Data Governance using SAP MDM - Part 1

Applies to:

SAP MDM

Summary

The Data won't Govern itself! This article, first in a two part series, explains the importance of Data Governance and how to establish a framework using SAP MDM. Part 1, focuses on establishing data standards using SAP MDM.

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1. Introduction to Data Governance

“Master Data Management alone cannot be of any use unless Data Governance go along with it”, a common statement made every where in almost all articles related to MDM.

The motive of global organizations implementing MDM is not only to have a centralized repository of data and to maintain multiple systems across globe with ease, but also to put in a strong data governance model in picture. As companies grow; organically and inorganically; not only there IT landscape gets complicated but also management of key master data becomes difficult.

Data Governance is broad term but one of the definition Data governance is the practice of organizing and implementing policies, procedures and standards for the effective use of an organization's structured/unstructured information assets.

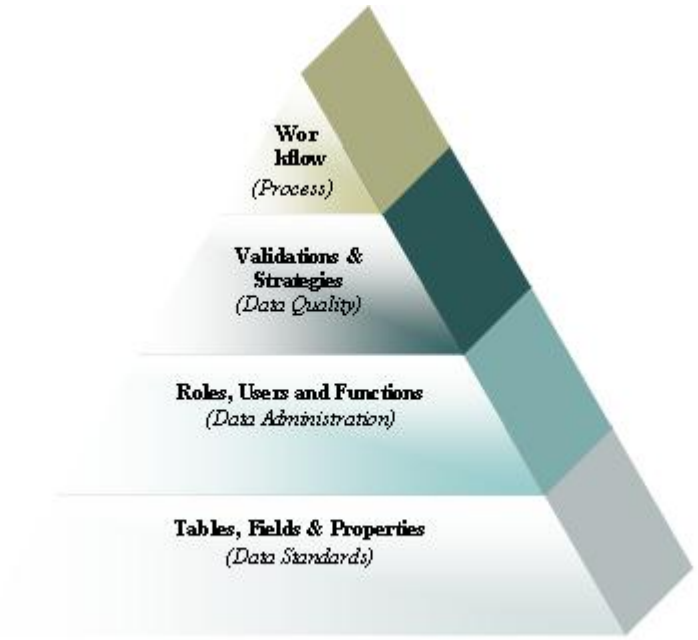
Another definition of Data Governance is "Data Governance is a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods."

2. Data Governance using SAP MDM

From the above definitions, we can model Data Governance into four layers:

- Data Standards
- Data Administration
- Data Quality
- Process

How does SAP MDM help you achieve this? What are the various options to model the Data Governance using SAP MDM? The below diagram shows how SAP MDM applies the above points into a well structured and highly flexible model.



SAP MDM Data Governance Model

- SAP MDM allows us to create different types of fields and then set multiple properties of each the field to help maintain data standards.

- A User-Role model for data stewardship helps manage data effectively and also impose security and data ownership.

- Maintaining good quality data is one of the most important parts in Data Governance and fortunately SAP MDM provides extensive features like Validations, Assignments and De-duplication strategies for this.

- SAP MDM provides very user friendly GUI to design and build workflows which help to streamline business process and adhere to various compliance policies.

SAP MDM has a strong a foundation of communicating with multiple systems by supporting multiple file formats in Import Manager and Syndicator, ease of communication with R3 using SAP XI. But it also provides an equally strong base for Data Governance.

The following section will give more insight on how to enforce data standards using SAP MDM.

3. Data Standards

Often it is seen that organizations fail to recognize the importance of setting some basic data standards in the initial master data design stage. There more focus is on data consolidation and harmonization, but for that it is more important to study all the consuming systems thoroughly and spending time on each table and field that would be present in the MDM repository.

Setting data standards acts a base for a strong Data Governance model and hence is in the bottom of our pyramid. One way to set high data standards is to come up with a detailed MDM Data Model which would have all the details required. Since data standards would act at very basic field level, every small decision you would take would later have an impact on the MDM.

SAP provides various options at both field as well as table level using which we can model high data standards for successful data governance.

3.1. Fields & Properties

SAP provides many options to create different types of fields; 16 to be precise. Rather than just having few Field Types like Text, Integer, Real, we can model fields in SAP MDM having types like Log, Time, Measurement etc. Selecting appropriate field type for a particular field would help in setting good data standards.

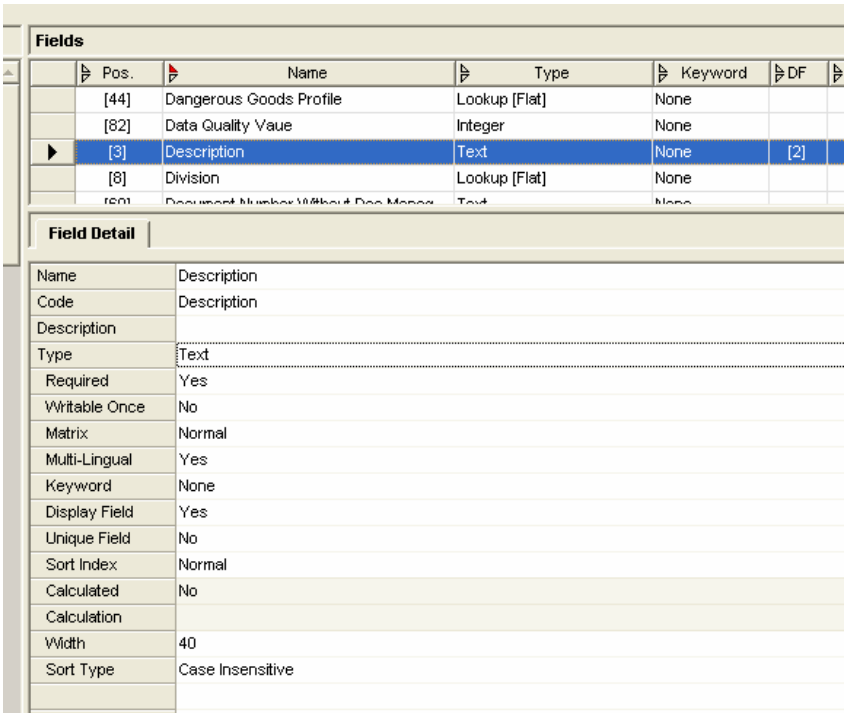


Figure 1: Field Properties

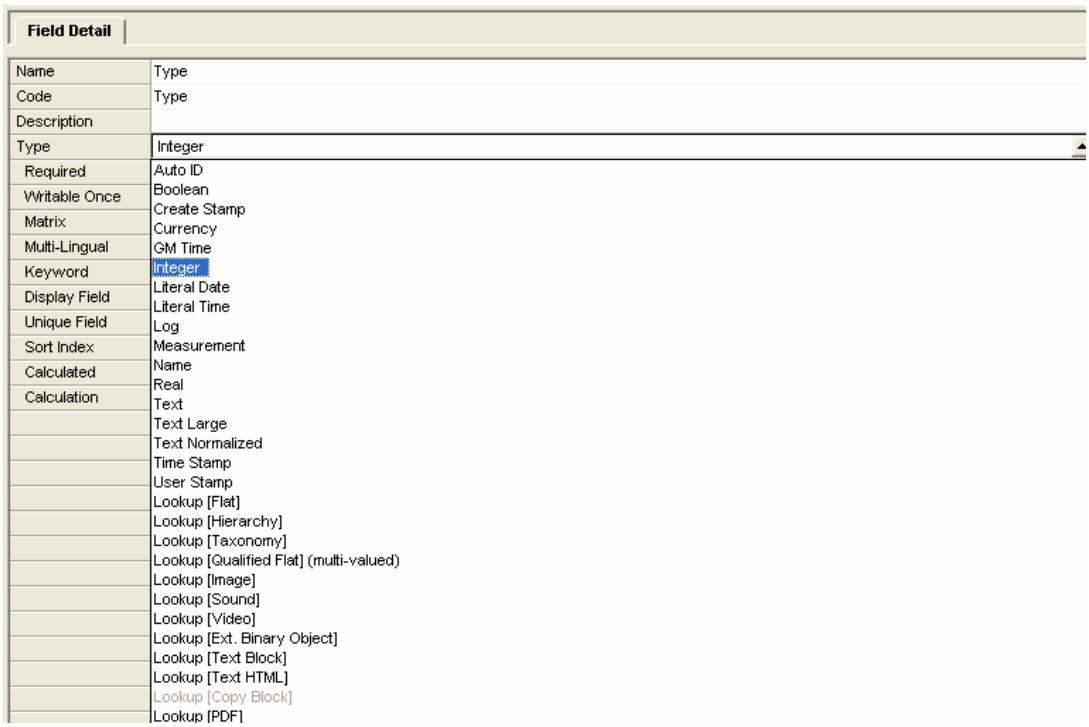


Figure 2: Field Types

As seen in the above figure, Field Type is only one of the options for a Field Property. In SAP MDM, we can drill down to setting detailed properties of each field which would decide its behavior. For example if the Required property is set to "Yes" then it becomes a mandatory field, and setting Unique Field to "Yes" would make it a key field which cannot be repeated in a table. Similarly other properties such as Writable Once, Multi-Lingual, Calculated, Width can be set to adhere to required data standards.

3.2. Tables

Every field would belong to a particular table and a set of tables would form an MDM repository. To set data standards at a table level, SAP provides creating of different table types. Modeling a table would organize a set of fields into a particular structure which helps to impose rules and restrictions.

In SAP MDM, we can model around four different types of tables (besides BLOB, Main table and others) which are Lookup, Qualified, Hierarchy and Taxonomy.

We can also set certain properties for each table as seen in figure below.

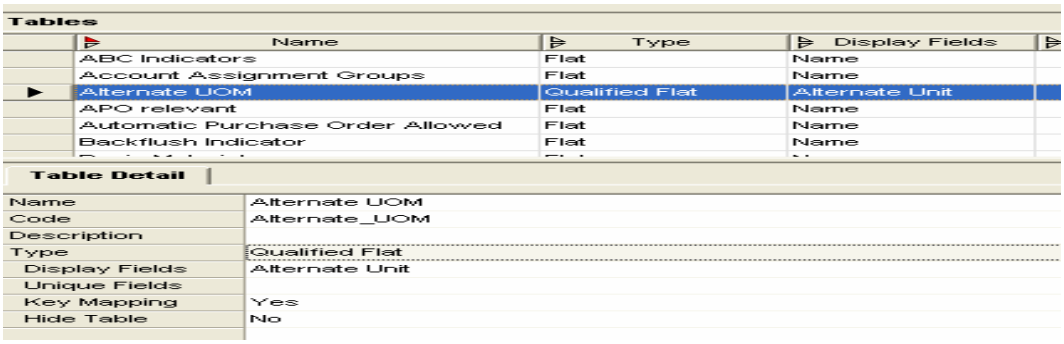


Figure 3: Table Properties

Lookup Tables

Lookup tables provide a very effective way of setting data standard and quality. They are tables containing a limited set of values that can be assigned to a particular field, thereby restricting the user to enter anonymous values.

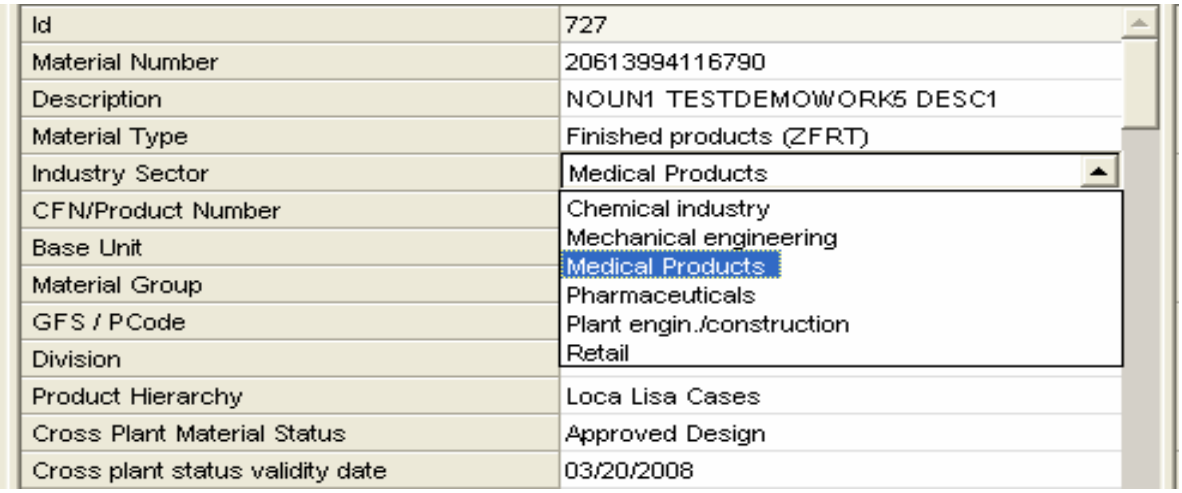


Figure 4: Lookup Table

Qualified Tables

Qualified tables are used to model more complex relations such as 1-n relations, cross referencing etc. The below example shows a material being extended with multiple Valuation Areas and marinating a set of values per valuation area.

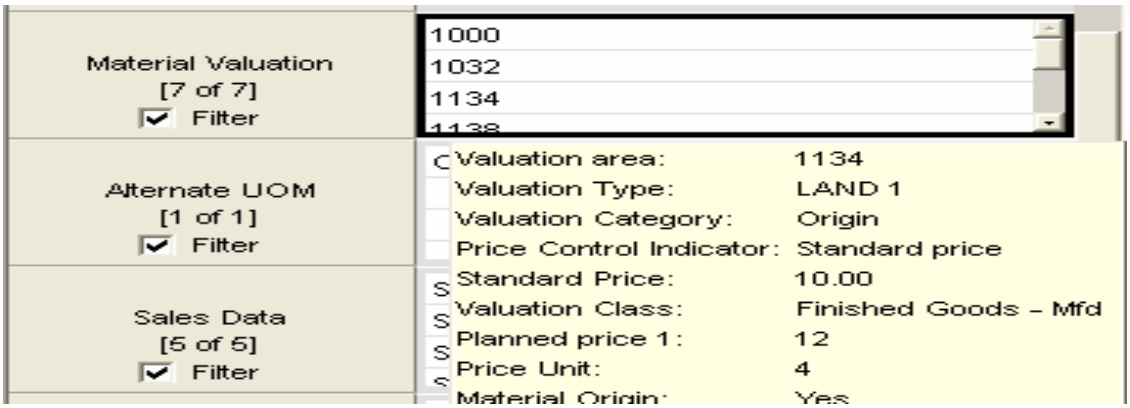
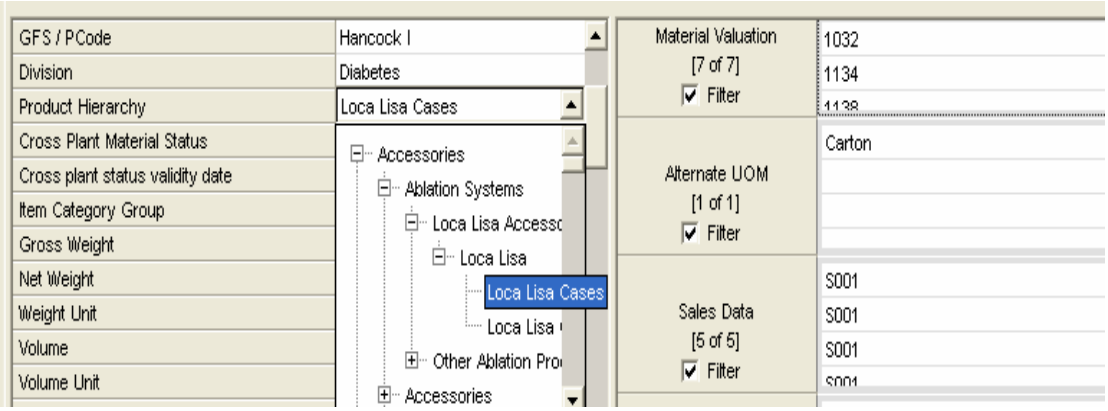


Figure 5: Qualified Table

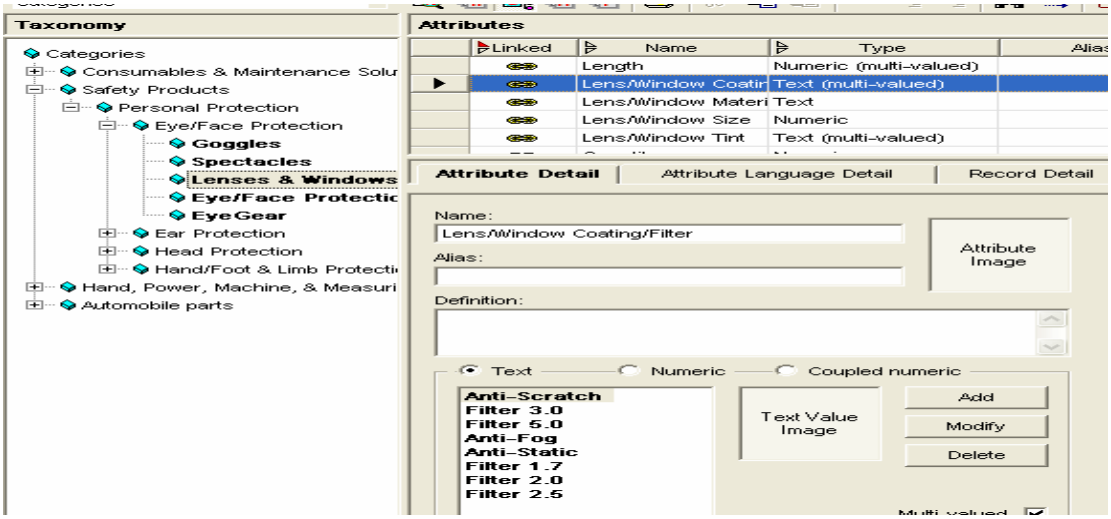
Hierarchy Tables

Hierarchy tables generate a tree like structure and a particular leaf node can be assigned to a field. This not only arranges the data in systematic way, but also helps you maintain data standard.



Taxonomy Tables

Taxonomy tables are enhanced hierarchy tables used for classification data. They create a hierarchy with characteristic (attribute) value relation.



Taxonomy tables can be used to set good data standards as they help to uniquely assign a set of characteristics to a record.

4. Summary

To summarize, before you come down to actual modeling of data governance, one must ask the following questions:

- Where is the data?
- How is the data created, managed and deleted?
- Who owns what data?
- How do you define data standards?
- How bad is the data?
- How does the data flow across organization?

Getting answers to these basic questions is a pre-requisite and then use SAP MDM to put into place data governance to successfully manage your master data.

The article focuses only on the first layer of the Data Governance pyramid i.e. Data Standards. I would be coming up with another detailed article on the other 3 layers namely: Data Administration, Data Quality and Policies and Procedures.

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