusions

Summary: key steps to creating a Data Strategy

10 steps to success / key lessons learned

THE ESSENTIAL COMPONENTS OF A SUCCESSFUL DATA STRATEGY

Secure Senior Executive Support

- Identify a Data Champion among senior leadership

Define Vision, Drivers & Motivations

- Define a business-driven vision for the strategy & Roadmap

Identify & Interview Stakeholders

- Elicit feedback from key stakeholders – listen & communicate

Build the Business Case

- Outline key benefits of data strategy & risks of not doing so

Identify Business-Critical Data

- Focus on the data that has the highest impact on the business

Assess Data Maturity

- Assess the data maturity of the organisation across all aspects of data management

Map Business Priorities to Data Capabilities

- Create a realistic "heat map" aligning business goals with data management capabilities

Create Change Organisation

- Define an organisational structure to oversee and deliver the Data Strategy
- Implement change management to build support and engagement

Deliver "Quick" Wins

- Short, iterative, business-driven projects deliver short-term value, building towards long-term gains

Communicate

- Build a communications plan from initial feedback phase through all phases of implementation

Summary: A Laser Focus on the Core Priorities

Business Needs & Drivers

Current Data Problems

Critical Data Elements

Data Management Capabilities
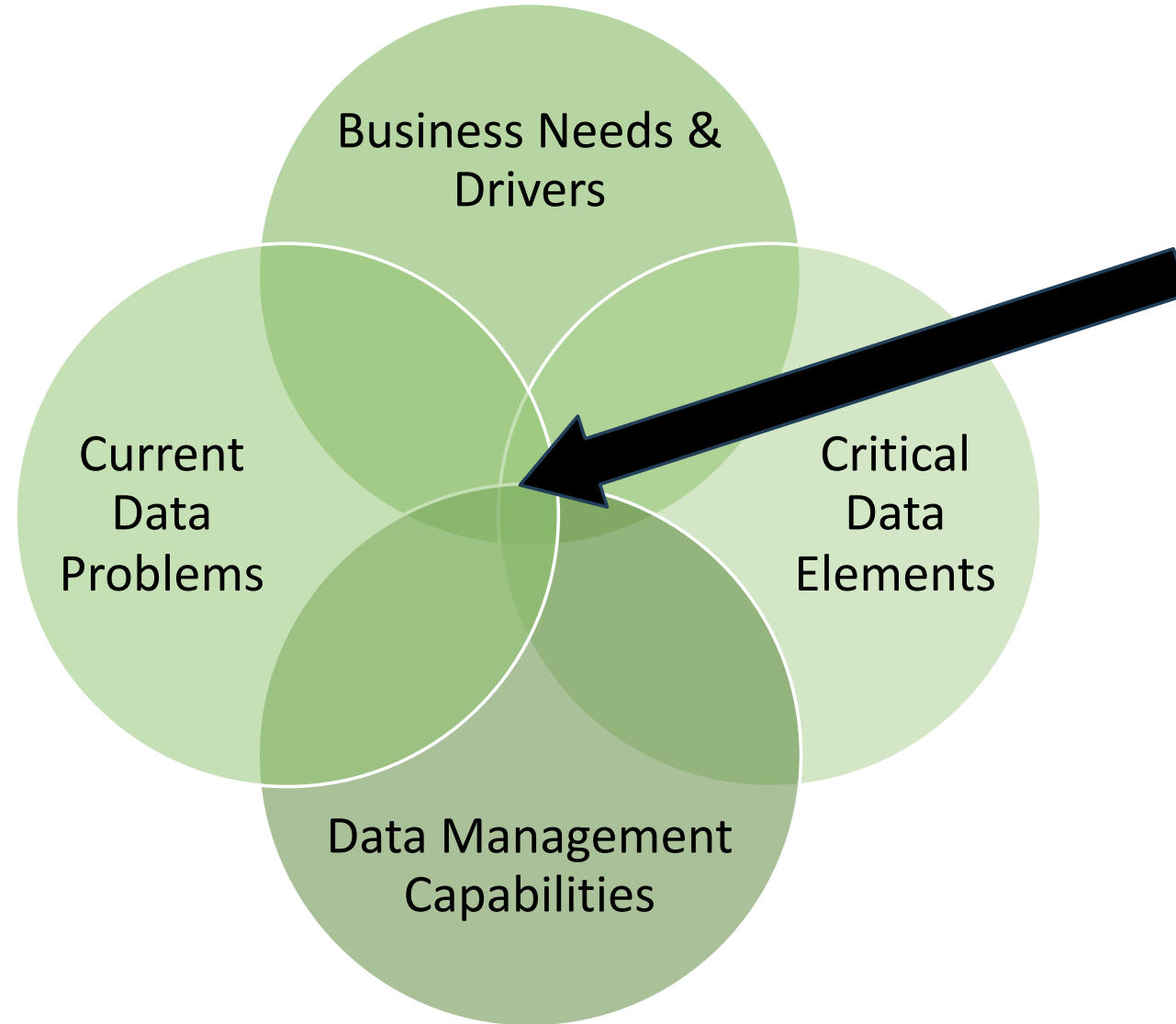
The core of an effective and successful Data Strategy & Roadmap

Case Study: Starfish Family Services
Using Data to Improve the Lives of Children

- A local Head Start Program was looking to improve the lives of children & families through data, through a holistic, integrated view of the individual:
   - Physical Health
    - Mental Health
    - Education
    - Family Support
    - Community Support
    - Etc.

- Global Data Strategy performed a Data Maturity Assessment & Strategy in 2017
    - Evangelising to CEO
    - Holistic view of Data Landscape
    - Interviewing staff
    - Maturity Assessment
    - Alignment w/ Business Drivers
    - Etc.

- Resulting in a 5 Year Grant over $1M to better leverage data to help children
    - Data Governance
    - Data Warehousing
    - Reporting & Analytics
    - Master Data Management (MDM)
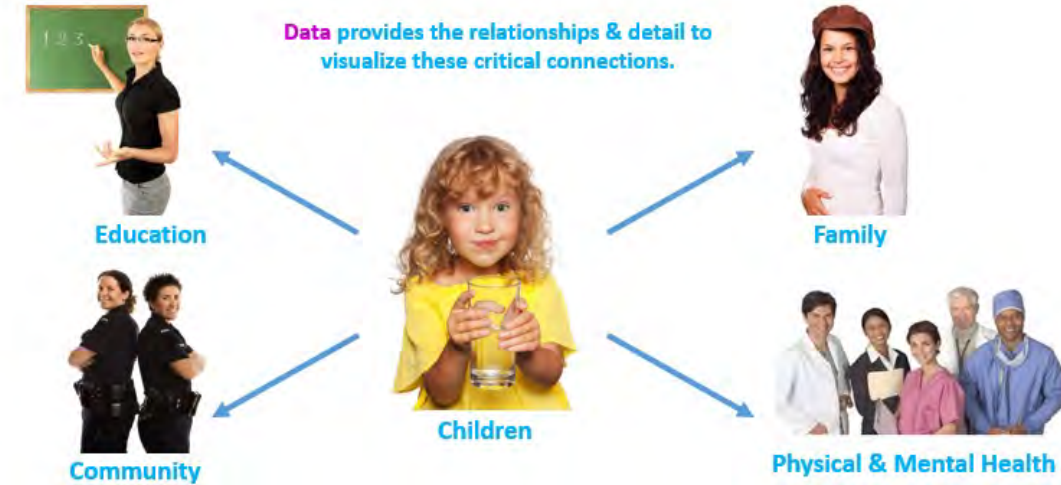
Building the foundations of a Data-Driven Business through a Data Strategy

A lesson from Ancient Greece

For Data Strategy success,
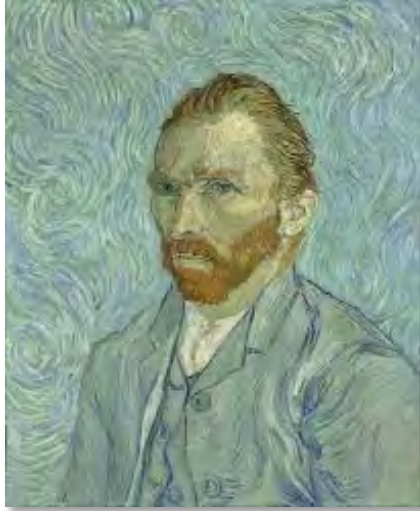anchor Digital Innovation with Foundational Excellence

DIGITAL INNOVATION
- Big Data
- Analytics
- Internet of Things
- Artificial Intelligence

FOUNDATIONAL EXCELLENCE
- Data Governance
- Data Architecture
- Data Quality
- Master Data Management

And remember, like the Parthenon, building a Data Strategy is part art and part science

Final Words

"Great things are not done by impulse, but by a series of small things brought together. And great things are not something accidental, but must certainly be willed."

Vincent van Gogh

Contact Information

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- Linkedin: uk.linkedin.com/in/nigelturnerdataman

Good luck with your Data Strategy and hope our paths cross again!