Big Data-Fueled Marketing Intelligence
Six Ingredients to Smarter Marketing
I. The Need for Big Data Marketing BI

Data exhaust. Cyber shadow. Digital footprint. Turns out our passionate embrace of all these interconnected digital devices is leaving a kind of transactional trail that, in the aggregate, has come to be known as Big Data. We are creating enormous quantities of the stuff, and modern organizations are increasingly eager to poke around in it.

Consider, for example, Google CEO Eric Schmidt’s claim that every two days we modern humans create as much information as did all our ancestors combined; or that every day Facebook processes more than 500 terabytes of data; or that Google processes more than 2 million search queries a minute. The list goes on, but you get the idea.

Perhaps even more important, we’re just getting started. Cisco Systems, the company that produces much of the plumbing through which these great rivers of data flow, predicts 8 zettabytes of data production per year by 2015 (the informational equivalent of 2 trillion DVDs).

At the same time impressive new gains are being made in technology that ensure the data growth won’t slow anytime soon. Once again we could pick from a mind-boggling litany of popular evidence, but one of our favorites is this recent gem: Harvard scientists are mastering the art of data storage using molecular DNA that, when completed, will allow the contents of the entire Internet to be stored on a device no bigger than a human thumb.

All of which is to say that all of Big Data's tools of production, storage, and dissemination aren’t going to be a problem. But for many organizations, making sense of all that data is.

The Age of Consumerized Businesses

The key to truly understanding what is going on, says Google’s Schmidt, “is user-generated content.” Why is it important? Because not only are individuals responsible for the creation of much of this data, but their role at the center of that equation marks a profound transformation in the way organizations and their markets interact.

Like a kind of globe-rattling polar reversal, organizations that once charted their own course of operations must today re-augur their corporate compasses to meet the individual needs of their increasingly outspoken, interconnected, demanding constituencies (e.g., prospects, customers, partners, and so on).

Which means corporate marketing is undergoing a sea change in the way it operates and data is the key to that process.
This consumerization of the enterprise “requires systems of engagement that provide value at every touch, informed by data that provides such a complete view of the customer that marketing feels like a service,” says Katharyn White, head of IBM’s marketing for Global Business Systems.

How to make that happen? By capturing, filtering, comparing, analyzing, testing (maybe even a little shaking and stirring), and otherwise trying to generate actionable business intelligence from all that user-generated data. When all is said and done, says Jay Parikh, vice president of engineering at Facebook, “Big Data is about having insights and making an impact on your business.”

The Marketing Challenge
Understandably, CMOs and other marketing executives are more than a little flustered by the volume of all that data, the speed at which it is being produced, and the increasingly disparate array of gadgets and channels through which it is being created, shared, and acted upon.

Indeed, a variety of polls and surveys indicate 70% or more of CMOs “feel ill-equipped to deal with the data coming at them from all directions.” Yet despite their reservations, marketing executives find themselves walking point for organizations on the data front.

“Marketing is now the central engine of growth for many companies,” says Laura McLellan, vice president of research at Gartner. Her company predicts that by 2017 CMOs will enjoy larger operating budgets than CIOs, in large part because they will be the overseers of Big Data analytics programs intended as the eyes and ears of the organization.

“The ability to take data – to be able to understand it, to process it, to extract value from it, to visualize and communicate it, is going to be a hugely important skill in the coming decades.”

Hal Varian
Chief Economist
Google

A growing number of companies recognize this truth but are stymied at how best to make it happen. After all, simply pointing at a mountain and tasking someone with locating and extracting the gold isn’t likely to generate results.
II. Six Steps to Smarter Marketing Intelligence

Throughout much of the computer age corporate technology lived in an otherworldly realm known as IT. The complexity of the technology, the language of its practitioners, and the exorbitant costs were sufficiently intimidating enough that C-suite and other business executives largely ceded data management issues to IT.

This had the unintended consequence of leaving the entire organization dangerously (and prohibitively) dependent on IT not just for general technical support, but also for the occasional forays into data analysis. This was not a problem when data volumes were low and the demands for data-driven business intelligence could be managed through simple spreadsheet analysis or the occasional IT requisition.

Today, of course, Big Data has become a commodity every bit as important as gold, oil, or cash, and operations like marketing simply cannot afford to have their access to mission-critical data trapped behind outdated information management protocols.

Fortunately, there are proven steps for breaking out of that mold. Here’s how.

1. The Cloud: Freeing data for those who need it

   **Challenge:** Up until recently the IT department’s familiarity with an organization’s existing data requirements meant it could construct the corporate data management systems around those same needs.

   Big Data has thrown a Big Wrench into all that. Massive volumes of user-generated data means organizations increasingly are recognizing and being forced to react to their data requirements on the fly. The result is overwhelmed IT departments back on their heels, usually chased there by marketing leaders tasked with tapping the intelligence lurking within all that data. Big Data “practically demands technologies that scale well in the face of unrelenting datasets and shrinking time scales,” says Dion Hinchcliffe, EVP of Strategy at Dachis Group.

   And volume is only half the challenge. With the organization’s information assumptions hard-coded into the very structure of even the largest data warehouses, any changes (such as integrating new data sources) can take months to execute. Furthermore, employee adoption rates for these systems are low because they require users to “stop operating in their traditional workspace and move to another environment to view information.” (Who has time for that?) Lastly, much of Big Data’s potential lies in the promise of unanticipated discoveries borne of new data sources – something largely impossible with rigid data management solutions.

   **Solution:** Smart marketers are shifting their data strategy to cloud-based business intelligence solutions, enabling their organizations to cut costs, speed deployment times, and improve their ability to integrate new datasets when they emerge. Additionally, engagement rates improve because
marketing staff can access the data from their preferred operating platforms.

2. Dashboards: Making data accessible, intuitive, and user-friendly

**Challenge:** Spreadsheets and IT-requisitioned analytics have their place, but not with Big Data. Today’s marketing intelligence is synonymous with speed, flexibility, collaboration, visualization, and comprehensiveness. The marketing department that depends on rigid, platform-specific, data-limited modes of analysis and dissemination are going to be left in great plumes of digital exhaust.

**Solution:** By using graphical dashboards, today’s marketers can easily compile an endless variety of data to instantly uncover the kinds of business insights they need to succeed. Different data types can easily be introduced and team- or enterprise-wide collaboration is just a browser login away.

3. Visualize: Letting the eyes have it

**Challenge:** The human brain is hard-wired for visualization, with our eyes processing more information than all other senses combined. This helps explain the explosive popularity of video content and other visual content (think infographics).

“Typically, the important messages in data are represented in the patterns and pattern violations: trends, gaps, outliers,” says Noah Iliinsky, co-author of Designing Data Visualizations. “This is the interesting stuff. This is meaning. This is what we go to the data hoping to find.”

Given the volume and velocity of Big Data, traditional means of marketing analytics are either too limited (spreadsheet processing) or inflexible and time-consuming (data mining and extraction systems). Today’s marketers need the ability to display the results of their analyses in ways that can be easily grasped by the C-suite executives who approve their plans and the marketing staff who execute them.

**Solution:** Dashboard visualization makes it incredibly easy for marketers to create and share their results in visually compelling, easily digestible graphics. This is especially important for time-pressed C-suite executives who have little time for spreadsheet analysis.

4. Interactivity: Putting Big Data to work for marketing

**Challenge:** Spreadsheets and IT requests are time-draining anachronisms in our ‘always on, always connected’ world. The capacity to interact with existing data and integrate new data sources is absolutely critical to modern marketing intelligence requirements.

Indeed, what makes Big Data especially appealing to CEOs and CMOs alike are the myriad new flavors of data that can shed powerful new insights into business operations, customer engagement, and so much more – insights that are meaningless if they take six months to produce.

**Solution:** Cloud-based dashboard solutions enable marketers to easily add compelling new data sources and mix and match those sources with existing data.
to generate an astounding array of insights into the businesses they support.

Furthermore, the ease of use of these tools enables marketers to experiment and test hypotheticals that, in turn, lead to innovative new ways of looking at marketing models and expectations. “Big Data analysis is iterative,” notes Tom DeGarmo, a technology leader with PwC. “You ask one question or examine one dataset, then think of more questions or decide to look at more data. That’s different from the ‘single source of truth’ approach to standard BI and data warehousing.”

5. Context: Identifying the relationships behind the intelligence

**Challenge:** Human intelligence is contextual-based, meaning our understanding of the world depends on our ability to recognize the associations, relationships and interdependencies of different data. Which means that the greater the variety and volume of data sources, the richer and more intelligent the story.

Unfortunately, far too many marketing organizations are limited to rigidly defined data systems with little flexibility for new storytelling elements. Knowing the number of Facebook ‘likes’ is well and good, for example, but being able to connect those happy thumbs with an organization’s most profitable customers tells a better story.

“The contextual differences between a transaction and a relationship are leagues apart,” says Rawn Shah, a social business strategist at IBM. “What we really want is to get to an understanding of the state and opportunities for the relationship, not just its history.”

**The Solution:** By employing cloud-based analytical systems with user-friendly, graphical dashboards, marketers can easily incorporate myriad new data sources into their analytical mix. Each new dataset brings with it the potential for powerful new business insights.

6. Collaborate: Tapping into an organization’s collective IQ

**Challenge:** Data may indeed be increasingly critical to organizations, but people remain their most valuable commodity. All too often, however, organizational siloes and rigid data management structures keep employees maddeningly separated from the information they need.

Over-reliance on email, spreadsheets, IT requisitions, in-person meetings, and rigid data warehouse extraction platforms result in long delays before necessary business intelligence is received, and often times even that is incomplete. “It’s sort of like having horrible Wi-Fi service that allows you to get bits and pieces of information – not effective and very annoying,” says Jacob Miller, principal at Chess Media Group.

**Solution:** Dashboard-powered business intelligence systems are tailor-made for collaborative data analysis by providing a single, Web-accessible platform through which the data can be shared, discussed, manipulated and visualized across the enterprise.
IV. Conclusion: Dawn of a New Marketing Profession

Big Data is neither fad nor phenomenon. It is the natural evolution of a variety of forces – the Internet, digital technology, social media, user-generated content, et al – that is fundamentally changing every aspect of the business world.

Forward-looking CEOs recognize the historical nature of these changes, understand that great volumes of business intelligence are hidden within all those exabytes of data, and are eager to incorporate that intelligence into their own organizational IQ. They want to be the smartest kids on the block and they see Big Data as the means of getting there.

Given the nature of all that user-generated content, CMOs and their marketing lieutenants are finding themselves tasked with taking the lead in this process – a process made especially difficult by outdated, IT-dominated data management processes borne of a different era when the volume, variety and velocity of data weren’t even topics of conversation in most organizations.

To succeed, these marketing leaders will need to adopt marketing business intelligence technologies and philosophies that recognize – and are tailored to – the unique nature of Big Data and the myriad possibilities it holds for modern organizations.

In this paper we have offered a handful of the ingredients we believe are essential to any successful Big Data-powered, marketing intelligence program, including:

- **The Cloud** – Choose a Cloud-based business intelligence solution that has been built specific to the task, not a pre-existing data warehouse masquerading as a Cloud.

- **The Data** – Make the data easily accessible to those who need it via Web-enabled dashboards with powerful visualization software.

- **The Intelligence** – By taking care of Steps 1 and 2 you empower your team to do what their predecessors could not: Collaboratively interact with the data they want, when they want it, and generate visually compelling results that make an impact across the enterprise.

We are confident that if you adopt just these steps the powerful new insights emanating from your own Big Data sources will lead to a dramatic increase in your organization’s marketing IQ.
About Domo

Domo is a cloud-based executive management platform designed to transform the way business is managed and help drive value from the tens of billions of dollars spent on traditional enterprise systems. With a maniacal focus on the user experience and getting the right business data into the hands of the business user, Domo solves universal pain points felt by CEOs, other managers and IT organizations for whom access to relevant data is often too cumbersome, too complex and too slow.

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