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## Master Data Management for Media

A Call to Action for Business Leaders in  
Marketing, Advertising, and the Media

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## Summary

Master data and its management is a universal challenge across the marketing and media industry. Advertising agencies, the media, and even marketers themselves share similar problems related to Master Data Management (MDM)—and can all reap benefits from solving them. Today the industry finds itself practically incapable of managing and measuring activity across a multitude of marketing disciplines and channels because there are no implemented standards for data management. The underlying concept of Master Data Management is surprisingly simple: get everyone “on the same page” and looking at the same data and have it be accurate. As with any major strategic initiative, forming a clear vision, articulating objectives, and holding parties accountable for success and adoption are all critical factors.

Implementing an MDM practice for media is the key to **unlocking business insights** in a multichannel, multiplatform marketing world.

Master Data is the basic information on customers, brands, and vendors that must be shared across all internal systems, applications, and processes in order for your business data and reporting to be accurate. MDM is a business records management approach that treats all these data sets in an organized and accurate way. Because individual businesses and departments plan, execute, monitor, and analyze where branded messages are placed for target audiences, multiple versions of the same data can reside in separate departmental software systems. This results in disparate

data, which is difficult to integrate across functions, and quite costly to manage in terms of resources and IT development. Cross-media initiatives, buying and planning, merger and acquisition activity, and creative asset tagging management all create new data silos. Major strategic endeavors, such as a multi-channel campaigns reporting platform as part of a business intelligence strategy, can be hampered, or stalled, if fundamental master data is not in place.

This paper provides an overview of the business challenges that result from a lack of MDM practices; it also discusses the benefits of implementing such practices within and across business entities in the media value chain.

## Introduction

Managing master data—the business data<sup>1</sup> you create and the way you organize<sup>2</sup> it—is a universal challenge in the marketing and media industry. The lack of an MDM approach affects the marketing lifecycle of marketers, advertising agencies, and the media. The effects are compounded by the absence of standards for identifying

Industry professionals are practically incapable of **tracking and measuring activity** within and across a multitude of marketing disciplines and channels.

the industry lexicon to serve as the basis for records management and business trading. For example, a marketer brand manager cannot easily align an advertising agency’s media plan to the brand budget because the market areas, dayparts, and target demographics are differently named. Similarly, the agency cannot readily obtain a brand media proposal or a performance report for print, television, and online from the same media company; the proposal or report comes in various forms, and the advertiser and brand spelling are often different on each document. Today,

<sup>1</sup>Various examples include brands and budgets, media vehicles, market/panel research, brand media plans and buys, agency and advertiser sales proposals, and creative production job details.

<sup>2</sup>Methods of organization may be structured, such as a purpose-built software system, or unstructured, such as a spreadsheet.



in the midst of a tidal wave of marketing innovation and disruption, industry professionals are practically incapable of tracking and measuring activity within and across a multitude of marketing disciplines and channels because there are no implementable standards for data management. Making matters worse, this is taking place not only within company walls but also outside of them and among trading partners, where companies impose their structured and unstructured data on their business partners, leaving each company to bear the continual burden of applying resources to reconcile the differences.

The underlying concept of MDM is surprisingly and deceptively simple: get everyone “on the same page” by having business data and its organization in software systems governed by standards that enable a consistent method for data entry and reporting accuracy. This has never been more important to marketers. The opportunity of the new media landscape for marketers is that it offers diverse means for connecting and engaging audiences across the spectrum of daily life. Campaign execution and audience insights inform future investments for the correct mix of media and other marketing programs, and these insights require rigorous data management practices in order to be meaningful and reliable. Therefore, the challenge before marketers, agencies, and the media is to capitalize on the new media landscape through a consistent records-keeping approach in order to reap the insights and benefits of multichannel marketing.

In terms of the marketing lifecycle, master data is the basic information on advertisers, brands, vendors, and campaign details that must be shared across all internal systems, applications, and processes in order for your business data and reporting to be accurate. Why is this important? Across the industry, thousands of departmental software systems are used to plan, execute, and monitor marketing campaigns; these systems, whether commercial or custom, were designed to address portions of a business process for specific media and without an industry standards reference point.<sup>3</sup>

Take the example of a media campaign for a single market geographic area that encompasses outdoor, in-store, radio, local television, newspaper, online, and mobile advertising. It is not likely that you will be able to pull together a cross-media report that correctly aligns the campaign information and provides an accurate view of activity. What impact does this have on the market players? For the media, with multiple advertising opportunities, disparate systems can make it extremely difficult to propose and prove the performance of a

multichannel package and win more budget share for future campaigns. For the agency, which plans and transacts on behalf of the advertiser, disparate systems can interfere with efficient and effective use of an advertising budget; often, this goes unrecognized for months after the campaign concludes. For the marketer, it remains very difficult to gauge the individual and collective effects of marketing spending on sales.

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Implementing technology without a **focus on the integrity of marketing information management** renders the marketing value chain incapable of achieving holistic reporting on the status of operations.

All market players are in this position today, as disparate data is difficult to integrate across functions and quite costly to manage in terms of resources and information technology (IT) development. Cross-media initiatives, buying and planning,

merger and acquisition activity, and management of creative asset tagging all create new data silos—each with unique nomenclature methods for managing records. Major strategic endeavors, such as a platform for multichannel campaigns reporting as part of a business intelligence (BI) strategy, can be hampered or stalled if fundamental master data is not in place.

Within and outside of corporate boundaries, data alignment among business partners is fundamental to individual and collective objectives. However, with so many conflicting stakeholders within a business and

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<sup>3</sup>Media research, planning, production, and media buying software systems are examples.



among trading partners, collecting, acquiring, and maintaining fundamental master data is a complicated endeavor. Marketers want a holistic picture of marketing executions to ensure the most correct and effective use of media. Agencies want the same capability for optimal budget allocation and return on investment (ROI) measures. Media companies managing a growing variety of programming delivery platforms want to provide marketers with access to a more clearly defined and engaged consumer. Everyone wants better results, more granular insights, and stricter accountability. Leaders from all sides of this marketing value chain want to know, "How do we get better at placing the right media message at the right time to the right audience? And if we do get better, *what does success look like?*"

The goals of this introductory paper for *non-technical* media executives are:

- Define what MDM for media is by attaching it to familiar business challenges
- Uncover the key media industry factors that contribute to the need for MDM
- Propose a solution path for establishing your own MDM practice and offer guidance on how to form a coalition of stakeholders
- Identify common business benefits and show "what success looks like" based on what your company can expect from MDM
- Summarize the Microsoft® offerings in MDM

Most importantly, this paper should help you understand why an **MDM practice inside your company** is integral to efficient business operations and ultimately will contribute to industry-wide alignment. The call to executive action is to elevate MDM to the executive and board levels because creating an MDM practice can help to ensure future business health and client/business partner satisfaction. Without MDM, stakeholders will continue to experience lower enterprise business management accuracy and operational effectiveness in the face of a proliferating media landscape.

As a leading provider of software solutions for business around the world, Microsoft understands the complexities companies face when organizing data managed in an array of industry-specific software platforms. Microsoft is taking [innovative steps](#), which are outlined at the end of this document, to help organizations proactively address these data management challenges.

## Master Data Defined

Using the terms "reference data" and "master data" interchangeably is a common mistake, but the differences are hardly subtle. If your goal is master data management, it is essential to understand what kind of data you have.

**Reference Data** is the basic business data used in a *single application, system, or process*.

**Master Data** is the *single source* of basic business data used in *all systems, applications, and processes*.

**Enterprise Master Data** is the *single source* of basic business data used in *all systems, applications, and processes* for an *entire enterprise* (all departments, divisions, companies, and countries).

**Market Master Data** is the *single source* of basic business data for a *marketplace*. Market master data is used among enterprises within the value chain. It is compatible with enterprise-specific and domain-specific systems, compliant with or linked to industry standards, and incorporated within market research analytics. Market master data also facilitates integration of multiple data sources and literally puts everyone in the market on the same page.



## Understanding the Business Context

When you consider the competitive and dynamic nature of business today, the need for MDM in the media and marketing industry becomes readily apparent. The following sections discuss the challenges of data management in the marketing ecosystem—both inside and outside of marketer, advertising agency, and media enterprises. Business leaders should note that the successful implementation of MDM for media can be significantly complicated for two reasons. The first is inflexible legacy business software systems, and the second is a general lack of business accountability for MDM and stakeholder cooperation.

### The “Inside the Walls” Problem

Inside the walls of media and marketing businesses, multiple situations emphasize the need for an MDM practice. These include a significant increase in new data, the changing role of business software systems, miscommunication among employees in different departments, uneven delivery from third-party data services, and a lack of data management standards. Taken together, these situations can result in organizational disharmony and missed business opportunities.

#### Data Explosion

Walk into any department and you will soon observe that marketers, agencies, and the media are overwhelmed by an explosion of new data to process and analyze. This results from an ever-evolving demand for more refined insights from traditional marketing channels and the growing variety of digital media platforms and consumer devices. For each marketing campaign execution, businesses record data in software systems about customers, vendors, brands, media vehicles, contracts, line-item transactions, creative assets, audience demographics, programming characteristics, and much more. The data is organized by nearly every segmentation imaginable, such as types and subtypes, categories and subcategories, genres and subgenres, and so on. It is aligned by hierarchy: parent-child relationships, physical locations, organizational structures, business affiliations, and franchise relationships. Finally, it is managed by various configurations of geography, such as media market types, states, districts, countries, and even global regions. Each definition serves a unique need of each business discipline.

Companies have invested a great deal of technology and resources in BI software to slice and dice data for required business reporting. To tame voluminous data, the “BI sword” has been brandished across the industry with mixed success. The common refrain is, “It’s a work in progress.” In fact, many BI projects drag on for years, yield a fraction of expected insights, or are scaled back, in large part due to the challenge of aligning disparate data across systems. To obtain full value from BI initiatives in marketing, advertising, and media, you must place greater or equal importance on MDM.

Data quantity is dramatically increasing as the capability to obtain critical business insights continues to decline; further, stakeholders have alarmingly low levels of confidence in the integrity and accuracy of the data. For global marketers, their agencies, and the media, this is an untenable situation where insights into business fundamentals are not attainable without a significant application of human resources to manually collate information.



New marketing channels and platforms propagate an **ever-growing collection** of new data repositories.

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Social media marketing has **profound data management implications** across the marketing supply chain.

The next tidal wave of innovation is in the area of consumer engagement through social network venues and technology tools, much of which contains inherently unstructured and disconnected information relating to brands in all kinds of contexts. Global brand owners and advertising agencies must carefully consider how they will derive value from the vast quantities of structured and unstructured data before investing in and applying resources to social marketing engagement initiatives.

### Role of Business Software Systems

Business software systems reflect the business needs that existed when the systems were created. Consider, for example, the analogy of an automobile's longevity versus value: If properly cared for, the car can run almost indefinitely. But over time, your needs can change and the fundamental purpose of the car no longer meets your capability requirements. If you use the car for your livelihood, it can restrict your ability to provide services and grow revenues. In the marketing and media world, it is not uncommon for companies to be using software applications architected and built at a time when the purpose and scope of need were far different than they are today.

Also, it is very common for individual business departments and major functions within a given enterprise to use various software and manual methods to track the business lifecycle for the same entity. For example, marketers run concurrent systems and processes for finance, sales, fulfillment, and shipping, where there is no common nomenclature and alignment for business management. Agencies have stand-alone applications for research, planning, buying, production, traffic, finance, and client management—some of which are integrated and share the same master data structure. The media implements multiple systems for sales representatives, agency-advertiser relationships, traffic, billing, and creative placement. Around these core systems are many stand-alone systems that help departments overcome functional limitations; this arrangement usually results in one-way relationships that yield even more data fragmentation and limited usability—and thus low value in terms of feeding insights for opportunity, risk, and profitability.

While as a collection these legacy systems may continue to support critical workloads, there are at least three reasons why they are inherently flawed. First, these systems tend to be designed for a specific and limited purpose or scope. Second, they were built with technology on a foundation that limits options for extensibility to meet evolving business requirements. Third, perhaps the most fundamental issue is that the business stakeholders most likely did not set standards for defining and managing data, and likewise did not carry those standards forward as other systems were propagated across the company. Most large companies are held captive by the limitations of their legacy technology systems, and the most expedient way out of the problem is to build another—sowing the self-fulfilling result of increasingly fragmented data.

### Organizational Disharmony

In the preceding subsection, we identified that people across marketing, advertising, and media companies—increasingly called “information workers”—work in different and legacy systems across the enterprise. As you can imagine, different views from different data about the same business activity can be a significant source of stress for information workers as individual contributors to an overall business process (Figure 1). How often have you overheard a telephone discussion between two department workers where they cannot match what they are seeing in their individual systems? All disciplines have their own perspectives, and tensions are inevitable when each discipline assumes its perspective is the only correct one. IT professionals are often stuck in the middle, reconciling business requirements and desperately trying to restate conflicting needs to get a “single version of the truth.”



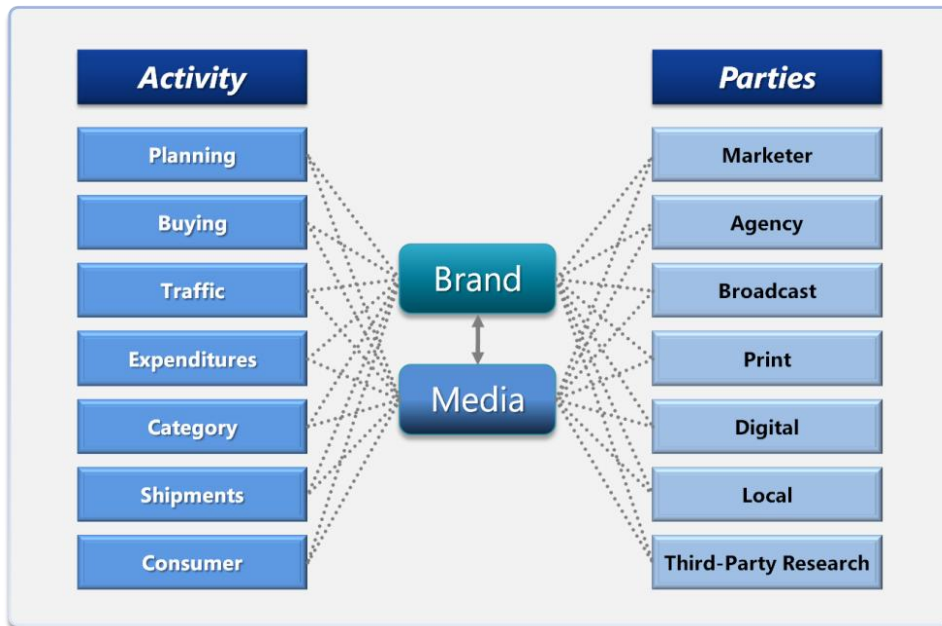


Figure 1: Different data on the same business activity can be a significant source of stress for information workers.

Thus far, marketing, agency, and media organizations may have fared without MDM because people resources are tasked with solving the problem. Manual effort is often used to compensate for record-keeping misalignments and gaps, instead of implementing a systems-based solution. As the industry evolves in terms of information and complexity, you need more than an analyst role to fix problems; you also must involve more senior levels, as governance and compliance requirements demand. This change is time-consuming and

requires thoughtful execution—making it stressful for anyone involved. Mistakes can snowball into very large discrepancies. Leadership is often shielded from the clerical effort undertaken to fix differences among organization silos, gather raw data, clean it, and force a balance across various systems. The increased focus on pay-for-performance models suggests that, besides the marketer demand for a back-to-basics business metrics approach, there is an unwillingness to pay a service provider overhead expense for data aggregation and reporting.

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**The cost of disconnected systems and misaligned data** comes in the form of allocating people resources to overcome data management shortcomings. The risk is lower confidence in data integrity and compliance reporting.

Multibrand marketers, full-service advertising agencies, and multichannel/multiplatform media companies face extreme data management and reporting challenges. Many have grown through years of business and brand acquisitions. These acquired or merged companies may be aligned with their new parent at the strategic

level, but rarely at the data layer. As years pass, few transition to a unified set of master data. The inability to take on new economies of scale and expand market presence is due, in part, to duplicate reference data.

### Impact of Third-Party Data Services

Third-party research, tracking, and analytics providers are not immune to MDM challenges of their own. Syndicated research providers measure audience exposure to media content and advertising expenditures for branded messages. Like their agency, marketer, and media counterparts, these providers often are hindered because they maintain separate market or advertising media tracking services with multiple nomenclature schemes for brands, campaigns, and media vehicles.

Agencies and marketers continually press third-party research suppliers for deeper and more profound analytics that drive tangible business results. However, their disparate array of services makes it difficult for research suppliers to provide integrated insights to their clients. Dissatisfaction grows as these external sources provide inconsistent definitions and limited integration. In addition, many global market research suppliers have expanded by acquisition, presenting another level of challenge.

### Lack of Data Management Standards

At a time when marketers, agencies, and the media most need to manage and understand their business on a holistic basis in order to grow, there is a lack of industry reference standards for data recording and management. Without the benefit of common master data, software solution developers have created business management systems with their own data management definitions, or definitions supplied to them to meet departmental business management criteria. A system, for example, may not have incorporated governance controls to reduce duplication of records based on inconstant naming conventions (Figure 2). As a result, the information and data output of these systems may render rich details but cannot accurately summarize campaign activity, even for a single advertiser client or media vehicle.



Figure 2: Existing media processes produce duplicate records with inconsistent naming conventions.

This lack of standardized master data is a major stumbling block for those who have invested (and continue to invest) substantial resources in IT initiatives to build integrated marketing and media management solutions. Major projects like enterprise resource planning (ERP), customer relationship management (CRM), media and production transactional systems, business synchronization platforms, and the developing arenas of digital asset management (DAM) and Web content management (WCM) offer great strategic benefits. Nonetheless, there is a constant conflict between the implementation of new enterprise systems and the foothold of long-established stewardship systems and custom applications across the marketing spectrum.

These multiple systems and separate processes create disparate data and conflicting hierarchies. This leads to a lack of integration and flawed reporting, misaligned goals between partners, difficulty determining ROI, reduced confidence in data quality, and general marketplace dissonance.



## Simple Questions Become Hard to Answer

Because the media marketplace is so dynamic, the data attached to marketing campaigns is constantly changing. A new brand launch creates a new data record. Mergers, acquisitions, and reorganizations trigger modifications in hierarchy. Easy questions become difficult: "Tell me everything we are spending on X." "What is our profitability with Y?" Those questions can only be answered with another question: "What do you mean by X and Y?"

Determining profitability on Client Y becomes a large project of assembling data records across systems that do not naturally align. The simple and fundamental business question becomes difficult to answer, and the answer is assembled manually by people who stitched together data that could not be readily aligned. Because data was assembled by busy, multitasking people, it is common to hear that there is low confidence in the accuracy of reported numbers.

## The "Outside the Walls" Problem

Business trade between clients and vendors adds even more complication, as proprietary views abound not only within the enterprises themselves but also across and between partners. This lack of alignment compounds the problem for marketers, agencies, and the media, as each separate party maintains incongruent definitions and conflicting hierarchies. Many opportunities exist to reduce the cost of trading between partners, but without a concerted effort by the industry as a whole to drive common records management practices, the contractual lifecycle and interactions will continue to be redundant, labor intensive, and susceptible to errors.

## Rise of New Marketing Platforms

The ability to orchestrate a media plan that uses and optimizes placement across television, online, and digital mobile devices presents broad and more granular targeting opportunities, as well as substantial challenges for back-end business management and reporting (Figure 3). Long-time frustrations with siloed campaign management analysis are escalating due, in part, to the lack of a systematic integration across media types. Industry demands for cross-media measurement exacerbate the situation. Agencies and marketers alike are demanding better alignment of traditional broadcast and cable activity with burgeoning online and mobile digital efforts. (Now that they can reach consumers across three screens, how can they obtain cross-channel insights?) *Advertising Age* reported that, "The media and marketing business desperately needs a cross-platform measurement tool."<sup>4</sup> In short, better alignment of cross-media efforts is a new requirement of agencies and marketers.

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<sup>4</sup>Andrew Hampp, "Nielsen on Notice: Industry Demands a Meatier Metric," *Advertising Age*, 14 September 2009, page 1.





Figure 3: A media plan that uses and optimizes placement across television, online, and digital mobile devices presents more granular targeting opportunities as well as substantial challenges for back-end reporting.

Three-screen analytics are not scalable without methods of system and data harmonization and alignment that are universally deployable. When a comparable brand message is delivered to a key demographic during the same episode of a given program distributed across multiple screens, it is difficult to integrate data with the contract and plan in an automated way. Data is not systematically aligned at any point in this cycle.

The undeniable fact remains that the media and marketing industry needs a cross-platform master data infrastructure *before* any measurement, monitoring, or tracking tool can be successfully deployed on a scalable basis. Without common MDM for media, three-screen measurement is impossible outside of a proof-of-concept laboratory.

## Industry to Self: Make It Work!

A recent request for proposal (RFP) from the Coalition for Innovative Media Measurement (CIMM)—a group of leading content providers, buyers, and sellers—further articulates the specific need for cross-platform audience measurement:

We need reliable, granular, results-based metrics that can be applied consistently across all the major video platforms, to fuel the burgeoning interest in multiplatform video advertising plans. Such metrics do not now exist. Instead we have a patchwork of measures each developed for its own video “silo,” which makes cross-media planning and buying difficult if not impossible.

We want to be clear that we are not only looking for better or more robust versions of current media metrics. We need a clear path toward the results based metrics that are clearly, and rightfully, being demanded by advertisers. We need metrics that reflect return-on-investment (sales or other appropriate business metrics), and do so accurately and on a sufficiently granular level to follow the fragmented media vehicles that are now emerging. “Opportunity to see” is an important metric, but only the beginning.<sup>5</sup>

The direct correlation of this “opportunity to see” with these appropriate business metrics will mandate a set of standard definitions. Delivery on the CIMM mandate requires a common industry nomenclature. Since no

<sup>5</sup>Coalition for Innovative Media Measurement (CIMM), *Request For Information - Cross Platform Measurement*, October 2009.



common set of naming conventions, roll-up structures, categorization, or standard identifiers exist in the marketing space, it is the responsibility of each trading partner to address internal data alignment at all steps in the process. Get the internal master data straight *first* in planning, buying, and execution, so third parties can produce aligned media measurement analysis.

## Who Is in Charge of Industry Master Data?

In the absence of any type of common standards, each business entity is responsible for organizing its own data. For example, an advertising agency has the brands it represents, which may differ from the brand owner's category view. As a further example, a media company's channel approach may not align with an agency's

>>> Ironically, marketers have highly tuned supply chains to deliver their products to customers, but none to **deliver brand messages to target audiences.**

multichannel tracking. It begs the question, "Who owns the definitions?" Advertisers define their brands. The media defines its vehicles. Agencies inherit these to execute brand campaigns through media vehicles.

In the media industry, it is possible, if not likely, that you have heard these complaints among your associates: "You don't see it my way." "This isn't how we look at the world." "You need to speak my language." If you pride yourself on building deep strategic partnerships, then add the data management element to the relationship. You share your confidential business goals, so why not share the master data associated with those plans? For example, a

marketer can provide an agency with its brand hierarchy and organizational structure. A media company can provide its vehicle identifiers to agency buyers in a consistent format that fits into their partners' workflow.

There is nothing proprietary about the "list" of brands you own, the media you represent, or your basic organizational structure. Proactively ensure that your business partners "get it right" instead of tracking information themselves. By sharing your master data, you can reduce waste and promote more effective interaction. For example, you can eliminate clerical relationship management tasks that do not add real value.

>>> You share your confidential business goals, so why not **share the master data** associated with those plans?

Likewise, by sharing your operational hierarchy structure and giving your partners entity master records, you can enable collaboration to better define categories that put everyone on the same page. Be your own governance to partners, and then hold them accountable for reflecting it in the way they deal with you. Imagine viewing your partners the way they view themselves.

Master data created by one source system can be published and accepted by other parties. The subsequent network effect among agencies, media, marketers, and data providers can help solve fundamental alignment, integration, communication, and synchronization problems across the industry—with every party sharing a single global version of the truth.

## The Marketing Supply Chain Raises the Stakes

Despite decades of software usage for media business management, the media community is still relatively underdeveloped regarding common taxonomies and data synchronization. Ironically, marketers have highly tuned supply chains to deliver their products to customers, but none to deliver brand messages to target audiences. On the distribution side of the equation, consumer packaged goods, financial, healthcare, automotive, and other industries have plenty of defined and aligned collaborative procedures to move boxes and pallets, but their agencies have few to fill time and space.



Segregated solutions continue to support limited portions of the media process. In this environment, data errors are costly. The need for a marketing supply chain and common taxonomy has never been greater. The same leaders who fund and expand collaborative practices as manufacturers do not apply the same requirements to their processes as advertisers. Why is there still such an imbalance? To see the real benefits of supply chain management, most marketers need only look at the other side of their own company.

Synchronized communication among parties significantly increases efficiencies, lightens administrative burdens, and reduces errors caused by redundant work efforts. Bob Liodice, President and Chief Executive Officer of the Association of National Advertisers (ANA), identifies the issue and the resulting benefits:

What a lot of marketers need to do is to recognize that the ability to get and create a commercial and get it executed is a series of inter-related processes....There are ways to bridge the conductivity that will save time, reduce dollar investment, make a system far clearer and more understandable....As we make that total marketing supply chain more efficient, we make it more capable, and we bring dollars back to the business for profit or for deployment against working media.

One of the best companies that have done that in recent years is Toyota....They have been able to improve their supply chain productivity by more than 25 percent. They have taken most, if not all, of those dollars and redeployed them against more marketing.<sup>6</sup>

Speed to execution can be swift, but only when all parties are integrated. The marketing supply chain strengthens beneficial interdependence, but a lack of connection is the weakest link. System-to-system collaboration works only when a common data framework can transcend all elements of the media practice.

## A Push for Industry Standards

Trading partner standards are plentiful in individual advertiser marketplaces. For example, in the consumer packaged goods and retail industries, the Universal Product Code (UPC) is a mandatory requirement for scanner-based transactions. Further, the American National Standards Institute (ANSI) provides access to more than 180,000 U.S. and international standards on its Web site.

Yet in the media space, there is a glaring lack of industry-wide standards. Media associations are—by definition, design, and charter—isolated from each other. They are organized strictly and irrevocably by channel (such as broadcast, cable, online, magazines, and outdoor). No media vehicle coding structure exists across multiple channels. For example, station call letters might uniquely identify a station but only when associated with the media type. This simply is not effective as a master data key.

Ad-ID is one notable effort for standardization. This creative asset coding system, developed by the American Association of Advertising Agencies (4As) and ANA, is a dedicated effort to reduce waste and confusion among parties:

Ad-ID is a Web-based system accessible 24/7 worldwide that generates a unique identifying code for each advertising asset, creating a capability to identify them across all media. Using Ad-ID, and promoting the use of its webservices, greatly improves workflow between agency, advertiser, distributor, and medium....Ad-ID is the industry standard identifier for all forms of media.<sup>7</sup>

According to the Ad-ID whitepaper *Content ID: The Elephant in the Room*, "From the time an advertiser gives approval to create an ad, to the time that the ad is aired and is invoiced to the agency, the [brand creative code] can be rekeyed up to 20 times. The cost of fixing these errors is great, ranging from \$50 to re-slate an ad

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<sup>6</sup>Bob Liodice, President and Chief Executive Officer of the Association of National Advertisers, "Strengthen the Marketing Supply Chain," <http://ana.blogs.com/liodice/page/2/> (March 27, 2009).

<sup>7</sup>"About Ad-ID," *Advertising Identification and Management* Web site, [www.ad-id.org](http://www.ad-id.org).



to hundreds of thousands of dollars if the wrong ad runs in a major market in primetime.”<sup>8</sup> The Ad-ID initiative seeks to standardize data throughout the media workflow.

Although it is important for the industry to advocate for standards, it is also crucial to remember that individual companies need to address the issue as well. Standards will fix some—but not all—problems. Organizations must be cognizant that industry standards are only guidelines, can rarely be used for analytical data integration, and most certainly must be mapped to internal data on a consistent and timely basis. As valuable as they are, industry standards cannot solve your entire master data problem.

## What Are *You* Waiting For?

Currently, a seismic shift is underway due to continually expanding marketing options and the increased pressure for more effective media placement and greater ROI. The traditional media investment mix has increasing proportions of media budgets going to digital platforms such as Internet, gaming, connected music players, and mobile marketing platforms—with no end in sight to the technological innovations on these platforms. This brings new levels of capability and potential to consumer marketing and engagement. With those opportunities come new challenges.

Stakeholders struggle to comprehend the macro activity while executing at a more finite level. Each still has an individual perspective and specific needs, but the larger challenges and goals have never been more similar. The increase in innovation and the resulting wider dispersion of marketing dollars are having a profound effect. MDM is no longer an option but a strategic imperative for all players in the media value chain.

Once you understand for yourself and your company why master data is so essential from a business perspective, you can begin to focus on how to enact the larger strategies and meet the larger challenges. Although the MDM problem exists throughout the industry, the immediate objective for companies is clear: They should organize themselves in the face of constant business change. Before the problem can be solved at an industry level, it must first be addressed at the individual company level and in conjunction with software vendors and data providers.

## Solving the Problem

By this point, you have the business context for MDM. This section discusses the path to a solution. It begins by looking to the highest levels of your organization, reviewing not just your data but also your business culture and the potential for creating a formal MDM practice. Key success and failure factors are introduced, as well as ideas for winning adoption and support from key stakeholders.

### It Starts at the Top

MDM works best when sanctioned and driven at senior organizational levels. Executives strive for more efficient execution and seamless transactions, but may be neglecting—however benignly—the need to build a sustainable platform for expediency. They want more accountability and integrated measurement, yet they are hampered by a lack of either understanding or wide support for remedial action. In short, leaders often do not appreciate the complexity of data management or do not make it a clear task for IT and the business culture.

Chief Financial Officers tout the need for more capable use of resources, yet they allow duplicate efforts performed by separate departments. Chief Marketing Officers strive for integrated, forward-looking analytics

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<sup>8</sup> Chris Lennon, Karen Broome, Harold Geller, and Regis Flad; “The Elephant in the Room;” *SMPTE Motion Imaging Journal*, March 2009; pages 45-50 (first published).



that use their significant investment in syndicated and custom research, yet they allow brand management to license data that cannot be integrated. Chief Revenue Officers stress meeting the “one face to the customer” demands of clients, yet they allow legacy practices and non-value activity to continue in their sales operations. Finally, Chief Executive Officers want long-term strategies that bring them closer to the market, foster innovation, and drive shareholder value, yet they do not have easy access to the metrics that could be limiting their growth.

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It should become apparent that most **effective corporate strategy** is best built on a sound master data management platform.

This is all symptomatic of significant, disabling forces that fundamentally contribute to many a vision going unfulfilled. In the current environment, the foundation is hardly able to sustain the enterprise, much less provide a platform for future initiatives. It should become apparent that most effective corporate strategy is best built on a sound master data management platform.

As a business leader, you should ask yourself these essential questions:

1. Do we manage a single source of truth about our customers, brands, and relationships?
2. Do we consider our data a company asset?
3. Do our systems know what our people know?

## Finding the Pain

MDM ROI can seem elusive because it is inextricably tied to so many other areas: MDM touches virtually every group and role. MDM facilitates many activities, so no single initiative absorbs the entire bill. Because everyone benefits, isolating funding can be difficult. With growing pressure on investments to produce quicker and more defined payback, many may perceive an individual risk in supporting something for the greater good. Funding justification comes from reducing tactical IT, operational, and administrative efforts and adding strategic business value.

It is important to anchor MDM to areas of immediate business risk and loss. At a tactical level, there is a direct connection to productivity, accuracy, and compliance. To get a measure of pain points and how much they are costing you, look at these typical examples:

- Low confidence levels in reporting and analysis
- Difficulty in complying with end-of-period reporting requirements
- Inability to effectively cross-sell and manage across client base
- Limited insight into client profitability
- Hampered speed of execution to respond rapidly to changing market dynamics
- No visibility into marketing and distribution alignment
- Weak client relationships due to lack of systematic collaboration
- Inability to map business system requirements to company strategy

Most organizations simply spend too much time collecting information instead of acting on it—and as we have seen, major media market initiatives are stymied without a solid foundation of MDM.



## Assessing Your Business Culture

MDM for media is technological in nature, but technology alone cannot solve the problem. Whatever solution pathway you undertake, do not underestimate the need to embrace the notion that you are going to change the way you do business. The mindset of an organization cannot stay at status quo. There should be a deep

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Do not underestimate the need to embrace the notion that you are going to **change the way you do business**.

and careful consideration of your business culture and habits. Few organizations allocate the attention, resources, and time to honestly look at their disparate data and critically assess it.

Therefore, just diving right into data management is not the best way to begin. The first step is to examine how the business came to manage data the way it currently does. For some people, it is very comfortable to have isolated pockets of reference data files that fulfill

an isolated need. This fallacy often is perpetuated by information workers who cling to the legacy belief that, "If I keep it in my head, I add value." Bold, direct action must be taken. Data must be centrally governed. Creating, enriching, and protecting master data should be part of the core strategic endeavor. Master data is a company asset. *Hoarding* reference data does not add value, but *managing* master data does.

## Creating an MDM for Media Practice

The key to solving the problem is to establish and define an **MDM for media practice**. With proper executive support, this MDM practice can lead your organization on the journey to a synchronized, well-functioning network of master data. The MDM practice ensures a technology-based solution for setting and enforcing internal standards, a business taxonomy that supports connectivity, and adherence to the common data across all systems.

The MDM practice, however, goes well beyond technical requirements. It demands a strategic understanding of the business direction and marketplace dynamics. Business alignment, careful planning around business nomenclature, and complete agreement across the organization are absolutely paramount.

MDM practice leaders must have governance over—and market expertise on—the universal business data that exist throughout the media value chain. The MDM practice leaders will establish internal standards and

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**Be frank** about your current ability to holistically manage your brands, media, production, and programming data.

governance for all aspects of business management. Seemingly tactical activities, such as normalizing naming conventions, applying consistent identification keys and codes, and correcting hierarchical assignments, are the foundational data building blocks for achieving a successful MDM practice.

Undertaking the MDM redesign starts with a realistic assessment of where you are. You need to know what you have before you can improve it. A formal due diligence discovery process can uncover and document data,

systems, and suppliers. Capture their activities, internal owners, and plans. Depending on where you are in the media value chain, you will maintain data on a combination of brands, media, agencies, and entertainment content. Assess your current system landscape for its capability and flexibility to meet new business requirements. Be frank about your current ability to holistically manage your brands, media, production, and programming data. Determine what systems cover all or part of these data domains. Is there a primary system? Review external relationships as well. What data are you getting from third parties? How easily can it be integrated on delivery?

Your MDM practice objectives will include the conversion and/or rationalization of media campaign activity from its legacy state, as well as the ability to effectively manage and derive value from the proliferating digital channels and supporting business management systems. Enriched data from this MDM practice can enable information workers, directly or through their legacy systems, to access and integrate common content into their day-to-day workflow. Implemented in an enterprise environment, the MDM practice provides the ability to both manage internal master files and support the integration of external data and communication.

Other benefits include:

- Eliminating costs related to managing and maintaining redundant processes
- Reducing organization-wide effects that come from inaccurate or inconsistent data
- Accelerating responsiveness for internal and external reporting
- Leveraging investments in existing processes and systems

The MDM practice is the central point of management and control for a unified company nomenclature (Figure 4). Business users reference common master data through direct systems integration and query, or through a centralized MDM source. Systems subscribe to master data as part of the business records creation process to avoid duplication and to reconcile variance requirements to maintain associations.

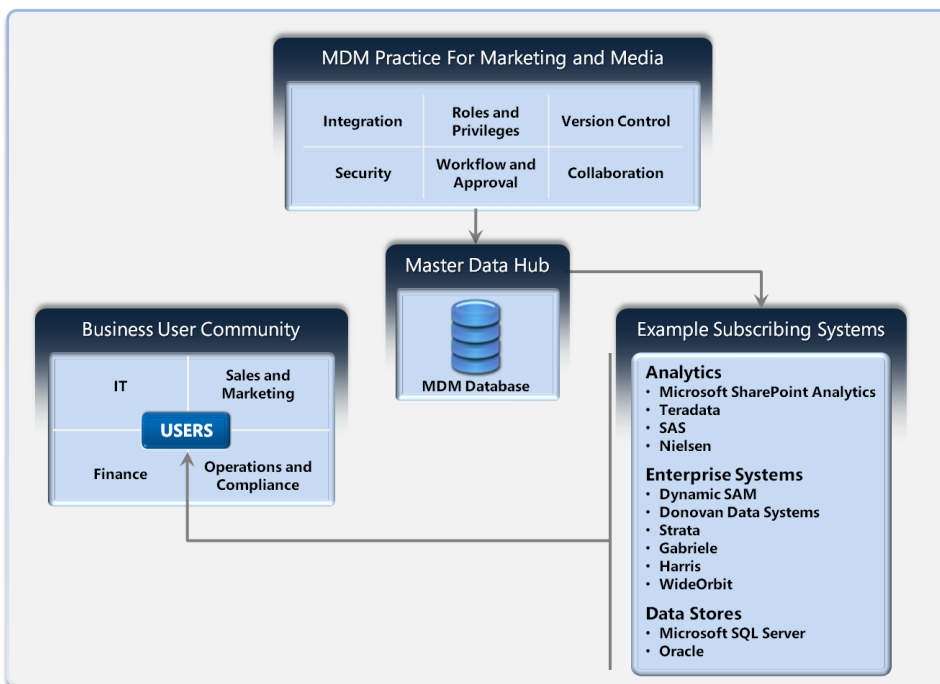


Figure 4: The MDM practice is the central point of management and control for a unified company nomenclature.

With the MDM practice, a semantic layer of *internally syndicated* content can flow through all systems, processes, and applications. Like a clean water reservoir servicing a community, the MDM practice guards, protects, and values master content.



## The Value of an Objective Third Party

An outside perspective, unencumbered by legacy loyalties, can be a valuable resource for aligning business groups to a corporate business requirement. A third party can provide feedback and an unvarnished view of how things are in the business and how to prioritize follow-up action. When separate groups truly get on the same page about your business, the cultural change likely will begin in earnest. There are many resources and experts in the field of data governance, including The Data Governance Institute ([www.datagovernance.com](http://www.datagovernance.com)). Although the process can be politically charged, establishing data of record and determining quality levels with the objectivity and guidance of a third party can be a refreshing and revitalizing experience for your business.

## Forging Stakeholder Interest

The MDM discussion can no longer be relegated to the IT domain; it should be front-and-center in a business strategy and management discussion chaired by at least one top corporate leader and board member.

For organizations that are culturally aligned to using existing information, every system or process creates new sets of data. Time to success is inversely proportional to the count of systems. To keep a successful implementation on track, clearly identify your stakeholders and attend to them strategically. Produce and manage an implementation roadmap that shows a steady stream of master data project accomplishments. Prioritize your efforts carefully. The simple top-down approach, basing priority on expenditures or sales, can prove MDM for media value quickly. Tackle some of your largest relationships in an early phase. Work with those partners who are willing to experiment and test.

To drive adoption, set organization-wide data standards for collection, delivery, and maintenance. Then enforce consistent compliance with internal standards. Strict and formal governance is needed: Clearly define a strategy for leveraging information and elevate the importance of data across the organization—support for MDM will soon follow. Finally, trust in those who guard your data as a hard asset. If data is not valued, investments in its management will not be valued either.



These guidelines can help you measure success as you get your MDM practice up and running:

### Transform Legacy Reference Files into Universally Governed Master Data

- Consistently maintained customer, vendor, brand, and media vehicle master files
- Full organizational hierarchy structures
- Standardized media types and sub-types
- Standardized brand categories and sub-categories
- Application of sourcing discipline and stewardship

### Universally Cover the Business Data

- Traditional media vehicles
- Digital media vehicles
- Media parent hierarchies
- Brands and brand owner hierarchy
- Agency and holding company hierarchy

### Aggregate Activity to a Common Marketplace View

- Global customer/vendor management
- Reporting across standardized media types and brand categories
- Reporting across multiple markets, regions, and countries

### Integrate Disparate Data Sources

- Harmonization of internal financials, billing, and activity
- Integration to syndicated measurement, movement, monitoring, and market data
- Integration of data sources from multiple regions
- Easily aligned data from merged and acquired businesses

### Communicate Between Systems

- Common language between trading partners and service providers
- Integration with independent software vendor (ISV) media stewardship systems
- Link to industry standards activity through media registries and data pools
- Synchronized activity externally throughout the media value chain

### Reap Organizational Benefits

- More time on strategy, less on administrative issues
- Increased efficiency and value, minimized conflicting views
- Increased speed to audience for new messages
- Quick, accurate changes to existing company master data
- Improved overall value chain efficiencies
- Building blocks for future initiatives



# The Microsoft Solution and Roadmap for Technical Business Leaders

Microsoft has a wealth of existing and emerging technologies that map to the market challenges discussed in this paper. These technologies apply to and support a master data management solution. The Microsoft MDM solution is built upon the solid foundations of Microsoft SQL Server®, Microsoft Office SharePoint® Server, Microsoft Windows® Communication Foundation, the ADO.Net Entity Data Model (EDM), Microsoft SQL Server Integration Services (SSIS), Microsoft BizTalk® Server, Microsoft Windows Azure™, Stratature, and other key Microsoft technologies. These are discussed in greater detail as follows:

## Microsoft MDM

The Microsoft MDM product, (formerly Stratature + EDM) is a master data hub with a Web user interface (UI); business rules; simple human workflow; notification, entity, and hierarchy management, versioning, and transaction logging; and an open subscription interface.

## Master Data Hub

The master data hub is a Microsoft SQL Server application that provides central management of master data entities and hierarchies. A comprehensive, role-based security model ensures fine-grained, secure access to master data.

## Data Modeling

The entities, attributes, hierarchies, and business rules used to store and validate master data are completely defined in a metadata-driven data model. There is no predefined model for master data, so administrators are free to define the data model in any way that satisfies the needs of their organization. As new business entities appear or current ones change, the master data hub data model also can change to accommodate new business requirements.

## Thin Client User Interface

The UI is based on ASP.Net and AJAX, and provides a flexible thin client and role-based access to the hub for browsing, editing, auditing, approving, and authoring master data.

## Business Rules

+EDM supports the definition and enforcement of a wide variety of business rules designed to ensure the quality of data entered in the master data hub. The business rules engine is efficient, flexible, and extensible.

## Human Workflow

All changes to master data are validated against business rules defined for the entities and hierarchies involved. Any violations are recorded and assigned to the owner of the entity, attribute, or hierarchy that violates the business rule. Additionally, the owner is notified by e-mail of violations. Notifications can be sent for every violation or grouped together for periodic delivery.

## Versioning

All data entities and hierarchies are versioned. An administrator can create new versions whenever they are required. For example, a new version of chart-of-accounts data might be created quarterly after reports are complete, while a new version of the item master might be created monthly.



## Transaction Logging

Every change to master data is traced in a transaction table. What data was changed, who made the changes, when the changes were made, and the actual changes all are recorded. In addition to being a useful audit trail, the log can be used to selectively reverse changes. This capability is vitally important to the data steward.

## Hierarchy Management

Master data contains a wide variety of hierarchies. Typical examples of hierarchies include the roll-up hierarchies for accounts in a chart of accounts, the reporting hierarchy for employees, the organizational structure of a customer's business, and categories of items in an item master. These hierarchies are often hard coded into business systems or defined in a number of Microsoft Office Excel® spreadsheets.

Hierarchies can be defined by attribute relationships: for example, city belongs to state and state belongs to region. These derived hierarchy relationships change whenever an attribute value changes. Hierarchies can also be defined as parent-child relationships that may have an arbitrary depth along any path (ragged). The Stratature solution allows both types of hierarchies to be leveraged into a new, derived hierarchy. The advantage of reuse is that it ensures only one definition of the relationship exists at any point in time.

## Subscription Interface

The Stratature master data hub is the source for clean, managed master data for a wide variety of operational and analytical purposes. This data is exposed to other systems through a set of SQL Server views, which can be accessed by any tools that can consume SQL Server data, such as SSIS, BizTalk, Excel, and Reporting Services. These views are dynamically maintained so they automatically include any new entities, attributes, or hierarchies added to the master data model.

## Security

Stratature enables security by application function, model (subject area), individual entity (table/list), and attribute. For example, a user might be able to see the entire product catalog but only change the color of a specific product.

Likewise, access rights may be cascaded down an attribute relationship to present a subset of the master data to a specific user. For example, each location belongs to a city, city belongs to a country, and country belongs to a region. One user may be granted read access to Europe, and write access to Belgium. When the user logs into her account, she sees only European locations and can edit only locations that belong to Belgium.

## Web Services Integration

SQL Server Master Data Services (MDS) includes a Web services API to enable easier access, integration, and implementation. The API exposes both metadata and master data to support real-time, seamless integration with other Microsoft products and other vendors' service-oriented products. Customers and partners can extend the value of MDM by developing and implementing custom solutions, using their preferred development technologies.

## Model Deployment

MDS includes the ability to serialize both master data model definitions and data for deployment on other instances. This capability supports the deployment of changes through development, test, and production environments and enables partners to develop template models for rapid deployment.



## Model Metadata

MDS includes a special model to document all models, entities, attributes, and hierarchies in an MDS instance. Users can enter free-form documentation as well as required domain-enforced attributes, such as “owner” and “source system.” Model metadata also includes the ability to annotate transactions to capture the reasoning behind a change to the master data.

## Internationalization

MDS is world-ready with support for Unicode characters and multiple regions and languages on a single installation.

## Conclusion

Considering the tremendous growth in platforms and the concurrent explosion of data sources, marketers, agencies, and the media cannot profitably and efficiently manage business without creating a master data management practice and implementing an MDM solution. The market, relationships, and future growth prospects will continue to suffer from manual, ad-hoc, and non-integrated processes that waste resources and impede the path to implementation and efficiency.

**MDM for media can touch and improve every transaction, media plan, audience analysis, and budget.**

An MDM for media practice that is well planned and executed within individual companies ultimately strengthens all parts of the media value chain: marketers, advertising agencies, and the media, as well as the third-party research and service providers that support them. MDM for media can touch and improve every transaction, media plan, audience analysis, and budget.

Conversely, organizations that lack MDM likely will continue on an ever-deepening spiral of siloed, segregated, and inflexible business processes.

Consider the debilitating challenges inherent in maintaining redundant internal systems, negotiating the lack of data governance and standards, and managing a constantly changing marketplace. From this view, it is easy to see why MDM initiatives must have a place in the strategic landscape. (Please see [Appendix A](#) for a summary of the marketplace challenges, industry needs, and common goals that comprise the current landscape.)

As a leader in your organization, you can see that the time is now to focus your sights on instituting an MDM practice for the overall health of your business and client/partner relationships and satisfaction. This is a business-led initiative that uses technology-based solutions to deliver on a clear MDM roadmap. A change in technology will not be successful without first a change in company culture. MDM is critical to improving existing processes that drive the media business today; as such, it is absolutely foundational to fulfilling future business strategy and meeting the challenges of continuous market evolution and disruption.

## About the Authors

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## Appendix A: Summary of Challenges, Needs, and Goals

Marketplace Challenges/Phenomena	Industry Needs	Common Goals
<ul style="list-style-type: none"> <li>• Increased external data sources (both syndicated and direct)</li> <li>• Multiple legacy systems</li> <li>• Increased speed of transactions</li> <li>• Continued mergers and acquisitions</li> <li>• Multichannel execution</li> </ul>	<p><b>Advertising Agencies</b></p> <ul style="list-style-type: none"> <li>• Unique identification of individual media vehicles</li> <li>• Maintained media vendor hierarchies</li> <li>• Compatibility with established media stewardship systems</li> <li>• Linkage of media planning systems with media buying systems</li> <li>• Easier integration of audience measurement data</li> <li>• Linkage of media vehicle expenditures across channels and markets</li> <li>• Consistent program content naming conventions</li> <li>• Standard brand hierarchies for client management</li> <li>• Alignment with existing industry registry and coding initiatives (for example, Ad-ID)</li> <li>• Increased integration into marketer client and media vendor business processes</li> </ul>	<ul style="list-style-type: none"> <li>• “Opportunity to see” correlated with appropriate business metrics</li> <li>• Integration of disparate internal and external datasets</li> <li>• Scalability across all media channels</li> <li>• Synchronization with trading partners for both proprietary and industry standards</li> <li>• Cross-channel reporting and measurement</li> <li>• Seamless integration of syndicated and custom measurement, tracking, and monitoring data</li> <li>• Ability to expand to global coverage</li> <li>• Common approach across digital domains</li> <li>• Standard brand to company hierarchies</li> <li>• Media vehicle parentage</li> </ul>
	<p><b>The Media</b></p> <ul style="list-style-type: none"> <li>• Brand hierarchies for advertiser management</li> <li>• Standardized categories for competitive brand separation</li> <li>• Agency hierarchies</li> <li>• Automation of advertiser category separation and pod optimization processes</li> <li>• Alignment with existing industry registry and coding initiatives</li> <li>• Increased integration into agency/client business processes</li> </ul>	
	<p><b>Marketers</b></p> <ul style="list-style-type: none"> <li>• Category expenditures by internal definitions</li> <li>• Linkage of media to product sales and volume measures</li> <li>• Organization of activity by agency groups</li> </ul>	



## Appendix B: Links for Further Information

For further reading, please visit the following links:

Microsoft SQL Server Site for Master Data Management

<http://www.microsoft.com/sqlserver/2008/en/us/mds.aspx>

The What, Why and How of Maser Data Management

<http://msdn.microsoft.com/en-us/library/bb190163.aspx>

Master Data Management Forum for Technical Leaders and Teams

<http://social.msdn.microsoft.com/Forums/en-US/mdmgeneral/threads>

Master Data Management White Papers Series for defining, developing and deploying Master Data Management Solutions

<http://technet.microsoft.com/en-us/library/cc505992.aspx>

SQL Server 2008 R2 Documentation for Master Data Management

[http://msdn.microsoft.com/en-us/library/ee633763\(SQL.105\).aspx](http://msdn.microsoft.com/en-us/library/ee633763(SQL.105).aspx)

The Elephant in the Room (by Chris Lennon, Karen Broome, Harold Geller, and Regis Flad)

[www.ad-id.org/news/docs/ContentIDTheElephantInTheRoom.pdf](http://www.ad-id.org/news/docs/ContentIDTheElephantInTheRoom.pdf)

