Best Practices in Master Data Management and Data Governance

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Introduction

Regardless of which Master Data Management (MDM) platform you select & implement, there will be challenges. This session will present some useful MDM and Data Governance best practices to help you overcome those challenges, gleaned from the author's work over the past five years in this rapidly developing field. The session will cover what's worked and what hasn't, the importance of a holistic approach, how to get the political aspects right, and how to address more than just the technology elements.

Objectives

- Help audience better understand Master Data Management and Data Governance
- Pass along important MDM and Data Governance best practices
- Go beyond the technology "silver bullet", addressing people/politics, process & information

MDM 101

So what <u>is</u> Master Data Management?

My definition is:

> MDM is a **set of disciplines, processes and technologies** for ensuring the **accuracy, completeness, timeliness and consistency** of multiple domains of enterprise data - **across applications, systems and databases**, and **across multiple business processes, functional areas, organizations, geographies and channels**.

Gartner's definition (from "Magic Quadrant for Customer Data Integration Hubs", June 2007) is:

> MDM is the **consistent and uniform set of identifiers and extended attributes** that describe the **core entities of the enterprise** and are **used across multiple business processes**. Some examples of core entities are **parties** (customers, prospects, people, citizens, employees, vendors, suppliers or trading partners), **places** (locations, offices, regional alignments or geographies) and **things** (accounts, assets, policies, products or services). **Groupings of master data** include organizational hierarchies, sales territories, product roll-ups, pricing lists, customer segmentations and preferred suppliers.
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> **MDM is a process** that may be **workflow-driven** or **transactional** in nature, in which business **units and IT** departments **collaborate, cleanse, publish and protect** common **information assets** that must be **shared across the enterprise**. MDM **ensures the consistency, accuracy, stewardship and accountability** for the core information of the enterprise.

What are the five essential elements of a successful MDM initiative?

(1) The MDM Hub itself. There are three major types. A *Persistent Hub* stores all of the critical data from each source system into the central hub. A *Registry Hub* stores only the identity information and foreign keys required for matching in the hub. A *Hybrid Hub* uses a mix of both styles, giving you the ability to fine-tune how much transactional data is synchronized into the hub, in order to optimize performance or reduce political issues around data ownership.

(2) Data integration or middleware. It's important to be able to dynamically synchronize data into and out of the hub. The synchronization doesn't have to be real-time, although a lot of organizations are heading that way (or at least to "near real-time"). Since the whole point of these projects is to build a "Single Source of Truth" for a particular domain like customers or products (or for multiple domains), having out-of-date information in the hub, or not synchronizing the data quality improvements you make back to the original source systems, can defeat the whole purpose of the project.

(3) Data Quality. Most companies quickly realize (through data profiling, which we strongly encourage, of course) or just through looking at their data manually, that their information almost always starts off with a much lower level of data quality than they expected. So a robust data quality tool can be very helpful in *standardizing information* (changing "Massachusetts" to "MA" where needed), *correcting information* (when someone types "Zerox" instead of "Xerox"), and *filling in missing information* (when someone doesn't provide a value). **A good data quality tool can make the difference between a failed project and a successful project.**

(4) External Content (also known as enrichment). Having formerly worked for D&B, one of the leading providers of information on businesses, I consistently saw the value to clients of providing information they didn't already have. It could be something as straightforward as SIC codes, or as complex as corporate family trees and credit ratings. But when you "don't know what you don't know", having an external content provider can be a big help.

(5) Data Governance. I listed this last, but it's actually the most important. Without the people and processes that you'll develop around your central hub, the technology is (at best) going to be "a solution in search of a problem". The business won't accept the solution unless they're driving it, and resolving difficult questions of data ownership or quality is going to take some type of cross-functional group in the business, with an executive sponsor, business data stewards, IT support, etc.

Bringing together the various elements of an MDM initiative is hard enough - don't try to do it without the support of a data governance council to own the solution and the data as it is developed and deployed.

Who are the major players in the MDM software market?

There are three "mega-vendors" who offer MDM platforms (Oracle, IBM and SAP) and three smaller vendors (Siperian, Initiate Systems and D&B/Purisma).

There are other vendors like Tibco, Teradata and Kalido that we don't have room to include here.

Oracle offers Oracle Customer Hub (a bundling of *Customer Data Hub* and Siebel *Universal Customer Master*), as well as Oracle Product Hub and Hyperion Data Relationship Management. Oracle is the worldwide MDM market share leader (according to ARC Advisory Group), and was ranked a Leader in Gartner's 2007 Magic Quadrant report. Oracle's current MDM products are robust and widely used, and its future roadmap, incorporating the acquisition of Siebel, Hyperion, Sunopsis and BEA Systems, plus the development of Fusion MDM, promises to be very competitive as well.

IBM has also become a major player in the MDM market through acquisition and internal development. IBM addresses the need for consistent, reliable and accurate master data through several products, including *WebSphere Customer Center* (from its 2005 DWL acquisition) and *WebSphere Product Center* (from its 2004 Trigo acquisition). IBM's 2005 acquisition of Ascential provided robust Extract-Transform-Load and Data Quality capabilities. And IBM recently announced its *InfoSphere MDM Server*, which is designed to simplify getting data from a variety of sources into service-oriented architecture applications for multiple domains of data.

SAP NetWeaver Master Data Management is a relatively late bloomer and was initially focused on mastering product data. Companies in SAP's traditional "sweet spot", such as global manufacturers, consumer packaged goods companies, European-headquartered firms and its historical installed base, have been pretty receptive, however, to the NetWeaver MDM pitch. The recent acquisition of Business

Objects by SAP should sharpen their focus on enterprise MDM, and help them broaden their vision beyond product-oriented MDM hubs.

The **Siperian** MDM Hub is a robust product, and is able to identify and manage relationships among multiple types of enterprise data, such as customers, products or accounts, across multiple applications and lines of business. The company has done very well in the financial services and pharmaceutical & life sciences industries, and had a more than 300% growth rate from 2006 to 2007. Siperian just received a $25 million round of financing in January, to support additional expansion in Europe and further development of its channels and products.

Initiate Systems filed with the SEC to go public in November 2007. Founded in 1995, the company has more than 140 customers in production, in industries such as health care, financial services, public sector, retail and technology, including marquee customers such as Microsoft, Intuit, Capital One, Countrywide, Wells Fargo, Humana, Hyatt Hotels, Barnes & Noble, CVS, and SuperValu.

Purisma was acquired by Dun & Bradstreet (D&B) in November 2007. The acquisition was a good strategic fit for both companies, allowing D&B to become more of a player in the Customer Data Integration (CDI) and MDM marketplace, and giving Purisma the chance to extend its market reach.

So why are companies doing MDM initiatives?

The most frequent reason is to solve a specific business problem. Poorly managed master data can cause a host of issues: bad decision-making, costing millions of dollars, caused by information that is inaccurate, incomplete, out-of-date or inconsistent; regulatory compliance where mistakes can potentially cause large fines; or master data that doesn't support the company's strategic objectives to grow revenues and market share, or to reduce operating costs.

Certain industries like financial services have had compelling external events: Basel II, which imposed much stricter identification of credit risk and ratings, and "Know Your Customer" and Anti-Money Laundering requirements as well.

And companies in every industry are looking to increase revenues by providing support for cross-sell and up-sell activities, reducing costs by consolidating disparate information systems, and improve customer service through better insight into customer interactions and demands.

MDM Best Practices

Here are ten MDM best practices that I've picked up, based on years of being a management & technology consultant in this area, and on managing a strategic alliance between two of the largest players in the MDM marketplace.

1. Active, involved executive sponsorship: this is true for many types of enterprise technology projects, but even more so for MDM. Most organizations are quite comfortable with their "islands of data" and with technology implemented in silos. For someone to come along and suggest changing the status quo, that you need to start managing critical information centrally and treating it as a true corporate asset, is going to mean some significant cultural changes. In most enterprises, that type of change can only be driven "top down". This doesn't mean your CEO has to personally be involved in every aspect of your MDM initiative. But when the rubber meets the road, you will need the "corner office" in your corner.

2. The business should own the data governance process and the MDM project: As tempting as it can be to start and finish with the technology alone, that road doesn't lead to success. We've seen a number of companies where the MDM initiative was driven by the IT organization, but where the business either didn't understand or didn't buy into the program. These projects ended up being perceived by the business as a "solution in search of a problem". As hard as it is to do, you need to start building enthusiasm, interest and demand for new capabilities in managing and utilizing data within the business. Otherwise, business people won't be committed to the project and funding will be hard to obtain. The

nature of MDM (as ongoing programs rather than “once and done” projects) will mean that even if the initial project is approved, funded and completed, the business will not pick it up and run with it in Years 2, 3 and beyond.

3. Strong project management and organizational change management: This is true for other types of technology projects too, but given the amount of political angst that MDM and CDI initiatives typically cause, you need to make sure your project can’t be derailed by opponents pointing to sloppy project management or by avoidable change management issues. If the project is “buttoned up” from a Project Management 101 perspective, and you’re using good techniques for communications, training, end user forums, etc., then it will be much harder for the champions of the status quo to throw stones at your project, and you’ll make it easier for any logical follow-on projects to succeed, because you’ll have built a strong foundation of delivering value, on time and on budget, and ensuring user acceptance, adoption and achieving your expected ROI.

4. Use a holistic approach – people, process, technology and information: This may be the most important best practice of all. You’ve got to start with the people, the politics, the culture, and then make sure you spend at least as much time on the business processes involved in data governance and data stewardship, which really deserve a separate presentation. But you’ll succeed if you invest the time in creating a fairly small Data Stewardship Team (or whatever you call it); recruiting the right senior executive(s) to sponsor the initiative; creating or redesigning your processes for adding new master data records, modifying existing records, cleansing/standardizing/matching, resolving anomalies, reporting data quality metrics, reporting exactly where and how the MDM initiative has met helped the enterprise achieve its strategic objectives. The technology aspect is not a given, but you should start with “people” and “process” and let those guide your technology decisions.

5. Build your processes to be ongoing and repeatable, supporting continuous improvement: As mentioned above, data governance is a long term proposition. We still run into a lot of people who think that a given project will “go live” and be done. But experience shows that as long as you’re in business, your enterprise will be creating, modifying, and consuming master data. Many types of master data, especially things like customers, suppliers and products, are very dynamic. So if everyone in the company relies on them, but no one is specifically accountable for maintaining and certifying their level of quality, it shouldn’t be a surprise that, over time, like everything else, they become more and more chaotic and unusable. So plan from the beginning for a “way of life”, not a project.

6. Management needs to recognize the importance of a dedicated team of data stewards: Just as books belong in a library and a library needs librarians, master data belongs in a dedicated repository of some type, and that repository needs to be managed by data stewards. We frequently run into organizations where there’s no dedicated data stewardship function. Some business areas do better than others, but no one eats, breathes, lives and dies with the accuracy, completeness, timeliness and consistency of the critical information that the business runs on. Don’t start an MDM project without convincing management of the need for a small team of data stewards who are 100% dedicated to managing the enterprise’s master data. Otherwise, the “lights are on, but nobody’s home”. Master data repositories don’t manage themselves.

7. Understand your MDM hub’s data model and how it integrates with your internal source systems and external content providers: We’ve seen quite a few project teams doing MDM implementations who never bothered to spend time researching the data model provided in their off-the-shelf hub, and who didn’t plan for enough time in inventorying and mapping their internal source systems. So when data model problems cropped up relatively late in the project, whether it was a disconnect between the hub and an important source system, or a misalignment between the data modeled in the hub and an external information provider, it was very disruptive. These problems can be avoided by really understanding how the hub is designed, and then mapping that back to your source systems and your external information sources.

8. Resist the urge to customize: Now that commercial off-the-shelf hubs have matured, it's easier to resist the temptation to get "under the hood" and customize them. We've worked with some early

adopters of various hubs, and at that time, there were some genuine product gaps that forced companies to step in and modify the code considerably. I'm not saying that the products are perfect or that there are no gaps, but sometimes pushing the vendor to make improvements and incorporate them into upcoming releases is a better strategy than customization. And when you do customize, do so carefully. Make sure your changes are "upgrade-friendly" and documented. Most vendors are still revving their products as often as twice a year, so you definitely don't want to get into a situation where you are "rev locked" to an older version.

9. Stay current with vendor-provided patches: Given the frequency of point releases, patches and major upgrades, you should probably plan for at least one major upgrade during the initial implementation, and be sure to build "upgrade competency" in the team that will maintain the hub after the initial project goes live. Nothing is worse than contacting the software vendor for support, and to be told "that problem is fixed in the latest release", but to not be able to move to that release for months or sometimes years. Vendors are fixing problems reported by other customers every day; make sure you're in a position to take advantage of those fixes, and then have the discipline to do it. And make sure to follow the upgrade instructions carefully - those README files are there for a reason!

10. Test, test, test and then test again: This is like the old saying about what's important in real estate - "location, location, location". Your MDM hub environment is going to be different, by definition, than every other environment in the world. Your company has a unique quantity and variety of source systems - the applications for CRM, sales force automation, ERP, customer service, you name it - and of course, some of those systems are going to be completely inhouse-developed and won't exist anywhere else. So while most software vendors are doing much better in the area of testing and quality assurance, in this particular technology area, the burden of testing remains squarely on the implementing company and the project team. Don't assume that because something's in general release, that it will work perfectly at your site.

Conclusion

Master Data Management, in all of its various forms, is an exciting area of technology and offers companies a real competitive advantage in terms of how they can use corporate information to make better decisions, increase revenue, avoid regulatory snafus, and provide better customer service.

About the Author

Dan Power is President of Hub Solution Designs, Inc., a consulting firm specializing in Master Data Management and Data Governance.

Prior to founding Hub Solution Designs, he was the general manager for Dun & Bradstreet's strategic alliance with Oracle Corporation.

Mr. Power has twenty years of experience in management consulting, enterprise applications, strategic alliances, marketing, corporate strategy, project management and entrepreneurship at companies like Deloitte & Touche, Computer Sciences Corporation, eCredit and Parson Consulting.

He has worked with Oracle's MDM, ERP and CRM platforms for more than twelve years. He is frequently an invited speaker at technology conferences and has written several articles for publications such as *DM Review*. He regularly advises clients on developing & implementing high impact MDM strategies.

He studied Computer Science at Princeton University, and earned a Bachelor of Science in Entrepreneurial Studies from Babson College in Wellesley, MA.