

A Guide To Understand Master Data Management

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A Guide to understand Master Data Management

The digital economy is transforming life — and business — as we know it. Taking control over and managing your organization's data can be a real game changer in today's digital battlegrounds.

Digital disruption abounds, generating streams of data that just keep on growing rapidly in scale, importance, and complexity. Each digital touchpoint provides an opportunity to gain new insight that you can use to propel your business forward. But do you trust your data?

If your business is like most, you may have so much data that it's impossible to tell what's important and what's not.

Or your data may be stuck in different systems in inconsistent formats, which makes it difficult to trust or share with teams that need it. Or, worse yet, you have outdated and inaccurate data. How quickly and accurately you can resolve these challenges will determine whether your data is truly the asset your business needs to succeed.

Master data management (MDM) helps you ensure your data is accurate, trustworthy, consistent, and shareable across the enterprise and value chain. This enables greater data transparency, empowering you to drive better decisions, experiences, and outcomes that benefit your business and your customers. Mastering your data challenges also delivers a significant competitive advantage. And as the pace of innovation accelerates, the importance of data mastery will only continue to grow.





What is Master Data?

Master Data Management is a set of methodologies and tools that categorize, centralize, and synchronize available data to offer you with high quality retrievable and referenceable data concerned with the critical business elements such as services, products, locations, business assets and customers. Through master data management, an organization can disseminate consistent and accurate master data management, an organization can disseminate consistent and accurate master data across its entire enterprise. Let's dive in.

What are the different types of data available in an organization?

To give a more comprehensive view data available in an organization can be classified into six types.

Unstructured Data- Data that cannot be organized into identifiable structure such as - emails, web pages, word documents, PDFs, and more.

Transactional Data- Data that forms the transaction processed by the operational systems of the enterprise such as - sales, trades, etc. Transactional data typically describes the activities or transactions of the business. Transactional data are generally unit level transactions that use master data entities such as - sales, delivery, purchase, and more.

Meta Data- Data that describes the data held in the enterprise information architecture, e.g. definitions of tables and columns in the system catalog of a database, or entities and attributes in a data model. With all these capabilities available from the beginning of the MDM project, instead of being a final deliverable, MDM projects that use universal metadata repositories can be far more effective than traditional projects.

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Hierarchical Data- Data that stores the relationships between other data. It may be stored as part of an accounting system or separately as descriptions of real world relationships, such as company organizational structures or product lines. Hierarchical data is sometimes considered a super MDM domain because it is critical to understanding and sometimes discovering the relationships between master data.

Reference Data: A special type of master data used to categorize other data or used to relate data to information beyond the boundaries of the enterprise. Reference data can be shared across master or transactional data objects (e.g. countries, currencies, time zones, payment terms, etc.)

Master Data- Master data are the critical nouns of a business and fall generally into four domains and further categorizations within those domains are called subject areas, sub-domains or entity types. It should be the single trusted source of data that everyone in an enterprise relies on and uses.

Smart Data- Smart data is digital information that's formatted. So it's often acted upon at the gathering point before being sent to a downstream analytics platform for further data consolidation and analytics. it's not about the number of the knowledge collecting – it's about the actions taken in response to its data. The tag "smart" is directly related to a knowledge entry point. Being intelligent enough to require some styles of decisions on incoming data immediately. Without requiring processing power from a centralized system.

Dark Data- Dark Data is the foremost significant sort of data in a corporation with a massive amount of potential that's still ignored by the businesses. it's the info that lies below the surface, hiding within the company's internal networks. Dark data is digital information that's not getting used and lies dormant in some raw form. it's an excellent hidden resource that flows untapped through many organizations.

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The Four master data domains are:

1



Customer- Within the customer's domain, there are customer, employee and salesperson sub-domains.

2



Products- Within products domain, there are product, part, store and asset sub-domains.

3



Locations- Within the locations domain, there are office location and geographic division sub-domains.

4

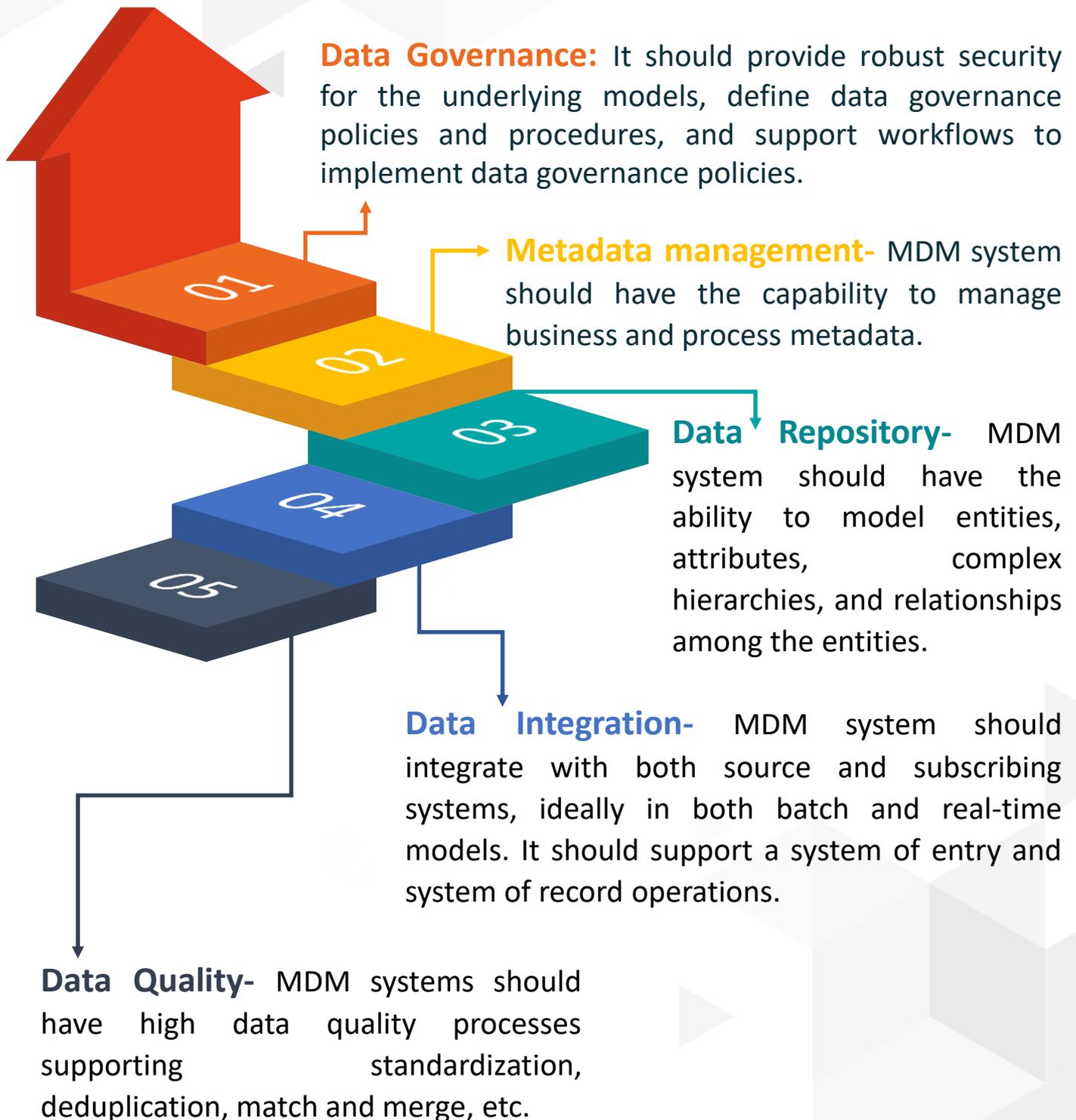


Other- Within the other domain, there are things like contract, warranty and license sub-domains.

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Key characteristics of MDM system

A Master Data Management typically enables:



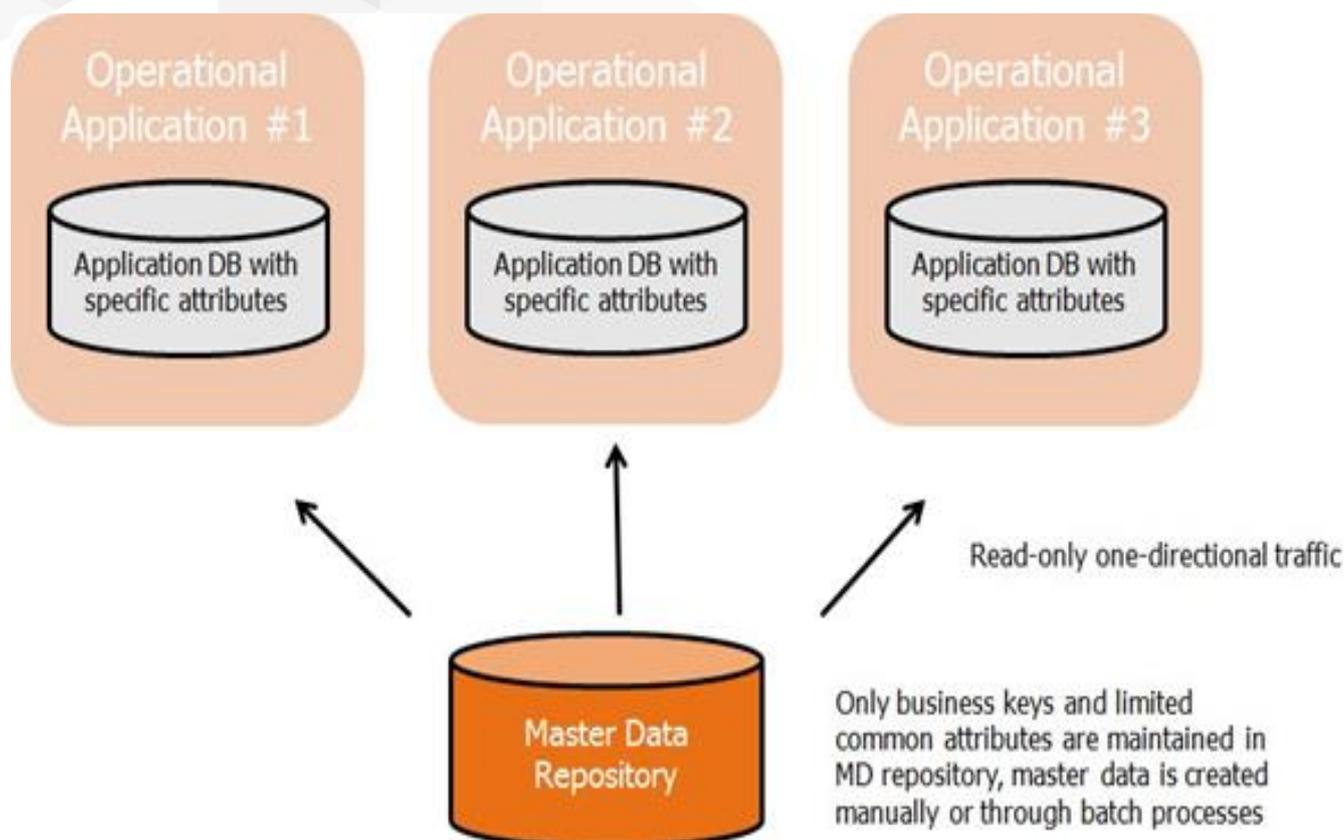
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06



Different architectural frameworks of the MDM system

Master Data Management broadly follows three frameworks, which are:



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1. Registry Architecture

In this type of structure, the system is granted only read-only access, which states that unwanted persons cannot modify the master data in any way. It gives a read-only representation to master data for downstream systems that require understanding but not change in the master data.

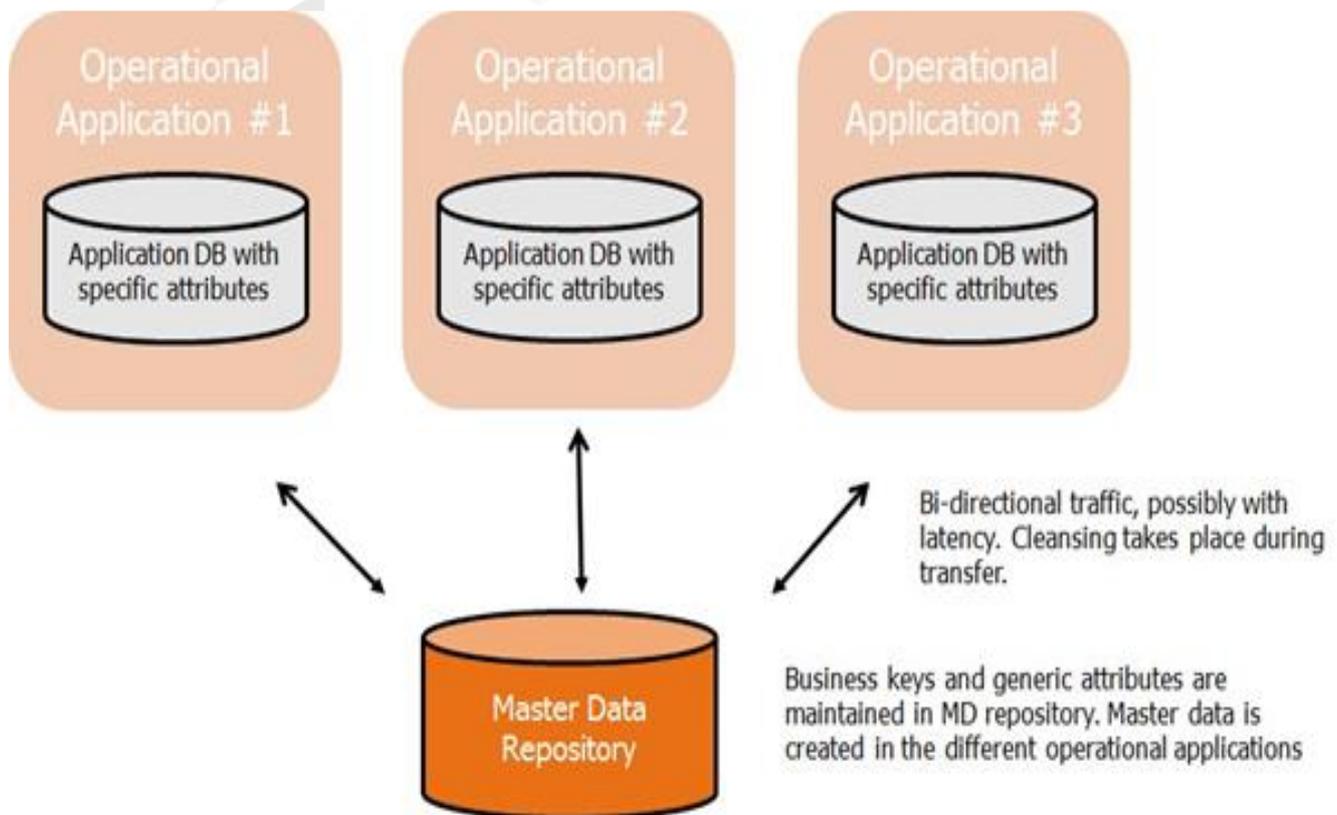
The implementation structure is useful to eliminate duplications and provide a consistent way to master data. It offers low-cost, fast data integration with the profit of minimal intrusion into your application systems. This framework is beneficial in finding redundancies in the data.

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2. Hybrid Architecture

In this, the system has the power to change or modify the master data. This specialty helps to achieve quick access, and, as the order is having the capability of modifying the data, then the quality of information also gets improved.



Credits: Tec funnel

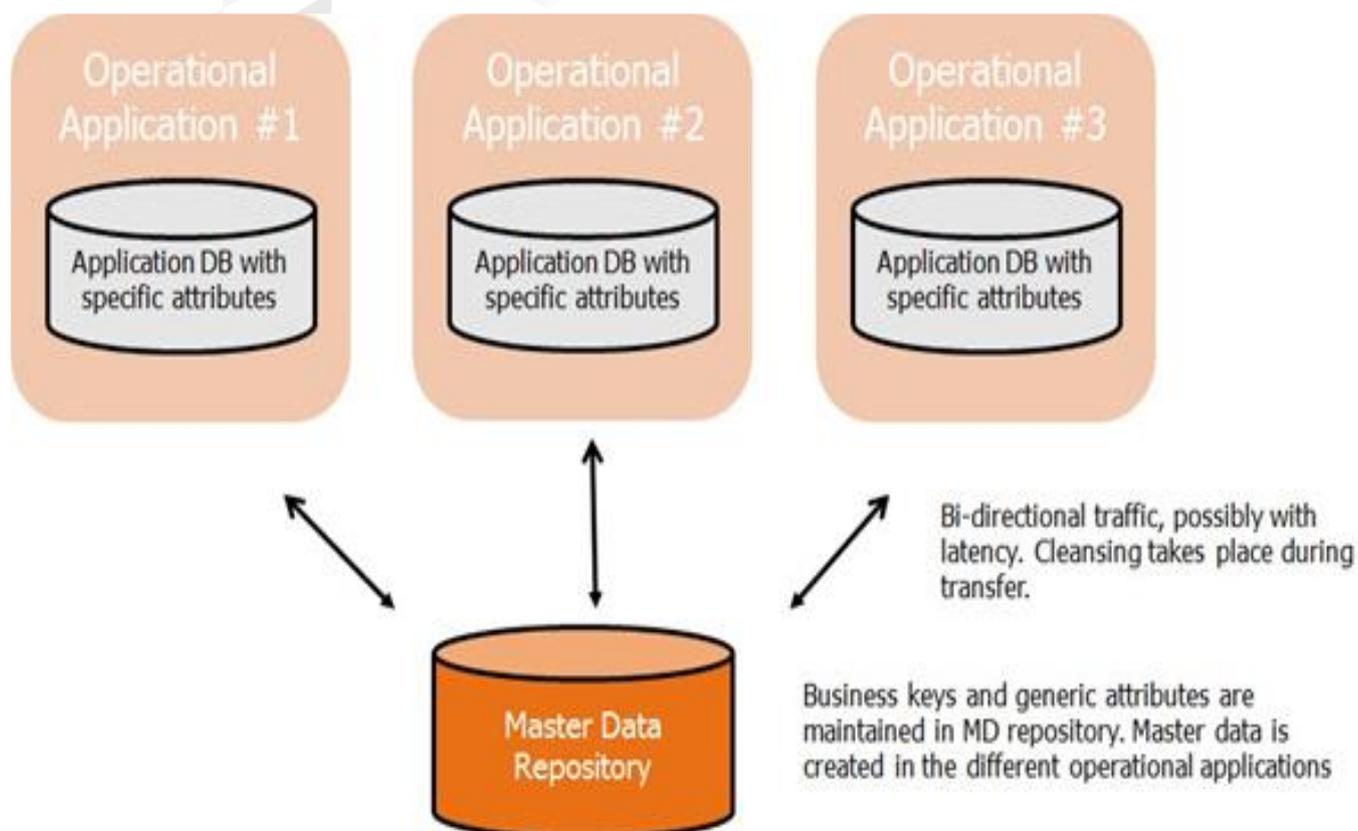
This characteristic includes both the registry and repository. This architecture ultimately materializes all master data properties in the Master Data Management System. Authoring of Master Data can happen in the MDM System as adequate as in the application systems. From a completeness perspective, all attributes are there.

This type of framework allows both the Master Data Management system and application system to work in collaboration. Its downside is the cost for supporting this type of structure is sometimes high as it is not very easy to change and modify the master data. Its main aim is to centralize the master data and achieve consistency.



3. Repository Architecture

In this Architecture, also called Enterprise or Centralized or Transactional Architecture, the whole set of master data for a company is stored in a single database, including all the attributes required by all the applications that use the master data.



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This type of framework assures stable consistency, accuracy, and efficiency. There is no overhead of the application system as all the functioning is done by Master Data Management itself, thus reducing the time taken.

The applications that utilize, build, or manage master data are all changed to use the master data in the center, alternatively of the master data before maintained in the application database, making the master data hub the system of entry and record system.



Key benefits of implementing MDM?

1

Eliminate poor quality data

By consolidating your data in one place, all stakeholders have access to the most up to date data.

2

Integration of your business processes.

MDM allows you to streamline data across your whole business creating a more productive process.

3

Improved decision-making

Combining your data in the one place allows for better insights into your requirements.

4

Accelerate digital transformation

Fuel innovation initiatives like AI and personalization with high-quality data to drive differentiation, value and ROI.

5

Single source of truth

Master data management represents the perfect single-source-of-truth to support business processes. Since many master data systems offer easy to use (mobile) applications, employees can access the latest and high-quality master data whenever needed to support their processes.

6

Increase business agility

MDM systems respond to evolving market need by quickly onboarding products, add channels and manage expansion or M&A.

How companies are achieving success with MDM?

Companies continue to encounter issues with data as they grow. They spend the humongous amount of resources to prepare data and gain insights. According to a global data management benchmark report, 91% of executives believe that preparing data for insights ultimately costs their business in terms of efficiency and resources.

In the same way, there are other data-related challenges which are the reasons that you should manage your master data. They are:

Uncertain data across the value chain –

Organizational data, in multiple versions, across locations, functions, and systems makes it tough to ensure a single view of truth. This happens due to the lack of an integrated approach to information management.

Deficiency of cross-domain relationships –

Domain masters (such as customer, supplier, product etc.) often require the relationships among each other. It prevents business users from obtaining operational intelligence, making it difficult for organizations to manage interdependent business processes.

Lack of data governance and process orchestration –

Companies struggle to maintain data security and integrity as they get short of collaborative data authorization. It makes it tough for business users to manage and approve information following the organizational policies and processes.

Data manipulation authenticity –

Tracking and maintaining logs for previous versions of data is time and again, a challenge for the organization, which can severely impact the authenticity of business processes.



Organizations can easily overcome all these pain points by managing the master data. It synchronizes all external and internal systems to keep the master data clean and consistent across the organization.

Real-world Master Data use cases across industries –

Manufacturing

Manufacturers must work to meet the standards across design, safety, building, testing and compliance. If a manufacturer can't access the right information, or worse, obtains the wrong information, it could face acute delays. This was one of the significant challenges for one of the world's largest spark plug manufacturers, as every stage of its manufacturing process was split around distinct countries and continents. MDM brought the organizations data to a single dashboard resulting in:

- Bills of changed material can be handled in a few clicks, notifying all relevant parties which includes external suppliers and its done automatically.
- Each stage of the manufacturing process meets compliance because all relevant legal information is available to the stakeholders and its up-to-date.
- Product specifications are updated in real-time, so everybody across the organization's supply chain, logistics and marketing have the exact information they need at their disposal.

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Retail

One of the biggest retail giant Marks & Spencer (M&S) has 1,035 outlets in the UK and another 428 in 56 different countries, with over seven million registered website users. With all these users and products, relaunching its website on a new platform would be a challenge. M&S couldn't afford to lose users or sales due to an inefficient process, and the company needed to keep track of all its 20,000+ online products while switching to a new platform. They had to:

- Tailor product availability for international versions for their website.
- Saved a huge amount of money by making their internal system tranquil and straightforward.
- Remove pain points in the entire system by having a new platform at their disposal.

The organization used MDM to bring product information into one place and create a single, authoritative source, which was incredibly challenging since 585 different product attributes spread across eight international websites in five languages.

Today, product details are updated in seconds. The company only does it once, publishing the new information on its websites, stores and apps and ensuring supply chains have real-time access to an accurate, updated set of product details.

Conclusion

A revolution in master data management (MDM) is reshaping how organizations collect, unify, manage and use data. It can help your company create more compelling customer experiences. For more details, get in touch with our experts at [Polestar Solutions](#). Here we deliver robust, scalable and secure on-premise, cloud or hybrid data management solutions aligned with your business objectives. Our team brings in years of expertise in consulting and building data platforms for enterprises of varying complexity.

Contact us today to get a conversation started.

