The Baseline on MDM
Five Levels of Maturity for Master Data Management

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Introduction

As it evolves, the term Master Data Management has become an amalgam of different functions and capabilities. Some MDM vendors specialize in only a slice of the MDM pie, while others serve up an entire platter of functions and features. As a result, some MDM early adopters have over-invested, having acquired full-blown solutions brimming with unnecessary capabilities that turn out to be functional overkill. Others have simply begun their MDM programs as they have with so many other IT initiatives, launching projects that resemble data warehouse or enterprise service bus implementations, or choosing vendors whose features ultimately miss the mark. In this white paper, Baseline Consulting presents an MDM taxonomy that separates and describes discrete capabilities, helping you understand your company’s “as is” environment to help you accelerate toward your “to be” objectives for master data.

Terms like “collaborative” or “analytical” MDM only serve to muddy the waters when it comes to MDM functionality.
Not Your Father’s Database

As the MDM market takes shape, IT and business managers are increasingly left scratching their heads at the current crop of buzzwords and their relevance to their own environments. Vendors seeking to expand their markets declare new MDM categories and terms often inviting more confusion than clarity. The result is inertia as companies continue to struggle integrating their siloed data amidst the amplified din of confusing vendor messages.

In our book, Customer Data Integration: Reaching a Single Version of the Truth (Wiley), we define MDM as “the set of disciplines and methods to ensure the currency, meaning, and quality of a company’s reference data within and across subject areas and systems.” This lofty definition colors in the depth and complexity of MDM initiatives. Put more simply, MDM ensures that your systems leverage and re-use common, accurate business data.

The case study companies profiled in our book, as well as our MDM early-adopter clients, have taught us an important lesson: how master data is used has little or no bearing on MDM maturity. Terms like “collaborative” or “analytical” MDM only serve to muddy the waters when it comes to MDM functionality. It’s how the master data is stored, accessed, and propagated to the enterprise that indicates MDM’s evolution in an enterprise. While data usage adds complexity to the MDM debate—and may even enrich the requisite MDM “marketecture” diagrams of some vendors—it’s in fact ancillary to how the company manages, integrates, and deploys its master data.1

Many MDM newcomers continue to discuss the topic in terms closer to relational databases, but most robust MDM solutions aren’t designed as reporting databases (many business people would argue that there are enough of those already!). MDM systems contain more detail than a simple subject area reference list; they can contain all of the necessary details to support item identification, relationship details, security and access, as well as administrative and management of a company’s reference data. This means that the MDM system not only contains the subject area content (for instance, product id and description), but provides a means of supporting business rule-based information management. Traditional relational databases don’t automate business rules—this is normally the domain of the operational applications or specialized “bolt-on” application utilities. MDM solutions centralize not only the authoritative version of the data, but embed the business rules necessary to ensure that the data is validated, standardized, reconciled, and aligned with corporate policy.

MDM is more than a single image of data. Successful MDM implementations enable business data to contain rigorous and standardized content that reflects business-based logic and rules processing. In addition to offering a solution for the widespread “single version of the truth” goal, MDM offers automated tracking and reconciliation of data from different sources. MDM can provide data access without requiring the applications themselves to retain specific business rule or data navigation logic (as is required when using traditional database technologies). MDM allows the migration of data-oriented rules away from individual applications so they can be attached, and uniformly shared, with the data asset.

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1. How the data is used is better discussed in the context of Enterprise Information Management (EIM), which espouses the idea of information in the context of a dynamic lifecycle. EIM was first coined by Gartner, and has been embraced by the vendor community.
The goal of most MDM solutions is in ensuring that master data includes reference details that reflect the current state of the business. As with most complex business-enabling technologies, this doesn’t happen in one development iteration. Consequently we’ve identified five stages of MDM maturity, shown in Figure 1, that can help you gauge your company’s MDM evolution and offer a structured and deliberate pathway forward.

It’s important to state here that the MDM maturity taxonomy reflects degrees of complexity and sophistication. It seeks not to be prescriptive as much as to elucidate the various functions that MDM provides, and what’s involved in making them work. Our purpose here is to help crystallize the various functions you need from MDM, and map them to your company’s capabilities. It’s independent of the current crop of tools and technologies: most of today’s vendor solutions will work within all levels of the taxonomy. Each MDM level supports, indeed builds upon, the capabilities of the prior level. Consider the taxonomy less a recommendation of steps—your company may or may not need to go all the way to MDM Level 5—and more of a progression of states.

Figure 1: Baseline MDM Maturity Model
MDM at Level 0

There is such a thing as no master data management (Level 0). For instance, your company might have a list of assets, say, products. At Level 0, each system that processes product data has its own list of products. There is no data sharing between applications. No enterprise definition of data elements exists.

At Level 0, each application is responsible for managing and identifying its own product list and orchestrating change. This situation is common, particularly in companies that sell custom-packaged or specially-priced products. Such products are frequently created individually within the different systems (sales, contracts, billing, fulfillment, etc.) because there isn’t an automated method of sharing this information. Each system contains its own product identifiers and deals with changes in its own unique and un-integrated manner. Duplicate data abounds. Information is transported between systems on a case-by-case basis, in a unique and non-uniform fashion. As Figure 2 illustrates, data is disconnected and independently managed.

From a business standpoint, MDM Level 0 means that different organizations access the same data from different places. For instance, the Finance group calculates costs using the item purchase price from the purchasing system. Conversely, Sales uses the company’s pricing details contained in the sales system. Unfortunately, the organizations employ different data and different logic to calculate their respective costs. When each department produces its margin and profit calculations at the end of every quarter, the numbers are different. The creation of this information is specific to an application’s need or purpose with little sensitivity to the data’s origin or how it might be used by other systems.
In another example, a pharmaceutical company’s CRM system is considered the de facto customer “master.” The company’s Legal organization might want to change the definition of the customer to include a “Doing Business As” name, but the CRM software doesn’t support this type of enhancement. The business requirement isn’t enabled, and business needs can’t be met. At MDM Level 0, the system—not the business—defines the data. This is tantamount to no MDM.

Effective MDM implementations reevaluate business rules, decoupling the data-oriented rules from the application and linking them with the data. This streamlines application functionality and ensures data accuracy across the business.

Your company is at MDM Level 0 if:

- There is no common agreement of data definitions across organizations.
- There is no common agreement of data definitions among or between different systems.
- There is no standard for migrating data between systems. It is a highly manual process responding to isolated needs.
- The data originating from source systems is generally deemed unreliable and error-prone. No one is responsible for data correction.
- Data is considered a mere by-product of the applications that use or generate it.
- There are no data-specific job tasks or roles.

**MDM Level 1: List Provisioning**

List management is common in companies large and small. Disparate systems and users across those systems need updated lists of customers, products, salespeople, or other business entities. Yet many companies still manage and provision their lists manually. Data additions, deletions, and conflicts are all handled as a series of discussions or meetings by staff members. While rules reflecting value conformance, change criteria and the like exist, this highly manual process is error prone and often dependent on “who participates” during the change management process. List generation isn’t repeatable, it’s not reconciled or audited, nor is it automated.

At MDM Level 1, decisions to change and modify the data are people-based, and thus only as valid as the people making the decisions. The process itself might be well-defined, yet it’s immature due to the lack of centralized, rules-based data management. While this may be a realistic approach when there are a small number of customers or products, scaling the process becomes impractical as the product catalog or customer list grows and becomes more volatile.
At MDM Level 1, the list is usually stored within a single operational application or file though, unlike MDM Level 0, there is some process involved in updating and changing the list. While this single application acts as the Master Data Host, its main responsibility is its core application processing. Changes occur, but they are communicated in an inconsistent and ad hoc fashion. As shown in Figure 3, MDM Level 1 relies upon a single application or system to manage and provide data to other systems within the enterprise. The definitions and standards (and change management rules) will reflect the functionality of the operational application. This works fine in environments that are able to compartmentalize data ownership to individual organizations or applications. Online master data access isn’t available within MDM Level 1; data is packaged and “shipped” to other systems.

MDM Level 1 relies on human collaboration: if a product manager needs a list of updated product prices, she’ll call the ERP system owner who will email it. The likelihood that the customer or product list is enterprise-wide is only as solid as the relationship between people in different departments. If there are hierarchies and groupings among customers and products, list provisioning becomes even more difficult, and is usually too complex to manage at Level 1.

At MDM Level 1, decisions to change and modify the data are people-based, and thus only as valid as the people making the decisions.
Your company is at MDM Level 1 if:

- There is no systematic and rigorous way of ensuring changes to the master list.
- Defining and maintaining master lists involves significant meetings and human involvement.
- Master data access and usage is supported by the data owner team. This typically includes explaining data file formats and content details.
- Data conflicts, deletions, and changes are handled manually.
- Individual applications must understand how to navigate to the master list.
- Data rigor and change management are still considered application-based processes. The steps aren’t always apparent (or communicated) to external data users.

**MDM Level 2: Peer-Based Access**

MDM Level 2 introduces data management rigor to support the using and sharing of data between systems. This rigor includes establishing data standards and defining access and sharing of details contained in a central repository or what we’ll call a master data “host.” The repository may be a database or an application system that supports the access and sharing of data in an online manner.

CRUD—Create, Read, Update, and Delete—is a classic programming term for basic processing functions. In the case of MDM, CRUD processing is foundational. But just because your database can support CRUD processing doesn’t mean you’re doing MDM. MDM Level 2 involves peer-based access, meaning that one application can “call” another application to update or retrieve the necessary data. While rules for CRUD processing are defined, MDM Level 2 requires that the consumer or “peer” application format its requests (and data) to conform to the rigor of the MDM repository, which effectively hosts the master data. The MDM repository provides centralized data storage and provisioning. At this stage, rules management, data quality, and change management must be add-on functions custom-built for the environment.

An example of MDM Level 2 would be a database or packaged application (such as a Sales Force Automation system) providing data access to external applications. When an external application (such as a Call Center application) needs to “add a customer”, the external application would submit a transaction requesting the Data Owner add a customer entry. The master data host would add the data and acknowledge the activity to the external application, as illustrated in Figure 4. This is a fairly common approach to implementing MDM within a packaged (or distributed) application environment.
CRUD processing is an improvement over paper- and conversation-based data administration. At MDM Level 1, data changes are manual. At MDM Level 2, they’re automated—there is a standard process that’s enabled by technology, allowing modification of the data by multiple applications. As Figure 4 makes clear, MDM Level 2 can support different applications using and changing a single, shared repository of data. Value-added processing extending beyond traditional database management isn’t common. Consequently, business rules support change management, but data quality is not centrally managed. Each peer application is responsible for implementing the necessary processing and data rigor.

At MDM Level 2, companies begin to leverage their existing application or data warehouse environment to support MDM. For instance, a grocery chain we work with regularly updates its product list through several different application systems. The product list is stored within a single item master and is downloaded nightly to individual store point-of-sale (POS) systems. This is how products are introduced, re-priced, or discontinued. The master data host doesn’t typically apply checking or auditing; this must be handled by the individual application systems, which contain the actual business logic necessary to apply the rules. At the grocery chain, if one of the individual application allows an incorrect price or item description, those details will be propagated to all POS systems.

MDM Level 2 requires that every peer application understand basic business rules in order to access and interact with the master list. Thus every peer application must create, add, update, and delete the data accurately and correctly. The authorized applications are responsible for adhering to data management principles and rigor. Moreover, they are responsible for maintaining the link (the actual system location and data navigation details) to the master data host. Thus there is no intermediation of changes by applications, and the application cannot recognize the impact of other system changes on the master record.
Your company is at MDM Level 2 if:

- Applications are aware of a central repository or list of master data, and have hard-coded logic in order to interact with that system.
- A data model exists and serves to uniquely identify each master record.
- Data access and integrity rules exist, but must be managed by the individual application systems.
- Integrating new application systems typically requires all data and processing integrity logic be replicated to each consuming application.
- Maintaining master identifiers and business rules falls to the individual applications that require access to the master list.

**MDM Level 3: Centralized Hub Processing**

Centralized processing implies a common, purpose-built platform for MDM. And this is where most companies discover that MDM challenges their incumbent IT architecture: they have lots of standalone platforms processing master data.

MDM Level 2 centralizes data access and control across the various applications and systems that use data. This dramatically reduces the complexity of application data access, significantly simplifies the management and administration of data-oriented rules, and enables many more functions and features than in a de-centralized environment.

The challenge with enterprise master data is its consistency. Data exists in different places, its meanings are different, and the rules about the data vary from system to system. Centralized MDM processing—via a common platform known as a hub—indicates an awareness that the integration of subject area data from multiple systems means centralizing and standardizing the methods to convert heterogeneous operational data, regardless of its system of origin, and to integrate it. At MDM Level 3, companies are centralizing the management of subject area content. This implies that the applications that "consume" or use master data have an awareness that the data is a reflection of subject area content outside of the bounds of their individual application. MDM Level 3 supports the existence of distributed master reference data.

So why is this a departure from a company’s existing capabilities? In the traditional data integration environment—for instance, where Extract Transformation and Loading (ETL) is used—there is no centralization and standardization of data conversion logic. The actual transformations can vary from system to system and application to application, offering no assurance of data consistency. ETL is only as robust as the development methodology and programmer skills employed. As the number of data sources increases, the likelihood of integration consistency decreases.

Likewise, Enterprise Service Bus (ESB) or Enterprise Application Integration (EAI) technologies are message-passing technologies, thus the data conversion rules are based on indi-
individual application systems. EAI technology is effective in supporting the migration of application-based messages between systems. However, the built-in data integration and data quality capabilities are likely to be too limited to support the breadth of MDM functionality required by most enterprise environments in an off-the-shelf manner. While many EAI products can handle data conversion and reformatting, they are typically limited to a predefined (coded) set of conversion rules based on a developer’s knowledge of the data (similar in concept to ETL). This just isn’t sufficient to support the breadth of cleansing and conversion functions required by most operational applications (e.g., value synonyms, address correction, hierarchy and grouping identification). Consequently, the data quality capabilities typically required by most MDM environments can’t be handled by the “built-in” capabilities of ESB technologies.

One of the keys to MDM is ensuring that all systems understand the single accepted method for data representation. It’s a bit like language translation: English has become a global language through which other languages are translated. At MDM Level 3, a company can make any two systems share data and speak each other’s language.

MDM Level 3 also removes the complexity of peer-to-peer connectivity. The consuming application no longer needs to support system location and navigation logic. Any distributed details associated with the systems originating the data will be handled centrally by the MDM hub.

Data standardization means having mature data management methods and practices in place. While MDM Level 2 required the individual applications to enforce this rigor, MDM Level 3 centralizes rule management (and enforcement) within the MDM hub. This central-
Once data is integrated from multiple sources, and the view of the subject area transcends an individual application and reflects an enterprise view, you have achieved a “single version of truth.”

Automation not only allows for the enforcement of naming standards and value representation, but it also allows for the inclusion of data enhancement functions such as cleansing, augmentation, and correction.

Automating data standards at MDM Level 3 means establishing the target data value representation and taking the data through the necessary steps to deliver an accurate master value. For the first time in the taxonomy, MDM Level 3 supports a consistent enterprise view of data. Data quality rules come into play here to establish data cleansing and error correction.

Your company is at MDM Level 3 if:

- Master reference data is centrally managed.
- Business-oriented data rules and the associated processing have been centralized.
- There is an “owner” or steward of the master data as well as a highly functional data stewardship process to support data conflict resolution.
- A data governance process exists to resolve cross-functional or cross-organization conflict.
- Data cleansing and matching is centralized and transparent to the consuming applications.
- The hub (as opposed to a human being) is ensuring data accuracy and consistency.

Level 4: Business Rule and Policy Support

Once data is integrated from multiple sources, and the view of the subject area transcends an individual application and reflects an enterprise view, you have achieved a “single version of truth.” When a “single version of truth” has been delivered, the inevitable response from business managers and executives is often, “Prove it!” MDM Level 4 ensures that the master data reflects the company’s business rules and processes to substantiate accuracy.

MDM Level 4 introduces the ability for master data to support rules and integrity checking from both the MDM hub and other external systems. Given the relative complexity of most companies, the rules and policies affecting the access and manipulation of business data proliferate. It’s impractical to assume that any single system can contain and manage the varied type of rules associated with master reference data. Consequently support of workflow and process integration is necessary if an MDM hub is truly going to deliver enterprise-wide data accuracy.
For instance, within an HMO, there are multiple applications required to support the care of a patient. A single visit might include hospital admissions, room and bed assignment, monitoring equipment, lab work, a physical examination, and other procedures. Once the patient is ready to leave the hospital, the discharge process ensures that all activities and resources related to the patient are resolved. MDM technology has proven highly effective at bringing together a multitude of application systems to ensure that patient identification is handled correctly.

While patient identification is critical, integration with business rules is equally important. The clinical system relies upon a series of business process and data rules that identify all outstanding patient details. This includes returning all room-based resources (monitoring equipment, beds, etc.) to available inventory and resolving all fees to the appropriate patient when the individual is discharged. MDM ensures that when John Smith is discharged, the correct room and equipment is released back into inventory for that John Smith—not the other John Smith currently on another floor undergoing physical therapy.

MDM systems must not only support rules-based integration, but also be able to integrate with external workflow. These rules might include the hub interacting with the clinical system or awaiting approval from another system or a human being who can authorize the change. With an MDM hub, rule definitions may not be limited to logic—they may be dependent on input from another system.

Indeed, reconciling and auditing data means being able to loop back to other systems (or business processes), to ensure that data changes undergo rigorous approval so that errors can be detected, and transactions can even be rolled back if necessary. MDM Level 4 introduces support for rule and policy extensibility. It’s important that the hub support any business-oriented rule set in a flexible and sustainable manner.

MDM Level 4 introduces support for rule and policy extensibility.
For example, if a store manager updates a product price, the hub system should be able to confer with a trusted system (e.g., the merchandise management system) to validate the rule. The detailed rules that support the change may in fact reside on another system—the hub needs to understand the authoritative system or the method with which to process and approve the change. These rules might involve complexity or privacy constraints that prohibit them from residing directly on the hub.

At MDM Level 4, an enterprise can support a set of steps or tasks that must be followed before a particular CRUD task is allowed. Workflow automation is often used to support the authorization of events or activities that occur on the hub. But change management is bigger than just workflow: it can include logic-based processing and people-based decisions. Change management exists to support the dynamics of the business to allow change.

For instance, before 9/11, anyone could ship freight on a domestic US airline. There was no requirement other than a form of identification and a method of payment. Post-9/11, FAA guidelines established a more comprehensive set of requirements that dictated whether an individual was allowed to ship freight. In this particular example, it’s not practical to have every system implement the FAA’s shipper requirements. It’s easier (and more practical) to implement a rules management system that centralizes shipper approval rules for all systems (including the MDM hub).

Centralized data definition and standardization introduced at MDM Level 2 is less complex than centralized rules management at MDM Level 4. The more complex and numerous the business processes, the greater the need for the hub to support cross-functional and heterogeneous rules against common data. It’s important to note that MDM Level 4 supports centralized rules management, but the rules themselves and the associated processing can be distributed. Put another way, the MDM hub will ensure the rules are applied centrally even though they may reside outside of the hub.

Your company is at MDM Level 4 if:

- You’ve implemented a process-driven data governance framework that supports centralized business rules management and distributed rules processing.
- Your organization has a mature change management process and includes both data and business processes.
- The IT architecture supports SOA as a means to integrate common business methods and data across applications.
- Both data cleansing and data correction are occurring on the hub.
- A data stewardship process has been defined to support the communication of data issues to the responsible party—either an individual or system.
- There is an automated way to both enforce and undo changes to master reference data.
Level 5: Enterprise Data Convergence

At MDM Level 5, the hub and its associated master data are integrated into the individual application systems. There’s no noticeable separation between master data and application data. They are one and the same. When the master record details are modified, all applications associated with the individual data element are updated. This means that both the consuming applications and the system of origin have access to the same instance of data. This is essentially closed-loop MDM: all the application systems are integrated via the unified management of master data.

At this level all systems see the same “single version of truth.” The operational systems are synchronized with the MDM content, so when a change occurs, the operational system is updated. Thus, MDM Level 5 offers an integrated, synchronized architecture so that when one authoritative system updates a data value, all the systems in the company reflect that change. Systems invested in changing data values don’t have to worry about data changes from elsewhere being propagated to them: MDM makes this transparent.

The move from MDM Level 4 to MDM Level 5 means MDM functionality isn’t specially designed or coded within an application. This also means that master data propagation and provisioning won’t require specialized development or support from the system of origin. All applications know that they don’t own or control master data; they are simply using the data to support their native functions and processes. All applications have access to master reference data thanks to the MDM hub and supportive IT infrastructure.

Figure 7: MDM Level 5: Enterprise Data Convergence

Systems invested in changing data values don’t have to worry about data changes from elsewhere being propagated to them: MDM makes this transparent.
A company that has achieved MDM Level 5 has aligned all of its application systems—both operational and analytic—so access to master data is transparent. Enterprise data convergence means that changes are propagated across platforms and applications. For instance, when a customer changes her opt-in status—regardless of the system that registers the change—that data change is propagated (and thus consistent) across all application platforms. MDM Level 5 is the realization of the concept of Data as a Service (DaaS).

MDM Level 5 guarantees a consistent enterprise image of the master data subject area. It’s one thing to define “customer,” but another to reflect accepted business rule changes to the customer’s master record. MDM Level 5 removes the final barrier of master data: there’s universal adoption not only of data definitions, but also of authorized usage and change propagation.

Your company is at MDM Level 5 if:

- The hub is fully integrated into the application system environment, propagating data changes to all the systems that need the master data.
- Application development is able to capitalize on both business-based application services and business-based data services.
- Application processing occurs independent of physical system location and data navigation.
- MDM data access is integrated with application processing.

MDM Level 5 removes the final barrier of master data: there’s universal adoption not only of data definitions, but also of authorized usage and change propagation.
We’ve written elsewhere about data governance being its own well-defined, rigorous process, driven by the business but involving stakeholders from across organizations. The MDM Maturity Model described above also serves as an effective evolutionary taxonomy for data governance, as shown in Figure 8.

At MDM Levels 0 and 1, since there is no common agreement across systems about terms, rules, and policies around data, there is by definition no data management or data governance.

At MDM Level 2, there may be isolated data processing or rule sanctioning that would qualify as data management; however, because reference data reflects the content of an individual application, there is no data governance in place. Individual system owners might need to make decisions about how often product prices get updated at the master level, or which rules the “peer” applications must understand and enforce prior to accessing master data. However, the people involved and the scope of the data management activities are circumscribed by the number of peer applications that intercommunicate.

At MDM Level 3, data management becomes centrally administered. Standards, hygiene, and correction begin to be formalized, and data governance begins taking shape, usually in the form of assigning one or more data stewards. Since data management conventions are centrally defined and practiced (for the first time in the taxonomy), an “owner” is needed to establish and enforce them. Since more robust identification and match processing...
usually accompany a centralized MDM hub, match rules alone require someone business-savvy to arbitrate the rules for deciding whether the John Smith and the John A. Smith living at two different addresses are indeed the same customer.

Thus the data steward will work with the business to define and describe the conventions and work with the development team to ensure that the hub adopts and enforces them. Indeed, MDM Level 3 is in many ways the pivot point for close business-IT alignment around master data.

Moreover, whereas MDM Levels 1 and 2 can arguably be accomplished using database technologies, MDM Level 3 involves complex processing that isn’t natively supported by database products. This is often the phase where the company acquires a newer, purpose-built solution for MDM, and typically launching MDM in the context of a specific, high-impact project. In our experience, entering into MDM Level 3 is the optimal timing for introducing data governance principles, as well as introducing enterprise-level (not merely centralized) data management practices. This is where data stewardship becomes critical. At MDM Level 3, the company should have established a discrete data management organization, as well as a data stewardship process to enforce the rules and policies to resolve the inevitable system-based data value conflicts.

MDM Level 4 requires a formal and rigorous data governance process. After all, the MDM hub is interfacing to a range of systems that retain various business rules. At MDM Level 4, the hub is interacting with multiple organizations. This calls for established guiding principles for treatment of the master data, convening a council of cross-functional stakeholders from both business and IT who are accountable for decisions around data, and following a structured process for handing down data policies driven by regulatory requirements, changes to enterprise systems, merger and acquisition activities, or new strategic initiatives that affect—and are affected by—master data. At this level, the company should have a mature data management function to implement the tactics set forth by the data governance process. Moreover, the company should have acquired specialized skill sets, such as business data steward, source data steward, data modeler, and metadata administrator, among others.

At MDM Level 5, a greater cross-section of the company—arguably representatives from across the enterprise—should be involved. Due to the closed-loop nature of processing at MDM Level 5 (the “convergence” moniker is apt here), data governance should be considered an enterprise program. At MDM Level 5, the concept of a business owner should be institutionalized. At this maturity level data governance includes the ability to not only achieve consensus around data definitions, rules, and quality metrics, but quantifying the efficiencies, cost savings, and even revenue gains that accompany tight controls over data. It’s important to note that all IT systems must support enterprise MDM. Data governance and data management are misapplied when they merely support individual application or reporting systems. Indeed, to deliver true business payback, they should be enterprise functions.
Moving Through the Maturity Model: Some Final Words of Advice

It’s important to distinguish MDM from centralized data or robust list management. The whole premise of master data is that there are like copies of data across the company’s various system and organizational silos, and they need to be reconciled. MDM in its most mature form links disparate environments—indeed, disparate lines of business—without disrupting the applications themselves.

As companies become more globally focused, the need for such capabilities grows. We find that in our multi-national clients, different countries hold data in different hubs. Each country is different, with a different set of business rules and regulatory pressures. In such cases, a “global” hub can tie heterogeneous hubs together, thus mitigating the risk of individual countries unknowingly duplicating customer or product identifiers, thus making back-end analysis more reliable.

Before launching any MDM initiative, understanding the current state of your environment is key. Be honest about your existing capabilities and how straightforward or difficult it is to standardize, reconcile, and propagate reliable master data. In truth, you might not need to go to MDM Level 5 to benefit from MDM. As with all strategic technology initiatives, MDM programs are best designed and extended when they are delivering specific capabilities to support a company’s business goals. Ensuring your MDM program is delivering business value is not only crucial, it’s without question a best practice.
The Baseline on MDM

Five Levels of Maturity for Master Data Management
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Jill Dyché and Evan Levy are partners with Baseline Consulting, a business analytics and data integration services firm. Both are recognized industry experts on the topics of business analytics, data warehousing, data management, and data integration. They are both faculty members of The Data Warehousing Institute. Together Jill and Evan have written a new book on selling, launching, and sustaining initiatives for managing customer master data: *Customer Data Integration: Reaching a Single Version of the Truth* (John Wiley & Sons, 2006).

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Baseline Consulting, an acknowledged leader in information design and deployment, helps companies enhance the value of their enterprise data, improve business performance, and achieve self-sufficiency in managing data as a corporate asset.

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