

An Oracle Thought Leadership White Paper
April 2009

Building the Business Case for Master Data Management

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“MDM technology helps organizations achieve and maintain a single view of master data across an entire enterprise, enabling business and IT initiatives to perform in better unison, allowing for opportunities to increase revenue, reduce costs, achieve effective compliance, reduce risk and improve business agility.”

Chad Eschinger, Research Director, Gartner Master Data Management Summit, November 2008

Executive Overview

Master data management (MDM) is a data management discipline to actively “manage” data across the enterprise, rather than “maintaining” it in each transactional system. There is increased attention on MDM recently due to the pervasiveness of business intelligence (BI) applications. MDM unlocks the true value of BI by providing a consistent view of business performance measured or analyzed through the key master entities of an organization.

Integrating master data can be perceived as an IT-related issue, and, hence, business stakeholders may be reluctant to engage in these initiatives. However, MDM is a cross-functional, technically complex, process-oriented discipline affecting information about customers, products, vendors, locations, and more. MDM requires acceptance and wide organizational support, and the message resonates best when MDM is placed into a business context.

Errors in master data across multiple sources/applications can cost an enterprise significantly in terms of missing business opportunities or creating dissatisfied customers. MDM helps in reducing such costs and helps business growth. This paper will give the reader an overview of the following:

- Why is it important to create a business case for the investment in MDM technology?
- How does one go about creating the business case for your organization?, and
- What benefits are organizations achieving from their investments in MDM strategies?

Why MDM?

The business value of enterprise applications is only as good as the data that can be leveraged. Fragmented, inconsistent data affects cross-sell/up-sell ability, delays time to market, creates supply chain inefficiencies and weakens market penetration. When customer data has duplicates, is incomplete or inaccurate, enterprises find difficulties in proper revenue recognition, new risks get introduced; marketing campaigns lack effectiveness and customer loyalty is lost. Similarly, with fragmented and inconsistent product data, enterprises have to deal with long product release schedules, increased inventory, stock-outs, and increased cost of compliance. Oracle Master Data Management (MDM) solutions are applications designed to consolidate, cleanse, enrich,

govern and share the key business data from across the enterprise, and synchronize the data with all down stream business applications and tools.

Typically, the IT landscape of an enterprise consists of complex set of disparate systems and technologies, including Customer Relationship Management (CRM), Enterprise Resource Planning (ERP) and Supply Chain Management (SCM). This complex, fragmented environment of disparate systems and applications creates proliferating islands of information. These islands result in duplicate, incomplete and inaccurate data that leads to inappropriate analytics and, ultimately, inaccurate business decisions. This leads to the problem of enterprise data quality issues, thereby negatively impacting an enterprise's ability to make wise business decisions, maintain proper governance processes, mitigate risk, and provide accurate timely compliance reports; overall costing billions of dollars to the enterprise. An Oracle MDM solution attacks the enterprise problem of data quality at its source, providing a systematic solution to improve data quality of the various data domains and maintain it continuously.

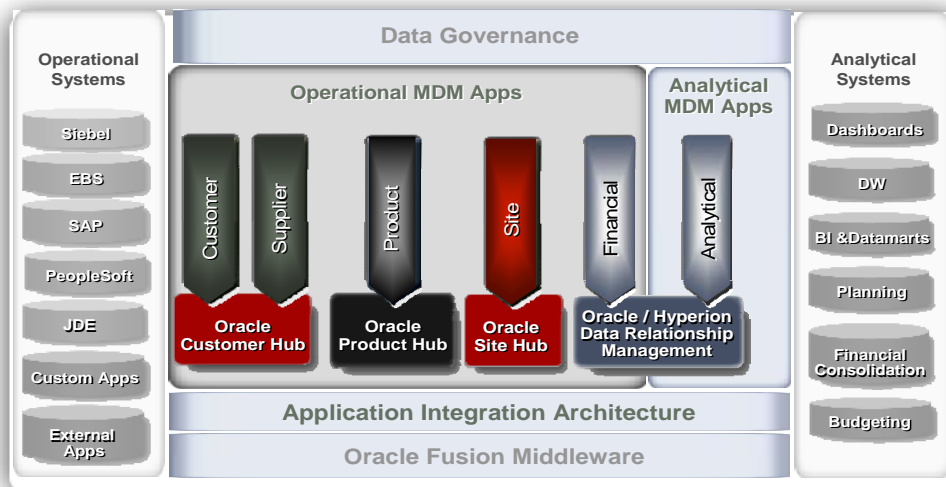


Figure 1: Oracle MDM Solutions

Oracle MDM offers the most complete MDM application suite in the marketplace, covering multiple domains across operational and analytical MDM

How Can MDM Help In My Industry?

Although data quality issues exist across all industries; each industry has its unique requirements. MDM provides the tools required to rationalize the data needed to improve business processes for these industries.

Communications, Media & Utilities

Companies in the communications, media and utilities industry are faced with fierce competition, and need to provide innovative services in order to survive. Customers are increasingly demanding next generation services tailored to their needs. As the industry converges to offer more bundled services, it is critical to have a customer-centric view. Current systems are product-focused, making it difficult to get a 360 degree view, reducing up-selling and cross-selling opportunities. MDM helps organizations rationalize customer information, by reducing duplicates and creating a unique customer identifier leveraged to cross-reference data across silo systems to generate the required single view of the customer.

Consumer Packaged Goods

Consumer Packaged Goods (CPG) companies are faced with constant change and increasing global competition. They must strive to meet the high demands of launching profitable products while simultaneously improving distribution and operational efficiencies. However, in large companies, critical management information is siloed in disparate systems across the enterprise. With the explosion of data volume and growing data complexity that CPG companies are experiencing today, this problem is intensifying. Gaining insight from customer and product data for real-time promotion optimization, category /SKU profitability reporting, and demand forecasting is critical for maximizing performance. And data integration gives CPG companies the ability to create a holistic view of operations and sales. Sharing the "Best Version of Truth" information within the organization and across replenishment channels allows companies to focus on streamlining their processes to increase profit, efficiently manage promotions, reduce supply chain costs and improve collaborative planning.

Financial Services

The Banking and Capital Markets industries have some unique challenges to overcome. This is an industry that is facing difficult times, and it is critical for these institutions to optimize their relationships with their customers in order to drive incremental revenues through up-sell and cross-sell opportunities and to reduce costs through higher IT agility. Several financial institutions have started leveraging MDM to augment homegrown CIF systems, in order to achieve greater flexibility and reduce costs.

Health and Life Sciences

Health and life sciences companies use MDM to support critical data needs across the organization to increase revenue, accelerate drug development cycles and manage regulatory requirements. Reliable master data and affiliation information for consumers, prescribers and organizations improves CRM and sales analytics to support revenue growth and improvements to sales, customer service, order-to-cash and rebate management processes. MDM also provides a reliable regulatory framework to help health and life sciences companies cost-effectively manage physician spend compliance and avoid penalties or more severe regulatory actions.

High Technology & Manufacturing

Concurrent pressures of profitability, time-to-market, and design complexity exist in this industry. Product commoditization forces companies to seek alternate ways to generate revenue. Complex distribution and sales -- resellers, retailers, direct, online, etc. make it very difficult to forecast demand accurately. One of the ways to help with some of these challenges is to focus on customer-centric processes and to synchronize the demand-driven supply chain. MDM provides capabilities required to rationalize the data used in these processes.

Public Sector

The public sector space is comprised of several slightly different sub-sectors, i.e. Defense, Justice, Public Safety, National and Local Government. They each have slightly different challenges, but the common theme for these different sub-sectors is the need for efficiency and transparency. As data resides in multiple systems, MDM can be leveraged in case management and CRM tools to get a single view of the constituents (taxpayer, citizen, terrorist, etc.)

Retail and Distribution

Out-of-stocks represent a \$69 billion dollar problem for the top 100 global retailers, and retailers are responsible for nearly 75 percent of all out-of-stock situations. Retailers are focused on optimizing planning and merchandising decisions by improved time-to-market and increased strategic sourcing. MDM provides retailers the tools needed to rationalize the product information required to make the right decisions.

Why build a business case for MDM?

The need to deliver more business value from IT

Today's IT budget is spent mostly on "keeping the lights on". In fact, roughly 70% of the budget is spent on sustaining and running existing capability while only 30% is spent on providing new capabilities to the business¹. The business, together with IT, needs to find ways to increase the value created by the existing and new investments in IT. The ideal allocation of the IT budget would be to spend roughly 55% on existing capability and 45% on new capabilities that create value for the business².

The business impact of bad data

The Data Warehousing Institute estimates that data quality problems cost U.S. businesses more than \$600 billion a year.² Yet, most executives are oblivious to the data quality issues that are slowly eroding the value of their organizations. More detrimental than the unnecessary printing, postage, and staffing costs is the slow but steady erosion of an organization's credibility among customers and suppliers, as well as its inability to leverage business intelligence investments, and make sound decisions based on accurate information.

Furthermore, the #1 reason why CRM projects fail to deliver on the promised value is due to poor data quality, which leads to poor user adoption. Users will not use systems that do not provide them accurate information, and tend to continue using whichever tool they had before that helped them do their job. This issue is not limited to the front office systems; ERP, SCM, etc. have the same issues.

¹ Gartner – "Making the Difference : The 2008 CIO Agenda" (Jan 2008)

² TDWI – December 2002

Quantifying the business value

Now more than ever, organizations are required to demonstrate value from IT investments in order to get the initiatives prioritized against competing ones. The days where IT project decisions were based on Total Cost of Ownership (TCO) are gone. TCO alone cannot justify decisions where the business needs to see the value. In an economy where many initiatives are competing for the same funds, only the most compelling business cases will win. Technologists have to quantify the cost reduction, cost avoidance, and the impact to the top line.

MDM is a journey

A company's Master Data Management program should be an enterprise-wide initiative. However, it is often difficult to start the initiative across the entire enterprise. The key is to embark upon tactical projects that are aligned with an overall enterprise vision for MDM. Pick a starting point with limited scope that proves the technical approach and delivers faster business benefits. For example, the starting point could be mastering customer data from a limited number of systems within the enterprise. This helps put together the technical foundation of the hub and gain experience with limited but controlled data stewardship. Of course, care should be taken that even this limited project brings measurable ROI.

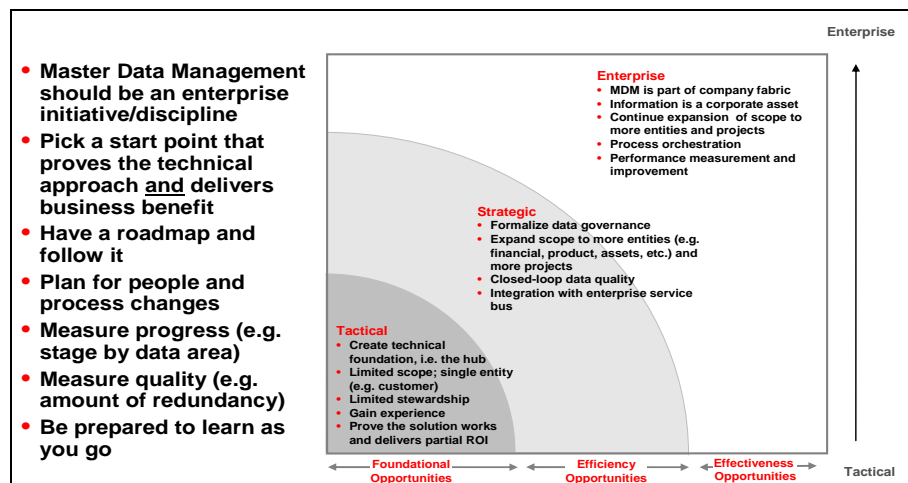


Figure 2: MDM Evolution - start small, think big, measure and evolve

Once the first tactical trial of MDM proves successful, companies should quickly assemble the learnings and develop a longer-range strategic vision for MDM across the enterprise. Develop a roadmap outlining the enterprise MDM architecture, complete with the source and target systems, and identify the scope of the entities to be covered in the next round of MDM implementations. For example, the decision could be whether to implement both customer and product master, and, even within customer and product domains, whether to plan for mastering division by division or to go by mastering one source system after another. Outlining each

potential option and calculating the ROI of each option helps drive the decision on which option to choose.

Three important tasks to accomplish in this strategic step are to formalize a data governance methodology, to create a closed loop data quality framework and to measure the ROI of MDM implementations with each significant phase. Once that is achieved, along with the implementation of the enterprise MDM architecture, the MDM journey will start taking the desired shape. The next step is to propagate the MDM philosophy enterprise-wide.

In the third step of the MDM journey, which is enterprise-wide adoption of the MDM philosophy, MDM becomes part of the company fabric. Information is identified as a corporate asset and hence more domains of information are brought under the MDM umbrella. More MDM projects are identified in the enterprise and the scope of existing implementations are expanded. Performance benchmarking and measuring the continuous improvement in performance become the norm of the enterprise.

Following this step by step process in the MDM journey provides a suitable and achievable goal of enterprise MDM implementation and higher ROI.

It should also be noted that adopting an MDM strategy will require process change and impact the day-to-day workings of many people. Bringing this change to the enterprise requires careful planning and a well-thought-out process to manage the change effort.

How to build your business case for MDM



Figure 3: Approach to building your business case

The approach to building the business case requires three major steps:

- The first step is to assess the current mastering capabilities. During this step, one should assess the MDM maturity of the entities in scope. In order to quantify the impact of the MDM technology, it is important to have a relative point of comparison.
- The second step involves envisioning the future data mastering capabilities and the solution footprint to support them. In addition, it is important to define the implementation plan and understand the cost of implementation. This is required to define the investment required.
- The third step is where we truly understand the benefits of the MDM technology to the business. It is during this stage that we quantify the business value of the technology. Using the investments from step 2 and the quantified business value in step 3 we are ready to calculate the ROI for MDM.

Step 1: Assess Maturity of MDM Capabilities

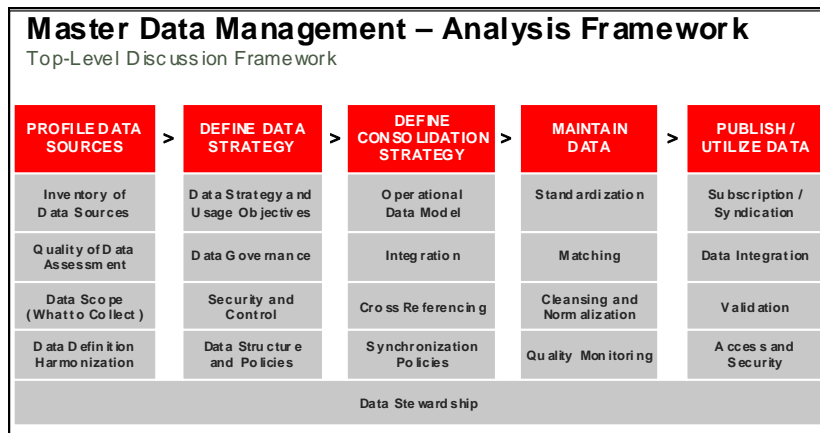


Figure 4: Framework for MDM Maturity

Strategic analysis framework developed by Oracle based on the lifecycle of data management.

After understanding the current capabilities, it is time to assess them for MDM Maturity. MDM Maturity can be assessed across five dimensions:

Profile data sources

Inventory of data sources, policies, requirements, and security controls

Define data strategy

Strategy on how data will be used by the users, and existence of a governance structure to manage data quality

Define Consolidation Strategy

Mechanisms for sharing master data across applications, either in batch or real-time mode

Maintain data

Data stewardship and tools in place for ensuring that the data is kept clean

Publish Data

Data is published and made available to the subscribing applications, enforcing data policies for Create, Read, Update and Delete (CRUD) activities.

These dimensions can be assessed using a simple capability maturity model (CMM) to identify the areas with the largest gaps.

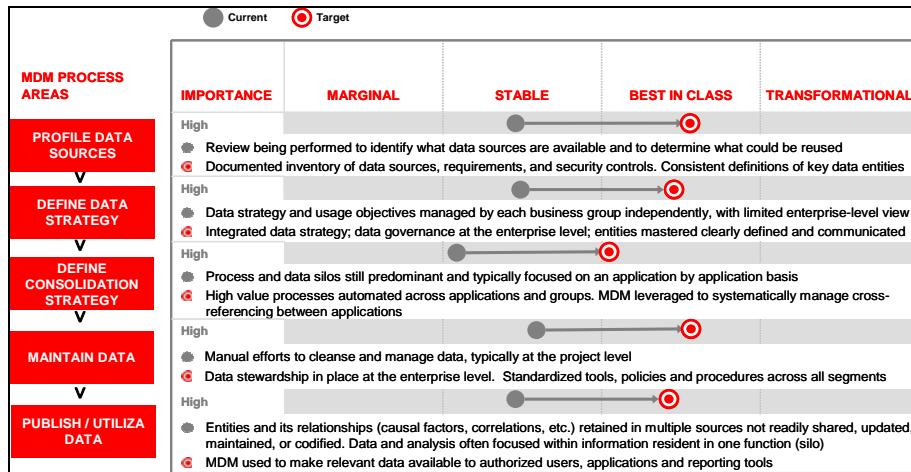


Figure 5: MDM Maturity CMM

The figure above is a depiction of a capability maturity model which is used to assess each of the five dimensions to establish where you are today and then plot the desired end state to identify where the largest capability gaps exist. This will help to prioritize the focus areas for the implementation plan.

Step 2: Develop Solution Footprint & Implementation Plan

Once the capability gaps have been identified and the target state defined, the next task during this step is to define the future state architecture to support the new process or processes. The figure below is a sample of a future state architecture using Oracle’s MDM technology.

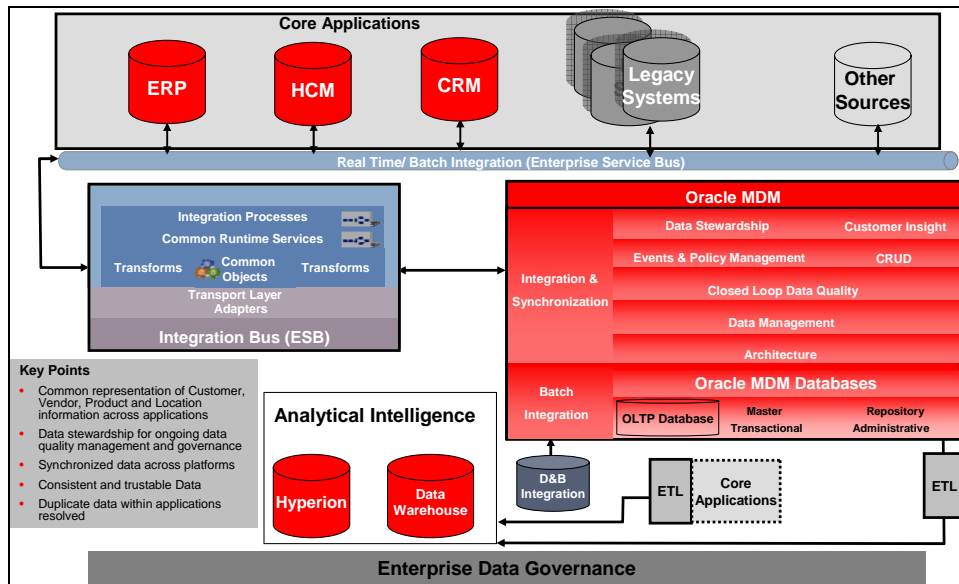


Figure 6: Sample Solution Architecture

After envisioning the future state process and defining the future state architecture to support it, the most critical task is to define the implementation plan to ensure a successful implementation of the new process. The figure below is a sample of an implementation plan showing different phases, stages within the phases and different deployment waves. The implementation plan is a key input into the ROI calculation; it not only provides the timeline for implementation but also the cost of implementation which is a key input into the ROI calculation.

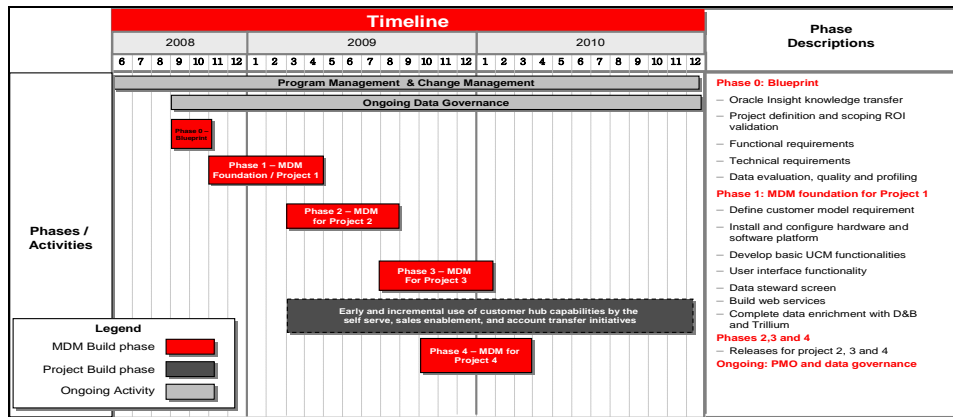


Figure 7: Sample Implementation Plan

Step 3: Identify Benefit Drivers & Calculate ROI

In our experience implementing MDM with customers, we have observed that benefits to be derived both from a cost savings and from a revenue enhancement perspective. Benefits are both attributed directly to MDM, such as reduced data management costs, reduced integration costs; and indirectly by providing incremental value to existing initiatives such as increased cross-sell/up-sell, improved customer retention, etc. The figure below summarizes some of the benefits that we have observed with our customers:

CATEGORY	BENEFIT OPPORTUNITY	DRIVERS
CRM Booster	1. Increased Cross-sell/Up-sell	<ul style="list-style-type: none"> Better knowledge of customer (credit info, propensity to buy, lifetime value, service/claim status) as well as their assets/install base are critical for efficient up-sell / cross sell Better & more targeted offerings (e.g. proposing a product to a customer who already said no to a previous campaign or who already purchased the product)
	2. Improved Call Center Productivity	<ul style="list-style-type: none"> Decreased time to support customer calls (time to search right record / customer identification, time to understand customer background / assets / history)
	3. Reduced Marketing Mailing costs	<ul style="list-style-type: none"> Reduction in mailing going to the wrong or invalid address
	4. Improved Customer Retention	<ul style="list-style-type: none"> Better knowledge of customer data drives better service of your most valuable customers & better retention
Operational Improvements	5. Reduced Data Management Costs	<ul style="list-style-type: none"> Reduced number of tasks required to 1- re-enter the master data (customer, product, etc.), 2- validate master data and 3- rationalize master data Reduction in IT/Business resources/effort to handle data management work
	6. Reduced Sales Order Errors	<ul style="list-style-type: none"> Reduced number of back end systems rejections of orders due to lack of master data management strategy in the enterprise (e.g. invalid customer, invalid product, invalid asset for a add-on order, etc.)
	7. Reduced Sales Cycle Time (B2B)	<ul style="list-style-type: none"> Reduced search time to get the right customer and product information Increased CRM adoption by sales force
	8. Improved Campaign Response Rate	<ul style="list-style-type: none"> Improved campaign response rates by better customer profiling and targeting
IT Agility	9. Reduced Integration Costs	<ul style="list-style-type: none"> Reduced error handling of system integration processes
	10. Reduced Time to Take New Application/Project to Market	<ul style="list-style-type: none"> Centralized function of consolidation, cleansing, de-duplication of master data in one system/team leveraged by every new application/project to reduce implementation time
Risk / Compliance Booster	11. Reduced Credit Risk Costs	<ul style="list-style-type: none"> Single view of customer across silos leading to reduced risk exposure Enriched data using 3rd party info like credit rating score from D&B
	12. Reduced Non-Compliance Risk Costs	<ul style="list-style-type: none"> Improved complete view of key business data and processes Foundation for managing regulatory compliance
	13. Reduced Report Generation Costs	<ul style="list-style-type: none"> Golden record of consolidated financial and analytical master data helping reduce work needed to cleanup data and to generate valuable and usable BI

Figure 8: MDM Improvement Metrics

Once the appropriate benefit drivers for your particular project have been identified, the next step is to estimate the range of benefit improvement that will be gained for the drivers identified. This is critical in quantifying the business value of MDM. MDM technology can not only provide cost saving opportunities but also revenue enhance opportunities.

BENEFIT OPPORTUNITY	CONSERVATIVE	PRAGMATIC	AGGRESSIVE
1. Increased Cross-sell/Up-sell	\$3M	\$5M	\$8M
2. Improved Call Center Productivity	\$2M	\$5M	\$10M
3. Reduced Marketing Mailing costs	\$1M	\$10M	\$15M
4. Improved Customer Retention	\$4M	\$6M	\$8M
5. Reduced Data Management Costs	\$12M	\$15M	\$20M
6. Reduced Sales Order Errors	\$8M	\$12M	\$16M
7. Reduced Sales Cycle Time (B2B)	\$4M	\$8M	\$10M
8. Improved Campaign Response Rate	\$2M	\$5M	\$8M
9. Reduced Integration Costs	\$6M	\$8M	\$11M
10. Reduced Time to Take New Application/Project to Market	\$3M	\$5M	\$8M
11. Reduced Credit Risk Costs	\$6M	\$7M	\$8M
12. Reduced Non-Compliance Risk Costs	\$11M	\$15M	\$17M
13. Reduced Report Generation Costs	\$22M	\$25M	\$27M
Total Annual Steady-State Benefits	\$88M	\$126M	\$166M

Notes: Numbers show undiscounted benefits. NPV of these benefits are shown elsewhere
Source: Customer discussions and discovery

Figure 9: MDM benefit quantification

The figure above shows the quantification of the benefits. In this example we have chosen to give conservative, pragmatic and aggressive estimates of the benefit values. In addition to quantitative benefits, MDM projects will also yield many qualitative benefits. These should be documented and included to strengthen the business case further.

MDM Costs

The other key input into the ROI calculation is the associated investments with acquiring and deploying the MDM technology. The typical costs include software licensing, software maintenance, implementation, hardware, infrastructure, training and other associated costs. The figure below gives a sample of how the costs can be broken out. It is also important to identify one-time costs as well as ongoing costs as this will impact cash flow.

CATEGORY	ONE-TIME	ANNUAL
Software*		
1. Application Licenses	\$10M	
2. Annual Maintenance		\$2.2M
Implementation*		
3. Implementation of Existing Software	\$1M	\$M
4. Implementation of New Software	\$6M	\$M
Hardware/Infrastructure*		
5. New Hardware/Infrastructure	\$2M	\$0.4M
Other Costs**		
6. Training/Change Management	\$1M	\$0.1M
7. Other (travel, administrative, etc.)	\$0.5M	\$0.2M
Total	\$20.5M	\$2.9M

Notes:
 * Costs are provided as estimates
 ** Cost estimates are based on customer data
 • Does not factor in fixed costs of employees assigned to project
 • Implementation estimates are provided by customer
 Source: Oracle & Customer Estimates

Figure 10: Estimated MDM Associated Costs

"Return on investment (ROI) metrics drove more IT project decisions in the past year than did total cost of ownership (TCO)."

Kim S. Nash, CIO

Cash flow and ROI Analysis

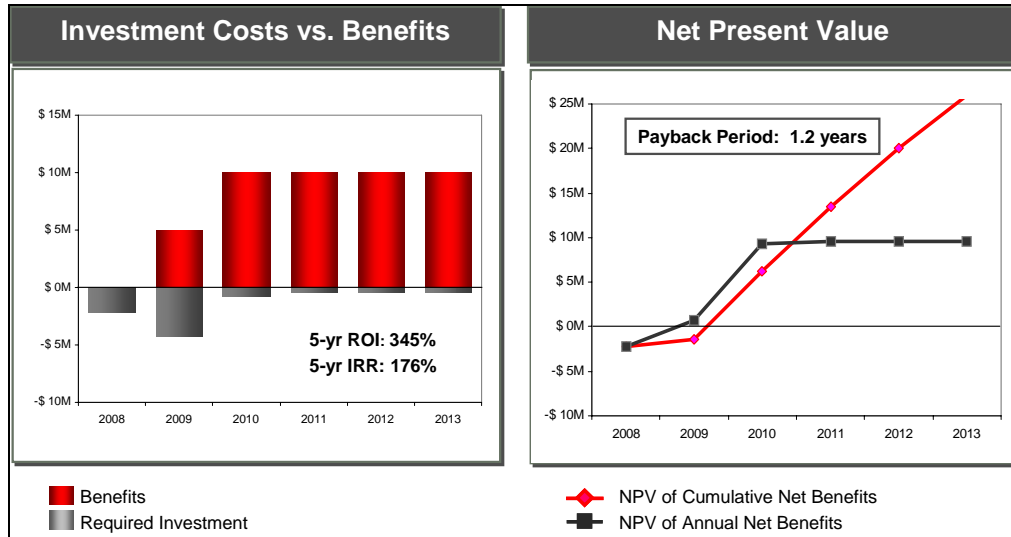


Figure 11: Cash Flow and ROI Analysis

After the benefits have been quantified and the costs identified, the annualized cash flows over a five year (or other) period should be plotted out to identify the net benefit of the project. Using this data the NPV (Net Present Value), IRR (Internal Rate of Return) and payback period can be calculated. In today's business environment, there are many projects competing for the same source of funds, the projects with the best returns and most compelling business cases are the ones that stand a better chance of being funded.

It is important to use the ROI results to drive the implementation plan, focus on implementing the capabilities that provide business value first. In these times where organizations need to control costs and drive value, those initiatives that provide the highest returns should be the ones that supersede.

How can Oracle help?

Oracle Insight Program³

Oracle Insight uses a proven methodology which is flexible and customized to individual company objectives. Most engagements consist of four steps: Industry Perspective, Discovery, Solution Design, and Solution Presentation.

Industry Perspective

Given the plethora of acquisitions made by Oracle, we want to help you understand how these new capabilities have helped others in your industry. Oracle facilitates an in-depth discussion with your executives about industry trends, best practices, vision, strategy, challenges and roadblocks.

Discovery

Leveraging established industry frameworks and robust intellectual property, Oracle Insight collaborates with you to assess your current business processes and identify the capabilities required to achieve your corporate strategy.

Solution Design

Oracle recommends best practice processes and supporting technology, including a time-to-benefit analysis and implementation plan.

Solution Presentation

The Insight team works with you to create an executive presentation including supporting information, business benefits, and value drivers, to help you build consensus among colleagues and executive management or secure funding from your board.

Oracle Insight engagements are flexible. Once executive commitment is secured, the program will be customized to your needs and objectives as it relates to your MDM projects.

³ <http://www.oracle.com/services/insight/how.html>

CONCLUSION

“...IT investments deliver more value to a company’s top and bottom lines – by creating new efficiencies and increasing revenues – than any savings gained from traditional IT cost cutting”

-McKinsey, September 2008

MDM is one of those technologies that deliver value to the organization by impacting both the top and bottom lines. However, this value has to be quantified for the organization to demonstrate the specific impact that will be delivered.

A compelling business case is needed to provide the motivation and prioritization for MDM projects in the organization. The approach to such a business case involves assessing the current business process and its performance, designing the future process and the solution footprint to support it, identifying the benefit drivers and finally calculating the return on investment (ROI).

Many companies have already started to see substantial returns from their MDM projects, this paper introduced how to develop a business case for MDM, which is a requirement to get projects approved and prioritized over competing initiatives by business executives.



**White Paper: Building the business case for
Master Data Management**

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