



MDM and Social Big Data: An Impact Analysis

By combining social big data with master data management, businesses can develop personalized products and services, anticipate customer needs and gain competitive advantage.

Executive Summary

For years, businesses have faced a data challenge: Collecting vast volumes of fast-changing, free-flowing data and converting it into meaningful insights and foresights. Through big data analytics, organizations can harness previously unusable data and look for patterns in the bits and bytes – or metadata – that customers leave behind in real time. We call this Code Halo™ thinking, and companies that find meaning in the digital data that surrounds people, processes, organizations and things are generating unprecedented business value.¹

In fact, IDC has predicted that spending on rich media analytics will at least triple in 2015 and that by 2017,² a unified data platform will become foundational to most organization's big data strategies. The ongoing consolidation of various aspects of data management will lead to synergies between platforms that manage master data management (MDM) and big data.

Making big data quantifiable is essential, as it can produce statistically driven insights. For instance, market segmentation can reveal that while certain customers are extremely price-sensitive, others value quality over price. By using statistical and other methodologies, businesses can drive value

by acting on insights into what customers are actually doing, or might do next, to maximize customer loyalty and profits.

By analyzing social data that accumulates alongside customer transaction data, organizations can create a composite picture of the customer's likes, dislikes, behaviors, needs and wants. That's where MDM comes into play. The consolidation of MDM with big data enables businesses to integrate what they already know about the customer with what they are saying and doing on social media. By combining what they already know with insights gleaned from social, organizations can better react to the customer's next click or provide a more informed response to a customer's call, all in near real time.

To do this, organizations must properly identify individual customers to gain more insight and comprehend their needs. Through built-in identity resolution capabilities, MDM can help in two ways: add to what has been derived from the big data sourced from social, and prevent mistakes when the statistical analysis is erroneous.

For example, a customer visiting a consumer electronics company's site may be grouped into a category with numerous traits, including gender.



If the business can determine the customer's gender from the MDM system and correlate it with his or her buying patterns, not only can it create a market of one, but the resulting data can also inform cross-sell/upsell possibilities and perhaps lead to the discovery of a new subcategory to further open the market. This approach can help create new markets, as well as assist traditional marketing efforts.

This white paper reveals the impact MDM has on the big data proliferating around social platforms and what organizations can achieve if they can correlate the bits and bytes with MDM to improve targeted marketing and selling. But first we need to understand the enablers and drivers leading us to make a connection between both types of data.

Connecting MDM and Social Big Data

Big data can be thought of as the marrying of relational databases with huge volumes of fast-growing data of multiple types, with the primary goal of creating a cost-effective way to collect, store, manage and report/analyze digital data. Social big data includes these capabilities but is combined with social initiatives and strategies that link to customer relationship management. Thus, organizations must focus on ways to link CRM with MDM to derive the utmost value from social big data.

In fact, all the high-quality master data in the world is useless unless an organization can apply it to business advantage, such as speeding time to market, improving the performance of its e-commerce platform and enhancing customer satisfaction.

When big data is generated, it needs to be governed in a way that maximizes the value derived. Although this data may have passed through various levels of oversight, many organizations lack a data governance organization to spearhead and regulate this process, which can lead to data quality challenges. Similar to traditional data, big data also contains direct and indirect references to the core business entities of an organization's products, customers, suppliers, etc.

In most cases, master data could be made more useful when combined with consumer sentiment contained in blogs, e-mail, comments, conversations etc. Thus, organizations need to find a way to integrate and correlate customer master data with social big data sources. Big data systems such as the open source platform Hadoop contain adapters that provide entity-based resolution to

match big data transactions with existing information in MDM systems.

Further, most MDM vendors offer connectors and adapters to integrate their systems with big data repositories such as Hadoop to generate more comprehensive customer profiles.

Another critical factor for linking these concepts is to overcome the "data blind spots" that exist in many MDM solutions, which result in misdirected marketing messages and inappropriate customer service levels. Traditional MDM now offers a more contemporary approach, with built-in flexibility to address the needs of the ever-changing business landscape by addressing mobile, social, cloud and real-time transactional information.

Organizations need to be aware of the business-technology impact of unifying these data platforms (see Quick Take).

Quick Take

Making the Move to Data Unification

To seize the high ground when integrating MDM with social big data, organizations need to consider the following:



Physical enterprise data warehouses will need to be seen as logical data warehouses, over and above the concept of database technologies. MDM would act as a facilitator to link these environments.



Organizations must employ the concepts of MDM, data quality management, data governance and data virtualization to stay competitive in the market and adapt to the ever-changing technology landscape.

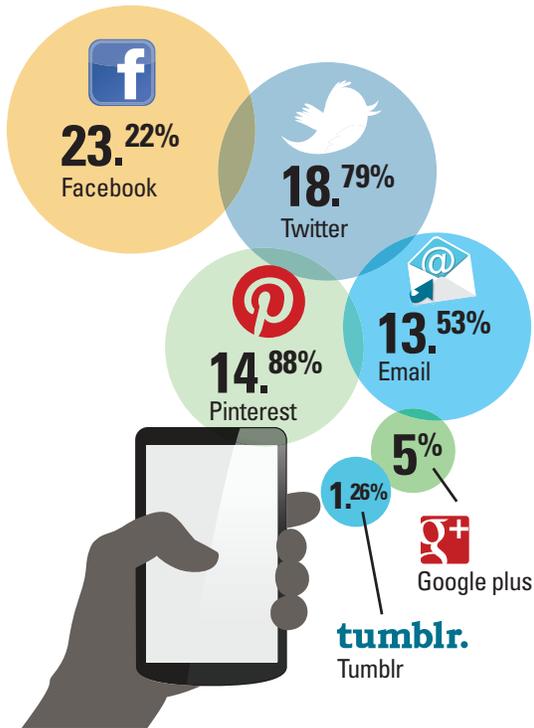


The new parsing and analysis capabilities available for big data will potentially allow organizations to link to or govern unstructured big data as part of their MDM capability.



Organizations should link their MDM and social CRM systems by resolving identifiers and enhancing the profile of the customer or the product with social data and sentiments.

Revenue Increases from Social Media Providers



Source: AC Nielsen and Informatica
Figure 1

Tips for Connecting MDM and Big Data

To get more mileage from the integration of MDM with social big data, we recommend organizations pay attention to the following trends:

- **Social engines drive e-commerce.** Figure 1 denotes the annual increase in revenue delivered by social media content providers. Further:
 - Roughly 71% of consumers change their perception after reading an online review.³
 - Before making a purchase, 81% of shoppers conduct online research.⁴
 - In at least one product segment – beauty products – an increase in the number of reviews from one to 15 resulted in a 56% increase in orders in one study.⁵
 - According to Shoppertrak, online holiday sales this year should reach \$79.4 billion, up from \$69.7 billion in 2014.⁶ A high percentage of online sales are fueled by sentiments shared across social media by customers after they buy something online, according to Shoppertrak.

In the end, sentiments gathered from social engines enable companies to build richer customer profiles. With the increasing volume of location-specific data, customers will increasingly demand that every business process be validated and empowered by trusted master data.

- **Personalization is critical.** Customization, convenience and price are age-old business differentiators. Now, however, a fourth element has grabbed the attention of nearly every company: personalization. Businesses now need to use everything they know about the consumer to market and sell to them effectively in every channel. Across channels, intelligent personalization outperforms the one-size-fits-all mentality.

Personalization is based on two paradigms:

- Know everything about your customers.
- Know everything about your products.

MDM and big data can help organizations optimize the full potential and value of personalization. The MDM system helps organizations understand the key attributes to uniquely identify the customer; the associated social big data enables decision-makers to understand the customer's preferences. By combining both, the organization can personalize the product for the customer and potentially develop mass-personalized products and charge a premium for them, since many customers might be willing to pay more for a product or experienced curated especially for them.

- **Tap into emerging cloud solutions.** In high-performance enterprises, CIOs and CEOs increasingly share a similar mindset of focusing on how cloud computing can improve customer engagement and operational performance while anticipating market trends. This has led to organizations working to improve their analytics capabilities and realizing they need to significantly increase the amount of data being analyzed. MDM and big data are relevant in these efforts, as they can enable organizations to wrap their products in a service layer by providing (often real-time) analytics that help customers use their products more efficiently and effectively.

As MDM and big data become increasingly available via the cloud, turning solutions into services is more easily achievable. Consider Amazon, which allows its customers to leverage Amazon Web Services to send and receive product information quickly and in a

standardized manner. Most data tool vendors provide their solutions on the cloud to accommodate customer desires to leverage third-party services without having to maintain a proprietary infrastructure.

Relating CRM to the integrated MDM and big data enables organizations to move away from data blind spots and obtain a holistic customer view.

- **Leverage the existing CRM platform.** Most organizations have a CRM system that maintains information on the customer relationship and degree of loyalty. In some cases, CRM systems act as a source for master data, as well as providing customer data via e-mail or online content. CRM systems, however, do not provide insights into the complex mobile commerce and extended social commerce relationships. Relating the CRM perspective to the integrated MDM and big data enables organizations to move away from these data blind spots and obtain a holistic customer view.
- **Creating a strategic data governance organization.** To succeed with MDM, most organizations conduct a data governance exercise in parallel. As big data transforms into colossal data, it is difficult to regulate proliferating forms of unstructured data, such as data generated via social platforms. Doing so requires a more proactive and integrated approach to data governance. Organizations must, therefore, evolve from older and more tactical forms of governance to more modern, strategic approaches. A tactical approach to data governance typically covers a particular line of business and/or IT system. A more strategic approach to data governance typically considers the overall business process, spanning multiple touchpoints and systems.

Looking Forward

Organizations today need to focus on not only what customers want; using predictive analytics, they also need to design products and services that anticipate customer needs and desires. Going beyond known wants and needs can help generate lifetime loyalty from customers, which makes the integration of MDM and big data an absolute and critical necessity.

As a result, organizations need to consider the long-term benefits they can reap by rationalizing their run-the-business CRM, MDM and big data systems. Further, by enhancing their existing data governance organizations, they can unleash the power of fact-based decision-making that modern technologies can deliver. Without an integrated approach, the full spectrum of entities and their relationships will not yield data with meaning.

In the short term, enterprises need to provide better service and suggestions to their customers and replace unnecessary calls, e-mails and mass-generated offers with personalized ones. This can be achieved only when businesses develop a complete customer view. Integrating MDM and big data platforms is not a small undertaking, but the benefits that can be reaped from this initiative will more than compensate for the work it entails.

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Footnotes

- ¹ For more on Code Halos, read "Code Rules: A Playbook for Managing at the Crossroads," Cognizant Technology Solutions, June 2013, <http://www.cognizant.com/Futureofwork/Documents/code-rules.pdf>, and the book, "Code Halos: How the Digital Lives of People, Things, and Organizations are Changing the Rules of Business," by Malcolm Frank, Paul Roehrig and Ben Pring, published by John Wiley & Sons. April 2014, <http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118862074.html>.
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- ⁶ "ShopperTrak Reports Increased Sales during Back-to-School; Forecasts Holiday Performance," ShopperTrak, Sept. 17, 2015, <http://www.shoppertrak.com/media/press-release/shoppertrak-reports-increased-sales-during-back-to-school-forecasts-holiday-performance/>.

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