

# Master Data Management

## Business and Technology Trends

Research Report

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**V E N T A N A**  
R E S E A R C H

*Aligning Business and IT to Improve Performance*

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Ventana Research performed this research for a fee to determine the needs and practices of organizations that currently are implementing or have plans to implement master data management (MDM). This document is based on our research and analysis of a quantitative survey administered via the Web to qualified respondents. Qualification was based upon involvement with master data management.

This research was designed to investigate the practices and needs of individuals and organizations that use or wish to use master data management. This research is not intended for use outside of this context and does not imply that organizations are guaranteed success by using only these results to improve organizational productivity. Moreover, gaining the most benefit from your own MDM system requires an assessment of your organization's unique needs.

We certify that Ventana Research wrote and edited this report independently, that the analysis contained herein is a faithful representation of our evaluation based on our experience with and knowledge of master data management applications, and that the analysis and conclusions are entirely our own.

*Ventana Research*

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## Executive Summary

Most businesses today have a complex array of enterprise applications and information systems. Each application or system has specific functionality and handles data in its own way, stores it in a separate data store and may be unable to exchange and synchronize the data with other systems. The result is inconsistency in how data is created and used across the enterprise.

Disparities between applications and inconsistency in data can have costly negative impacts on a company. Requests for information can take weeks, not days, to satisfy, an unacceptable delay given today's accelerated pace of business. Understandably, corporate leaders are demanding efficiency in business processes and commonality in data among information systems. The need for both timely and accurate information thus has driven business and IT management to look for new information technology investments that can help.

In this context, an increasingly popular solution is master data management (MDM). MDM also is the critical link between information management and integration management to support business intelligence (BI) and performance management initiatives.

In a groundbreaking research study conducted during the summer of 2006, Ventana Research established that businesses see the need for MDM and that the first wave of innovative organizations seeking competitive advantage have adopted MDM. The next wave of companies are just beginning to assess and implement MDM as a component of their information management and business process initiatives. In this newly completed research, we have examined more closely some of the key findings from 2006 and delved deeper into the use of MDM in the enterprise.

A total of 230 qualified professionals participated in this new research by detailing their current and planned use of MDM. The respondents were invited from the Ventana Research community and media partners DM Review and BI Review along with partner BusinessIntelligence.com. Although MDM is often thought to sit firmly in the IT domain, we worked with a dataset that included responses from business (40 percent) as well as from IT (60 percent), affording us a more balanced view of how MDM is perceived in companies. The research included respondents from a variety of vertical industries: 36 percent work in a service industry, 32 percent in manufacturing, 25 percent in financial services and 7 percent in federal, state or local government.

Among early adopters focusing on MDM, 49 percent said they have a project planned or under investigation, and 27 percent have an initiative under way. Most companies reported they see the need to improve the management of multiple data entities, with customer, product and financial data the top priorities. The functional areas expected to benefit most are marketing, sales, customer service and the call center. Finance dropped to number two in the list as compared to the 2006 study, but with an intensified focus on the customer, finance needs to produce improved reporting on which customers are generating the highest margins and what products they are purchasing. In combination, these suggest that competitive pressures and regulatory requirements are forcing companies to focus more on their customers.

The results of this new research show that companies are looking to use MDM to resolve issues at two levels: analytical and operational. At the analytical level, the

top priority for 34 percent of respondents was to improve the accuracy and consistency of reporting. At the operational level, the top priority for 70 percent of respondents was to create a centralized data hub that can be used to synchronize data across a multitude of application systems and the data warehouse. With a focus on the customer, it is clear that a top business priority is to create a golden source of customer data and to produce an enterprise-wide view of the customer.

The research shows that data governance and the processes to govern master data are equally as important to companies as is the technology. Most companies have set up a data governance board to oversee these initiatives; our respondents reported that a key best practice is to have senior representatives of both business and IT on the board.

Although 27 percent of companies have an MDM initiative underway, there are still several barriers preventing more from starting an initiative; the most prevalent obstacle, cited by 52 percent of respondents, was lack of resources. However, it also is clear that only just over half of companies, a surprisingly small percentage, have calculated the true cost to the business of errors and inconsistencies in their data. The more innovative companies have done this and found there is a strong business case to begin an initiative, even if it starts by addressing only a specific business issue within one line of business.

Based on the results and experiences of early adopters of MDM, we recommend a five step approach for companies considering the adoption of MDM:

1. Work with the business units and potential partners to develop a business case for MDM, taking into account the full cost to the business of errors arising from incorrect and inconsistent data.
2. Develop a long-term roadmap for MDM in the business, but start small and then expand through the organization.
3. Examine enterprise processes and ensure the MDM initiatives support an enterprise-wide approach.
4. Create an MDM governance board that includes both business and IT to set strategy and oversee the initiatives.
5. Identify the key performance indicators that will be used to monitor and assess success.

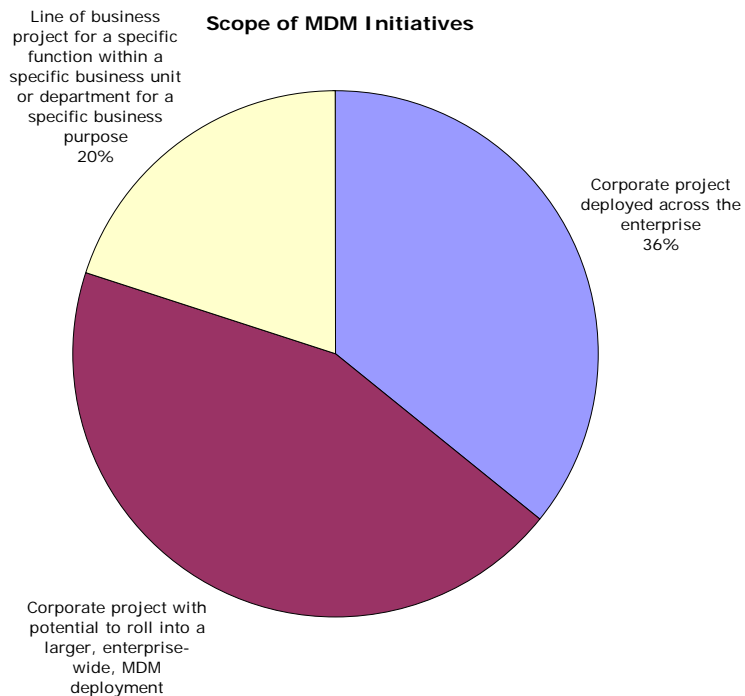
## The Role of Master Data Management in Business

### *MDM Serves All Parts of the Business*

The guiding principle of MDM is not open to quarrel: It seeks to establish and maintain a high level of consistency and reliability of data – a level that business can manage and IT can support across the organization. Using MDM, a company can put in place and then manage processes that give each line of business accountability for its data, regardless of its technological expertise, and enforces common business practices and rules for conducting business and analyzing information. Having a set of common definitions of data across the organization promotes efficiency of business processes, which in turn can improve customer service.

For all lines of business, including Finance, MDM provides a way to automatically produce a unified definition and view of all customers and products without forcing every department and business unit to use the same application or format. For IT groups, it provides a way to ensure accuracy and consistency of data across the organization and to give all departments confidence in the reliability of the data they create and receive from other business units.

The research shows that companies take different approaches and go through different stages when adopting MDM. One-fifth of companies begin by addressing a specific business issue within a line of business. Almost half begin with a more widely based initiative affecting the whole company with the intention of making the initiative enterprise-wide. And 36 percent reported their initiative is enterprise-wide.



Source: Ventana Research

Almost four-fifths of research respondents (79 percent) said that a key issue for their company is improving consistency of data across the entire enterprise.

### *MDM Is Key to Business Success*

The most often cited business benefit (34 percent) respondents expect to achieve from improved data consistency is the increased accuracy of reporting and business intelligence.

However, another finding indicated that MDM has reached the next stage of adoption: More than half of organizations (58 percent) are focused on reducing the cost to the business from errors in their data – for example, identifying the cost of sending the wrong product to the wrong customers because of errors in product codes. We identify this as a best practice for early adopters building a business case for investing in MDM. These costs are not trivial for any company, regardless of size.

### ***MDM Is a Key Technology***

As a technology that spans the organization, master data management interoperates with other technologies through direct interfaces to enterprise applications and information systems or through a service-oriented architecture (SOA).

**70%** identified an MDM hub as critical  
**58%** identified an MDM system as a required tool for data integration

Not surprisingly, most survey respondents (70 percent) said that a centralized MDM hub or repository is the most important technical component of their strategy, and 58 percent of respondents said MDM is now a required tool for data integration.

MDM also can help companies realize greater value from existing IT investments through synchronization of common data across operational applications and data warehouses. In an attempt to enable delivery of consistent information, almost two-thirds of organizations (64 percent) have deployed an enterprise data warehouse in addition to their transactional systems, and the largest group (46 percent) has implemented it as a single central system. Synchronizing data across applications and information systems is not an easy task and requires consistency of data definitions and business rules, which is enabled by MDM systems. Another 34 percent of our research respondents told us their organizations have implemented either regional or local data warehouses, which increases the need to rationalize the definitions of data across information systems. This need increases the importance of MDM hubs in meeting both the operational and analytical needs of an organization.

### ***MDM Is Key to Data Reliability***

The research shows that data management is not merely a technology issue, with 64 percent of respondents citing data governance as important. This involves setting business rules and policies and ensuring they are enforced by both business and IT. For MDM to be effective there must be a will to manage data to benefit the business and resources must be allotted to follow through on that commitment.

One-half of the survey respondents cited MDM as a key component supporting their data quality processes. Ensuring data quality begins with the processes and systems to extract data from the targeted application systems, and then involves those that cleanse and validate the data before it is reconciled or merged as a single source of the truth in the master data hub. The data then may be enriched with data held in other internal systems or by referencing third-party data sources.

## Key Research Insights

### ***Managing multiple data entities is a top requirement.***

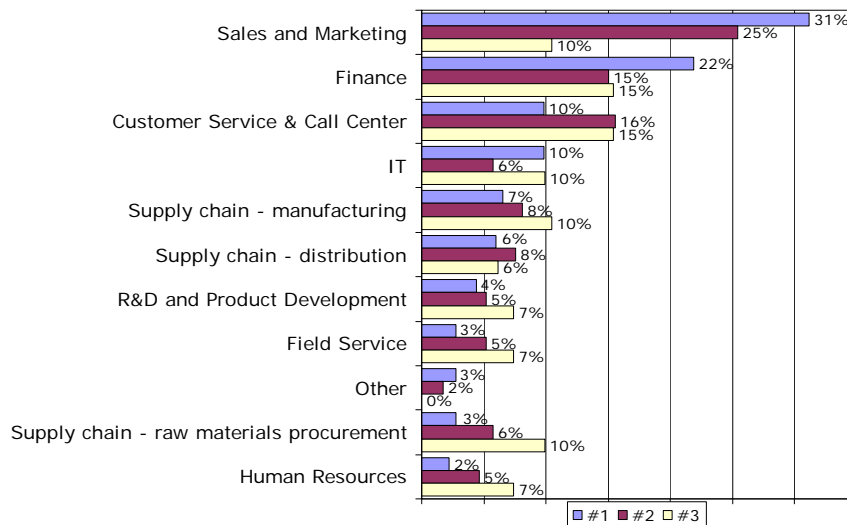
The results show that companies need to manage multiple data entities, with customer data the number-one priority of respondents and product data number two. Overall, 83 percent of companies include customer data as part of their MDM initiative. Companies also are looking to standardize financial and other data that is needed as the source of information used for analysis; this is more important to those working in business units than to those in IT. We believe this indicates a growing realization that in competitive markets, companies need a more consistent definition and understanding of customers to increase their own operational efficiency and respond more effectively to customers' needs. The respondents prioritized much more highly data that affects external business with customers than they did more inwardly facing data about, for example, employees and suppliers.

### ***Customer-focused departments and processes will benefit most from MDM.***

Providing consistency in customer definitions and interactions across an organization is imperative in today's cutthroat global business climate. Doing this effectively requires coordination of the marketing, sales, service and finance functions that have customer interactions at the core of their processes. All of them must have the same information, and it must be accurate, up-to-date and comprehensive. MDM can establish and enforce such consistency.

In this research, 31 percent of organizations named Sales and Marketing as the functional area most likely to benefit from MDM. This is a change from previous research which had Finance as the top area. This reflects the growing importance of the customer to companies, as does the fact that customer service and the call center are ranked as number three.

**Functional Area Most Likely to Benefit from MDM**



Source: Ventana Research

Finance took second place as the area most likely to benefit from MDM. Tracking activity and revenue from customers is obviously critical to profitability and efficiency. This prioritization demonstrates business managers' sense of the

importance of having information technology support a broad set of systems that are externally facing but operate in-house. We conclude that the priority given to customers reflects a strategic emphasis on augmenting revenue and improving customer interactions and satisfaction.

### ***MDM enables data governance.***

The push for data governance and the increasing pressure of regulatory mandates both require control over information and the ability to demonstrate its validity. To meet this requirement, companies and their IT groups need to assure consistency, which can be done best through a centrally controlled MDM system. However, a combination of research responses shows that far fewer companies have progressed to creating centralized hubs of key master data. Most still have significant numbers of legacy systems that maintain different versions of the same master data.

Nearly two-thirds (64 percent) of companies have some form of data governance or data management initiative in progress; 79 percent of respondents said that establishment of a data governance council and/or policies is part of their MDM initiative. These initiatives are enterprise-wide in 75 percent of those companies, and data governance boards include members from across the enterprise, such as the CIO (in 36 percent of cases) and the CFO (24 percent). The prevalence of these boards, and the fact that they have executive authority (36 percent) or an advisory role (40 percent) in matters to do with data management, indicate that companies now see data management as a major business issue. MDM can support data governance in defining and publishing master data across business processes and information systems.

### ***Some potential users don't understand the TCO and business case for MDM.***

A business case that enumerates benefits and costs for an MDM investment is vital, but our research shows this is not always done. In naming barriers that prevent implementation of MDM, 52 percent of respondents said they lack resources for doing so, and one-third said that the business case for MDM is not strong enough. Although only 22 percent of respondents said that the total cost of implementing MDM was a barrier holding them back from beginning an initiative, by far the highest-priority issue companies have with MDM vendors is that the total cost of ownership (TCO) of their product is too high. If companies understood the total cost to their business arising from errors in master data, this might help overcome these barriers.

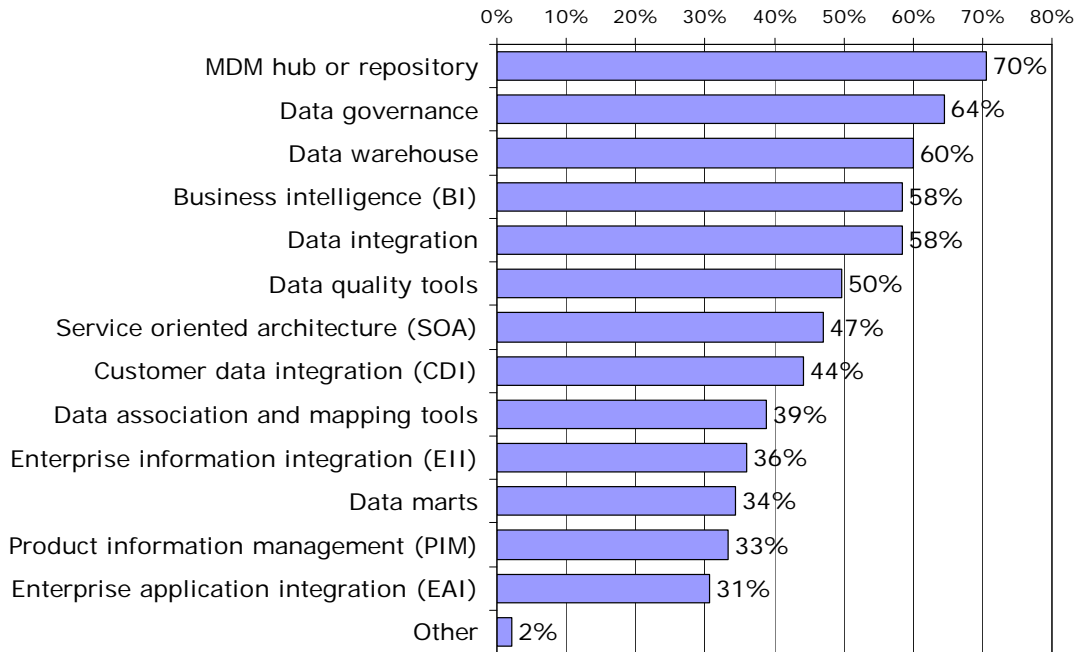
### ***MDM can alleviate negative business consequences.***

Key parts of the justification for MDM are two avoidances: the avoidance of errors in key data; and the avoidance of the risk of losing business through declining customer satisfaction and poor responsiveness to opportunities caused by the lack of clear, consistent information to analyze and on which to operate the business. These negative factors carry the potential for serious financial costs as well – lost business, fines by governmental agencies, extra work time by staff to correct mistakes, slower development of products and programs, and even a drop in share price for having material errors in data that is reported in financial statements.

**MDM is a comprehensive technology to meet organizational needs.**

Survey respondents named a range of components that should be included in a comprehensive approach to data management. The most popular choice was a centralized MDM hub or repository, cited by 70 percent, followed by data governance (64 percent) and a data warehouse (60 percent).

**Most Important Components of MDM**



Source: Ventana Research

When asked about the top-ranked functional requirement that should be addressed by these components, the highest ranked first choice was to clean, transform and validate data, followed by consolidation and reconciliation of data from multiple disparate systems.

**Top-Ranked Functional Requirements:**

1. Cleanse, transform and validate data
2. Consolidation and reconciliation of data

The top ranked second choice was to provide reports on the status of master data and to keep a log of how it has been changed so that users can confirm that changes have been applied correctly. The top ranked third choice was to provide Web access to master data for business users. The ability of MDM to support business processes and data governance is gaining notice as a key component of organizations’ information management strategies.

## What To Do Next

We address the following recommendations to end users already engaged in or contemplating an implementation of MDM. They are derived from both of the research studies we conducted and constitute our advice on how to build and manage a viable master data initiative.

### ***Start with a business case that includes drivers and benefits.***

Our research shows that most organizations have not evaluated the financial consequences to their business of errors such as incorrect deliveries or invoicing mistakes. Such errors can be linked directly to problems with master data. Doing such an evaluation is both an essential first step in constructing a business case for introducing master data management and an excellent way to highlight the real cost of poor-quality data. We advise all end users exploring the potential benefits of MDM to undertake this assessment and determine the business drivers and benefits that can be gained. Working in partnership with potential MDM vendors, these can then be built into a business case, including TCO and ROI models.

### ***Establish a data roadmap for MDM in your business.***

It is critical that MDM and a focus on data management be part of a long view of the business, and one that spans the organization. We advise starting small, achieving short-term wins that will gain acceptance and wider support for MDM, and then growing the initiative across the enterprise. Have a long-term vision but begin with some key business processes within an individual line of business. We suggest starting the process with customer and product data and then determining related data elements that need to be managed more closely.

Remember that MDM entails an ongoing commitment to ensure that master data is maintained at the highest level of quality and that the business processes that support the master data management life cycle are sustained. There is no point in implementing MDM unless you are in it for the long haul, so you need to create a team that is committed to establishing credibility for MDM in your organization.

### ***Ensure the MDM technology supports your business processes.***

Although the main outcome of MDM is to create a hub of critical master data entities, it also must support the associated business processes that use the data. It should do this at two levels. First is the reporting and analytical level. The MDM hub should be used to provide all business users with the information they need to execute their processes, with the full knowledge that everyone is working from a single source of data. Second is the operational level. It is likely that for the foreseeable future companies will continue to use disparate systems to support different lines of business and their associated processes. In this case the data within these systems should be synchronized with the MDM data hub so that operational data is kept consistent across all targeted systems.

### ***Create a Data Governance Board.***

MDM initiatives span both business and IT. In order to ensure success you should put in place a data governance board that contains representatives from both sides of the business and should include senior executives. The board should be responsible for setting the MDM strategy and then monitoring and assessing progress and success.

### ***Identify metrics you will use to monitor benefits.***

Determine what business metrics you will use to monitor the extent to which your business benefits are being realized. Our research revealed that most organizations see improving customer satisfaction as their top key performance indicator (KPI). Be sure to select KPIs that are important to the success of your own business, establish a baseline, and then set new targets.

## **Addenda**

### ***Definition of MDM***

Ventana Research defines master data management as the process for governing master data and the supporting information technologies that provide to business and IT the capability to define and manage master data across the organization. It includes the business objects, definitions, classifications and terminology that describe business information and how it is used, both operationally and for analytical purposes.

Master data includes information about customers, products, suppliers, regions, hierarchies, business rules and other detailed aspects of a company's business. An MDM system delivers the capability to define master data (including definitions, references and metadata) uniformly across the organization and synchronize its use. It allows organizations to retain and derive maximum value from their existing IT investments.

### ***Profile of Research Respondents***

Respondent's Role	
Business	40%
IT	60%

Location of respondents	
North America	68%
Europe	15%
Rest of World	17%

Industry	
Services	36%
Manufacturing	32%
Finance	25%
Government	7%

Company Size	
Large	69%
Midsize	9%
Small	22%

## About Ventana Research

Ventana Research is the leading Performance Management research and advisory services firm. By providing expert insight and detailed guidance, Ventana Research helps clients operate their companies more efficiently and effectively. We deliver these business improvements through a top-down approach that connects people, processes, information and technology. What makes Ventana Research different from other analyst firms is our focus on Performance Management for finance, operations and IT. This focus, plus research as a foundation and reach into a community of more than 2 million corporate executives through extensive media partnerships, allows Ventana Research to deliver a high-value, low-risk method for achieving optimal business performance. To learn how Ventana Research Performance Management workshops, assessments and advisory services can impact your bottom line, visit [www.ventanaresearch.com](http://www.ventanaresearch.com).