Big Data’s Big Meaning For Marketing
by Fatemeh Khatibloo and Brian Hopkins, May 28, 2014

KEY TAKEAWAYS

The Explosion Of Available Data Has Changed How We Do Business
There’s no question that we’re creating more data today than we ever have before. And increasingly, companies are finding ways to leverage that data to reinvent legacy processes and spur innovation. The firms that do it well will reap a myriad of rewards in the age of the customer. Unfortunately, most companies still fall behind.

Use Big Data To Kick-Start Your Digital Business
What’s so big about big data? It’s really about the opportunities these novel sources and types of data create. Businesses that exploit all available data will drive massive business insights that were never possible before.

But Be Mindful Of Big Data’s Intrinsic Risks
As great as the promise of big data is, it also creates entirely new forms of risk. Firms need to contend with new privacy concerns, questions about the ethics of data use, and increased costs to remedy data breaches. Big data hubris brings its own risks as well, if not kept in check with human oversight and contextual understanding.

Mastering Big Data Requires Your Firm To Evolve
Marketing leaders carry the burden for evolving their organization’s culture to support big data practices. They must ensure that the firm is ready to embrace contextual marketing and then support the CIO’s efforts to build the capabilities and the capacity required to close their big data gaps.
Big Data’s Big Meaning For Marketing
Use Big Data To Deliver Context And Personalization At Scale
by Fatemeh Khatibloo and Brian Hopkins
with Kyle McNabb, Abigail Komlenic, and Sarah Takvorian

WHY READ THIS REPORT
In the age of the customer, it's not enough for your organization to simply meet your customers' needs. Today, your customers often expect you to anticipate their needs, in much the same way as the mom-and-pop shops of yesteryear could. Of course, the trouble is scale: There are simply too many customers, channels, and touchpoints to do so efficiently using human power alone. The solution? Big data. This report will explain how marketers can leverage big data to solve human-scale problems, and to better win, serve, and retain their customers.

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Forrester interviewed several vendor and marketer companies, as well as several academics and Forrester analysts for this report, including Viktor Mayer-Schönberger, professor of Internet governance at the University of Oxford.

Related Research Documents
Reset On Big Data
May 28, 2014
The Power Of Customer Context
April 14, 2014
THE DATA EXPLOSION HAS CHANGED HOW WE DO BUSINESS

In the last 24 hours, how many devices have you used to connect to the Internet? How many websites have you visited? How many apps have you used? And how many messages have you sent and received — personally or professionally — through digital channels? If you're like most people, it's almost too many too count. This is your new reality: Every interaction, every communication, every touchpoint creates a digital breadcrumb — a piece of data that can be analyzed and manipulated. And in the age of the customer, the firms that can turn all those breadcrumbs into meaningful insight will dominate.1 The sheer scale of data will:

- **Provide rich new sources of customer insight.** In the past, insights were limited to the data found in marketing databases — transactions, mostly — and what most market research teams could infer from surveys and extrapolations. Today, we can use tools like mobile location analytics and social listening to provide details into customer attitudes and behaviors that were unheard of five years ago. Firms like Lowe’s, Macy’s, and Walgreens have used services like Placed, a mobile analytics app, to help customers navigate stores, access services, and obtain additional product information, in context.2

- **Allow firms to engage with customers in novel ways.** Your customers are undergoing a mobile mind shift: They expect to get what they want in their immediate context and at their moments of need.3 Finding ways to meet these demands pushes leaders in every industry to innovate with new kinds and new uses of data. Uber, for example, is disrupting the taxi and private transportation industries by upending the old “dispatch” model with a disintermediated, data-driven approach.4 Meanwhile, Kaiser Permanente, the managed healthcare consortium, integrates patient care data with apps that help its members lead healthier lives and gives “patients everything they need, whether they know it or not.”5

- **Create adjacent business opportunities.** Most firms don’t use much of their data for business insights, potentially missing out on many opportunities to drive competitive differentiation. For example, Netflix’s analysis of subscriber behavior showed that the company could drive both acquisition and retention with original programming that was correlated to its most highly expressed interest categories. This led Netflix to commission a full season — sight unseen — of the political drama, *House of Cards*.6 The Emmy-award winning series has turned Netflix into an original content producer rather than simply a secondary market distributor.

- **Enable digital disruption in every single industry.** Even the most traditional industries — like agriculture and manufacturing — face massive disruption if they don't learn how to leverage the new scale of data. For example, John Deere & Company and Monsanto have joined forces to empower farmers with tools that use weather, satellite imagery, and soil sample data to understand what to plant, when to plant it, and how to distribute the seeds (see Figure 1). In addition, Rolls-Royce now leases its airline customers “hours of propulsion” using real-time data from its jet engines. It also uses that data for engineering and maintenance. This new approach now represents over half of Rolls-Royce’s revenues, helping it build long-term customer relationships and powerful business collaboration.7
**Figure 1** John Deere’s Future Farming Vision Digitizes A Legacy And Analog Industry

Big data flows through every system — weather, satellite, crops, soil, tractor, science, seeds, etc.

This is an ecosystem of parties — farmers, John Deere, Monsanto, local maintenance firms, advisors, government data, etc.

John Deere’s “Farm Forward” vision and FarmSight services could transform the industry — making it more efficient, sustainable, and profitable.

We give you the information and we’ll give you advice to help you make better agronomic decisions.

— John Deere & Company, “Dance with Data”

Source: Forrester Research, Inc.
But Most Companies Can't Exploit Available Data

Traditional data practices were developed in a time where data was scarce, expensive, and used by a small population of decision-makers to manage performance. But data is no longer scarce. New, rapidly evolving techniques and technologies can help you get business insight from this explosion of data. Despite this, we still find firms clinging to traditional thinking and practices, such as:

- **Obsessing with quality and neatness.** Quality remains important, but the old adage “garbage in, garbage out” may not always apply to today’s needs. You don’t need high quality and neatly structured data to produce valuable insight. Firms blindly clinging to traditional thinking will miss opportunities by trying to over clean and structure huge, diverse data sets before creating predictive models that use data to drive customer value.

- **Continuing to hoard data.** The reticence to share data — both internally and with business partners — continues to be an issue for many organizations. Data owners get nervous when peers and colleagues use their data in ways they can’t control. But, those who control the data often do not anticipate its most interesting and innovative uses. For example, New York City’s OpenData initiative lets researchers use building permit data to understand locations of potential fire risks. And, Lowe’s lets its manufacturers analyze point-of-sale data to uncover inventory and merchandising problems quickly.

- **Treating data as a tactical tool versus a strategic one.** Many firms still think of data as a tool to “get things done,” and not as an innovation treasure trove. Progressive Casualty Insurance bucks this trend. Sure, it uses data from its Snapshot tracking device to build actuarial tables and personalize pricing. But then it goes further by using the information to change user behavior and learn about trends and driving habits. Increasingly, firms hold hack-a-thons and developer days, and implement data innovation labs to help themselves break out of their operational data ruts.

- **Ignoring the disconnect between marketing and technology.** Forrester’s Business Technographics® Global Data And Analytics Survey, 2014, tells a fascinating story. While 16% of technology decision-makers plan to implement big data technologies and solutions in the next 12 months, only 9% of their business counterparts do. Why the disparity? Because many marketers don’t really understand what big data is and still believe that big data is a lot of hype and that the CIO’s big data initiatives are just a distraction from optimizing customer insights or delivering better customer experiences (see Figure 2).
### Attitudes

**“Which view of big data is most aligned to yours?”**

<table>
<thead>
<tr>
<th>IT</th>
<th>Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>The term “big data” is very confusing; not sure what it means</td>
<td>9%</td>
</tr>
<tr>
<td>It’s an extension of existing analytics and BI practices suited for data that is larger or faster than we are used to</td>
<td>35%</td>
</tr>
</tbody>
</table>

Business decision-makers are more confused about big data and resists the idea that it is more of the same old BI.

Base: 452 technology North American data and analytics decision-makers, 249 business North American data and analytics decision-makers

Note: not all response options shown

### Plans

**“What best describes your firm’s current usage/plans to adopt big data technologies and solutions?”**

<table>
<thead>
<tr>
<th>IT</th>
<th>Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expanding/upgrading implementation</td>
<td>15%</td>
</tr>
<tr>
<td>Implemented, not expanding</td>
<td>6%</td>
</tr>
<tr>
<td>Planning to implement in the next 12 months</td>
<td>16%</td>
</tr>
<tr>
<td>Planning to implement in more than one year</td>
<td>24%</td>
</tr>
</tbody>
</table>

The business is behind technology management in adoption plans.

Base: 452 technology North American data and analytics decision-makers, 249 business North American data and analytics decision-makers

Note: not all response options shown

### Users

**“What groups or departments are currently using big data/planning to use big data?”**

<table>
<thead>
<tr>
<th>Department</th>
<th>IT</th>
<th>Operations</th>
<th>Marketing</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users</td>
<td>70%</td>
<td>54%</td>
<td>52%</td>
<td>49%</td>
</tr>
</tbody>
</table>

Business executives tend to rank operations and marketing ahead of IT — indicating that big data is important to them, but they don’t view it as a technology for IT first.

Base: 241 North American data and analytics decision-makers who are planning or using big data

Note: not all response options shown

Source: Business Technographics® Global Data And Analytics Survey, 2014

Source: Forrester Research, Inc.
BIG DATA HELPS MARKETING PLAY A BIG ROLE IN BUSINESS STRATEGY

In a digital world, data plays a big role in helping your firm win, serve, and retain its customers. Not only do you often need more and different data, you need bigger thinking on how to use data, and bigger capabilities to help you put all available data to use (see Figure 3). Forrester defines big data as:

*The practices and technologies that close the gap between the data available and the ability to turn that data into business insight.*

Big data isn’t just about volume; it’s also about the characteristics of data. Today’s available data is more diverse and messier than what you are used to. And, since it’s often not “owned” or controlled by your organization — e.g., open data, consumer preferences, and partner data — it challenges your natural tendency toward data hoarding. Firms that embrace big data will:

■ **Excel at real-time predictions using massive data sets.** Marrying historical customer, product, and operational data with real-time behaviors and insights will let firms hone their predictive analytics capabilities to a fine point. For example, the travel service TripIt algorithmically adapts flight monitoring frequency (to “near constant” on the day of travel) to identify potential delays and notify the traveler even before the airline does. Amazon.com has announced its intention to test “anticipatory shipping.” The online retailer believes it can predict what products you might buy tomorrow and have them shipped to a distribution center near you today.

■ **Deliver highly personalized customer experiences — at scale.** Using a combination of contextual data and predictive analytics, firms will deliver the right content and communication for every customer at his or her exact moment of need. For example, airlines will combine Bluetooth low energy (BLE) signals with passenger data to send targeted offers for airport restaurants and to let customers know the exact distance to their departure gate from their current location.

■ **Continuously optimize their analytics and insight practices.** Already, firms like The Clorox Company have turned to “recursive analysis” to improve business outcomes. By using social listening to determine where flu outbreaks were occurring, the firm was able to continuously adapt its cleaning products and disinfectants marketing campaigns in those areas. Clorox attributes improved sales of these products to a 17% increase in quarterly earnings.

■ **Strike a balance between qualitative and quantitative tools.** While raw data can provide tremendous insight, that doesn’t negate the need for qualitative analysis. For example, beauty retailer Sephora uses a preference center to collect information about customers’ skincare concerns, favored brands, and much more. By collecting this data from customers directly, Sephora no longer has to infer deeply personal preferences. Instead, it combines these qualitative data points with its quantitative data to deliver an extremely tailored customer experience.
Figure 3 Big Data Means Using More Available Data To Drive Business Insight

Yesterday

Infer about products, service, and customers based on limited information

Data is:
- Scarce
- Expensive
- Easy to manage
- Neat, rich, and structured
- Manageable number of formats and structures

We are here

We are learning to think differently
- We will know our customers deeply or not have customers
- Inefficiency will mean death
- We will balance experience and quantitative analysis
- We will learn to navigate new risks

Tomorrow

Understand the world based on a complete picture using all available information

Data is:
- Plentiful
- Cheap
- Impossible to “manage”
- Messy and detailed
- Nearly infinite in format and structure

But Mind Big Data’s Intrinsic Risks

It’s impossible not to be excited by the wealth of opportunities created by big data. But there’s a dark side to big data, too. It can open your firm up to more of the risks you already face and create entire new categories of risks you’ve never dealt with. Consider that:

- **Big data changes the nature of privacy and personally identifiable information.** As big data capabilities improve, old methods of “de-anonymization” no longer suffice for protecting people's personal information. In fact, over 85% of US adults can be uniquely identified by just three pieces of information: gender, zip code, and date of birth. This can carry significant risk for firms. After researchers at the University of Texas managed to positively identify individuals from “anonymous” movie reviews, Netflix was sued for simply releasing the data.

- **Big data creates new ethical dilemmas.** While big data creates tremendous potential for insights, the question remains: Just because you can predict something, should you? Of course, no company wants to repeat infamous analytics blunders like Target's ill-fated prediction of a teenager’s pregnancy, but there are many subtler scenarios. For example, should firms re-appropriate tools meant for customer experience — like caller biometrics and acoustics analysis — to identify potentially fraudulent calls? Or, should state prisons be required to use to predictive analytics in making parole decisions?
We still don’t know the extent of liability for big data practices. Big data practitioners frequently debate the amount of data that should be captured, given its potential risks. The Sony PlayStation network data breach of 2010 is a costly reminder that capturing data without a clear need for it is risky. More recently, the Federal Trade Commission’s (FTC) fines against Path, a social networking service, showed even if a firm isn’t using the data it’s collecting, the company can be held liable simply for collecting it. Even though, the most innovative uses of data are often the ones we simply haven’t thought of yet.

EMBRACE BIG DATA TO BUILD A CONTEXTUAL MARKETING ENGINE

Big data will change marketing, helping marketers move from campaigns to cycles of real-time, two-way, and insight-driven interactions with individual customers. That change in marketing demands marketers to master context and work with technology management counterparts in order to change culture, competence, and capability.

Master Context To Improve Marketing’s Emotional Quotient

In the post-campaign world, context plays two important roles. First, it is an input to the analytics you rely on: What is your customer’s context at her moment of need? Second, it should be part of the output: The touchpoint needs to be contextually relevant and appropriate. Understanding context, and how to apply it in your big data practices, will ensure that you balance the organization’s needs with your customers’ expectations. Mastering context demands both data expertise and a technical platform that supercharges the entire interaction cycle — a self-perpetuating loop in which insights trigger interactions, which in turn generate new contextual insights (see Figure 4).
**Figure 4** Big Data Provides A Foundation To Contextual Marketing Engines

Marketing sparks interactions across the customer life cycle.

Insight and automation drive the engine.

Big data and analytics fuel the engine.

Develop Excellence Across Three Cs: Culture, Competence, And Capability

As your firm starts to adopt the use of context in marketing, you’ll also need to evolve these three table-stakes areas for big data excellence (see Figure 5).

- **First, foster a culture that embraces using, sharing, and innovating with data.** No amount of technology can fix business practices deeply rooted in assumptions that fail in the age of the customer. The three critical elements include: 1) a common language between technology management and business strategists around data and analytics; 2) a standardized process for sharing data, insights, and organizational knowledge during the entire business planning process; and 3) a culture of curiosity and innovation around potential uses of data — the most disruptive uses of data require experimentation to uncover.

- **Second, build competency in advanced analytics and data governance.** Big data demands a whole new set of resources. You need marketing scientists who can actively interrogate your data to solve existing business problems, while also exploring potential new uses of data — both owned and external. You need “data engineers” to help build the scaffolding for your big data practices: What external data should you buy? What kinds of touchpoint interaction keys (TPIKs) do you use or need? And, you need data stewards, who help define the organization’s data governance and data privacy strategies.

- **Third, acquire the technical capabilities to support your big data vision.** While the CIO’s organization is primarily responsible for acquiring, building, managing, and optimizing the tools you need, she also needs you to act as an advisor in these decisions. Quick decisions on insourcing or outsourcing a big data capability without the CIO team’s involvement may negatively impact your ability to use context in marketing or fuel your digital business. Play an active advisory role to shape your organization’s big data goals and vision.
Figure 5 Your Big Data’s Foundation — Culture, Competency, And Capability

<table>
<thead>
<tr>
<th>Culture</th>
<th>Competency</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Data-driven decisions</td>
<td>• Management skills and processes</td>
<td>• Data access and sharing</td>
</tr>
<tr>
<td>• Speak and share data</td>
<td>• Quantitative analytic skills</td>
<td>• Data management</td>
</tr>
<tr>
<td>• Curious and risk taking</td>
<td>• Flexible, risk-based data governance</td>
<td>• Data analytics</td>
</tr>
<tr>
<td>• Regard data as a tangible asset</td>
<td>• Data innovation</td>
<td>• Data delivery</td>
</tr>
</tbody>
</table>

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Smart products

- Serving customer, partners, and employees
- Enabled by smartphones, tablets, and smart products
- Focused on in-the-moment tasks and decisions

Systems of engagement

touch people

- Providing context rich, analytics-driven experiences
- Leveraging social and cloud
- Short, rapid, and iterative release cycles

Systems of record

host processes

- Targeting employees
- Supported by ERP packages and large databases
- Recording transactions and accounting data as part of core business processes
- Maintain state, status, and history
- Long development and deployment cycles

Flexible, nimble, and cost-effective data platform

If one leg is too short, the platform tips over and everything falls off!
WHAT IT MEANS

BIG DATA WILL SHAPE YOUR COMPETITIVE FUTURE

Let us be clear, big data is not a suite of new technologies that will solve yesterday’s data challenges. It’s an organizational shift you must master if you want to better understand your customers, predict behaviors and intentions, and drive contextual engagement using all the data that’s available to you. And soon, big data will make possible what was nearly unimaginable for marketers. For example:

- **Leaders will create and use intimately personal profiles of their customers.** By making massively varied and nuanced data sources available to automation and analytics platforms, marketers will be able to create, at scale, the kinds of experiences that used to be possible only through personal salesperson relationships. Companies that do it well will make the experience desirable and enjoyable, successfully avoiding the “creepy” factor of companies that do it poorly.

- **Marketers will have to share the same intimate profiles with their customers.** Informed consumers will increasingly want to know what companies know about them, and they’ll expect to be able to take that data and share it with other companies. Personal identity and data management (PIDM) will evolve in large part because of the scale of data and the evolution of consumer service providers to help manage that data. Winning customers’ trust will require marketers to share their intimately personal customer profiles with their customers and interoperate with emerging vendors.

- **Startups will be acquired for their data science talent.** Today, hundreds of startups every year are acquired for their developer talent. But as the scarcity of marketing and data scientists grows, there will be a run on small and midsize firms, such as AgilOne, Factual, and Custora, whose primary products are data and analytics services. This will consolidate much of the market, making it increasingly difficult for marketing leaders to hire marketing scientists for their own firms.

- **Engineering R&D labs will be replaced by marketing-centric data R&D labs.** As companies move to increasingly productize their data and expand the breadth of data they use, they will have to invest in data labs much like those that were once reserved for engineering and design. These teams will have the coveted role of data exploration, often without a specific goal in mind. They’ll be tasked to find previously undiscernable correlations, and test the contextual relevance of the new insights.

- **Big data will continue to drive innovation faster than regulators can keep up.** As insurance, investment, and risk management firms get better at using new sources of data, their ratings and approval processes will necessarily change to improve shareholder value. However, this may lead to practices which will, in the future, be considered discriminatory, so marketing leaders and trade organizations will have to develop self-regulatory frameworks to ensure a code of conduct.
- **Open source repositories of data and algorithms will emerge.** Like GitHub (a source code repository for programmers) these systems will let any data scientist or data engineer explore, test, use, and share data sets and algorithms. Already, MIT’s Computer Science and Artificial Intelligence Laboratory has developed a system it calls DataHub, which is a hosted interactive data processing, sharing, and visualization system for large-scale data analytics. Soon, we will see similar systems for models and algorithms. Marketers will use these systems to enhance their big data competence and capabilities.

### SUPPLEMENTAL MATERIAL

#### Methodology

Forrester’s Business Technographics® Global Data And Analytics Survey, 2014, was fielded to data and analytics technology decision-makers and users located in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US from small and medium-size business (SMB) and enterprise companies with 100 or more employees. This survey is part of Business Technographics and was fielded from January 2014 to March 2014. ResearchNow fielded this survey online on behalf of Forrester. Survey respondent incentives include points redeemable for gift certificates. We have provided exact sample sizes in this report on a question-by-question basis.

Each calendar year, Business Technographics® fields business-to-business technology studies in 10 countries spanning North America, Latin America, Europe, and Asia Pacific. For quality control, we carefully screen respondents according to job title and function. Business Technographics ensures that the final survey population contains only those with significant involvement in the planning, funding, and purchasing of technology products and services. Additionally, we set quotas for company size (number of employees), industry, and job function as a means of controlling the data distribution and establishing alignment with technology spend calculated by Forrester analysts. Business Technographics uses only superior data sources and advanced data-cleaning techniques to ensure the highest data quality.

### ENDNOTES

1. Forrester defines the age of the customer as a 20-year business cycle in which the most successful enterprises will reinvent themselves to systematically understand and serve increasingly powerful customers. See the October 10, 2013, “Competitive Strategy In The Age Of The Customer” report.

2. For more information about analytics apps, see the February 11, 2014, “You Are Here: Location Analytics And The Rebirth Of Customer Experience” report.

3. Forrester defines the mobile mind shift as a consumer’s expectation being met at his or her moment of need. We estimate that 22% of US adults have already “shifted” and that 4% are perpetually connected all day long. More than a third of online consumers in Hong Kong, metropolitan China, and metropolitan India have shifted. See the April 19, 2013, “The Mobile Mind Shift Index” report.
Uber is a transportation network company that makes mobile application software ("app") that connects passengers with drivers of vehicles for hire and ridesharing services.


6 The Wired magazine article, “Netflix Gambles on Big Data to Become the HBO of Streaming” reported that Netflix outbid HBO and AMC for House of Cards. Netflix ordered two full seasons of the show without seeing a single episode because it used customer online viewing analytics to estimate the value of a Kevin Spacey political thriller to justify securing the rights. Source: Roberto Baldwin, “Netflix Gambles on Big Data to Become the HBO of Streaming,” Wired, November 29, 2012 (http://www.wired.com/2012/11/netflix-data-gamble/).

7 According to Rolls-Royce, over half of its revenues are now based on services. According to Rolls-Royce' Engine Health Management unit, its flagship Trent 900 engine “is the first engine to be fitted with a dedicated Engine Monitoring Unit as well as the ACMS.” This engine-mounted system places a powerful signal processing and analysis capability onto the engine, which Rolls-Royce uses to look in detail at the vibration spectrum and identify problems with bearings or rotating components. Source: “Our business model and strategy,” Rolls-Royce (http://www.rolls-royce.com/reports/2011/business/our-bus-model.html).

8 Forrester refers to this as “data hoarding,” and advocates creating systems of control for sharing open data. See the May 8, 2013, “Introducing Adaptive Intelligence” report.

9 New York City established the Center for Innovation through Data Intelligence in 2011, and the NYC OpenData site now publishes over 2,000 data sets. The NYC fire department is using this data to predict the likelihood of fires in each of the city's 330,000 building, using 60 different factors. Source: Elizabeth Dwoskin, “How New York’s Fire Department Uses Data Mining,” Digits, January 24, 2014 (http://blogs.wsj.com/digits/2014/01/24/how-new-yorks-fire-department-uses-data-mining/).

10 In the May 8, 2013, "Introducing Adaptive Intelligence[94041]" report, Forrester explains how Lowe's used a shared analytics portal to improve customer service and merchandising by bringing its manufacturing partners into the fold.


12 For a more detailed study of TripIt and how it meets customers at their mobile moments of need, see the March 17, 2014, “Brief: How TripIt Masters Mobile Moments For Frequent Fliers” report.

14 For more about preference management, see the July 22, 2009, “Marketers: Stop The Abuse! Adopt Preference Management” report.


16 In 2009 the media widely covered the story of a 2006 Netflix contest to improve its online movie recommendation engine by releasing the viewing habits of 480,000 customers after removing what it thought was all the personally identifying information. An unnamed Ohio woman sued Netflix for violating her privacy when a group of researches published a paper resulting from analysis of the data. The paper correlated the anonymous Netflix reviews with public reviews and user identities on IMDb and found that with as few as six reviews and the data and time of reviews, they could identify IMDb identities from the anonymous Netflix data with 99% accuracy. Source: Michael Liedtke, “Netflix Class Action Settlement: Service Pays $9 Million After Allegations Of Privacy Violations,” The Huffington Post, February 10, 2012 (http://www.huffingtonpost.com/2012/02/11/netflix-class-action-settlement_n_1270230.html).


18 The Wall Street Journal article “State Parole Boards Use Software to Decide Which Inmates to Release” reported that at least 15 states, looking to cut costs on incarceration, now require their prison systems to use some form of risk assessment tool in evaluating inmates, and many of them are turning to predictive analytics software that looks for patterns based on a variety of factors. This raises an ethical dilemma — should a person’s freedom be a prediction of what they might do in the future? Source: Joseph Walker, “State Parole Boards Use Software to Decide Which Inmates to Release,” The Wall Street Journal, October 11, 2013 (http://online.wsj.com/news/articles/SB10001424052702304626104579121251595240852).


20 To learn more about how context translates into unprecedented levels of customer engagement, increased revenue, and better product experiences, see the April 14, 2014, “The Power Of Customer Context” report.

22 Forrester defines touchpoint interaction keys (TPIKs) as identifying keys for ongoing recognition and tracking of customers as they interact across multiple touchpoints and sessions. These include elements, such as MAC and IP addresses, cookies, social identity, email, etc. For more on TPIKs, see the August 29, 2013, “Customer Recognition: The CI Keystone” report.

23 Forrester believes that data stewardship must be a cross-functional practice. For more information on marketing’s role in governance, see the February 22, 2013, “Building Data Stewardship Is A New Customer Insights Imperative” report.

24 Forrester defines PIDM as “the rules, standards, and processes by which individuals and organizations manage, use, and share personal data and identity with other individuals and organizations.” For more information about how this functions and how it changes the marketing ecosystem, see the September 30, 2011, “Personal Identity Management” report.


26 For more information on DataHub, see the following link. Source: DataHub (http://datahub.csail.mit.edu/).
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Global marketing and strategy leaders turn to Forrester to help them make the tough decisions necessary to capitalize on shifts in marketing, technology, and consumer behavior. We ensure your success by providing:

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« MARISOL LOPEZ, client persona representing Marketing Leadership Professionals