Master Data Performance Solutions

"Quality Master Data for Improved Business Performance"

Verdantis

DATA DRIVEN PERFORMANCE

Data Governance for ERP/EAM Projects

Adopting the Best Practices for Ongoing Data Management

A whitepaper by Verdantis

Data Governance has emerged as the point of convergence for people, technology and process in order to manage the crucial data (information) of an enterprise. This is a vital link in the overall ongoing data management process for it maintains the quality of data and makes it available to a wide range of decision making hierarchy across an organization.

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Need for Master Data Management in an ERP/EAM Evironment

Master data management (MDM) has emerged as an important aspect of all ERP implementation and consolidation exercises. With ever evolving and increasing inventory, supplier, product and customer databases, it has become essential to cleanse and maintain the quality of the master data.

More and more global enterprises across various industries have undertaken or plan to commence an MDM initiative in tandem with their ERP projects. There are also select incidents where standalone MDM projects are taken up by some companies. But contrary to general belief, MDM is not a recent phenomenon. Inferior data quality has been a problem long in the making but its impact has been realized only a few years back, leading to an increase in the use of MDM.

The decision to undertake an MDM initiative is strategic in nature that has implications on the overall functioning of an enterprise. The consequences of transitioning from multiple data storage systems to a consolidated one entail huge logistics and operational issues. A Master Data Management project should address the following concerns:

- Improving and managing quality of data
- Setting standards for data management
- Effective data governance structure
- Data ownership
- Data integration

Master Data Management is a comprehensive strategy to determine and build a single, accurate and authoritative source of truth of a company's information assets and deliver this on demand as a service

All MDM initiatives have two parts – one, historical data cleansing and two, ongoing data management. Historical data cleansing essentially involves classification and enrichment of data. Classification involves creating a structure based on globally accepted coding standards such as UNSPSC, E-Class, etc.

This helps in distinguishing and categorizing all the parts in the master data. On the other hand, enrichment ensures that all the relevant attributes – critical and non-critical – are incorporated thereby facilitating the location of the particular data in the master.

Hurdles in Ongoing Data Management

But historical data cleansing is just half the battle. The bigger challenge lies in ensuring the quality of data on an ongoing basis. A harmonized legacy data is "assumed" cleansed. This is only notional and not the real picture. It requires a prudent business choice to decide on whether to spend on correcting data anomalies or removing them altogether from the master data.

In order to keep the cleansed data clean, it is imperative to utilize an effective and efficient ongoing data management (ODM) tool. Managing data on a continuous basis is fraught with challenges that are unique to this part of an MDM initiative. It has to address both the legacy data as well as new data issues in the suitable manner.

Legacy data harmonization guarantees that a benchmark in data quality is created. To maintain this quality the entire schema is replicated in the ODM tool. As a result any new data entry will be classified and enriched as per the standards defined for the legacy data.

The transition phase from multiple storage systems to a consolidated master data repository is perhaps the best time to evaluate and ascertain the required standard of data quality. This can be done by assessing the impact of incorrect data on business operations.

As the first step towards consolidation, the rules have to be specified identify and collect the metadata. In the second step, the taxonomy and basic framework for data storage is crafted and put in place. Finally, the data stewardship with roles & responsibilities are defined and implemented. By identifying the fundamental problems in data quality, a real-time hands-on ODM system can be adopted.

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Significance of Data Governance in Master Data Management

Data Governance is a point of convergence for people, technology and process in order to manage the crucial data (information) of an enterprise. This is a vital link in the overall ODM process for it maintains the quality of data and makes it available to a wide range of decision making hierarchy across an organization. In other words, Data Governance is the complete management of the availability, utilization and security of the data in a company.

The point of origin for Data Governance is the Master Data itself. An MDM initiative is the first step in putting a Data Governance Model (DGM) in place. Bottomline is that the success of a Master Data Management project hinges on the effectiveness of the DGM.

The schema for data governance is incorporated during the legacy data cleansing phase. As part of this effort, duplicates are removed from the master data. This is perhaps the most challenging aspect of any data cleansing project and is the biggest pain point for most of the global organizations.

Data Governance also signals the symbiotic existence of IT and business so as to improve the overall process. It unifies the compartmentalized information across various departments in an organization to boost data sharing by all concerned. The information sharing results in advantages such as:

- Revenue growth
- Cost rationalization
- Inventory optimization
- Vendor rationalization
- Visibility enhancement
- Greater process compliance

Moreover, as information becomes the single most important factor for an enterprise"s growth it becomes essential to manage the quality of data.

Data Governance or DG is the complete management of the availability, utilization and security of the data in an organization

Who needs Data Governance?

Data governance is important for everyone, but is a pertinent requirement of all Global 2000 companies. With rapidly growing demand, it becomes imperative for these companies to reach their customers in the least possible time.

The rising number of M&As and business expansions further strengthens the need for many of these companies to undertake an MDM project. These developments contribute to the data muddle in an enterprise. Some of the common hurdles faced by these organizations include:

- Plants in multiple locations
- Multiple legacy systems
- Multiple user groups across locations
- Multiple taxonomies across plants
- Huge data size for material, vendor, product, etc
- Data in multiple languages

In a scenario like this MDM becomes essential to the success and survival of the business in the long-term.

Among the stumbling blocks mentioned above, the existence of multiple legacy systems in an enterprise is the most difficult one to overcome. In many cases, multiple plants of an enterprise adopt a different data structure to suit the needs of a particular location.

This results in varying classification and data storage methods. When these disparate data silos have to be merged during an MDM initiative, it presents a challenging task to create a uniform schema.

Data Governance is a must for all the manufacturing, utility and oil & gas enterprises that have a global footprint with plants in multiple locations

Issues with Data Governance

Implementing a Data Governance Model or DGM is a complicated process as it involves bringing together disparate factors in an enterprise:

- People – Comprising the implementation and user groups, they are the torchbearers of the data governance framework
- Operations – The core business of an organization and hence nature of its operations define the requirements to set up a DGM
- Global presence – Depending upon the extent of global presence, the data governance structure is devised to include a huge number of users ranging from requisitioners going up to master data managers

To ensure this, organizations need clearly defined data stewardship to monitor data creation and process compliance. The Data Steward or Data Manager decides the DGM and identifies people for its hierarchy.

Data Governance is a decisive factor in an MDM project because of two reasons:

1. It monitors complete compliance – both internally and externally. From the internal perspective, DGM allows the requisitioners, local data managers and master data managers to view the entire data creation process and take suitable corrective action as and when necessary. This is besides overall monitoring of the material, product and vendor information in the master data.

   From the external standpoint it can monitor and track vendor compliance, inventory management, customer requirements and product life cycle management. All of these help in faster turnaround time on the procurement side and reduced time-to-market for all products on the sell-side.

2. An effective DGM can drastically reduce the threat to a consolidated master data repository. By bestowing data stewardship, it controls access to the critical master data. As a result any change in existing data or creation of new data can be tracked and monitored at all times.

The core business of an organization and hence nature of its operations define the requirements to set up a DGM

Data Governance Model Support Requirements

The data governance is a process-based structure that facilitates the Approval Workflow system. But the effectiveness and efficiency of the DGM depends to some critical factors that include:

1. ***Data stewardship:*** The designated data steward or data manager plays a crucial role in data governance. This individual is responsible for maintaining the data quality in the central repository. Towards this the data manager monitors requests for data creation in the hierarchy as also is the ultimate approver.

   Another area of focus is to ensure complete compliance to the DGM by all concerned – requisitioners, analysts and local data managers.

2. ***MDM team:*** This team is essential to any MDM initiative. It comprises individuals from the IT and business operations divisions of an enterprise. Members from the IT side are responsible for the implementation of the MDM initiative and are the architects of the Data Governance Model. Members from the business operations side specify the hierarchical arrangement of the DGM.

   The team is formed from the time an organization plans an MDM initiative. Creating the right team can make the difference between a successful master data initiative or otherwise.

3. ***Approval workflow:*** The DGM banks on the Approval Workflow, which is a complex schema involving a specific user group. The users are spread across the entire hierarchy defined for the DGM and execute their roles accordingly.

The core business of an organization and hence nature of its operations define the requirements to set up a DGM

The type of approval workflow required by different organizations differ but a standard 3 level workflow is good enough for most companies with standard materials. For example, let's compare two electric utility firms – one which utilises coal (Company A) and the other which has a thermal and a nuclear plant (Company B). As you can imagine, the parts used in the nuclear part will have more stringent safety and build requirements as compared to the ones used in a thermal plant. This means that Company B would need a dynamic approval workflow which takes into account the different types of parts and the levels of approval needed for them. On the other hand, Company one can make do with a simple 3 level approval workflow because of the low risk nature of parts used.

4. ***Data standards:*** The ultimate objective of any MDM initiative is to improve and maintain the data quality. In most cases, the quality standards set as part of the cleansing phase are not maintained as a result of an ineffective DGM.

   The framework and the compliance levels decide on the quality of data maintained in the repository. More importantly, efficiency of the ODM tool impacts the effectiveness of the Data Governance Model. Therefore, it is vital to choose the best ODM tool for the MDM project.

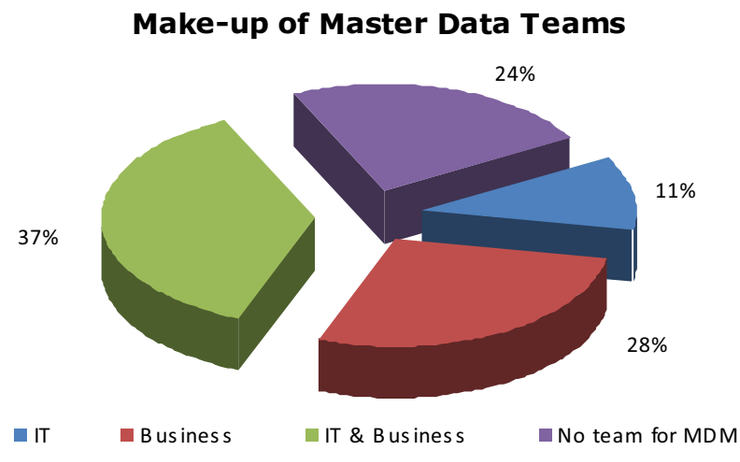

Figure 1

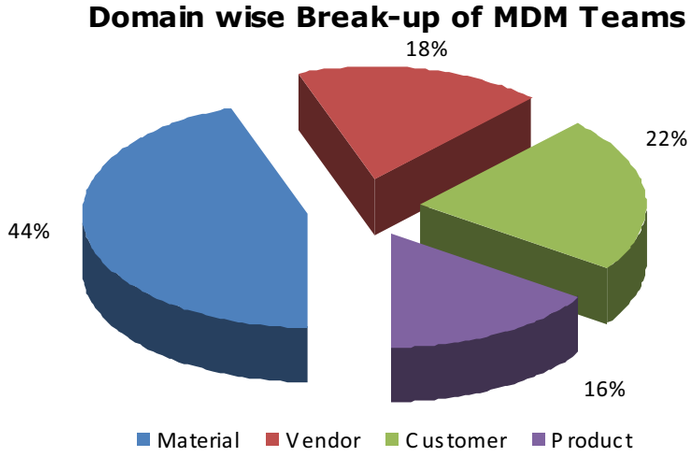

Figure 2

Data Source for Charts: Audience Poll during Webcasts sponsored by Verdantis in June 2007 and September 2007

Need for 'Single Version' of truth

Companies embark on an exercise to consolidate all their critical data to have a single version of truth. The growing number of M&As have further necessitated the need of an MDM solution that can provide the "Single Truth". The need to establish a "single version of truth" emanates from the historical practices of many global enterprises. Before MDM came into the picture, organizations preferred letting various divisions set up their own computer infrastructure.

The business vertical concept resulted in multiple identical/similar data. This was further compounded by the fact that individuals within a division worked in their specific environment. As a result, each member had access to and managed own version of "Single Truth". Consequently, the present day master data related problems surfaced.

For an effective master data, it is imperative to ensure that the 'single truth' is one that can be accessed and managed by more than one person in the relevant hierarchy

For an effective master data, it is imperative to ensure that the "Single Truth" is one that can be accessed and managed by more than one person in the relevant hierarchy. This also aids the empirical approach to tackling master data issues.

Rising Demand for Master Data Management Solutions

With rapidly growing businesses and M&As, global enterprises are finding it difficult to maintain the quality of their centralized data. While this holds true for companies across all sectors, it is a particularly hard for those from manufacturing, oil & gas, utilities and mining industries.

According to various estimates, demand for MDM solutions has increased in the range of 30-45 percent CAGR. This figure is even higher for companies in the manufacturing, oil & gas, utilities and mining sectors.

Estimates also peg the market size for MDM to touch around $3.2 billion by 2015, a doubling since 2012 when the size was approximately $1.2 billion.

The overall market includes PIM, PLM, CDI, Data Migration, besides core MDM initiatives.

Verdantis Integrity for Data Governance and Ongoing Data Management

As mentioned earlier, the effectiveness of a DGM depends on the ODM tool adopted by an organization. Verdantis Integrity is best suited to address this issue and more for Global 2000 companies.

Verdantis Integrity is an automated MDM tool that manages the quality of the master data on an ongoing basis. It keeps a cleansed and harmonized master permanently clean and prevents data duplication, besides enhancing discovery, visibility and compliance.

However, once the data rationalization is done, companies face the following challenges to keep the data clean on an ongoing basis:

- Lack of domain expertise
- Limited search capabilities of existing ERP systems
- Lack of proper processes to control the entry of data into item master, which leads to duplication
- Poor visibility
- Lack of information or incomplete information while entering new data
- Poor quality of legacy data

Data Governance is a dynamic feature of Verdantis Integrity to ensure data cleansing and harmonization on an ongoing basis. The value proposition is the automated Approval Workflow, which facilitates the entire data addition/modification process across a customer-specified hierarchy. Aided by the attribute-based search feature, the workflow improves the whole data management process on a real-time basis.

While enhancing the visibility across the divisions concerned in an organization, the Approval Workflow also assigns Data Stewardship critical for the handling the master data. Advantages of Verdantis Data Governance technology include:

- Enriched and clean master data on a continuous basis
- Attribute-based search for efficient search capabilities and enhanced results
- Short and long description generation for harmonized and enriched data
- Provides visibility of parts and vendors across plants/locations

About Verdantis

Verdantis is the first to offer Master Data Management solutions that bring real ROI and Business Value by focusing on the business use and application of organizational Master data. Verdantis uniquely offers end-to-end automated ERP MDM solutions driven by our suite of Artificial Intelligence (AI) based solutions and business roles and rules. Our easy-to-use solutions are easily configured to fit enterprise requirements for classification, enrichment, screens, fields, security, attachments, workflow approvals, languages and more.

Verdantis Harmonize® is a high-speed automated material /item data quality improvement tool that uses internal knowledge assets to master legacy data. Harmonize assures a globally unified, standardized, de-duplicated and enriched material master for uploading into a customer's ERP, EAM as well as Verdantis Integrity.

Verdantis Integrity® is a data governance tool that manages the quality of the material/item/prodcut master data on an on-going basis. Powered by a strong workflow engine and a guided item creation process, it keeps a cleansed and harmonized material master permanently pristine. It prevents data duplication and enhances organization-wide parts discovery, visibility and compliance.

Verdantis Integrity Enterprise® is a data governance tool that manages the quality of the material/item/product master data in an on-going basis. Powered by a strong workflow engine and a guided item creation process, it keeps a cleansed and harmonized material master permanently pristine. It prevents data duplication and enhances organization-wide parts discovery, visibility and compliance.

Leading global companies have chosen Verdantis solutions for the following reasons:

- In-depth industry and data specific domain expertise with a robust project methodology
- End-to-end automated processes to harmonize & enrich historical master data
- Ability to ensure semantic and structural data integrity and quality
- Ability to handle large volumes of cryptic and complex data in multiple languages
- Delivery of higher quality and volume than manual/ database centric approaches
- Flexible engagement models with a single focus on customer success

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