DATA GOVERNANCE AND MASTER DATA MANAGEMENT CONFERENCE EUROPE

11 - 14 March 2024 | London, UK

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IRMUK

Data Strategy Master Class

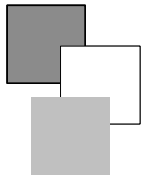
IRM UK

March 14, 2024

0900 – 1600

Agenda

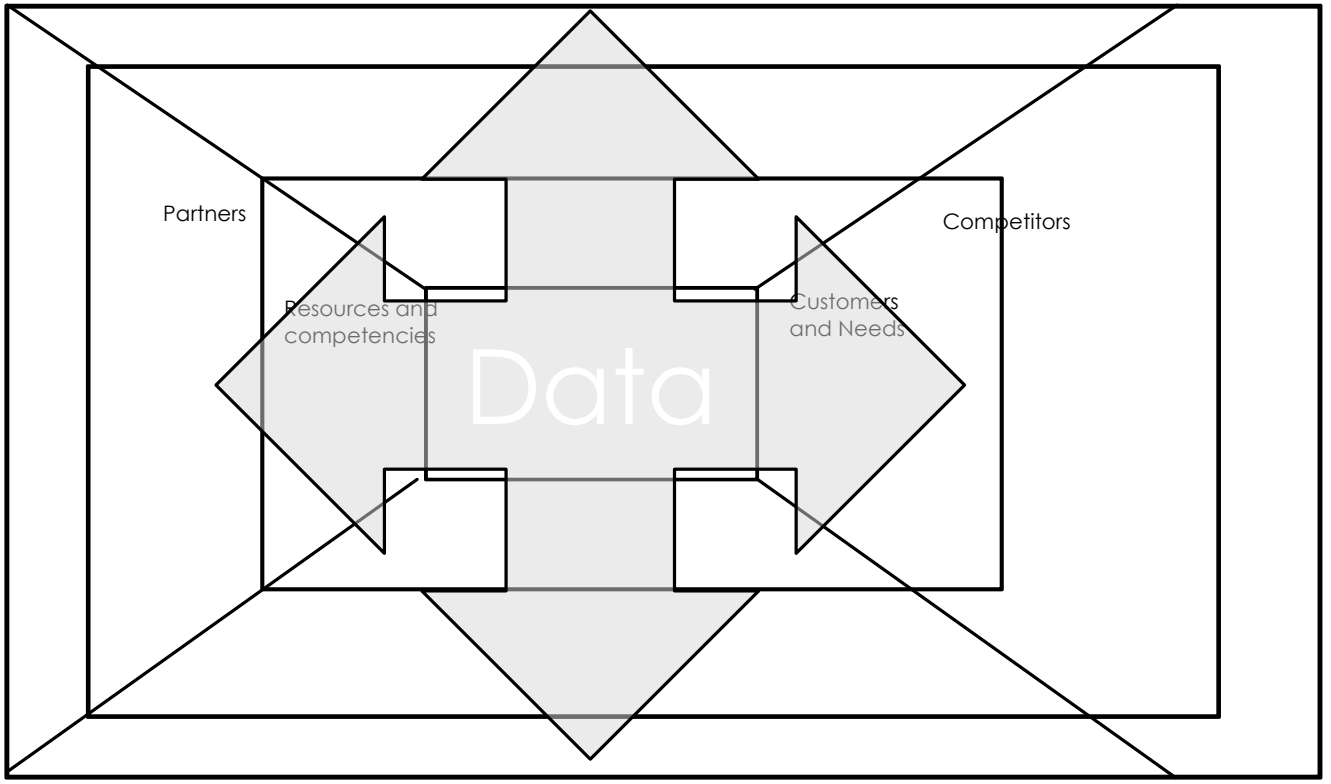
- What does a useful data strategy look like?
- Major topics of a data strategy
- A quick data strategy – Rocky Health
- Approach - Forget traditional strategic approaches
- Data literacy and transition management



Concepts and Definition

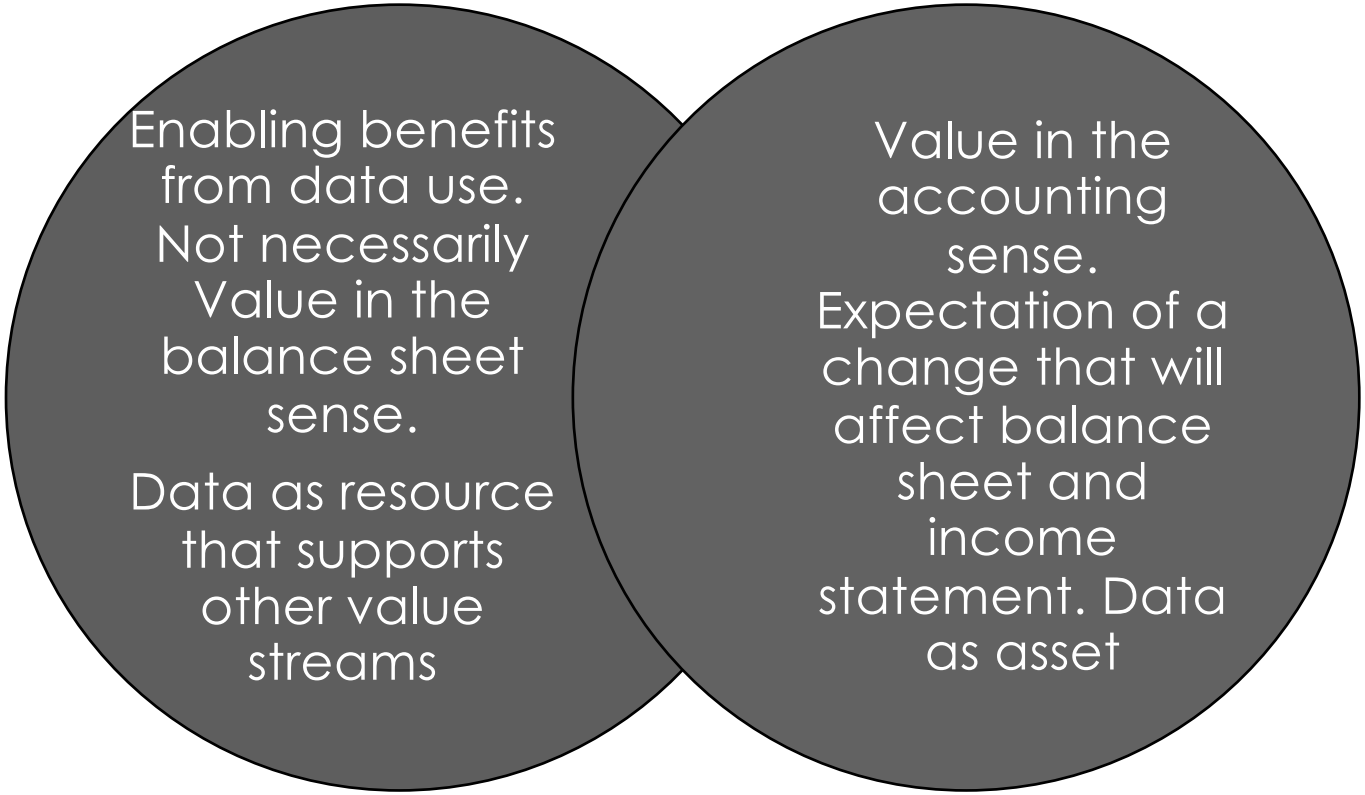
Data is relevant to every strategy element

- Do you proactively examine the role of data is all strategic elements?
- Do you examine the value or risk of data considering each strategic element?
- If you assess the role of human capital, locations, inventory, items, etc. and NOT data your business strategy is not complete



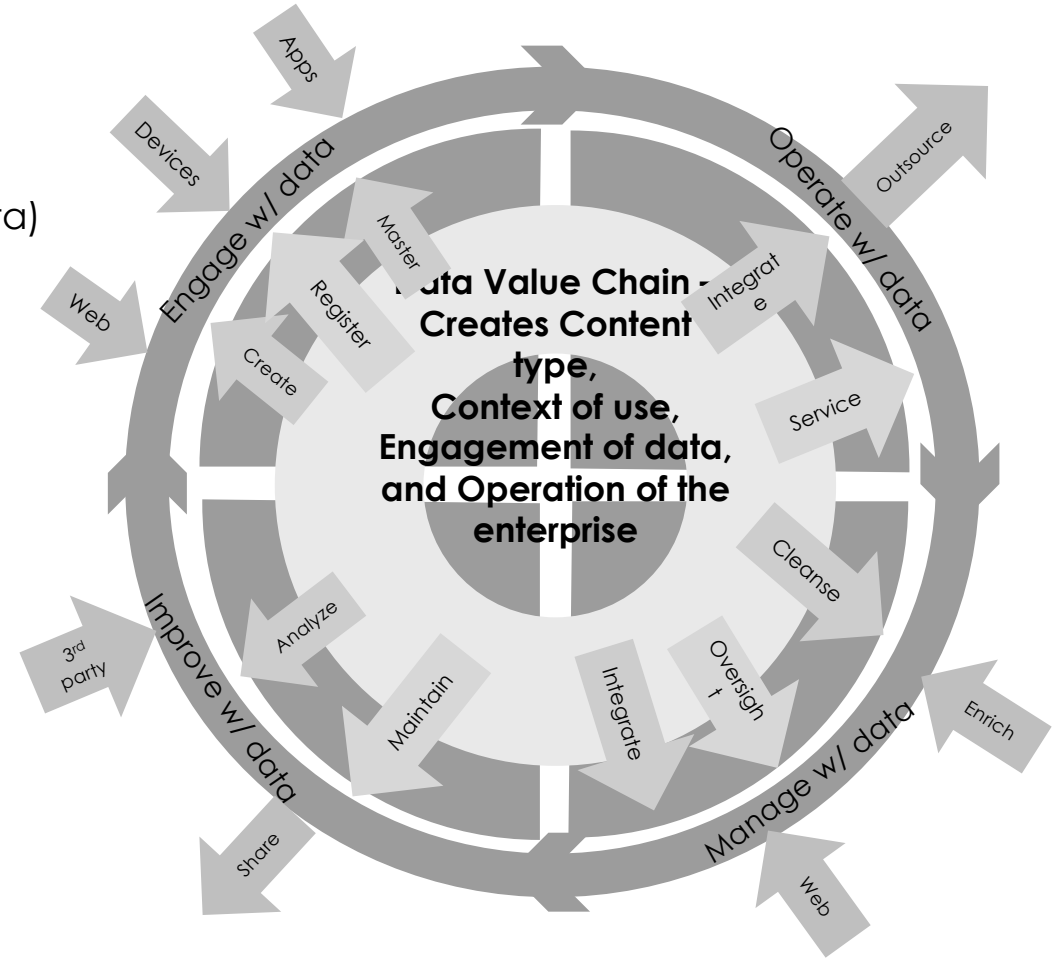
Source: The Strategy Sketchbook: The Strategy Handbook (Part 1) Jergen Kraajenbrink

Value from two perspectives



“Types” of data

- Row and columns (structured data)
  - Transactions
  - “Post-transaction”
  - Events off the internet
  - IoT
  - External / Internal
- Unstructured data
  - Digital
  - Video, voice
  - Documents
  - Images
- Data supply chain “interfacing”



Data can only add value 6 ways – it isn't rocket science

Data-to-Value Drivers*	Data, Information, and Content Used to Improve or Achieve Goals Through:
Processes	Improve cycle time, lower cost, improve quality
Competitive Position	Capture competitive intelligence and get there first
Product / Service	Create better results and better cost through new missions and work products
Asset/Intellectual Capital	Embed knowledge into future missions
Enabler	Foster competency, growth, and empowerment
Risk	Manage risk, of various types, that threaten success

** Value drivers copyright John Ladley, 2010, 2012, 2020*

Resource and Financial Context

Things have changed

- Compliance – Data is on the board's radar. It is on the regulators radar.
- Competition – a spreadsheet can trump your big AI project. Good data quality and primitive tools still win
- Ethics – Are you using data legally or using data ethically

Things have changed

- Poor acumen and illiteracy is pervasive – Leadership does not understand enough to provide effective guidance, or have aligned data strategies
- Anthropology – this is big, so don't confuse implementation strategy with philosophy and what is happening in the world
- You have a strategy now – but is it useful?

What is a data strategy?

- "A data strategy is a highly dynamic process employed to support the acquisition, organization, analysis, and delivery of data in **support of business objectives"** (Gartner)
- "… strategy for organizing, governing, analyzing, and deploying an **organization's information assets"** (Davenport)
- "The data portion of your business strategy" (Ladley)
- Less than 35% of execs understand the role of IT, Data or Digital in strategy. Both parties need to move towards each other

More than a metaphor*

Assets require care and feeding

Assets must be put to work

Assets require management frameworks that reflect their properties

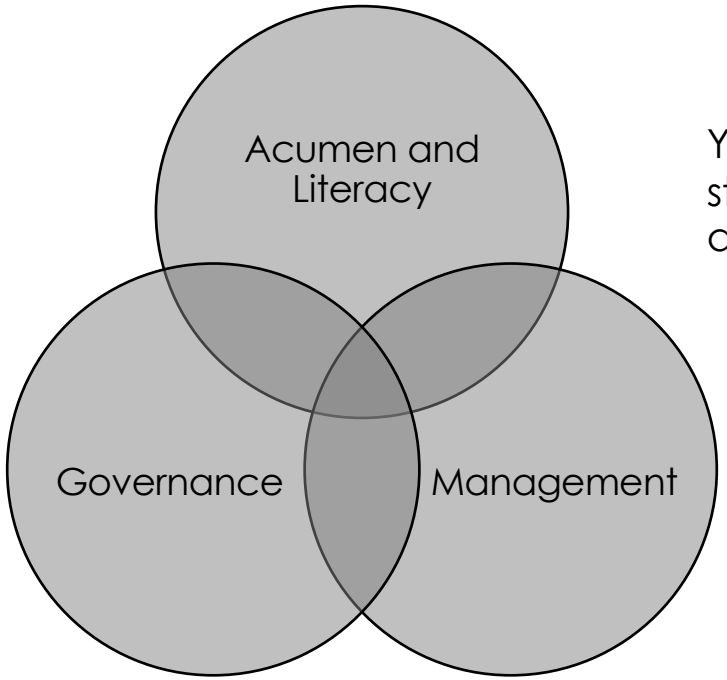
Future Value depends on asset deployment while managing risk, cost, and value

* Inspired by "Data Driven," Tom Redman

Achieving value from data assets

These need to work together
Too often one begats the other

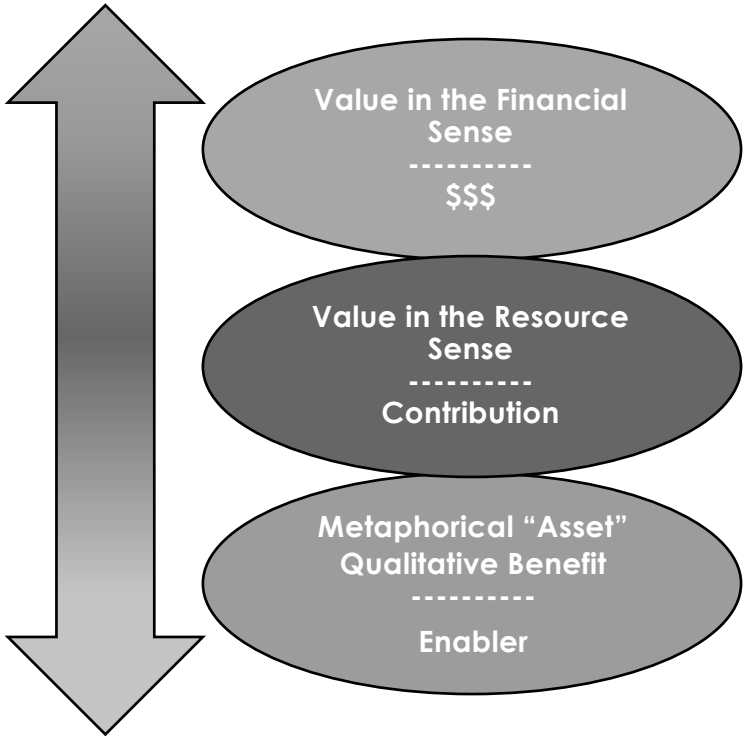
A data strategy will manage this interaction towards value



You always have a data strategy, so the other two always show up

Data as an "asset"

We make a SERIOUS error in saying "data is an asset," and then not determining what that means.



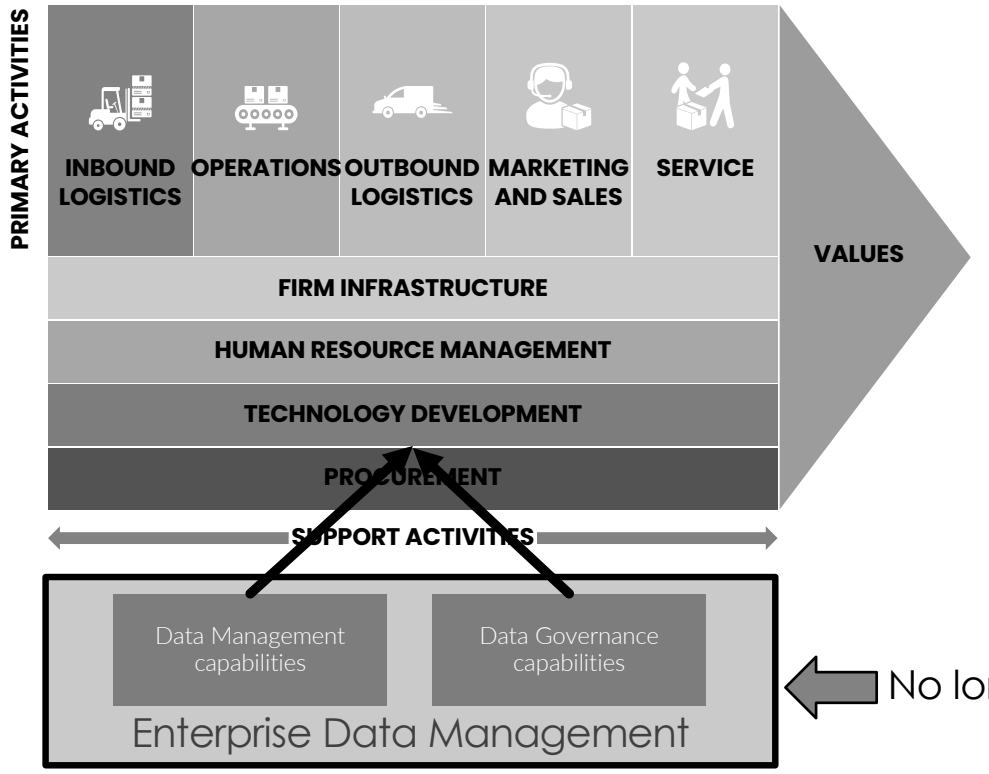
High-quality member data can be sold for $$ per member

"Data can be processed into analytical or AI products"

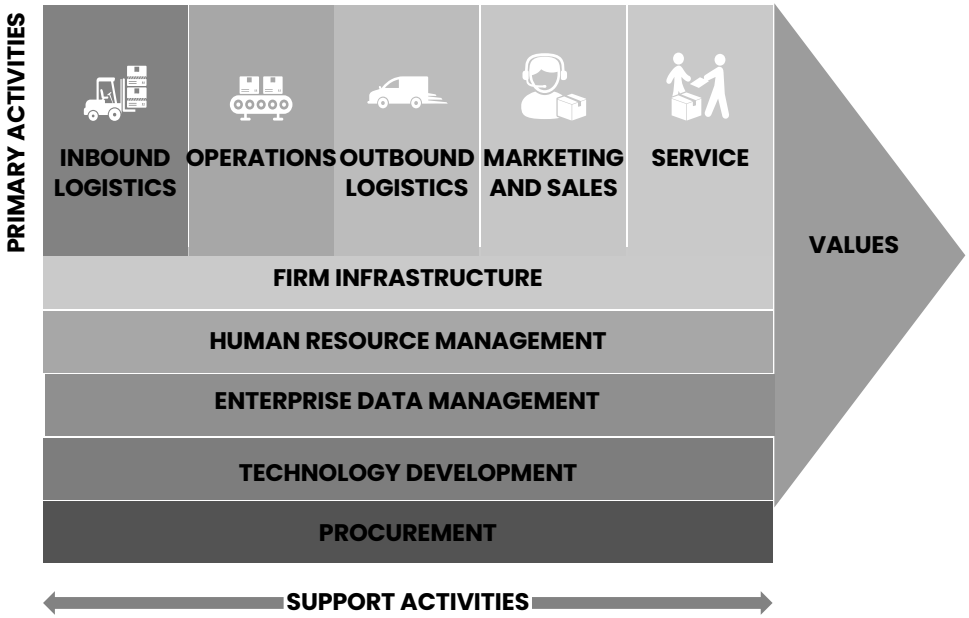
"Our people are our greatest asset"

Data strategy: move data into "business as usual"

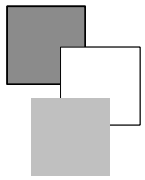
Data Management and Governance Disappear as "New Programs"



No longer effective



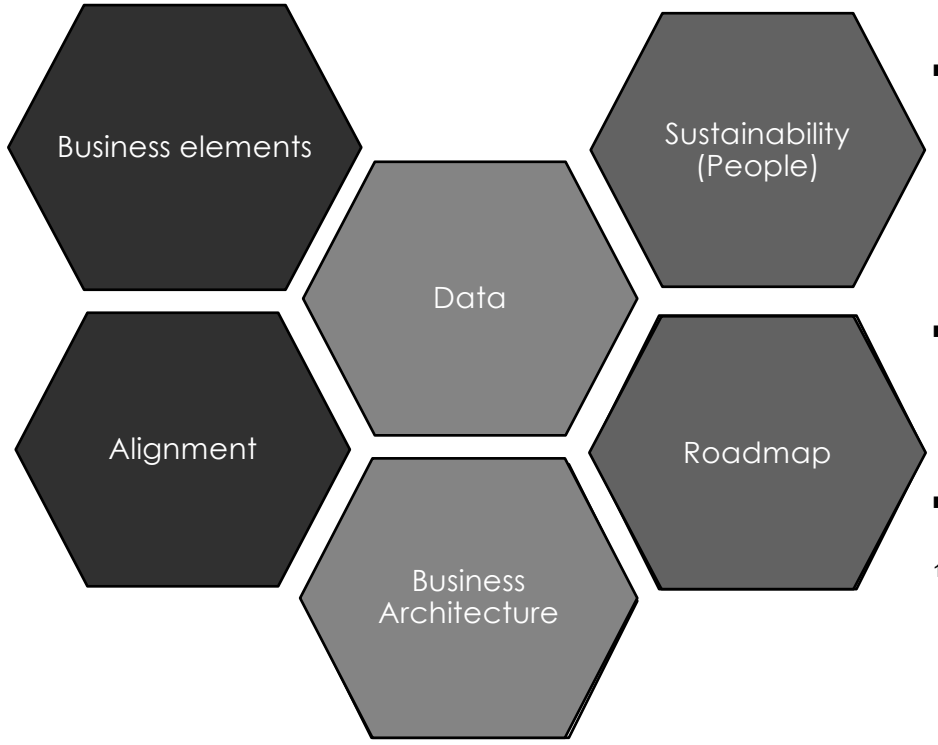
Data-Driven View



What does a useful data strategy look like?

Components of a data strategy

- Business Elements
  - Drivers and shapers
  - Value
  - Principles
- Alignment
  - Support organization strategy
  - Business elements to data elements to value
  - Data debt
- Data Elements
  - Data Architecture
  - Data Quality
  - Data Management
  - Decision rights and access



- People
  - Roles, responsibilities
  - Sustaining plan
  - Acumen and literacy
  - "Digital" and "Data Driven" are cultural shifts
- Enterprise Architectural Elements
  - Portfolios
  - Workflow and operations
- Roadmaps
  - Playbook
  - Timing

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What does a data strategy look like?

Elements

- Business Elements
  - Shapers (pillars, philosophy)
  - Capabilities
  - People
  - Tone and pace
  - Readiness
  - Business targets and aspirations
  - Literacy business targets

Examples

- Pillars
- Business goals and initiatives
- Affected capabilities (e.g., Marketing, logistics)
- Roles and responsibilities
- Sense of urgency
- Interim targets
- Data maturity and literacy plan

What does a data strategy look like?

Elements

- Business alignment
  - Capability alignment
  - Goals and strategies
  - Data strategy map
  - Alignment with budgets and priorities

Examples

- Measurable objectives
- Corresponding initiatives
- Corresponding data requirements
- Supporting capabilities
- Required data capabilities
- Interim measures

What does a data strategy look like?

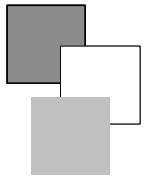
Elements

- Technology Elements
  - Metadata Management
  - Data Architecture
  - Data and other models
  - Data Quality
  - BI, Reporting, and Data Warehousing
  - Big Data and Analytics, AI, ML
  - Master/Reference Data Management
  - Provisioning / Data Integration
  - Storage
  - Data movement

Examples

- Typical "topics"
- Identify meaning and relationships
- Provenance and lineage
- Storage
- "Data Architecture"
- Tied to capabilities
- Description of use and value
- Sequence
- Part of initiatives or projects

- AVOID "FOUNDATIONAL"



What does a data strategy look like?

Elements

- Enterprise Architectural Elements
  - Bimodal considerations
    - IoT
    - Edge
  - Workflow and operations

Examples

- Replace old sources
- Determine use of virtualization and data web technologies
- Management of new volumes of data
- Workflow from AI/ML input
- New or modified engagement and operating models

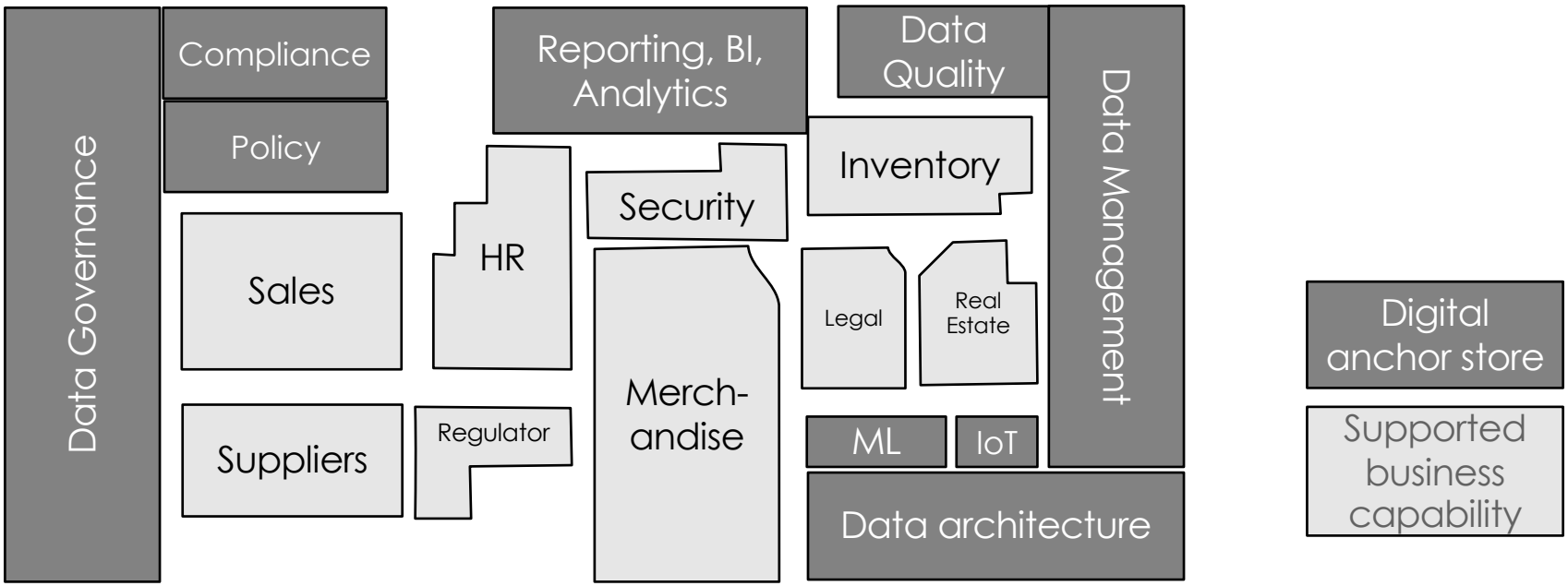
What does a data strategy look like?

Element	Example
Roadmap	Useful Descriptive Prescriptive Technique – try to show tracks, time, and organization on one executive summary (you can't use a Gantt chart) Avoid WORN – Written Once, Read Never Set vision, scope and the data story

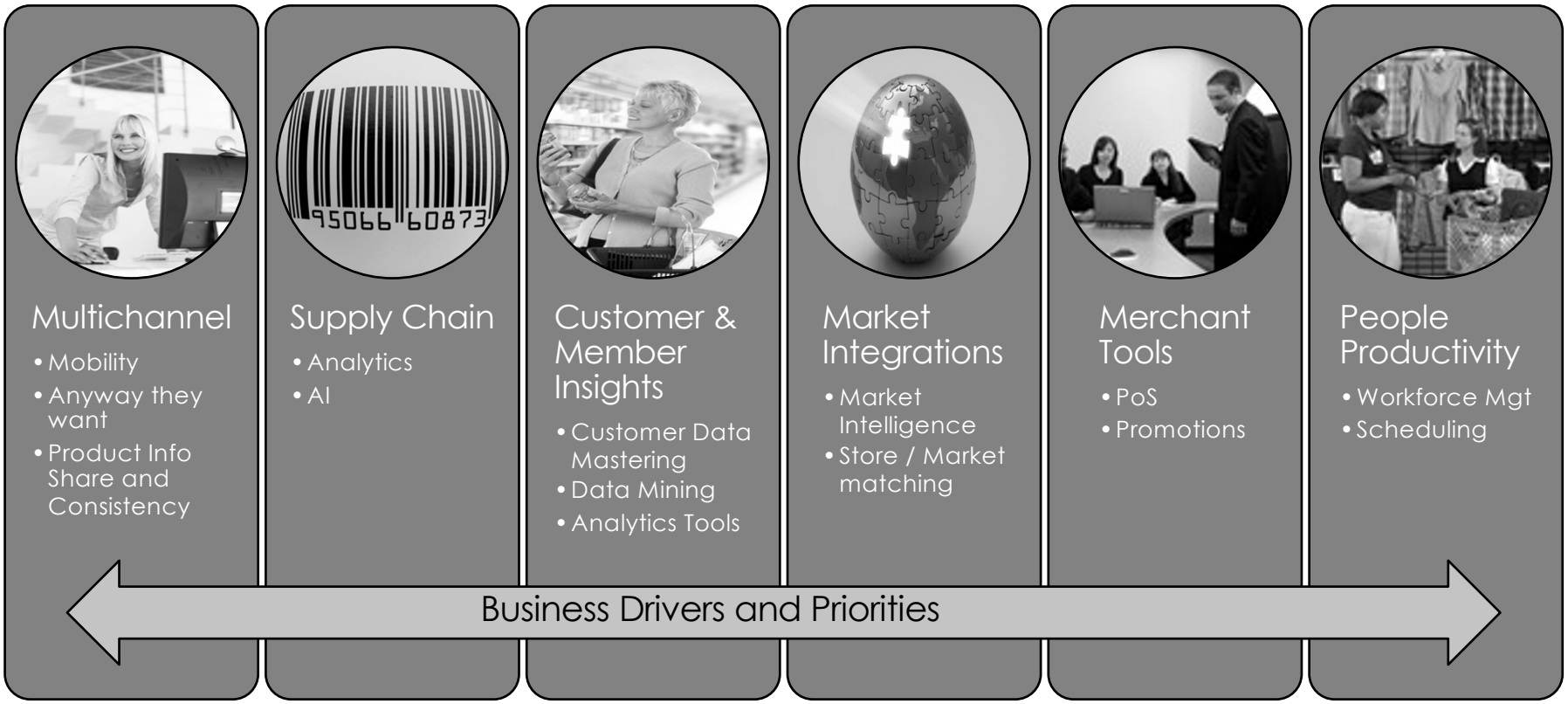
What does a data strategy look like?

Element	Example
Sustainability (Organization change)	Target data behaviors Key change areas Training plan Communications plan Resistance management Leadership management Stakeholder management

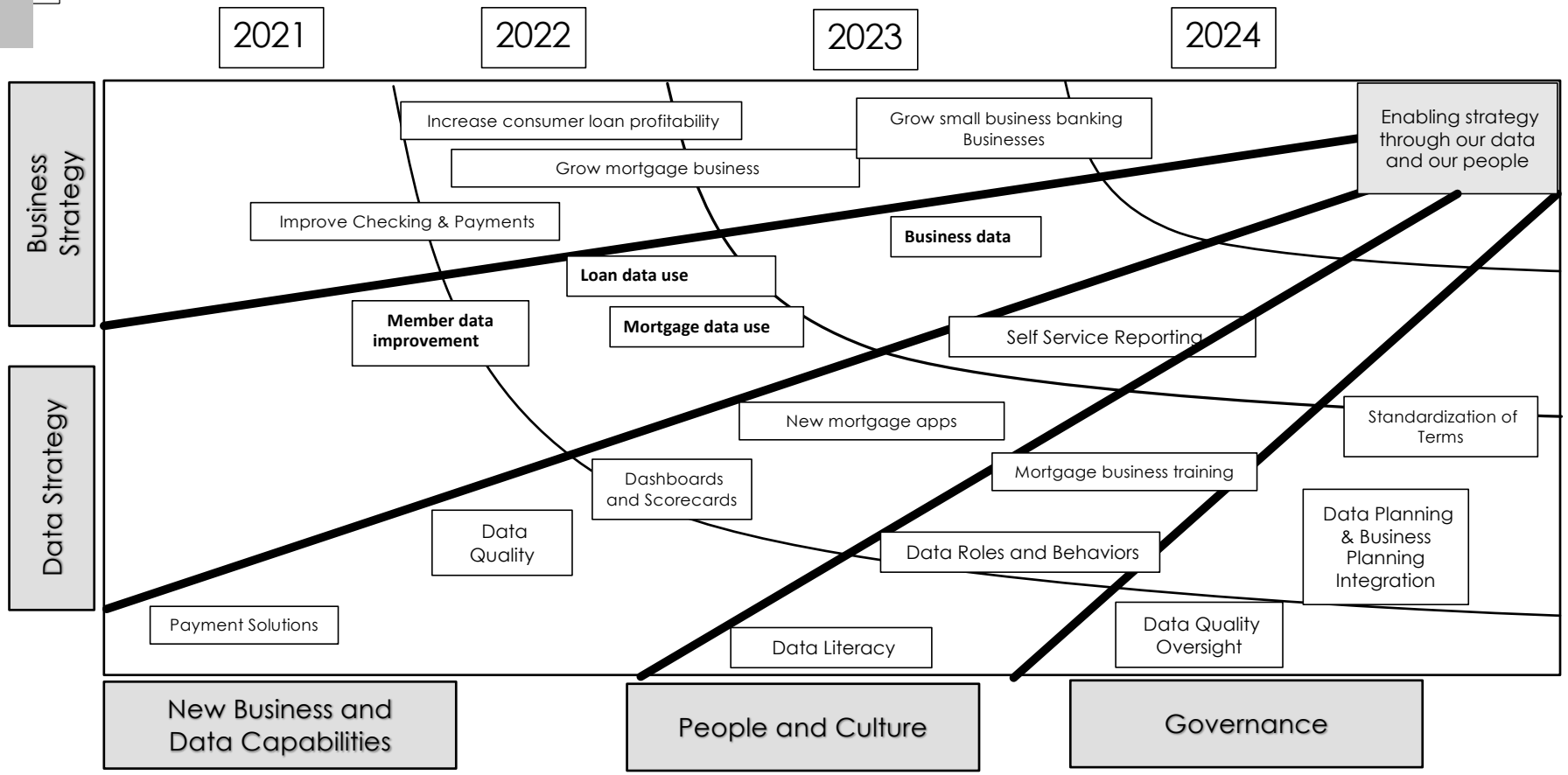
Data strategy needs to present a big (business) picture

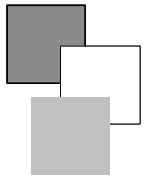


Present Vision - anchors sustainability



Strategy Example





Major Topics

Shapers and alignment

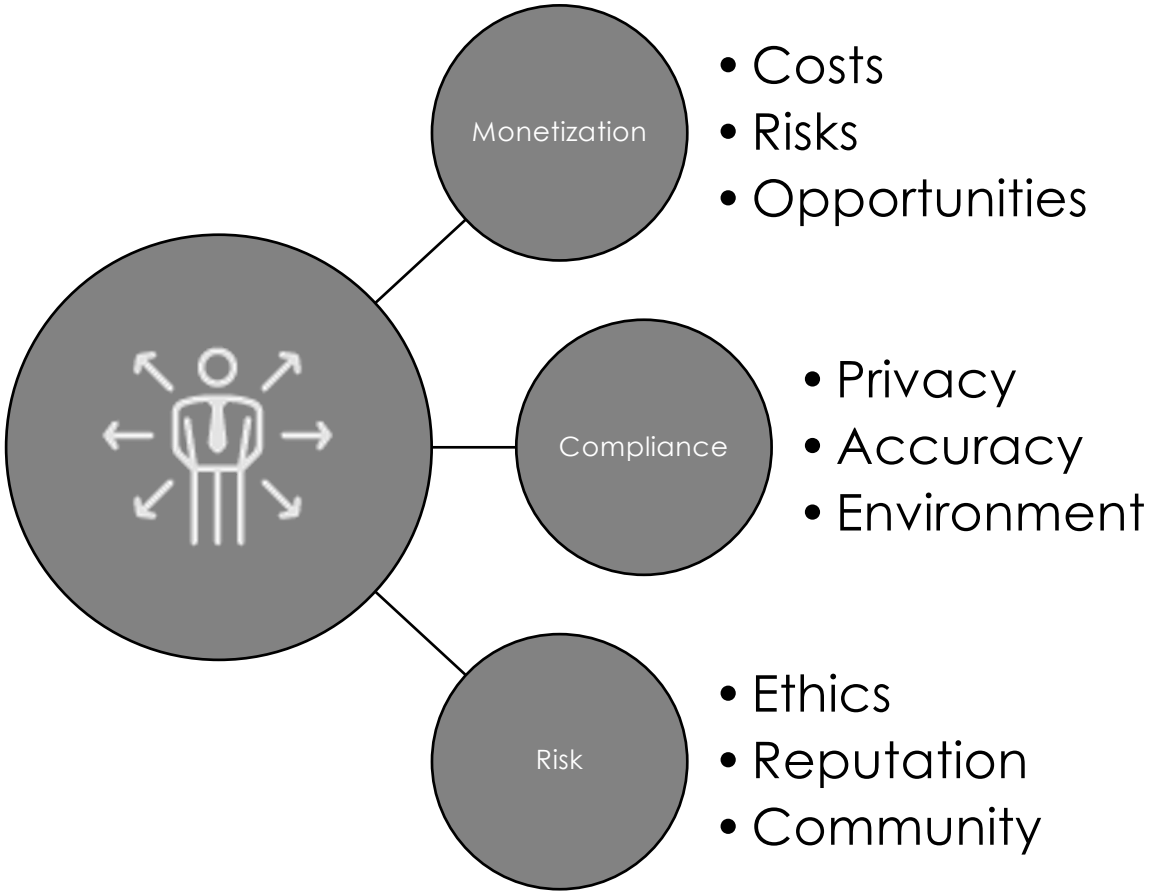
Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Your organization's understanding of what shapes your mission and vision • "Pillars", "Drivers," etc.	• These speak directly to goals and shape culture	• IF an organization wants to be "digital" or "data-driven" its shapers must be compatible	• Legacy • Age • Environment	• Puts data into the business conversation	• Permission to include	• These can be fluid – when they are the organization will present a challenge

Motivation and Drivers

- Common stated reasons
  - Overwhelmed with data volume
  - Respond to trends
  - Problems with data
  - Problems with getting "information"
  - Drive innovation
  - Improve decision-making
  - Become "data-driven"
  - Monetize data – to develop a competitive advantage through various initiatives involving data
- Common reactions to business problems
  - We tried Data Governance without one
  - Compliance has forced our hand
  - Data Quality is visible and out of control
  - Burning platform

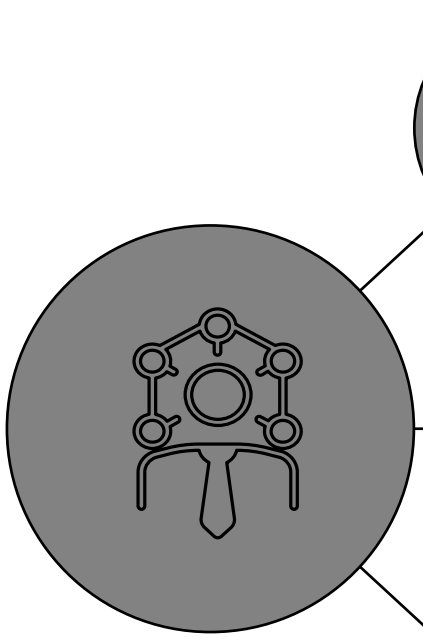
Drivers

External



Drivers

Internal



Operations

- Data costs are too high
- You cannot count your customers
- Data silos constrain efficiency and progress

Compliance

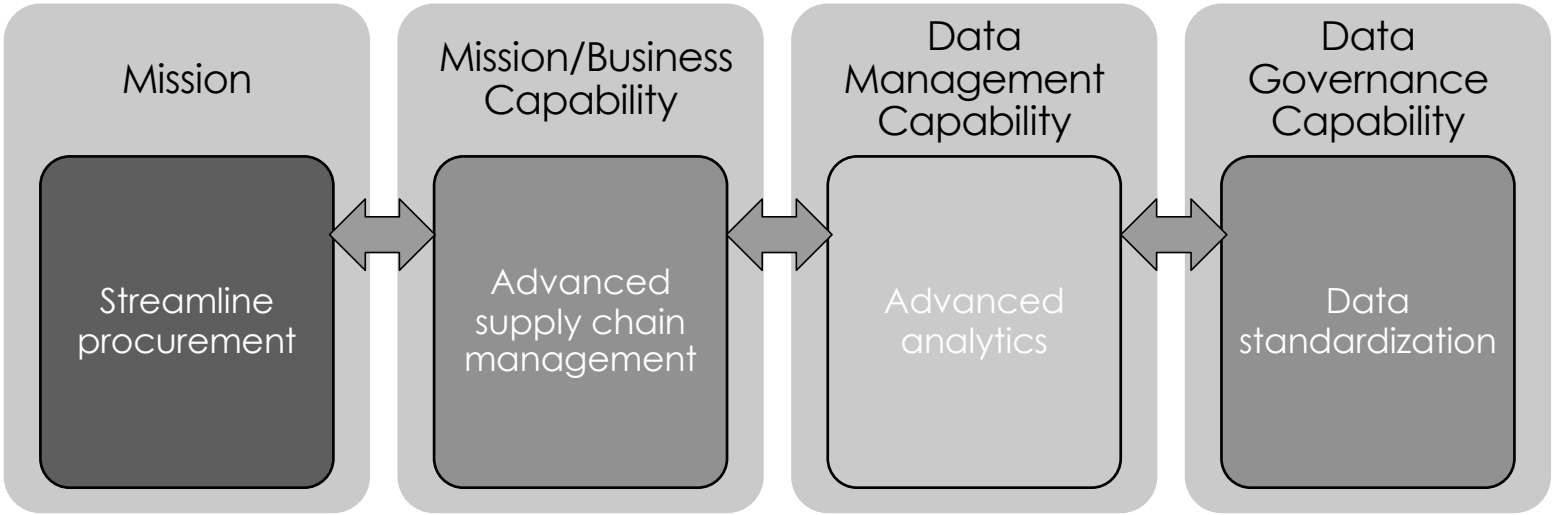
- Audits
- Policies

Risk Manage-ment

- Liability
- Costs

Business alignment is required

- Top down, bottom up
- Organization to data – data to organization



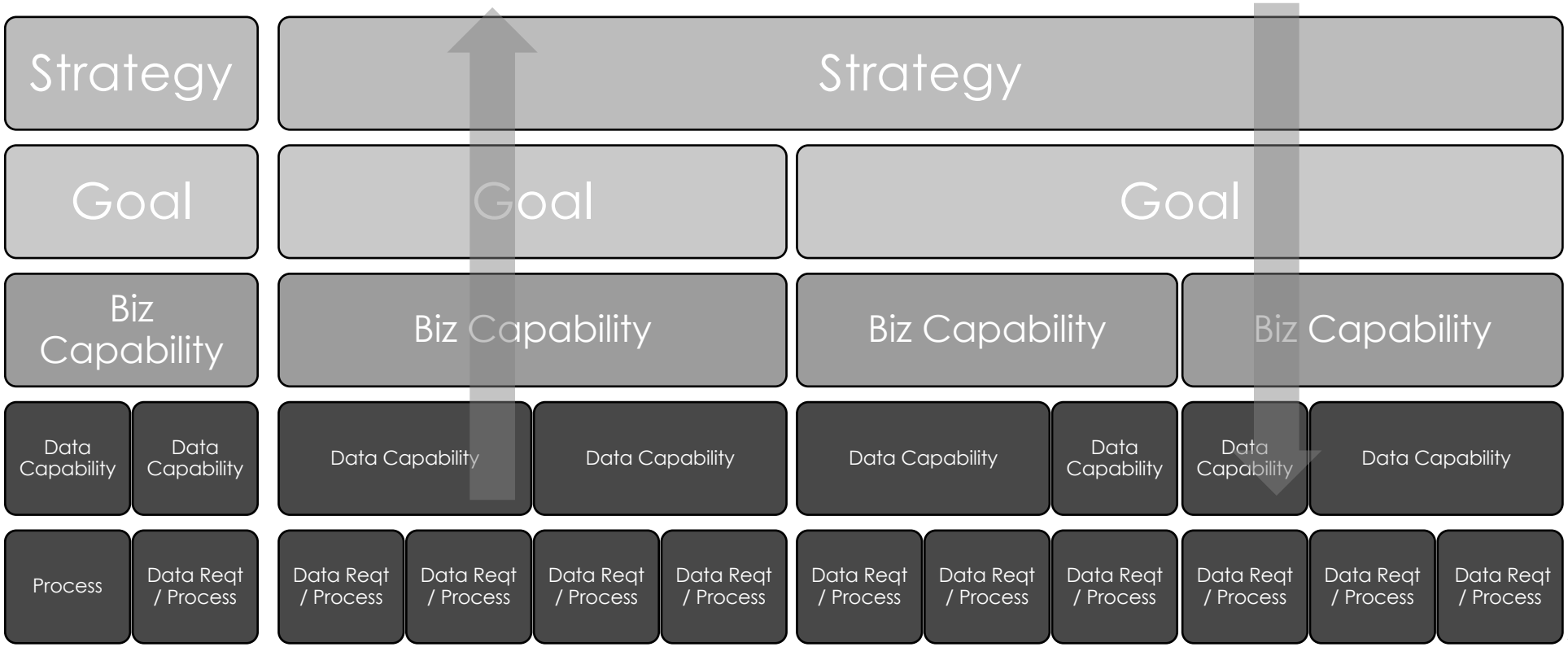
- NEEDS – a true strategy addresses needs objectively and ignores "wants," "requests," and whining
- WANTS – collects requests and whining – rarely reflective of true needs, changes daily

Needs – Where will data create value?

Data-to-Value Drivers	Data, Information, and Content Used to Improve or Achieve Goals Through:	Explanation/Examples
Processes	Improve cycle time, lower cost, improve quality	We analyze events and missions to look for efficiency gain; we examine feedback from stakeholders to improve quality, interfaces, or workflow
Competitive Position	Capture competitive intelligence and get there first	We find out what our competitors are doing; we develop new messages and brands that attract mind share or create asymmetry
Results, Products, Services	Create better results and better cost through new missions and work products	We develop new systems and capabilities, offer new products or services
Asset/Intellectual Capital	Embed knowledge into future products, services, or missions	We incorporate lessons learned into our processes
Enabler	Foster competency, growth, and empowerment	We empower people resources with data at the point of contact; we provide better service or facilities to be more productive
Risk	Manage risk, of various types, that threaten success	We reduce regulatory, fiduciary, and civil risk; we manage our reserves and portfolios; we do not break laws while performing the mission

There are only six ways to use data to create value – each one must be considered

Alignment – Line of sight from strategy to delivery of all the needs



New capabilities to achieve objectives

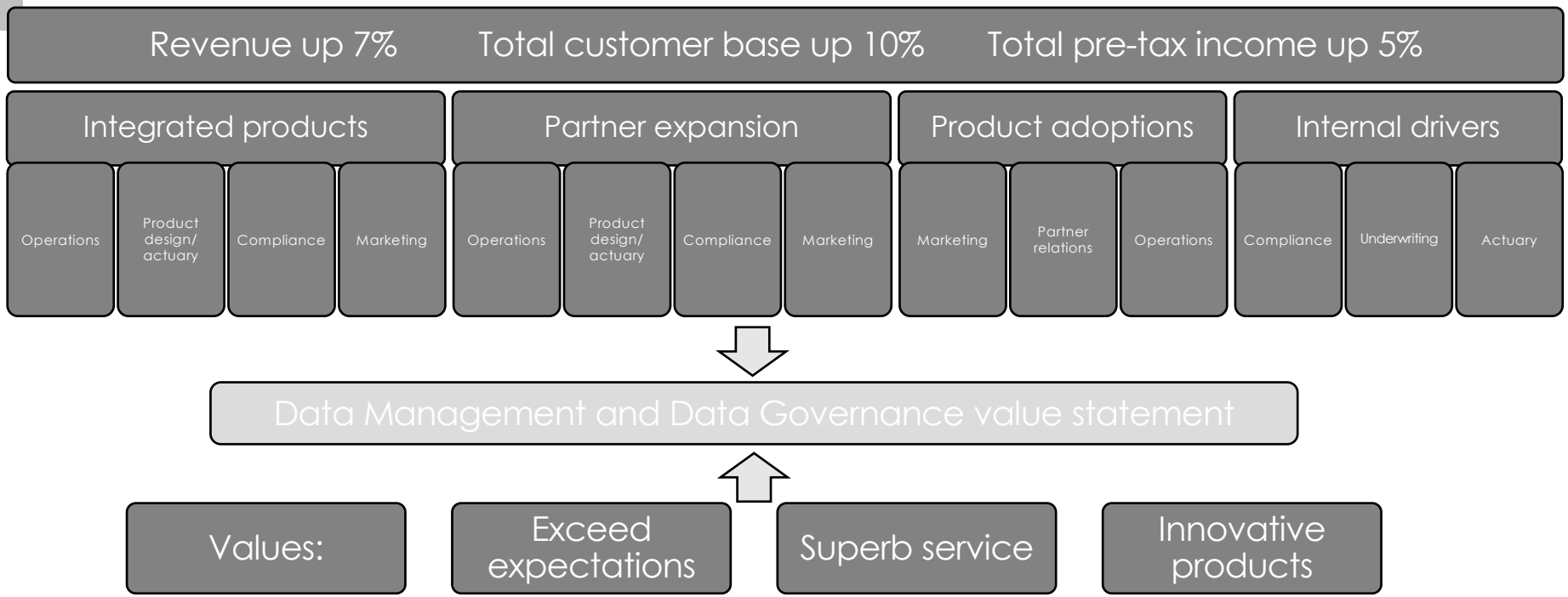
Communicate needs through vision

Operational Business Capabilities	Exceed Expectations • Patient Access • Disease Management • Back Office • Community Relations	Best Practices • Preventative Care • Wellness • Outcomes Management	Financial Stability • Expense Management • Margins • Reporting
Data Capabilities	Data Mastering Reference Data Data Sourcing	BI/Analytics Data Standards Advanced Analytics	KPIs/Metrics Reference Data Data Controls

Sample of alignment

Business Strategy - Digital Strategy - EIM - Data Governance alignment				
Businesss Actions	Objectives / Goals	Work Stream Enablers	EIM Elements	DG Elements
Strategic Growth	Improved client acquisition Dormant reactivation	Digital Experience	Single Client View	*Ensure consistency across app and platforms*
	Asset expansion and cross sell Asset retention	Digital Marketing Ops	Real time analytics	Ensure Insights inform business strategy Align business strategy to IT and EIM
	App rationalization Infrstructure optimiz'n Process efficiencies	Digital Data and analytics	Reduced TCO of data Reduced risk of errors from data *Implement regular data quality processes*	Ensure Insights inform business strategy Improved governance *Insert data oversight into compliance and privacy functions*

Approach – Value Statement process



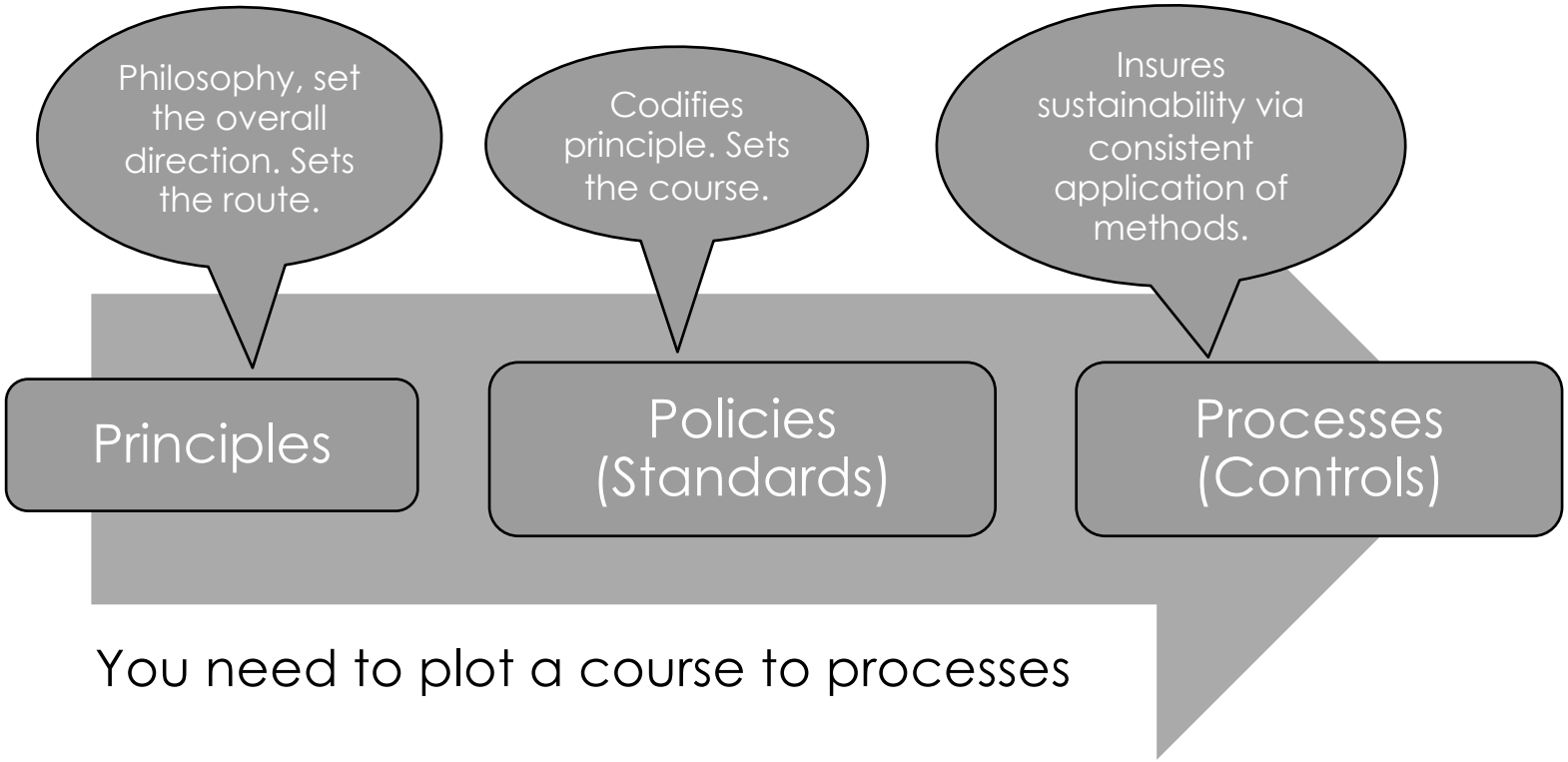
- Develop the value statement material by aligning strategy to required business capabilities, then aligning those business capabilities with the required data capabilities

15-minute break

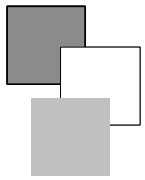
Philosophy (data principles)

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Your organization's philosophy regarding data in the form of principles	• Enormous contribution towards successful transformation	• Almost always	• Literacy • Engagement • Culture • Environment • Compliance	• Minimizes conflict, accelerates change	• Business model • Leadership engagement • Not a core skill • Start simple	• Applies to all • External partners may need to be engaged

Principles, Policies and Their Purpose



You need to plot a course to processes



Sample principles

Principle Name	Principle Description
Master Principle	Enterprise data will be governed by a formal organization, with appropriate authority and accountability to define and establish how information, data and content is managed.
Federation	XXXXXXXX will have enterprise standards and guidelines for all metrics, content, data structures, codes, values and data naming.
Data efficiency	Data, information and content needs to be available at the right time, at the right place and in the right format to authorized users/consumers, at an efficient cost.
Business alignment	Information management solutions will maintain business alignment, and will only be in response to business needs vs. business area requests
Information quality	Enterprise data will be managed and measured for quality. There will be parties that are accountable for overall integrity and quality of enterprise data and content.
Risk management	Appropriate due diligence will be conducted to ensure data complies with all applicalble statutes and regulations
Share and Collaborate	Enterprise data is a shared resource across the enterprise. Data is not a resource which can be "owned" by specific business areas

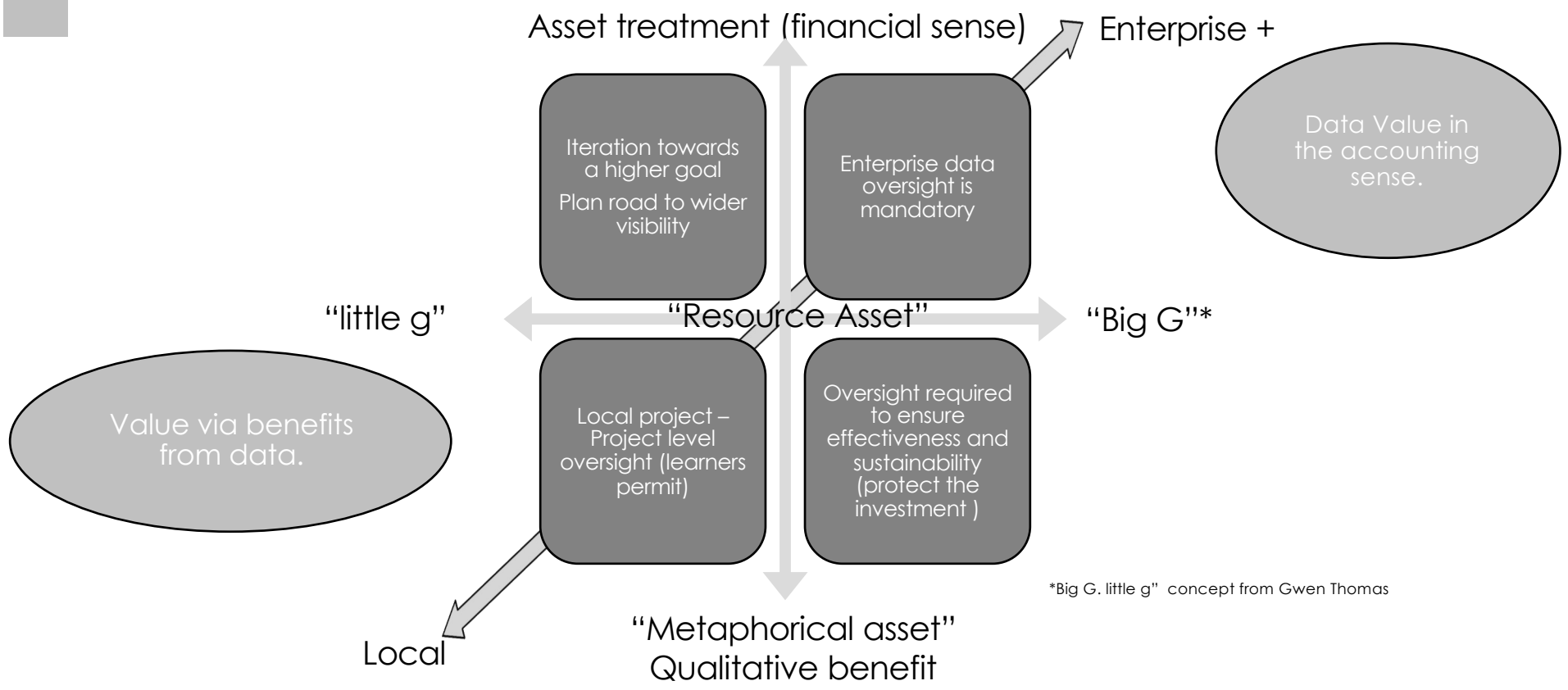
Guiding Principles Sample

Principle	We collect data to support our stakeholders and are accountable for managing data as an asset that improves stakeholder experience and well-being
Rationale	- Allow us to exceed customer expectations, deliver the best practices centered on a defined standardized model, maintain financial stability, and provide regional expertise - Data accuracy is critical to optimal outcomes
Benefits	- The data we create is useful, actionable - Data is supportive of our principles including standard work and respect for people - People have the right information to do their jobs - Enabling the ability to deliver the best practice of medicine centered on a defined standardized care model
Implications Policies!	- Data quality will be measured and advertised/shared - Non-useful data will be retired, no longer be collected - Alignment and accuracy of data to support our priorities will require uniform definitions and recognition of authorized sources of truth - Data usefulness and accuracy will be more important than quickly producing reports

TONE AND PACE

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• To what extent will the Data Strategy influence the organization • How aggressive is the Data Strategy	• Clarification of approach • Sets expectations properly • Need to match vision to reality	• Key activity at the beginning	• Culture • Environment	• Missed expectations have been a key obstacle (e.g., "What do you mean I need to change?")	• Change capacity • Other initiatives • Drivers for Data Strategy	• Varied approaches (e.g., "non-invasive," minimal invasive, "burning platform")

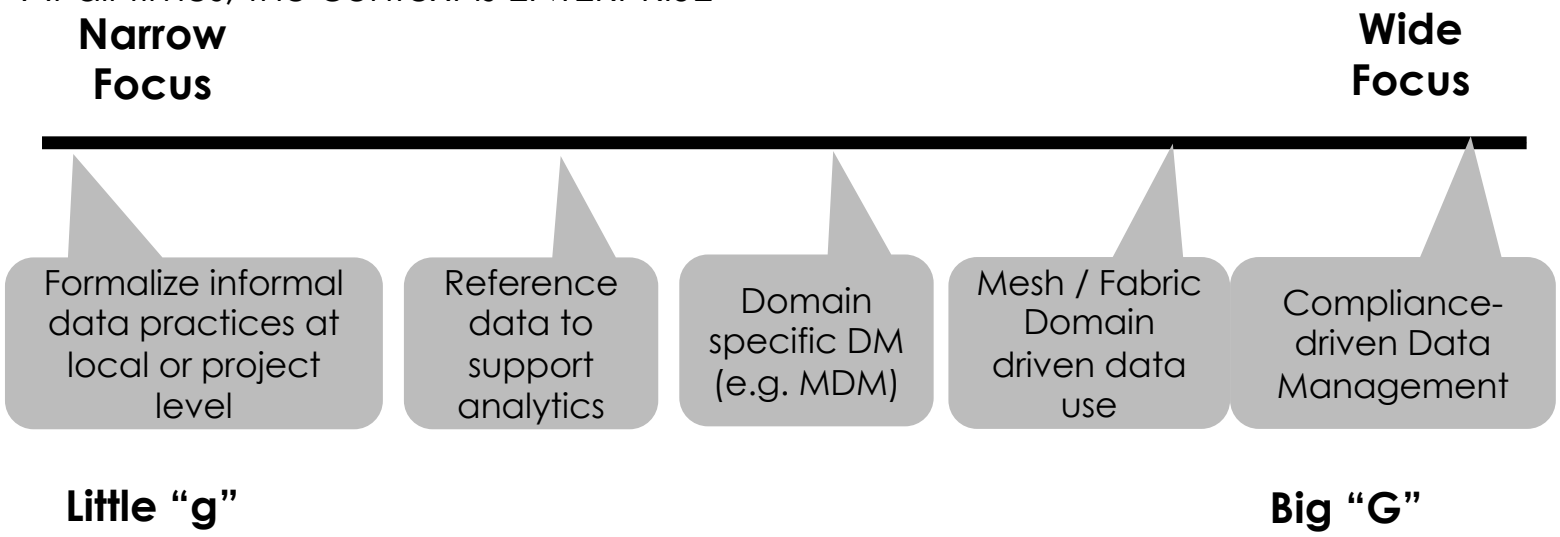
Tone of "data assets"

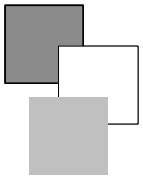


*Big G. little g" concept from Gwen Thomas

Approach spectrum

- Approach not adjusted by "size"
- Staffing, culture, scope, and business needs
- Nature of roll out can vary from a narrow focus to immediate enterprise-wide change
- At all times, the context is ENTERPRISE

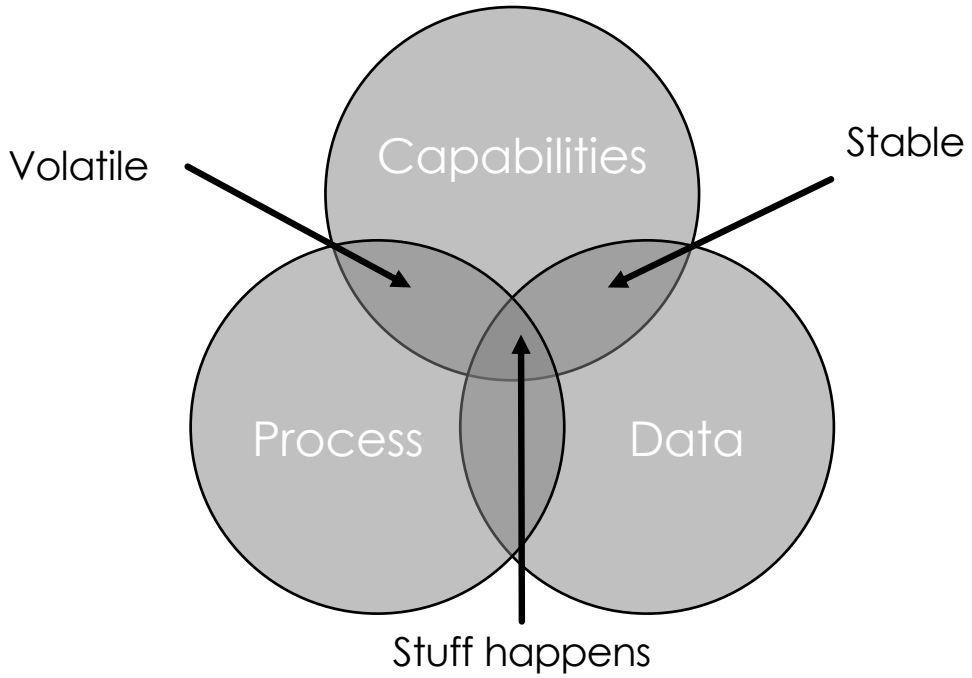




CAPABILITIES

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Simply – WHAT an organization does to achieve its goals	• They are more stable than processes, easier to understand • Broader view and still appropriate for data	• When organization cannot grasp alignment of Data Governance and Data Management to achieving its goals	• Literacy • Engagement • Culture • Environment • Compliance	• Stability • Level of detail • Less controversial	• Business model • Enterprise architecture • May be hard to comprehend for some (taxonomic)	• Done as part of enterprise architecture • PMO-led as part of overall initiatives

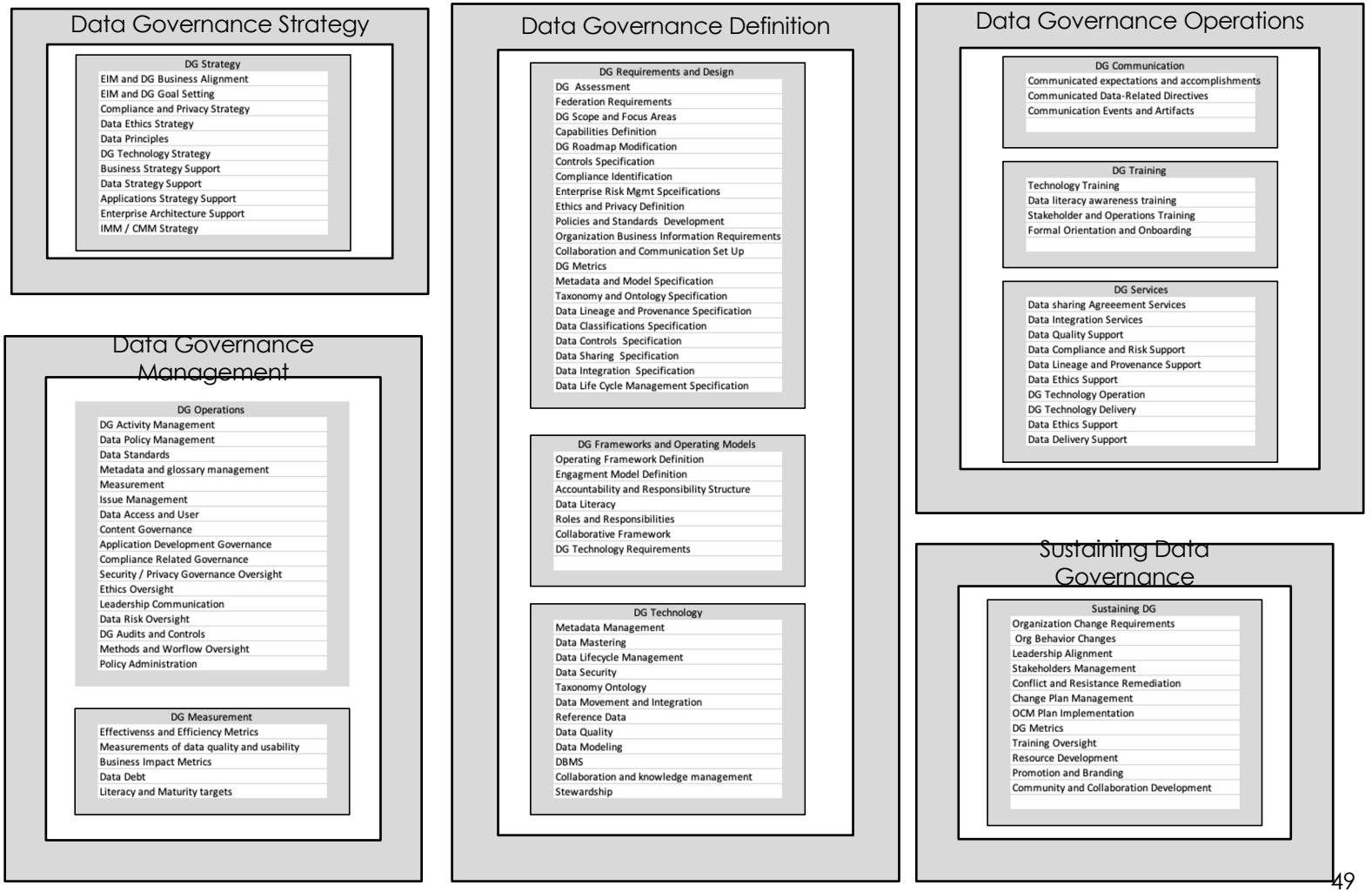
Capabilities and Enterprise data Management



Capabilities

- Capabilities describe WHAT an organization can do to accomplish its goals
- Used for strategy and enterprise architecture
- Is it a capability?
  - If there are not people, process, data, and technology components, or it is just one of these, it isn't one.
- Data Governance and Data Management are new business capabilities
- Gap analysis
  - Standard process – what do have now and what do you need?
  - What is required to support the value and vision?

Data Governance capabilities



Data management capabilities

Data Management Strategy
Data Architecture Strategy
DM and Business Alignment
DM Goals Setting
Compliance Strategy
Applications Coordination
Technology Strategy
Data Monetization Strategy
IMM / CMM Strategy
Establishing & Allocating Budgets

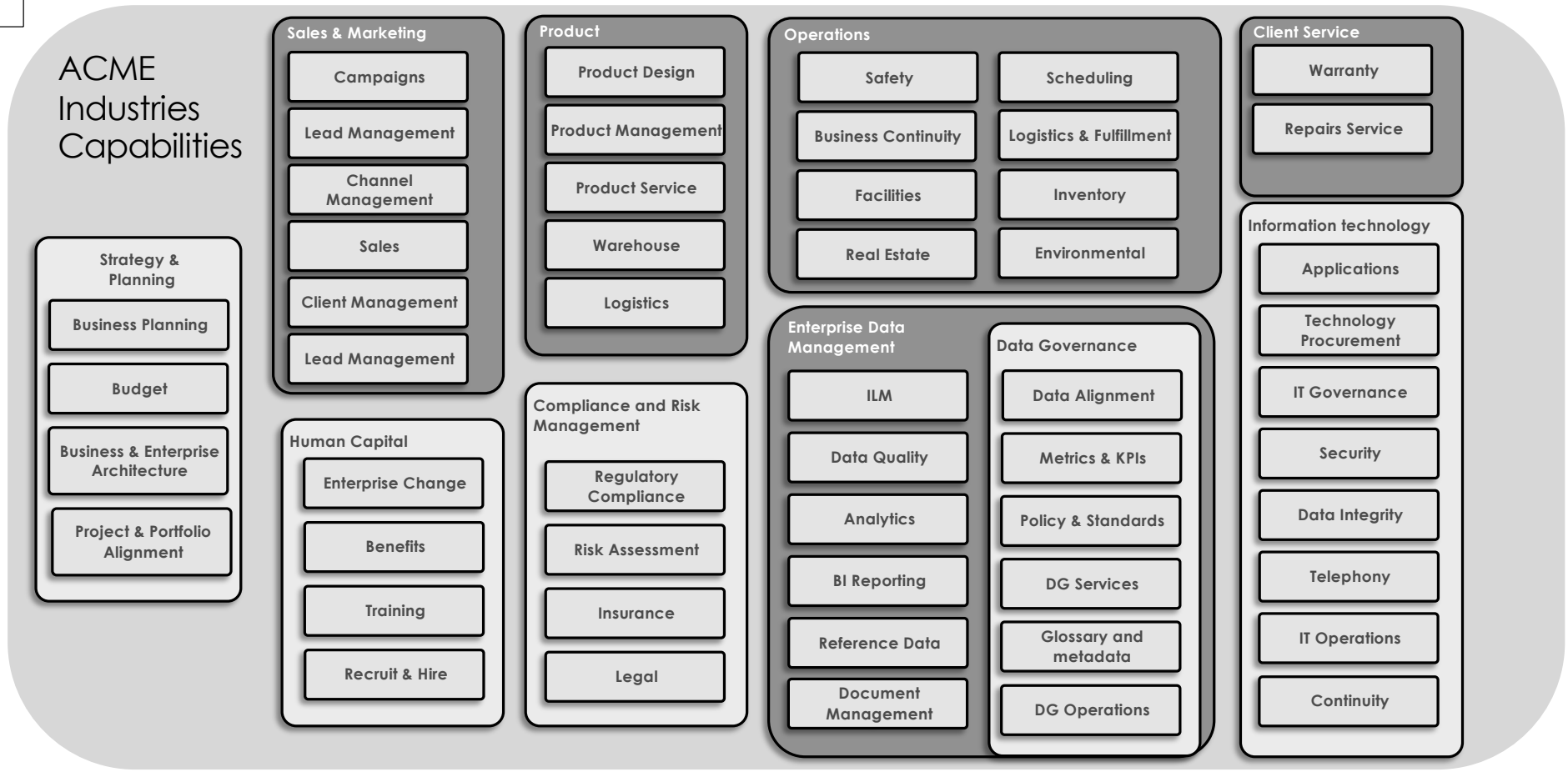
Data Management Definition and Design
Define Business Rules
DM Assessment
Data model Definition
Metadata definition
DG Adherance Processes
Define EIM Components
Metrics and KPI
Data controls Definition
BI & Reporting
Advanced Analytics
MDM
RDM
DQ
AI / ML Definition
Data Standardization and Rationalization
Data movement and integration
Data Delivery Access
Metadata and Model Specification
Taxonomy and Ontology Specification
Data Monetization products
Data Architecture
EIM Component Engagment Models
Data Life Cycles and Domains
Legal accountability
DM Organization definition

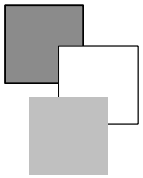
Data Management
Model Management
Monetized data management
Security
Compliance
Data controls
Metrics and KPI
BI & Reporting
Advanced Analytics
MDM
RDM
Data Quality
Data Capture
Data movement and integration
Data Access
Implement Data Policy
Data Lineage
Data Provenance
Data Accountability
Data Anonymization
Data Architecture
Issue resolution
Data retention and life cycle management

Data Management Operations
Data Development/test/production
Develop Data Systems
Data Change Control
Measure Data Quality
Data Product Lifecycle
Data Management Services
Models
Security
Compliance
Data controls
Metrics and KPI
BI & Reporting
Advanced Analytics
MDM
RDM
DQ
Data movement and integration
Data Access
Data Landscape Maintenance
Metadata Maintenance
Model(s) Maintenance

Sustain Data Management
DM Training
DM Communications
DM Engagment Model Alignment
Issue Resolution
Process Change Management
DM Staff Decvelopment
DM Resisitance Management

Data-driven capability model





PEOPLE

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Participants • Behaviors	• Number one factor in failure or success	• Almost always • If not, specify why	• Literacy • Engagement • Culture	• No one likes change • If there is no change, why do a strategy?	• Stakeholder alignment • Leader alignment • Not a core data skill	• AppDev is not immune • External partners

READINESS

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
•The maturity and capacity of the organization to proceed with operationalizing the strategy	•Starting point and gaps to the target vision will drive approach, timing, tone, and many other aspects	•As part of assessment activities	•Culture •Landscape •Environment •Compliance	•The only way to establish an iterative approach	•"IMM" is only part of this •Landscape could be time-consuming	•IMM, then change capacity later

Acumen / Literacy

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Awareness of how to manage and use data • Data Management is part of every business decision	• This is a core barrier to sustainability • You cannot be data-driven, or "digital," without a data culture	• ASAP	• Change capacity • Desired tone and philosophy around data • Culture type	• If you can do it for Lean, or Six Sigma, you can do it for data • It's an essential part of data monetization	• Environmental factors • Internal politics • Intensity or urgency • Other changes	• Can certainly be phased in • Behavior changes can be made pleasant or fun

Conceptual Logical Operational Administered Build and maintain

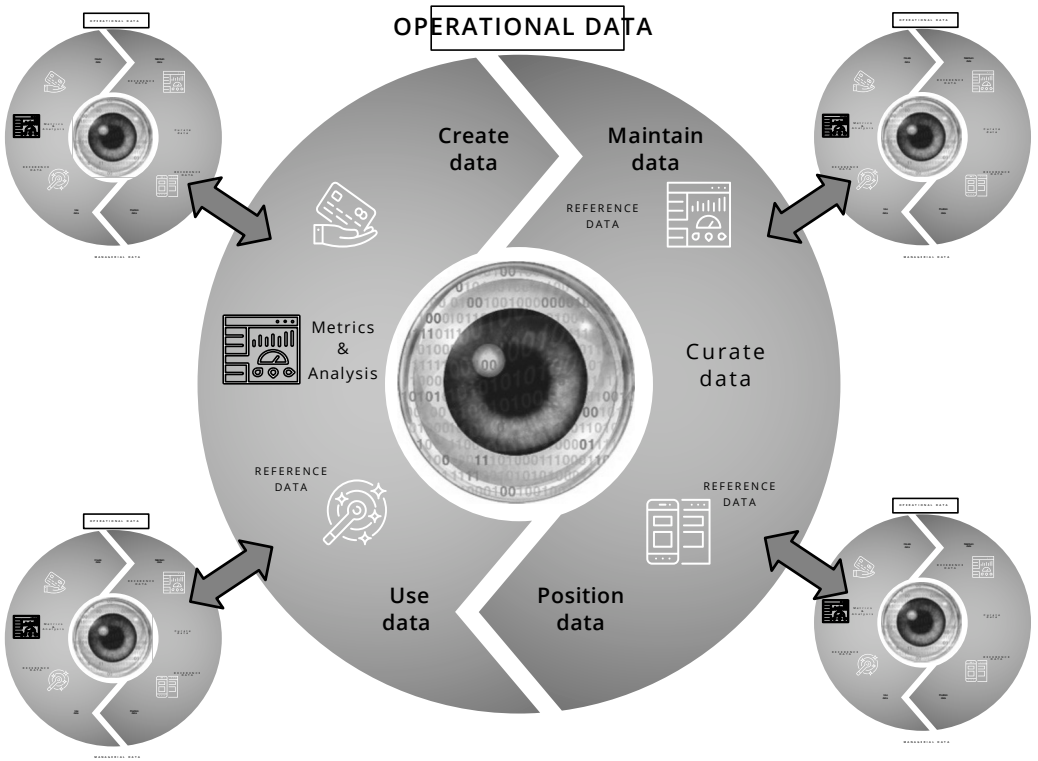
Ethics

- Ethical considerations in data management, because what is legal is not necessarily Right
- Mitigating bias in data collection and analysis is just the tip of the iceberg

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Right conduct and character; • The nature and grounds of moral obligation • The doctrine of man's duty in respect to himself and the rights of others • Data meets morality • "Cracks in Data Strategy"	• What is legal is not necessarily Right. • Too many organizations fail to examine data-ideas from this perspective	• ASAP • Reputations can collapse entire brands	• Moral compass of the organization • Desired tone and philosophy around data • Culture type	• Yes it is new, and o you cannot wait • Regulators are also licking their chops	• Nature of your strategy • Internal politics • Intensity or urgency	• None

Ethics for you and many others

- Data ethics extends beyond "are we doing the right thing?"
- Data is Anthropological
- This is a mandatory, deliberate discussion and component of a data strategy
- This is not a technology or software discussion. This is a board-level or similar meeting



Example of a process

- Dignity - Humans are the ends, not the means (We are not the product as we are now)
- Ethics are applied to real-world objects, and now must be applied to abstractions (data)
- Align business priorities to ethical priorities
- This is not a 'lip service' issue
- Consumers / stakeholders are increasingly discerning
- Leadership need to "adopt the new philosophy" (as Deming said)
- An organisation culture issue.. Tone from top must be matched with action!

Compliance, ethics, and risk management – general

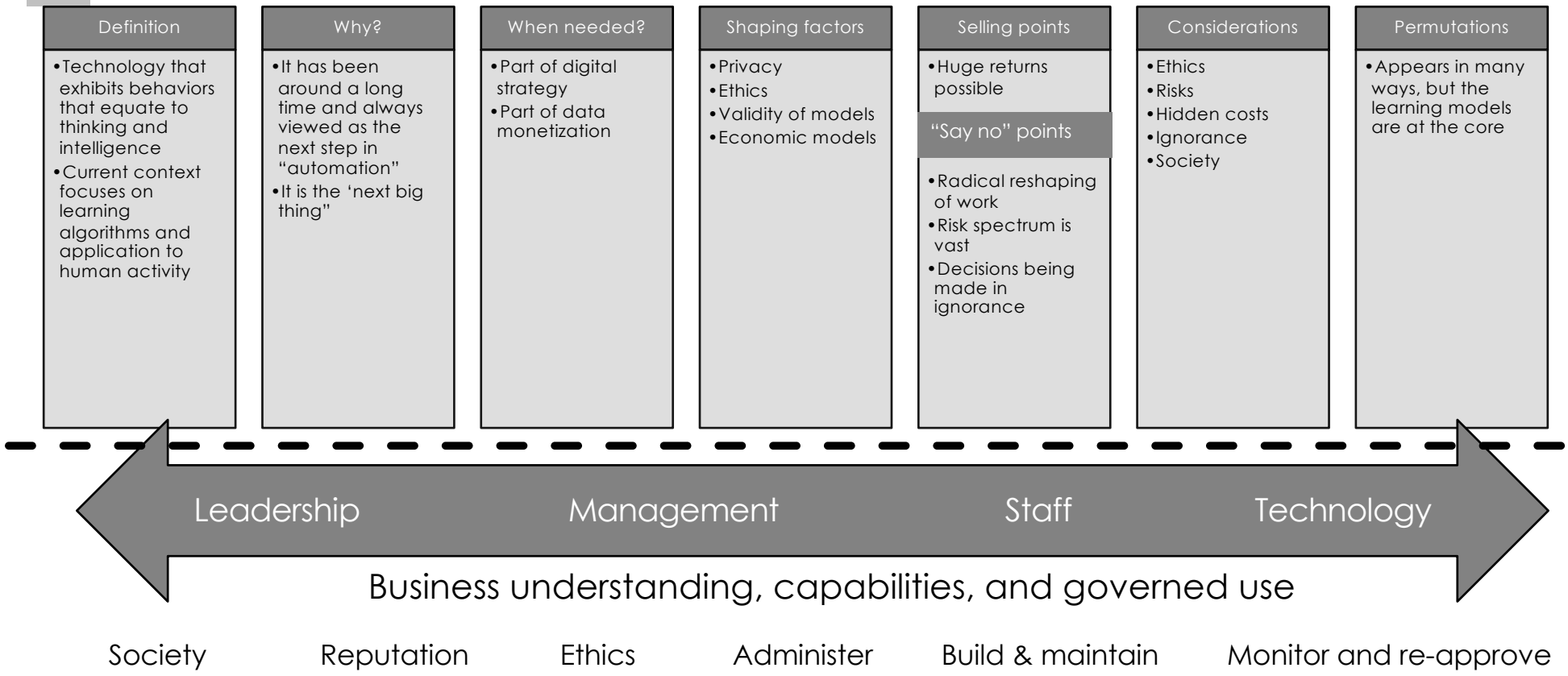
Compliance

Definition	Why?
• Adhere to data-related regulations and Data agreements	• Avoid fines or worse • Diminish reputation

Risk

Definition	Why?
• Mitigate exposure to loss from data • Civil, Regulatory, Common Risk	• It can be VERY costly • Diminish reputation

ARTIFICIAL INTELLIGENCE



Data Integration / location

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Combining data residing in different sources and providing users with a unified view of them	• This is the "holy grail" of data, since 1970	• When suitable for the organization – based on maturity and other shaping factors	• Complexity of data landscape • Maturity of IT portfolio	• Almost N/A	• See shaping factors	• Manifested as part of a BI strategy and/or MDM transition

Goals | Decision rights | Classification | Provenance & search | Administer | Build & maintain

Data integration / location

- Structures that REQUIRE strategy and governance
  - Fabric architecture
  - Mesh philosophy
  - Virtualization
  - Warehouse / Lake / Lakehouse etc.

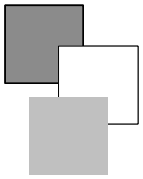
Workflow and operations

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• An orchestrated and repeatable pattern of activity, enabled by the systematic organization of resources into processes that transform materials, provide services, or process information	• Overlooked part of data • A data-driven organization eventually needs to alter older workflows. As such, it is part of strategy	• If the Data Strategy will result in future states where workflow changes or supply chains are altered	• Enterprise architecture • Workflow literacy • Strength of business process discipline	• "Two-fer!" • Engages process side	• Literacy and resistance from business process components	• Workflow just for Data Governance, or just for specific initiatives that are in the Data Strategy roadmap

Data as product
Roles and responsibilities for custodianship

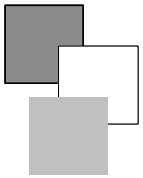
Workflow / operations

- Data usage to fulfill strategy
  - Data as product
  - Governed self-service
  - Roles and responsibilities for custodianship
- Enterprise data asset treatment
  - Operation of data management
  - Operation of data governance



METADATA MANAGEMENT

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Capability that allows tracking, monitoring, efficient use, and finding data • For definitions, administration, and navigation	• Modern data requirements are too complicated to make it an option	• Always	• Starting point • Business drivers • Enterprise architecture	• Compliance • Regulation • Lineage/ provenance • Cost • Accuracy	• Resistance • Contradicting vendors • Rush to products • Never stand alone – standardization is part of all other efforts	• Manual is OK • Best of breed vs. integrated offering is valid concern, as is "build it"

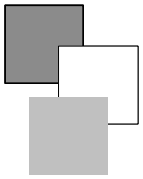


DATA AND OTHER MODELS

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Artifacts for "discovering, analyzing, representing, and communicating data requirements in a precise form" (DMBOK 2) • Abstract representation to allow understanding and planning	• What happens if you build a house without a blueprint? • Excellent communications tool	• From day one of any data-intensive effort as an artifact to support communications • Cross reference context and abstraction with physical deployment	• Enterprise architecture • AppDev approach • PMO, CMM aspects • Acceptance of data as an asset	• Good communications tool • Can decrease development or integration time • Very supportive of data compliance requirements	• There is rarely the need for building a data model from scratch • Not for stakeholder consumption – sorry • Not a deliverable, rather a work product or artifact for limited audience • Management and custodianship big issues	• Artificial intelligence and machine learning models are also part of this area • Additional requirements for these models • Can be useful at all levels: conceptual, logical, physical

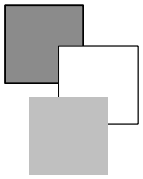
DATA QUALITY

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Data suitability for an intended purpose	• $3.1 trillion • Most data is of poor quality • Costs are very high • Enormous return for modest effort	• Yesterday	• Type of data challenges – there are many "flavors" • Where the problems are manifested	• Huge and fast returns • Eliminates a lot of other problems	• One person's quality is another's problem	• DQ is almost always part of MDM, AI, ML, etc. – trust me • If you must do a tool DQ is an excellent vehicle



DATA ARCHITECTURE

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Describes the structure of an organization's logical and physical data assets and Data Management resources (TOGAF) • The blueprint for managing data assets by aligning with organizational strategy (DMBOK 2)	• Data is a critical enterprise asset – whether acknowledged or not • Data is managed anyway • Data costs a lot more than you think • Sources, movement and storage consume overhead	• You already have one – the question is how bad is it?	• Enterprise architecture • Maturity • Environment • Prior efforts • Standard frameworks (TOGAF, Zachman, etc.) • Acceptance of data as an asset	• Part of enterprise architecture • Part of enterprise strategy • Risk and costs of data are becoming unmanageable	• Coordinate with enterprise architecture (if present) • Stealth or visible • IT architecture • Framework and taxonomy (e.g., Zachman) • Standardization obstacles (AppDev, etc.)	• Part of enterprise architecture • Part of Data Strategy • PMO channel



BI, REPORTING, AND DATA WAREHOUSING

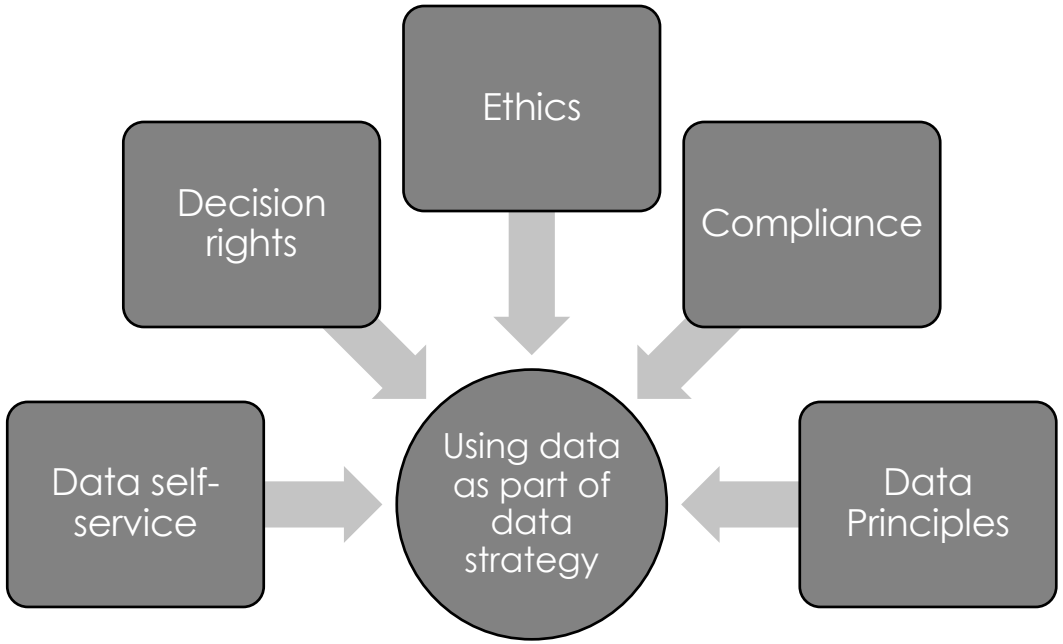
Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Managing and using data for scheduled reports, simple analysis, and ad hoc reporting	• Main component and most common type of data usage	• Pretty much an essential element of any architecture or strategy	• Data sources • Access tools • Business model • Business driver	• You already have it • Efficiency • Compliance (Privacy)	• Deeply embedded legacy • Old DW technology • Data lake vs. warehouse debate	• Data lakes • ODS • ERP or SaaS options

DATA ACCESS – DECISION RIGHTS, ACCESS RIGHTS (SECURITY, PRIVACY, COMPLIANCE)

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• "Decision rights" are an agreement regarding who gets to make what decisions, who contributes to the decision-making process, and in what capacity • Data access specified how data is acquired to support decisions	• Value happens when a data decision help achieve a goal • How decision using data are made need to be addressed in data strategies • Access of data, and understanding constraints due to compliance, affects how data is used	• Most organization have addressed privacy and security, but do not connect these with decision rights • A strong push for self-service BI triggers the need for formal consideration of data rights and access	• Standards are required, so data classification and rules are key • Dominance or prevalence of existing compliance and CISO functions may cause conflict or collaboration around DG and data strategies	• CISO functions are very usually treated as a narrow requirement , e.g. changing passwords. • DG addresses data access yet CISO and DG work go hand in hand	• Collaboration with compliance, DG and CISO need to be made a requirement • Write a good Data access and self-service policy • Education of decision rights and data access is key	• Rarely will there be no CISO function in place. The variances occur in whether the CISO believes they are in control of data strategy or a key capability

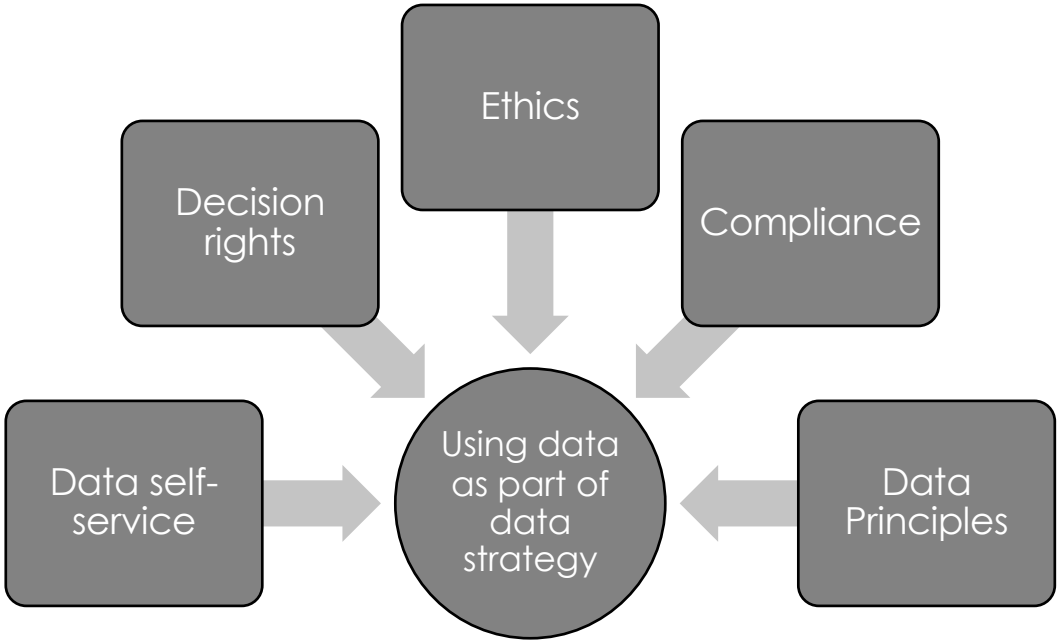
Data access and decision rights

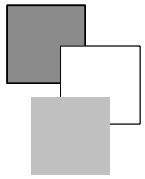
- Decision rights" are an agreement regarding who gets to make what decisions, who contributes to the decision-making process, and in what capacity
- Data access specifies how data is acquired to support decisions



Oversight, Risk management, compliance, and policies

- Compliance
  - Many privacy regulations
  - Existing data regulations
  - Homeland security
  - State and local
- Risk management
  - Compliance
  - Civil
  - Reputational





Metadata Management

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
•Capability that allows tracking, monitoring, efficient use, and finding data •For definitions, administration, and navigation	•Modern data requirements are too complicated to make it an option	•Always	•Starting point •Business drivers •Enterprise architecture	•Compliance •Regulation •Lineage/ provenance •Cost •Accuracy	•Resistance •Contradicting vendors •Rush to products •Never stand alone – standardization is part of all other efforts	•Manual is OK •Best of breed vs. integrated offering is valid concern, as is "build it"

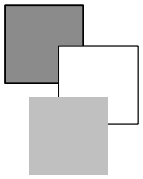
Data Architecture

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Describes the structure of an organization's logical and physical data assets and Data Management resources (TOGAF) • The blueprint for managing data assets by aligning with organizational strategy (DMBOK 2)	• Data is a critical enterprise asset – whether acknowledged or not • Data is managed anyway • Data costs a lot more than you think • Sources, movement and storage consume overhead	• You already have one – the question is how bad is it?	• Enterprise architecture • Maturity • Environment • Prior efforts • Standard frameworks (TOGAF, Zachman, etc.) • Acceptance of data as an asset	• Part of enterprise architecture • Part of enterprise strategy • Risk and costs of data are becoming unmanageable	• Coordinate with enterprise architecture (if present) • Stealth or visible • IT architecture • Framework and taxonomy (e.g., Zachman) • Standardization obstacles (AppDev, etc.)	• Part of enterprise architecture • Part of Data Strategy • PMO channel

Lunch

BIG DATA AND ANALYTICS

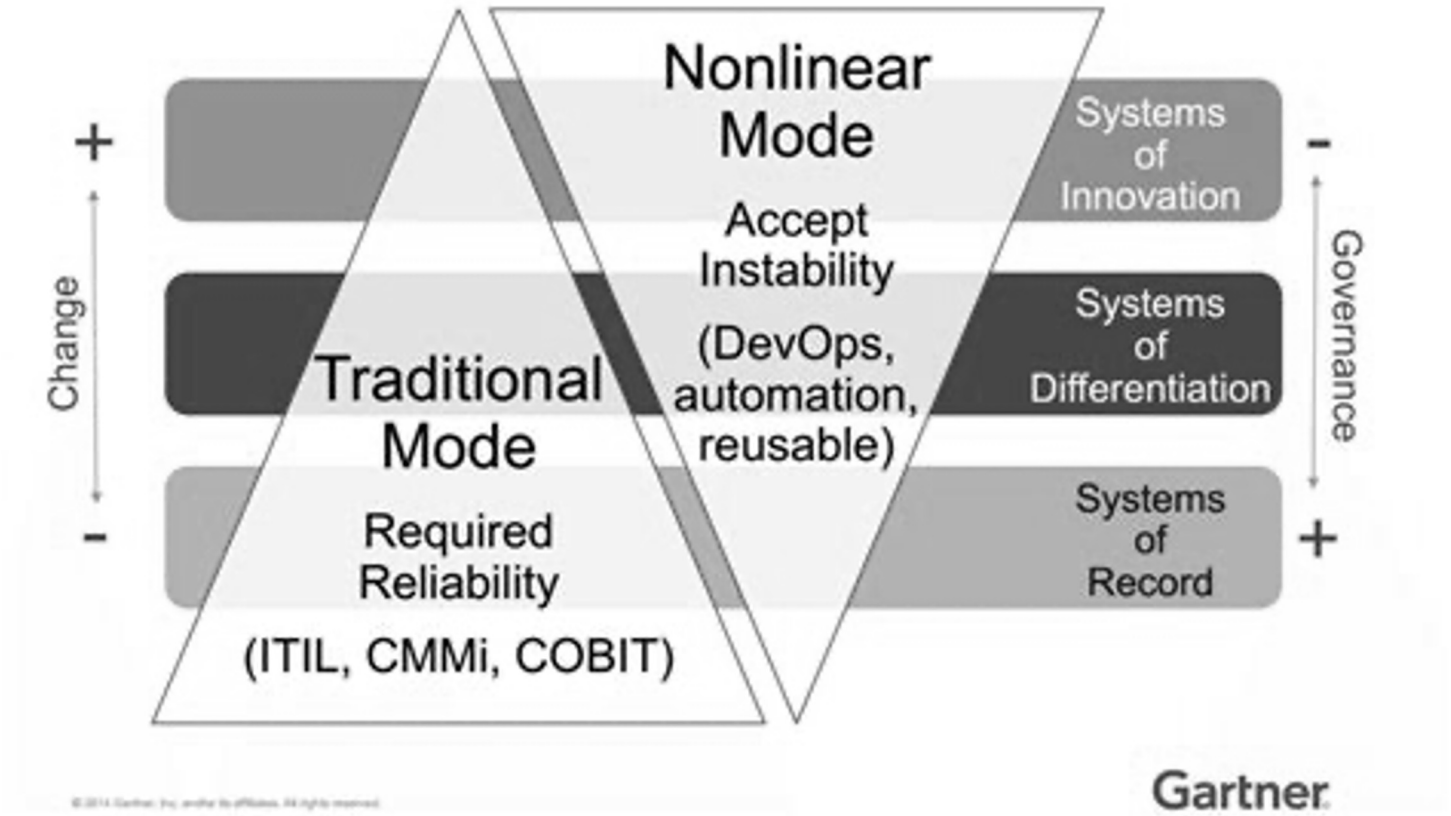
Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Management and use of data sets that require "non-standard" methods • Use of heuristic, statistical, and algorithm methods to examine large amounts of data	• Monetization of data • Identification of new situations or uses of data • Exploiting data uses that were previously ignored • Use of non-structured data sources	• Part of digital strategy • Part of data monetization	• Quantity • Velocity • Variety	• Huge returns possible	• Small data • Data Quality • Excessive expectations • Talent	• IoT • "Information" • Machine learning • Artificial intelligence



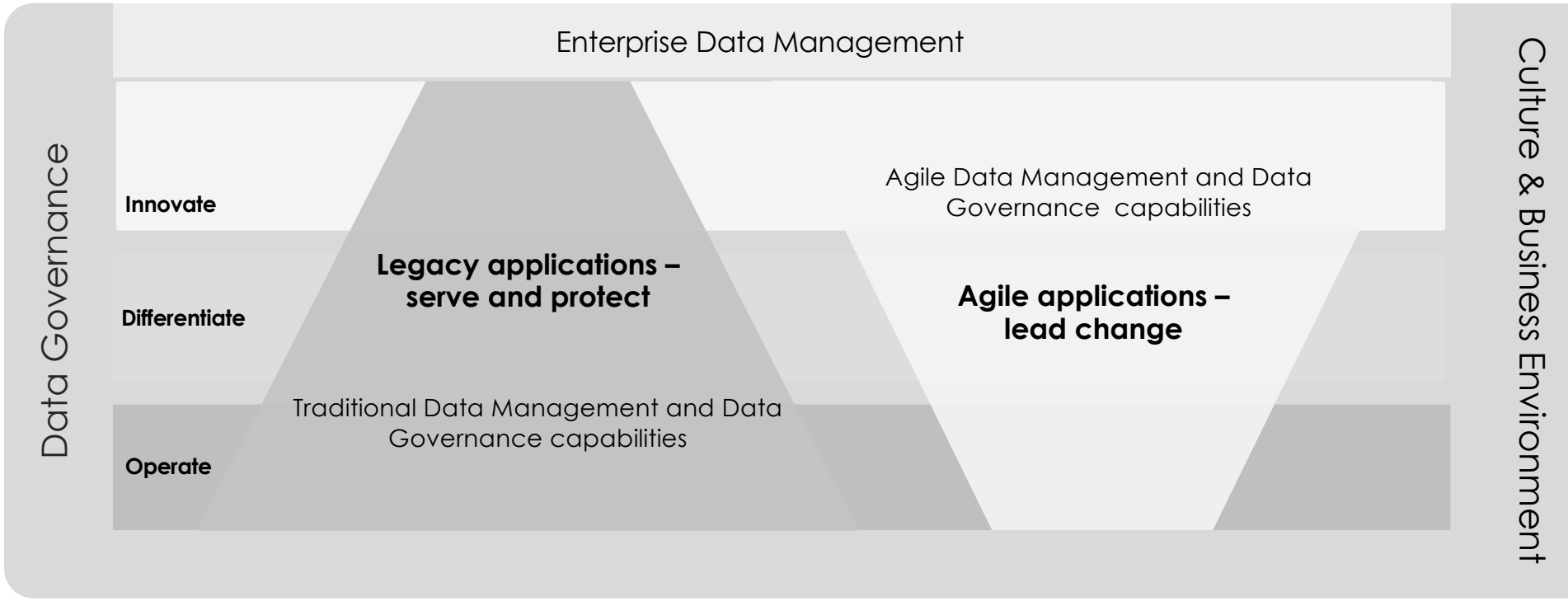
BIMODAL CONSIDERATIONS

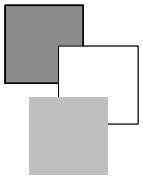
Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Managing two separate but coherent styles of work: one focused on predictability; the other on exploration … a more predictable evolution of products and technologies with the new and innovative (Gartner)	• There are no more "new" architectures, only transitions – you are never starting from scratch • The spectrum of possible technology is enormous	• Early in the definition activity – it is required if there is a large quantity of legacy systems	• Philosophy • Future vision of the role of data	• Preserves investment • More practical than "future-state" architectures	• Organization size and span • New vs. old and the future vision can add up to large $$$$	• DO one mode at a time • Two "sub-strategies"

Gartner's bimodal approach



Old and new coexistence, or separate strategies



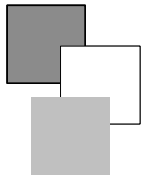


MASTER/REFERENCE DATA MANAGEMENT

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• Managed sources of common data • Establishing "sources(s) of truth" of cross-functional domain data • Common, shared data items, such as codes	• Address issues caused by multiple master files • More efficient Data Quality	• Part of ERP-type efforts • Overhaul of applications (e.g., SOA) • More economical to do MDM than fix interfaces	• Enterprise architecture • Business model • Analytics and monetization of data • Acquisition and merger • ERP/HER	• Efficient • Enables operational efficiency and analytics • Clears up annoying semantic differences	• Appetite for risk • Realistic expectations • Open minds (Cloud, SaaS, etc.) • Mandatory sustainable Data Governance	• MDM "Lite" • Part of ERP upgrade • Along with Data Governance

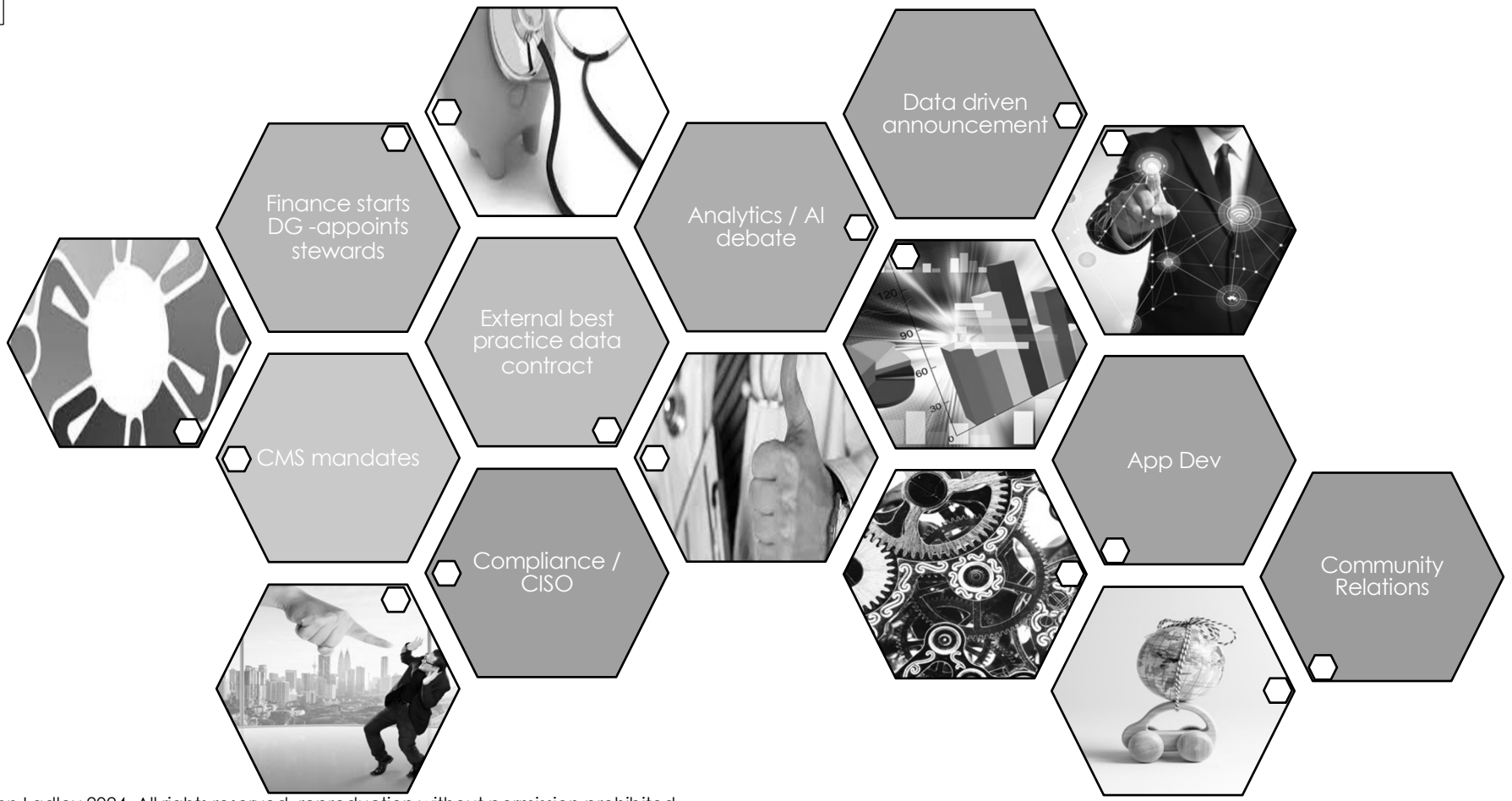
ROADMAP

Definition	Why?	When needed?	Shaping factors	Selling points	Considerations	Permutations
• A presentation of how the Data Strategy will be deployed • Philosophy, phases, and detailed plans	• This is how you can "get there" • Most commonly requested deliverable	• Integral part of any strategy, across all components	• Urgency • PMO • Development approach	• Rarely required	• Level of detail is critical • Near term should be very detailed	• Blend with other roadmaps – MDM, AI, etc.



A quick data strategy – Rocky Health

ROCKY HEALTH SYSTEM OVERVIEW

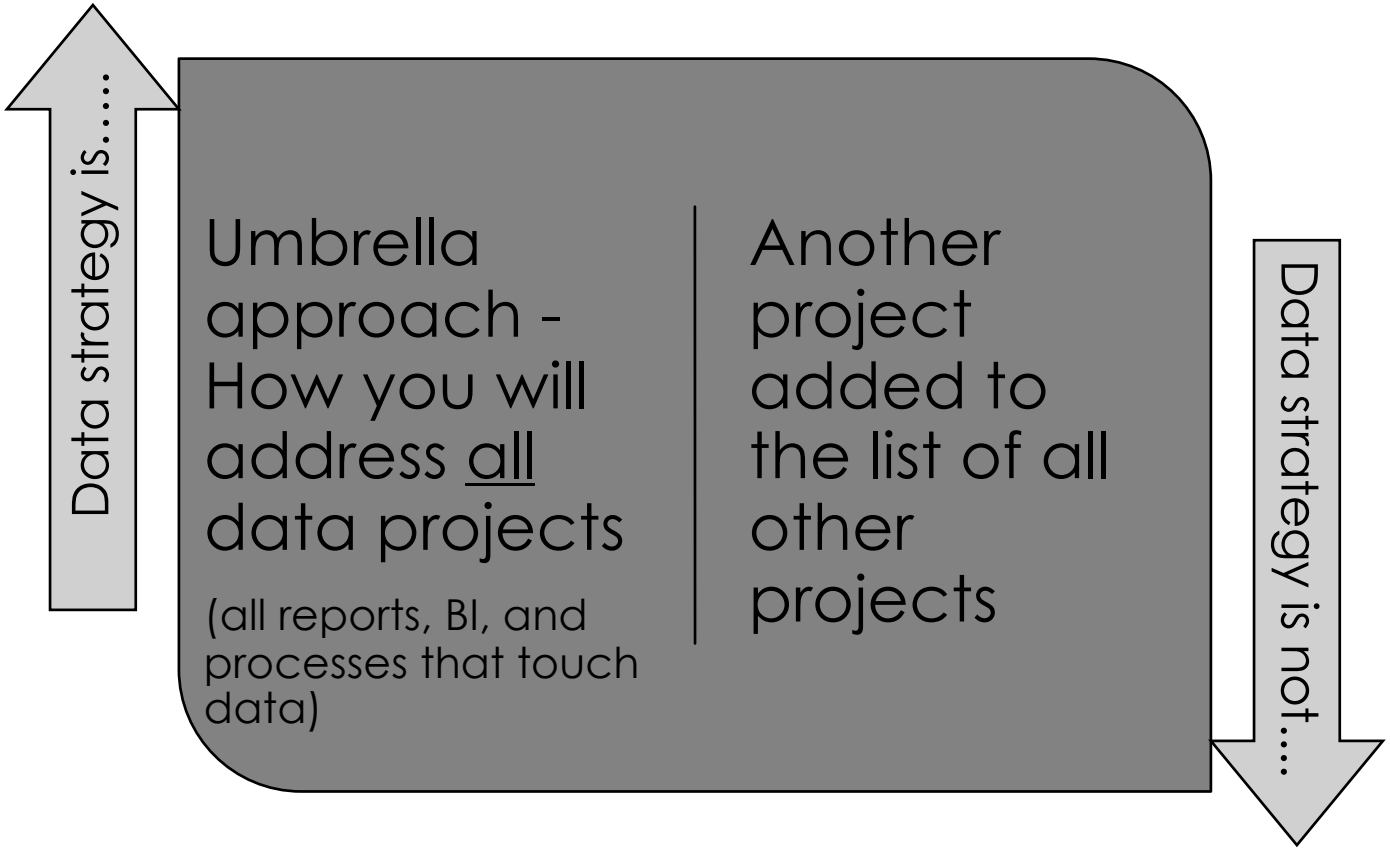


Example: Rocky Health Systems – Vision

Operational Business Capabilities	Exceed Expectations • Patient Access • Disease Management • Back Office • Community Relations	Best Practices • Preventative Care • Wellness • Outcomes Management	Financial Stability • Expense Management • Margins • Reporting
Data Capabilities	Data Mastering Reference Data Data Sourcing Data Agreement	BI /Analytics Data Standards Advanced Analytics Data Engineering	KPIs / Metrics Reference Data Data Controls Compliance / Privacy

Definition

- Define how RHS will manage and fully leverage data assets in line with the rest of the healthcare industry
- A deliberate, communicated, actionable approach to deal with the overwhelming data issues, data silos, data requests and increasing TCO and risk levels

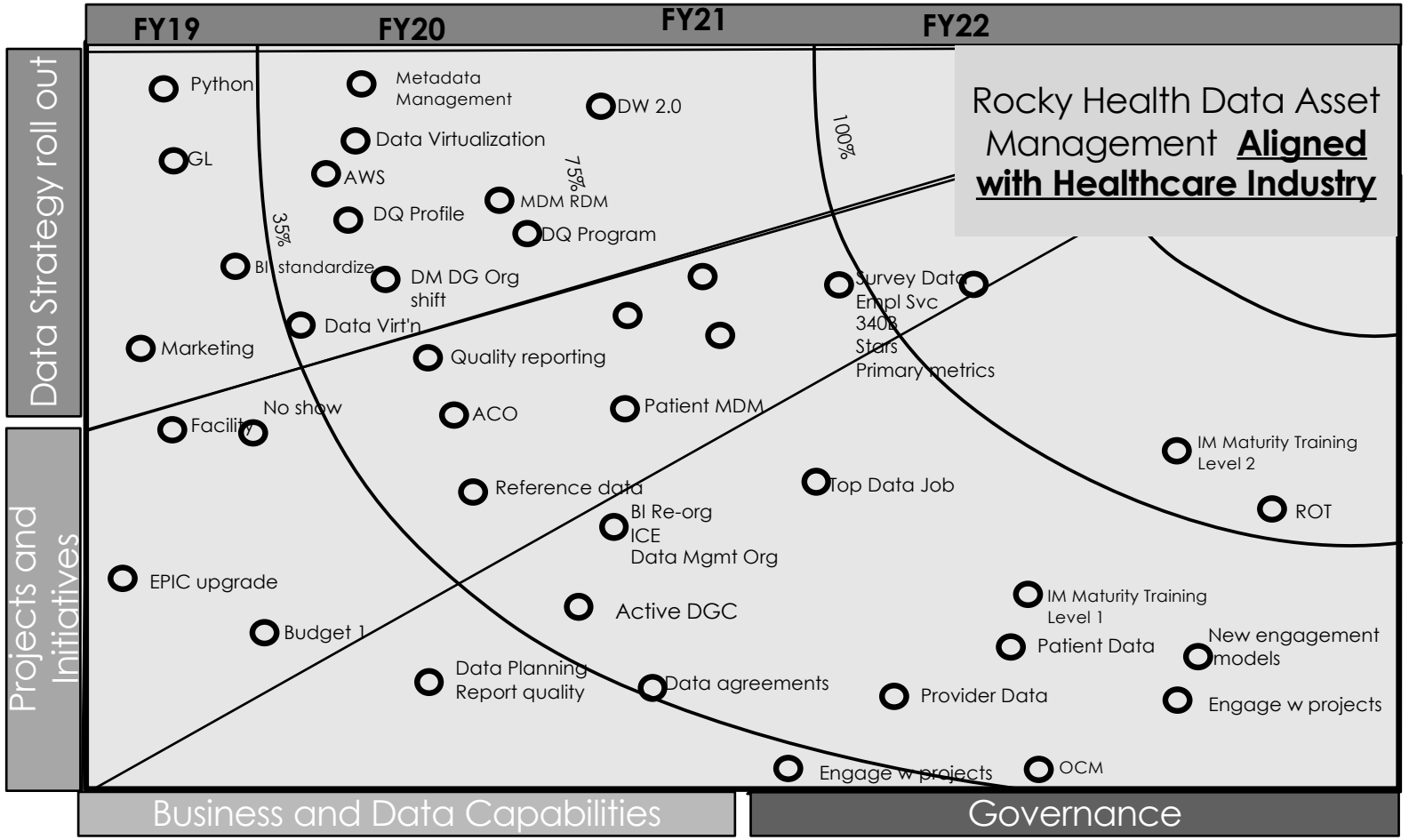


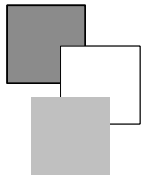
Business case for strategy: All boats must rise in the tide

- Tangible – Data governance controls data usage in order to
  - Reduce risk – reduce average level of fines and holdbacks by 80% - Average $3 million past two years
  - Achieve operating margin – fines and errors accounted for 17% of gross operating margin - $7.5 million
    - Business analyst hiring – 2% of gross revenue – Hired 16 BAs across $1.6 million
  - Wellness – Improved patient outcomes - Attracting 1% more non-Medicare patients - $2.3 million
- Intangible
  - Data landscape needs to become cost/risk aware – stop buying multiple tools
  - Greater focus on action vs. reaction
  - Realization that current methods add enormous overhead
  - Clearer communications

Business case

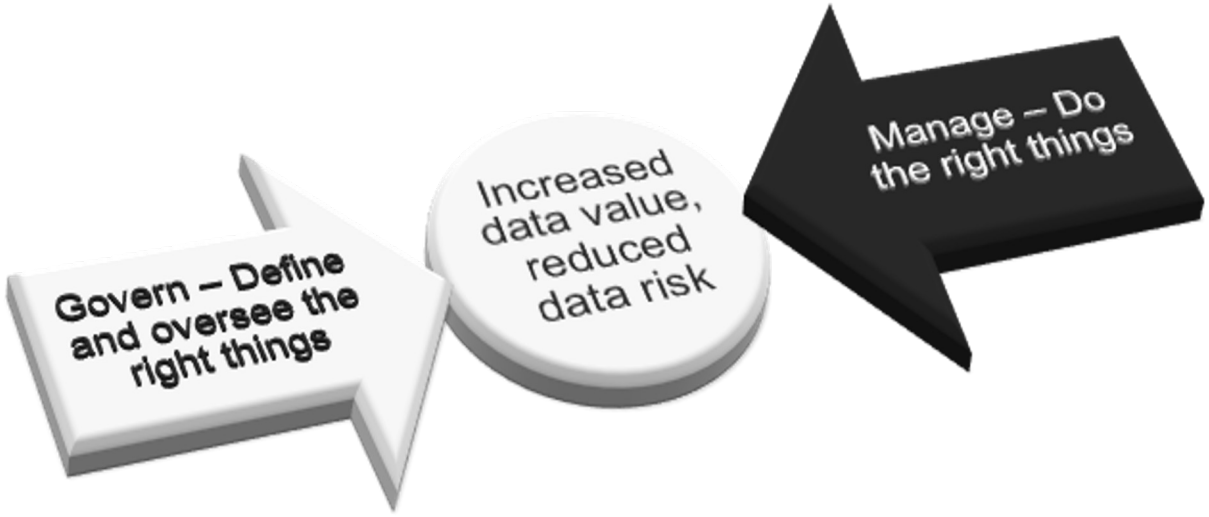
Data governance controls data usage in order to achieve:			
Tangible benefits – known and documented amounts			
Reduce risk	reduce average level of fines and holdbacks by 80%	Average $3 million past two years	$ 3 million
Achieve operating margin	Reduce non-value added efforts	Addressing fines and errors accounted for 17% of gross operating margin	$7.5 million
		Hired 16 BAs across 8 departments at .4% of gross revenue	$1.1 million
Wellness – Improved patient outcomes	Balance populations served	Attracting 1% more non- Medicare patients	$2.3 million
Intangible benefits-known financial and reputation impact but hard to quantify			
Data landscape needs to become cost/risk aware	Stop buying multiple tools	Physicians purchased 4 cloud-based reporting tools w/o IT awareness last year	$50,000 / yr. subscriptions PLUS time wasted over arguing whose data is correct
Greater focus on action vs. reaction	Mid-level managers are crisis oriented	Duplicate efforts to solve similar problems	As much as 8 FTE worth of duplicate efforts
Realization that current methods add enormous overhead	FY2017 budget not approved until June 2017	Most of delay was as a result of in accurate project and labor data	Overspending – hard to quantify but as high as $10 million
Clearer communications	Four areas are "in charge" of some sort of reporting or analysis	Duplicate efforts to solve similar problems	Duplicate FTEs plus frustration





Forget traditional project / program approaches

Data Strategy means applying systemic thinking



We keep missing this:

Any complicated system has checks and balances - except most complicated data landscapes of the 21st century!

Slide copyright 2019, from John Ladley, "Data Governance"

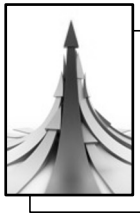
Change your thinking

Think in these terms:

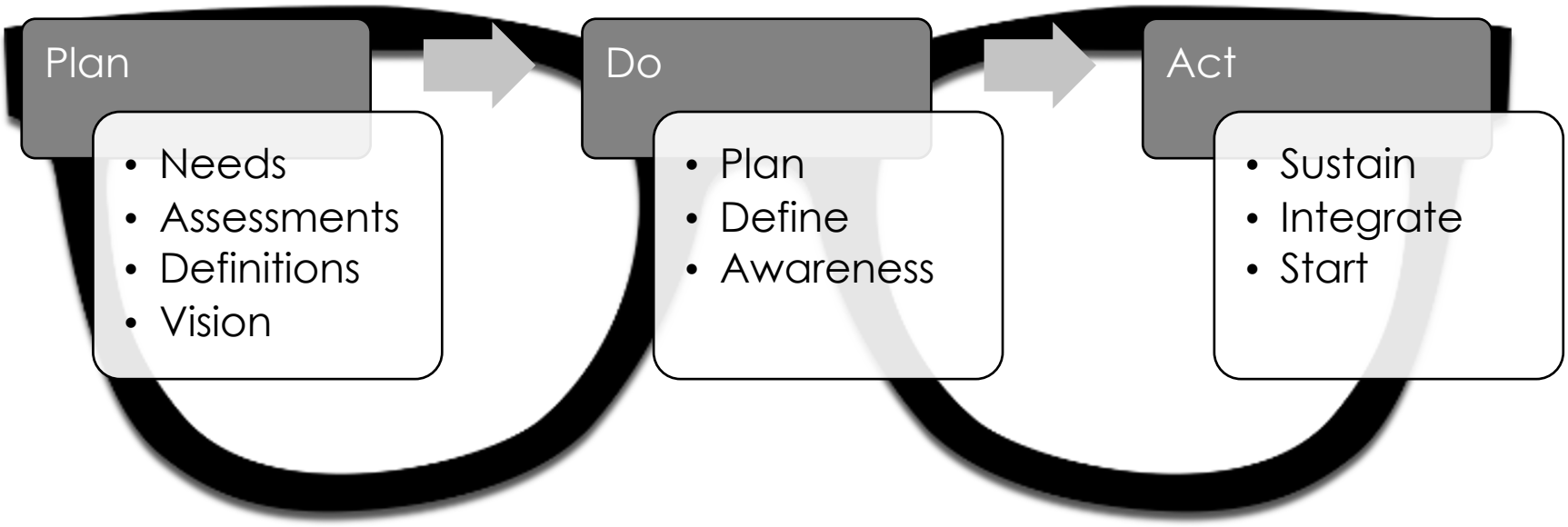
Goals are now requirements	Expectations must be set higher	Risks can be higher	Expect and be receptive to new roles
"Self-serving" will not be acceptable	.xls expertise is inadequate for exploiting data	Data debt and data quality must be addressed	Use formal data value drivers
Tools are good after we know we need them	Society is a stakeholder	Principles must influence the results	Clear alignment to direction is required

- Drivers:
  - Goals must reflect organization strategy
  - Data is now a board-level consideration
  - "ROI"
  - Your pet analysts may not understand the accountability
  - Vendors are not business partners, and your high-end consultants are just becoming capable in this line of thinking
  - Data is anthropological – there are more huge changes ahead

Approach considerations



Overall approach – Drop the traditional "engineering" thinking



Not a methodology – process for framing your own approach

** Data Strategy Methodology courtesy First San Francisco Partners*
*** ADKAR Copyright Prosci 2019*

Modern Data Strategy processes and methods, agile or otherwise

*

Plan

- YOUR organization's needs
- YOUR definitions (within reason)
- YOUR Vision

Do

- Define transition approach
- Define all the bits
- Set/integrate literacy progression
- Raise awareness

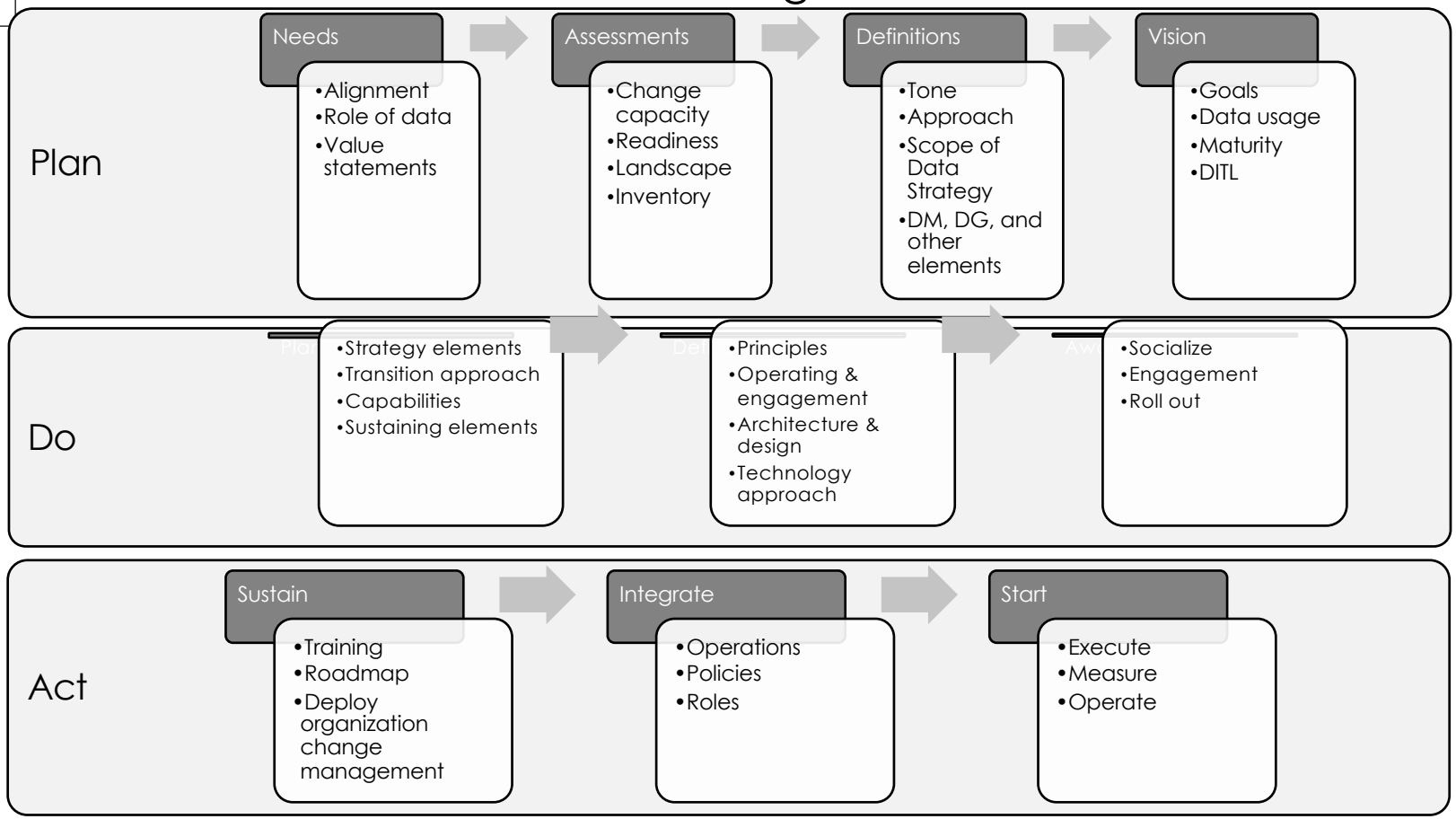
Change

- Execute transition approach (all kinds)
- Integrate workflow and operations
- Get started, operate

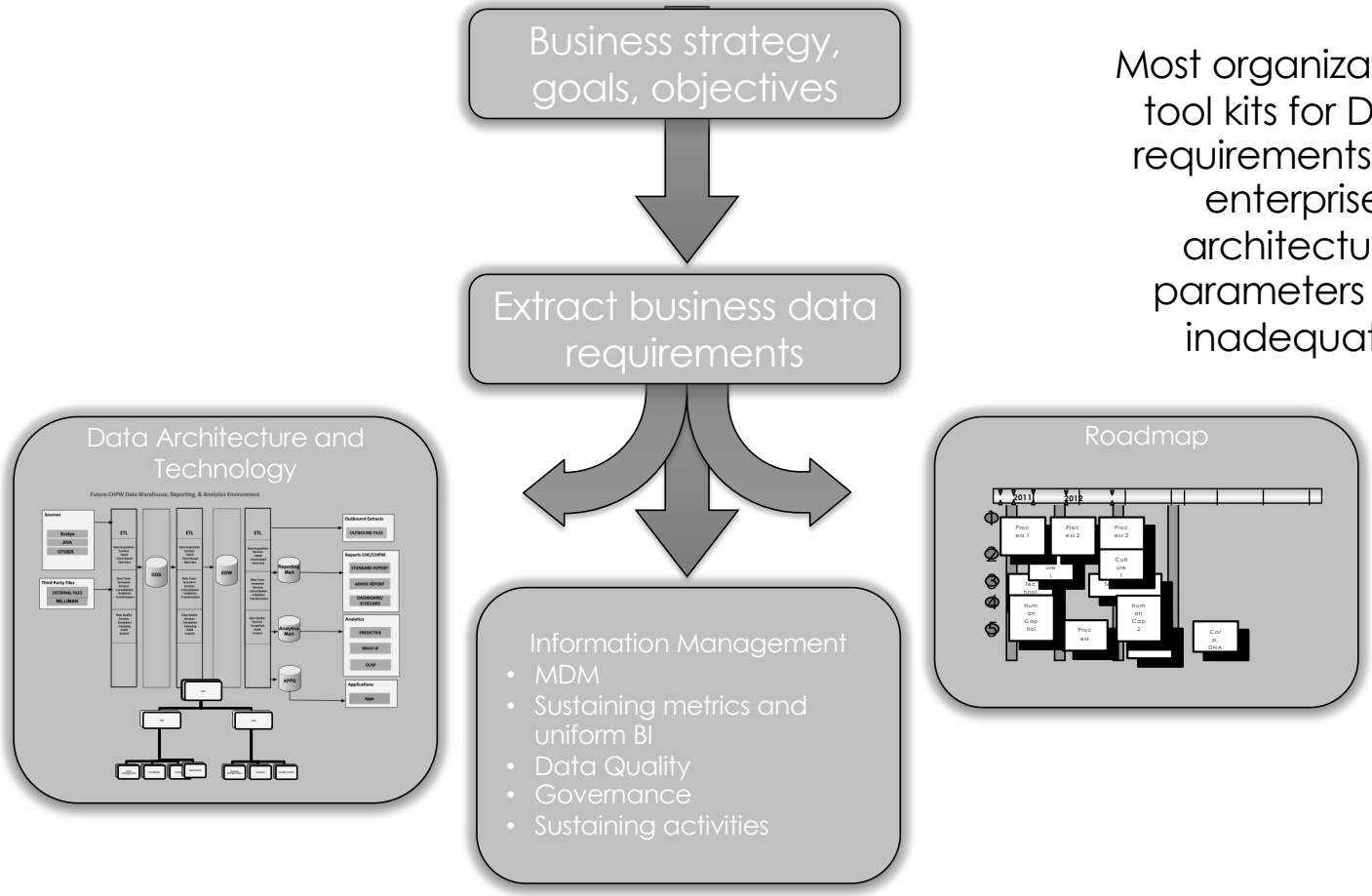
Change processes and methods

**

Details of the generic mindset

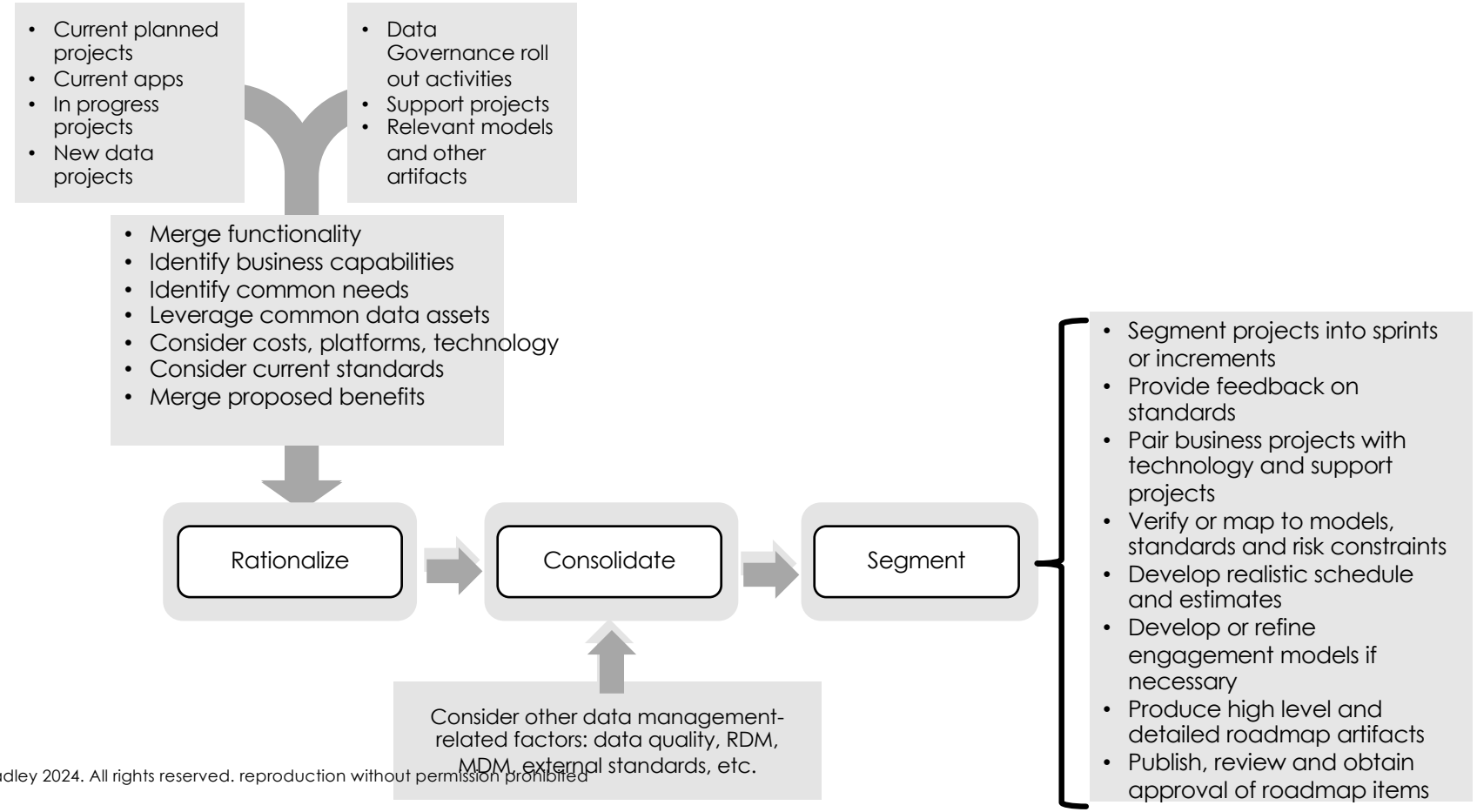


Artifact flow to define strategy

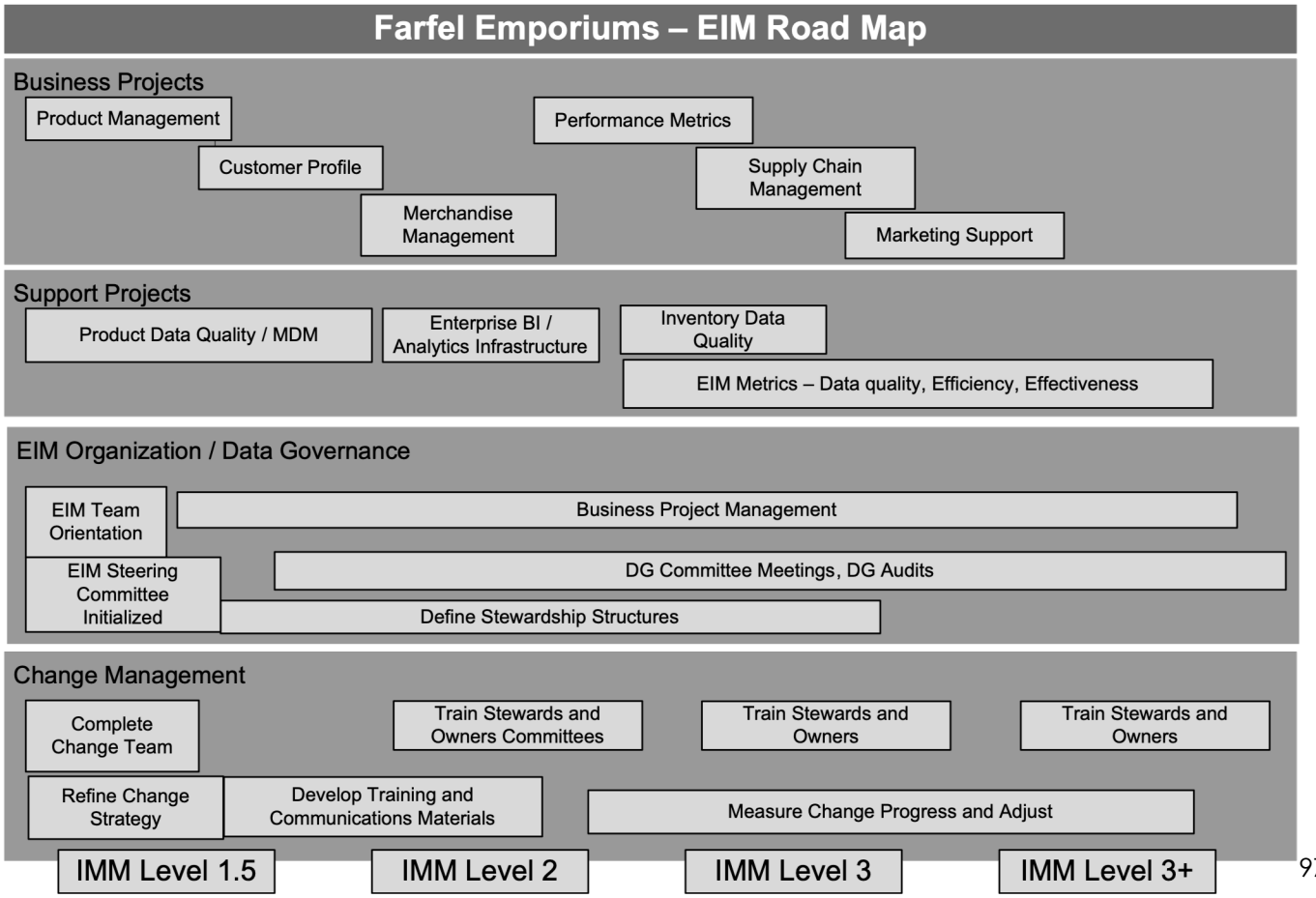


Most organizations'' tool kits for DATA requirements and enterprise architecture parameters are inadequate

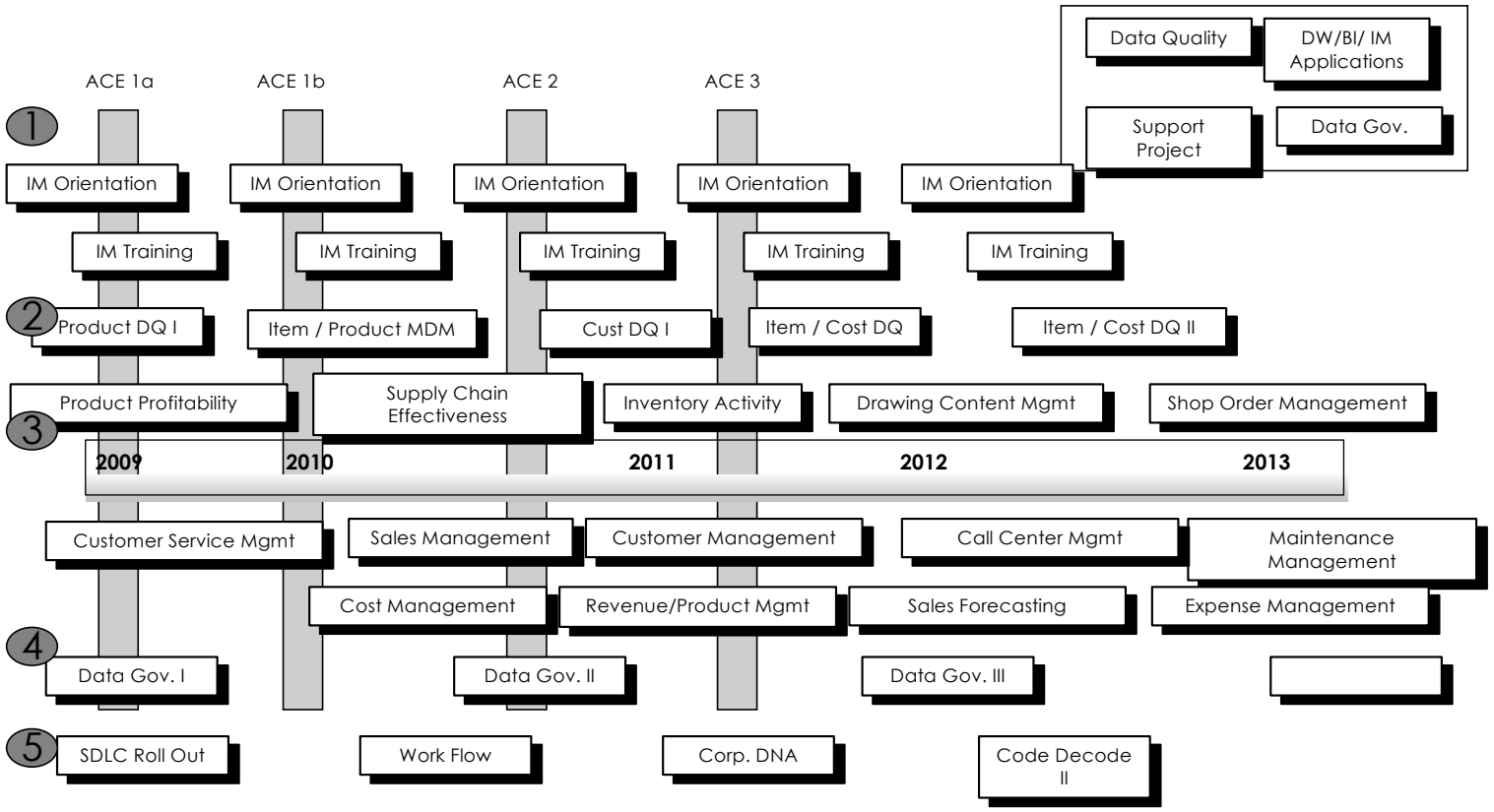
Roadmap Process



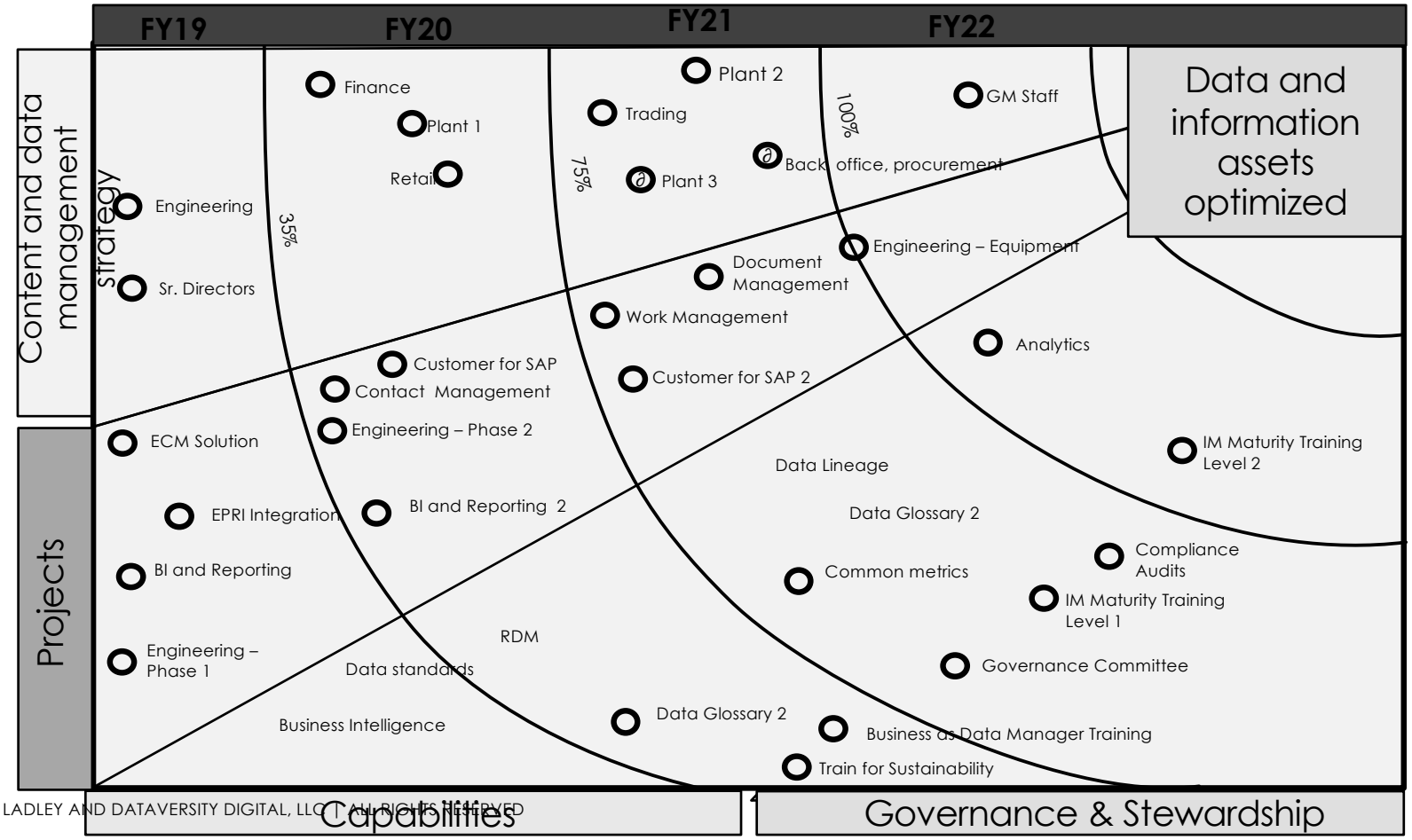
Sample Road Map



Sample ROADMAP



Sample High Level Roadmap



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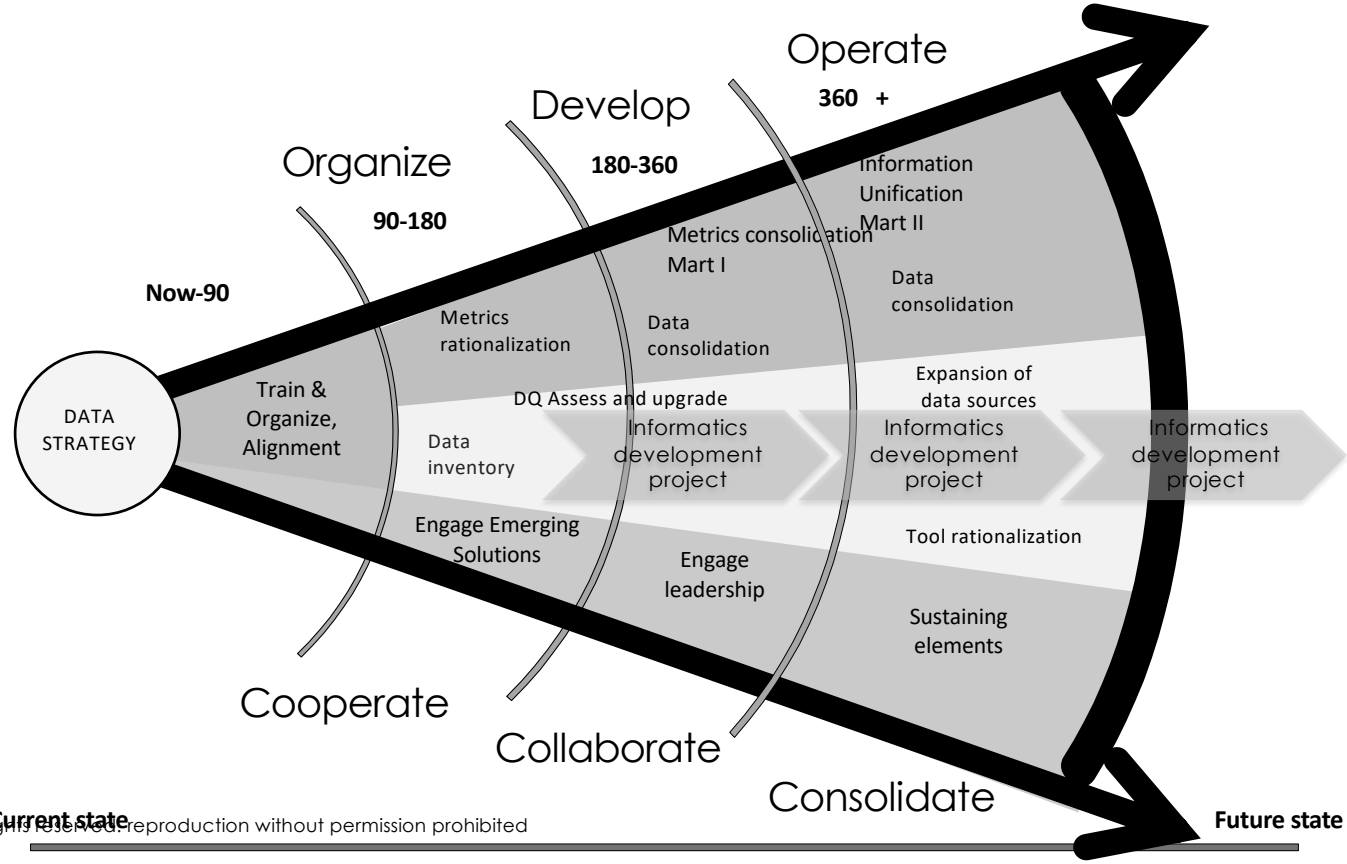
LEADERSHIP-LEVEL roadmap

People

Information and Governance

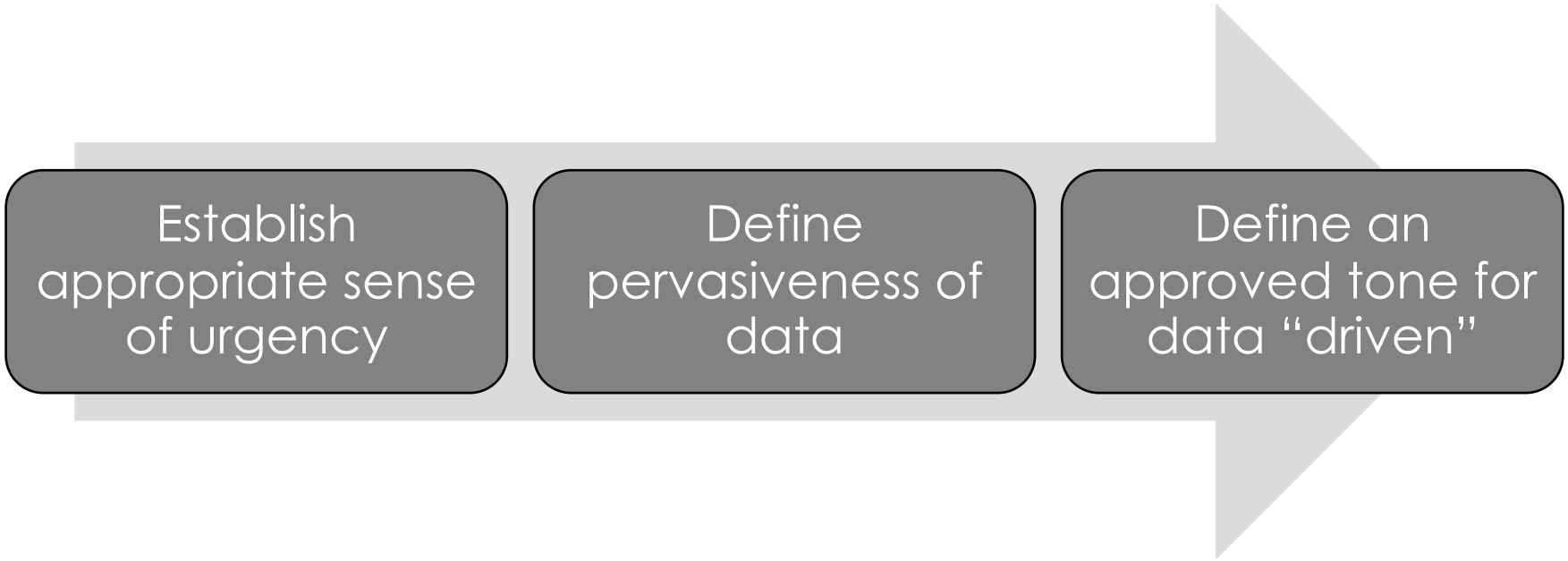
Technology



Sustainability - Data literacy, acumen, and transition management

Obstacles to address

Set tone – an overlooked element



15-minute break

Prioritizing Business-Critical Data and Capabilities

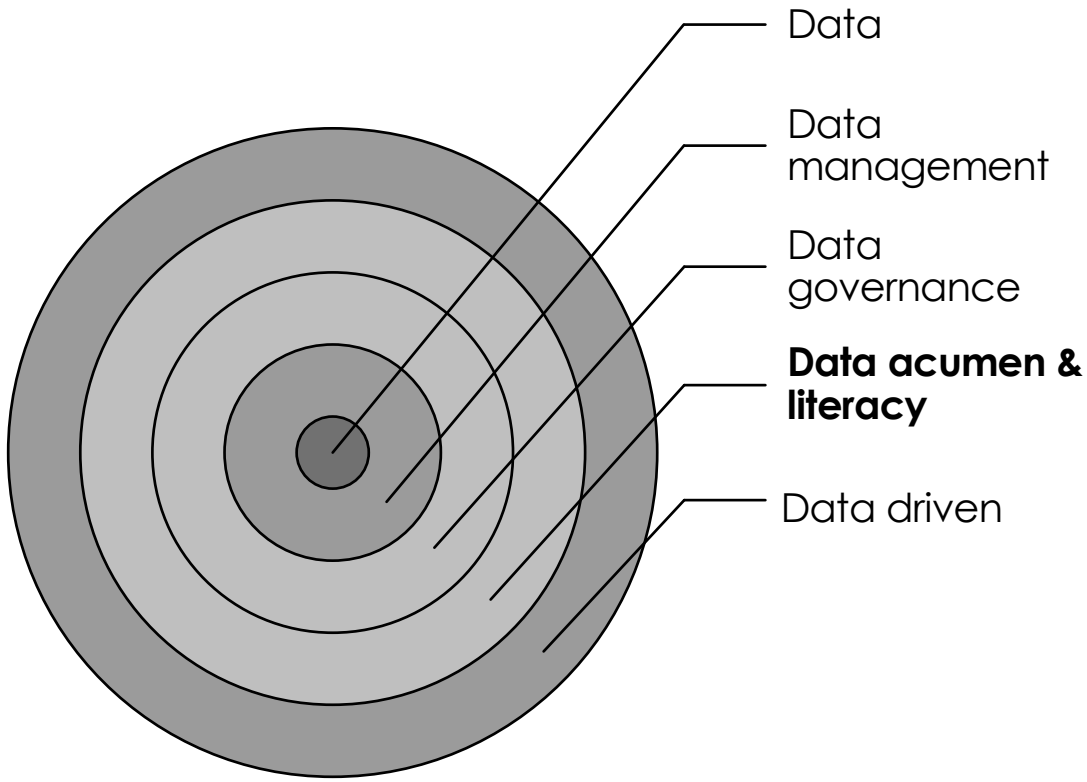
- Identify and prioritize cross-functional stakeholder needs
- Define and manage business-critical data
- Build the right technical architecture for your organization's needs
  - Often is it NOT what you think
- Avoid "a technology procurement strategy"

You should never state a component of Data Strategy is required without aligned justification

Be clear - Data driven taxonomy

Key concepts – before anything else

This is a long haul

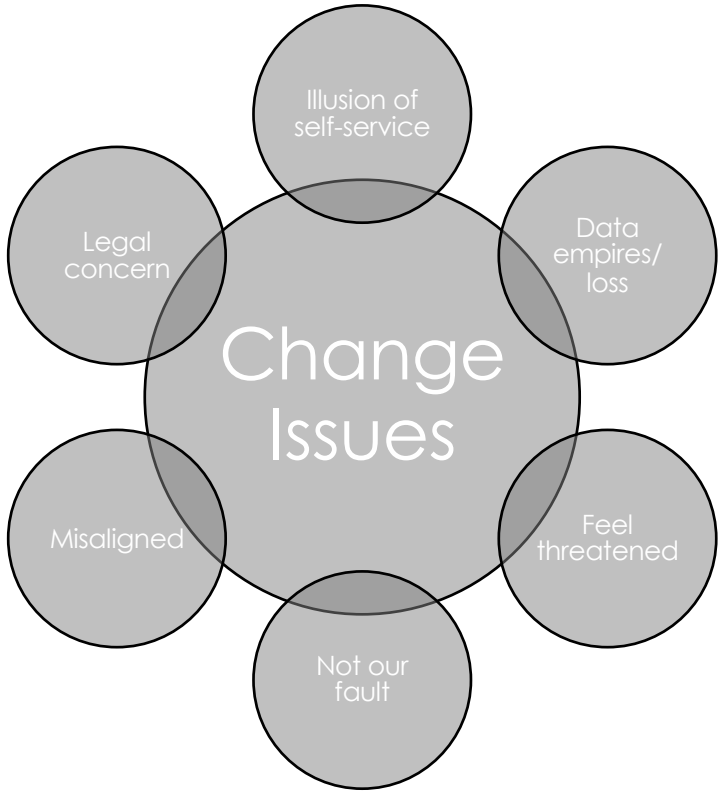


Understand Leadership and data

- They are smart
- They remember failure
- They will understand new concepts
- They are assuming you know your job
- They really do not have the time for details
- We have left them in the dark or poorly communicated for years

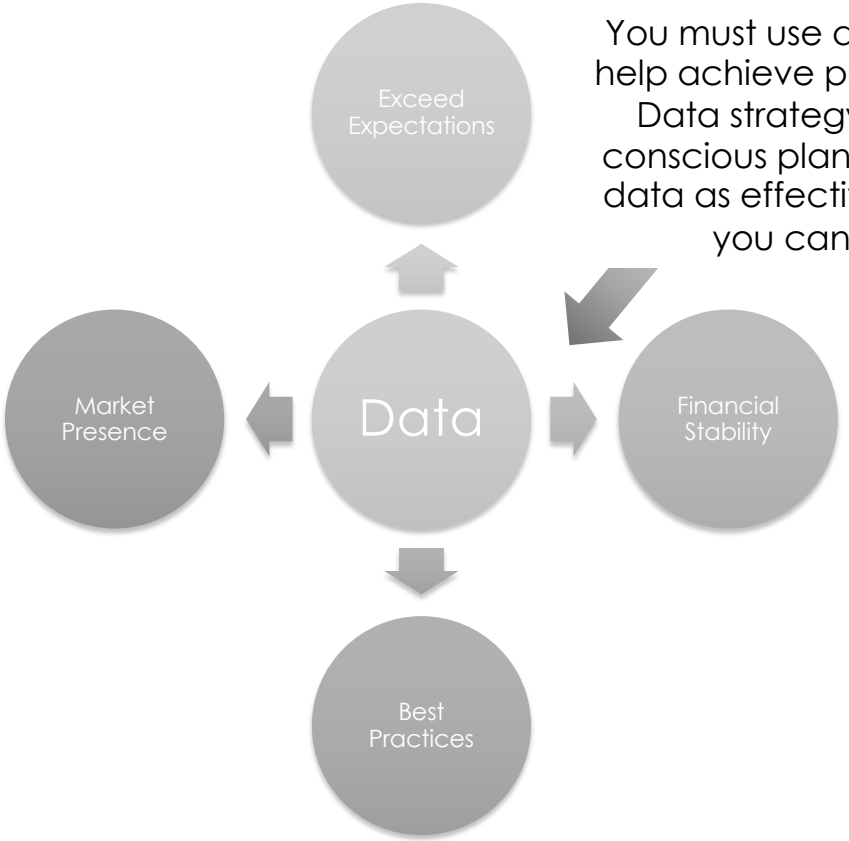
DG = change = Psychology*

- This is NOT POLITICS*
- It is psychology
- Sustaining the strategy and DG program requires significant management of soft issues
- You can make the change easier, you cannot remove required changes



Data Strategy = Org Change Management

- Data strategy, management, and governance is not a new project or initiative. It is a change in behavior and approach to work already underway or planned
- Data Governance is like quality assurance, it will define a new way to work, not new work
- Managing the required behavior changes in data and information handling is mandatory for any data-intensive program
- This is proven by data and observations across hundreds of ERP, MDM, DG, Big Data, and Data Quality efforts



You must use data to help achieve priorities. Data strategy is a conscious plan to use data as effectively as you can

Gleicher Change Equation (courtesy Danette McGilvray)

Change = (D) (V) (F) > R

D = Dissatisfaction with status quo
V = Vision of the Change
F = First Steps
R = Resistance

Dissatisfaction with the Status Quo, Vision of the Change, and First Steps have to be greater than the Resistance to the Change.

What happens if an element of the equation is missing? (Dannemiller Tyson)

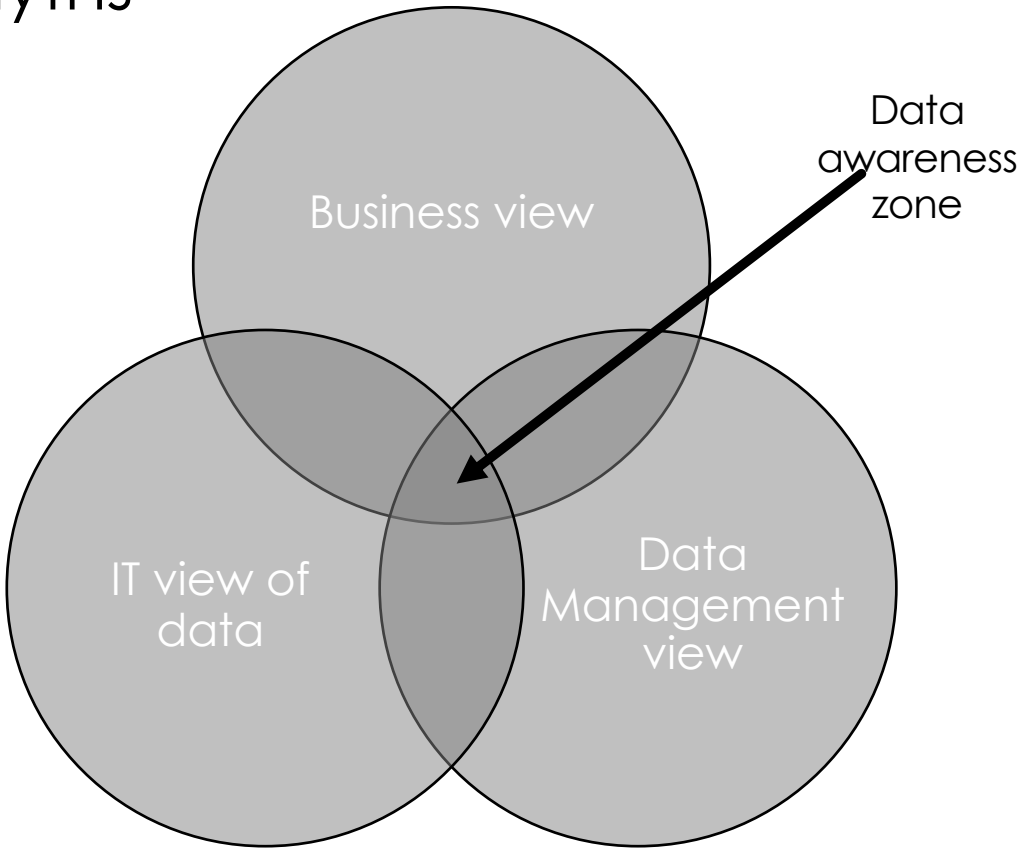
- **(D) ~~(V) (F~~) = Frustration** (Dissatisfaction but no Vision or First Steps)
- **(D) ~~(V)~~ (F) = "Flavor of the Month"** (Dissatisfaction and First Steps but no Vision)
- **~~(D)~~ (V) (F) = Wishful thinking that evolves into passivity** (Vision and First Steps but no Dissatisfaction)

Gleicher change equation from Beckhard & Harris, 1987 as discussed in Dannemiller, K. D. and R. W. Jacobs. "Changing the Way Organizations Change: A Revolution of Common Sense." The Journal of Applied Behavioral Science, December, 1992.

Dannemiller Tyson Associates, Inc. (1994) Real-Time Strategic Change.

Strategy and governance change means overcoming data myths

- Myths of data
  - Data is owned by IT
  - It's "my" data
  - Operational data is good enough for analytics
  - I can keep my data secure
  - We can clean up the data
  - We should hire data capability
  - We will get to fixing that later
- Data practitioner myths
  - Business areas don't get it
  - It is all political



Sustaining plan

Training plan	Communications plan	Behavior milestones
Leader alignment	Sponsorship	Resistance plan

RELEVANT EDUCATION

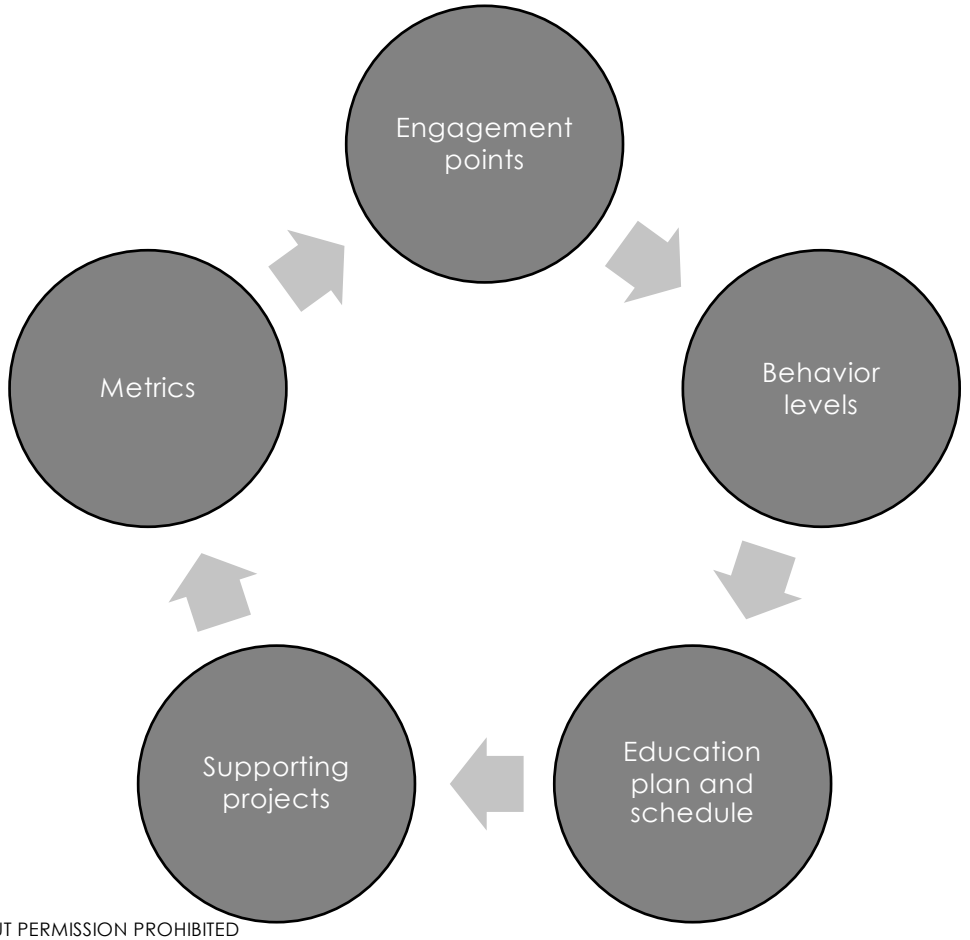
Types	Tracks
✓ Orientation • Understand vision, concepts, and value proposition so one is visibly acting in support of a change or activity	✓ Data Strategy Fundamentals • Basic, non-company-specific knowledge of topics related to and connected by a Data Strategy
✓ Education • Ensure that the desired activity or change takes place from accountability and managerial view	✓ Data Strategy Tracks • Knowledge transfer for company version of Information Management capabilities such as Data Management or Data Governance
✓ Training • Ensure action takes place from the view of those responsible for execution; "feet on the ground"	✓ Work Stream-Specific Tracks • Detailed knowledge transfer by roles (e.g., use case participants)

NOTE: Current definitions of "literacy" focus here!

Literacy/ acumen Roadmap

KEY POINT:

- Regardless of approach you will need to train someone and raise data awareness
- So, plan for it



Getting smarter - No one is excused

Everyone instinctively thinks about data as part of their jobs."

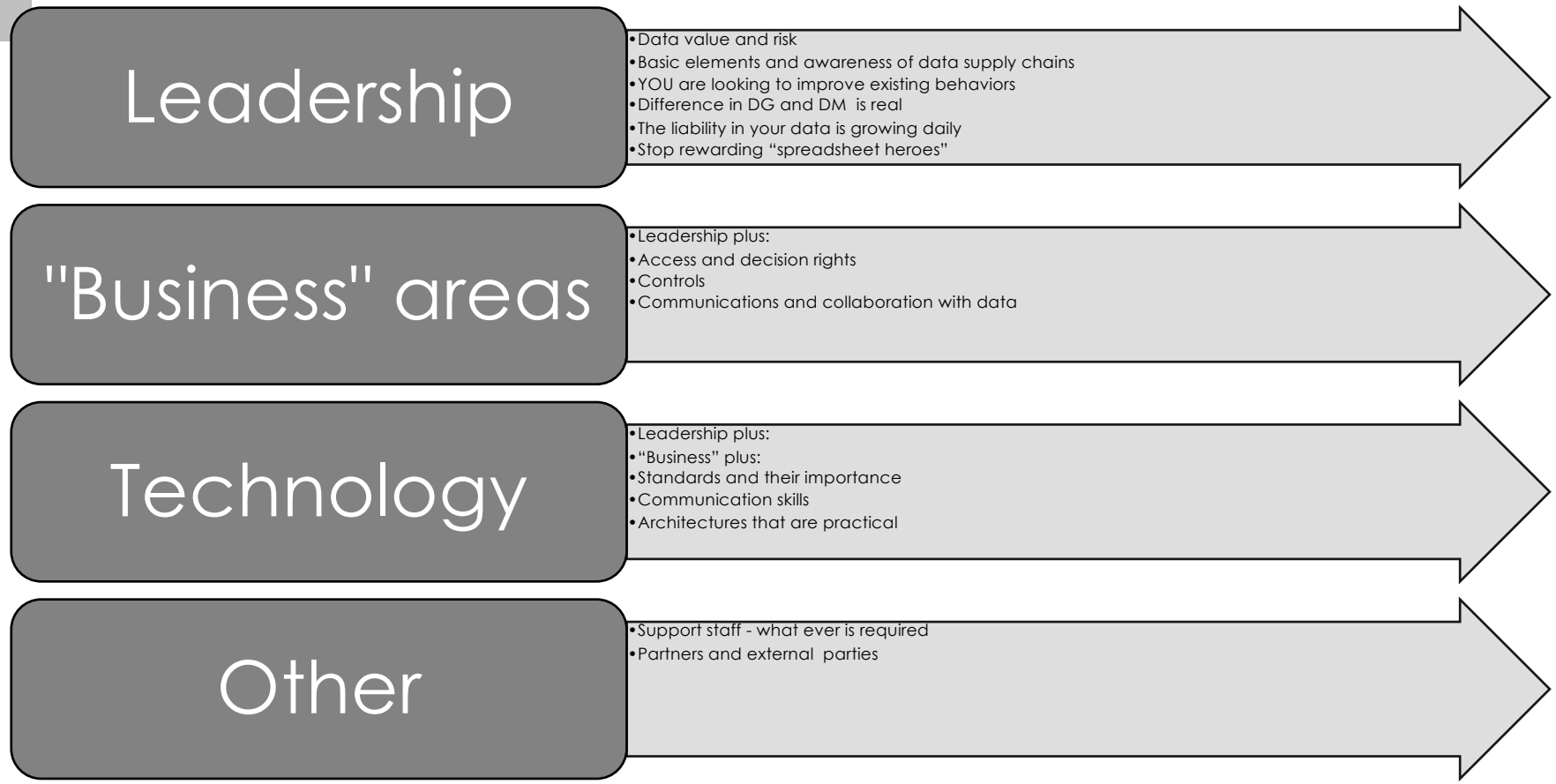
- How the data is managed, and used – the data entire supply chain
- How to communicate and analyze
- Understand the ramifications and risks

Why?

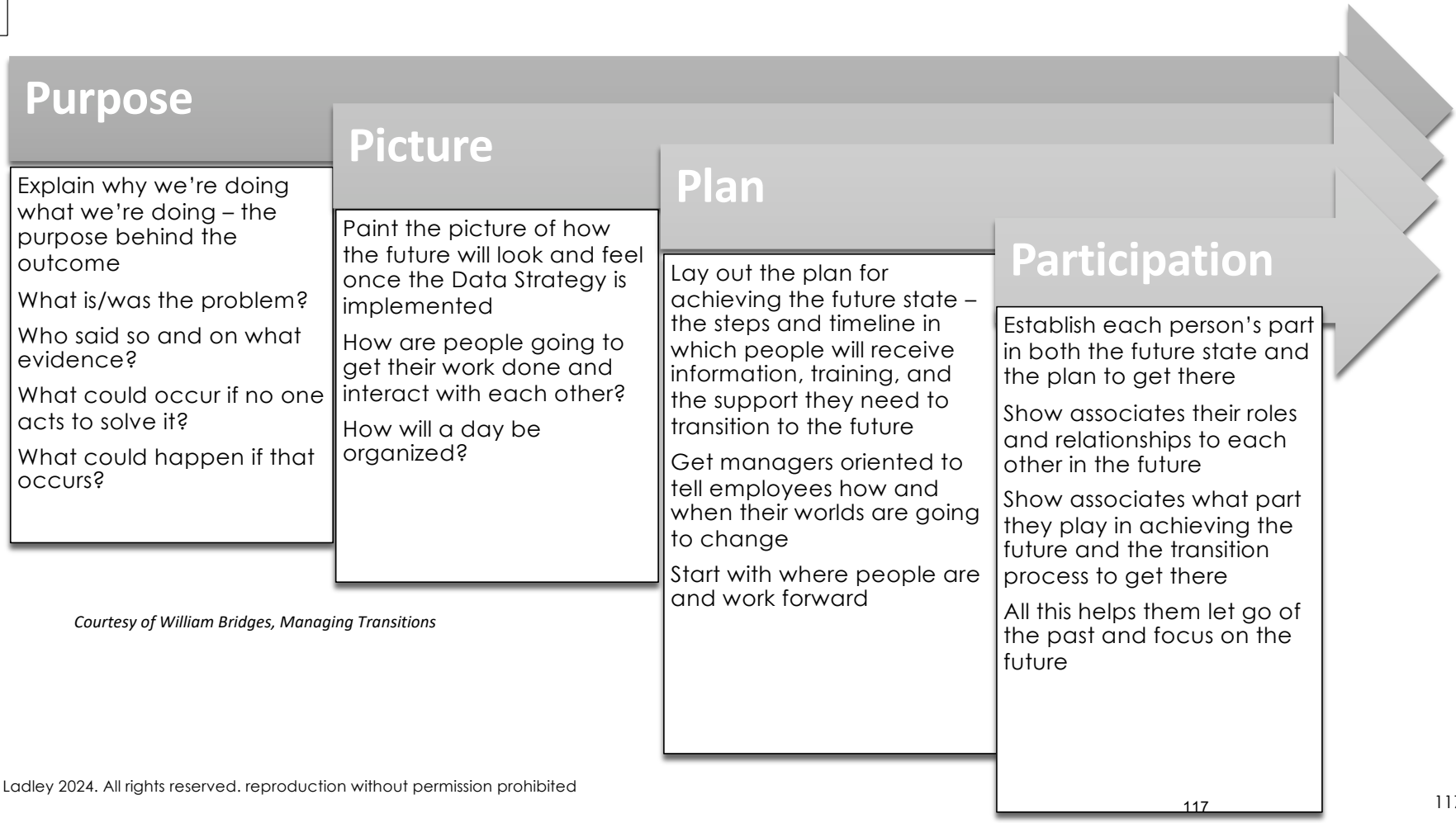
- History
- Compliance
- Competition
- Ethics
- Anthropology

*Data is an anthropological issue.
The economic doctrines of Land, Labor and Capital now have a new friend - Data.
We are ill equipped for this new age.

No one is data literate / or has data acumen
No one.



Relevant Communication Framework



Courtesy of William Bridges, Managing Transitions

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Change your attitude and be realistic

- AI / ML - needs data quality
- Data driven = really hard
- Data literate – necessary but vague
- Data governance – do we even have to ask?
- Data management - ditto
- Data tools – Not a career move

- If you are trying super hard and not getting anywhere you are doing it wrong
- Can your organization handle a sea change in culture?
- You need a practical data strategy – one that matches your business or organization.
- Yes – there are points of light of people using AI etc, but real sustainable value doesn't start until something is mainstream.

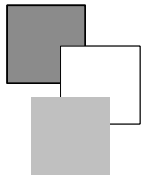
Build your skills

- Professional skills
  - Alignment and strategy mapping
  - Capability modeling
  - Communications
  - Sales
  - Accounting and finance
- Personal skills
  - Logic
  - Ethics
  - Listening

Literacy and acumen training is a requirement- never present as a choice

- Don't bother selling, just build it in
- Subjective business case
  - What if we don't
  - External examples
  - Competitors and industry examples
- Objective business case
  - Risk reward quantified
  - Investment vs return quantified
  - In context of strategy
- Messaging
  - Simple, concise
  - Absolutely no "data speak"
  - Clear vocabulary before hand – some words are no no's
  - Rehearse with a sponsor

If you have to explain a joke, it isn't funny



Summary and Review

Walk the talk – this is not new

Governance

- Not new
- Not "bad"

Data assets management

- Assets are not new
- Asset treatment is not new

Not rocket science – 90% of what you are doing has been mastered by other business capabilities esp. Finance

Review: What is a data strategy?

- "The data portion of your business strategy" (Ladley)
- It needs:
  - Strong vision
  - Strong business case
  - Expression of philosophy – principles, values, and perspectives
  - Clear goals
  - Measures
  - Early wins and long-term plans
  - Clear behaviors
  - Clear steps
  - Practical for the environment
  - Consideration of the soft issues

The big issues and why

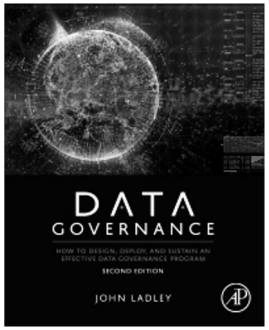
- What is Data Strategy? – leadership does not know and you must educate
- Motivation and drivers count – forget buy-in. Seek engagement
- Business alignment – the number two success factor. Do a formal exercise
- Effectively communicate needs and expected ROI – data people really aren't very good at this

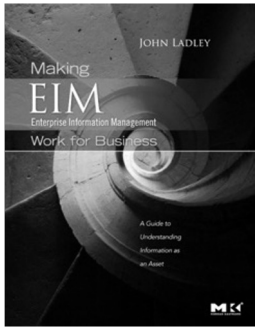
Data and a Data Strategy is Essential

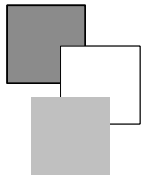
- People - there are new behaviors and things to learn – innate skills for technologists, data skills for leadership
- Data Strategy - your playbook for data
  - Define the business solution, including a value statement. Then talk to vendors and architects
  - Insist that programs and projects fix something in a data context. Do not permit more data debt
  - Align data value with specific goals
- Formal data oversight and data controls are mandatory - There are no exclusions
- You need to raise all the boats in the tide, no one in your organization has the acumen to seamlessly integrate data thinking into their everyday activity…yet

Your speaker

- Official bio..... John Ladley is a highly experienced practitioner, advisor and advocate for organizations looking for sustainable value from information and data. His experience and knowledge is balanced between treating data assets as an essential component of modern business and economies, and the practical solution of business problems.
- John's books are the authoritative sources for Data and Information Management and Data Governance. He is a recognized authority and speaker on enterprise information management, including data monetization, information and data architectures, data governance, MDM, data quality, BI and Analytics, data warehouse and knowledge management. John is sometimes called the "senior statesman of data." Currently John is semi-retired and works with clients as an advocate for data governance and management and as a mentor to organization leadership.
- "Unofficially" - data and information management is something John didn't go after. It found him. And as digital data becomes woven into the fabric of our existence, John believes we all need to accept a reality where fundamental corporate and organization structures, policies and process will change. Society itself needs to change. This is an anthropological issue. The economic doctrines of Land, Labor and Capital now have a new friend - Data. We are ill equipped for this new age.
- Email john@ladley.biz
- Web www.johnladley.com







Deliver Value Soon

TIME PERMITTING

Quick wins – Data quality

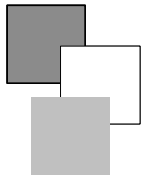
- Data Quality means data is fit for purpose
  - e.g., most operational data is not suitable for advanced analytics
- Data Quality issues are costly
  - U.S. economy 2017 cost $3.1 trillion – with a T
- Considerations
  - Develop awareness
  - Build out remediation efforts
  - Centralize control
  - Federate accountability
  - Manage changes

Data Specifications	Does the data being used exist as you think it does? IS it suitable for the purpose you are using it for? Is it documented accordingly?
Data Integrity Fundamentals	Is the data available, and is it in the right place with the correct structure to be used like you want to use it?
Duplication	Is the data used in multiple locations with no coordination across the areas it is used?
Accuracy	Are the values in the data filed correct?
Timeliness and Availability	Is the data available when it is needed?
Consistency	Is the data used consistently across various data stores?
Accessibility	Can we get to the data and use it?
Perception, Relevance, and Trust	Is the data perceived as valuable and relevant to the intended purpose?
"Transactability"	Does the data produce the desired business transaction or outcome?
Risk	Is there a risk to client safety, or breach of regulatory compliance possible?

Based on Executing Data Quality Projects: Ten Steps to Quality Data and Trusted Information™, by Danette McGilvray, published by Morgan Kaufmann Publishers, Copyright 2008 Elsevier Inc. All rights reserved. And Making EIM Work for Business, by John Ladley published by Morgan Kaufmann Publishers, Copyright 2010 Elsevier Inc. All rights reserved

Quick wins – BI and analytics

- Goal: Ability to get reports and do analysis with minimal intervention
  - Use certified sources
  - Work efficiently
  - Work intelligently
  - Work transparently
- Consideration
  - Self-service vs. self-serving mentality
  - Manage changes



Some tactical activities

Data Management "side"

- Data Quality efforts
- Improve BI or analytics support for a struggling project
  - MDM
  - ERP
  - ML/AI
- Mitigate annoying compliance items

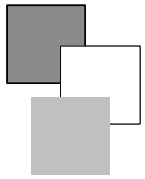
Data Governance "side"

- Data agreements
- Defining commonly used data and acronyms
- Articulating a regulatory compliance or privacy policy for data and evaluating current issues
- Establishing a suitability-for-use scoring methodology for Data Quality
- Compiling business and technical metadata to support an ongoing initiative that is struggling
- Data lineage analysis for key reports

PMO / Portfolio New project checklist

- These are activities done at portfolio mgmt. / PMO type levels to insert data thinking, as well as ensuring the DG and DM are engaged with projects as appropriate
- These activities are not part of planning, but are part of everyday interaction between portfolio and PMO areas and current work streams. They are a manifestation of data thinking and data planning being part of everyday management activity

Document current data sources , systems of record
Identify new data sources – external or internal
Review if there is reporting of KPIs or standard metrics
IS this a Analytics/Business Intelligence type effort?
Any filtering / dimension items ?
Assess complexity of queries
Any complex analytics/actuarial calculations ?
IS there intention to use AI or advanced algorithms?
Are Data Management and Data Governance capabilities recognized, called out or required for success?
Does effort need to address Known Data Quality issues?
Any Regulatory data requirements?
Any new data elements besides filters and dimensions?
Are New data files required ? Has this been verified and approved?
Are there Privacy data requirements present?
Are there Security requirements present?
Will effort require a role such as a data ambassador or trustee?
Are here external Data agreements involved? Is Procurement engaged?
Is there an impact to master or reference data?
Is there a requirement for data lineage or curation (e.g., compliance-based) ?
Is there a requirement to use or update a data glossary
Is there procurement of technology planned?
Will there be a change in accountability or ownership of any data items?
Are new data policies required?
Are data principles affected?
Is an executive sponsor required due to data changes?
Are there any requirements for extensive business involvement?



Data governance task Checklist

- This is a checklist of activities that can be initiated early on across multiple efforts
- Make available to PMO to aid in estimating, and for insertion into project plans

Identify new capabilities for DG and DM
Develop DG artifact and tools or templates if required
Specify new critical data elements, metrics, or domains
Define policy and standards for data related to projects
Train relevant council and committee members
Oversee use cases and/or data issues
CDE criteria for projects
Define policy and standards for data related to use cases and projects
Use the operating model to monitor use case and oversee data efforts
Identify additional training opportunities for new DGC members
Ensure new elements are “glossarized”
Install new policies
Communicate new capabilities and stakeholders
Train new members
Define new accountabilities and custodial duties
Refine operating models if required
Define roles and responsibilities
Set policy
Implement metadata solutions
Manage DG metrics
Track value of DG
DG metrics presentation
Define accountabilities and custodian duties
Sustaining requirements for every project
Leader alignment
Revise and implement communications
Data literacy check
Refine training plan as needed