What Executives Don't Understand About Big Data

by Michael Schrage | September 14, 2012

How much more profitable would your business be if you had, for free, access to 100 times more data about your customers? That's the question I posed to the attendees of a recent big data workshop in London, all of them senior executives. But not a single executive in this IT-savvy crowd would hazard a guess. One of the CEOs actually declared that the surge of new data might even lead to losses because his firm's management and business processes couldn't cost-effectively manage it.

Big data doesn't inherently lead to better results.

Although big data already is — and will continue to be — a relentless driver of revolutionary business change (just ask Jeff Bezos, Larry Page or Reid Hoffman), too many organizations don't quite grasp that being "big data-driven" requires more qualified human judgment than cloud-enabled machine learning. Web 2.0 juggernauts like Google, Amazon and LinkedIn have the inborn advantage of being built around both big data architectures and cultures. Their future success is contingent upon becoming disproportionately more valuable as more people use them. Big data is both enabler and byproduct of "network effects." The algorithms that make these companies run need big data to survive and thrive. Ambitious Algorithms love Big Data and vice versa.

Similarly, breakthrough big data systems such as IBM's Watson — the Ken Jennings-killing Jeopardy champion — are designed with a mission of clarity and specificity that makes their many, many terabytes intrinsically indispensable.

By contrast, the overwhelming majority of enterprise IT systems can't quite make up their digital minds. Is big data there to feed the algorithms or inform the humans? Is big data being used to run a business process or create situational awareness for top management? Is big data there to provide a more innovative signal or a comfortable redundancy? "All of the above" is exactly the wrong answer.

What works best is not a C-suite commitment to "bigger data," ambitious algorithms or sophisticated analytics. A commitment to a desired business outcome is the critical success factor. The reason why my London executives evinced little enthusiasm for 100X more customer data was that they couldn't envision or align it with a desirable business outcome. Would offering 1000X or 10,000X more data been more persuasive? Hardly. Neither the quantity nor quality of data was the issue. What matters is how — and why — vastly more data leads to vastly greater value creation. Designing and determining those links is the province of top management.

Instead of asking, "How can we get far more value from far more data?" successful big data overseers seek to answer, "What value matters most, and what marriage of data and algorithms gets us there?" The most effective big

data implementations are engineered from the desired business outcomes in, rather than the humongous data sets out. Amazon's transformational recommendation engines reflect Bezos' focus on superior user experience rather than any innovation emphasis on repurposing customer data. That's real business leadership, not petabytes in search of profit.

Too many executives are too impressed — or too intimidated — by the bigness of the data to rethink or revisit how their organizations really add value. They fear the size of the opportunity isn't worth the risk. In that regard, managing big data — and the ambitious algorithms that run them — is not unlike managing top talent. What compromises, accommodations and judgment calls will you consider to make them all work well together?

Executives need to understand that big data is not about subordinating managerial decisions to automated algorithms but deciding what kinds of data should enhance or transform user experiences. Big Data should be neither servant nor master; properly managed, it becomes a new medium for shaping how people and their technologies interact.

That's why it's a tad disingenuous when Google-executive-turned-Yahoo-CEO-thought-leader Marissa Mayer declares "data is apolitical" and that her old company succeeds because it is so (big) data-driven: "It all comes down to data. Run a 1% test [on 1% of the audience] and whichever design does best against the user-happiness metrics over a two-week period is the one we launch. We have a very academic environment where we're looking at data all the time. We probably have somewhere between 50 and 100 experiments running on live traffic, everything from the default number of results to underlined links to how big an arrow should be. We're trying all those different things."

Brilliant and admirable. But this purportedly "apolitical" perspective obscures a larger point. Google is a company whose products and processes are explicitly designed to be data-driven. The innovative insights flow not from the bigness of the data but from the clear alignment to measurable business outcomes. Data volume is designed to generate business value. (But some data are apparently more apolitical than others: the closure of Google Labs, for example, as well as its $12.5 billion purchase of Motorola Mobility are likely not models of data-driven "best-practice.")

Most companies aren't Google, Amazon or designed to take advantage of big data-enabled network effects. But virtually every organization that's moving some of its data, operations or processes into the cloud can start asking itself if the time is ripe to revisit their value-creation fundamentals. In a new era of Watson, Windows and Web 2.0 technologies, any organization that treats access to 100X more customer data as more a burden than a breakthrough has something wrong with it. Big Data should be an embarrassment of riches, not an embarrassment.