

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

by Brian Hopkins, Carlton A. Doty, and Jennifer Belissent, Ph.D.

November 9, 2015 | Updated: November 11, 2015

Why Read This Brief

The ballooning scale and diversity of customer data in 2016 will provide rich new sources of insight, equipping firms to engage with customers in novel ways and disrupt entire industries. But customer insights (CI) pros and other marketers and strategists have only scratched the surface when it comes to using insights to drive transformational customer experiences. In this brief, Forrester predicts what will happen in the seven hottest areas — data management, big data, analytics, business intelligence, insights services, data monetization, and systems of insight — and tells you what to do about it.

Key Takeaways

2016 Will See Incremental Data Improvements

Continued investment in data and analytics technology will create incremental improvement in 2016. Firms with chief data officers will generally do better, while data monetization efforts will meet with only limited success. Machine learning will make data management easier as well.

Leaders Will Embrace Systems Of Insight

Today, firms struggle to deliver customer benefits with business intelligence (BI) and big data. They will redirect many projects or put them on hold. Visionaries, however, will systematically connect data, insight, action, and learning in a continuous cycle of customer engagement.

Data Science And Real-Time Analytics Will Be Insight Innovation Areas

Firms will look to partners and as-a-service solutions for data science help and will invest in real-time technologies to narrow the time for customer engagement.

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

by [Brian Hopkins](#), [Carlton A. Doty](#), and [Jennifer Belissent, Ph.D.](#)
with [Srividya Sridharan](#), [Ted Schadler](#), Emily Miller, and Diane Lynch
November 9, 2015 | Updated: November 11, 2015

It Takes More Than Big Data To Be Insight-Driven

Everybody wants to be data-driven.¹ But well-meaning technology managers deal with only part of the problem of how to furnish technology that makes it possible to turn data into insight. Meanwhile, marketers and CI pros, tired of waiting for technology management, turn to external technology and service vendors, often bypassing security, compliance, and tech management and data governance. Firms will reach the limits of this approach in 2016 as they focus their priorities on winning, serving, and retaining customers. Marketers and CI leaders will shift from data-driven priorities to insight-driven execution because:

- › **Technology-led big data investments do not deliver customer outcomes well.** For example, technology management still leads business intelligence (BI) initiatives, but only 25% of data and analytics decision-makers say their firms' BI investments result in improved customer satisfaction.²
- › **Business-led big data investments fail to solve data and integration challenges.** Marketers buy software or services with the expectation of immediate benefits, but they often get bogged down. Why? Because disconnected systems create data silos and fragmented experiences, leading to frustrated customers that flock to competitors.
- › **A few visionaries inspire the market to become insight-driven.** Insight-driven firms like Amazon, Concur, and Netflix systematically harness insight and embed it into everyday business operations. Enterprises like CA Technologies and USAA are following their lead. Forrester calls this new approach a system of insight (SOI).³ In 2016, the most successful firms will push beyond the limits of agile BI and big data by aligning business and technology leaders toward a unified goal. They will connect data, insight, and action and continuously learn what works — and what doesn't.

Firms Will Demand Results From Data And Analytics Efforts

Data management and analytics technology will continue to attract interest and energy in 2016, with 40% of decision-makers reporting their firms spending \$10 million or more on these.⁴ However, vendors have beaten the drum too hard, and buyers' weariness will show. While some investments deliver incremental value, failure to connect data to action will wear on buyers' tolerance for vendor marketing-speak. As this dynamic plays out, Forrester predicts that:

FORRESTER[®]

Forrester Research, Inc., 60 Acorn Park Drive, Cambridge, MA 02140 USA
+1 617-613-6000 | Fax: +1 617-613-5000 | [forrester.com](#)

© 2015 Forrester Research, Inc. Opinions reflect judgment at the time and are subject to change. Forrester[®], Technographics[®], Forrester Wave, RoleView, TechRadar, and Total Economic Impact are trademarks of Forrester Research, Inc. All other trademarks are the property of their respective companies. Unauthorized copying or distributing is a violation of copyright law. Citations@forrester.com or +1 866-367-7378

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

- › **Chief data officers (CDOs) will gain power, prestige, and presence . . . for now.** The trend toward appointing a CDO accelerated in 2015; the firms of 45% of data and analytics decision-makers worldwide had appointed a CDO.⁵ In 2016, an additional 16% report plans to do so. Expect the link between these newly appointed CDOs and the business results they drive to become more obvious. Our data indicates that companies with a CDO are more likely to be top performers.⁶ But the long-term viability of the role is unclear. Certain types of businesses, such as digital natives, won't benefit from appointing a CDO. Why? Because their business models are already largely built on a philosophy of insights to execution.⁷

CI pros must extend customer insights beyond marketing. Is there a CDO in your organization? Take advantage of this by using the CDO's influence to drive a culture of insights to execution across the organization. Whether or not you have a CDO, your CI team must become a key enabler of every customer-facing decision — not just marketing optimization. It's time to move beyond the data, play the role of insights evangelists, and drive real change. In the absence of a CDO, help support CMO and CIO alignment on a shared business technology agenda that will enable insights-driven action.

- › **Machine learning will shrink the insight-killer: data preparation time.** Firms are ill equipped to deal with the new reality of data that is messy, diverse, or large.⁸ Yet turning data into insight, and ultimately action, demands exactly that. In 2016, machine learning will begin to replace manual data wrangling and data governance dirty work, and vendors will market these solutions as a way to make data ingestion, preparation, and discovery quicker.⁹

CI pros should extend machine learning use cases for insights to action. New approaches in data management and predictive analytics will enable the application of machine learning to customer interactions, using the context of the moment proactively to guide the customer to the next best interaction.¹⁰ Marketers already use early forms of machine learning technology like multivariate testing, personalization, and recommendation engines, but as techniques and technologies become more sophisticated, their application will extend to more-complex use cases. Services like Google Now and products like the Nest Learning Thermostat use these approaches to provide continuous utility for users.

- › **Firms will try to sell their data; some will succeed, but many will sputter.** In 2016, an increasing number of firms will look to drive value and revenue from their data exhaust. For example, only 10% took their data to market in 2014, but 30% reported data commercialization efforts in 2015, a 200% increase.¹¹ Despite the promise, new data products will drive limited revenues in the coming year as companies struggle to master the intricacies of protecting personal information and the appropriate business models. With enough success stories, such as that of Precision Market Insights from Verizon Wireless, others will keep trying.

CI pros should focus on data innovation, not commercialization. All companies are in the data business now. Marketers should uncover new business opportunities with help from their partner ecosystem as well as their CIO's organization to evaluate in-house customer data assets. Be careful not to serve too many masters, and keep your competitive edge by focusing on contextual privacy as a way to differentiate your brand from other data innovators.¹²

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

Firms Will Come To Terms With Data Science Scarcity

Two-thirds of firms now have or will have built predictive system capability by mid-2016.¹³ As firms invest in predictive analytics technology and data science skill, Forrester predicts that:

- › **Firms will fill the data science skills gap with services and technology.** Seventy-four percent of data and analytics decision-makers' firms are expanding or planning to expand their recruiting for advanced data skills.¹⁴ This huge demand will not be met in the short term, even as more degree programs launch globally. In 2016, firms will turn to insights-as-a-service providers and data-science-as-a-service firms such as Experfy. In addition, algorithm markets, self-service advanced analytics tools, and cognitive computing capabilities will help fill the skills gaps.

CI pros must work around the data science shortage. Customer insights teams must increase analytic yield without waiting for hard-to-find data scientists.¹⁵ Analytics platforms are already beginning to empower business users without a rigorous statistical background. Predictive marketing startups like AgilOne, Custora, and Origami Logic put powerful predictive models directly into the hands of digital marketers. As these and similar vendors gain ground, many CI tasks become automated and migrate into the technology stack. As that happens, CI teams should focus their attention on implementation, measurement, and less automatable analyses such as customer journey analysis.

- › **Immature data science teams will improperly exploit algorithm markets.** Emerging marketplaces like Algo Markets, Algorithmia, DataXu, and PrecisionHawk and galleries from Azure Machine Learning and BigML will drive the widespread availability of prepackaged algorithms in 2016. But it still takes considerable skill to know how to fit generic algorithms to specific business outcomes. Immature firms will spend precious time either developing an algorithm they could have bought or trying to apply an algorithm incorrectly.

CI pros should explore algorithm marketplaces. First, gain an understanding of the workings of an algorithm marketplace — how it works, what the benefits are, and the additive value in using one. Then, prepare to make tough decisions on whether using services from these algorithm marketplaces actually replaces current activities performed by your customer insights teams or whether it helps scale the CI function for broader adoption across the company.

The Transition To Systems Of Insight Will Begin

Despite investments in technology, the adoption of data science, and evolving real-time capabilities, business executives will wonder where the beef is in 2016. Why? Consider that while 74% of enterprise architects say they aspire to be data-driven, only 29% say their firms are good at translating the resulting analytics into measurable business outcomes.¹⁶ As marketers and CI pros, you must be aware of technology management's aspirations and help them help you close the gap to insight and action. In 2016, Forrester predicts that:

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

- › **Half of all big data lake investments will stagnate or be redirected.** Businesses are now keenly aware of the gap between what they can do with big data and what is possible.¹⁷ And this means expectations are high.¹⁸ Despite technology management's backing of big data, business satisfaction with analytics output fell by 20% between 2014 and 2015.¹⁹ In 2016, impatient business leaders will shut down or redirect big data investments like data lakes that fail to deliver a measurable impact on winning, serving, and retaining customers.

CI pros must extend their value proposition. While their technology management departments' plans for big data lakes stumble, it's time for CI pros to advocate for the broader use of all that customer data they've been using to fuel marketing campaigns and media spend. Winning in the age of the customer requires a deeper understanding of customers across the entire enterprise — not just in marketing. Use the insights you glean from your customer databases, data management platforms (DMPs), social listening tools, and customer analytics platforms to start fueling business action with customer experience designers, product developers, and customer service departments. To succeed, you'll need to partner with your tech management colleagues to redirect those big data resources toward building systems of insight.

- › **Demand for real-time customer engagement will test streaming technology.** Today, software giants like IBM, SAP, and Software AG offer mature streaming analytics solutions for technology management buyers, while real-time interaction management vendors like Adobe and Pega also push real-time capabilities.²⁰ The year 2016 will see further confusion as open source stream data ingestion solutions from Apache NiFi and Spark Streaming, for example, hit the market. In 2016, we expect technology managers to closely evaluate various streaming technologies that clearly demonstrate use in real-time customer engagement and digital marketing use cases.

CI pros must prioritize in-motion data and time-sequenced analysis. Traditionally, marketers use analytics retrospectively to analyze highly structured, at-rest customer and campaign data from customer databases. They then apply what they learn to the next campaign or customer experience improvement project. But as marketers try to build contextual marketing engines, they will need to apply analytics as customer interactions occur. There's no way to hit the pause button on the flood of customer interaction data — it's fluid and always in motion. Focus on using the data science approaches we mentioned previously as well as real-time interaction management tools to wrangle in-motion data and compress the data-to-insight-to-action process.²¹

- › **Only a few elite teams will take the leap from BI to systems of insight.** Only a few teams are taking baby steps toward agile BI, and Forrester expects that in 2016, fewer than a third of these will be ready to take the next leap — systems of insight.²² Why? Because BI and big data are firmly rooted in technology, and business leaders with age-of-the-customer objectives will fail to see the benefits. Teams that embed BI into software deliver with agility and evolve data hubs to insights platforms will lay a strong SOI foundation.

Customer insights and business intelligence teams should merge. We see better business results in organizations that embed BI in lines of business with customer insights teams. These businesses reap larger ROI from BI and big data investments than those where BI is still locked

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

in the back office in the hands of tech management. CI pros should demand self-service BI and data preparation, put themselves in the driver's seat, and look for their business technology (BT) partners not to solve their challenges for them but rather to empower them with the technology and infrastructure to make their lives easier.

- › **Big technology vendors take aim at the insights services market.** Transforming data into insights and selling them is not a new thing; marketing services providers (MSPs) like Acxiom and Experian have been doing it for a long time. However, as software vendors like IBM, Oracle, and Teradata compete more aggressively in the marketing technology space, their business consulting units see new opportunities to offer insights services. So do systems integrators like Capgemini and Infosys, which are building insights ecosystems as more customers use their managed platforms for analytics. In 2016, this new competitive dynamic for insights services will strain the relationship between marketers and technology managers.

CI teams should lead in evaluating insight offerings. With a long history of procuring customer data services from MSPs, DMPs, and data brokers, CI teams must partner with their technology management counterparts to ensure that any new insights service can deliver the business outcomes they need and avoid dismantling any gains they've already made. That means looking under the covers at the algorithms driving the analysis and tailoring them to the specific business context as well as uncovering the data governance and security protocols that data providers bring to the table.

- › **The advertising and marketing tech intersection will hinge on insights creation.** In 2014, Forrester made the call that marketing and advertising technologies will converge in four areas: data, media, measurement, and operations.²³ In the time since, this prediction is playing out aggressively in all four areas. The result? In 2016, we expect that the gap between insights and action will close because marketers will start seeing the benefits of this convergence in the form of better cross-channel customer recognition, real-time campaign and performance optimization, smarter media buys, and more-contextual experiences.

Marketing and business strategy pros elevate insights capabilities. Don't assume that your advertising and marketing technologies such as DMPs, campaign management, or personalization tools don't have embedded insights and have to tie into a separate analytics platform for that. Chances are, they're building native insights capabilities or partnering with other insights and analytics platforms. Keep an eye out for these promiscuous data, analytics, and insights partnerships. For example, IBM's Universal Behavior Exchange (UBX) is a data and audience syndication capability that facilitates event data connectivity and customer recognition among many advertising and marketing data sources, apps, and channels.

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

Engage With An Analyst

Gain greater confidence in your decisions by working with Forrester thought leaders to apply our research to your specific business and technology initiatives.

Analyst Inquiry

Ask a question related to our research; a Forrester analyst will help you put it into practice and take the next step. Schedule a 30-minute phone session with the analyst or opt for a response via email.

Learn more about inquiry, including tips for getting the most out of your discussion.

Analyst Advisory

Put research into practice with in-depth analysis of your specific business and technology challenges. Engagements include custom advisory calls, strategy days, workshops, speeches, and webinars.

Learn about interactive advisory sessions and how we can support your initiatives.

Supplemental Material

Survey Methodology

Forrester's Global Business Technographics® Data And Analytics Survey, 2015 is an online survey fielded in January through March 2015 of 3,005 business and technology decision-makers located in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US from companies with 100 or more employees.

Forrester's Business Technographics provides demand-side insight into the priorities, investments, and customer journeys of business and technology decision-makers and the workforce across the globe. Forrester collects data insights from qualified respondents in 10 countries spanning the Americas, Europe, and Asia. Business Technographics uses only superior data sources and advanced data-cleaning techniques to ensure the highest data quality.

Analyst Contributors To This Report

Rowan Curran

Holger Kisker

Boris Evelson

Gene Leganza

Michele Goetz

Tina Moffett

Mike Gualtieri

Brandon Purcell

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

Endnotes

- ¹ Seventy-four percent of enterprise architects surveyed in Forrester's Q3 2015 Global State Of Strategic Planning, Enterprise Architecture, And PMO Online Survey said they aspire to help their firms be data-driven. Similarly, 75% of global business and technology influencers and decision-makers say that better leveraging big data and analytics in business decision-making is likely to be at least a moderate priority for their firms over the next 12 months. Source: Forrester's Q3 2015 Global State Of Strategic Planning, Enterprise Architecture, And PMO Online Survey and Forrester's Business Technographics Global Priorities And Journey Survey, 2015.
- ² Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ³ For more information, see the "[Digital Insights Are The New Currency Of Business](#)" Forrester report.
- ⁴ When asked about their 2014 budget, 40% of decision-makers reported that their firms spent \$10 million or more on data management and analytics technology. Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ⁵ For more information, see the "[Top Performers Appoint Chief Data Officers](#)" Forrester report.
Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ⁶ Fifty-one percent of decision-makers whose firms have a CDO report revenue growth of 10% or more, compared with only 36% at firms without a CDO. Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ⁷ For example, 67% of data scientists say they spend the majority of their time cleaning data. In other words, the justification to appoint a CDO depends on the scope of change that each business must undertake to become an insights-driven business. Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ⁸ Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ⁹ For example, startup SynerScope uses deep learning to categorize objects in claim images and help insurers improve claim experiences by prompting adjusters to ask the right questions. Source: SynerScope (<http://www.synerscope.com/>).
- ¹⁰ To achieve sustainable competitive advantage now, customer insights (CI) pros must deliver self-perpetuating cycles of real-time, two-way, insight-driven interactions with individual customers. See the "[The Power Of Customer Context](#)" Forrester report.
- ¹¹ Source: Forrester's Business Technographics Global Data And Analytics Survey, 2014 and Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ¹² The next phase of these consumer-led market shifts will result in massive changes to privacy and consumer data collection practices. See the "[Brief: When Customers Take Control](#)" Forrester report.
- ¹³ Sixty-eight percent of global data and analytics decision-makers say they are either expanding or implementing their firm's predictive system capability or have plans to do so in the next 12 months. Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ¹⁴ Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.
- ¹⁵ For more information, see the "[A Stopgap For Data Science Scarcity](#)" Forrester report.
- ¹⁶ Source: Forrester's Q3 2015 Global State Of Strategic Planning, Enterprise Architecture, And PMO Online Survey.
For more information, see the "[Brief: Why Data-Driven Aspirations Fail](#)" Forrester report.
- ¹⁷ As organizations become aware of deficiency through education, they become less satisfied with incremental improvement. This is called the Dunning-Kruger effect. Big data and analytics is a great example. Source: Justin Kruger and David Dunning, "Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments," Journal of Personality and Social Psychology, 1999 (http://psych.colorado.edu/~vanboven/teaching/p7536_heurbias/p7536_readings/kruger_dunning.pdf).

Predictions 2016: The Path From Data To Action For Marketers

How Marketers Will Elevate Systems Of Insight

¹⁸ Eighty-three percent of data and analytics decision-makers expect big data to create significant or moderate revenue growth benefits due to new products and services; 84% expect the same due to customer insight and engagement. Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.

¹⁹ Responses were 4 or 5 on a scale from 1 [not at all satisfied] to 5 [very satisfied]. Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015.

²⁰ For more information, see the "[The Forrester Wave™: Big Data Streaming Analytics Platforms, Q3 2014](#)" Forrester report.

²¹ For more information, see the "[The Forrester Wave™: Real-Time Interaction Management, Q3 2015](#)" Forrester report.

²² Most organizations still struggle with earlier-generation business intelligence, and since organizations may use different definitions of Agile BI, finding the hard numbers in terms of Agile BI adoption is challenging. However, Forrester client interactions and other anecdotal evidence show that fewer than a third of enterprises have taken baby steps towards Agile BI with some success. Agile BI calls for empowering business users with self-service tools as technology management supporting BI makes a transition to BT — not an easy transition, especially for tech management. See the "[It's Time For A User-Driven Enterprise BI Strategy](#)" Forrester report.

²³ For more information, see the "[Brief: The Marketing Technology Meet-Up](#)" Forrester report.

We work with business and technology leaders to develop customer-obsessed strategies that drive growth.

PRODUCTS AND SERVICES

- › Core research and tools
- › Data and analytics
- › Peer collaboration
- › Analyst engagement
- › Consulting
- › Events

Forrester's research and insights are tailored to your role and critical business initiatives.

ROLES WE SERVE

Marketing & Strategy Professionals

CMO

B2B Marketing

B2C Marketing

Customer Experience

› **Customer Insights**

eBusiness & Channel Strategy

Technology Management Professionals

CIO

Application Development & Delivery

Enterprise Architecture

Infrastructure & Operations

Security & Risk

Sourcing & Vendor

Management

Technology Industry Professionals

Analyst Relations

CLIENT SUPPORT

For information on hard-copy or electronic reprints, please contact Client Support at +1 866-367-7378, +1 617-613-5730, or clientsupport@forrester.com. We offer quantity discounts and special pricing for academic and nonprofit institutions.