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**NUTS & BOLTS**

# NUTS & BOLTS

## The Mechanics of Data Governance

The moral of the story: data governance can be tough. By definition, innovation is disruptive and antithetical to established paradigms. Applying rigor in the form of governance and oversight to information is no exception to this rule. Mix the laundry list of competing information needs and issues in the average enterprise with the inevitable confusion regarding 'what does it mean' and the data governance proposition quickly becomes overwhelming. The multitude of data governance definitions and methodologies parlayed by both industry analysts and vendors—is it: data quality? information policy? a dashboard? a council?—certainly doesn't help.

The fact is: there is no standard playbook for data governance. The structure of your program is dependent on the specific problems governance needs to address and the organization's incumbent organization and culture.

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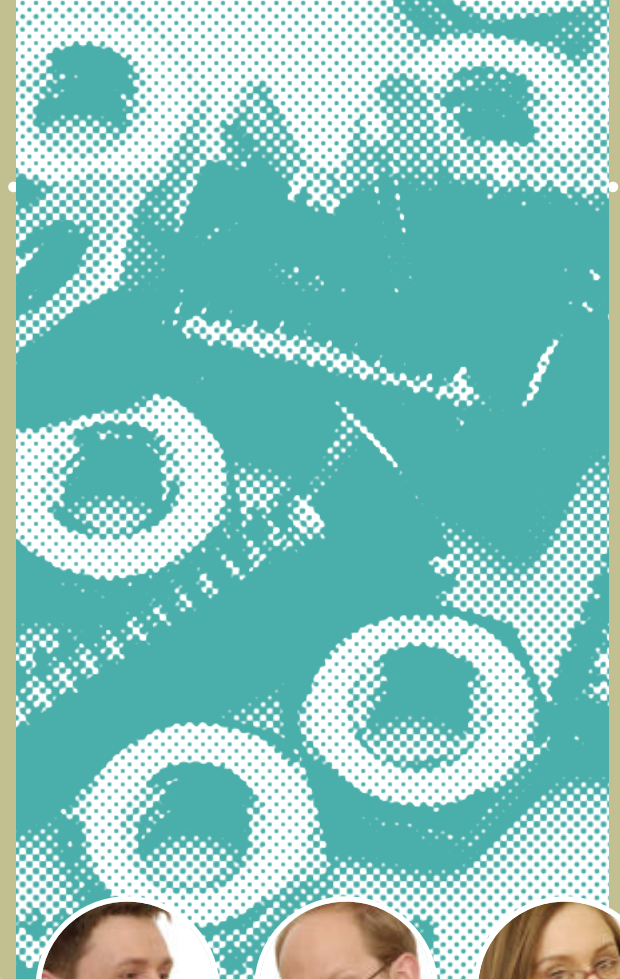
### DEFINITIONS

**EXECUTIVE SPONSORSHIP** - Responsible for championing, sanctioning and raising awareness and support for the data governance program and information as an asset.

**DATA GOVERNANCE** - The organizing framework for establishing strategy, objectives, and policies for corporate data.

**DATA MANAGEMENT** - The tactical execution of day-to-day activities required to implement data governance policies and ensure information is created, stored, and utilized appropriately.

**DATA STEWARDSHIP** - Responsible for defining, monitoring, educating, and advocating for appropriate usage and management of critical enterprise information assets.



## Nuts & Bolts: *The Mechanics of Data Governance*

Some companies—like SpectroDynamo—find a bottom-up approach centered around core data management functions provides the greatest initial leverage. Organizations that are more hierarchical or consensus driven in nature may require formal enlistment of executive sponsorship and deliberate assignment of decision rights for governance to take root. And yes, you may start somewhere in the middle...

What is consistent? The fundamental roles and responsibilities found in functioning data governance programs. In this section, we define those core functions: executive sponsorship, data governance (policy making and decision rights), data management and data stewardship. These functions align with and support everything from strategy alignment and organizational buy-in to tactical enablement and operations.

When evaluating these capabilities, remember the single most important success factor for entrenching data governance as a core operating principle: continuous improvement. Rather than boiling the ocean, identify key business pain points and the core capabilities required to address them. Prioritize and pick a pilot project. Finally, prototype data governance-related processes and don't be afraid to refine them as your capabilities and reach grow.

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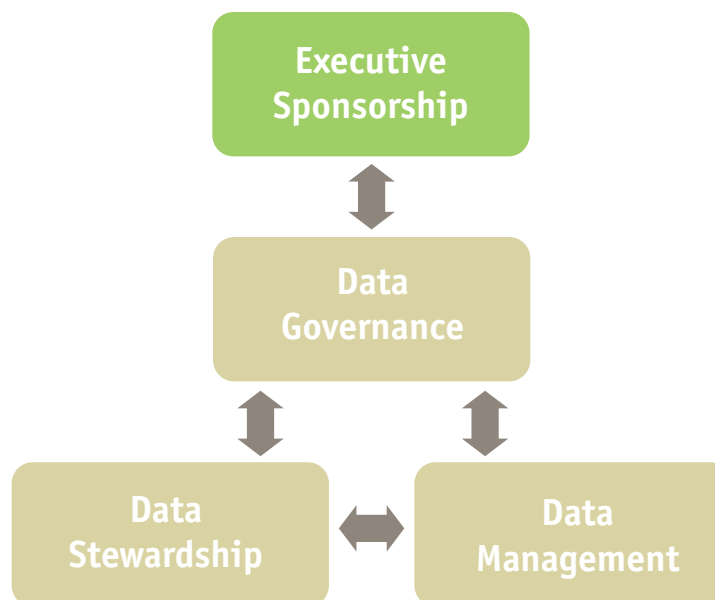
## Executive Sponsorship

What makes an effective sponsor? In our experience, this is a person who is feeling the heat when data issues are the crux of the success or failure of a program or campaign. That's a great motivator. However, this person should also have the organizational authority to drive change and the ability to articulate to the company the need for better decision making when it comes to data.

And—let's face it—this candidate should also have some funding money and be willing to be a key participant in designing data governance. We find this last factor is often proportionately related to the our first qualification (“feeling the heat”).

### The Executive Sponsor Checklist:

- ❖ Foster a culture that values data as a corporate asset
- ❖ Promote discipline and compliance
- ❖ Champion DG with executive peers
- ❖ Secure authority and funding for DG
- ❖ Approve DG principles and objectives
- ❖ Review policies, standards, and metrics
- ❖ Resolve escalated issues



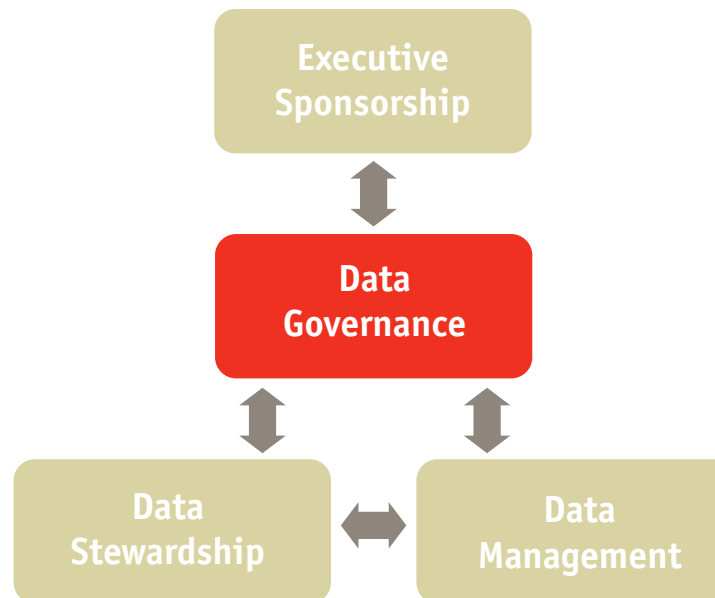
**[The Executive Sponsor] should also have some funding money and be willing to be a key participant in designing data governance.**

# Nuts & Bolts: *The Mechanics of Data Governance*

## Data Governance

The term “data governance” is often used to refer explicitly to the policy making (definitional) function within an overall data governance or information management program.

The data governance function establishes policies for information, including decision rights for who can make decisions about how information is created, maintained, and used within the organization.



# Nuts & Bolts: *The Mechanics of Data Governance*

## Data Governance | Responsibilities

The policy management function is typically performed by a data governance council or steering committee composed of data stakeholders or stewards.

Key responsibilities include:

- ❖ Creating information management policies
- ❖ Chartering subcommittees, temporary and permanent
- ❖ Approving procedures and standards submitted by data stewards
- ❖ Assessing and prioritizing data issues and initiatives
- ❖ Allocating funding for data-related initiatives
- ❖ Appointing and formally sanctioning data stewards
- ❖ Ensuring data stewards work towards process efficiencies, alignment of systems, synchronization of data, and automated cleansing
- ❖ Arbitrating issues that span responsibilities of multiple data stewards
- ❖ Evangelizing and educating
- ❖ Monitoring overall progress of data governance

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# Nuts & Bolts: *The Mechanics of Data Governance*

## Data Management

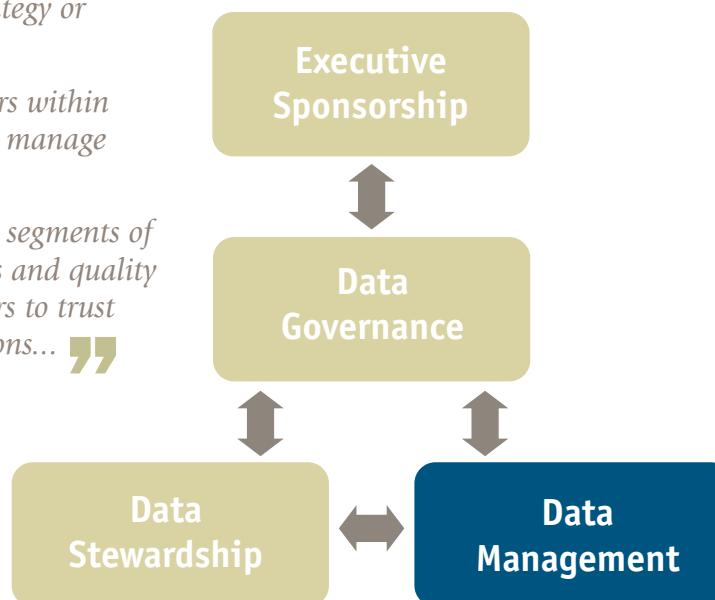
While data governance is the decision rights and policy-making for corporate data, data management is the tactical execution of those policies. Both require executive commitment. Both require investment. But data governance by definition is business-driven, while data management is an IT function that is diverse, skills-rich, and ideally reporting to the CIO.

We like this definition from Wikipedia:

“Data management should not be viewed as dependent on a specific technology strategy or related to an explicit data type definition.

It arose to address circumstances where users within organizations independently source, model, manage and store data.

These uncoordinated approaches by various segments of the organization can result in data conflicts and quality inconsistencies – making it difficult for users to trust the data as it is incorporated into applications...”



**Data management should not be viewed as dependent on a specific technology strategy or related to an explicit data type definition.**

# Nuts & Bolts: *The Mechanics of Data Governance*

## Data Management | Why Enterprise Data Management?

If you have an existing data warehouse or BI program, it's likely that your company is probably farther along with data management than it is with data governance, since business intelligence programs normally require some level of data management in order to be effective. Leverage your incumbent data management skills for the purpose of supporting a broader data governance effort, and you'll hit the ground running.

Here are a few key benefits that make the case for enterprise data management:

- ❖ Increased data re-use
- ❖ Reduced re-invention
- ❖ Faster time to deployment
- ❖ Entrenched skill sets
- ❖ Lower costs through:
  - Automation
  - Centralized vendor licenses
  - Less re-work
  - Fewer data “specialists”



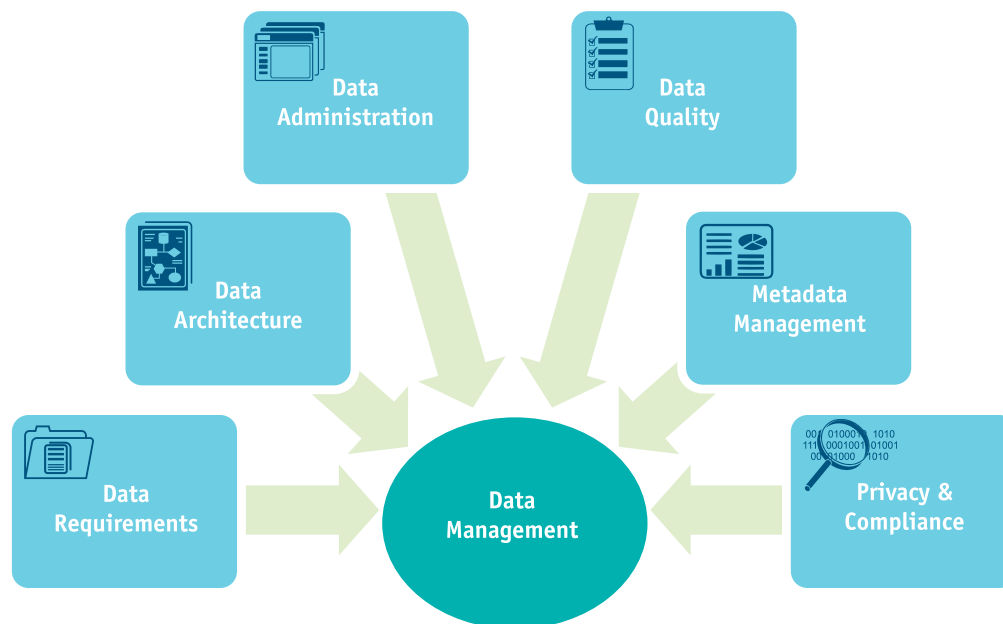
**...business intelligence programs normally require some level of data management in order to be effective.**



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## Data Management | Data Management Functions

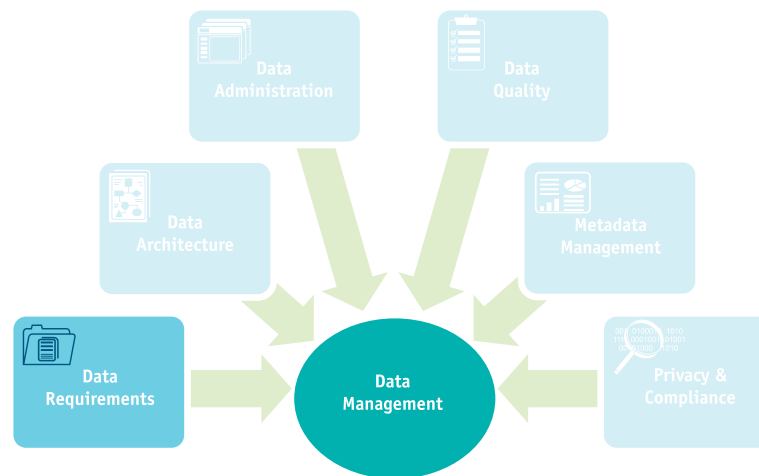
As shown in the figure below, we delineate data management into six primary functions. Taken together, these functions account for the complete data life cycle from creation to retirement.



# Nuts & Bolts: *The Mechanics of Data Governance*

## Data Management Functions | Data Requirements

In common parlance, this function would be referred to solely as “business analysis.” However, we differentiate this activity as “data requirements analysis” to emphasize the need to proactively address information or data requirements as a discrete step in the requirements gathering process.



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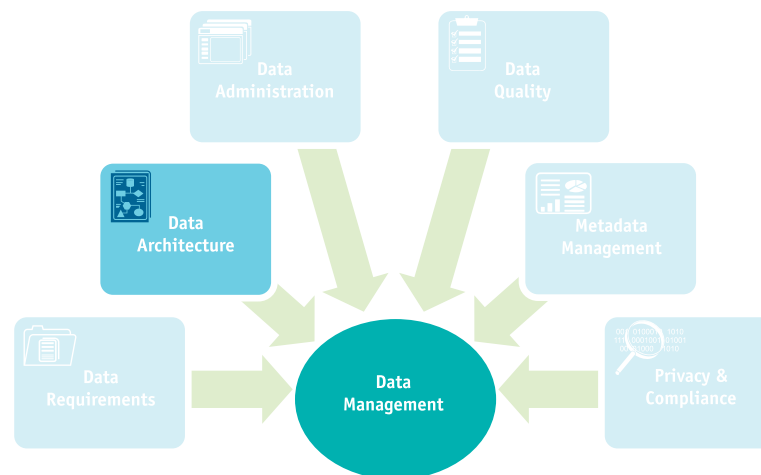
## Data Management Functions | Data Architecture

The data architecture function reconciles and maps data requirements to data structure, including entities and attributes, in a way that balances and optimizes data storage against data access allowing for the effective construction of the resulting data system. Data architecture focuses on how the data is designed, conceptually, logically, and physically.

Data architecture's objective is to promote consistency in data capture and usage by providing expertise in tools and methods for:

- ❖ Data modeling standards
- ❖ Capturing policies, definitions and rules
- ❖ Promoting the use of common standard codes and data definitions

Activities involved in this function include data modeling, data design (database or other), diagramming data process flows, development of data standards, and metadata repository management.



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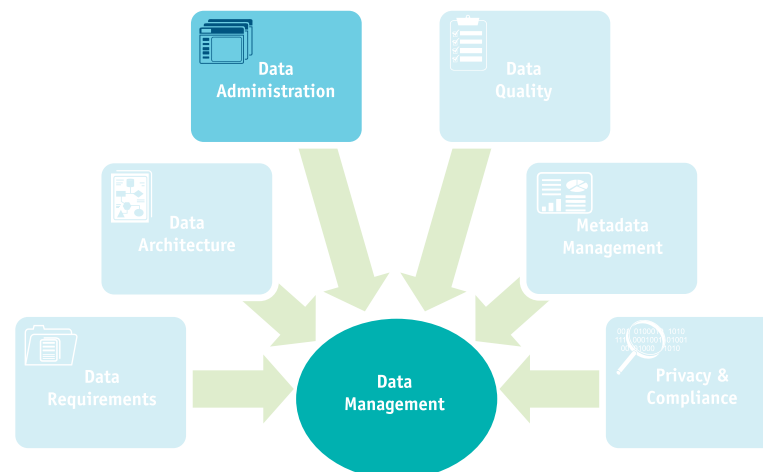
# Nuts & Bolts: *The Mechanics of Data Governance*

## Data Management Functions | Data Administration

In order to leverage information assets and track compliance against data governance standards, data must be stored correctly and reliably. Data administration is a systematic process for keeping data aligned as the business evolves.

Data administration's objective is to manage information assets on behalf of the stewards and owners by providing expertise in tools and methods for:

- ❖ Data access and usage
- ❖ Data certification process
- ❖ Security and protection of the data



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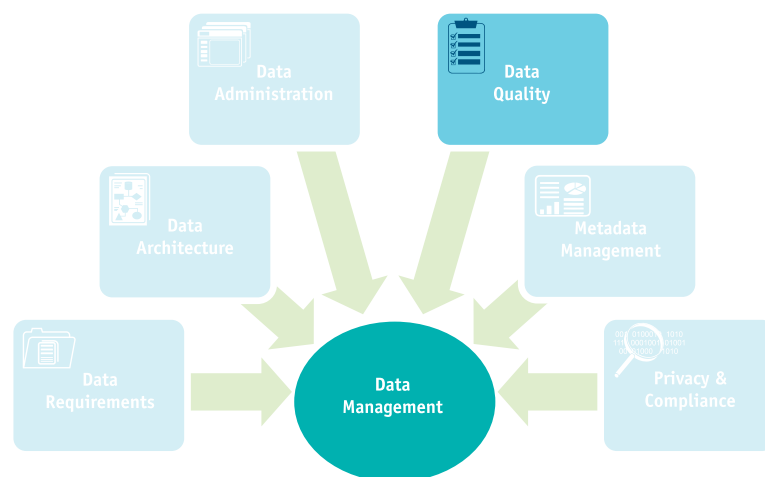
## Data Management Functions | Data Quality

Data quality needs to be addressed as a discrete, ongoing function whose scope extends beyond any single project. The steps in a closed loop data quality process can be summed up simply as such: *define, prioritize, measure* and *correct*. Data quality requirements defined within the data requirements analysis function are a key input to data quality activities. Keep in mind, however, that once data has been defined, ongoing monitoring is required to ensure it “keeps up with the business.” This latter responsibility falls to the data stewards.

Typical data quality activities include:

- ❖ Operational source systems analysis and data profiling
- ❖ Data quality standards
- ❖ Ongoing monitoring and metric reporting (this is critical!)

Data quality functions are often owned by data stewards working in conjunction with business analysts, data architects, data analysts, and data administrators.



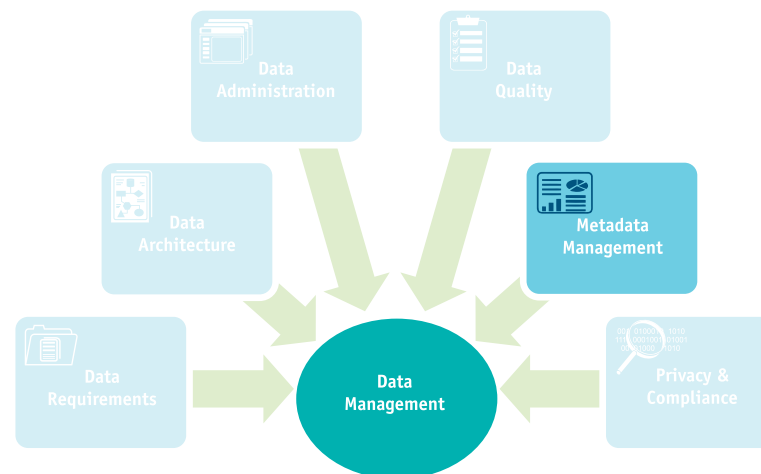
**Data quality needs to be addressed as a discrete, ongoing function whose scope extends beyond any single project.**

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## Data Management Functions | Metadata Management

Metadata management is the systemic documenting and publication of information about the organization's data. We call metadata management out as a discrete activity because every enterprise has problems with the misuse of terminology. While having metadata may or may not solve these terminology debates, it does enable unified decision making.

The entire data management operation becomes more effective with metadata that describes the data and supports its cross-enterprise use. Metadata management activities pick up once data quality is brought under control. As the demand for the higher quality goes up, so too does the need for metadata (the user's manual). Certainly, documenting business rules, data standards, data quality rules, data quality defects and statistics generates metadata. And this "data about your data" must be captured and saved. There are other metadata elements not captured by those activities, such as who uses the data, where the data comes from, what ETL processes touch the data, and more.



**The entire data management operation becomes more effective with metadata that describes the data and supports its cross-enterprise use.**



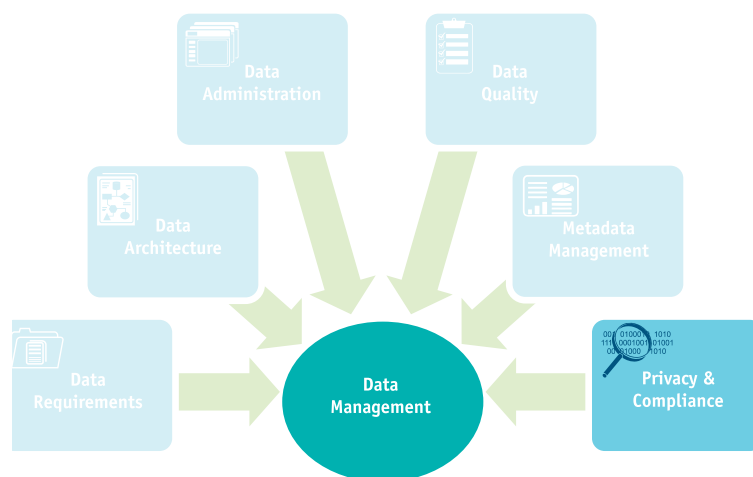
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## Data Management Functions | Privacy & Compliance

Privacy and compliance is, perhaps, one of the best understood—but least implemented—functions supporting a data governance program.

Clients frequently ask about the monitoring function in data quality as opposed to privacy and compliance. Data quality monitoring focuses specifically on tracking and monitoring the health and wealth of discrete data. Privacy and compliance is broader; it extends beyond—or more often—*lives* outside of any business unit or IT organization. The scope of privacy and compliance extends to include the following activities: user tracking, network monitoring and testing, and external reporting to regulatory agencies, to name just a few.

This function can be found in a diverse range of locations within different organizations. However, with the increased focus on regulatory compliance and risk, this function is oft seated within enterprise risk management, compliance, or corporate security offices.



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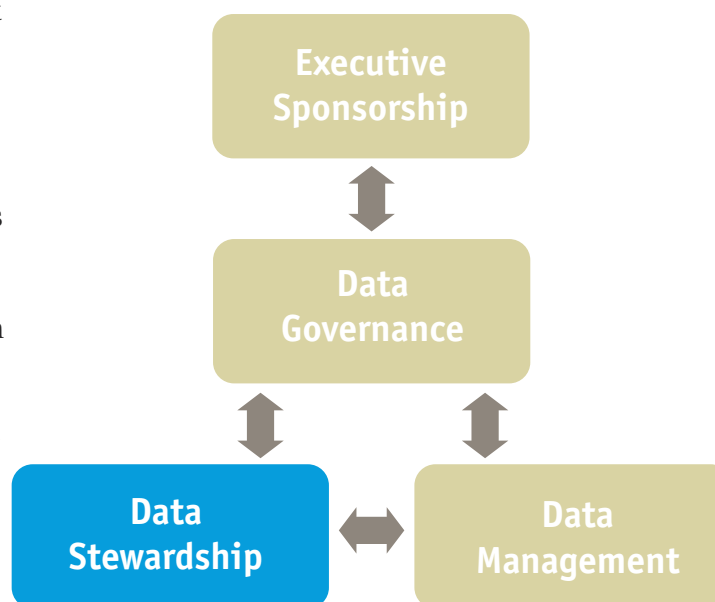
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## Data Stewardship

The definition of stewardship is the practice of managing or looking after the well being of something owned by someone else. In the case of data governance, data stewards are responsible for the care and feeding of the enterprise information asset.

In practice, data stewards are the bridge ensuring defined governance policies make the transition into real-life implementation and usage (data management). Conversely, data stewards ensure that real-life business usage and context are considered appropriately when defining information policies.

Because data stewards play a pivotal role in data governance, they must be chosen carefully. Business data stewards must be trusted members of the business community who understand the management and use of the data within their assigned domain. They must also (and this is critical) be able to balance the needs of their domain against those of the enterprise. Not an easy task.



**...data stewards are the bridge ensuring defined governance policies make the transition into real-life implementation and usage (data management).**