



Navigating Data Governance in a Era of Global Uncertainty

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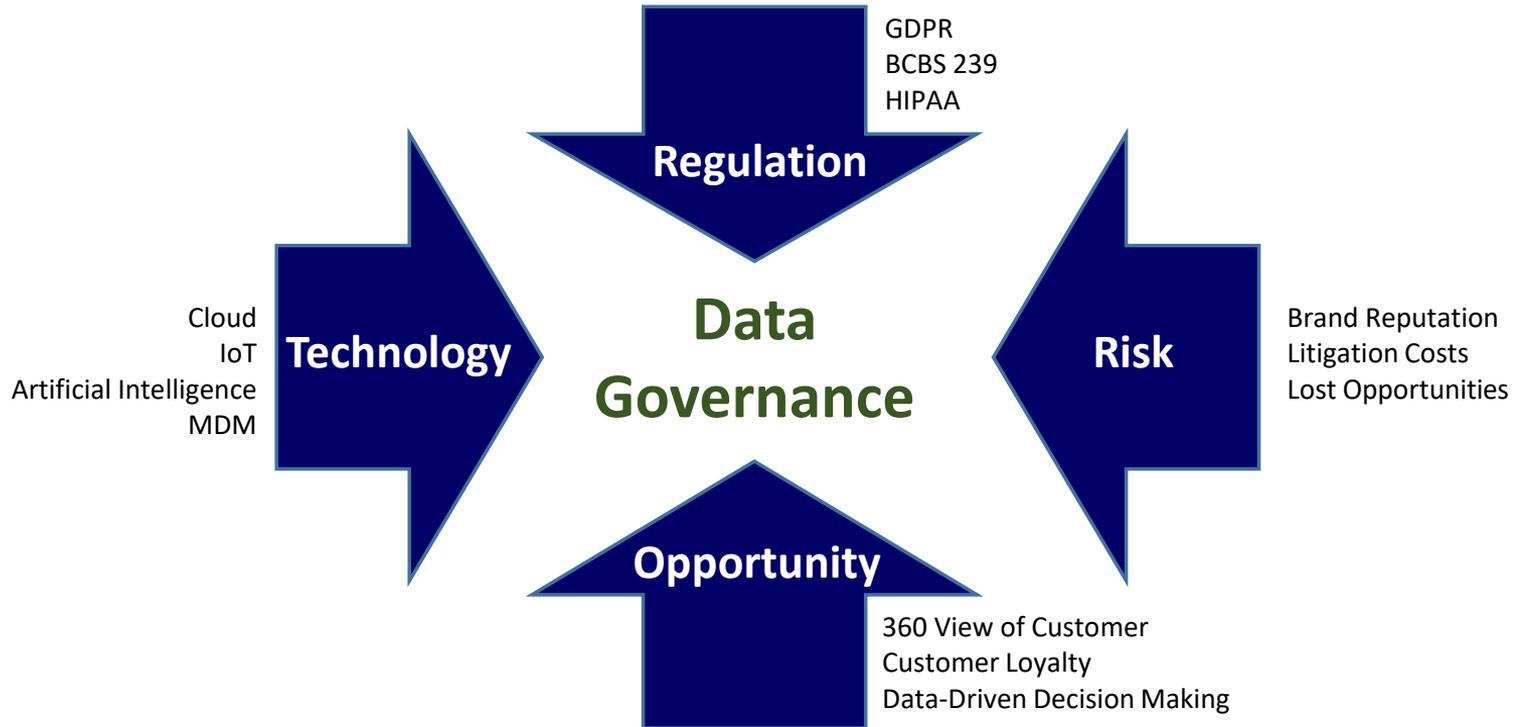
- In a business environment driven by data, these can be uncertain times. Technology is changing at a rapid pace with the introduction of Big Data, Artificial Intelligence, IoT, and other transformational innovations.
- As a result, entirely new business models are emerging to capitalize on these technologies, with the digitization of foundational business practices that are changing the very way businesses operate.
- Combine this with changing regulatory and political environments at home and abroad: from BCBS 239 to GDPR to Brexit.
- How is today's information-savvy business executive able to govern their data effectively while at the same time achieving the business value and rapid deployment that new technologies bring?
- We'll discuss **both the opportunities and risks inherent in the data landscape** today, and how data governance can effectively address them.



What is Data Governance?

Data Governance: The exercise of authority, control and shared decision- making (planning, monitoring and enforcement) over the management of data assets. ¹

A Convergence of Forces for Data Governance



The Rise of the Data-Driven Business

Data, more than ever, is seen as a key business asset and strategic differentiator.



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Challenges and Opportunities Confront the Data-Driven Business

Most companies capture a small fraction of their data's value

How can we Transform our Business through Data? Interop ITX

Business Optimization Becoming a *Data-Driven Company*

- Making the Business More Efficient
 - Better Marketing Campaigns
 - Higher quality customer data, 360 view of customer, competitive info, etc.
 - Better Products
 - Data-Driven product development, Customer usage monitoring, etc.
 - Better Customer Support
 - Linking customer data with support logs, network outages, etc.
 - Lower Costs
 - More efficient supply chain
 - Reduced redundancies & manual effort

How do we do
what we do
better?

Business Transformation Becoming a *Data Company*

- Changing the Business Model via Data – data becomes the product
 - Monetization of Information: examples across multiple industries including:
 - **Telecommunications:** Location information, usage & search data, etc.
 - **Retail:** Click-stream data, purchasing patterns
 - **Social Media:** Social & family connections, purchasing trends & recommendations, etc.
 - **Energy:** Sensor data, consumer usage patterns, smart metering, etc.

How do we do
something
different?



Data Governance as an Opportunity Driver

The “Carrot”



While many associate data governance with avoiding risk or complying with regulation, data governance is also an **opportunity driver**.

Optimizing Restaurant Revenue through Menu Data

Managing the Data that Runs the Business

- An international restaurant chain realized through its digital strategy that:
 - While menus are the core product that drives their business...
 - They had little control or visibility over their menu data
 - Menu data was scattered across multiple systems in the organization from supply chain to kitchen prep to marketing, restaurant operations, etc.
- Menu data was consolidated & managed in a central hub:
 - **Master Data Management** created a “single view of menu” for business efficiency & quality control
 - **Data Governance** created the workflow & policies around managing menu data
- Process Models & Data Mappings were critical
 - **BPMN diagrams** to identify the flow of information
 - **CRUD Matrixes** to understand usage, stewardship & ownership

Product Creation & Testing



Menu Display & Marketing



Supply Chain



Point of Sale & Restaurant Operations



Consumer Energy Company's Business Transformation

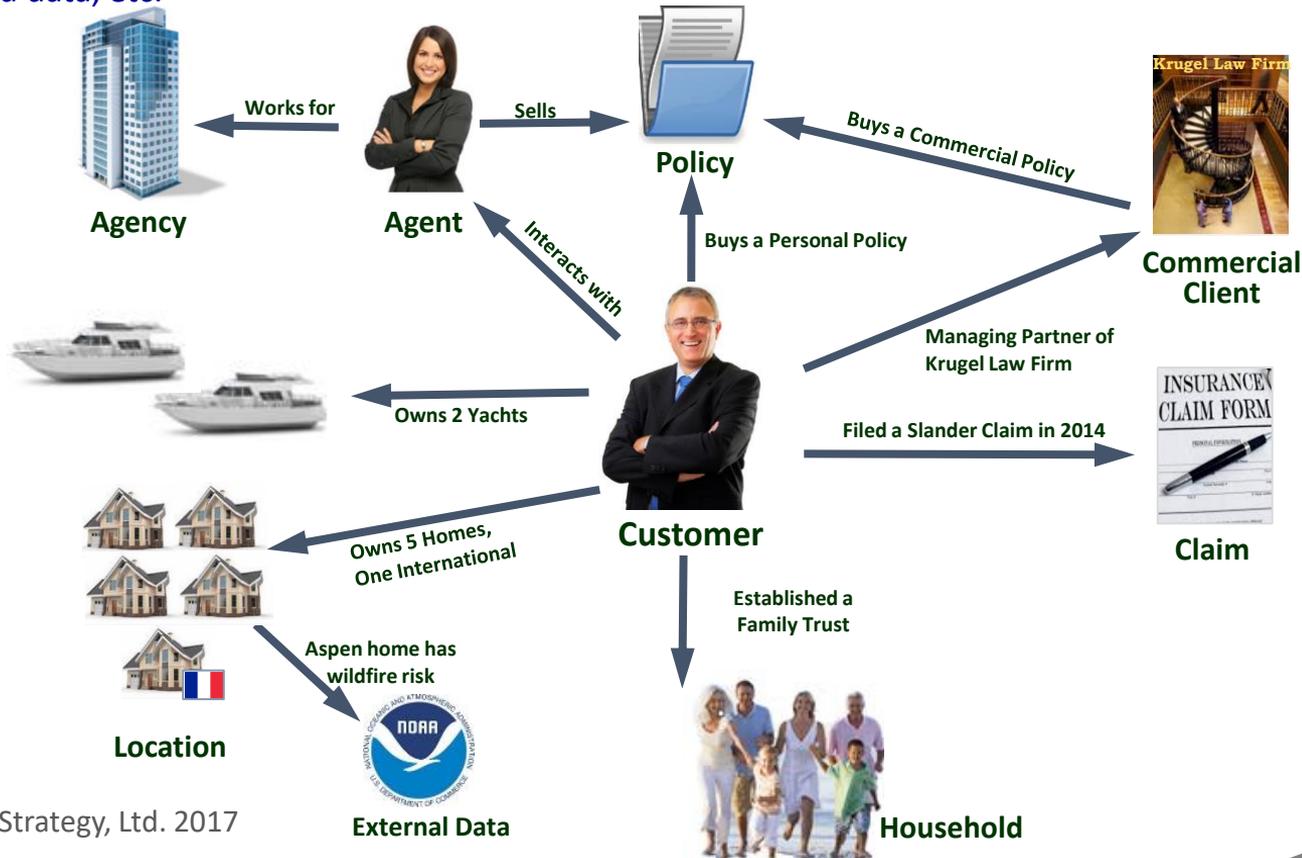
Business Transformation via Data

- For the consumer energy sector *Big Data and Smart Meters are transforming the ways of doing business and interacting with customers.*
 - Moving away from traditional data use cases of metering & billing.
 - Smart meters allow customers to be in control of their energy usage.
 - Control over energy usage with connected systems
 - Custom Energy Reports & Usage
 - Smart Billing based on usage times
- As energy usage declines, *data is becoming the true business asset* for this energy company.
 - Monetization of non-personal data is a future consideration.
- While the **Big Data Opportunity** is crucial, equally important are the traditional data sources
 - **Data Governance Program** analyzing data in relation to business processes & roles
 - **Business-critical data elements identified and definitions created**
 - **New Data Quality Tools** in place for operational and data warehouse data



Financial Institution: Creating the 360 View of Customer **Interop**ITX

- A NY Financial Institution was looking to create a 360 View of its High Net Worth Customers
- A Big Data Analytics project performed exploratory analysis on external data sources, social media, internal unstructured data, etc.



The Risk of Bad Data

- But when they tried to match this with their Customer database, they had duplicate customers – which one was the high net worth individual?
- Errors in Customer information can cause disastrous results. The “360 View of Customer” can be hampered by:
 - **Duplicate Data:** Are “Martin G. Stykes, Phd” and “Martin Stykes” the same person?
 - **Erroneous Data:** Is Martin *Stikes* a misspelling?
 - **Ambiguous Data:** Is M. Stykes a woman married to Homer Stykes or a man married to Dr. Amber Wentworth?
 - **Poor Relationships between Data :** Does Martin have a good credit rating, or did he recently file for bankruptcy?
 - **Accessibility of Data:** The information about Mr. Styke’s Argentinian coverage can’t be accessed in North America.
 - **Timeliness of Data:** Is Martin Stykes who’s single with no children just an old record for the currently married with children Martin Stykes?
 - **Completeness of Data:** We’re missing information about Mr. Styke’s date of birth.
 - **And the list goes on...**

Family Relationships

- Married to Dr. Amber Wentworth
- Married to Homer Stykes
- Father of James P. Stykes
- Single, No Children

Community Relationships

- Board Member of Schools for Safety

1. Martin G. Stykes, Phd
2. M. Stykes
3. Martha G. Stykes, Phd
4. Martin Stikes
5. M.G. Stykes
6. Martin Stykes
7. Martin Styke
8. Martin G. Stykes
9. Etc.

Commercial Links

- Owner of Krugel Law Firm
- Owner of Mart’s Fish & Chips

SEC & Credit Data

- Excellent Credit Rating
- Filed for Bankruptcy in 2014



High Net Worth Individual?

Telecom Company – Big Data Transformation

Becoming a “Data Company”

Customer Value Optimization

- Customer Experience Optimization
- Customer Sentiment Analysis
- Householding & Family Identification

Personal Privacy Laws



Data Monetization

- Footfall Analytics & Location
 - City Planning
 - Retail Planning & Customer Patterns
- Location-based Advertising
 - Intelligent targeting

↑
New Business Model
Old Business Model
↓

Product Usage

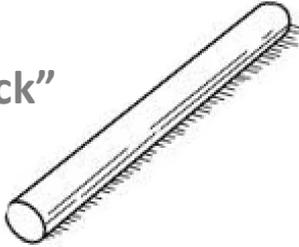
- Usage patterns
- Click-stream analytics

Operational Performance

- Network performance monitoring
- Network usage patterns

Data Governance as an Opportunity Driver

The “Stick”



While many associate data governance with **avoiding risk or complying with regulation**, data governance is also an opportunity driver.

GDPR Regulation

- **GDPR:** General Data Protection Regulation – giving users control over their personal data.
 - Affects all companies with European personal data (e.g. US companies with European customers)
 - Effective May 2018
 - Fines up to 4% of global revenue

Key Aspects

- Implement privacy by design
- Clear agreements between controllers & processors
- Deletion of personal information
- Notify of breaches
- Etc..

What Companies Need to Do

- Map and classify all personal data
- Perform risk assessments
- Design privacy protections into all new business operations and practices
- Employ dedicated data protection officers; monitor and audit compliance
- Etc.



Other Key Regulations

- **Banking Sector - BCBS 239 (Basel Committee on Banking Supervision):** meeting risk data aggregation regulatory compliance
 - Identifying Business Critical Data
 - Business Semantics and Business Glossary
 - Data Usage compliance (Data Sharing Agreements)
 - Data Quality Requirements and Metrics
 - Data Lineage and Data Controls Governance
 - Report Certification and Attestation
 - Adaptability: customization, change management & architecting for future innovation
- **Health Care – HIPAA (Health Insurance Portability and Accountability Act):** protecting the privacy and security of certain health information in the US
 - Privacy Rule: establishes national standards for the protection of certain health information
 - Security Rule: establish a national set of security standards for protecting certain health information that is held or transferred in electronic form
- **Financial Modernization Act (Gramm-Leach-Bliley Act):** controls the ways that US financial institutions deal with the private information (PI) of individuals.
 - Financial Privacy Rule: regulates the collection and disclosure of private financial information
 - Safeguards Rule: stipulates that financial institutions must implement security programs to protect such information
 - Pretexting provisions: prohibits the practice of pretexting (accessing private information using false pretenses).
 - Requires financial institutions to give customers written privacy notices that explain their information-sharing practices.



Wealth of Technologies

- **Technology** is another area that **poses both challenges & risks.**
- There is exponential growth in the data market place. It can be difficult for an organization to know where to begin.

Big Data



AI & Machine Learning



Cloud Architectures



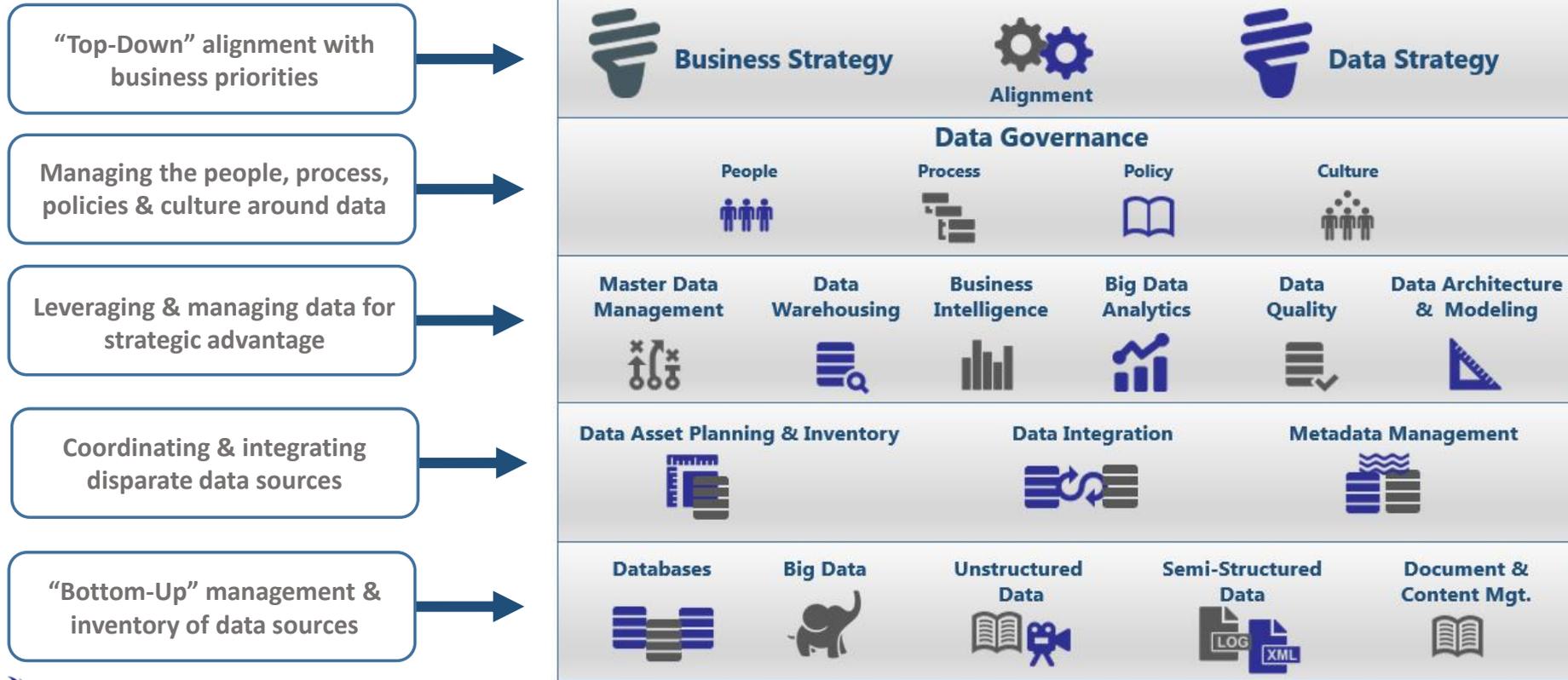
Internet of Things (IoT)



Real-time databases, relational databases, graph databases, legacy systems, etc...

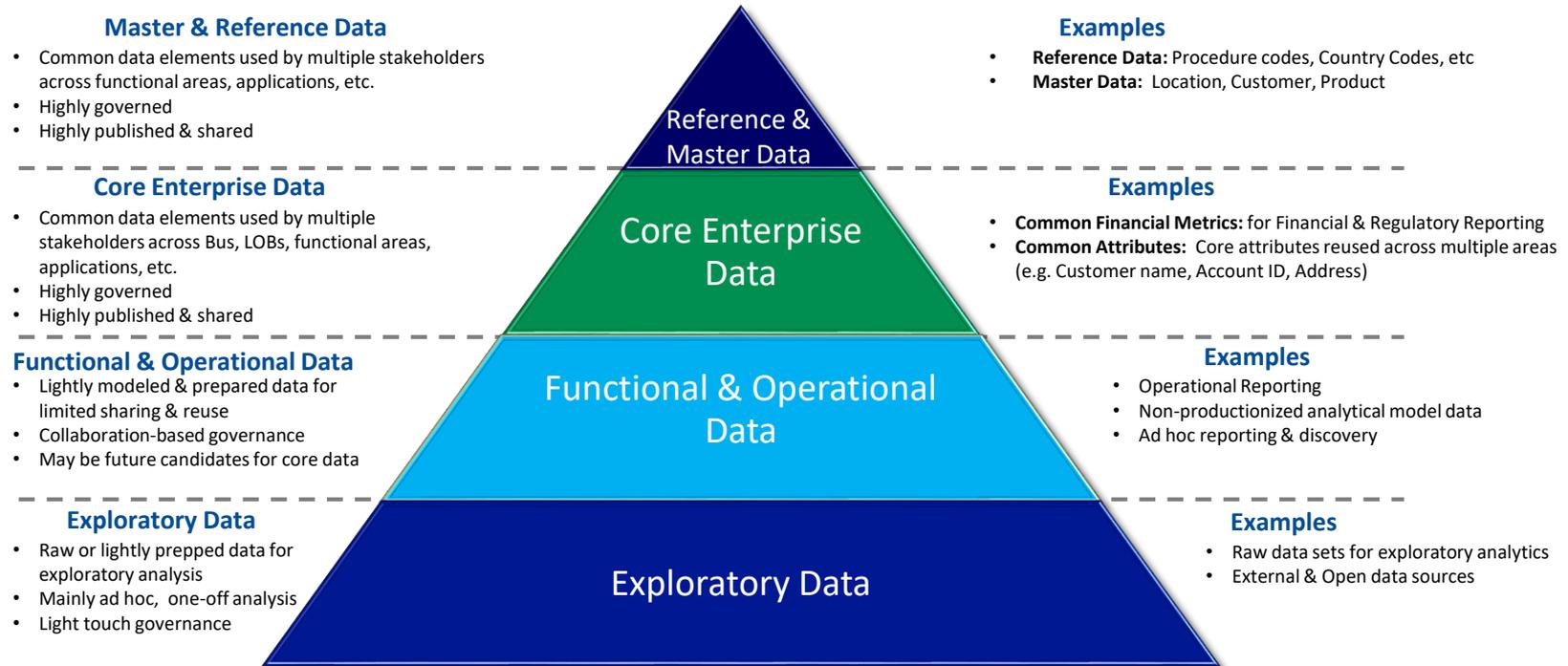
A Data Framework for Digital Transformation

A Successful Data Strategy links Business Goals with Technology Solutions

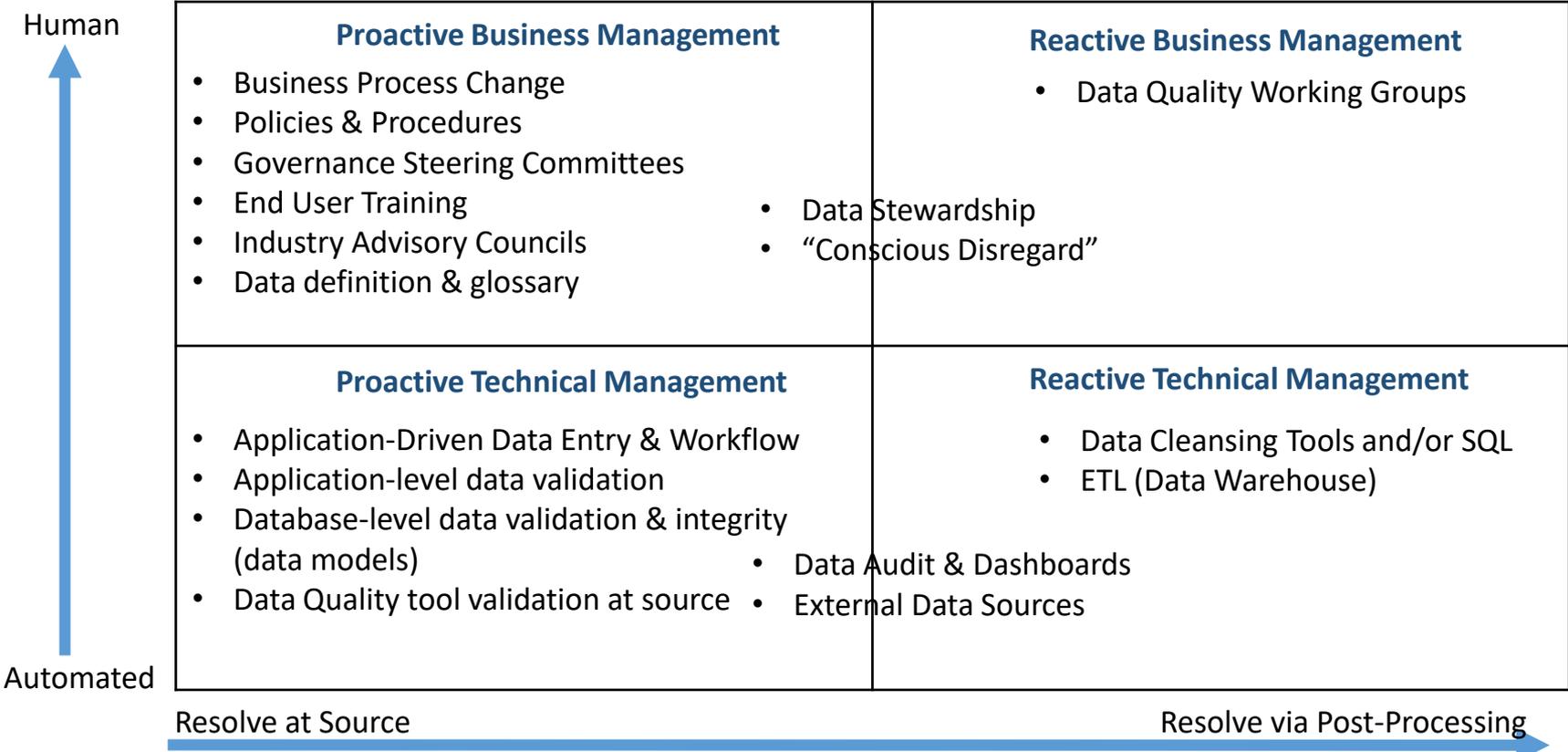


Implement “Just Enough” Data Governance

- Each type of data has its own type of governance model & sharing paradigm
- As a general rule, **the more the data is shared across & beyond the organization, the more formal governance needs to be**



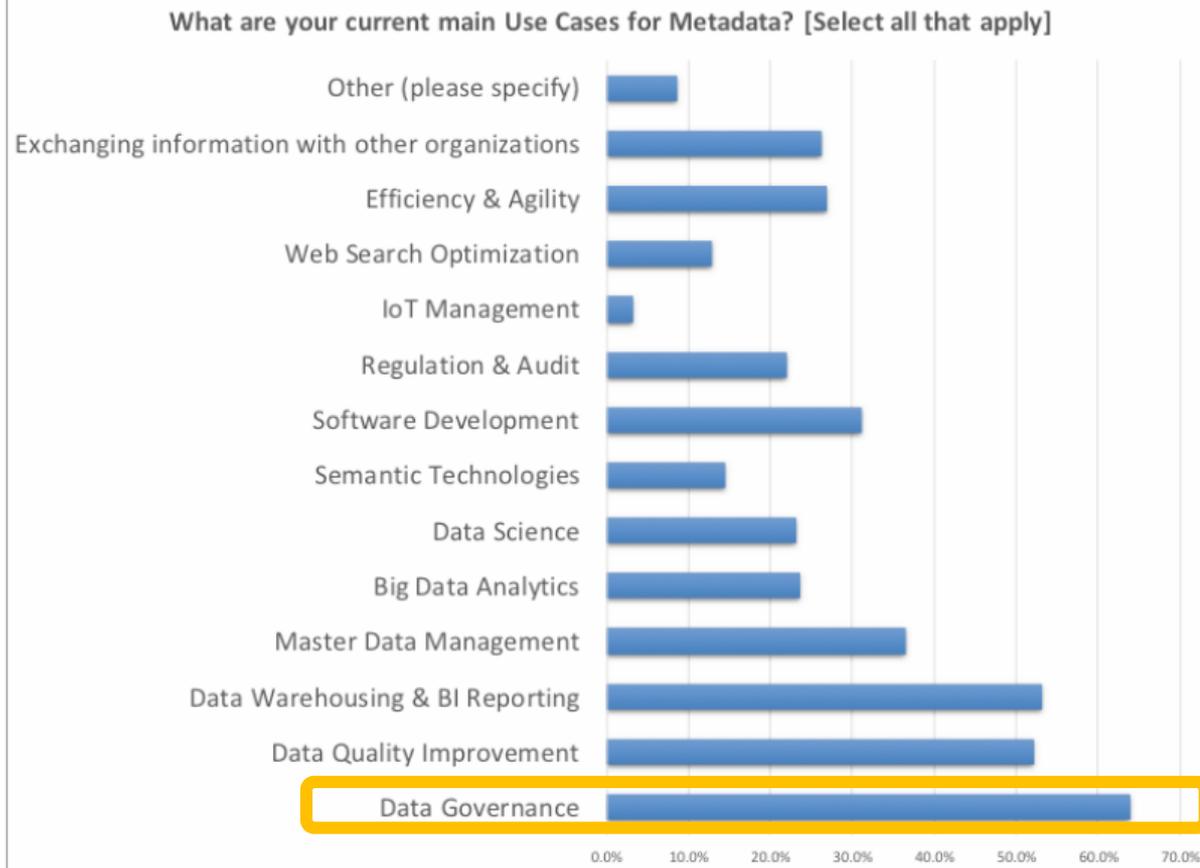
Finding the Right Balance



Data Governance is a Key Driver for Metadata

A Key Use Case for Metadata Management

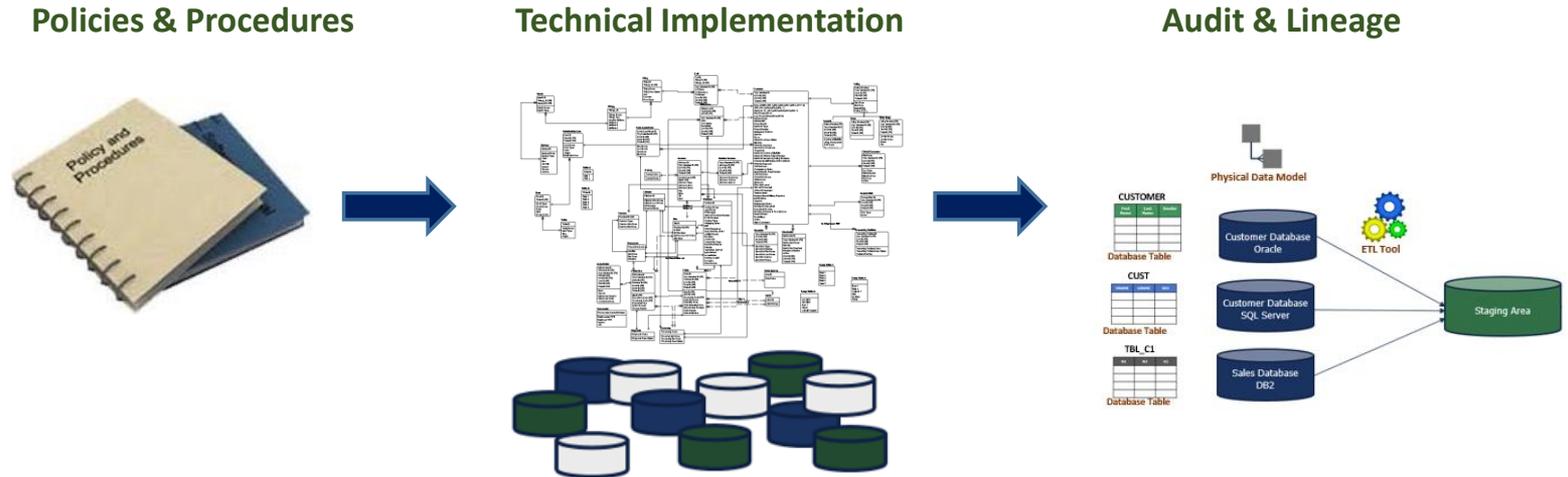
In a recent DATAVERSITY survey, over 60% of respondents stated that: **Data Governance is a key driver for their use of Metadata¹.**



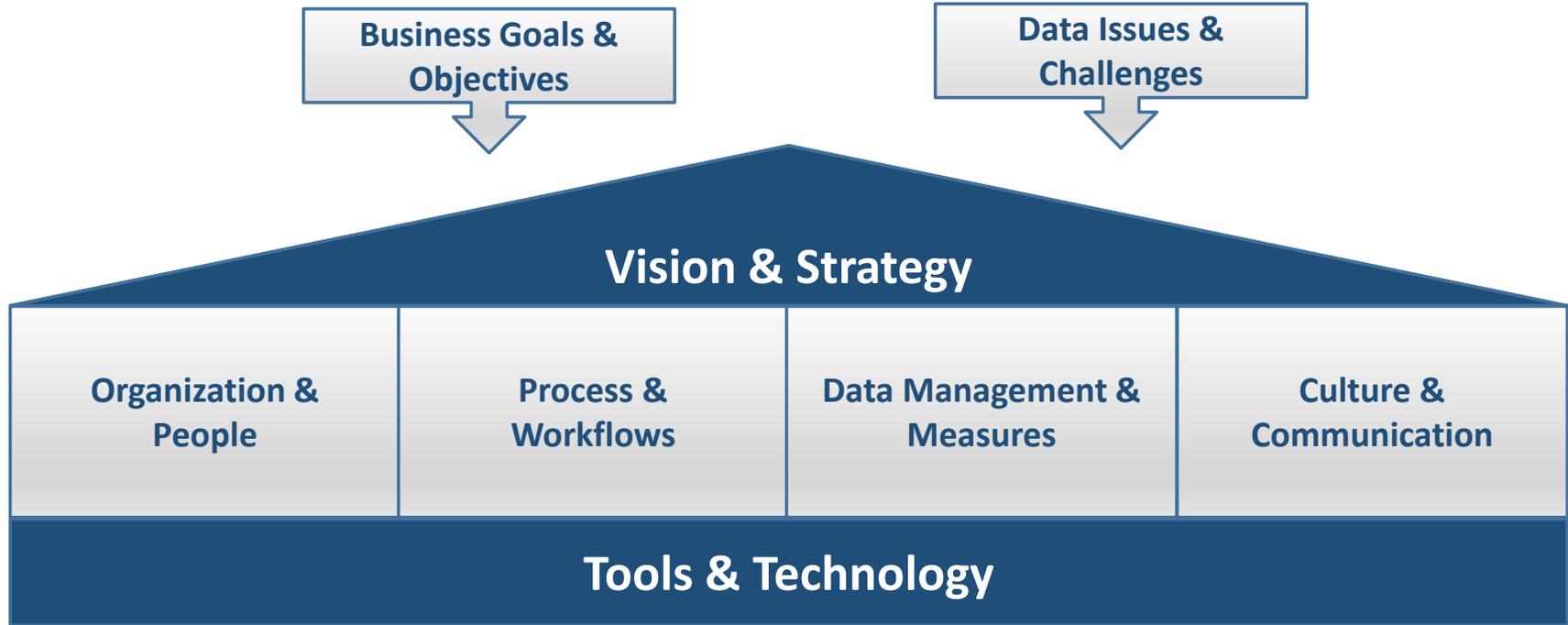
¹ Available for download on www.globaldatastrategy.com/resources/white-papers

Metadata Makes Data Governance Actionable

- Metadata can help take the business rules & definitions defined in policies and make them actionable in physical systems, maintaining a lineage & audit trail.



Applying a Structured Data Governance Framework



Ask the Right Questions

Vision & Strategy	Organization & People	Processes & Workflows	Data Management & Measures	Culture & Communications	Tools & Technology
Is there a clear understanding of the strategic goals of your organization & the need for enterprise data governance?	Who are the key data stakeholders within and outside your organization?	Do business process design and operations management take data needs into account?	Has key data been identified, defined and analyzed?	Has the importance of data been communicated across the organization? Is there a data communications plan?	Is there a coherent data architecture in place to define and guide how data is captured, processed, stored and used?
How does your organization rely on data – now and in the future?	Who are the primary data producers, consumers & modifiers?	Are there any specific data management / improvement processes in place?	Have data models been built – conceptual / logical / physical?	Is the value of good data management understood and championed by senior managers?	What primary IT systems and platforms are used to store and process key data?
What impact are data problems currently having on your organization?	Are individuals formally accountable for data ownership?	Are there issue and workflow management processes to address data problems?	Has the relationship between business processes and data been mapped?	Do all employees and third parties receive data awareness and improvement education and training?	Do design gateways exist to ensure data needs are taken into account in new & modified platforms?
Do you have a data governance policy?	Are employees trained in good data management practices?	Has there been any analysis of the efficiency and effectiveness of how data is managed within operational business processes?	Are data shortcomings known, measured & recorded?	Are there communication channels for communicating best practice in data management?	What specialist data management tools are currently in use?
What are the overall expected benefits of better data governance?	Are there any channels through which data shortcomings can be highlighted and investigated?	How does the business and IT interact to manage data improvement?	Are there are formal standards & rules specifying how data should be managed and improved?	Are there internal success stories that could be used to promote better data management across the organization?	What metadata is captured and stored?

Key Steps to Creating a Data Governance Program

Steps to Success

- The following steps should be included when creating a data governance program. The order is less important than ensuring that they are completed.

Secure Senior Executive Support

Identify a Data Champion among senior leadership.

Define Vision, Drivers & Motivations

Define business-driven vision for the program.

Identify & Interview Stakeholders

Elicit feedback from key stakeholders – listen & communicate.

Build the Business Case

Outline key benefits of data program & risks of not doing so

Identify Business-Critical Data

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

Assess Data Maturity

Assess the data maturity of the organization across all aspects of data management.

Map Priorities to Capabilities

Create a realistic “heat map” aligning business goals with data management capabilities.

Create Organization

Define an organizational structure that aligns with your way of working.

Deliver “Quick” Wins

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

Communicate

Build a communication plan from initial feedback phase throughout all phases of the program.



Balancing Opportunity with Risk



For Success in Data-Driven Business Transformation, it's Important to Balance Digital Innovation with Foundational Governance

Data-Driven Transformation

- Big Data
- IoT
- Artificial Intelligence
- Cloud Data Architecture

Foundational Governance

- Data Governance Organization
- Master Data Management
- Data Quality
- Architecture & Design



Summary

- Data Governance can both generate opportunities & protect from risk.
- There is a convergence of forces surrounding data governance:
 - Risk
 - Regulation
 - Technology
 - Opportunity
- Focus on the **business value of data governance** where possible – **find opportunities**
- Implement **“just enough” data governance** for the business use case & technology.
- Build a **robust framework** for managing data assets
 - Vision & Strategy – built around business goals & challenges
 - People & Process
 - Communication & Culture
 - Technology
- For Success in Data-Driven Business Transformation, it's Important to **Balance Digital Innovation with Foundational Governance.**



Thank You!

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