

How to Develop Clear Data Governance Policies and Processes for Your MDM Implementation

Why data governance? Rules before tools!

As data becomes a corporate asset, the need to properly administer and safeguard data arises. Many organizations choose to implement a master data management (MDM) system because of its wide capacity and ability to connect and enhance existing data repositories which are prone to become data silos.

But without a data governance policy, data stewards in charge of daily operations won't be able to use the MDM system to the best outcome.

Data governance and MDM are not identical. Data governance lays the groundwork for your MDM solution and ensures that you get maximum value.

Your data governance policy is your checklist and guide for the MDM solution, which is the operational tool.

An MDM system without data governance won't work."

Sabine Schmidbaur, Managing Consultant at Stibo Systems

Building the data governance organization

Establishing a comprehensive data governance plan that includes the entire organization and drives MDM implementation as well as maintenance is the first building block.

The data governance organization should reflect clear accountabilities and cover all aspects of the master data management. The organization can be expanded and modified according to business needs. The head count may vary but the principles are the same. Also, several responsibilities may be placed on one person's shoulders, but it's important to observe that more people don't share the same responsibility.

The data governance policy can be written by the MDM manager or data architect, but it needs a sponsor to support and fund the policy and to resolve any high-level issues. This will often be an executive, the CDO or the CIO.

When defining accountabilities, you should distinguish between data owners and data infrastructure owners. Data owners are responsible for the content, whereas data infrastructure owners are facilitators who enable good data processing.

The titles may vary, and the functions may, according to resources and skills, be placed with one or more persons.

The data owner

- Is a decision maker for data changes
- Owns one or more master data entities and the entity roadmap
- Is responsible for the content and the data quality in the data library

Most companies will have several data owners. The data owner can be a sales director who likely has an organization of product managers acting as data stewards for each of their product groups or business units. The data owner can choose to assign decisions to data stewards but overlapping responsibilities should be avoided.

Data owners and stewards are decision makers because they have the insight into the attributes of the data objects. They decide whether a product should have additional attributes, and they make change requests.

It's important that the data owner team has the authority to make decisions because they will benefit from a better quality of master data.

Diagram of a simple data governance organization



Data stewards

- Are decision makers
- Act as subject matter experts
- Possess master data literacy and business acumen

Data stewards can be sales people, product experts, account managers and others with a deep insight into the business. They must be able to operate the user interface of the MDM system, add records and submit change requests.

Data stewards can have different responsibilities. Overall, they are the guardians of the organization's data quality. As subject matter experts, they must be able to make decisions regarding changes to the data model such as adding attributes, modifying relationships, editing metadata and keeping the documentation up-to-date. In many cases, the data steward is the first point of contact for change requests or any questions regarding master data as they handle anything related to data policies and compliances.

MDM manager

- Data process owner
- IT expert and super user

The MDM manager collaborates with data owners and data stewards in ensuring completeness of the data library. The main responsibility is to manage the operations of the MDM system.

In a typical setup, the MDM manager will also pen the data governance policy in collaboration with the data governance manager.

Data analyst

The data analyst advises the data stewards on the structure, contents, use and interpretation of master data. Depending on skills and capabilities, this function can be managed by data stewards or the MDM manager.

The data governance manager

- Monitors the master data governance
- Possesses both business and technical skills

The data governance manager is a global position, most likely on executive level, who is responsible for defining the business goals for the MDM solution. Identifying the KPIs and sponsoring the MDM solution, the data governance manager must possess a high degree of business acumen.

Data governance forums

According to business needs it may be advisable to establish a data governance forum that includes the whole data governance organization at quarterly meetings. These will ensure alignment and successful decision-making and resolve any cross-entity issues.

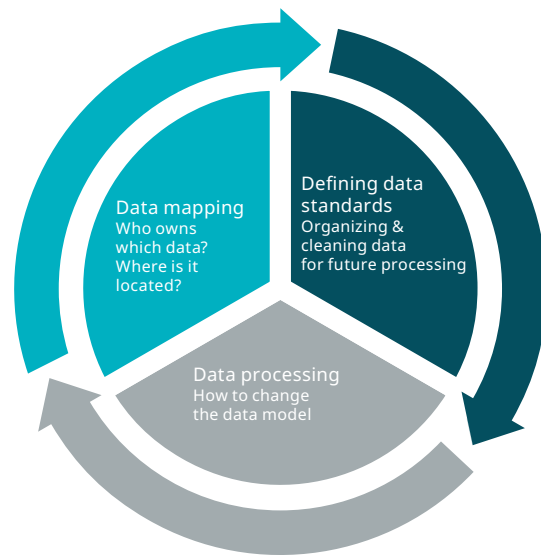
How to prepare your data

After gaining stakeholder buy-in and establishing the data governance organization but prior to the MDM implementation itself, you need to take a look at your data standards and processes.

A good preparation of your organization's data will save you valuable time in the MDM implementation phase and expensive reverse engineering after implementation.

Three areas require your attention: Data mapping, data standards and change processes.

Data mapping



Mapping an organization's data requires a profound understanding of the system landscape and the maintenance process of the data.

Data mapping encompasses:

- Identifying data assets and their repositories
- Identifying and defining current data owners
- Describing data flows and the rules of data distribution
- Describing current data standards including validation rules

The data map is a snapshot of the current situation that, if well executed, will reveal gaps and serve as a document for the data governance policy.

After the data clean-up and redefining standards and processes as described below, the data map should be adjusted accordingly and form part of the data governance policy.

Defining data standards

Good data standards are at the core of a smoothly working MDM solution. They are essential for your ability to collaborate and exchange data within the organization as well as externally.

The first step to ensure a high data quality is to apply logic to your data standards such as using unified formats for addresses and product descriptions. You need to define what types of data that can be entered as attribute values. Make sure that each attribute can only contain data in a specified format, e.g.,

Type of data	Specified formats
Numeric text	<24V
Number	1.25 OR 3 OR -4.5
Fractions	12-3/16
Dates	2019/03/08

This will enhance the interoperability (e.g., when validating the data against external sources or mapping it against other standards). Simply using free text would cause too many errors.

Defining the data model

The data model is your guide to organize master data. The hierarchy of data objects, describing the relationships between entities and attributes, is the database framework needed to support the decision makers.

Unfortunately, there isn't a simple out-of-the-box solution for designing a data model that must reflect your individual data landscape.

An important step towards creating a high performing database is to normalize data, using unique identifiers and building relationships between separate entities, to avoid redundancy. Put the data model through a meticulous quality assurance process to test it for any flaws.

A solid data model will make the MDM implementation easier and faster, and it will make the system easier to maintain and the reporting accurate.

Defining the attributes

Determine the attributes to be included under each data object group. Attributes are types of information used to describe an object. The information can be object specific or relate to a group of objects.

For the data object group "customer," attributes may include name, email, address and phone number.

Product objects have description attributes, which are specific for the individual object, e.g., EAN number or manufacturing code, and specification attributes, which are product features, e.g., color, weight or warranty.

A rich and complete list of attributes is pivotal for supply chain management as well as customer satisfaction.

Defining quality standards and validation rules

You should determine when an object group is complete and ready to be published or sent downstream. Non-compliance with the validation rule should cause the data to be returned for further enrichment.

Within MDM, validation rules define business specific logical elements to govern data workflows in order to retain a high data quality. As an example, business rules are applied to data transitions such as importing or publishing.

Clear validation rules are your guarantee for maintaining a high data quality and end-to-end consistency.

Describing the data processes (changes)

After implementation of the MDM solution, the master data library is not a static structure carved in stone. The system, as well as the organization, should be flexible to respond to changes. The master data governance policy should include a guide for processes and how to manage changes to the data library, assigning data ownership, changing the roles and changing best practices and processes.

Changes to the governance organization

As the organization grows and more object groups are added, there will be a need to allocate ownership and change the roles and processes to better accommodate the business. These changes should be managed by the governance manager.

Changes to the data governance system

Managing changes in the master data system is a crucial activity which must be precise with descriptions. The change processes may seem formal and structured, but the meticulousness serves to keep the data quality high and the processes transparent and retraceable.

The data governance policy should specify the following four elements for change requests:

Trigger

A change request can't be set in motion without a trigger. The trigger starts the process; it can be a formal request form or an email or simply a certain time of the day. Business line managers and data owners often request changes (e.g., for adding an attribute to a data object).

Each step within the change process has its own trigger.

Person in charge

There must be a person in charge to monitor the change process and intervene in case of problems. This person is usually the MDM manager.

Responsible person for each action

For each action in the change process, there must be a responsible person who can also identify the next person in the chain and activate the trigger.

Clear outcome

Every change process must have a clear endpoint that will close the process for the requester.

Example:

1. A business unit represented by the ecommerce director requests additional attributes to a product.
2. The person submits a request to the appropriate data owner (trigger).
3. The data owner can distribute the request to a subject matter expert (data steward).
4. The data steward can request an impact assessment from the MDM manager in order to gauge the scope of the change.
5. The MDM manager contacts groups of business users to see how they will be affected by the change and then reports the impact back to the data steward.
6. The data steward can then return a recommendation based on a cost/benefit analysis to the data owner who can convey the outcome to the requester and decision maker.
7. After approval from the data owner, the data steward creates the new attribute in the MDM.

How does MDM support good data governance?

As the data governance policy proposes a number of business-critical demands to the MDM solution, this must be capable and flexible enough to meet individual demands.

Through several features and designs, a Stibo Systems MDM solution supports good data governance:

System architecture

In order to accommodate different business needs, the MDM system offers four different implementation styles assigning different roles to the MDM system:

1. In the **consolidation** style, data can be owned by other systems and consolidated in the MDM which creates trusted golden records and sends data to a business intelligence system.
2. In a **centralized** implementation, the MDM system creates and owns data and pushes it to other systems ensuring a single version of the truth.
3. In the **coexistence** style, the MDM synchronizes and consolidates data ensuring a single version of the truth and allowing legacy systems to continue.
4. In the **registry** style, the MDM serves as a central hub for reference data and as an ID mapper keeping confidential data segregated.

Implementation styles

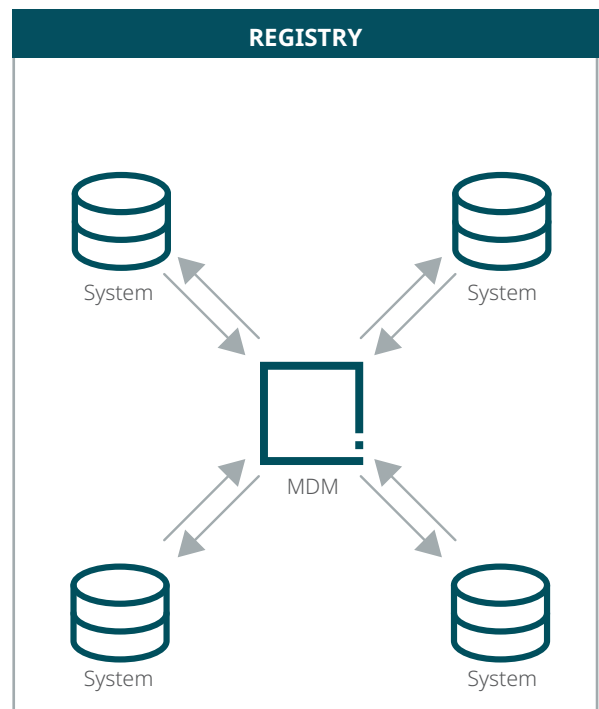
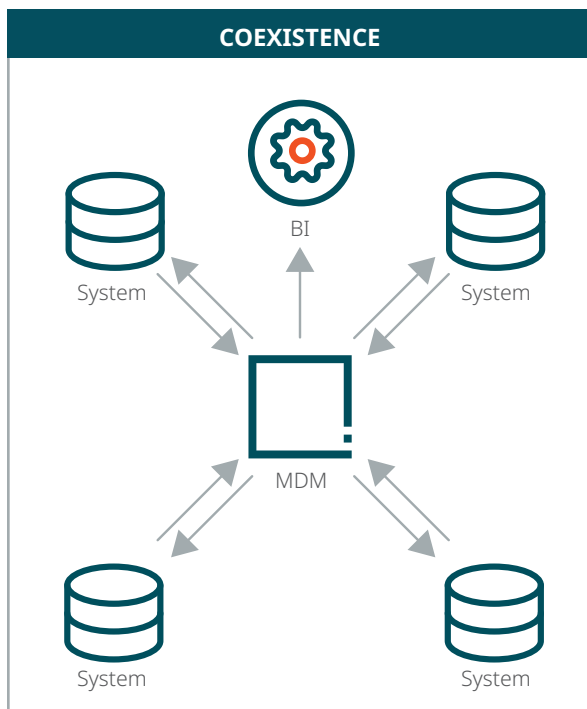
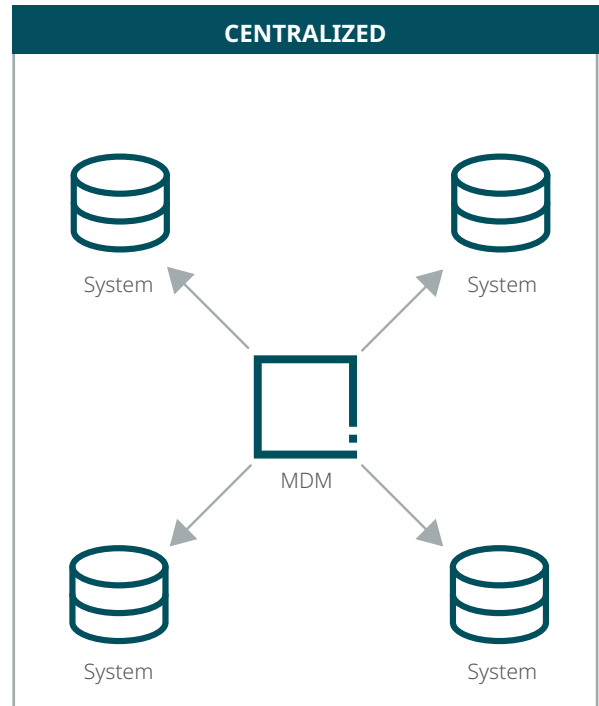
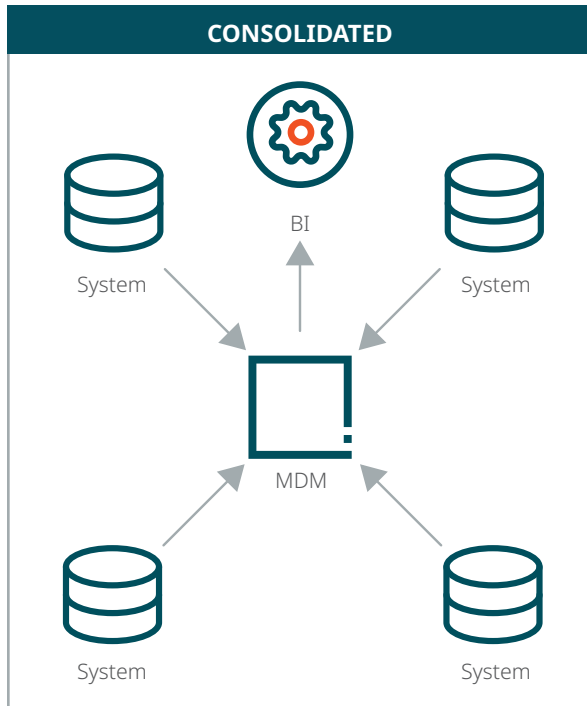
Each implementation style serves to break down barriers between data silos and preserve a high data quality in a collaborative architecture.

Accountability

The MDM solution has a role-based user interface that empowers data stewardship and enables shared responsibility for data among everyone who uses it.

Logical workflows requiring an assignee for each stage ensure traceability and guarantee that there is a responsible person who can approve each transition of data. Data can only move downstream when approved.

Implementation styles



Transparency

An important part of the data governance policy is to ensure data transparency throughout the enterprise. A multidomain MDM solution supports just that. Multidomain includes different data domains, such as products, suppliers, customers and locations that can be linked together to enhance collaboration and ensure standards and regulations.

Data quality

The MDM solution has an array of features to secure the data quality. For example:

- Through the matching-and-linking component, it's possible to identify and handle duplicate entities and establish a golden record of the most trusted data.
- Integrations with third-party sources and internal business systems such as CRM and ERP make it easy to validate data and push consolidated data to external systems.

- Validation ensures that each attribute can only contain data in a specified format. This will safeguard the data standards of the attributes and prevent erroneous data from entering the MDM system.

Writing a data governance policy and implementing an MDM solution can be difficult. The MDM manager must often lead change management because of the organizational impact that comes with a data governance policy.

Stibo Systems has a long track record of system implementations and holds an extensive knowledge base due to long-standing employees and customer relations.

Contact us if you want to know more about how to master your data — visit www.stibosystems.com

About Stibo Systems

Stibo Systems, the master data management company, is the trusted enabler of data transparency. Our solutions are the driving force behind forward-thinking companies around the world that have unlocked the strategic value of their master data. We empower them to improve the customer experience, drive innovation and growth and create an essential foundation for digital transformation. This gives them the transparency they require and desire – a single, accurate view of their master data – so they can make informed decisions and achieve goals of scale, scope and ambition. Stibo Systems is a privately held subsidiary of the Stibo A/S group, founded in 1794, and is headquartered in Aarhus, Denmark. More at stibosystems.com.