

WHITE PAPER

Governance Shift Left: A Data Governance Framework for Long-Term Enterprise Success

witboost

Chapters

Executive Summary 3

Importance of Data Governance in the Current Business Landscape 4

What Is Data Governance? 5

Objectives and Advantages of Implementing Data Governance 6
Data Accuracy and Reliability 6
Increased Operational Efficiency and Reduced Costs 6
Regulatory Compliance 6
Improved Productivity and Decision-Making 6
Enhanced Collaboration and Value Realization 7
Reduced Risks 7

Importance of Data Governance 8

Data Governance Frameworks 9
Components and Pillars 9
Data Governance Framework Models 10
Industry Frameworks 10
Global Framework Models 11

Critical Elements of a Data Governance Framework 13
Data Governance Team 13
Privacy and Compliance Team 13
Line of Business (LOB) Team 13
Data Science Team 14
Information Technology (IT) Team 14

The Data Catalog Framework 15

Steps to Implement a Data Governance Framework 16

Primary Governance Framework Challenges 18
Data Transparency and Trust 18
Data Discoverability and Observability 18
Data Governance and IT Policy Integration 19
Measuring KPIs and Business Value 19
Technology/Vendor Lock-In 19

Governance Shift Left: A New Approach 20

Why Governance Shift Left? 21
A Paradigm Shift in Data Lifecycle Governance 21

Witboost: Automated and Streamlined Data Governance 22
Core Features 22
Centralized Policy Repository 22
Benefits 23

Meeting Tomorrow's Evolving Data Governance Needs 24



Executive Summary

In today's data-driven landscape, an organization's **competitive edge hinges on** its mastery of **data governance**. By adopting custom-designed frameworks for data governance, businesses can weave policies and protocols into seamless strategies. This not only **enhances the precision, speed, and integrity of an enterprise's data**; it also **empowers each organization to elevate raw data into meaningful information and actionable insights.**

Enterprises adopt data governance frameworks to manage their data ecosystems, but each takes a different approach. What they all collectively **require** is **the ability to create policies, procedures, and defined responsibilities surrounding all data and metadata** as they grow and change over time. The goal is to create a data governance framework that is successful and sustainable in achieving defined business and operational outcomes in ways that:

- Reduce the operational costs of managing data
- Eliminate incomplete and inaccurate data and metadata to lower risks
- Increase data utilization to make informed business decisions

The intent of this white paper is to provide CDOs, CTOs, CIOs, and governance teams with an overall guide for understanding:

- Data governance
- Data governance frameworks
- The nature and limitations of current data governance frameworks
- Challenges of data governance in the digital age
- The lack of data and metadata trust by end users
- How to choose and implement the right framework
- The ideal nature and viability of a modern Governance Shift Left framework

The goal of this guide is to help organizations and data stakeholders create a solid and scalable framework for maximizing data insights, visibility, accuracy, access, and cost-effectiveness in a global marketplace. However, creating a framework that streamlines and automates data governance starts with an understanding of governance in today's business landscape.

1. Importance of Data Governance in the Current Business Landscape

Data governance is critical to every enterprise in the age of cloud, distributed enterprises, remote work, IoT, and analytics. The enormous growth of data often makes for an eye-catching statistic but says little about data governance. A more informative statistic is the projected compound annual growth rate (CAGR) of 12.1% for the global enterprise data management market from 2023 to 2030, **based on a 2022 market value of $89.34 billion**.

This changing digital business landscape shows why it is not an exaggeration to say that **every organization's approach to choosing, implementing, and managing a data governance framework will form the foundation for its success or failure**, both today and in the future. This has been clear since terms like "big data" and statements such as "data is the new oil" came into vogue.

The right data governance framework can effectively mitigate risk and maximize the effective use and quality of data. But this takes clearly defined policies and procedures, streamlined processes, and active management of an organization's vast data ecosystem. The challenge of ensuring data trust is equal to that of ensuring fast and efficient data access and results.

Data value continues to increase alongside that of broadening compliance regulations. This increases the need for data governance frameworks to meet current and future challenges, including:

- Broad access and engagement
- Data contextualization for driving value
- A lack of full visibility and understanding of data availability across the enterprise
- Driving outcomes through accurate and connected data and metadata access

Organizations must connect accurate data and metadata with agile access based on the contextual need to drive a competitive enterprise. This requires going beyond traditional methods of data governance to apply intelligence and automation to keep up with the increasing scale, complexity, and diverse uses of data.

This white paper provides a foundational understanding of a data governance framework to help CDOs and other data governance stakeholders plot a data lifecycle management course through people, processes, and technology. Every data governance journey is unique and full of possibilities that shape each organization's path. **The right choices will enable each enterprise to achieve its objectives of maximizing and capitalizing on data as an asset.**

2. What Is Data Governance?

Every enterprise requires data and metadata that is accurate, consistent, and reliable, which they can only achieve through good data governance. **Data governance references the processes, policies, standards, and technologies that enable management and assurance of enterprise data quality, security, and privacy**. It provides a framework for data management and the usage of data to both maximize operational processes and facilitate compliance with laws and regulations. It establishes the engagement rules for data management.

While many people use data governance and data management interchangeably, they are not in fact the same. Data governance provides the overarching strategy and guidelines for how data is to be managed, accessed, and controlled via policies. Data management refers to the tactical execution of these policies through data collection, storage, transformation, and usage.

Data governance closely intertwines with people, processes, and technology, which is why many organizations fall short in assigning responsibility for its different aspects. With CDOs looking to create value for their organizations via efficient data governance, **44% of respondents** to a **2022 MIT/AWS CDO survey** **cited the establishment of clear data governance responsibilities as a vital initiative.**

This combination of strategy, responsibility, and execution requires a holistic and pragmatic approach to ensure all data usage and maintenance meet present and future needs. This means that **data governance must be part of all IT systems (internal and external), and decisions must be taken with all stakeholders in mind, breaking down any organizational silos. It must also provide accountability for data quality across the enterprise based on clear objectives to harness its advantages.**

3. Objectives and Advantages of Implementing Data Governance

Implementing a data governance program offers various advantages that go beyond the mere management of data. Everyone from CDOs and all data stakeholders to producers and end users of data should be focused on achieving the following advantages of data governance:

DATA ACCURACY AND RELIABILITY

Data quality is a major concern in the era of data lakes and data meshes, where **poor data quality can cost businesses** an average of $12.9 million annually. Data governance must ensure data is accurate, reliable, and available for sound decision-making. By creating a single version of data truth, organizational decision-makers can coordinate to achieve business and operational outcomes.

INCREASED OPERATIONAL EFFICIENCY AND REDUCED COSTS

Efficient data governance can save organizations significant time and resources, which directly contributes to reduced operational and business costs.

REGULATORY COMPLIANCE

Laws and regulations governing data usage and privacy are becoming more stringent with hefty fines for non-compliance. For example, companies can face fines of up to 4% of their annual global turnover due to GDPR violations. Comprehensive data governance frameworks make sure an organization maintains regulatory compliance and avoids such financial penalties, as well as legal issues.

IMPROVED PRODUCTIVITY AND DECISION-MAKING

Data governance ensures that data is consistent and easily accessible, which can significantly enhance decision-making and productivity across an enterprise.

ENHANCED COLLABORATION AND VALUE REALIZATION

Data governance is an organization-wide effort that promotes inter-departmental collaboration, leading to an overall increase in the value derived from data assets when implemented correctly.

REDUCED RISKS

Data breaches and security risks can have a massive negative impact on any organization. IBM's **latest report** shows that the average global cost of a data breach in 2023 has hit $4.45 million. **Data governance is a strategic imperative, providing a security framework that lowers the risk of organizations being hit with a data breach or other compromise.**

The benefits—ranging from **cost savings and risk mitigation** to **improved decision-making and collaboration**—are crucial to business success. As a CDO, leading the charge in implementing a comprehensive data governance framework can be one of the most valuable and important processes for an organization.

4. Importance of Data Governance

Business success for every enterprise in the digital age rests squarely on how they gather, manage access, and manipulate their data. But today's enterprises produce far more data from countless sources than they can effectively process.

Many organizations and legacy data governance frameworks overlook the true complexity, constant change, and need for agility and accuracy required for modern data governance. This is because of new challenges in data governance, such as data and metadata quality and completeness, security, privacy, and compliance.

When organizations couple these challenges with the reactive rather than proactive data governance process of legacy framework approaches, they find themselves unequipped to handle changing data governance needs. Without a sound governance strategy, such a reactive approach leads to the CDO and other data stakeholders facing several issues:

- **Inconsistent/poor data quality**, which leads to errors, and time-intensive corrections, which increase costs and lowers organizational performance
- **Insufficient transparency** for a clear view of data assets, which leads to poor business decisions and data utilization
- **Inconsistencies in enterprise data use** across divisions and departments that interpret and use data in different ways, leading to confusion and misalignment
- **Security breaches**
- **Compliance violations**, resulting from inaccurate data classification and storage
- **Lack of clear data ownership**, which amplifies all the other pain points
- **Metadata inaccuracies**

While **data and metadata** are crucial components of every organization's data management process, they **have different operations and management teams**. This leads to data quality inconsistencies and gaps along with inaccurate metadata, where data definition changes are not accurately reflected in the metadata.

Unclear data ownership further complicates things by making it impossible to determine who is responsible for maintenance and updating, which adversely affects data quality and management.

The result is an inability to contextually understand and interpret data and metadata, which leads to incorrect use, analysis, and business decisions, as well as financial losses. Incomplete and inaccurate data and metadata only increase over time, leading to a l**oss of end-user trust in data and increased time for verification**. The implementation of a comprehensive data governance framework is the first line of defense in avoiding these growing challenges.

5. Data Governance Frameworks

A data governance framework provides the **structure that simplifies the complex task of managing an organization's data**. **It serves as the roadmap for data strategy and compliance** by outlining the rules, activities, and processes that govern the lifecycle of data flow management. This roadmap not only enables organizations to achieve targeted, fast, and scalable results, but also helps in identifying and prioritizing organizational needs.

COMPONENTS AND PILLARS

While the data governance framework will be unique to each organization, it generally **comprises four key components**:

- **The scope of the data**, which could be a broad range of data categories such as master, transactional, operational, analytical, and others that this guide explores later on
- **Defined organizational structure**, which details roles and responsibilities among various stakeholders like data owners, stewards, IT staff, producers, and executives
- **Data standards and policies** that act as management and outcome guideposts
- **Oversight metrics** to gauge the effectiveness of the data strategy

In addition to these, there are always four key pillars that give the framework its operational and organizational strength:

- Defined use cases that link data governance to distinct business outcomes, ensuring stakeholder support
- Quantifiable value measurement derived from data governance efforts
- Accommodation of specific data processing needs through its product capabilities
- Operation based on a deliverable model to ensure the framework is scalable for increased value to the organization

DATA GOVERNANCE FRAMEWORK MODELS

These dictate how organizations structure and execute data governance activities. These models guide who makes decisions, how data policies are set, and where responsibility for data quality lies.

A **centralized model** usually features a data lake for unstructured data and a single team (or individual) that sets uniform policies. This has the primary benefit of consistency, with a major potential drawback of bureaucracy.

A **decentralized model** features a **data mesh architecture** where diverse sources of data are connected by way of centrally managed data sharing and governance. This allows individual business units to manage their own data and metadata to enable greater efficiency and representation without risking data inconsistencies.

A **hybrid model** is the ideal combination of the other two, featuring a central framework that is adopted by autonomous units. This allows for more agility and quicker issue resolution; however, it requires deeper expertise and coordination.

The adoption of **a well-defined data governance framework has several benefits**, including:

- Enabling streamlined decision-making and more efficient utilization of data across the organization
- Reducing data management costs
- Enhancing risk management and compliance (crucial in highly regulated sectors like finance and healthcare)

Let's now review the current industry and global frameworks that are available.

INDUSTRY FRAMEWORKS

Every industry and sector brings specific and universal needs that shape the unique aspects of each organization's data governance framework.

HEALTHCARE

In the healthcare sector, data governance frameworks face **unique data privacy and regulatory challenges and requirements**. These regulations include **HIPAA** in the United States and the broader **GDPR** in the EU, which demand adherence to stringent data protection and privacy measures.

Many of healthcare's data needs are both multidimensional and specific to the sector, such as electronic health records, billing information, and complex medical imaging data, among others. **Security and quick access** to accurate healthcare data is paramount to both healthcare outcomes and reimbursement models.

FINANCIAL SERVICES

Financial services deals with **vast amounts of highly sensitive and transactional data that are subject to a myriad of global regulations**, such as **GDPR** or the D**odd-Frank Act. Data integrity is vital** for maintaining trust and stability in financial systems.

INDUSTRIAL MANUFACTURING

Industrial manufacturing often has **complex needs surrounding intellectual property and proprietary processes**. Here, companies may gear data governance frameworks toward **protecting trade secrets and optimizing production efficiencies**.

SUPPLY CHAIN LOGISTICS

This sector primarily grapples with **issues related to real-time data tracking, inventory management, and cross-border regulations**. This focus of logistics **data governance** is thus on **accuracy** and **speed**; this is a business imperative where real-time availability of data ensures seamless and efficient operations that affect the entire supply chain of every industry.

GLOBAL FRAMEWORK MODELS

Most organizations understand that the complexity of creating a data governance framework requires the use of a generally accepted framework that can guide the development of their own. There are various global frameworks for data governance, with some of the most adopted described below.

MCKINSEY FRAMEWORK

The McKinsey data governance framework **focuses on aligning data management with overall business strategy**. It emphasizes the **importance of senior leadership involvement and** often incorporates a comprehensive **change-management strategy**. The global consulting firm's strategic approach to data governance is often favored by large, complex organizations. Some, however, find it **too strategy-focused** in ways that might overlook technical challenges or nuances.

ECKERSON FRAMEWORK

The Eckerson framework, from the research, consulting, and advisory-focused Eckerson Group, **outlines different stages an organization can reach**, from nascent to fully mature, helping to **guide incremental improvements in governance capabilit**y. Given its focus on maturity models, this framework is valuable for organizations looking to improve their data governance over time. Note that **as a maturity model, it may not provide specific tactical guidance for day-to-day governance activities.**

PWC ENTERPRISE DATA GOVERNANCE FRAMEWORK

PwC's approach **centers on managing data as a business asset.** It encompasses data quality, data management, and compliance, and aims for a holistic governance strategy that includes all stakeholders, from executives to frontline staff. Its holistic approach **may be too complex or resource-intensive for smaller organizations.**

DAMA DMBOK2 (DATA MANAGEMENT BODY OF KNOWLEDGE)

DAMA's DMBOK framework offers a comprehensive view of data governance, covering a wide array of topics, from data architecture to ethics. It's **often considered a toolkit from which organizations can select components** that best fit their specific needs. DAMA is **one of the most comprehensive frameworks, and many organizations see it as an industry standard**. It is widely used and frequently updated. However, **it can be overwhelming**, with organizations struggling to identify which components are most relevant to them.

THE SAS DATA GOVERNANCE FRAMEWORK

The SAS framework **prioritizes better decision-making through high-quality, well-governed data**. It focuses on data quality, metadata management, and data risk management, **often leveraging SAS software** solutions for implementation. Given that SAS is a significant player in the analytics and data management space, organizations already using or considering SAS tools often consider this framework. Keep in mind that **it can promote a software-centric approach to data governance**, which might not be suitable for all organizations.

THE DGI (DATA GOVERNANCE INSTITUTE) FRAMEWORK

The DGI framework is **designed to be a universal blueprint for data governance, adaptable to any organization's specific needs**. It provides detailed best practices and covers a range of governance components, including data stewardship, quality, and lifecycle management. This framework's universal design makes it adaptable and relevant for a wide range of organizations, adding to its longevity. While designed to be universal, **the framework might require significant customization to fully apply to an organization's unique context.**

THE STANFORD DATA GOVERNANCE MATURITY MODEL

This framework was developed in 2011 **by Stanford University's Data Governance Office**. It is **based on the structure of their data governance program and extrapolated from other models**, including IBM's and CMM's, with an **emphasis on foundational and project elements**. Although the framework is expansive, **it lacks incremental implementation step support and has not kept up with changing technology** landscape needs.

While all of these frameworks are still in use, with many being updated or supplemented by newer methodologies over time, each framework has its own set of benefits and limitations. **Many organizations will blend elements from different frameworks to meet their specific needs. However, there are some key attributes that are universal.**

6. Critical Elements of a Data Governance Framework

Data governance is not a solitary endeavor but a **collaborative enterprise effort** that requires a well-rounded team of specialists. This multi-disciplinary approach ensures that the organization's data framework is robust, compliant, and effectively serves the varied needs of different departments. **Here's how stakeholders from diverse organizational functions typically contribute to a data governance initiative.**

DATA GOVERNANCE TEAM

This is the nucleus of the data governance initiative, responsible for architecting the governance framework. The data governance team includes the council, stakeholders (CIO, CDO, etc.), stewards, and producers who fulfill various roles. Their duties include standardizing terminology across the firm, resolving data-related challenges, and enhancing data utility for end users.

PRIVACY AND COMPLIANCE TEAM

This team safeguards data privacy and ensures that the organization aligns with relevant laws and regulations. Key responsibilities include:

- Overseeing data privacy initiatives
- Documenting data utilization protocols
- Executing Data Protection Impact Assessments (DPIAs) for risk management
- Handling reporting and auditing

LINE OF BUSINESS (LOB) TEAM

Incorporating professionals from a variety of departments, such as finance, marketing, and analytics, LOB teams interact with data daily to inform their decision-making processes. They are responsible for:

- Compiling and analyzing data to generate reliable reports
- Developing and managing data visualizations and dashboards
- Using business intelligence tools for deep-dive analysis

DATA SCIENCE TEAM

For data scientists, quick and effortless access to reliable data is pivotal. Their work significantly affects the quality of analysis, and hence, business strategies. Tasks here include:

- Aggregating, sanitizing, and studying data from multiple origins
- Developing and fine-tuning analytical models for predictive or prescriptive insights
- Extracting business insights from data and models
- Sharing their discoveries with key organizational figures

INFORMATION TECHNOLOGY (IT) TEAM

IT professionals manage the technology infrastructure that houses the organization's data. Their involvement in data governance is crucial, as they are in charge of:

- Administering and deploying tech resources
- Streamlining workflows in collaboration with the data governance team
- Assisting LOBs in understanding data structures
- Safeguarding data integrity and security

By understanding the roles and contributions of these different stakeholders, organizations can better coordinate their data governance efforts for maximum effectiveness and compliance.

7. The Data Catalog Framework

A data catalog framework serves as the backbone for efficiently managing a data catalog, facilitating data-driven decision-making, and delivering business value. It involves a set of guidelines for maintaining, organizing, and managing data assets, which typically cover multiple key elements including the following:

- **Data management** involves both business and IT considerations and includes components such as data quality, metadata, and master data management. A phased approach often works best, prioritizing business definitions or customer data initially.

- **Data organization** defines the structure of data across the organization. Standardizing protocols simplifies the following data processes, reducing duplicate efforts:
  > Integration: Merges data from multiple sources for a unified view
  > Preparation: Enables self-service data blending and transformation
  > Profiling: Helps to understand data quality and content
  > Visualization: Facilitates graphical data representation

- **Metadata** tracks information about data, such as its lineage and usage. Effective metadata management uses automated systems for better traceability and reusability.

- **Data quality** establishes standards for data and monitors its adherence, often through automated tools.

- **Data administration** handles daily data operations and is mainly overseen by IT, with consultation from business units.

- **Analytics and BI** focus on processing large data sets and deriving insights, enabled by a range of specialized tools.

- **Master data** integrates key data elements like customer or product information across systems, crucial for analytics and operations.

- **Reference data** provides commonly used data for lookup values across applications and requires consistent management.

- **Data security** controls data access based on roles and meets regulatory requirements.

- **Data lifecycle** manages data from acquisition to archival or disposal, guided by business needs and implemented by IT.

There are drawbacks and limitations associated with the complexity of managing all these elements, such as personnel (particularly IT), time, cost, and technology integration. But cohesively aligning these data catalog framework elements is the foundation for implementing an effective data governance framework.

8. Steps to Implement a Data Governance Framework

Establishing a data governance framework is a dynamic, ongoing process that must continually adjust to shifts in business, technology, and operational demands. While each organization has its unique set of objectives, goals, and desired results for its governance structure, some common aims emerge, which typically include:

- Enhancing the accuracy and quality of data
- Minimizing risks associated with data management
- Bolstering compliance with relevant regulations

Below are the **11 general steps that often characterize the implementation of a data governance framework**:

1. **Perform a baseline assessment**:
Quickly assess the organization's data governance maturity through gap and quality analysis. Identify compliance needs, resources, and budget to create an actionable roadmap and deliverables (gap analysis, data quality report, compliance checklist).

2. **Highlight use cases**:
Identify and prioritize action areas that align with gaps from the assessment. Aim for early "quick wins" to build momentum and stakeholder engagement.

3. **Keep stakeholders in sync**:
Have kick-off meetings to define roles and get buy-in from business leaders to IT and legal experts. Secure formal approval to move ahead. Create a toolkit comprising a stakeholder list, meeting summaries, and role definitions.

4. **Draft a high-level action plan:**
This should be tied to the data strategy and prioritized use cases. Track success through key performance indicators.

5. **Select a framework**:
Evaluate existing frameworks like DAMA or COBIT. Test their adaptability to organizational needs through pilot runs. Use decision aids, such as research notes, comparison charts, and platform demos.

6. **Perform data inventory and tagging**:
Catalog data assets and classify them for effective governance. Documentation includes a data inventory list, classification matrix, and lineage diagrams.

7. **Draft policies**:
Develop initial drafts on data quality, security, and access. Vet these drafts through legal and compliance. Finalize post-approval and plot deliverables, draft policies, and review notes.

8. **Change leadership**:
Embed change management strategies to ensure lasting success and organizational support through effective communication and training.

9. **Deploy tools**:
Choose and customize tech tools, followed by rigorous testing for reliability. This requires document outputs, including a tool selection report, an integration plan, and testing reports.

10. **Rollout and training**:
Implement the framework and conduct role-specific training. Maintain a feedback loop for ongoing refinement and creation of deliverables including a roll-out plan and training materials.

11. **Maintain and refine**:
Data governance is a living entity that requires the use of KPIs for periodically updating the framework, roles, and policies through monitoring and audits.

Implementing a robust data governance framework is an intricate, ongoing process that demands meticulous planning, stakeholder alignment, and continuous monitoring. This foundational approach helps organizations achieve data accuracy, access, security, and compliance, as well as strategic decision-making that avoids governance framework challenges.

9. Primary Governance Framework Challenges

Implementing a comprehensive data governance framework is a major undertaking that stretches across multiple domains. Many companies continue to struggle with its complexity, which presents constant technical, strategic, and organizational challenges to value creation.

According to results from a recent Eckerson Group benchmark assessment study, **2% of data governance programs deliver high business value, while 78% deliver moderate (39%) or low (39%) value**. With high value as the goal, organizations must avoid the most pervasive challenges that impact data governance success, including the following.

DATA TRANSPARENCY AND TRUST

Data transparency and trust are foundational to the acceptance and success of a data governance framework where the following challenges make that difficult, if not impossible:

- **Lack of trust in data and metadata**: Trust is crucial to discovering, understanding, and connecting data with different data producers and sources.
- **Audit trails**: Maintaining a clear record of everyone accessing data and their purpose is critical.
- **User permissions**: Transparency in how permissions are granted and revoked is essential to building trust.

DATA DISCOVERABILITY AND OBSERVABILITY

As the volume of structured and unstructured data within an organization grows, so does the complexity of managing it. The issues of data discoverability and observability come into play when dealing with large, distributed data sets:

- **Searchability**: Can team members easily find the data they need?
- **Monitoring**: Is there a way to observe data in real time for issues like quality or security?

Failure in these aspects can lead to inefficiencies, repeated work, and even data breaches.

DATA GOVERNANCE AND IT POLICY INTEGRATION

A **common point of data governance failure is its integration with IT policy**, which is often severely hampered by a **lack of general data and metadata accuracy**. This means that **the IT department and the data governance team must have a single source of truth of accurate data and automation mechanisms** to guide updates and access.

MEASURING KPIS AND BUSINESS VALUE

Organizations often struggle with measuring the viability and efficacy of the data governance framework without monitoring key performance indicators (KPIs). This ongoing performance assessment enables the organization to consider potential improvements or updates to policies, roles, technologies, and periodic compliance audits.

TECHNOLOGY/VENDOR LOCK-IN

Many companies fail to select the right tools, which can make it difficult to manage data effectively due to **vendor lock-in.**

Data governance frameworks often rely on specialized tools for tasks like data quality management, data cataloging, and auditing. **Organizations need agile, flexible, and future-proof technologies that do not restrict options down the road or that require major investments to switch vendors or tools.**

Overall, the complexities of **data governance frameworks demand a more automated, agile, and granular approach**. The emerging paradigm of **Data Governance Shift Left** allows enterprises to efficiently navigate data governance through automation.

10. Governance Shift Left: A New Approach

"Shift left" is a term borrowed from software development, emphasizing the early integration of quality checks into the continuous integration and continuous deployment (CI/CD) developmental pipeline. The Shift Left approach advocates for the upfront inclusion of governance controls, rather than taking them on as a late-stage formality.

Pioneered by Witboost, **this modern data governance framework approach integrates metadata and data management; aligns data, software, and metadata lifecycles; and makes sure metadata changes are accurately reflected**. Governance Shift Left consists of four pillars:

- **Early governance integration**: Unlike traditional models, where governance often steps in at the auditing or reporting stages, shifting left **introduces governance at the inception of the data lifecycle, making it an integral component of daily data operations.**

- **Real-time oversight**: Periodic quality checks are replaced with **real-time monitoring of data usage, quality, and security**, enabling **immediate course corrections**, and **lowering the risk and cost implications** of data mishaps.

- **Automation and CI/CD synergy**: Governance Shift Left leverages CI/CD pipelines for automated governance checks, ensuring that **protocols remain consistent throughout the data lifecycle**.

- **Active stakeholder participation**: This approach calls for the **early and continuous involvement of stakeholders**, aiding in the definition of governance goals that are better **aligned with organizational objectives**.

11. Why Governance Shift Left?

Data Governance Shift Left is a marked departure from traditional frameworks in countless ways. However, there are five primary differences to note:

- **Timeframe and phase:** Traditional governance is often an isolated, terminal phase. **A shift-left approach weaves governance into each segment of the data lifecycle**, from inception to archival or deletion.
- **Proactive vs. reactive:** While traditional models react to issues as they arise, s**hift left proactively aims to prevent** them, which conserves organizational time and resources.
- **Agility and flexibility:** Governance Shift Left, with its focus on real-time monitoring and automation, is **inherently more agile and adaptable to changes** than its traditional counterparts.
- **Economic efficiency:** Although shifting left might demand initial technological and training investments, it **yields long-term savings by minimizing correction costs, compliance penalties, and reputational risks.**

A PARADIGM SHIFT IN DATA LIFECYCLE GOVERNANCE

Shift left offers a proactive and holistic strategy for data lifecycle management. By incorporating early-stage governance, real-time surveillance, automation, and stakeholder engagement, **this methodology stands in stark contrast to the reactive and compartmentalized approaches of traditional models.**

It takes the right platform to eliminate the potential challenges of adopting and adapting the shift-left approach in any organization. The emergence of **Witboost enables enterprises to harness the near- and long-term benefits of Shift Left Governance through automated and streamlined governance.**

12. Witboost: Automated and Streamlined Data Governance

The Data Governance capabilities of Witboost automate data governance throughout the entire data component lifecycle. The platform **enforces governance policies as code and automates their implementation, creating non-by-passable rules**. This **increases overall quality standards and reduces compliance risks** while enabling full visibility of policy results and allowing organizations to drill down to specific resources.

CORE FEATURES

At the heart of the platform is a self-contained, executable piece of code with an independent execution context designed to evaluate resources, such as policies, which deliver a “compliant/non-compliant”' result.

CENTRALIZED POLICY REPOSITORY

The platform offers a centralized hub that stores all computational policies in both human and machine-readable formats. It's a one-stop shop to **manage policy rollouts, updates, and deprecation, while also providing a real-time view of policy statuses and compliance issues**. The platform includes:

- A **Policy Register** for managing the complete lifecycle of computational policies from a single console to keep tabs on versions, roll-out statuses, and any issues that arise.
- A **Policy Editor** to edit and test policies for compliance before deployment and provide instant feedback on compliance issues for quick fixes.
- **Policy Validation** for gaining a comprehensive view of data-initiative compliance across the organization; drill down to specific data components, policy score viewing, and interaction with data owners for immediate compliance needs.
- **Policy Back Testing** that runs a new policy across the entire register to understand its potential impact and dependencies before release; this enables targeted fixes for non-compliance issues.

witboost

BENEFITS

Today's organizations and enterprises require a highly customizable and automated data governance framework that is easily managed, agile, and scalable. Witboost empowers organizations to create a data governance framework that **goes beyond legacy frameworks and tools** to deliver benefits such as:

- Ensuring governance isn't broken before data goes into production
- Quick and easy implementation
- Solving the CDO's pain points of trust in data and metadata
- Increasing data literacy and data ownership
- Scalable delivery
- A metadata activation strategy via a knowledge graph
- Automation for the fast creation of data products via pre-built templates, as well as self-service infrastructure

Witboost stands as a transformative tool for automating and enforcing data governance across organizational workflows. By centralizing policy management and offering real-time compliance views, it significantly reduces risks and boosts overall quality standards. It's not just about setting guidelines; it's about actively enforcing them through code, making governance agile, transparent, and effective.

Other benefits of the entire Witboost platform include:

- **Automated templates**: Craft reusable templates that are pre-tested and validated. These templates embed best practices and enhance software quality and security, enabling tech-agnostic operations.

- **Real-time governance**: Generate computational governance policies that act both at deployment time and runtime. Aggregate the results in a centralized hub for easier auditing and comprehensive monitoring.

- **Holistic management**: Take control of the end-to-end governance process of data components, from creation to deployment, in a centralized system.

- **No vendor lock-in**: The platform's technology-agnostic design eliminates the possibility of being tied to a single tech stack by extending functionalities through backend and frontend plugins and microservices.

- **Streamlined workflows**: These standardize user experiences across all activities while enhancing the quality and pace of data engineering and overall development processes.

- **Transparent and automatically enforced contracts**: Implemented between the platform and its users, these establish a secure and high-quality framework for data initiatives.

- **Comprehensive auditing tools**: Organizations get a robust data toolbox to monitor and audit data pipelines, access, and usage effectively and ensure transparency and compliance.

13. Meeting Tomorrow's Evolving Data Governance Needs

Data governance and data governance frameworks can be a complex strategy initiative to learn about and parse different options and objectives. This whitepaper provides a foundational guide that explains its purpose, framework options, and implementation structure, which includes why:

- Truly comprehensive and effective data governance requires a data governance framework that includes these four key components:
  - > Scope of data
  - > Defined organizational structure
  - > Data standards and policies
  - > Oversight metrics

- The four key pillars that give the framework its operational and organizational strength include:
  - > Defined use cases
  - > Quantifiable value measurement
  - > Accommodation of specific data processing needs through its product capabilities
  - > Operation based on a deliverable model

- CDOs and other enterprise data stakeholders face countless challenges in data governance, including:
  - > Data transparency and trust
  - > Data discoverability and observability
  - > Integrating data governance with IT policy
  - > Measuring KPIs and business value
  - > Technology/vendor lock-in
  - > Inconsistent/poor data quality
  - > Insufficient transparency
  - > Enterprise data-use inconsistencies
  - > Security breaches
  - > Compliance violations
  - > Lack of clear data ownership
  - > Lack of accurate metadata

While there are many global frameworks in use today, they all have benefits and drawbacks.

Witboost solves the challenges and drawbacks of legacy global frameworks by:

- Ensuring governance isn't broken before data goes into production

- Providing quick and easy implementation

- Solving CDO's pain points of trust in data and metadata

- Increasing data literacy and data ownership

- Enabling
  - > Scalable delivery
  - > Real-time governance by generating computational governance policies that act both at deploy time and runtime
  - > Holistic management
  - > A metadata activation strategy via a knowledge graph
  - > Automation for fast creation of data products via pre-built templates and creation of self-service infrastructure
  - > A vendor agnostic design to avoid vendor lock-in to a single tech stack
  - > Streamlined workflows for operational efficiency and standardized user experiences across all activities
  - > Comprehensive auditing tools

With Witboost, governance shifts left into the development cycle, ensuring metadata, documentation, and security considerations are addressed from the start.

Policies are automatically enforced, eliminating the need for manual checks, and guaranteeing transparency.

The platform is technology-agnostic and open to customization through plugins and microservices. This ensures that data governance keeps pace with business decisions and evolves without vendor lock-in. Integrated platform data security helps organizations protect against data breaches and remain compliant with regulatory standards to accelerate the speed of business without sacrificing governance.

To learn how Witboost (based on Governance Shift Left) can transform your data governance, sign up for a **free demo**.

About Witboost



Witboost is a pioneering platform **streamlining complex data projects across various platforms**, enabling seamless **data production and consumption**. This unified approach empowers you to **fully utilize your data without platform-specific hurdles**, fostering smoother collaboration across teams.

It seamlessly blends business-relevant information, **data governance processes**, and **IT delivery**, ensuring technically sound data projects aligned with strategic objectives. **Witboost facilitates data-driven decision-making** while maintaining data security, ethics, and regulatory compliance.

Moreover, **Witboost maximizes data potential through automation, freeing resources for strategic initiatives.** Apply your data for growth, innovation, and competitive advantage.

Find out more at: www.witboost.com

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