GEEK WEEK

ISACA Atlanta

Data Governance Overview

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What is Data Governance?

Data Governance is the specification of decision rights and an accountability framework to encourage desirable behavior in the valuation, creation, storage, use, archiving and deletion of information. It includes the processes, roles, standards and metrics that ensure the effective and efficient use of information in enabling an organization to achieve its goals.

Governance is not about doing things right, it is about doing the right things.

Source: Gartner, MDM Conference 2013

Data Governance Defined

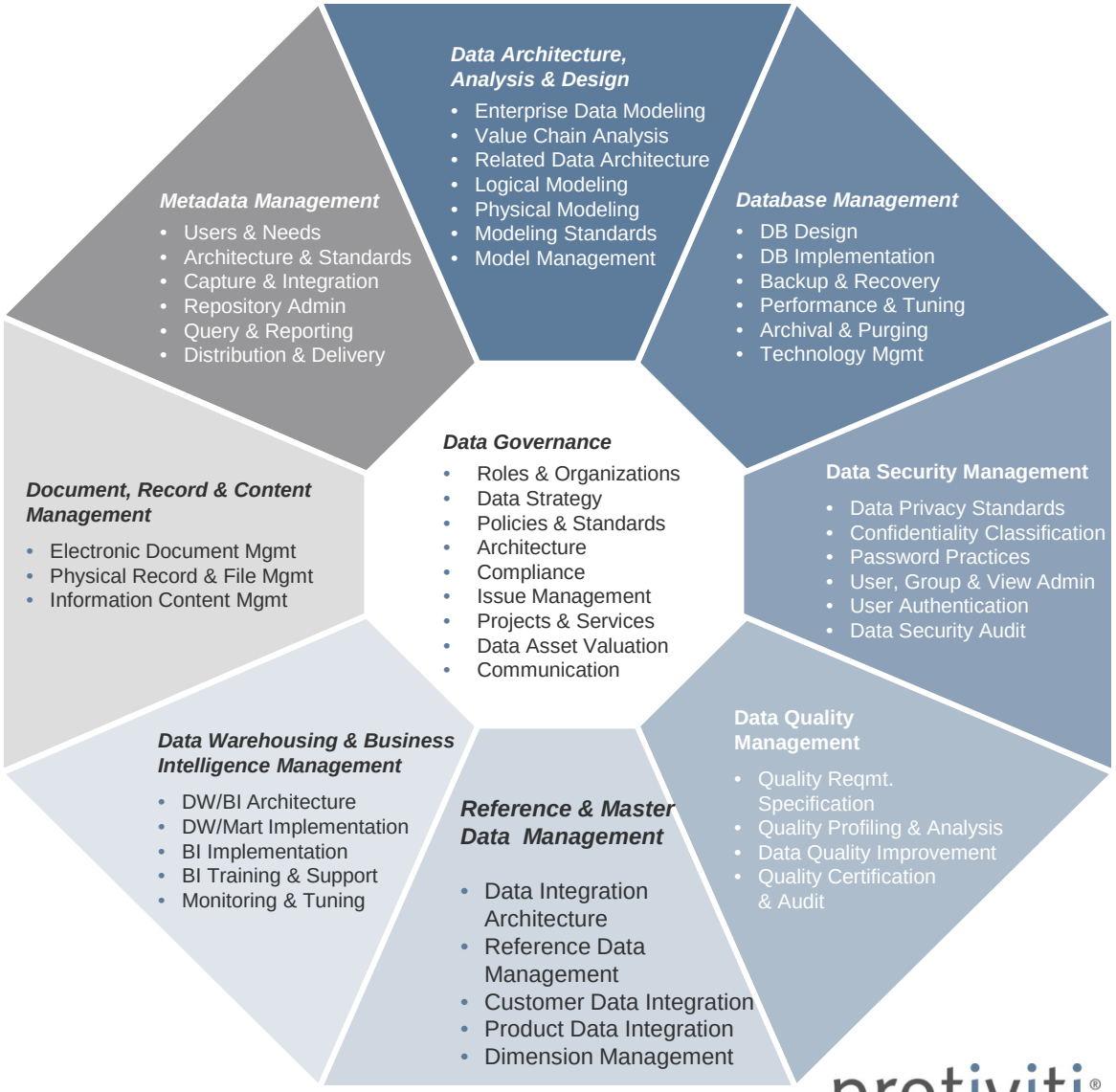
Data Governance is the convergence of:

- Data Warehousing/Business Intelligence
- Master Data Management
- Risk Management
- Data Security
- Organizational Integration
- Policies and Procedures
- Business Process Management
- IT and Architecture Management

Many organizations have distinct definitions of what falls into their Data Governance definition, but at the end of the day the common themes are often related to the ***protection of data, proper use, and the management of data as a business asset.***

Data & Information Governance: Starting Points

In many Organizations looking at data governance, one of our first steps is setting out a clear scoping of reference. Using standard Industry (e.g., DAMA) models, you can first lay out what data governance means to your organization (e.g., what is to be governed, to what functions will governance apply, who will govern, how it will be enforced, etc.)



Data & Information Governance: Other Drivers

Outside of the elements noted within the DAMA model, there are also many other areas to consider. Emerging uses of data coupled with new and diverse sources of information are driving increasingly new needs for Governance and active management of data and information.

- **External Data Management:**
  - Mgmt. of syndicated data
  - Management of Partner Data
  - Acquisition / Coordination of external data
- **"Big Data":**
  - Controls over collection / sourcing
  - Data quality requirements
  - Infrastructure maintenance 'No SQL' query tools
- **Mobile Data Platforms:**
  - Policies for proper use
  - Device / Platform Considerations
  - Limitations on data

- **Social Media:**
  - Policies for use / control
  - Usage and review of social media sources
  - Competitive analysis
- **Regulatory Coordination:**
  - Auditable / Certified reporting sources
  - External Reporting coordination / Ownership
- **Data Demand Management:**
  - Requests for Reporting / Info
  - Requests for new sources of data
  - Coordination and control of master report library

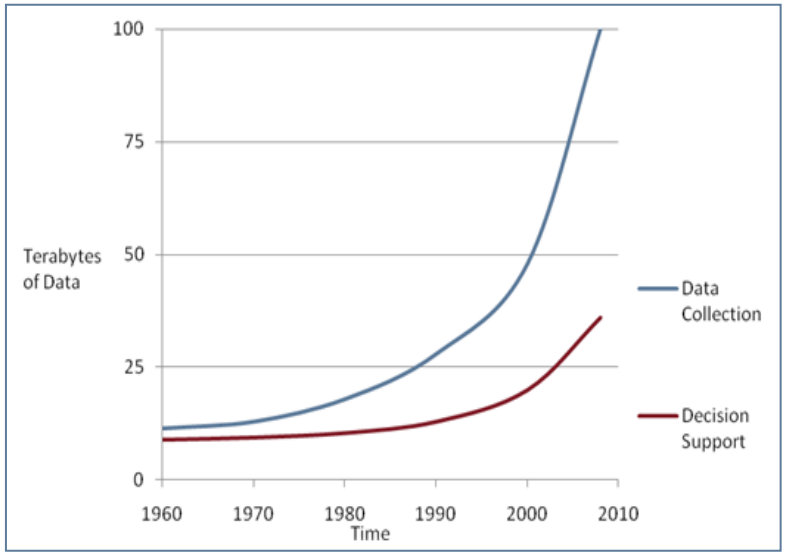
What are the business drivers for Data Governance?

Business drivers for the establishment of a Data Governance Organization include, but are not limited to, the following:

- Increased regulatory or compliance focus on data quality and control procedures which indicates a need for improved data controls and accuracy.
- A current fragmented approach within key business processes, instituting a need for centralized oversight and monitoring.
- A need to increase operating effectiveness and reduce administrative costs by defining clear roles and responsibilities for data management with agreed measures and metrics to improve efficiencies and avoid errors.
- Data quality efforts lack developed measures, tracking and metrics which hinders quick and effective responses that address root causes rather than merely correcting errors.
- Data error remediation process lacks efficiency and effectiveness.
- External data sources are not properly utilized to improve the efficiency of data origination and maintenance of data (e.g., clear definition of gold source data).
- Difficulty meeting market demands for flexible, timely and relevant information.
- The inability to efficiently and accurately deploy data for external use.

Why is Governance Important – Ever Growing Data

- Process automation and data capture capabilities are now pervasive, so we are generating and capturing more data than ever!
- Data is being collected at an accelerated rate, beyond human's capability to process it with the traditional manual ways.
- Multi-media and other non-structured data sources is complicating the transformation from data to information.



Source: Gartner Research, 2008

"Our ability to collect and store data exceeds our current capability to thoroughly process and exploit it."

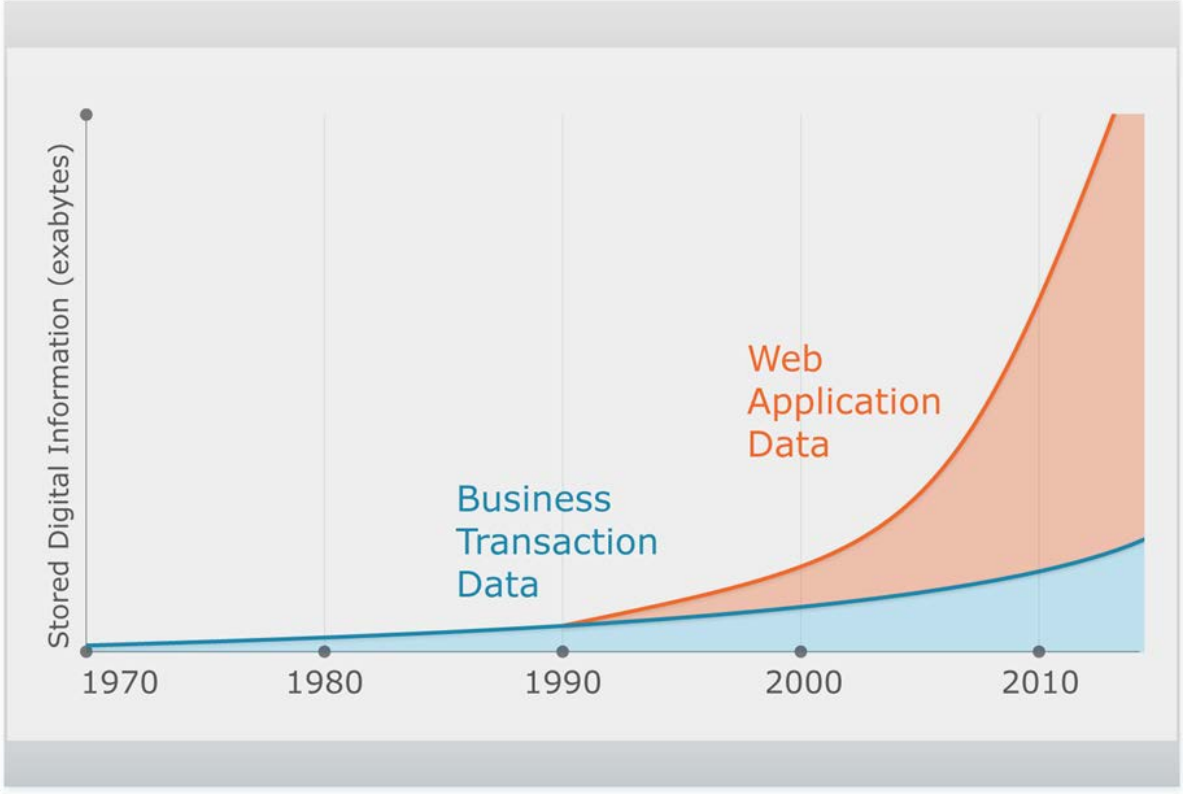
"… data is everywhere. Our CEO became a little cranky when he could not find out how much we gave to the United Way one year."

"There's so much information flowing out of the groundswell, it's like watching a thousand television channels at once. To make sense of it, you need to apply some technology, boiling down to chatter to a manageable stream of insights."

Source: The New Know, Thornton May, 2009

Why is Governance Important – New Sources of Data

As noted in the last slide, data is growing at a much faster pace and being created much more rapidly than at any other point in Human history. Much of this information is from new sources, such as social media feeds, blogs, web pages, web traffic logs, and other sources tied to the Internet.



Why is Governance Important – Increased Speed of Business

- Companies must evaluate their market position or performance more frequently. Global competition and true world wide marketplaces do not allow for inefficiencies historically tolerated.
  - When we evaluate performance in a more dynamic fashion, we are becoming more strategic.

- Companies need to consider more data yet evaluate less intelligence when understanding their market opportunities and threats yet.
  - When we can incorporate the internal and external intelligence along with business plans, we can react more quickly.

> *"The beauty of the process is that it started with the need to develop better forecasts and ended up with us getting to a better place strategically because we're better aligned with what's happening with our customer."*
>
> *- Hazel Hughes*
> *SVP Finance,*
> *Houghton Mifflin Harcourt*

What are Blockades?

- *Politics*
- *Culture/Social*
- *Organizational*
- *Physical*

People

- *Inertia (Profit)*
- *No Burning Platform*
- *Lack of Leadership*
- *No Driver/Line of Sight*

Business

- *Understanding*
- *Maturity*
- *Improvement*

Process

- *Silo Thinking*
- *Immaturity*
- *Not Interoperable*
- *Lack of Solutions*

Technology

Source: Gartner, MDM Conference 2013

Six Elements of Infrastructure

As with most business processes, BI is composed of three basic building blocks – people, processes, and technology. Throughout our work we have referenced one of Protiviti's standard models, the Six Elements of Infrastructure. This model acknowledges the tight linkage of processes, people, and technology in the overall creation and use of information. All six of these elements must work in unison to have an efficient and effective organization.

Business Strategy and Policies	Business Processes	People and Organization	Management Reports	Methodologies	Systems and Data
• Policies articulate the strategy, general principles, risk management roles, responsibilities, authorities and accountabilities.	• Business processes are the primary means of executing business strategies and policies. They are the specific operations, methods, tasks and actions that convert inputs into a product or service. • Every organization can be decomposed into processes because processes comprise the day-to-day operations of the business and how it manages assets & affairs.	• Personnel has the requisite knowledge, skill, and expertise to perform key tasks. • Roles and responsibilities of risk taking versus risk monitoring functions must be defined and delineated. • Business functions and processes are organized in accordance with management's criteria.	In order for management to make informed decisions, management reports should: • Be prepared with appropriate frequency • Be easy to use • Capture succinctly and highlight key information for decision-making	• Methodologies organize key tasks and a working body of knowledge within a logical structured framework, and include the theorems, the decision rules and the hypotheses and assumptions that make the process of making business decisions and managing risk more rigorous and systematic.	Information systems should: • Enable methodologies and reporting • Provide relevant, accurate, and on-time information • Meet the company's business requirements • Be flexible for enhancement, scalability, and integration with other systems

If an infrastructure component is deficient, there is a risk that:

- ***Business processes do not achieve strategy or achieve intended results***
- ***People are unable to perform necessary processes adequately***
- ***Reports do not provide information for effective management***
- ***Management's methodologies do not adequately analyze relevant information***
- ***Business system information is not available for analysis and reporting***

Data Governance – a Process, not a Project

Data governance includes the entire organization, so solid rules of engagement must be outlined upfront. Governance must be flexible to expand or contract as needed, but must also be rigid enough to keep order.

- Setting the overall direction for BI and Reporting architecture within the organization
- Ensure alignment with long-term BI vision and key business objectives
- Representing the corporation's key stakeholders

- Determine functional and technical team.
- Assigning resources for functional and technology delivery

- Foresee emerging BI needs and developing strategy to meet them
- Proactively leverage new technologies to close gaps in BI solutions

- Review and supervision of existing solutions
- Identifying and taking corrective action
- Managing new releases & upgrades
- Managing BI performance

- Defining governance policies for program, data and technology components
- Establishing processes, standards, checks and protocols

- Ensuring compliance with design standards, best practices and SLAs
- Coordinating all activities between organizational units
- Ensuring compliance with enterprise data architecture standards

Data Governance – Recommended Rules of the Road

Rule	Description
Clearly establish the goals and purpose	The overall vision and goals must be simple, clear, and precise.
Only put Governance where needed	Select sponsors, owners, and participants, and establish processes focused on results. Prioritize based on business need. Do not apply governance solely to build consensus or to react to momentary interest.
Keep it simple and pragmatic	Do not force added steps into otherwise simple processes unless absolutely needed. Keep the governance model as simple as possible and make sure that all tasks are adding value to the overall organization.
Design from the top down but implement from the bottom up	Design policies, standards, and processes for the entire organization; build and implement them practically starting with high impact areas.
Be flexible	Recognize that "one size does not fit all" when it comes to governance. Make it too difficult, and people will circumvent it. Make it customizable (within guidelines), and people will get a sense of ownership.
Provide clear communication to the point of over communication!	Communicate the activities of the center often, and to all of the Data Governance Constituents. Make sure to share the wins and progress on activities, as well as the anticipated future planning activities.

Best Practices

Best Practice	*Challenge*
Establish Policy	Lack of clear lines of responsibility
Assign Responsibility	IT tells the business to do it; Business doesn't know how
Encourage and Enforce	IT and business must work together in a new way
Communicate and Train	Lack of discipline in maintaining training and auditing training record

Organizational Models

Virtual Team

- Function is created by allocating existing resources within the organization, where those individuals maintain their current responsibilities but also take on duties required for the data governance organization.
- Benefits include limited initial cost investment, ability of get representation from multiple parts of the organization, integration with business owners due to embedded team members, and ability to tap existing skill bases and knowledge.
- Potential risks of this approach include limited accountability of resources due to positioning in multiple organizational structures, over allocation of resources leading to delays in deadlines, and potential lack of overall executive buy-in limited accountability.

Centralized Team

- Function is created by providing resources whose sole responsibility is for delivery of the data governance organization. These individuals may have technical or functional skill sets and will report directly to the executive sponsor of the center.
- Benefits include providing for greater accountability of the function, allowing resources to specialize in and focus solely on delivery , and providing a defined structure for the organization to rely upon.
- Potential risks of this approach include increased initial costs due to resource allocation, the need to pull resources from business lines in order to provide the organizational knowledge, and potential disconnects with the business.

Hybrid Approach

- Function is created by providing for a limited centralized team (i.e. small headcount for coordination activities) with a percentage of time allocated from key resources that remain under the direct control of the business.
- Benefits include ability to quickly deploy a team that mixes both business knowledge as well as singular focus on the needs of the data governance organization and its user community.
- Potential risks of this approach include increased initial costs due to resource allocation and the potential for resource conflicts arising out of part-time roles from key resources.

Organizational Roles

Role	Responsibility
Steering Committee	***The Steering Committee will provide strategic direction to the Data Governance Organization, and oversee policy, issues and communication. Responsibilities include:*** • Championing a data-centric culture across the firm • Promoting and enforcing the best practices of the Data Governance Organization • Approving new initiatives • Maintaining alignment with PMO • Helping resolve critical issues • Providing conflict resolution • Participating in Steering Committee Meetings
Data Governance Sponsor	***The Executive Sponsor provides overall guidance to the organization. Responsibilities include:*** • Participating in Steering Committee Meetings • Championing the Data Governance Organization • Approving costs and budgets for the organization • Promoting acceptance of the data governance best practices, standards and guidance • Enabling and empowering the data governance core and extended teams • Providing conflict resolution and accepting responsibility for problems escalated from the Data Governance Executive
Data Governance Head	***The Data Governance Head provides tactical and strategic guidance to the organization. Responsibilities include:*** • Participating in Steering Committee Meetings • Championing the Data Governance Organization • Managing costs and budgets for the organization • Ensuring expected benefits are realized • Promoting acceptance of the data governance best practices, standards and guidance • Enabling and empowering the data governance core and extended teams • Providing conflict resolution and accepting responsibility for problems escalated from the Data Governance Lead
Data Governance Lead	***The Data Governance Lead organizes and manages the resources, initiatives and work products. Responsibilities include:*** • Participating in Steering Committee Meetings • Managing interdependencies between the data governance group and other internal groups • Identifying/resolving/escalating issues • Achieving data governance metrics and targets • Achieving objectives within the scope of data governance • Providing the necessary data governance knowledge capital to the firm • Reviewing compliance with data governance standards across Moody's • Coordinating the integration and control between the organization and other firm development projects • Coordinating communications of the project status to the Data Governance Head and Steering Committee

Organizational Roles (cont.)

Role	Responsibility
Data Owners	***The Data Owners are the decision makers for establishing data quality requirements. Responsibilities include:*** • Owning the implementation and ongoing management of data quality improvements • Establishing data quality requirements (timeliness, accuracy, completeness, accessibility) • Determining and approving access and re-use of data • Establishing the backup/recovery/archiving requirements • Understanding legal/compliance/regulatory issues impacting data • Setting priorities and sponsoring projects for all work related to the maintenance and processing of the data • Approving all governance matters impacting the processing of data
Data Stewards	***The Data Stewards manage the process to maintain the data for the owner. Responsibilities include:*** • Assisting with issue tracking, escalation and resolution • Documenting data definitions (Business Glossary) • Proposing changes and/or improvements to the Data Owner to improve efficiency or resolve issues • Acting as proxy for Data Owner on projects, initiatives and operational functions
Technology Stewards	***The Technology Stewards manage the technology to maintain the data. Responsibilities include:*** • Developing and maintaining the applications that automate data processes • Providing system data documentation (metadata, dictionaries, lineage) • Coordinating all IT activities to maintain and develop the technology platform • Ensuring the technology is appropriate to meet data quality requirements • Ensuring data security, backup, and archiving requirements are being met • Proposing changes for upgrades/improvements/risk mitigation in the technology environment • Ensuring that the technology is aligned with Enterprise Architecture standards
Business Representatives	***The Business Representatives reside within the business groups and serve as the data authority for their business area. Responsibilities include:*** • Ensuring data quality through fit-for-purpose requirements which are developed by the data owners • Identifying and prioritizing for improvement key systems or processes • Supporting the firm's data quality efforts through accountability to, and close interaction with, the Core Data Governance Team • Recommending projects based on their usage of the data within their areas of the organization
Working Groups	***The Working Groups are tactical teams that will ramp up and ramp down as needed to participate in existing and new data governance initiatives or programs. Responsibilities include:*** • Providing Subject Matter Expert (SME) guidance • Assisting in implementing plans and policies issued by the Data Governance Organization • Helping to analyze and resolve tactical problems as they arise

Example: Banking Governance & Control Initiative

Protiviti was engaged to develop a robust data governance structure for a large Commercial Bank. This four month engagement focused on the creation of data governance capabilities designed to improve the completeness, accuracy, and timeliness of commercial credit risk data. The project included work streams across the following areas:

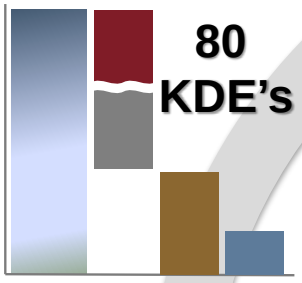
- Data Dictionary/Prioritization
- Data Monitoring
- Data Management
- Data Culture
- Reporting

Client satisfaction very high…Phase I design work completed 1/31/12. Phase II implementation under way

Example: Major Deliverables

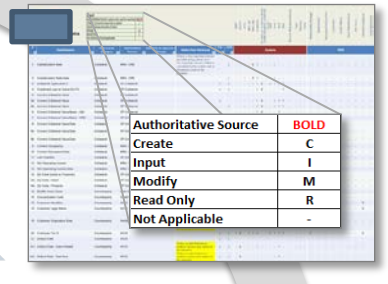
Data Dictionary & Prioritization

Which data elements are most important to Bank Risk Management?



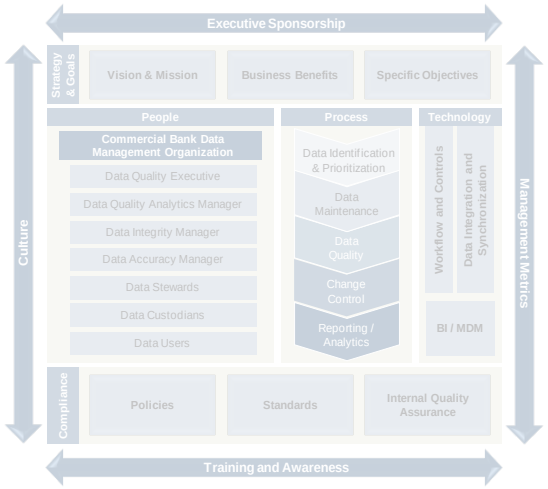
Authority Matrix

Who can do what with the data and how should it move throughout the organization?



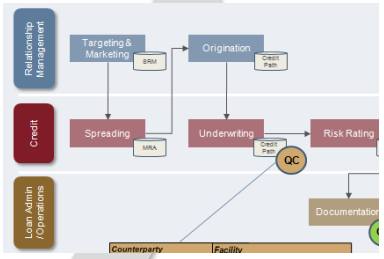
Authoritative Source	BOLD
Create	C
Input	I
Modify	M
Read Only	R
Not Applicable	-

Data Governance Framework



Data Lineage

How does the data move through the process?



Governance & Assassurance

What structure do we have in place to monitor and address data quality gaps?

Metrics & Scorecards

What is our data quality and where are our data gaps?

How to get Started with Data Governance

What are the important items in your organization?

- What is the CEO saying in internal and external communication?
- What are the strategic priorities for this year?
- What are the key initiatives?
- Link these initiatives to the Governance benefits
  - "One Company" initiatives — cost reduction
  - End-to-end business process improvement
  - Customer-centricity/customer experience
  - A new focus on our partners
  - Better reporting and regulatory compliance

Think strategically, but act operationally – what needs to get done!

Develop an elevator pitch that makes the link to business value.

Source: Gartner, MDM Conference 2013

Where is Data Governance Applicable?

- Business process integrity that is at risk
- Business process outcomes not acceptable
- Examples:
  - Increased revenue/growth
  - Reduced cost/operations
  - Risk management
  - Compliance
  - Reporting/enhanced decision making
  - Business performance/agility

Source: *Gartner, MDM Conference 2013*

Thank You

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