



Beyond listening

Shifting focus to the business of social



IBM Institute for Business Value

Executive Report

Social Analytics

IBM Social Analytics

IBM Social Analytics can help clients use social and other external data inputs to gain clarity and detect new demand signals to fuel organization-wide decision making. Whether it involves identifying new patterns and trends to help guide product development, protecting brand image and micro-segmenting customers for more refined marketing campaigns, targeting prospective new hires for HR or improving the overall customer experience, IBM Social Analytics can help organizations harness the voice of the world to enable better decisions within a cognitive business. For more information, please visit www.ibm.biz/socialanalytics.

Twitter, Inc.

Twitter is a real-time information network. People use Twitter to discover what's happening in the world right now; to share information instantly; to connect to anyone, anywhere. For more information, please visit www.twitter.com.

The business of social

In the digital age, successful organizations understand the importance of data, in particular the potential for signals buried within data. Despite this, many companies are not fully exploiting the value of information derived from social platforms such as Twitter. It's time to extend the impact of social data beyond conventional uses in the marketing department. Organizations need to reconsider the role data from interactive social platforms can play in evolving customer interactions, transforming business processes and even driving innovation.

Executive summary

On September 21, 2015, former Secretary of State and 2016 U.S. presidential hopeful Hillary Clinton posted a Tweet on the Twitter feed about what she deemed “price gouging” in the specialty drug market, emphasizing her intent to create a plan to address it. Posted at 9:56 a.m. Eastern Daylight Time, her 21-word Tweet was in response to previous reports about a pharmaceutical company that raised the price of a recently acquired drug by more than 5,000 percent. By 1:08 p.m. – less than three hours after the Tweet – the 144-member Nasdaq Biotechnology Index was down 4.7 percent.¹

This real-world example demonstrates how potent a single Tweet – a handful of characters – can be. Just one of many examples, this tale is also a lesson in how data, especially real-time interactive social data, can impact not only an individual business but an entire industry. As the world continues to create data faster than companies can absorb and manage it, the ability to unlock value from external data is increasingly a competitive advantage.

With this in mind, IBM and Twitter created a partnership designed to harness the power of the information created on today's social interactive platforms. Aligned with this partnership, the IBM Institute for Business Value worked with Twitter's research team to interview several dozen executives and subject matter experts, as well as review hundreds of client engagements across the two organizations, to better understand how organizations are using social data to compete in today's digital marketplace.



Tweets targeted at leading brands' customer service **Twitter usernames** are up **two and a half times** over the past two years.²



Almost **40 percent** of organizations **collect real-time events** or data.³



Organizations are **using insights** from **social data** to help transform business processes in five key areas.

Our research confirms that social interactive data can be leveraged well beyond conventional uses in the marketing department. Consistent across leading-edge organizations is the motivation to combine this social information with existing proprietary enterprise data and other external information. Doing so can reveal insights that help transform capabilities across the organization.

As social interactive platforms became more prevalent over the past decade, many organizations began using them as marketing and branding tools and gradually developed passive practices that involved “listening” to customers. Most direct interactions with customers have been confined to areas such as brand management, customer service, social outreach, public relations and crisis intervention. For example, posts on Twitter, called “Tweets,” targeted at the user names – or “handles” – of leading consumer brands are up 250 percent over the past two years.⁴

But the robust data available from these interactive social platforms has the potential to influence many more business processes. The platforms – such as Twitter, Foursquare, blogs, forums, review sites and internal collaboration tools – offer insights into the behavior patterns of consumers, employees, competitors and markets in unprecedented ways.

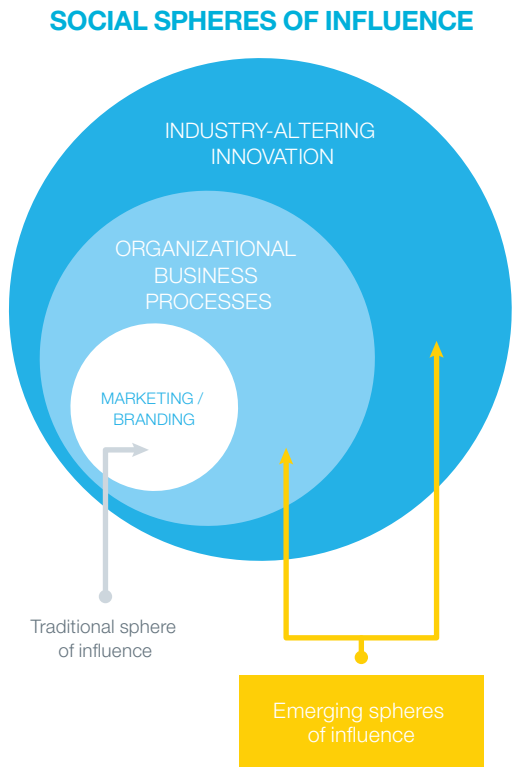
Pioneering organizations are embracing the expanding sphere of influence social data has on their operations. Currently, about 40 percent of organizations around the globe collect real-time events and data.⁵ Some of these organizations are combining data from social platforms with internal and external data to revamp business processes and drive innovation – creating immersive experiences enabled by the interactive nature of the platforms (see Figure 1). In the process, they are establishing competitive differentiation and crafting entirely new business models.

The value of interactive social platforms comes from their unique ability to expose the worlds of buyers, sellers and competitors in real time on a publicly accessible platform. This enables organizations to reach constituents further up and down the value chain, unlocking insights previously unattainable. It is the “earned and learned” authenticity of the signals coming from these social interactive platforms that creates such a powerful impact: the ability to create a snapshot of the daily lives, concerns, wants and needs of more than a billion individuals and organizations around the globe.

For organizations serious about optimizing the value of data generated by interactive platforms, we identify five functional business areas where leading companies and communities around the globe are creating more “aware” business processes based on insights from social data. In addition, we discuss how some organizations take innovation to the next level by reinventing how they interact with the world around them.

Figure 1

Pioneering organizations are expanding the use of social data beyond traditional marketing and brand management



Transforming business processes

Socially savvy organizations are incorporating the public data available from social platforms into business processes and combining it with existing internal data or other public data sources. As they do, they stand to gain clarity and discover insights that can help shape decisions throughout the business. Furthermore, this combined data gives decision makers increased context, depth and confidence to act.

By integrating aggregate social data, along with other real-time information like weather, customer location and point of sale data, into the core business capabilities of the organization, companies can transform those processes into ones that are actively “aware” of the business context surrounding them. This real-world data adds, as one executive noted, “humanity to numbers, charts and graphs.”

We have identified five functional business areas where organizations are transforming business processes through the inclusion of social data (see Figure 2).

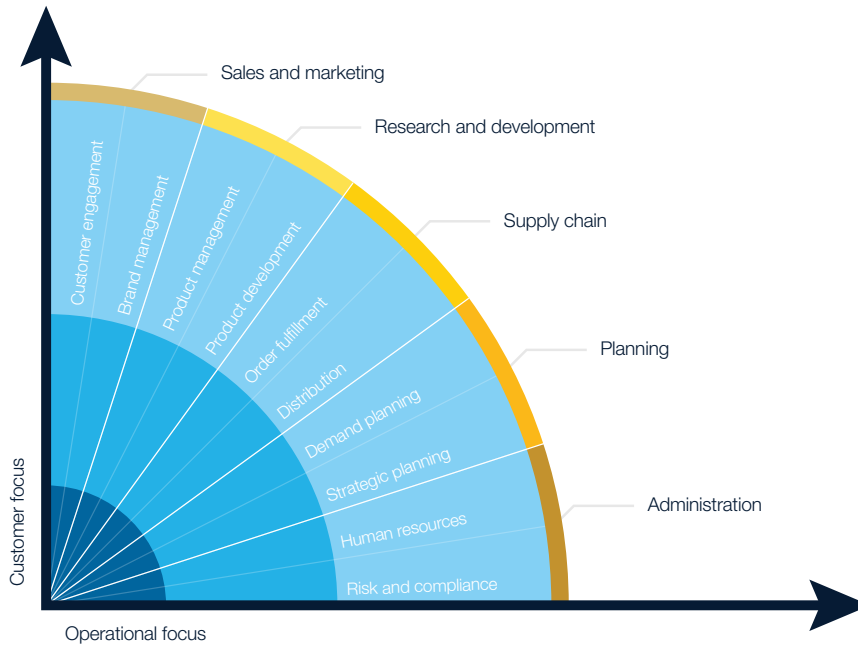
Sales and marketing

Moving beyond social listening and push marketing, leading companies are now using social platforms as “early warning systems” to understand how, when and why to engage with customers.

USAA, a global financial services organization serving U.S. military families, uses Twitter not only as a primary resource to engage its far-flung members, but also as a leading indicator of adverse operational and consumer events that could impact USAA, its employees or its members.

Figure 2

Organizations are using social data to transform business processes



Leading organizations are integrating social data, along with other real-time information, into five core business capabilities, thereby establishing processes that are more “aware” of the business context surrounding them.

“It’s not unusual to see early warnings of something that’s occurring through social.”

Renee Horne, USAA

“We continue to evaluate the best operating procedures to make sure we’re meeting our membership where they are and on their terms,” said Renee Horne, vice president of social business at USAA. Horne has even considered the importance of connectivity and how to best deliver content to an aircraft carrier at sea, where social platforms can become a primary mode of communication for members deployed abroad.

“We hold social in very high regard in terms of standards and, clearly, it’s a very unique channel in that it involves conversations that happen in a public space. And often, public opinion grades our paper alongside our members,” she added.

Horne finds that spikes around a specific topic in social can often signal an issue that could have larger downstream impacts, and uses that information as an early warning system to support operations. Her team also analyzes the social chatter around adverse consumer events – data breaches at a retailer, for example – that could concern its members.

“It’s not unusual to see early warnings of something that’s occurring through social. We’ve also utilized Twitter, in particular, to detect and quickly respond to operational related issues and as a platform for other outbound communications,” Horne said. “Part of my mandate and my role here is to make sure that we’re deriving value in this space not only for the association, but also employees and our membership.”

Research and development

Consumer-driven organizations are also capitalizing on the ability to understand the wants and needs of potential and eventual customers more deeply before making strategic decisions within the product lifecycle.

Legendary Entertainment, whose recent films include *Godzilla* and the upcoming *Warcraft* and *Kong: King of Skull Island*, not only uses interactive social platforms to target influential consumers but, like a growing number of media companies, also to understand public sentiment about actors and potential story arcs years in advance of a movie's release.

"When you are considering actors for roles, you watch their previous work, talk to their agents, speak to people they've worked with and get an impression of them," said Matthew Marolda, chief analytics officer at Legendary. "Why wouldn't you also assess them on social media to learn how people view them? We extensively analyze the tone and tenor of the conversation around them using advanced textual analysis techniques and then consider whether they fit with the kind of film we are making."

Supply chain

Companies are using social data to better understand and then meet the sometimes counter-intuitive needs of end consumers. One global retailer uses the combination of internal and real-time public data, including weather, competitors' promotions, Twitter feeds, economic data and the news, to identify strong, yet counterintuitive, demand signals. It developed an algorithmic-based situation engine to provide exception forecasts for certain products whose trend and seasonal forecasts do not capture accurate projection. The result: The company fundamentally reoriented its massive supply chain to deliver merchandise based on these real-time forecasts.

In the United States, one drug store chain combines real-time social and weather data to better time promotions for antihistamines and sunscreen, challenging the notion of seasonal stocking, to keep products on the shelves (and in the hands of consumers) when they are most needed.

"We want to be an innovation factory, not a warehouse. So, if we just rely on the same approach we developed a couple of years ago, we run the risk of obsolescence."

Matthew Marolda, Legendary Entertainment

“Having the ability to listen on an ongoing basis to the conversation around food and then go back and compare how trends are shifting is something very unique...”

Luis Copeland, Monsanto

Planning

Social platform conversations that reveal insights into users' daily lives are helping a number of pioneering organizations and researchers more precisely understand and predict trends and events in various parts of the world, enabling a more strategic view. Agriculture is one field using social data to assist in strategic planning. The industry is rapidly changing through the use of big data and analytics, but one company is looking to continue the digital revolution by bringing customers into the conversation.

Monsanto, a multinational agricultural company, was looking for new ways to better predict future consumer needs. Because the seed development cycle for new products can take as long as 15 years, the company's global innovation and strategy team needs the foresight to determine what food trends might exist in 10 years. Already an expert at macroeconomic factors, Monsanto had started studying consumer trends about a decade ago, but using scanned retail and food services data.

“Having the ability to listen on an ongoing basis to the conversation around food and then go back and compare how trends are shifting is something very unique – because we need a lot of data points,” explained Luis Copeland, global agriculture productivity solutions and seed treatment lead at Monsanto. “From a cost standpoint, we couldn't do enough surveys – or fund enough surveys – to gather that amount of data.”

The company discovered that food trends start to appear on social media platforms like Twitter several months before the spikes occur in retail-level data. In turn, longer-term needs can be calculated by projecting the related demographic groups into the future. Based on its research, Monsanto is now focused on understanding and engaging with the consumers who are most interested and influential when it comes to discussions about food.

Administration

Interactive social platforms can have a big impact on internal operational processes ranging from human resources to regulatory compliance. For example, leading-edge organizations are using both public and internal interactive social platforms to identify and address issues relating to employee turnover, employee retention, employment branding and labor relations. They also are listening to what customers and employees alike are saying in a way few open-door policies could replicate.

One U.S.-based food and beverage vendor was perplexed by irrational fluctuations in same-store sales; none of the usual indicators seemed to provide a good explanation. But customers posting on Twitter did: Once a favorite store employee left the company, customers were willing to look for a new store to pick up their morning breakfast. As a result of this knowledge, the company now focuses more on employee retention programs, like education grants and career recognition, in addition to standard training practices.

At the other end of the corporate spectrum, social platforms are being used to communicate and monitor regulatory events. In 2013, the U.S. Securities and Exchange Commission announced that companies could post earnings and other corporate news on social media outlets like Twitter as long as investors were alerted as to which outlets would be used.⁶ More recently, the U.S. Food and Drug Administration is investigating how public social platforms can be used to better monitor adverse drug reactions.⁷

“This is something that I truly believe: After color television, I think this [social interaction] is the greatest revolution in how we produce television; nothing else has altered the content since then.”

Julia Gutnik, Globo Television

Driving innovation

Some organizations are expanding the influence of social platforms beyond a single process and using them in innovative ways that often transform the way the organization operates. These pioneers are integrating interactive social platforms into the core functionality of an organization, embracing the interactions with those outside the traditional mode, to create immersive customer experiences and collaborative solutions.

Creative, communal entertainment

What started as an interactive social experiment during its coverage of the 2014 World Cup has led Brazilian media conglomerate Globo to reinvent the way it creates content across its media outlets.

"We used to have a very solid yet lonely way to produce content," explained Julia Gutnik with Digital Business Development at Globo Television. "We produced and broadcast our content with no dialogue with the audience. For the past year and a half, every new show we put on air is involved in social and in talking with the audience."

Characters and scripts are sometimes now conceived and shaped based on engagement with the audience. Gutnik believes interactive social platforms have fundamentally changed the way people relate to each other. Globo's mission is to provide the kind of immersive experience its audience now demands.

"This is something that I truly believe: After color television, I think this [social interaction] is the greatest revolution in how we produce television; nothing else has altered the content since then," Gutnik said. "This relationship we are establishing – it's something very powerful."

Other media companies are now adopting similar practices. In the United States, television shows are now live Tweeting during the actual broadcast to engage viewers, trying to re-create the communal experience of television viewing from bygone years.⁹

For the All England Lawn and Tennis Club – the venue for The Championships, Wimbledon – social interactive platforms represent an opportunity to reinvent the experience of the game and reach several different audiences.

“We have about half a million people come through the grounds, but our social media audience is approaching nine million,” said Alexandra Willis, head of digital and content. In addition to creating a persona for Wimbledon – an eccentric English gentleman – Willis says her team works hard to find “unique moments that have a story to them.”

“We did something that we’ve never done before. We actually Periscoped [live streamed] the engraving of the trophy as it was happening, which no one had ever seen in a live environment,” she explained.

Innovative interactive government

Possibly due to the transparent and non-competitive nature of the organizations, a notable number of government and public-centric organizations are embracing the power of the real-time, location-based interactions possible on social platforms. We have observed cities and countries around the globe finding new solutions to everyday problems and enlisting involved citizens to help.

The town of Jun, in southern Spain, has actively recruited citizens for several years to use social media to report infrastructure malfunctions – burnt-out street lights for example – or to suggest civic improvements and, in the process, has developed a highly visible approach to public infrastructure management.⁹ As another example, the city government of Toulouse, France, culls through millions of comments on social platforms and focuses on those relevant to the needs of its citizens, taking into account context, content and sentiment. The results: the city has accelerated its average response time to road-maintenance issues by 93 percent, from 15 days to 1 day, and developed strategies to better address residents’ concerns regarding a civic revitalization project.¹⁰

The value of social media in emergency management¹¹

Jakarta, Indonesia, experiences severe seasonal flooding. Because it also has one of the highest concentrations of Twitter users worldwide, the city became the focus of a research study of an interactive, crowd-sourced approach to disaster management, known as PetaJakarta.org.

Over the course of the 2014-2015 monsoon season, PetaJakarta.org sent 89,000 invitations to citizens to confirm flood conditions and gained over two million Twitter impressions. Reports were automatically added to a publicly available map.

Researchers believe the project has shown the value of social media as a low-cost, mega-city approach for gathering situational data to aid decision making and help inform governments, first aid responders, non-profits and citizens during extreme weather events. The project took a unique approach by combining the satellite positioning systems and messaging capabilities of ubiquitous mobile devices with social media networking capabilities through free and open source software “to provide validated and actionable information.”

“Social gives us a window into the world to what is happening right now...”

Shawn O’Neal, Unilever

Moving beyond social listening

The first step in shifting the focus to the business of social involves recognizing the untapped value in social platforms, value that can be realized across the organization from product development to regulatory compliance and a wide variety of functions in between. The next step for most organizations is to expand the social listening team. Two key talent pools are needed: data specialists to extract information from relevant APIs and analysts versed in enterprise-specific business challenges with the ingenuity to understand how customers, ecosystem partners, competitors and market forces can influence or explain the solution. Moving beyond social listening requires a dedicated team, and some enterprising companies have created divisions within their organizations that focus solely on analyzing social data and deriving value from its insights.

For example, Unilever, a global consumer goods company based in the United Kingdom, learned that insights gained from social data can benefit almost any department within the organization. However, gaining those insights requires a shift of mindset from asking “social analytics” questions, like how many Retweets or likes did something receive, to asking deeper, more probing questions about the business. Understanding this, Unilever created the People Data Programme, where a team of dedicated employees and suppliers mines millions of Tweets per month for business value.

“People come with a question like ‘We’re worried about the packaging of this product. Are consumers worried as well?’” said Shawn O’Neal, vice president of global people data and marketing analytics at Unilever. “Based on that, we investigate and first find that people aren’t talking about packaging, which leads to the next obvious question: If they’re not talking about packaging, what are they talking about? And then *when* are they talking? *Why*? To whom?” he added.

He continued, “A Unilever partner (Pixoneye, a new startup) has done research suggesting that targeted ads based on one or two specific pieces of information that could be acquired through apps or new technology via social channels can drive ad effectiveness from 4 to 40 times higher than what we expect from a traditional TV ad,” O’Neal said. “Simple knowledge such as whether an individual owns a pet and which kind of pet they own (e.g., dog or cat) makes targeting that much more effective.”

By examining the conversations on social platforms, the team also discovered that a specific premium ice cream is not an impulse purchase nor is its purchase dependent on sunny weather, upending several long-held beliefs. It also changed the mindset about the value of social within the organization.

“We don’t want a world where the business asks a narrow research question,” O’Neal explained. “We want them to ask their big questions and then constantly go back and forth with the social analysts, drawing out the insights in very short periods of time. We need to learn something that the business can use to drive sales now, not next year. Social gives us a window into the world to what is happening right now, versus the six weeks, or as long as six months, that it has taken traditional research work in the past.”

Organizations once had to speculate about what was happening around them. The data coming from today’s interactive social platforms creates a rapid and intimate understanding of global behavior patterns and trends. Yet, even greater value can be created by combining social data with other sources of internal and external data, and then applying analytics to gain clarity, make better decisions and take action. Interactive data sources create signals, which are rapidly becoming key elements in helping organizations bring context to decisions, and can be used to revamp and even reinvent traditional business processes.

Mark D. Callahan
Apparently it is "cake for breakfast" day @writerfisher and I'm certainly NOT complaining!! :)

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REMEMBER, IT'S MORE THAN JUST 140 CHARACTERS OF INFORMATION.

Hidden/associated metadata is the key to business impact/value.

Social data (often) provides more than meets the eye. While some platforms may not provide the same level of detail, there is often data behind the data, also known as metadata. For example, communications using Twitter are limited to 140 characters; however, there are 150 unique pieces of metadata that can be extracted through access to Twitter’s API (see Figure). Metadata, such as time, location data and device data, can provide unique insights. In addition, third-party developers can add additional metadata to a post, such as data contained in images, videos, polls and tags.

Key takeaways

As organizations begin to recognize and capitalize on the value of social data, there are several other key takeaways provided by pioneers in the business of social.

Key takeaway 1: Convert the way your organization thinks about interactive social platforms.

Key takeaway 2: Drive social's impact beyond marketing into the rest of the organization.

Key takeaway 3: Leverage social media as a leading indicator to uncover insights and make better business decisions.

Key takeaway 4: It's more than 140 characters; look behind the Tweet to understand what's hidden in plain sight.

Key takeaway 5: Measure effectiveness from a business perspective, not a conversation perspective.

Ready or not? Ask yourself these questions

- To what extent do senior executives within your organization understand the value provided by social data?
- How does your organization generate interest among your key customers to entice them to share thoughts and ideas via social platforms?
- How is social data being incorporated into strategic and operational processes within your organization?
- How effective is the organization in integrating social insights into the context of overall business analytics?
- Where do the skills exist within your organization to analyze and make recommendations based on social data?

About the authors

Rebecca Shockley is the Big Data and Analytics Global Research Leader for the IBM Institute for Business Value, where she conducts fact-based research on the topic of business analytics to develop thought leadership for senior executives. During the past five years, she has published six major studies on analytic trends, as well as dozens of specialized research pieces including the use of analytics in innovation, the analytic maturity of specific industries and geographies, and the rise of the Chief Data Officer role. You can follow Rebecca on Twitter at [@rashockley](#) or contact her via email at rshock@us.ibm.com.

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For more information

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About the subject matter experts

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Notes and sources

- 1 Langreth, Robert, and Drew Armstrong. "Clinton's Tweet on High Drug Prices Sends Biotech Stocks Down." Bloomberg Business. September 21, 2015. <http://www.bloomberg.com/news/articles/2015-09-21/clinton-s-tweet-on-high-drug-prices-sends-biotech-stocks-down>; Rushton, Christine. "Company hikes price 5,000% for drug that fights complication of AIDS, cancer." USA Today. September 18, 2015. <http://www.usatoday.com/story/news/health/2015/09/18/company-hikes-price-5000-drug-fights-complication-aids-cancer-daraprim/32563749/>
- 2 "Customer Service on Twitter." Twitter, Inc. 2015. <https://twitter.app.box.com/customer-service-on-twitter>
- 3 Finch, Glenn; Steven Davidson; Pierre Haren; Gerald Kurtz; and Rebecca Shockley. "Analytics: The upside of disruption. Reinventing business processes, organizations and industries in the wake of the digital revolution." IBM Institute for Business Value. October 2015. www.ibm.biz/2015analytics
- 4 "Customer Service on Twitter." Twitter, Inc. 2015. <https://twitter.app.box.com/customer-service-on-twitter>
- 5 Finch, Glenn; Steven Davidson; Pierre Haren; Gerald Kurtz; and Rebecca Shockley. "Analytics: The upside of disruption. Reinventing business processes, organizations and industries in the wake of the digital revolution." IBM Institute for Business Value. October 2015. www.ibm.biz/2015analytics
- 6 "SEC Says Social Media OK for Company Announcements if Investors Are Alerted." U.S. Securities and Exchange Commission press release. U.S. Securities and Exchange Commission website (accessed September 24, 2015). April 2, 2013. <http://www.sec.gov/News/PressRelease/Detail/PressRelease/1365171513574>
- 7 Ruoff, Alex. "FDA weighing use of Twitter, Facebook data for drug oversight." Healthcare Blog. Bloomberg BNA. September 15, 2015. <http://www.bna.com/fda-weighing-twitter-b17179936065/>
- 8 Manjoo, Farhad. "Social media takes television back in time." *The New York Times*. October 3, 2015. <http://www.nytimes.com/2015/10/05/business/media/social-media-takes-television-back-in-time.html?ref=topics&r=1>
- 9 Powers, William, and Deb Roy. "The Incredible Jun: A Town that Runs on Social Media." Medium.com (accessed September 23, 2015). <https://medium.com/@socialmachines/the-incredible-jun-a-town-that-runs-on-social-media-49d3d0d4590>
- 10 "City of Toulouse: Social data analysis used to better understand and meet citizens' needs." IBM Smarter Planet brief. October 2013. <http://public.dhe.ibm.com/common/ssi/ecm/yt/en/ytc0371usen/YTC03711USEN.PDF>
- 11 Holderness, Tomas, and Etienne Turpin. "Assessing the Role of Social Media for Civic Co-Management During Monsoon Flooding in Jakarta, Indonesia." PetaJakarta.org. SMART Infrastructure Facility, University of Wollongong. <http://petajakarta.org/banjir/en/research/>

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