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Get the Maximum Value Out of Your Big Data Initiative

by Paul Barth and Randy Bean | February 1, 2013

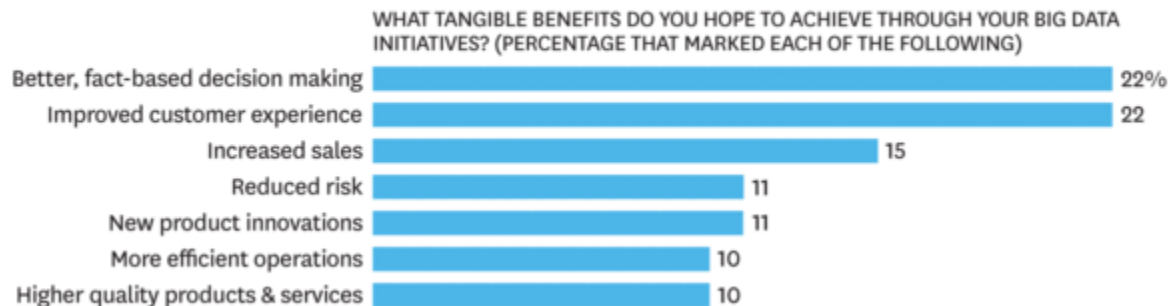
Companies have been striving to harness and leverage the power of their data assets for decades. Now major U.S. corporations and government agencies are finally realizing business value from Big Data.

That is the [finding of a survey \(PDF\)](#) and series of follow-up interviews conducted by NewVantage Partners with C-level executives and function heads representing companies and government agencies during the second half of 2012. Over 50 executives representing leading Fortune 1000 companies, such as Aetna, American Express, Bank of America, General Electric (GE), and Wells Fargo, as well as large federal agencies including the Pentagon and the General Services Administration (GSA), participated in the survey. All participants were executives with budgetary and decision-making responsibility or direct visibility and influence for Big Data initiatives.

Eighty-five percent of respondents indicated that a Big Data initiative was planned or in progress, with almost half using Big Data in an operational capacity. The primary reason cited by organizations for investing in Big Data is to enable better, fact-based decision making.

REASONS FOR INVESTING IN BIG DATA

Over 50 executives from leading companies and federal agencies were asked to rank the benefits they were hoping to achieve through Big Data initiatives.



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While 85% of the participating companies have Big Data initiatives underway with the stated reason of improving analytic capabilities and making smarter business decisions, our subsequent briefings highlighted that the real quantum leap for companies comes from the ability to accelerate the *speed* at which they can get to a decision.

In order to achieve this goal, many of the firms interviewed have established a new business metric for measuring the value of their Big Data initiatives — Time-to-Answer (TTA). TTA reflects the speed by which executives can answer critical business questions and has become a common measure on Wall Street and among other leading firms. The Pentagon has established an equivalent metric known as Data-to-Decision, which is dramatized in the analyses conducted by the intelligence community in the Academy Award–nominated film [Zero Dark Thirty](#).

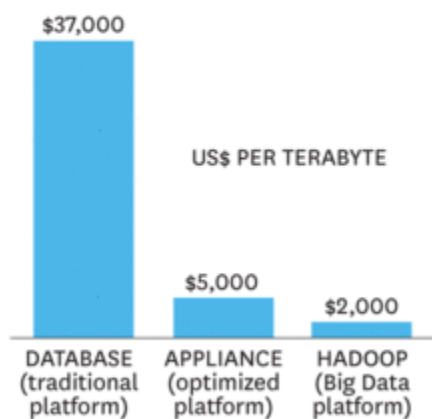
How are Fortune 500 companies going about realizing value from their Big Data initiatives? To achieve their objectives, chief data officers and chief analytics officers are undertaking a series of steps to accelerate the speed at which they can answer critical business questions and realize business value.

1. Identify the Five Most Critical Business Questions to Answer. Companies must start somewhere. We see successful companies beginning by defining a set of the most critical business questions that require an answer. The initial set of questions should be limited and manageable. By addressing a small subset of critical questions, executives can demonstrate an initial set of quick wins that provide business value and enable additional funding to ask additional business questions. Starting small, and building from that foundation, is critical to ensuring successful business adoption.

2. Create an Analytical Sandbox that Enables Data Discovery. Many companies are creating "analytical sandboxes" as an approach to establishing a Big Data environment. An analytical sandbox is a database environment (or test bed) that is set up to be independent of production processes and used for rapid analysis. The idea of an analytical sandbox is that it enables a discovery process, by which executives can play with their data and experiment in an effort to discern new patterns and detect critical new insights. The Pentagon and intelligence communities employ discovery environments to analyze immense volumes of sensor data, from satellites and other telemetry, to identify national security threats.

COST OF BIG DATA PLATFORMS VS. TRADITIONAL DATABASE PLATFORMS

Dramatic cost savings result from Big Data platforms versus traditional data platforms or newer optimized platforms.



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3. Refine the Questions through Iterative Analysis. Companies are using discovery environments to ask more frequent questions and to refine their questions more frequently. The result is a highly iterative

process of constant questioning. One of the benefits of Big Data approaches is that the advent of new Big Data technology platforms makes the process of asking questions less expensive and more cost effective. The chart to the left illustrates the game-changing cost savings that result from Big Data technology versus traditional database approaches.

4. Validate the Hypotheses through Test-and-Learn Techniques. Test-and-learn is a set of practices employed by marketers to test ideas in a small number of customer segments to predict impact and validate results before rolling out to a broader market. Organizations like Capital One have pioneered [test-and-learn techniques](#) to more effectively target their most valuable customer market segments and increase the response rates of targeted customer marketing campaigns. These techniques and processes can be accelerated and democratized through the power of Big Data capabilities, so firms can reach key customer markets faster.

5. Incorporate the Analytics into Operational Processes. Lastly, companies can build a more robust analytic and data-based decision-making environment by integrating their data discovery environment with their operational systems. This enables companies to incorporate "new" patterns and discoveries with "known" algorithms that provide the background of their operational processes. As a result, companies are realizing value from Big Data establishing a dynamic environment that merges the "new" and the "known" to create a more intelligent and sophisticated decision-making infrastructure.

Companies who are taking these steps today are outdistancing their competitors. These firms are capitalizing on the promise and excitement engendered by Big Data by building and implementing operational business environments. The result is that firms are able to realize new business insights — more rapidly than their competitors — and are able to seize the initiative and market advantage to leap ahead of the field.



Paul Barth and Randy Bean are managing partners of [NewVantage Partners](#), a management consulting firm focused on information management and analytics. They are the authors, with Tom Davenport, of "[How Big Data is Different](#)" in the fall issue of [MIT's Sloan Management Review](#).