



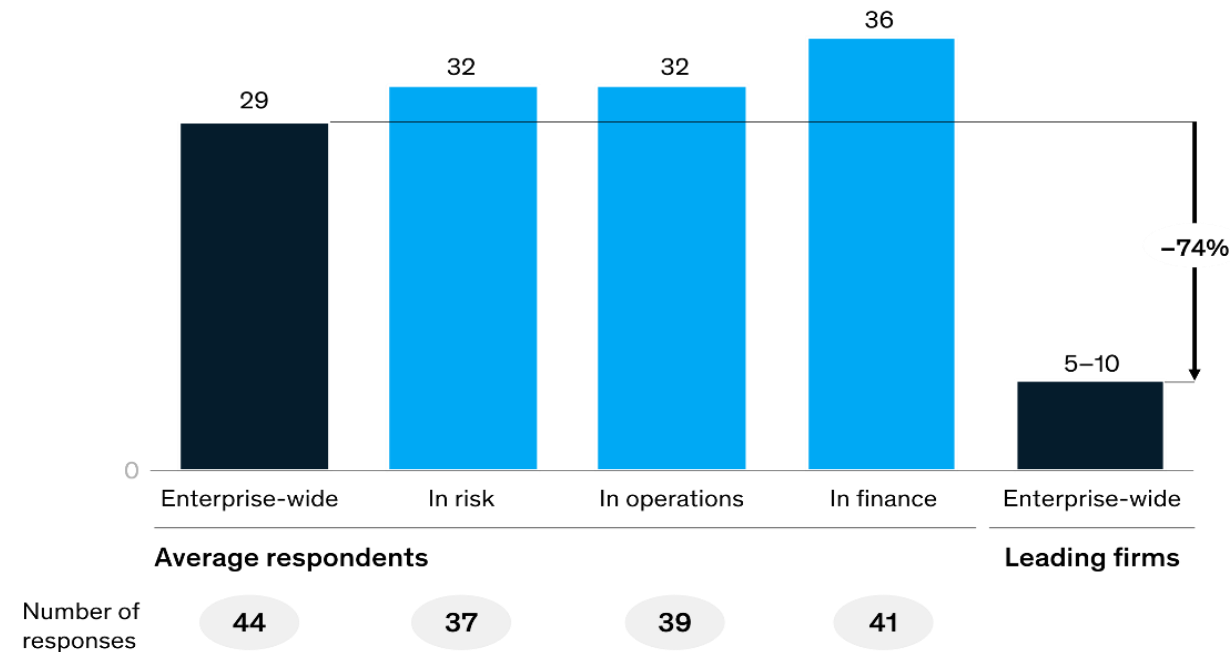
Case Studies

IS465: Data Management and Governance

Designing data governance that delivers value

Lack of data quality and availability can cause employees to spend a significant amount of time on non-value-added tasks.

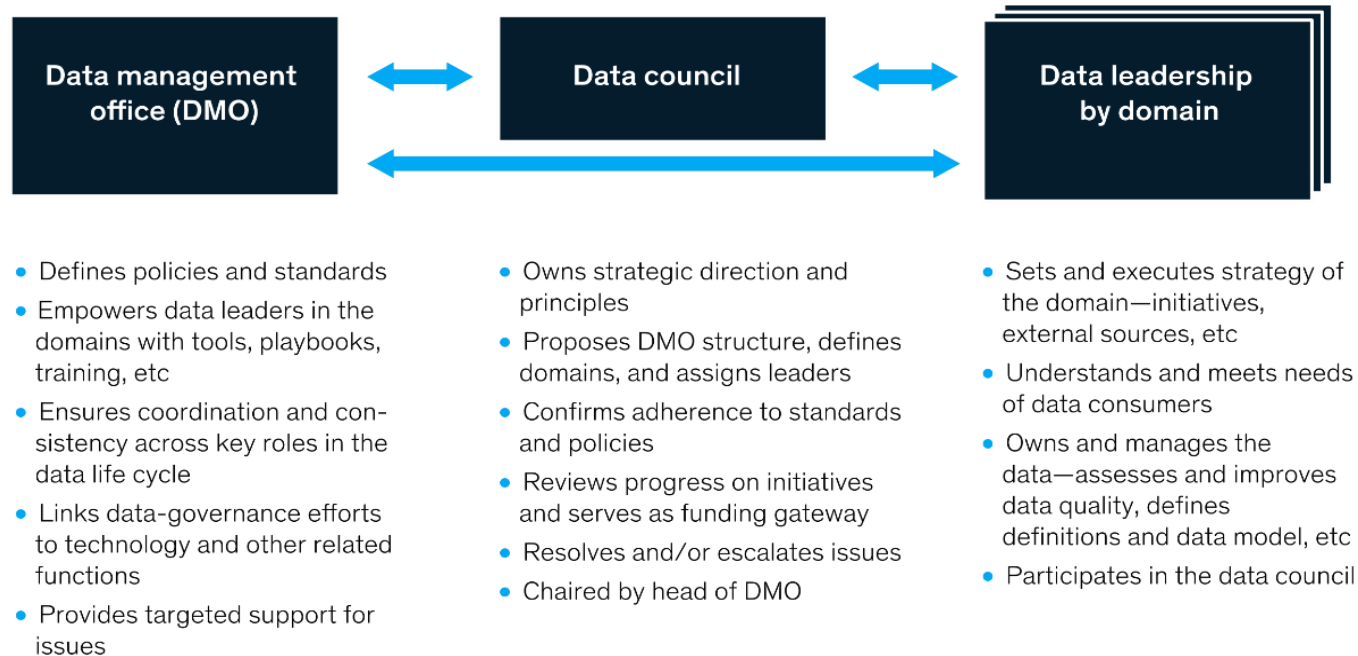
Time spent on non-value-added tasks due to poor data quality and availability¹
Estimated % of total employee time



¹ Data sourcing, data aggregation, data reconciliation, data cleansing, manual reporting, etc.
Source: McKinsey Global Data Transformation Survey, 2019

Designing data governance that delivers value

A best-practice data-governance model typically includes three organizational components.



Designing data governance that delivers value

Data-governance archetypes can be used to inform the level of sophistication needed.



Level of data complexity—complexity increases with . . .

- High variety/large scope of the business operations (eg, number of lines of business, geographies covered)
- High speed and evolution of core data
- Low level of data automation/low maturity of underlying technology

Uber set up a flexible approach to data governance

- Uber operates in 70+ countries, each with its own data governance framework to comply with local and regional laws.
- To ensure compliance across all regions,
 - Uses a core platform to take care of data privacy and security centrally.
 - Collects data globally but adapts its governance policies depending on the origins of each dataset by using customizations and plugins.

Uber set up a flexible approach to data governance

- Manikandan Thangarathnam, the Senior Director of Mobility and Platforms at Uber, puts it:
 - *“For example, a city or a country may have a rule by which they do not want to expose the driver’s name to the rider. So we have the capability to switch on or off depending on the city; we do not have to create a different application for that. That is the amount of engineering and flexibility that we have built into our system.”*
- The company has invested in training its people and honing their skills to ensure the success of its data governance programs across all regions.

How Wells Fargo built a single source of truth to ensure proper governance

- Wells Fargo's data governance strategy highlights the importance of creating a single source of truth to enhance data accuracy and reliability.
- Their approach was to centralize data from multiple sources to create a unified, trustworthy source that reduced discrepancies and improved consistency.
- This streamlined data management and allowed for more accurate reporting and analysis, thereby enhancing decision-making across the organization.

How Wells Fargo built a single source of truth to ensure proper governance

- Prahalad Thota, the former Senior Vice President, Head of Enterprise Analytics & Data Science at Wells Fargo, describes their efforts:
 - *“We established a team that brings data together and organizes it into our Enterprise Data League. The team focuses on establishing the right governance, in terms of storage and management, for the data. The team also focuses on leveraging data for driving cutting-edge use cases.”*
- Wells Fargo’s data governance strategy also emphasized the importance of data visualization (using Tableau) to make data more accessible to non-technical stakeholders and improve overall data literacy.
- As a result, Wells Fargo was able to ensure data consistency, accuracy, and visualization to reduce risks and foster data-driven decision-making.

Benchmarking Data Governance Maturity

- Project Background
 - A construction management firm was seeking:
- An assessment of their data governance needs and advisory support for selecting a tool to address them.
- To clearly define and prioritize their data management and governance use cases.



**Data Governance
Needs Assessment &
Use Case Definition**



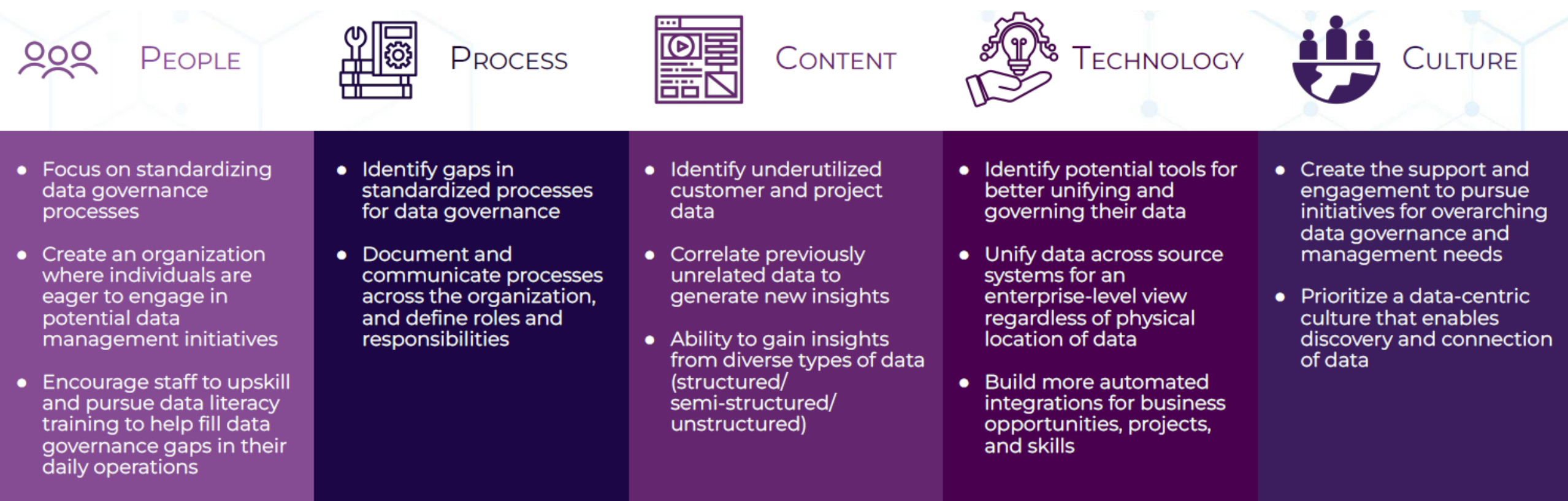
**Tool Evaluation
Matrix & Vendor
Recommendation**



**Data Governance
Solutions Architecture
Recommendation**

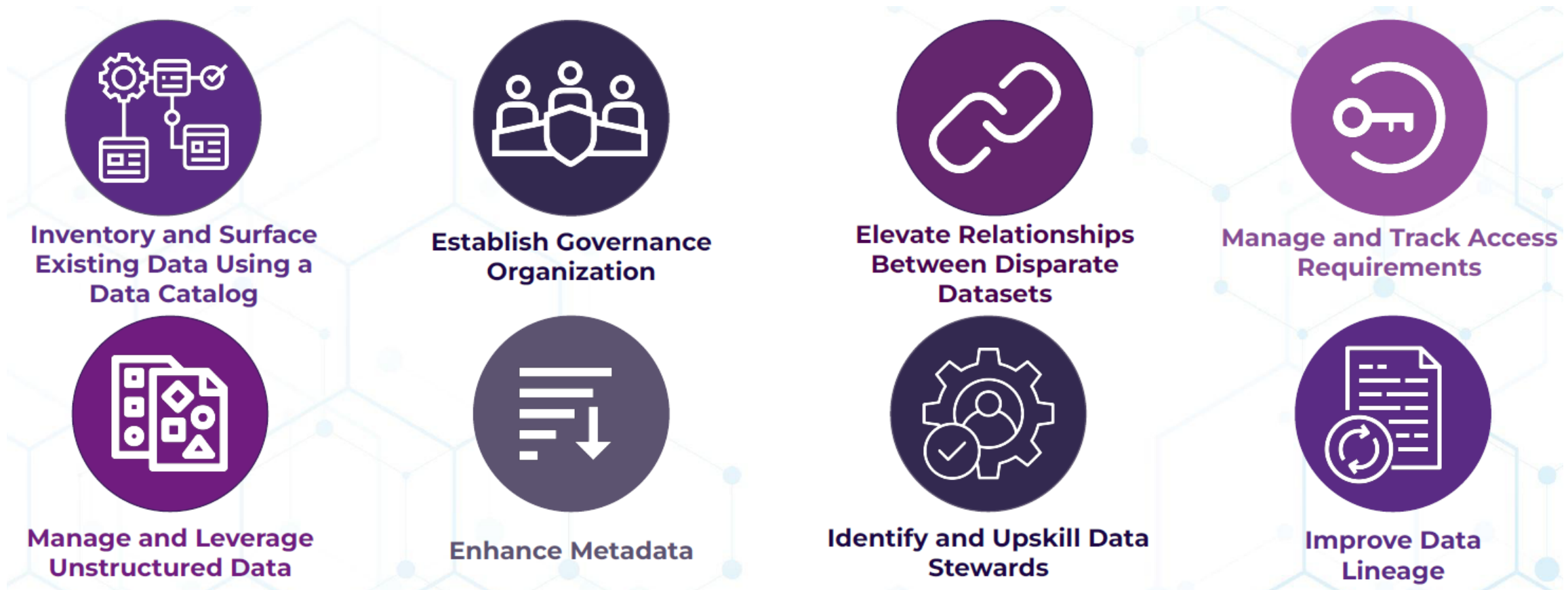
Data Governance Findings

- Categorize key takeaways into five data governance themes.



Priorities to Address Data Governance Challenges

- A selection of recommendations.



End User Training

- Constructed a comprehensive training plan to upskill the organization in five key areas.



Data Stewardship Hierarchy



Stewardship Council:

Decision-making body of the data stewardship team.



Stewardship Lead:

Member of the data stewardship council.



System Administrators:

Member of the data stewardship council.



Strategic Leads:

Member of the data stewardship council.



Data Stewards:

Do not have voting rights, but inform the stewardship council during decision-making processes.



Provides strategic direction and collective decision-making.

Guides meetings and draws on stewardship best practices to inform decisions. Manages requests.

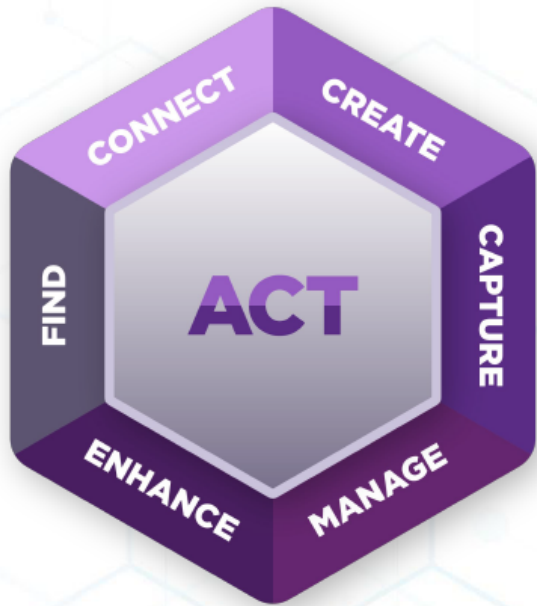
Offers a technical perspective around suggested stewardship changes and leads changes in systems.

Guides data stewardship evolutions by providing insight into business and strategic objectives.

Offers program area or operational area perspective on stewardship needs.

Each recommended role builds on the preceding one in terms of responsibility level and decision power.

Access, Usage, and Sharing



CONNECT

Aggregate

User(s) can create a dataset that is made up of but not linked to existing data assets.

Branch

User(s) can create a dataset that is made up of and linked to existing data assets.

CREATE

Draft

User(s) can add a new data asset.

MANAGE

Manage/Own

User(s) can archive or delete a data asset.

Comment

User(s) can view a data asset and attach non-edit notes.

Govern

User(s) can determine the standards and structure of a data system.

ENHANCE

Edit

User(s) can add to, modify, or remove pieces of an existing data asset.

FIND

See

User(s) can see the data asset in a list of results, but cannot view it.

View

User(s) can read the contents of a data asset.

Tools and Frameworks

- A multi-national financial organization was facing difficulties in unifying governance, discovery, and search across multiple metadata storage platforms within their global enterprise.
- In order to rectify their existing data quality and governance issues with a standardized metadata platform, this organization identified a data catalog as a foundational solution to start addressing these challenges and consulted with us to lead the implementation.



Increased data
maturity and
development

8,000+

Business
glossary objects



A new metadata
platform that
enabled more
advanced use cases

5,500+

resources



Maintain compliance
tracking through
external ontologies

Why is a Data Catalog Foundational?

- A data catalog serves as a data governance tool that allows us to collect, aggregate, and present logical and physical metadata to end users.
- A modern data catalog....
 - Contextualizes and enriches information with meaning of data based on business or data domains.
 - Establishes relationships across disparate data sources and across business and technical concepts.
 - Unifies unstructured and structured data to connect data of all formats.
 - Makes data and information easily searchable and discoverable.

Data Catalog Business Value

COST SAVINGS & INCREASED REVENUE

Provide Structure

- Tag data using terms from a customized business glossary
- Increase the accuracy and range of search

Improve Findability

- Target access to data to specific audiences
- Enable faster access to the right data and the people who manage it

Improve Discoverability

- Implement a user-centric and scalable data inventory
- Help users organize, find, and discover data

Reuse Content

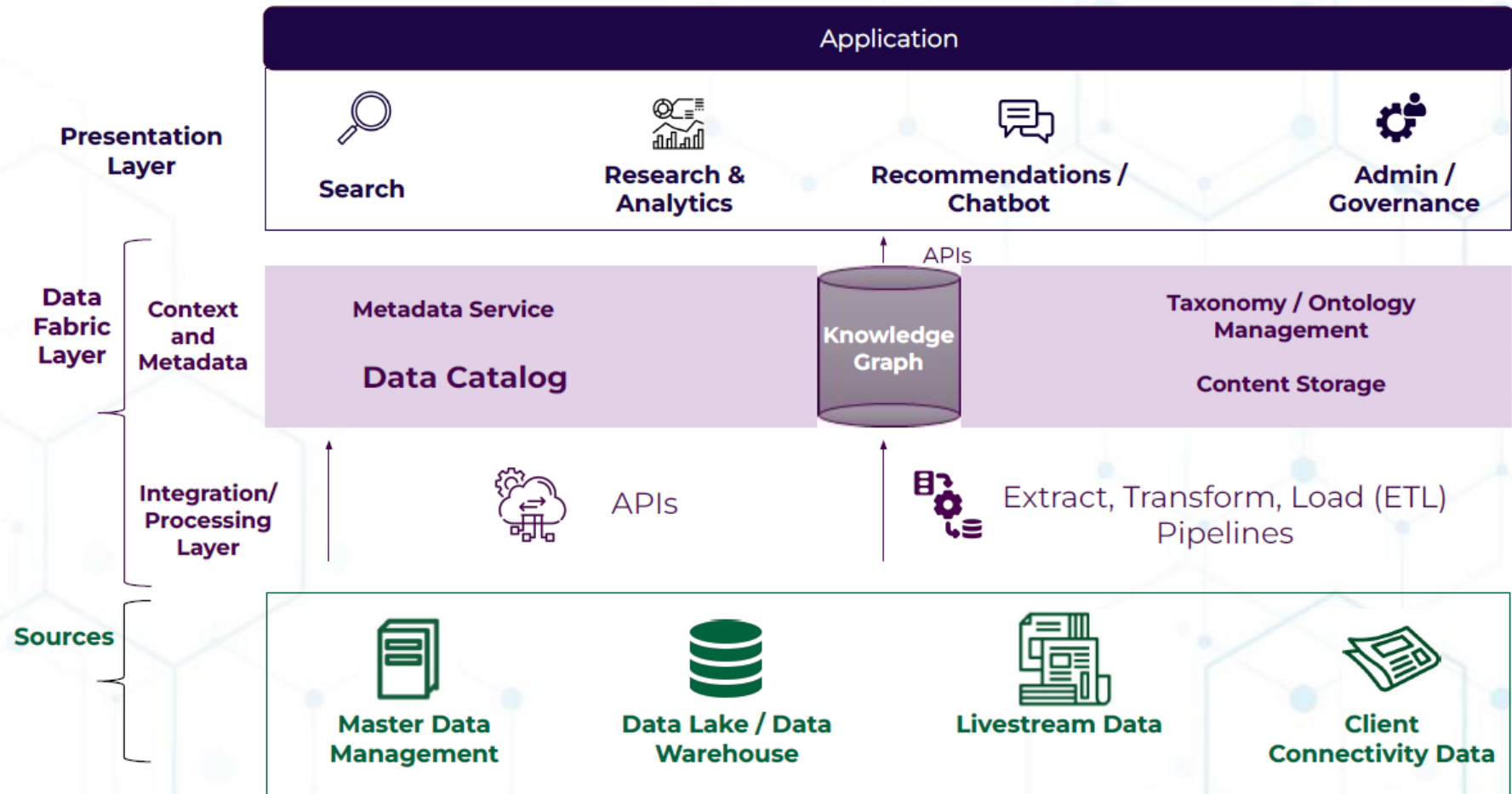
- Find and connect existing data for reuse
- Minimize duplication of existing data and dashboards
- Standardize data schemas across sources

Integrate Sources

- Integrate multiple disparate sources of data
- Connect both structured and unstructured datasets

How a Data Catalog Fits into Data Governance Tools

A **data fabric** enables data federation and virtualization of semantic labels or rules (e.g. taxonomies/ business glossaries or ontologies) to capture and connect data based on business or domain meaning and value.



GlobalBank

- GlobalBank, a multinational banking corporation with operations in over 50 countries.
- GlobalBank has experienced rapid growth in recent years, resulting in a significant increase in the volume and complexity of its data.
- The company has multiple data systems, including customer relationship management (CRM) systems, transactional databases, and data warehouses.
- However, the lack of a centralized data management strategy has led to data inconsistencies, inaccuracies, and security breaches.

Problem Statement

- GlobalBank's CEO has mandated the implementation of a comprehensive data management and governance program to ensure the accuracy, security, and integrity of the company's data.
- The program must address the following issues:
 - Data quality: Inconsistent and inaccurate customer data across different systems.
 - Data security: Recent security breaches have compromised sensitive customer information.
 - Data governance: Lack of clear policies and procedures for data management and use.
 - Data integration: Difficulty in integrating data from different systems and sources.

Case Study Solution

- Data Governance Framework:
 - Established a Data Governance Council (DGC) comprising senior executives from different business units.
 - Defined data governance roles and responsibilities, including a Chief Data Officer (CDO).
 - Developed a data governance policy that outlines data management principles, standards, and procedures.
 - Established a data quality program to ensure data accuracy, completeness, and consistency.

Case Study Solution

- Data Management System:
 - Designed and implemented a data warehouse to integrate data from different sources, including CRM systems, transactional databases, and external data sources.
 - Developed a data integration platform to ensure seamless data exchange between systems.
 - Implemented data quality checks and validation rules to ensure data accuracy and consistency.

Case Study Solution

- Data Analysis and Visualization:
 - Developed a business intelligence (BI) platform to support data analysis and visualization.
 - Implemented data visualization tools, such as dashboards and reports, to support business decision-making.
 - Trained business users on data analysis and visualization techniques.

Case Study Solution

- Policies and Procedures:
 - Developed policies and procedures for data management and use, including data access, storage, and retention.
 - Established a data breach response plan to ensure prompt response to security incidents.
 - Implemented training programs for employees on data management and governance best practices.

Benefits

- Improved data quality and accuracy.
- Enhanced data security and integrity.
- Better decision-making through data analysis and visualization.
- Increased efficiency and productivity through automated data integration and processing.
- Compliance with regulatory requirements and industry standards.