



Non invasive data governance

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SAI 16 March 2022



Scope of today

Share experience on Data Governance and insights on non invasive approach

Based on own experience, mistakes and lessons learned

Based on input from customers, consulting companies setting up data governance programs, making assessments etc

Inspired by Robert S. Seiner book : Non invasive Data Governance

Focus on concepts, people, organisation, more than technical approach and tooling

Data governance in a few words

Defines the **roles & responsibilities** around data

Ensures the **right definition** and the **right quality** of data

Manages the **life of data** (location, compliancy (GDPR), retention, exploitation,...)

which ensures

Better customers insights

Compliancy to supervisory needs

Right management decisions

Operational efficiency

Frontend



Backend



Data governance in a few words

All organizations already govern data. They may do it informally, sometimes inefficiently, often ineffectively, but they already govern data. And they all can do it better. (Robert S. Seiner)

« Data governance is the execution and enforcement of authority over the management of data. » (Robert S. Seiner)

« Formalizing behavior around the definition, production, and usage of data to manager risk and improve quality and usability of selected data. » (Robert S. Seiner)

DATA



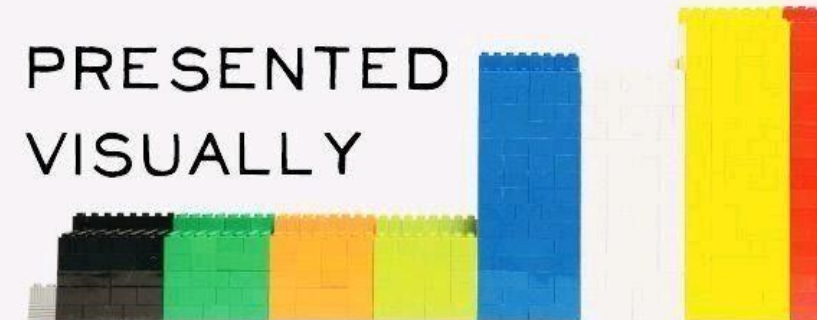
SORTED



ARRANGED



PRESENTED
VISUALLY



Non invasive data governance – some basic principles

The responsibilities of data stewards are identified and recognized, formalized, and engaged according to their existing responsibilities rather than making them feel as though you're assigning them more work

The governance of data is applied to existing policies, operating procedures, practices and methodologies rather than starting by introducing new processes, methods etc

Specific attention is paid assuring senior management (exec) a understanding of a practical and non-threatening yet effective approach to governing data...

Re-use the existing

Find the right people who already do the job and formalize it

Business value statements -

Key messages and perspectives

Business value statements –

Critical data elements and highly valued core data



Better understanding = better
business use of data

= better decisions

= adapt

= innovate



Business value statements - Risks

Organizations that have senior managers and business unit leaders who understand , support and offer direction for a Non Invasive data governance approach and programs assure themselves of less risk and better acceptance by general staff around the management of data for the short and long term success of the program (Robert. S Steiner)

Business value statements –

Ability to share information about data



- Ability to respond to changes
- In regulatory
- In compliance

Identifying key people who define, produce and use data in the organization

Efficiency

Effective coordination

Cooperation

Communication around the data

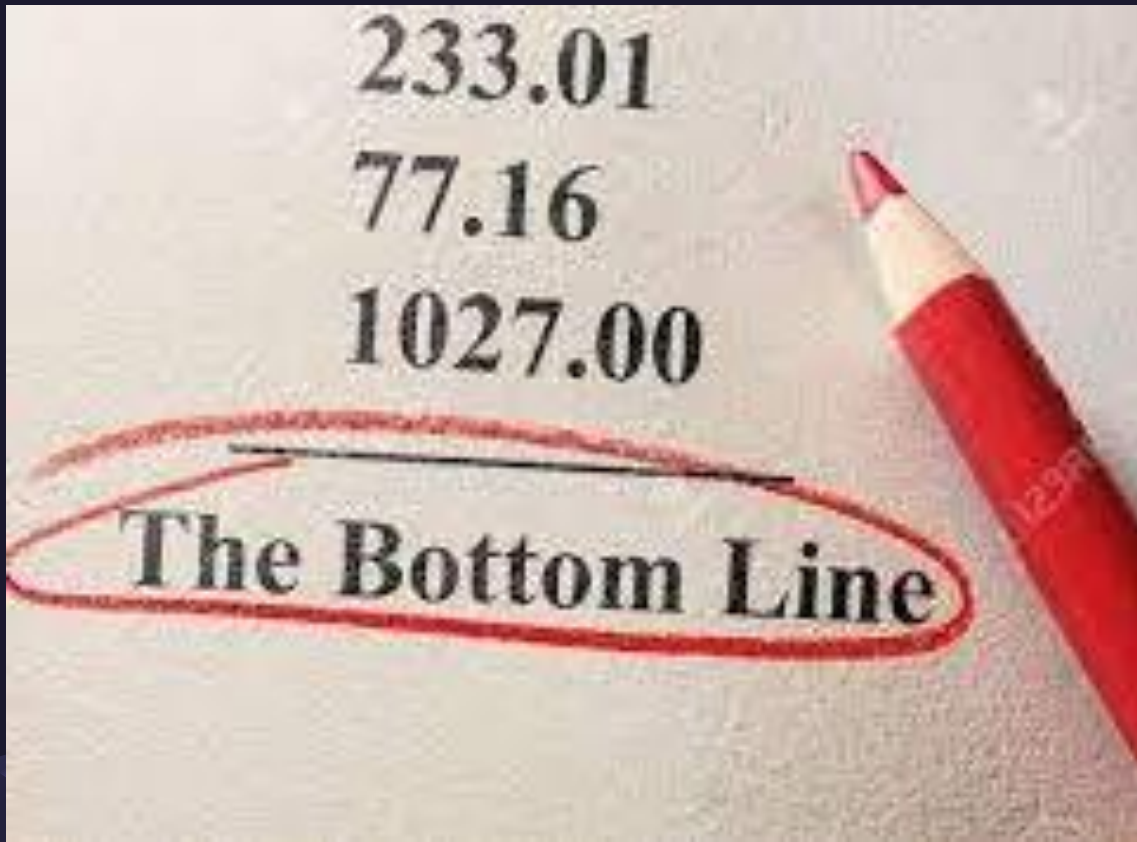


When appropriate people are involved in specific tasks related to data

- Eliminate replication and misuse of data
- Ability to integrate data based on corporate critical data elements

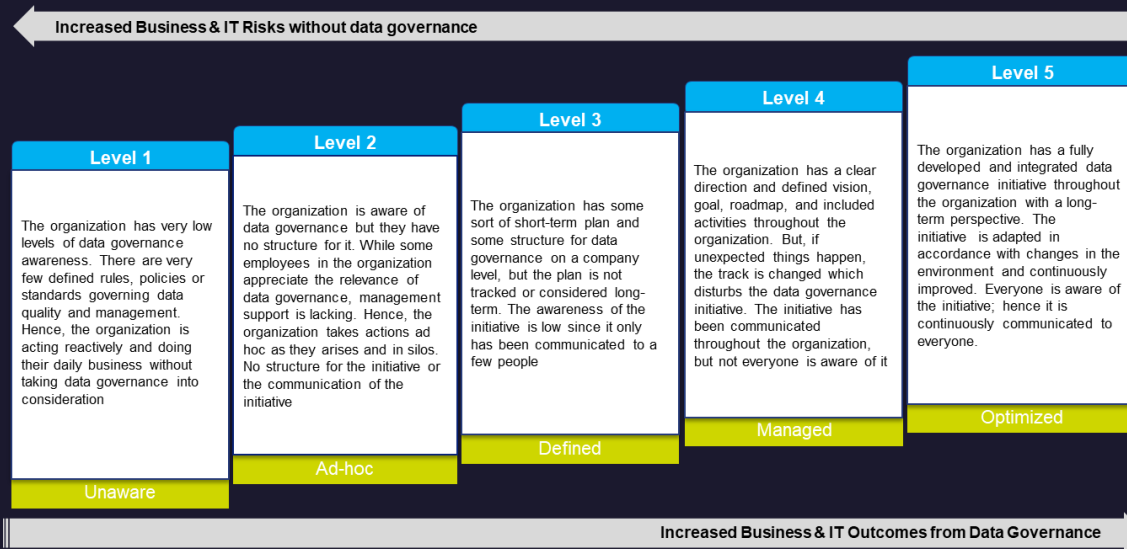


Bottom line



- Efficiency and effectiveness of data issues resolution
- Compliance and auditable demonstration
- Enterprise risk management
- Management and employee decision making empowerment (because based on reliable data)

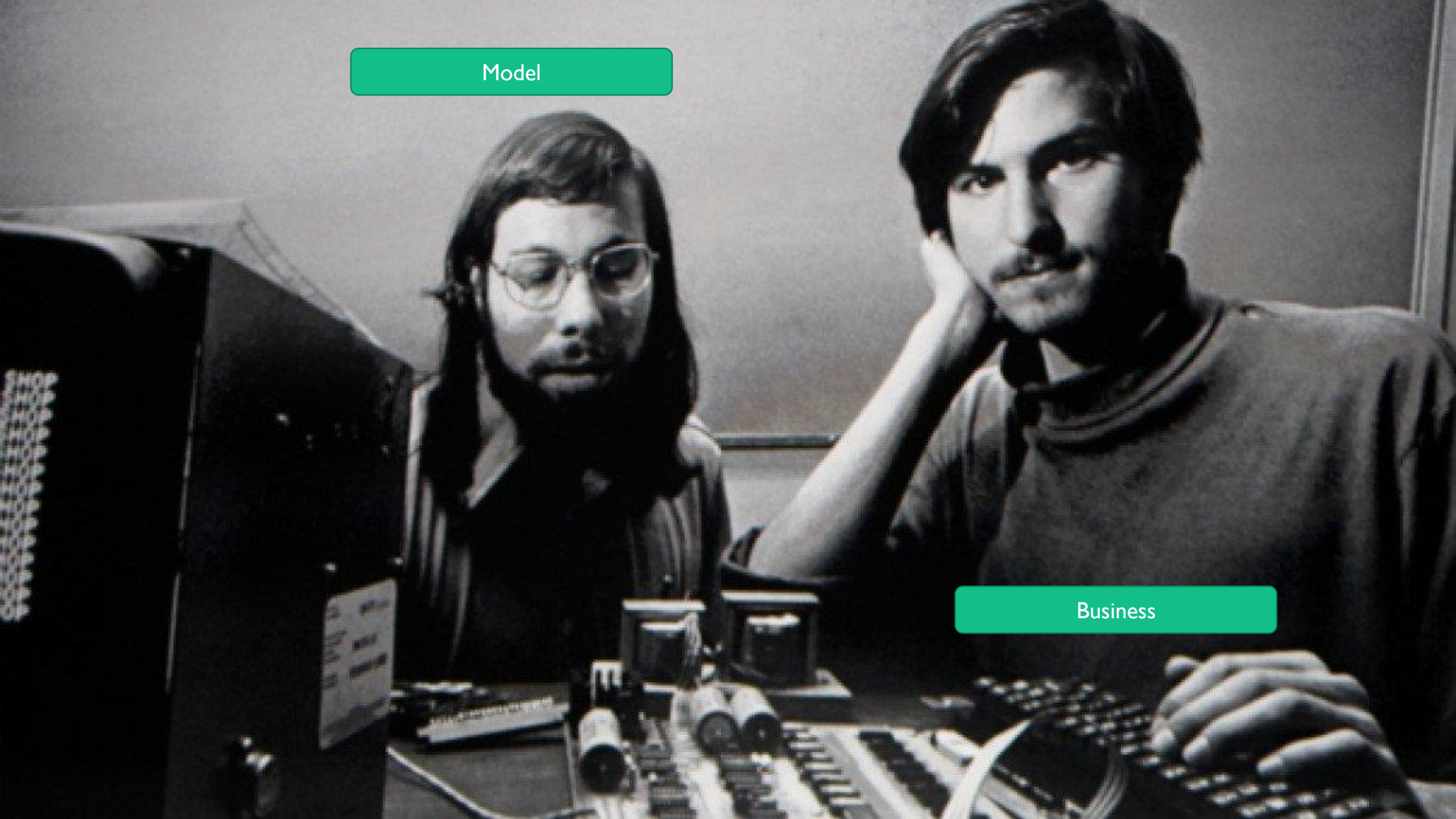
Data Governance Maturity Levels



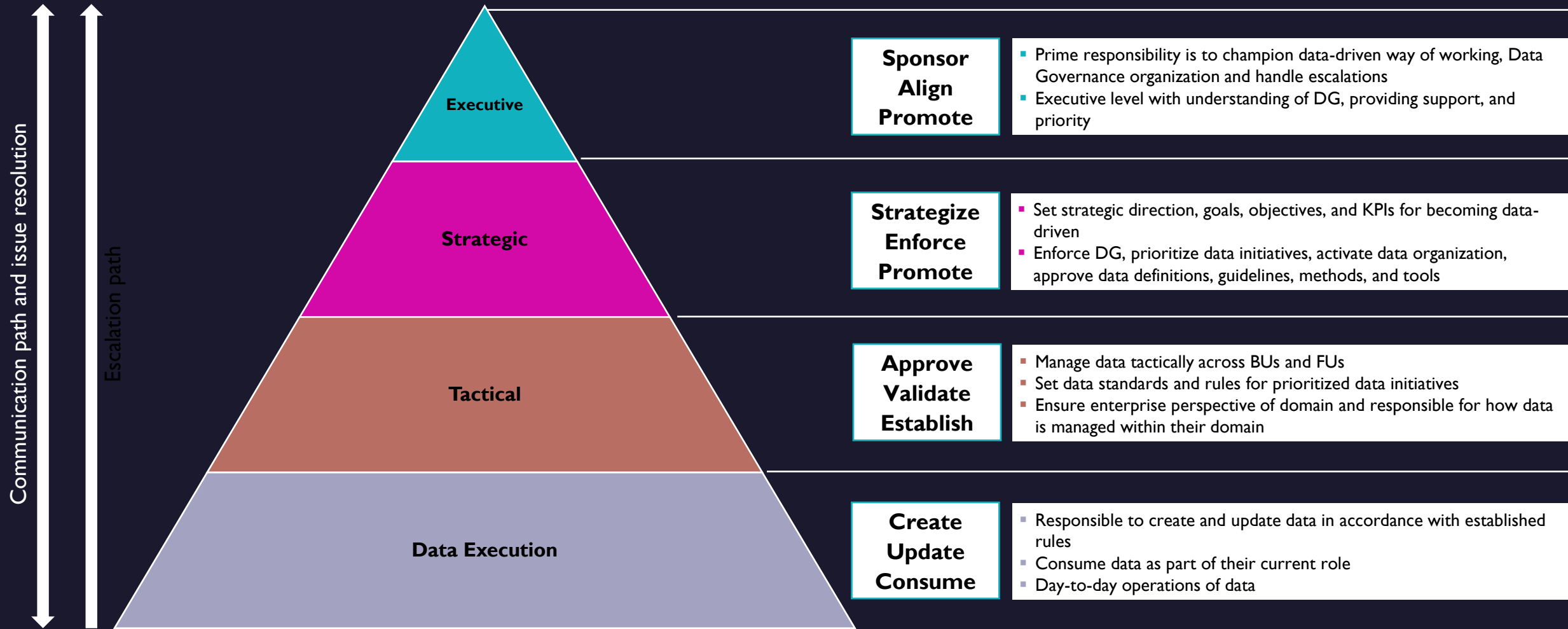
- The ease of adoption will be depending on your maturity level
- Step by step
- Must be part of the data strategy and vision of the company

Model

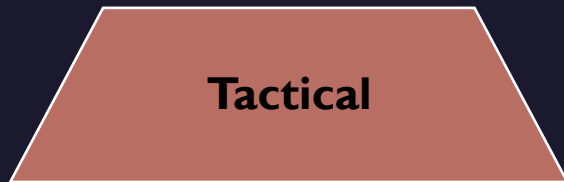
Business



Data Governance Structure



Data Management Capabilities

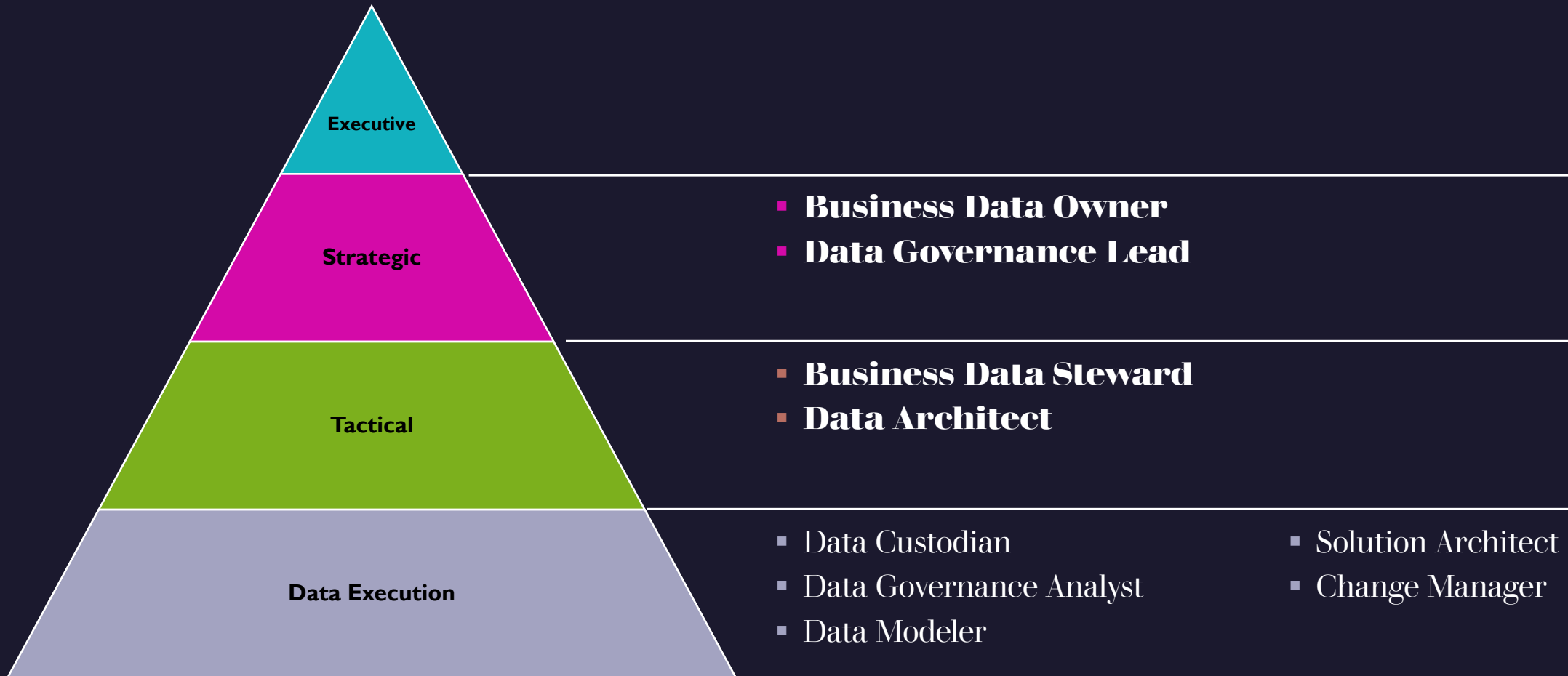


- Business Alignment
- Budgeting
- Data Training Strategy
- Data Tooling Strategy
- Data Operating Model
- Data Organization Structure
- Communication Planning
- Change Management Planning
- Data Architecture Strategy
- Incident Management Design

- Data Definition
- Privacy and Security Controls
- Data Model Design
- Metadata Definition
- Metrics and KPI Design
- Advanced Analytics
- Data Training
- Master Data Management
- Data Quality Framework
- Data Architecture Blueprint
- Data Lineage Design
- Data Lifecycle Management
- Communication Implementation
- Change Management
- Data Delivery Access

- Data Quality Implementation
- Privacy and Security Controls Implementation
- Master Data Management Implementation
- Data Movement and Integration
- Data Issue Handling
- Data Access
- Data Development, Test and Production
- Metadata Maintenance
- Data Model Maintenance
- Data Lifecycle Implementation
- Advanced Analytics Implementation
- Visualization Implementation

Data Governance Roles and Responsibilities



Data Governance Forums and Meetings

Collaboration between the different data roles and levels for the data organization



Name	Participants	Frequency	Agenda
Direction	<ul style="list-style-type: none">Board members	Quarterly	<ul style="list-style-type: none">Add data topics to agenda and follow up on DG progressHandle escalations (ad-hoc)
Data Council	<ul style="list-style-type: none">Data Governance LeadIT & Strategy LeadData Owner(s)Product Data Steward(s)	Monthly	<ul style="list-style-type: none">Follow up DG progress (KPIs)Prioritize data initiativesApprove changes
Steward Forum	<ul style="list-style-type: none">Data Governance LeadProduct Data Steward(s)Data Governance Analyst(s)	Monthly	<ul style="list-style-type: none">Review Data by DesignData definitions
Data Architecture Chapter	<ul style="list-style-type: none">Enterprise Data ArchitectData Architect(s)Data ModelerSolution Architect (if needed)	Monthly	<ul style="list-style-type: none">Align on architecture blueprint, standards and guidelines, tooling, data model changesApprove data sources to be integrated
Weekly Incident review	<ul style="list-style-type: none">Data Governance LeadProduct Data Steward(s)Data Governance Analyst(s)	Weekly	<ul style="list-style-type: none">Review key incidents related to Data QualityShare best practicesCheck progress on DG KPIs
Ad-hoc workshops	<ul style="list-style-type: none">Product Data Steward(s)Data Architect(s)Analyst(s)	Ad-hoc and Daily Standup	<ul style="list-style-type: none">War room sessions to resolve data issues and initiate root cause analysisDaily-standup with Data teams

Data Execution

Data council

Data council members

- Data owners
- Domain data stewards
- Cockpit leaders
- Data governance lead and data platform
- Compliance
- Security and Data protection officer

Why a data council ?

You need a data council because somebody has to be responsible and accountable for making the tough decisions where the enterprise is concerned. This group should be formal and should include all necessary parts of the enterprise

The exec layer of the operating model has no other specific function in the data governance program besides supporting, sponsoring and understanding data governance

Responsibilities

- Become interested in data governance because you recognize shortcomings in the way the organization manages data
- Become educated in what data governance means and how it can (will) work for your organization
- Become educated in what it means to embrace data governance and active your organization's data stewards
- Approve (enforce and endorse) items that need to be approved such as data policy (guidelines), data role framework, methods, priorities and tools
- Push data governance into their areas by actively promoting improved data governance practices
- Make decisions at strategic level in a timely manner given the appropriate knowledge to make those decisions
- Meet regularly and read minutes to stay informed of data governance program activities
- Identify and approve pivotal data governance roles including cross-enterprise domain stewards and coordinators

Data governance team charter

Data Governance team

- Data Governance lead
- Data platform lead
- Data architect lead
- MDM central team

Why a data governance team

Because organization needs a team delivering the data governance fundamentals and supporting the business in the stewardship and ownership of data

Data Governance team acts as second line and builds the frameworks and best practices to support the business ownership of the data

Responsibilities

- Overseeing the development and implementation of the data governance plan (program)
- Reviewing and documenting the organization of appropriate data governance best practices , roles and responsibilities, communication and awareness plan, and providing a roadmap for the delivery of the data governance program
- Facilitating the data governance council meetings regarding data governance status , activities, successes and issues
- Developing and continuously delivering data governance educational, awareness and mentoring materials
- Defining, recommending, and gaining approval of data governance metrics from the data governance council
- Ensuring that data standard definitions, procedures and metrics are in place for maintaining and improving the management of risk, quality and usability of the enterprise data
- Managing data incidents including missing or incorrect data reports and data access problems
- Randomly checking on compliance with data business roles compliance

IT team and custodians

Data Governance IT team

- Data Governance lead
- Data platform lead
- Data architect lead
- MDM central team
- Information management lead

Why a data IT team

Because we need technical support and architecture for developing data management capabilities

Because we need technical skills in order to support the data management activities, ensure the security

Because we need to build robust and sustainable technical layer for data usage, storage and archiving

Roles

- Focus on consistent protection and classification of data by data classification (public, private, confidential, internal use only)
- Responsible for technical data handling to meet data classification requirements
- Secure IT infrastructure on behalf of the business that own the data
- Ensure that sensitive data , regardless of format, are protected at all times by using only approved equipment, networks, and other controls
- Responsible for championing the integration of data governance within the standard project methodology (DEVOPS)
- Ensure that all strategic data are modeled, named, and defined consistently
- Make sure that projects source and use data as much as is feasible from the designated system of record
- Provide technical support for assuring data quality
- Provide technical support for data governance and data cleansing efforts where required
- Assure that metadata critical to data governance are included in the metadata resource and are accessible



Data taxonomy

Data classification

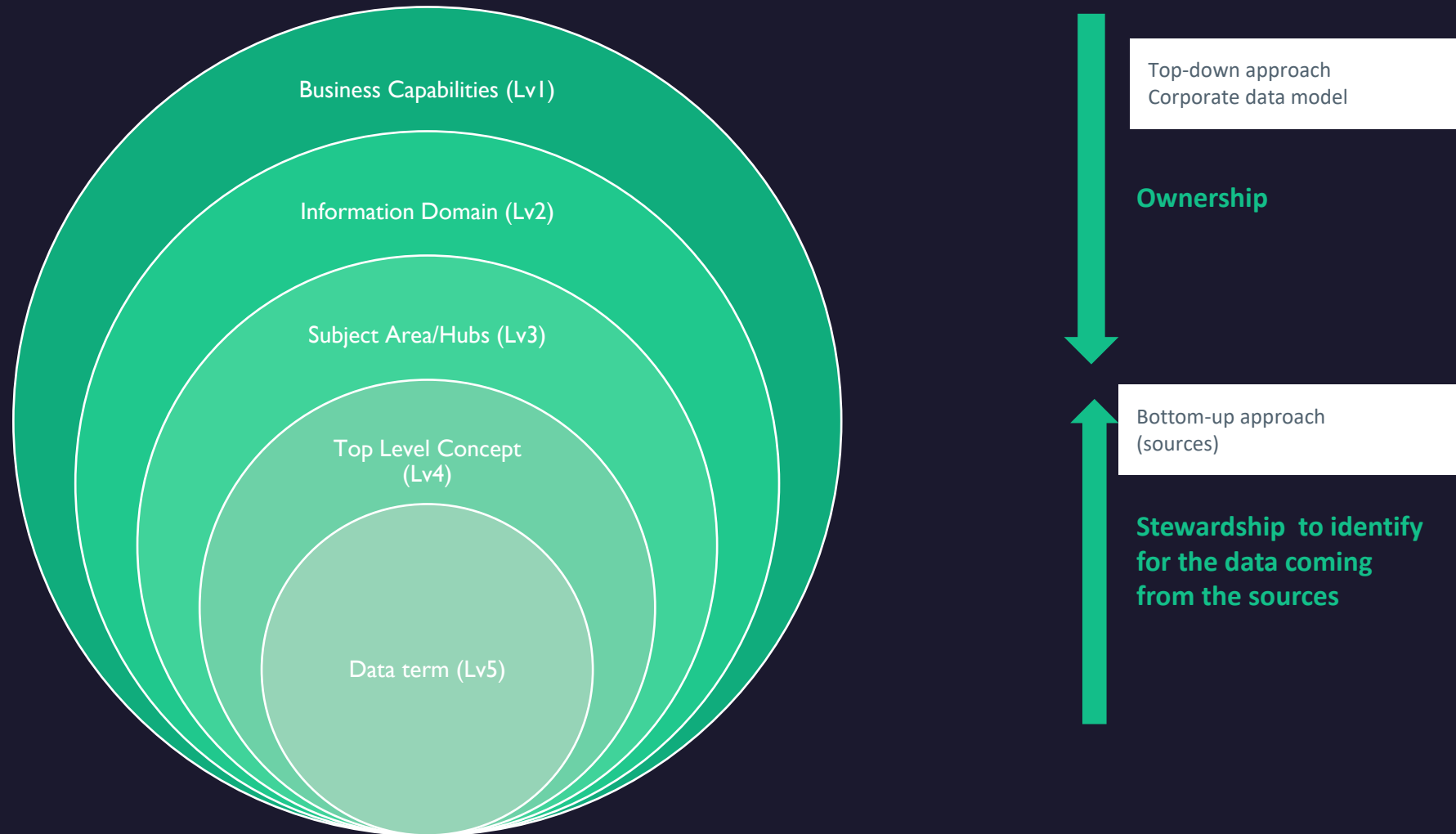
Data by design

Master data Management (if applicable)

Data compliance framework

Data Model – Conceptual thinking

Combining a top-down and a bottom-up approach



Example Roll-out DG Capabilities Incrementally – Data Roadmap 20XX - Enablers

Data Governance tracks	Business Benefit / Supported Business Strategy	DG and data Capabilities
<p>Data Governance policies</p> <p><u>Objective:</u></p> <p>Describe roles & responsibilities, policies and processes around Data Governance (cookbook)</p> <p><u>Lead:</u> XXX</p>	<p>Provides a mandate and authority to enforce Data Governance capabilities.</p>	<p>Policies and standards development</p> <p>Roles and responsibilities</p> <p>Operating framework definition</p> <p>Accountability and responsibility structure</p> <p>Data principles</p> <p>Data policy management</p>
<p>Data Governance for Big data platform</p> <p><u>Objective:</u></p> <p>Roll-out Data Governance around the Corporate Data Platform (onboarding, ownership, data sets, run Governance operating model)</p> <p><u>Lead:</u> XXX</p>	<p>Reducing costs and increasing operational efficiency through making data siloes redundant and creating an integrated platform that serves as the system of reference for all corporate data.</p>	<p>Data lifecycle management</p> <p>Data movement and integration</p> <p>Data modeling</p> <p>Metadata management</p> <p>DBMS</p> <p>Documentation of transversal processes</p>
<p>Data Governance Tooling – Technical track</p> <p><u>Objective:</u></p> <p>Get the Data Governance tooling consumable for all uses cases and users.</p> <p><u>Lead:</u> XXX</p>	<p>Improving Data Quality through establishing quality controls on critical data elements.</p>	<p>Data Quality tooling</p> <p>Metadata and glossary management</p> <p>Data lineage and provenance specification</p>

Example – Data roadmap use cases

Data Use cases tracks	Business Benefit / Supported Business Strategy	DG and data Capabilities
<div>Customer 360 – Passenger 360</div> <div><u>Objective:</u> xxx</div> <div><u>Lead:</u> xxx</div>	xxx.	xxx
<div>New transport</div> <div><u>Objective:</u> xxx</div> <div><u>Lead:</u> xxx</div>	xxx	xxx
<div>New App</div> <div><u>Objective:</u> xxx</div> <div><u>Lead:</u> xxx</div>	xxx.	

Must follow capabilities of platform

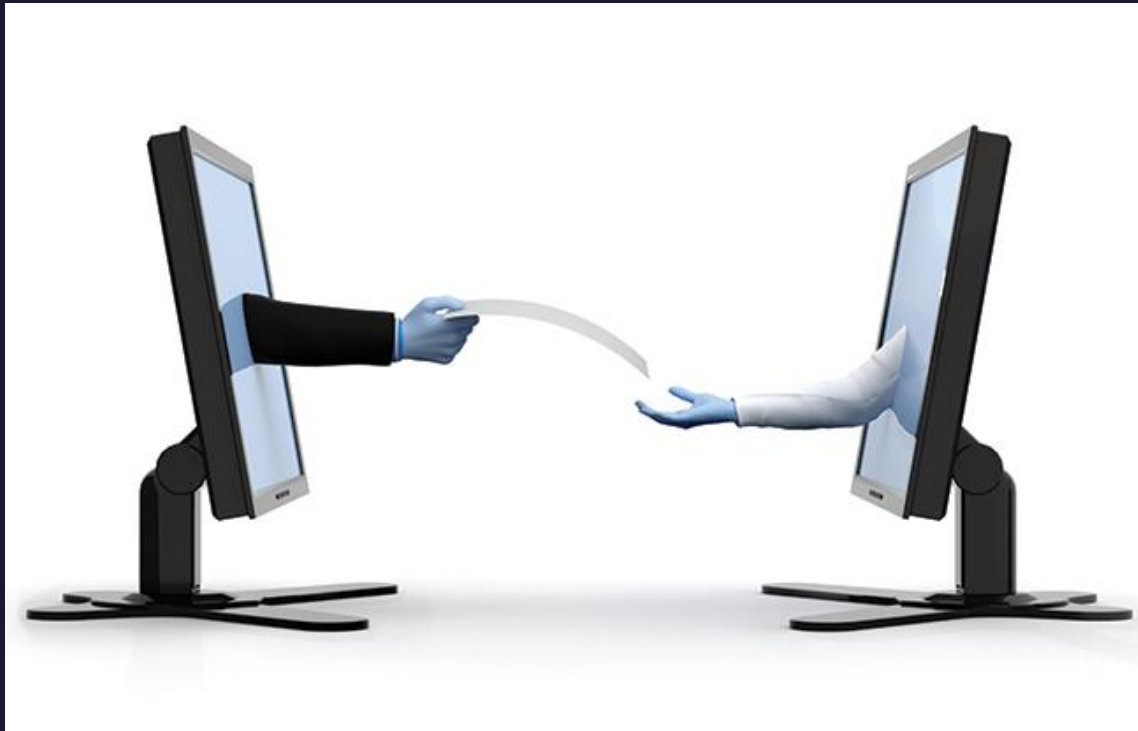
Data analyse and needs are key for success

Start with referential data

Prioritise based on feasibility

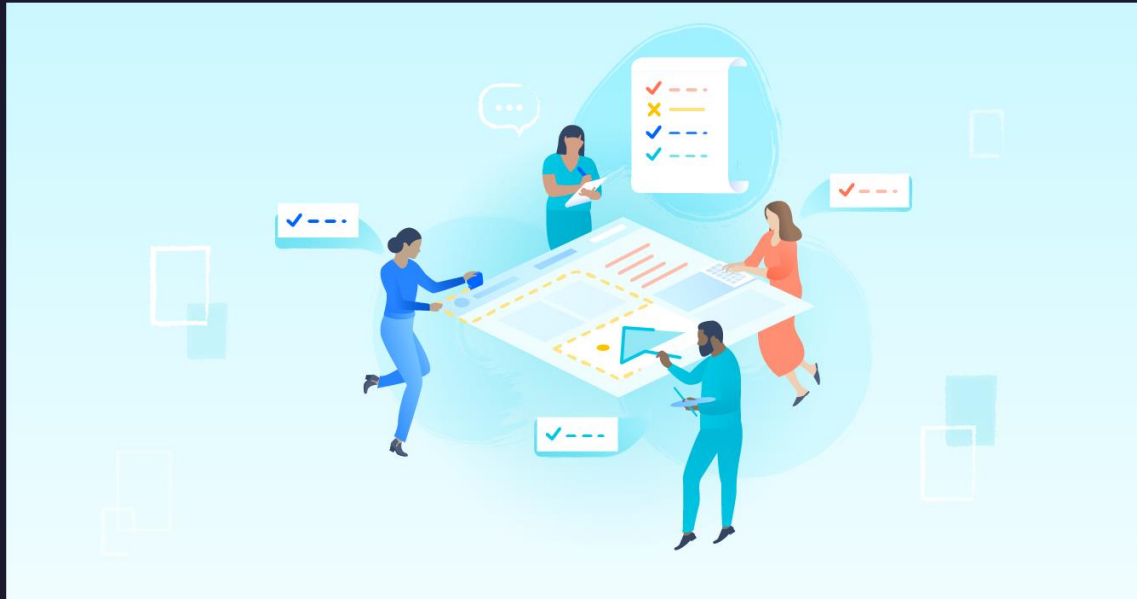
From “my data” to “our data”

Data as a valued and strategic enterprise asset



- Accurate data are the critical foundations for effective decision making but...
 - Cultural change from IT to Business
 - Shadow IT reporting and duplicated databases
 - Silos reporting
 - Definitions issues
 - Access policies not aligned with needs

Assign data clearly defined accountability



- Data Governance is everybody's responsibility, not just IT and BI teams
- Access to data must be done through appropriate and selected tools (championship, ambassadors)
- Data must be protected from unauthorized use and disclosure. This is directly related to data classification policies
- Common data definitions must be made available (Glossary)

Avoid risk and compliance issues

- Data owners or data domain stewards are accountable for the data quality, definitions, security (linked to classifications) and appropriate use of data in their domains
 - That's the big shift !
 - From IT to Business
 - Ownership is the challenge



What about data quality ?

- How do you address it ?
- Do we include it in the data governance framework ?
- If yes, how ?
- If no, why ?



Consistently define and manage data quality across the data life cycle

- Quality standards for data must be clearly defined and measured (metadata reporting)
- Data owners or data domain steward are accountable for data standard definitions and appropriate use of those standards for data in their own domain



Where should data governance reside ?

- In the business

- In iT



Where should data governance reside ?

- In the business

- In iT




Set up Data governance foundations

Initiative	Examples of Pains	Examples of Gains
Creating a DG Organization	<ul style="list-style-type: none"> • The different data roles not residing in correct place in the organization • The responsibilities for different roles are not clear • Too much responsibility on certain people • Lack of clarity in centralized vs de-centralized • No clarity on where Governance is placed on an Executive vs Strategic vs Tactical vs Operational level 	<ul style="list-style-type: none"> • Quicker business decisions across the organization <ul style="list-style-type: none"> • Improved efficiency and reduced man hours • Reduced cost • Improved confidence in data usage • Roles and responsibilities are clearly defined <ul style="list-style-type: none"> • Data ownership happens (resides in business) • Clear understanding of who to reach out to and when • Measurable gains from clearly defined metrics
Establishing standards and guidelines	<ul style="list-style-type: none"> • Lack of clarity in centralized vs de-centralized <ul style="list-style-type: none"> • Lack of ownership • No definition on what are Master Data items need to be maintained • No standards for metadata • Unclear understanding of what is the scope • Plant data currently stored based on prem servers disc space and not on what is needed 	<ul style="list-style-type: none"> • Standards (name, definition, description, ownership etc.) available across groups • Clear prioritized data assets • Increased use of consistent definitions <ul style="list-style-type: none"> • Reduced manual effort • Assigning roles can be done more easily when MDM assets are clearly defined • Reduced costs from managing data by relevance
Communication Plan	<ul style="list-style-type: none"> • Lack of awareness of the IT or data organization (/data org) • Living in the past (a lot of talking about what used to happen) • Data solution adoption not optimal • Lack of awareness about the right people in the org. • Strategy is not implemented in the lower layers of the organization • Not adapted to new way of working and communicating 	<ul style="list-style-type: none"> • Increased awareness of the data organization • Improved understanding of the vision for making the company a data organization • Rise in engagement leading to increased adoption • Acceptance of the new way of working • Sustainable solutions

Initiative	Pains	Gains
Data Literacy Program	<ul style="list-style-type: none"> • Lack of trainings per role • Work being done in silos • Best practices not being shared • People become the documents • Different levels of understanding on Data Management terminology 	<ul style="list-style-type: none"> • Understanding of Data related vision will be interpreted differently • Upskilling not happening, leading to poor time management • Data mindset missing
Enterprise Data Model (conceptual)	<ul style="list-style-type: none"> • Unclear understanding of Data Models (definition) • Lack of understanding on how to scope data requirements • Multiple Data Models created by different teams in different ways • No central responsibility • Not scalable and shareable • No clear standardize way of communicating during 	<ul style="list-style-type: none"> • Transparent and consistent way of defining/changing data requirements • Must for scalable Data solutions • Clear data definitions / common vocabulary <ul style="list-style-type: none"> • Reduced manual effort • Reduced effort in creating intermediate translation tables • Transparent metadata for data consumers
Sustainability Reporting	<ul style="list-style-type: none"> • Data availability • Data not linked to correct product groups • Issues with data granularity • Unknown expectation on responsibilities 	<ul style="list-style-type: none"> • Closer to achieving organisation sustainability goals • Improved sustainable reporting • Global standards for future cross domain reporting • Pilot project for reporting - <ul style="list-style-type: none"> • Clarified data understanding/requirements via Data Modeling • Metadata standards to be created • Improved goodwill and reputation

Starting your program

- Identify Use cases –Value statement
 - Identify no regrets data or Master data
 - Work in cockpits for use cases
 - Dabsboard
 - KPI's
 - Specific topics
 - New data
 - Policies
 - Taxonomy
 - Master Data
 - Classification
 - Use a template (or tooling)
 - Start communicating about the ambitions and the value statements
 - Listen to your business : they know where the problems are
- 
- Set up data council

Starting your program - cockpits

- Principles:

- Clear purpose and outcome: what problem(s) shall we solve ?
- Set of minimum data governance elements
 - Data domains, coverage, source, terms and concepts definitions, terms classifications, KPI definitions, owner, steward*
- Linked to one of the focus areas defined on the corporate or digital roadmap
- Engagement of people directly involved (future stewards, custodians and owners)
- Cockpit lead identified and engaged
 - Cockpit lead is responsible for the final delivery , assess the challenges and decide priorities
 - Reports results to Data council
- Work in small groups with sprints (Devops) and delivery by using tools (Purview, a good xls template to start)

Mistakes I made and lessons learned


- Data Governance is a IT or BI business
- Data Governance = data quality only
- Data quality issues underestimation
- Data Governance is for compliance only
- Change management not included in the journey
- Tool selection first

Challenges

Strong
oversight
is key





A close-up, low-angle shot of a person's legs from the knees down, standing on a black rubber gym floor. The person is wearing blue and white patterned socks and purple and grey athletic shoes. A silver barbell with a large black weight plate is positioned horizontally across the frame, just in front of the person's feet. The weight plate has the word 'ROGUE' embossed on it. The background is dark and out of focus.

Your maturity and governance determines your
ease of adoption





A conceptual image featuring two hands reaching towards each other against a background with a vertical gradient from blue on the left to orange on the right. The hands are positioned on either side of the center, with fingers slightly curled as if about to grasp each other. The lighting is soft, highlighting the contours of the hands. The text 'Speaking a common language' is overlaid in the lower right quadrant in a white, sans-serif font.

Speaking a common
language





