

WHITE PAPER

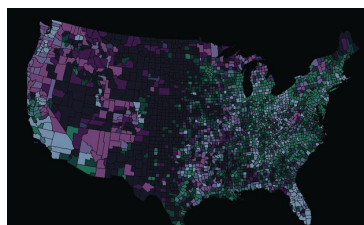
Big Data 2013 A Year in Review



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Big Data 2013—A Year in Review

BY ED SARAUSAD



Big Data vs. Bigfoot

Joshua Stevens shows how analytics may prove existence of the elusive Sasquatch through [big data patterns](#).

Big data, big data, big data...to CMOs, CIOs and IT managers, the phraseology is as hypnotic as a mantra.

In 2013, the noise surrounding big data became even louder as it verged on becoming a \$16.1 billion market. Opinions on what it is, how it should be used or how big data should be regulated became more strident as an increasing number of people joined the conversation. And here's why: [a recent study](#) revealed that companies that put data at the center of the marketing and sales decisions improve their marketing return on investment (MROI) by 15-20 percent.

One thing that is not up for debate: we haven't even scratched the surface for how big data and analytics can be used. Big data is helping to shape global changes, and will continue to do so in the foreseeable future.

That said, what are the most intriguing use cases we've seen in big data in 2013? Here's our countdown:

Solving one of nature's greatest mysteries. One of the more intriguing stories we saw is how a [researcher at Penn State University](#) is using analytics to examine 92 years of data to prove the existence of Bigfoot, that elusive legendary creature hiding in the dense forests of the Pacific Northwest. By compiling census data, first-hand reports and other data sets, the researcher is attempting to reveal patterns that could eventually be used to track the beast once and for all. Or not.

The higher education revolution. In the U.S., we're currently experiencing two problems: an education gap within a large population of unemployed who don't have the skills needed to re-enter the workforce, and the rising costs of higher education (in many ways, it's escalating faster than healthcare!). The ability to access education via the Internet is growing in popularity, and is being facilitated by big data platform technologies such as [Hadoop](#). Thanks to organizations such as [Coursera](#) and [Big Data University](#), we see everyone having access to education, either for free or for a very low cost. The rise of the [MOOCs](#) is something that has been thoroughly documented,

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but the application of big data analytics shapes the specific courses being offered and the trends driving student behaviors.

Ford fights climate change. According to [Jim Motavalli](#) of the New York Times, Ford Motor Co. is using green analytics to drive new auto designs that dramatically lower CO² emissions. Ford is also tackling the problem via its sales channels through a new app, the Fleet Purchase Planner, which leverages big data to clearly illustrate how procurement managers can determine their greenest options (i.e., electric, hybrid, etc.). This innovative use of big data is a testament to seeking out corollaries that may have remained hidden within more traditional limits of existing data sets. Now, correlation does not equal causation, but the ability to research how variables affect other variables is vital in forward-thinking projects such as auto design.

Smarter romance. According to the successful online dating site eHarmony, its users are generating terabytes of data. Going forward, [improved algorithms and deeper analytics](#) will enable eHarmony to suggest better matches, helping the site create more successful pairings. For example, perhaps a man thinks he's attracted to redheads, but he clicks more frequently on the profiles of brunettes. eHarmony knows this, and will use the data to understand what the man is truly looking for, improving the accuracy of the dating platform's selections and responses.

CDC's PulseNet pinpoints Patient Zero. The Center for Disease Control and Prevention (CDC)'s [PulseNet](#) is a network of 87 public health labs across the country. It is currently using big data to prevent foodborne illness epidemics by pulling information on all cases into a single source. By comparing the DNA fingerprint of bacteria from infected patients, researchers can find disease clusters that indicate where and how fast an outbreak is occurring – and move more quickly to intercept it.

Reversing declining graduation rates. It sounds like a “Doh!,” but [Mobile County, Alabama](#) used big data to observe patterns in high school behavior – and found that dropouts frequently had a series of suspensions and absences before totally disappearing from the classroom. To reverse its attrition rate (45 percent in 2011), the school system used data from across the entire county that included attendance records, test scores and disciplinary actions, giving administrators a more comprehensive look at its student population. This led to the creation of a personalized strategy for keeping

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kids in school – and it worked. Today, Mobile has a 70 percent graduation rate and improvement in across-the-board test scores.

Gaga for big data. She's one of the music industry's biggest stars, but Lady Gaga is also gaga for data that enables her to communicate more effectively – and profitably – with her audience. [Troy Carter](#), Lady Gaga's business manager, is the brain behind her big data strategy. He created [littlemonsters.com](#) as a way to lure the singer's 31 million fans on Twitter and 51 million fans on Facebook to a completely branded social network site, one where he can keep 100 percent of the revenue.

Drive smarter, make more money. In 2013, [the United Parcel Service \(UPS\)](#) introduced its On-Road Integrated Optimization and Navigation system. By gathering data from customers, the fleet and handheld devices carried by drivers, UPS created optimal routes that reduce distance, time and fuel. Initial tests in Atlanta show that the new system lowers the number of miles driven; reducing just one mile per day per driver will save UPS \$50 million in fuel, vehicle maintenance and time.

Crowdsourcing for a better airline? Perhaps one of the most unusual big data stories in 2013 involves Alaska Airlines and GE. Already known as an innovator in the world of aviation customer service, Alaska [asked some of the world's best minds](#) to create algorithms that would help it extract data to better optimize flight paths. This would lead to reduced costs, more on-time arrivals and fewer weather delays.

And so we put a big red ribbon on 2013 and look forward to more amusing, astounding and important big data stories in the coming year. Big data is allowing us to discover our connections to a bigger world, one that perhaps is inhabited even by Sasquatch. We're curious to hear your favorite new big data stories of 2013...what projects most surprised you?