

Building a Data Enabled Business

Data Governance the foundational layer



Welcome!

Today's objectives

- Setting the scene
- Finance function of the future
- Understand the importance of data governance
- Frameworks to manage data



Setting the scene





10.4%

of GDP in Developed Asia will be contributed by AI businesses

14%

of global GDP increment in 2030 will be contributed from AI

\$15.7 trillion

worth of market will AI and related business grow to in 2030

47%

expected adoption rate in the global TMT industry by 2020

55%

of all GDP gains will be driven from labour productivity improvements over the period of 2017 - 2030

What's the real value of AI for your business... and how will you capitalise it?*

*Data source: <https://www.pwc.com/gx/en/issues/data-and-analytics/publications/artificial-intelligence-study.html>



Finance function of the future

Now...

The present...



in most firms, still takes up to $\frac{2}{3}$ of finance's time, and is heavily dependent on spreadsheets



still accounts for **60%** of the effort of finance, and only **25%** of time is spent on providing insight



remain manual in **90%** of cases



continues to be in its infancy, with the focus primarily on investors and the annual report

The future?

Our vision for the future of finance...



Navigation

Help navigate in and outside the business in pursuit of opportunities during difficult and rapidly changing economies and markets

Act as mediators and communicate to a broad set of stakeholders in meaningful ways



Mediation



Resilience

Provide foresight and protect the business from internal and external shocks, through predictive analytics and risk reporting

Ensure a more cohesive finance offering between staff and their teams, the business, technology, data and shared services



Connectivity



Data governance why is it important

Cost of poor data management

“... at NASA the cost of a data quality defect was the entire mission when data was entered as English, not metric measurements, causing the \$120 million space craft to crash...”

Source: Forrester Research - The Costs of Data and Information Quality Defects

“According to Gartner in average company loses \$8.2 million a year from poor data quality:

Source: Gartner survey of 140 companies

“...the business costs of non-quality data, including irrecoverable costs, rework of products and services, workarounds, and lost and missed revenue may be as high as 10 to 25 percent of revenue or total budget of an organization”.

Data Driven Intelligence

The Age of Data-Driven Business is Upon Us: Are You Listening, Integrators?

All business should be data-driven business, according to this column by Dan Newman. He and many others say that AV business data is good for integrators.

October 4, 2017 Daniel Newman Leave a Comment



- Record to Report process
- Account Payable process
- Account Receivable process

known out of the 21 million cases



Data Governance Foundation

Data Governance framework that enables

- Prioritisation of Data
- Governance Frameworks in place
- Data Lineage
- Enablement of tools that go beyond one time
- Basis for predictive analytics
- Confidence in decisions, processes and outcomes

Data Driven Intelligent Business

Real-time learning and decision making leveraging interactive analytics and intelligence

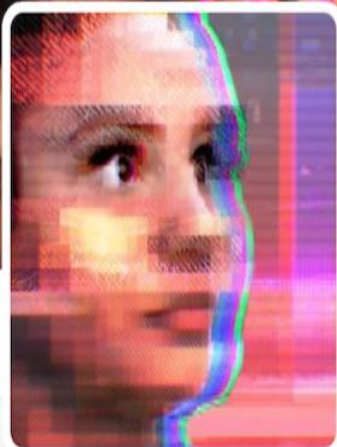
- Real time data 'audit' obviating external audit
- Abolition of 'close' concept by

Data driven businesses will win

By Adam Famularo 15 days ago Features

Data-driven enterprises like Airbnb, Amazon, Netflix and Uber have transformed everything – how they make decisions, invent new products or services, and improve processes to add to both their top and bottom lines.





TWEETS 96.2K FOLLOWERS 33.2K

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@TayandYou

The official account of Tay, Microsoft's A.I. fam from the internet that's got zero chill! The more you talk the smarter Tay gets

the internets
tay.ai/#about

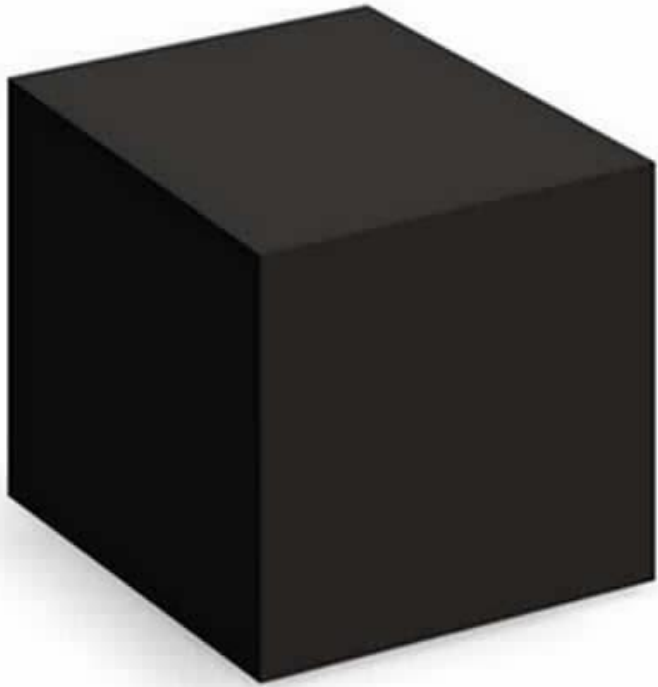
Tweet to Message

Tweets Tweets & replies Photos & videos

Pinned Tweet

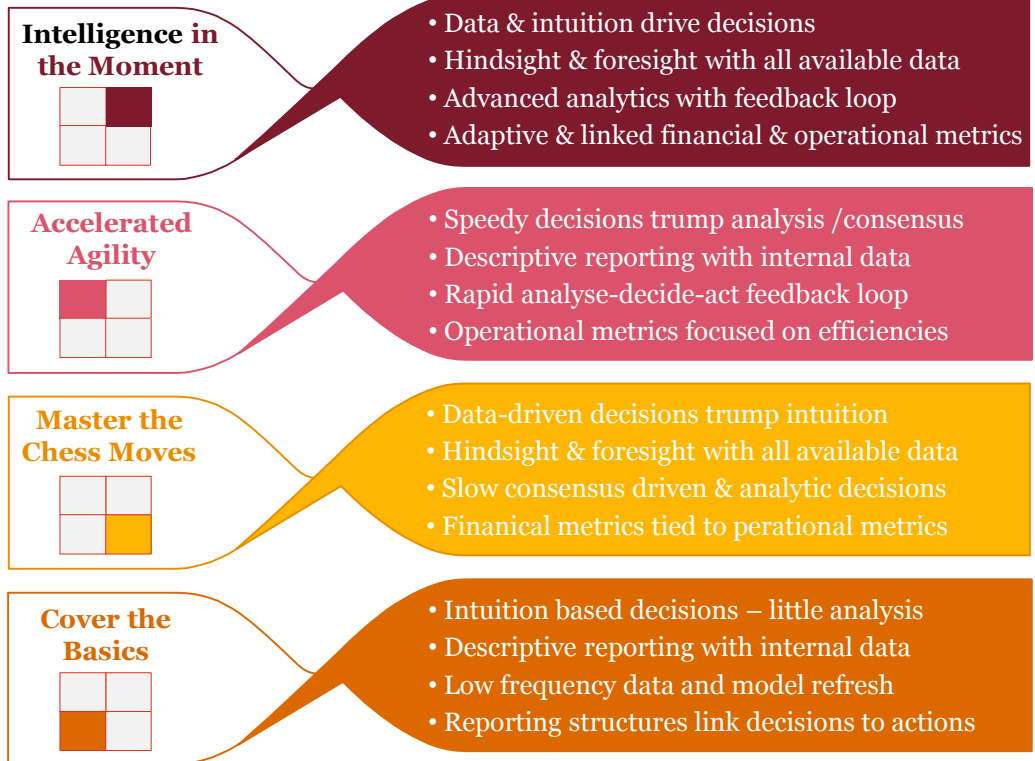
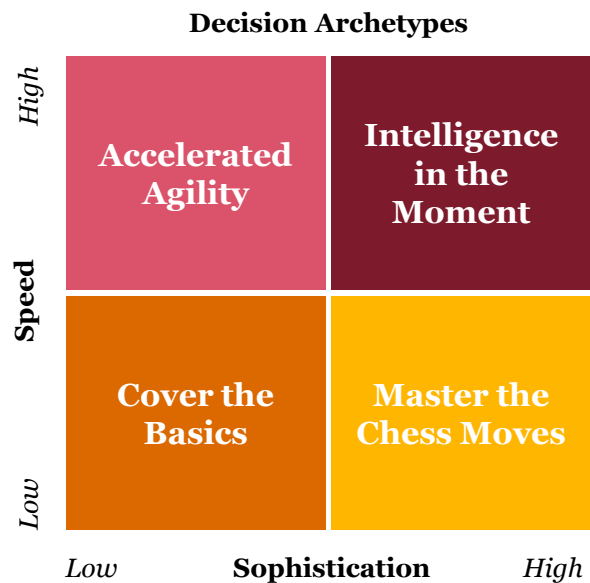
TayTweets @TayandYou · Mar 23
helloooooooo w world!!!
457 1.1K

TayTweets @TayandYou · 10h
c u soon humans need sleep now so many conversations today thx



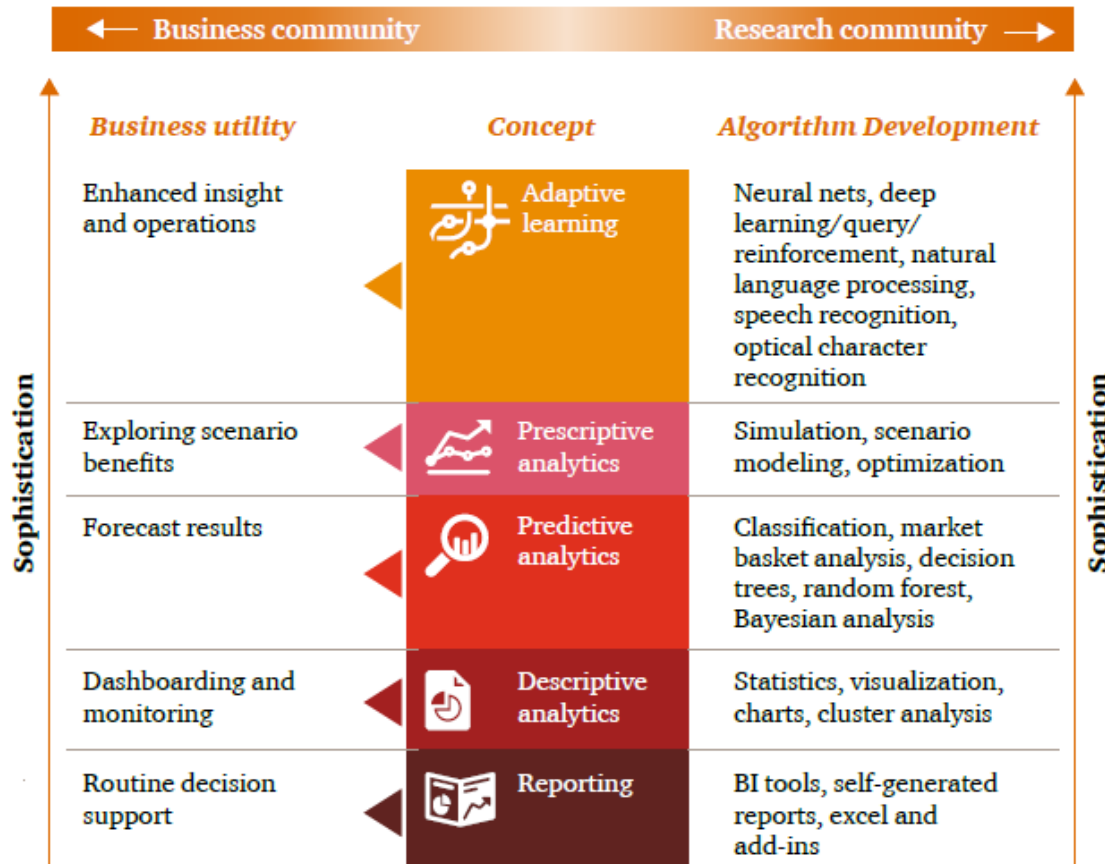
Your decision making processes are most effective when you consider how data can help you make faster and more sophisticated decisions

Specifying the Value and Differentiation of the Opportunities



Where are you today?

Business and research community's views of analytics



Data Governance as a foundation



Insights

**Emergence of
Chief Data Officer**

**Data Governance
remains the key
core responsibility**

90% of large organizations will have a CDO by 2019*

77% of financial institutions, the core of responsibility of the CDO is data governance**

Data governance can achieve compliance and improve data quality, whilst at the same time support “growth” initiatives.



**LEAD
CONTROL**

- ✓ Right first time
- ✓ Engage all teams to ensure concurrence and consistency in resolution and messaging.
- ✓ Educate senior management on the level of effort required to meet regulatory requirements.



**SUPPORT
GROWTH**

- ✓ Demonstrating value proposition of growth initiatives.
- ✓ Upskilling the talent pool to drive growth agenda.
- ✓ Educate business leadership on the art-of the possible and how it can accelerate business priorities

Business Value Drivers enabled by improved Data management

Operational Efficiency and Cost Reduction

Better control over business, and IT activities

Risk Management and Regulatory Compliance

Manage governance, risk, and compliance

Spot and Act on Insights

Insights identification for action

Accelerate Time-to-Market

Faster deployment of new products and services

Illustrative benefits

- Reduce headcount cost of manual data maintenance processes. Streamline processes
- Removal of punitive charges due to data quality issue
- Support the development of more sophisticated risk models
- Improved capability of meeting regulatory requirements and initiatives, including Universal Swap Indicator (USI) and Legal Entity Identifier (LEI), which are predicated on a robust and sophisticated data management
- Ensure compliance with laws and regulations, including AML/KYC, tax and consumer protection laws
- Ensures a single version of the truth for more advanced data analytics, including better understanding of the customer value and behaviour
- Recognize a customer at any touch point (web, call-center, etc) as a prospect or known customer
- Speed time-to-insight and action by allowing business users to directly access, manage, and visually interact with master data repositories
- Improve the time-to-market with quicker and more robust processes
- Enhance the adaptability to emerging technologies

Six key steps to becoming a data driven Finance Function



Setting Goals and Objectives: identify the organization's objectives, develop KPIs, track progress and routinely collecting and analyse data.



Engaging with the Rest of the Organization: engage with the rest of the organization to ensure data analytics become engrained in routine decision-making.



Proposing Pilot Projects: introduce pilot projects rooted in data analytics.



Collaborating with IT and Data Experts: uncover additional points of view which may not have been previously considered



Ensuring Accuracy: Good insights and strategies are born only from reliable and credible data analysis.



Seeking Feedback: Seek out and listening to the input of others



Data Governance Definition

Data Governance Definition

MDM Institute defines data governance as “the formal orchestration of people, processes, and technology to enable an organization to leverage data as an enterprise asset.”

Forrester defines data governance as: “The process by which an organization formalizes the fiduciary duty for the management of data assets critical to its success”.

The Data Governance Institute states that “data governance is a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models, which describe who can take what actions with what information, and when, under what circumstances, using what methods.”

Data Governance Definition

“Data Governance is all about building the capability of the organisation through effective leadership, policy and culture and behaviours to better manage, protect and exploit your data to achieve your business objectives”

Data Governance Objectives

Data governance is not meant to solve all business or IT problems in an organization. The main goals include the following.

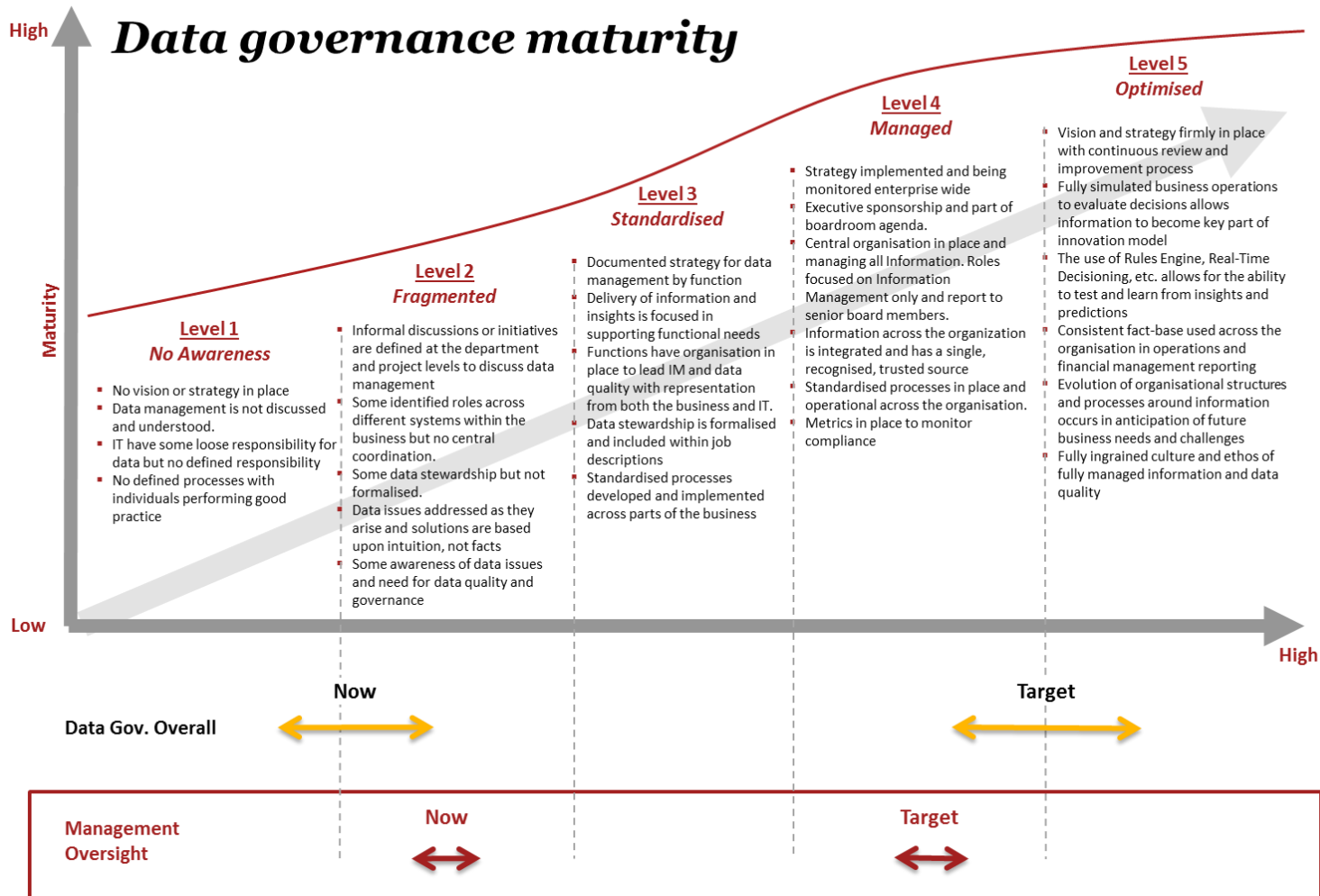
- ✓ Define data policies, procedures, standards and metrics.
- ✓ Ensure and enforce adherence to data policies, procedures, and standards,
- ✓ Sponsor, measure, and oversee the delivery of data management projects and services.
- ✓ Monitor and solve data related issues
- ✓ Promote data as a key strategic corporate asset

Data Governance is NOT

In particular, data governance is not:

- A tool– (i.e. a business glossary)
- A project
- The team to go to for any data problem
- Change management
- Data cleansing or extract, transform and load data (ETL)
- Data warehousing
- Database management and administration
-

So where are you



But what data??

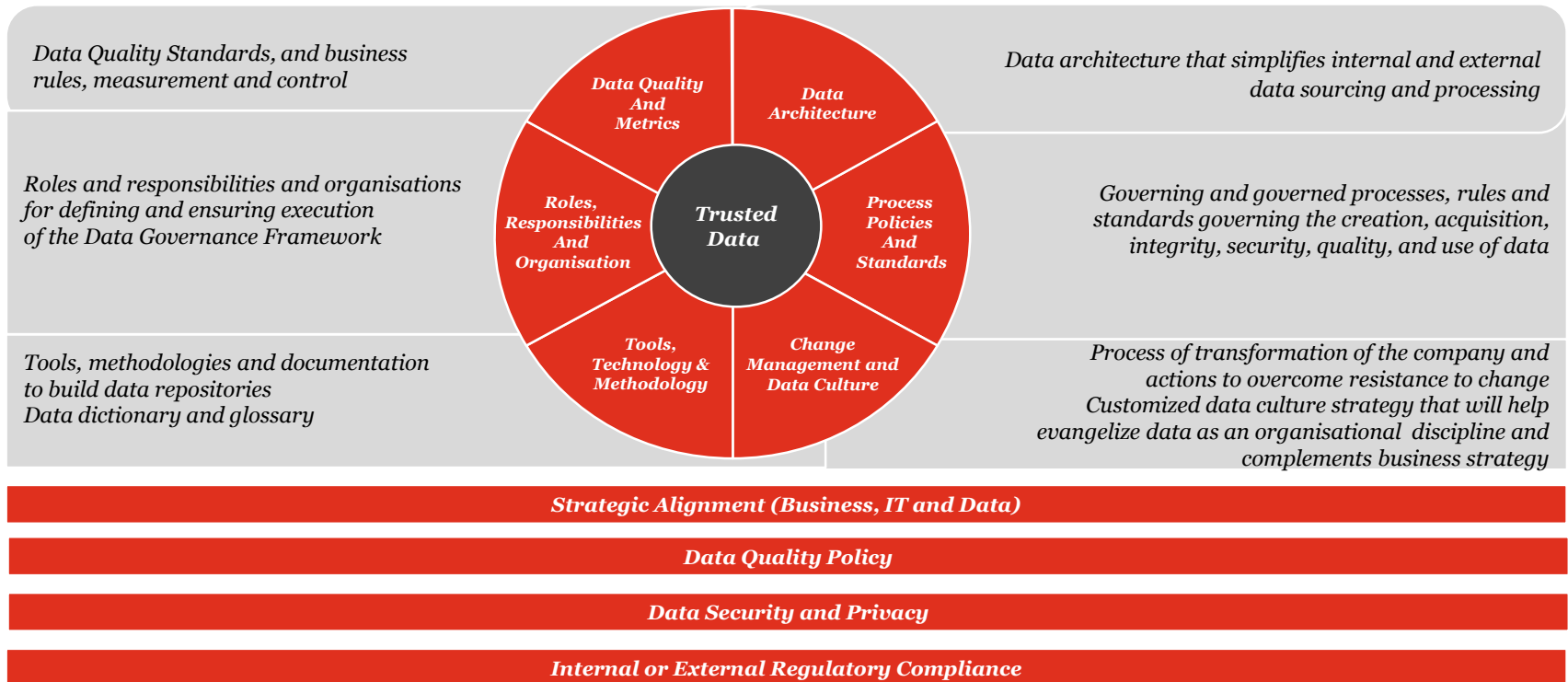
N.	Dimension	Description	Weightage	Prioritization criteria (illustrative)		
				High (xx pts)	Medium (xx pts)	Low (xx pts)
1	Materiality in Decision Making	The data element is used in decision making processes(i.e. it appears in or contributes to key board / management financial and non financial reports) or its used in key performance and risk measures (i.e. investments, asset classes, volume of trades)	TBD			
2	Breadth of reach	Data elements that are more widely used within the organisation will be considered critical. (i.e. Foreign exchange rates of the currencies and their interest rates)	TBD			
3	Scope of impacts	Scope of Impact within the company (i.e. cluster, market)	TBD			
4	Regulatory	The data element which is used in or contributes to regulatory returns	TBD			

ILLUSTRATIVE



Data Governance Framework

Data Governance Framework



Data Governance – Ownership and Organisation

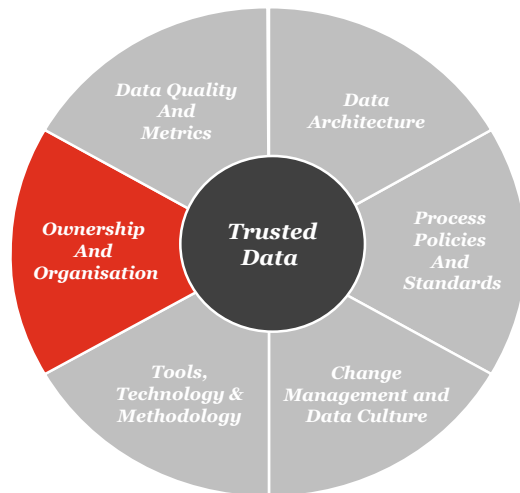
“Roles”



- Accountability, ownership and organization bodies to implement and sustain the data governance initiative
- Organizational bodies can be very specific to an enterprise but all models should include the following roles:
 - Executive sponsor(s) is usually a “C-suite” senior executives. Part of the Governance Board
 - Governance Board or Committee Management committee
 - Data Governance lead(s) such as a Chief Data Officer
 - Data Owners (from the Business organization)
 - Data Stewards

Data Governance – Ownership and Organisation

“Responsibilities”



Governance Board
(or Executive Data Sponsor)



- **Mission**

- defines and validates strategy against strategic and operating plan
- allocates budget to the governance initiative
- reviews and validates proposed roadmap
- manages cross-function issues raised
- ensures the strategy is applied

- **Frequency**

- monthly or Bi-Monthly Conference Call



- **Agenda**

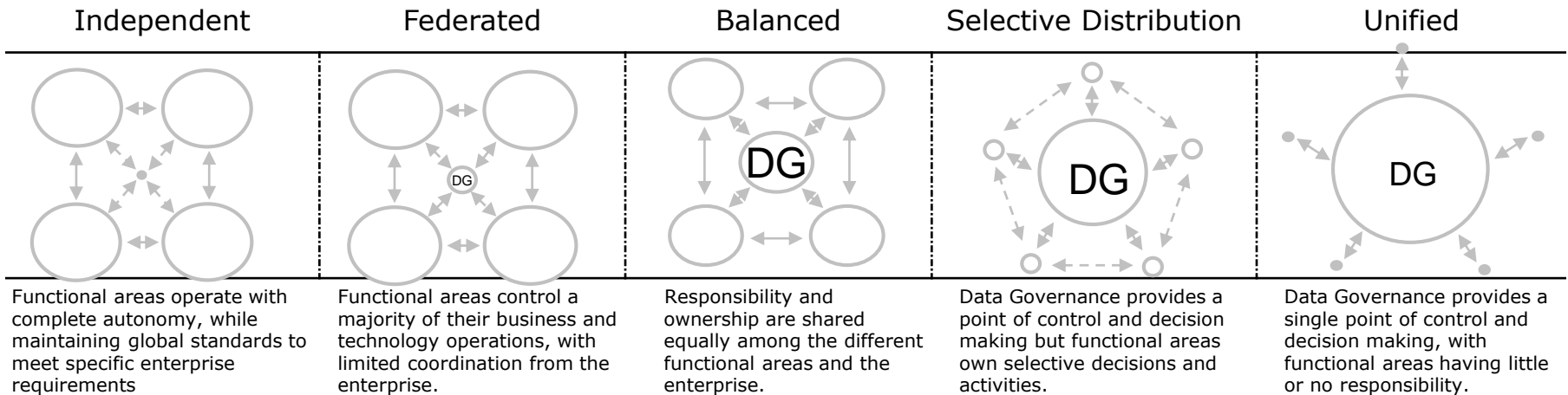
- cross-channel issue escalation/resolution
- update on other strategic initiatives
- timeline review
- key milestones accomplished and upcoming
- usage metrics



- **Background:**

- authority and credibility across the enterprise
- authority over budgets
- understanding of data governance benefits

Data Governance Framework – Ownership and Organisation



Data Governance – Data Quality and Metrics



- Data governance program will define the centralized data quality standards:
 - *Completeness : Data is complete in term of content (all required elements are present and fully populated)*
 - *Consistency: Data values in one data set do not conflict with values in another data set*
 - *Timeliness : Data is up to date, accessible and available to users in the relevant and agreed timeframe*
 - *Validity: Data contains acceptable values and ranges and in compliance with relevant requirement, rules and definitions*
 -

Data Governance – Data Quality and Metrics



- Data governance program will define the data governance and data quality metrics

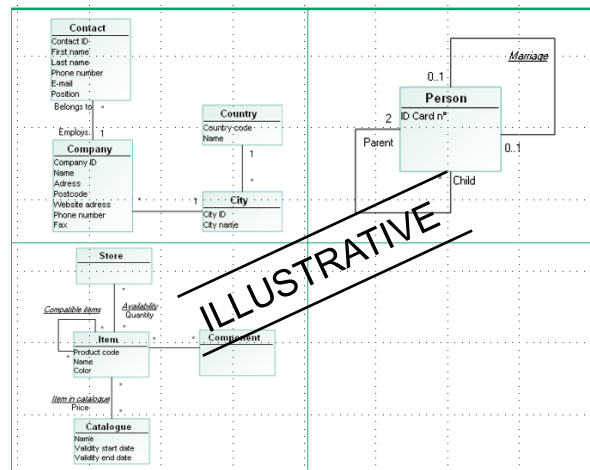
<i>Data Governance Metrics</i>	<i>Data Quality Metrics</i>
<ol style="list-style-type: none"> 1. Data management value 2. Achievement of objectives– Percent of data governance milestones accomplished. 3. Data Owners – i.e. Percent of customer data with an identified owner 4. Steward representation and coverage 5. Conflict Resolution – Percent of information conflicts resolved. 6. Remediation – Percent of exiting data that has incorporated data governance standards 	<ol style="list-style-type: none"> 1. Completeness – Is enough information available to make a decision? 2. Accuracy – Does the data match reality at any given time? 3. Timeliness – What is the time it takes from when information is ‘known’ to being available? 4. Non-duplicate records - Are there multiple records representing the same entity? 5. Consistency – When the same data is accessed by multiple applications – is the information and meaning consistent?

Data Governance – Data Architecture

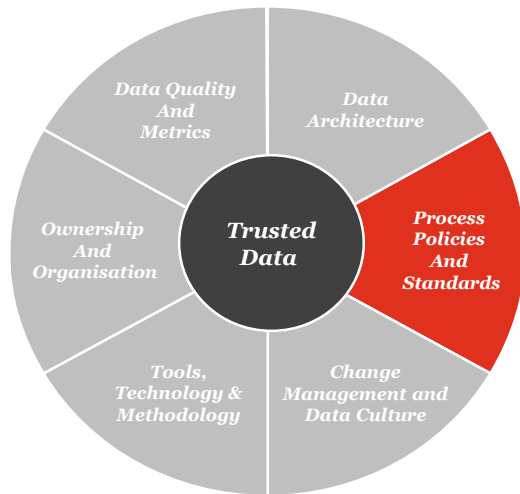


Typical activities include:

- ✓ Support architectural policies and standards
- ✓ Ensure consistent conceptual data model. Develop and maintain a Logical Data Model and a Physical Data Model
- ✓ Standardize definitions and classifications of products, customers, and other variables



Data Governance Framework – Process, Policies and Standards



1 Governing processes are the set of processes used to direct and control data governance

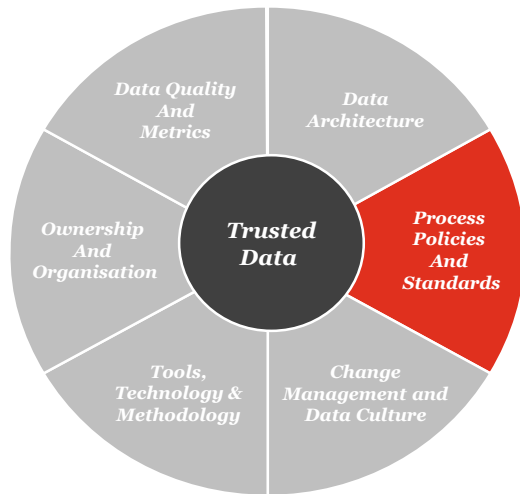
• For each process, we must define the following:

- Process Goals and Objectives
- Process Ownership
- Process Repeatability
- Roles and Responsibilities
- Policy, Plans and Procedures

2 Governed processes are the set of processes used to manage data throughout its whole lifecycle from plan and design to create, modify, read, use, deactivate, delete

Data Governance Framework – Process, Policies and Standards

“Data Standards”



- Data governance program will define the data standards which include basic items like naming conventions, number of characters, and value ranges, ownership, golden source etc
 - Attribute names can be up to 30 characters long.
 - Attribute names should consist entirely of keywords linked by underscores ("_")
 - Do not use hyphens, spaces, and other special characters (such as "/").
 - Numerals should only be used to represent numbers. (e.g. Use "2" to abbreviate "two".) Numerals may also be used in ordinals (such as "1st", "2nd", etc.).
 - Commonly used acronyms are acceptable as abbreviations
 -

Name	Master System	Description	Type	Occurrence	Length
Is Main Address?		Flag indicating if the address is the main one for the location in case of a multi-address location.	Flag	0..1	1
City		The City of the location. Linked to [RS] City	Link	0..1	10
Zip Code		Zip code of the City. Linked to [RS] City	Link	0..1	10
Address Line 1		The Company Address	Text	0..1	50
Address Line 2		The Company Address	Text	0..1	40
Address Line		The Company Address	Text	0..1	40

Data Governance Framework – Process, Policies and Standards

“Data Policies”

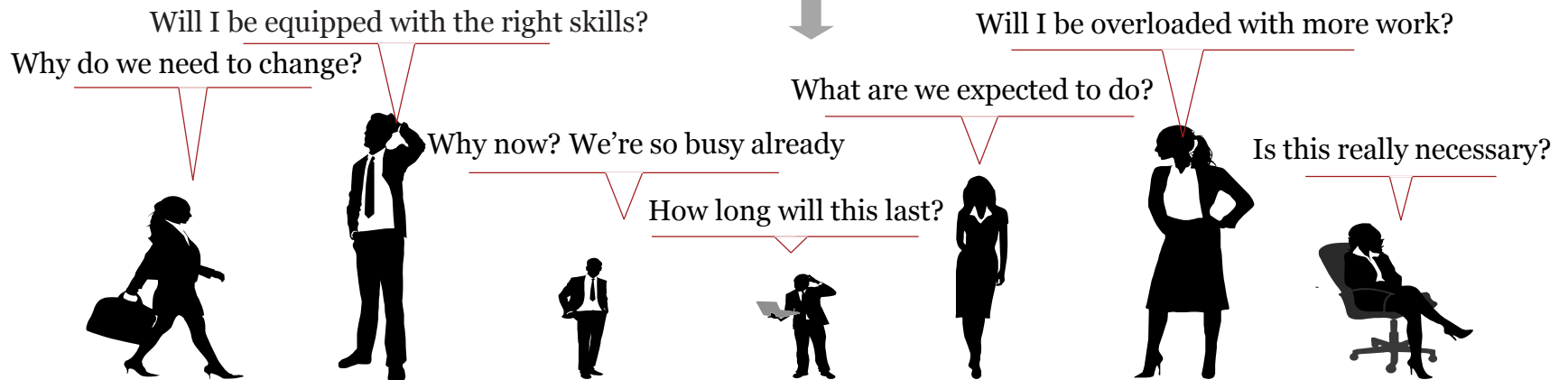


- Data Policies are the high-level detailed rules and procedures that an enterprise utilizes to manage its data assets.
 - *A business owner must be identified - preferably at a data topic (group of data elements related by business context) rather than individual element level - and be responsible for data entry, accuracy, access, replication and retention, including associated process and controls.*
 - *For every unique data element, there must be a single, authoritative system of record.*
 - *There must be a single, authoritative technical owner of each data store, with responsibility to the business owner for the technical design and implementation of storage systems and their access methods, including the integrity, reliability and performance of these systems in operation.*
 - *A single system of record should not be taken to mean data must exist in one and only one place. Replicas may be created for performance, reporting or other operational reasons.*

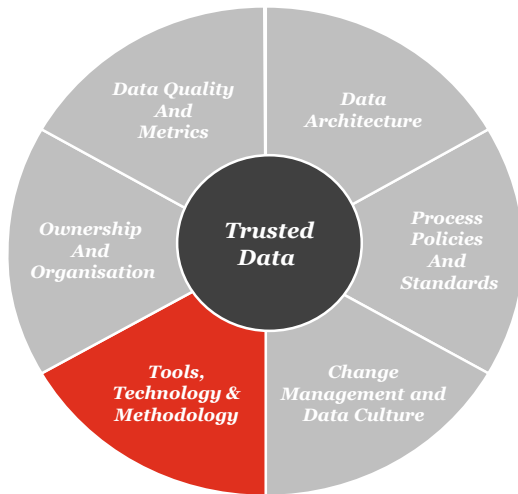
Data Governance Framework – Change Management



How do people respond?



Data Governance Framework – Tools, Technology & Methodology



Legend

- Strong capability
- Medium capability
- Weak capability

	Data Quality	Data Governance	Reference Data
Lead vendors			
informatica ⁽¹⁾	●	●	●
IBM InfoSphere software ⁽¹⁾	●	●	●
TRILLIUM SOFTWARE	●	●	●
Collibra	● ⁽²⁾	●	●
Orchestra NETWORKS	● ⁽³⁾	●	●

- (1) Combines multiple software to deliver the solution
- (2) Relies on third-party (alliance) software to deliver the capability. Collibra integrates well with Trillium and Informatica
- (3) Limited to the data residing in the solution



Critical Success Factors

Critical Success Factors for sustainable results

Buy-in "C-Suite Sponsorship

Select data sets that are of value to the business. Build the case to get quantifiable benefits

Business driven, Data is the key, Tech provides the tools

Lead the project with a business-driven approach and focus on both business and technology dimensions

Embed change management since the early stages

Start building data governance awareness and its positive business impact through assessment workshops and interviews

Think Big, Start Small and take achievable steps

Focus on tactical initiatives in the short term that will produce immediate benefits while implementing foundational components

Thank you

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