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NewVantage Partners

Big Data Executive Survey 2016

An Update on the Adoption of Big Data in the Fortune 1000

Executive Summary

NewVantage Partners LLC

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Introduction

In 2012, NewVantage Partners initiated the first Big Data Executive survey targeting senior Fortune 1000 business and technology decision-makers.

The survey was launched at the behest of chief information officers, chief analytics officers, and line-of-business executives who were participants in NewVantage Partners executive roundtable breakfasts, and who sought to understand this new phenomenon known as Big Data. What was Big Data? How was it different? What would be the impact, and the business opportunity?

Upon publication of the 2012 survey, noted author and industry commentator Tom Davenport called the survey "one of the few I have seen that focuses on large organizations and offers responses from C-level executives".

Senior level executive representation has continued through the 2016 survey:

Executive Participation		Breakdown by Role	
C-Executives	35.9%	Chief Data Officer	50.0%
Head of Big Data	28.6%	President | CEO	20.0%
Head of Analytics	12.5%	Chief Information Officer	15.0%
Senior Technologist	16.1%		

Since its inception, the survey has been dominated by large financial service respondents, who continue to be among the heaviest and most mature users of data within the Fortune 1000. However, firms in the life sciences and health care sectors are coming on fast, and beginning to develop the kind of robust data management capabilities which financial services firms have employed for decades.

The 2016 survey published here represents the 4th and final edition of this survey, for it is clear that Big Data is now mainstream, and even the most cautious firms have adopted a Big Data strategy of some form.

2016 survey respondents represented 44 Fortune 1000 and leading firms.

Financial firms continue to be heavily represented:

Industry Representation	
Financial services	73.2%
Life sciences	17.9%
Other sectors	8.9%

We have come to consider this an anecdotal survey rather than a scientific survey in that we have tried to capture the voice of Fortune 1000 executives faced with a new business challenge.

This survey has over the past 4 years reflected the evolution of executive perspectives as they have come to terms with Big Data. We hope you find the results insightful.

Thank you for your interest, and thank you for your participation these past 4 years.

2016 Survey Participating Firms

Financial Services | Insurance

AIG	*Lincoln Financial*
AllState	*MFS Investment Management*
American Express	*MasterCard*
Bank of America	*MetLife*
BB&T Bank	*Moody's*
Capital One	*Morgan Stanley*
Capital Group	*Nationwide*
Charles Schwab	*Putnam Investments*
Cigna	*Regions Bank*
CitiGroup	*Standard & Poors*
Citizens Financial	*State Street*
*CLSA	Cruickshank Laing*	*TD Ameritrade*
Fidelity Investments	*Travelers*
Freddie Mac	*UBS*
GE Capital	*US Bank*
The Hartford	*Wells Fargo*
JPMorgan Chase	

Health Care | Life Sciences

Alkermes	*Harvard Medical School*
Astellas	*iHealth*
CVS Health	*Johnson & Johnson*
Glaxo Smith Klein	*United Healthcare*

Other Sectors

Gannett	*TJX Companies*
Global Partners LP	

Executive Summary

Big Data has reached a point of mainstream adoption within Fortune 1000 firms. This is the primary finding, supported by responses to the 2016 Big Data Executive Survey. This report summarizes the principal findings, and the dominant themes and trends found in the 2016 survey.

Big Data has achieved mainstream adoption.

This conclusion is supported by several key findings of the survey. 62.5% of firms report that they now have at least one instance of Big Data in production. This is nearly double the 31.4% who reported the same result in 2013. 26.8% of firms report that they will invest greater than $50MM in Big Data by 2017, up from just 5.4% of firms that invested greater than $50MM in 2014. Planned investments are expected to rise sharply. 69.6% of firms now view Big Data as very important or critical to their business success. Clearly, Big Data has achieved a level of mainstream adoption.

The Chief Data Officer role is now well established.

Firms are becoming firmly committed to the role of the Chief Data Officer. In 2012, only 12% of firms reported naming a CDO. In the 2016 survey, this number jumps to 54%, a majority. In addition, 20% of firms now report that the Chief Data Officer is the executive with primary ownership responsibility for Big Data initiatives for the firm, and 14.3% report that the CDO is the primary executive sponsor for Big Data. The Chief Data Officer has emerged as an important voice in Fortune 1000 firms.

Business and Technology partnership is seen as critical to Big Data adoption.

Firms report that many factors are critical to successful adoption of Big Data initiatives, but none more so than partnership between business and technology organizations and leadership. 33.9% of firms identified business/technology cooperation as the most critical factor in business adoption, leading all other factors by a wide margin. Strong business sponsorship was cited as the most critical factor by 23.2% of firms. By contrast, technology leadership (5.4%) and technology selection (0.0%) drew negligible responses. Firms were clear that partnership and cooperation with business leadership are the keys to Big Data success.

Business insight and speed are the main drivers of Big Data investment.

Firms cite the ability to develop greater insights into their business and customers (37.0%) as the single biggest driver of Big Data investment. This is closely followed by advantages gained from speed – faster time-to-answer, faster time-to-decision, and faster speed-to-market (29.7%). Firms clearly see Big Data as providing an opportunity to gain and act on insights quickly to seize market advantage. Firms also cited greater analytics capabilities (9.3%) and the opportunity to create a data-driven culture (9.3%) as primary drivers of Big Data investment. Firms appear committed to a data-informed future.

Variety continues to trump volume and velocity as Big Data drivers.

Firms continue to report that variety is the primary technical driver behind Big Data investments (40.0%), with volume (14.5%) and velocity (3.6%) lagging well behind. Firms are seeking to integrate more sources of data, including new sources as well as legacy sources, perhaps to avail themselves of the "long tail" of Big Data. 73.2% have established an analytical sandbox or Big Data lab, and 41% have adopted a data hub or data lake approach. Traditional data management approaches are giving way to greater agility and more nimble data environments.

Big Data Adoption

Big Data adoption continues to grow at a steady rate.

The percentage of firms reporting that they have a Big Data initiative in production rose sharply from 48.2% in 2014 to 62.5% in 2015. The percentage of firms reporting 1 or more Big Data initiatives in production has grown from 19.8% in 2013 to 32.1% 2015. The percentage of firms reporting Big Data initiatives operationalized across the enterprise has grown sharply from 11.6% 2013 to 30.4% in 2015.

Only 5.4% of firms report that they have no Big Data initiatives planned or underway.
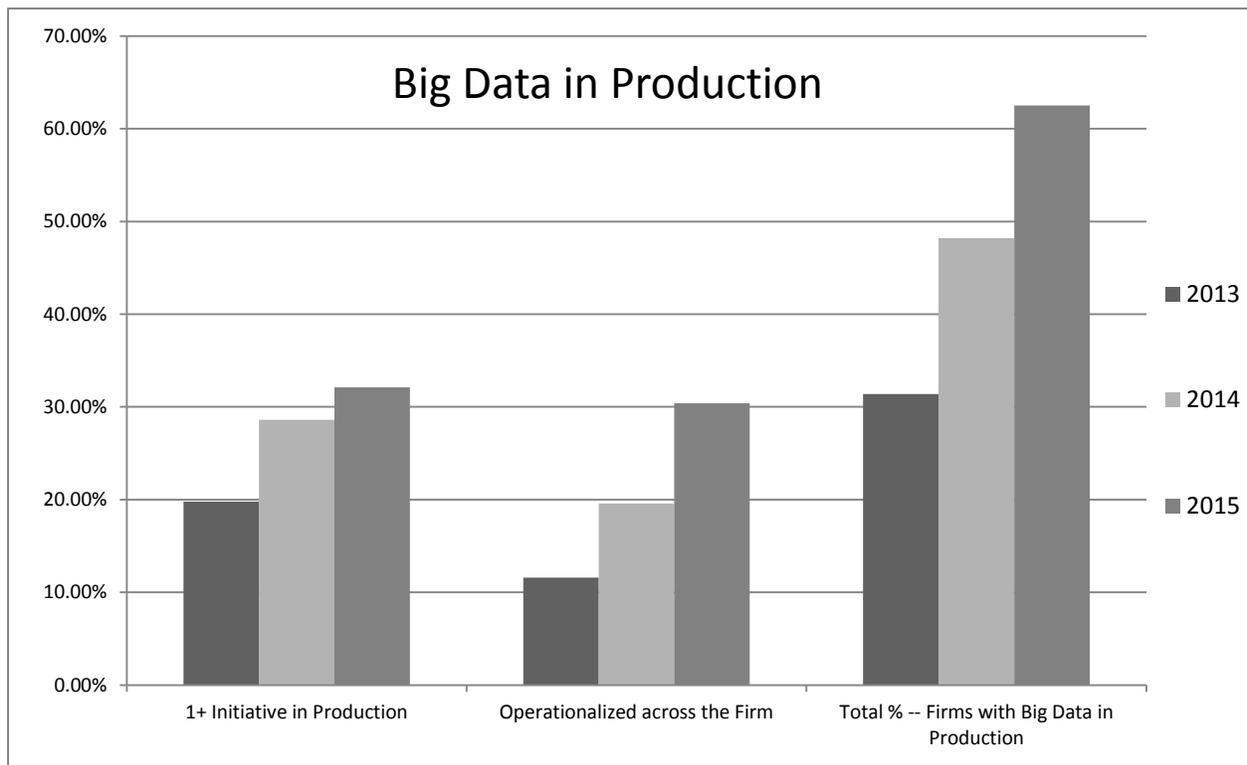
Big Data in Production	2013	2014	2015
1+ Initiative in Production	19.8%	28.6%	32.1%
Operationalized across the Firm	11.6%	19.6%	30.4%
Total % -- Firms with Big Data in Production	31.4%	48.2%	62.5%

Big Data Investment

Investment in Big Data initiatives in projected to grow sharply from 2014 through 2017.

The percentage of firms reporting an expected investment in Big Data of greater than $50MM is expected to grow nearly 5x from 5.4% to 26.8%. Firms investing greater than $100MM is projected to increase from a small 1.8% in 2014 to a significant 8.9% by 2017. Firms investing $50MM-$100MM is projected to increase from 3.6% in 2014 to a very significant 17.9% by 2017.

While, 41% of firms are still investing less than $10MM in Big Data in 2014, this number is projected to drop by more than half to 19.6% by 2017. Big Data spending is on the rise.
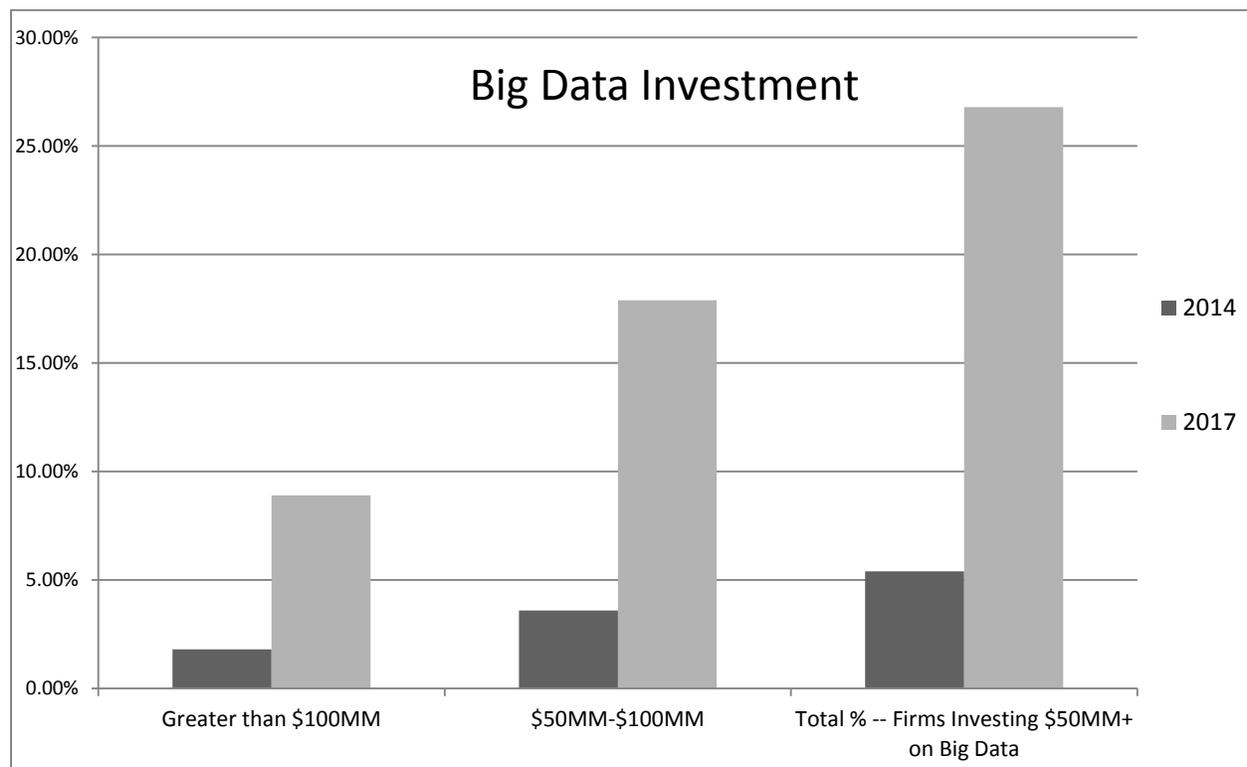
Big Data Investment	2014	2017
Greater than $100MM	1.8%	8.9%
$50MM-$100MM	3.6%	17.9%
Total % -- Firms Investing $50MM+ on Big Data	5.4%	26.8%

The Importance of Big Data

Big Data is now seen as being of critical important to an overwhelming majority of firms.

The percentage of firms that now view Big Data as very important or critical to success has grown sharply from a bare majority of 54.5% in 2014 to a critical mass of 69.9% in 2015. The percentage of firms that see Big Data initiatives as being mission critical has risen from 23.2% in 2014 to 32.1%.

Only 1.8% of firms indicated that Big Data was not important to the firm.
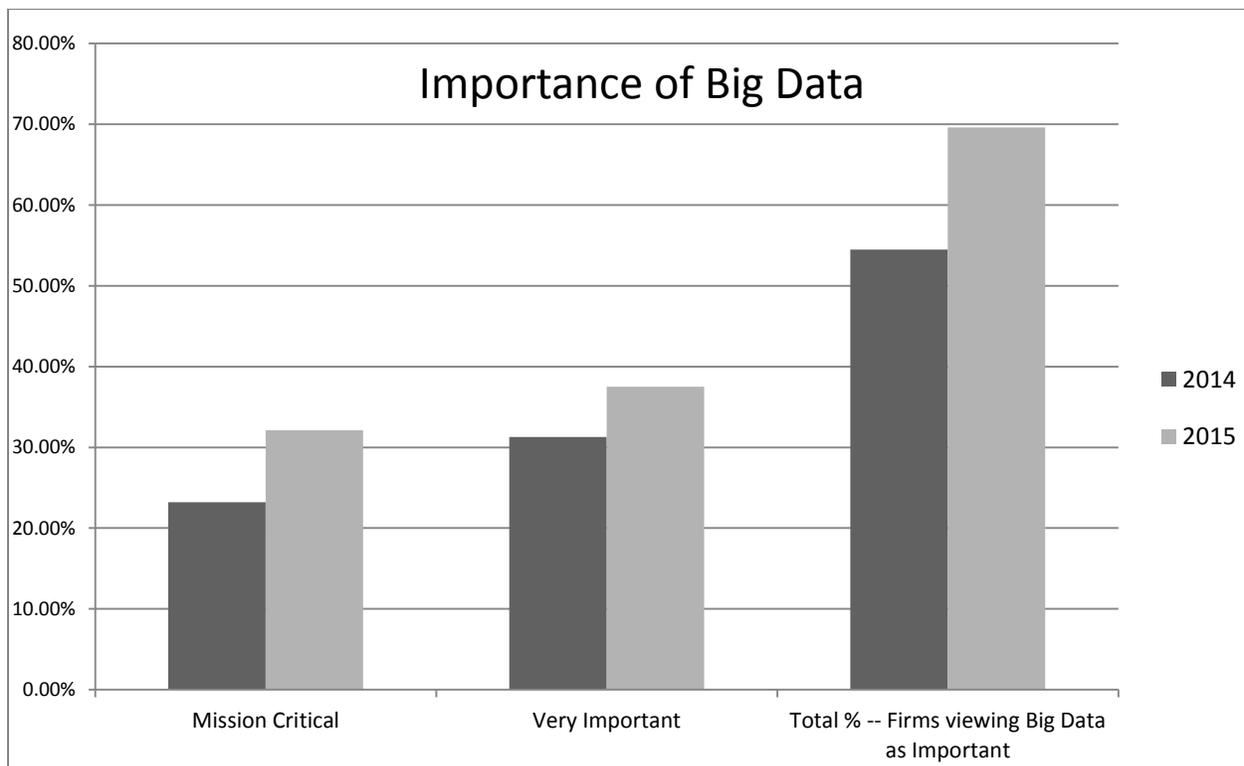
Importance of Big Data	2014	2015
Mission Critical	23.2%	32.1%
Very Important	31.3%	37.5%
Total % -- Firms viewing Big Data as Important	54.5%	69.6%

Executive Sponsorship

Leadership for Big Data is coming from the top of the house.

The importance which firms are attributing to Big Data is evidenced by sponsorship for Big Data initiatives, with 91.9% of organizations reporting that sponsorship starts at the top.

Of the executive sponsors, 19.6% of firms indicated that sponsorship was the purview of the CIO, 16.1% indicated that Big Data was driven by the CEO, and 14.3% named the Chief Data Officer as the primary executive sponsor. The Chief Operating Officer and Chief Marketing Officer were each named by 10.7% of firms.

Executive Sponsorship of Big Data

8.10%   91.90%

- CEO | President | C-Executive Sponsorship
- Non-Executive Sponsor
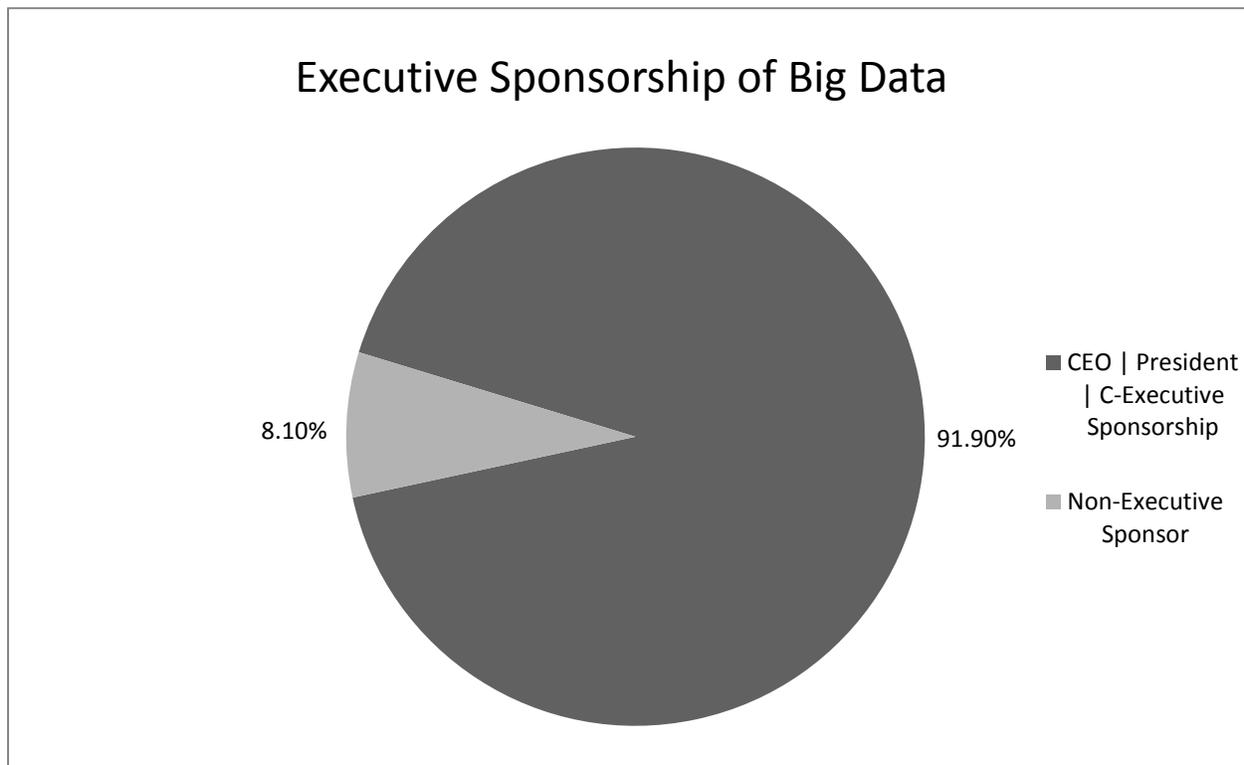
| Executive Sponsorship for Big Data	2014	2015
CEO	President	C-Executive Sponsorship	91.9%	91.1%
Non-Executive Sponsor	8.1%	8.9%

Emergence of the Chief Data Officer

The Chief Data Officer is here to stay.

The percentage of firms reporting that a CDO function had been established has climbed steadily each year from a starting point of 12% in 2012 to majority of firms at 54% who now report having named a Chief Data Officer by 2015.

With 14.3% of firms reporting that the Chief Data Officer is the primary executive sponsor, and 20% of firms indicating that the CDO is the primary executive sponsor, it is clear that the CDO will play a critical role in the ongoing evolution and adoption of Big Data for most firms.

Firms with a Chief Data Officer
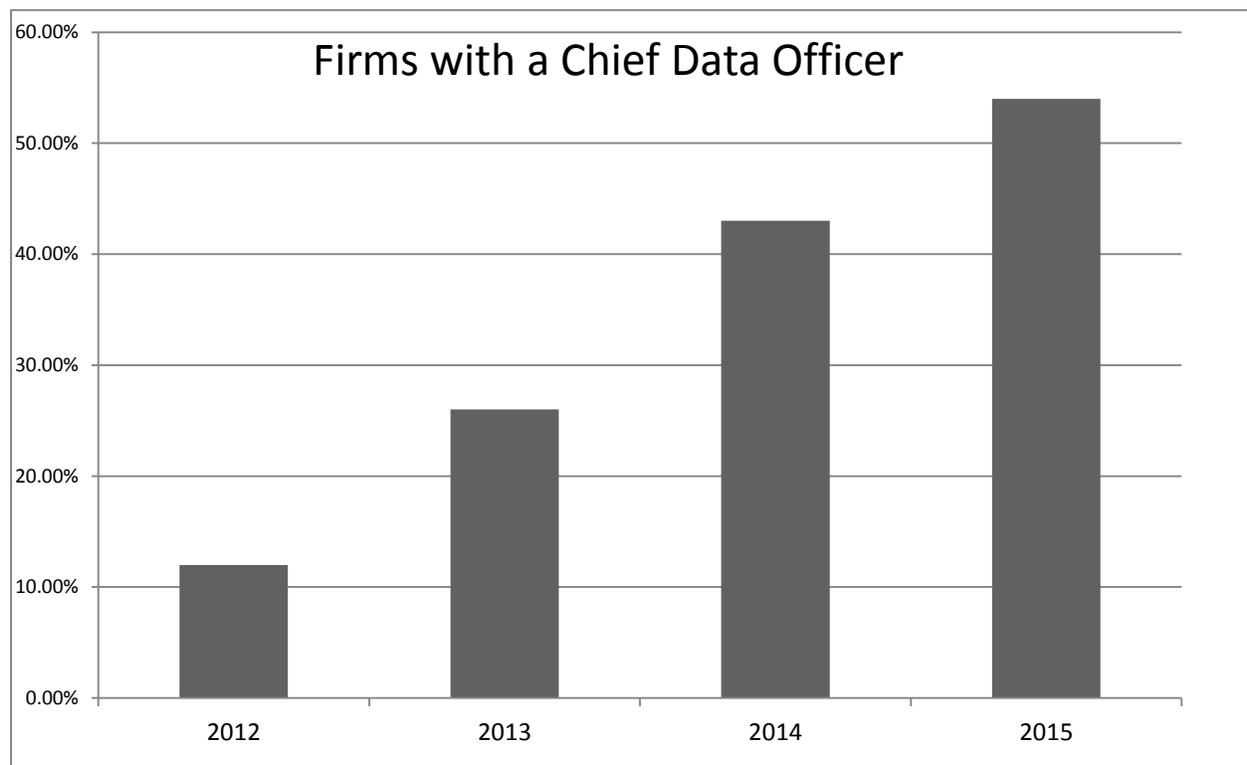
| Chief Data Officer Function	2012	2013	2014	2015
Firms with a Chief Data Officer	12%	26%	43%	54%

Keys to Success

Business and technology partnership is critical to successful adoption.

When asked to name the most critical factor to ensuring successful business adoption, a clear plurality of 33.9% named business and technology partnership, up from 23.4% in 2013. Strong business leadership and sponsorship was cited by 23.2% of firms. Recognition that data is a shared corporate asset was cited by 10.7% of firms. No other factors were cited by more than 10% of firms.

Only 5.4% of firms cited strong technology leadership as the most critical factor in ensuring successful business adoption. 0% cited selection and implementation of the right technologies.

Successful business adoption is clearly seen as a human and organizational issue.

Business Adoption of Big Data
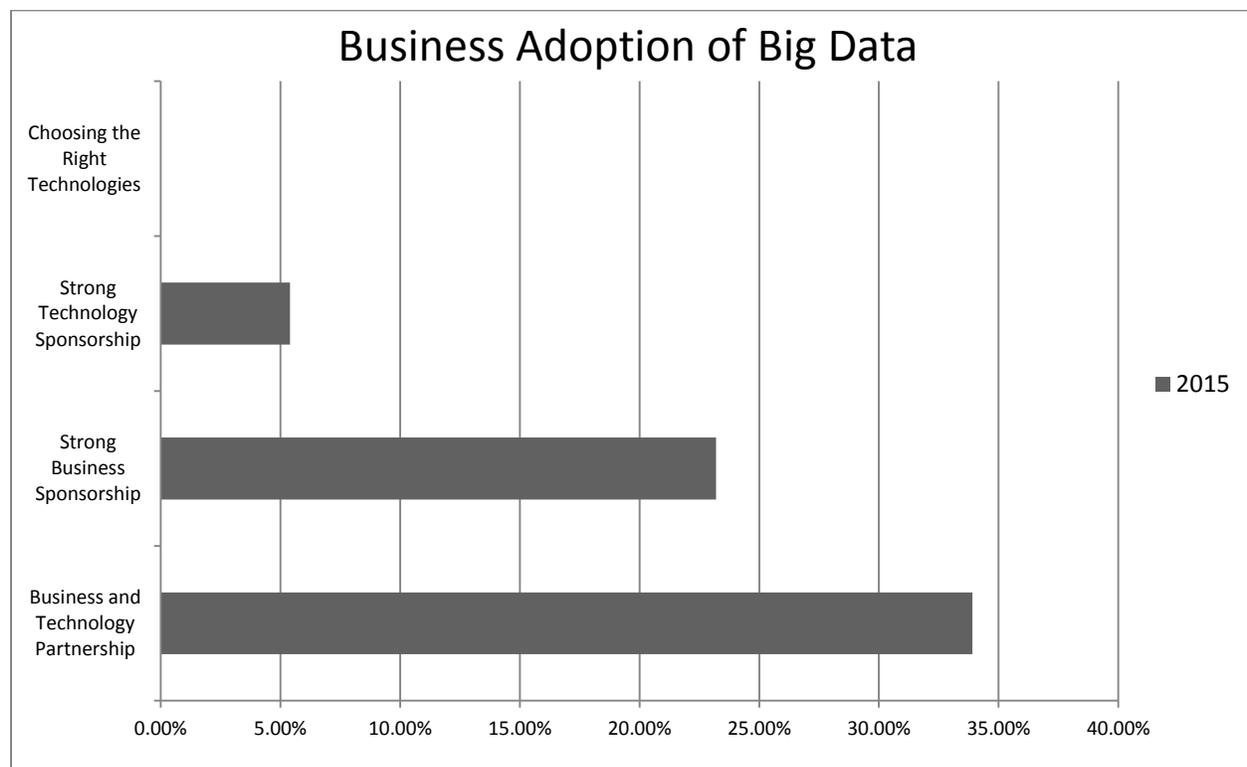
| Business Adoption of Big Data	2015
Business and Technology Partnership	33.9%
Strong Business Sponsorship	23.2%
Strong Technology Sponsorship	5.4%
Choosing the Right Technologies	0.0%

Investment Drivers

Firms are expecting greater insights and the ability to act faster as a result of Big Data investments.

When asked to name the most important factors driving investment in Big Data, 37% cited the need for greater insights into our business and customers, while 29.7% cited factor relating to speed – faster time-to-answer, faster time-to-decision, and faster speed-to-market with new products and services.

Firms also cited the need to invest in greater analytics capabilities and the need for a data-driven culture.
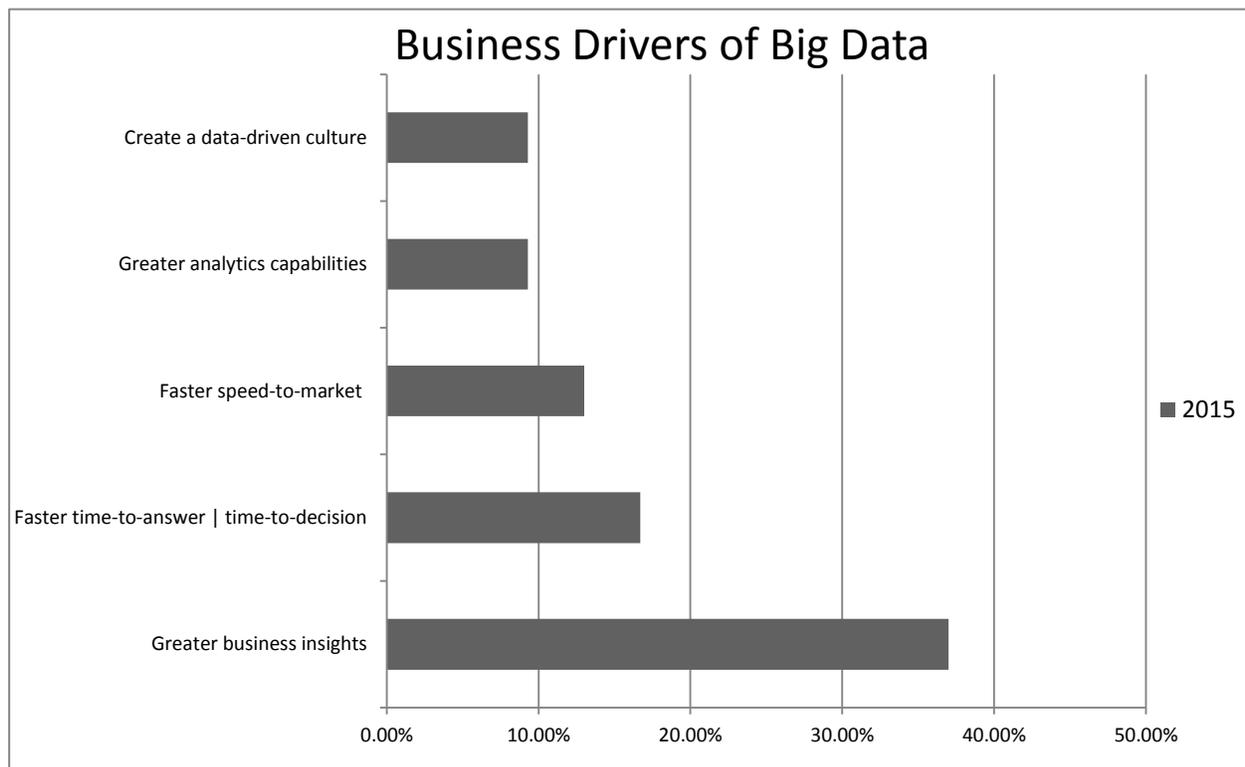
Business Drivers of Big Data	2015
Greater business insights	37.0%
Faster time-to-answer | time-to-decision	16.7%
Faster speed-to-market	13.0%
Greater analytics capabilities	9.3%
Create a data-driven culture	9.3%

Volume, Variety, or Velocity

Variety continues to trump volume and velocity for Fortune 1000 firms.

Firms cite the need to integrate more data – from new sources as well as legacy source. This focus on integrating greater varieties of data is often referred to as the "long tail" of Big Data. While 40% of firms cite "variety" (more sources) as the primary driver of Big Data investment, only 14.5% name "volume" (more data) or "velocity" (faster data).

In spite of the interest by firms in integrating more varieties and sources of data, only 3.6% of firms cite the need for unstructured data (e.g. documents, text), and only 1.8% cite social media data as a priority.
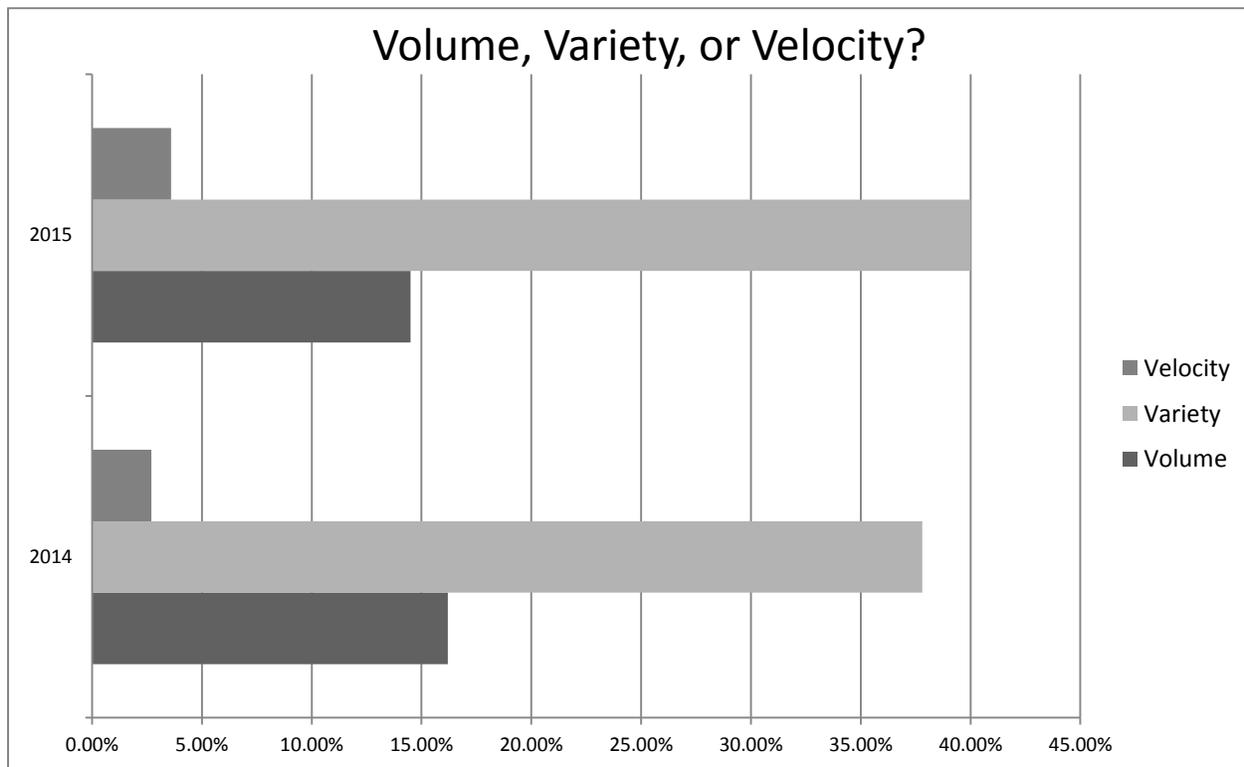
Volume, Variety, or Velocity?	2014	2015
Volume -- more data	16.2%	14.5%
Variety -- more sources	37.8%	40.0%
Velocity -- real-time	2.7%	3.6%

Data Agility

Firms are rallying to new data management approaches that enable greater agility.

While firms seek to integrate more data, the availability of new data management approaches (e.g. Hadoop) is providing greater agility and nimbleness, with 30.9% of firms citing this as a top priority.

Only 9.1% of firms view the reduction of platform costs for data storage and analysis as being their top Big Data priority.

Technical Drivers for Big Data
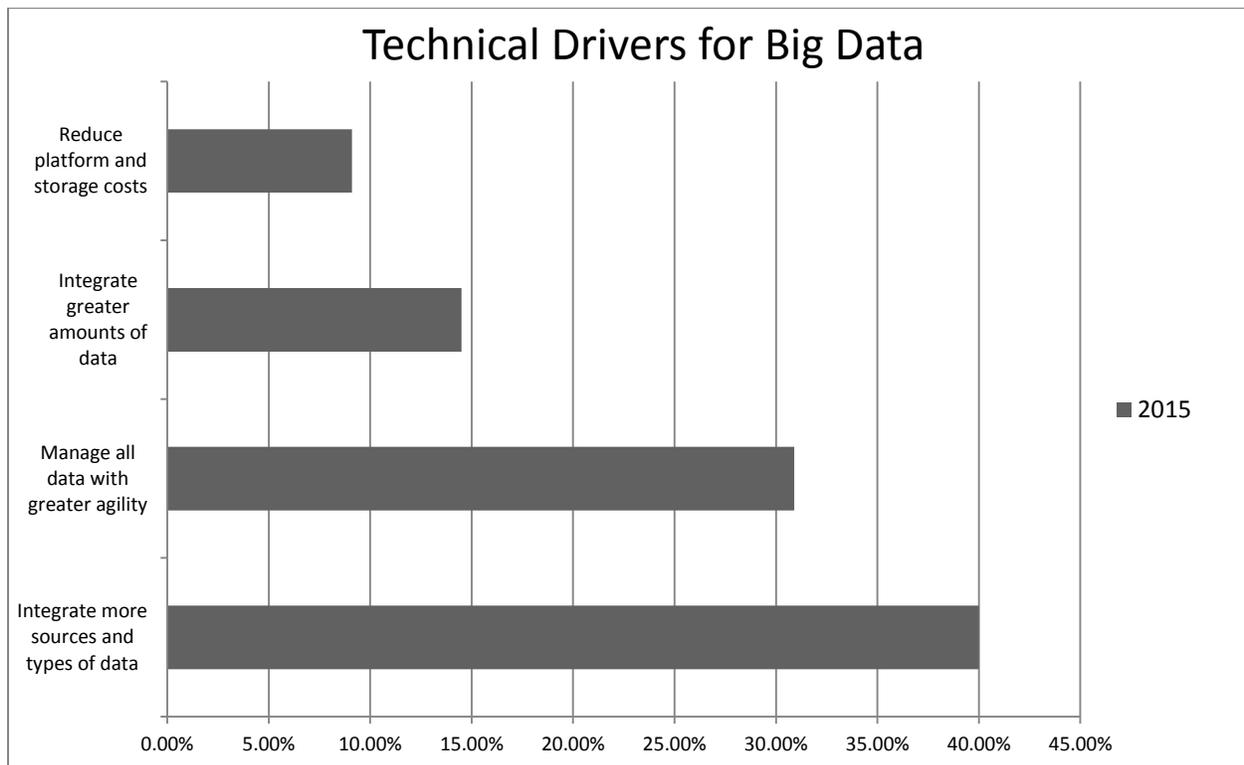
| Technical Drivers for Big Data	2015
Integrate more sources and types of data	40.0%
Manage all data with greater agility	30.9%
Integrate greater amounts of data	14.5%
Reduce platform and storage costs	9.1%

Data Discovery

Firms are embracing new environments that facilitate data discovery.

Big Data has altered the traditional data management paradigm, which has long been dominated by an enterprise data warehouse approach that has often been perceived as lacking in flexibility when it comes to analytics and data discovery.

The percentage of firms that now employ an analytical sandbox, Big Data Lab, or Big Data Center of Excellence to facilitate data discovery has grown from 51.9% in 2013 to 73.2% in 2015.
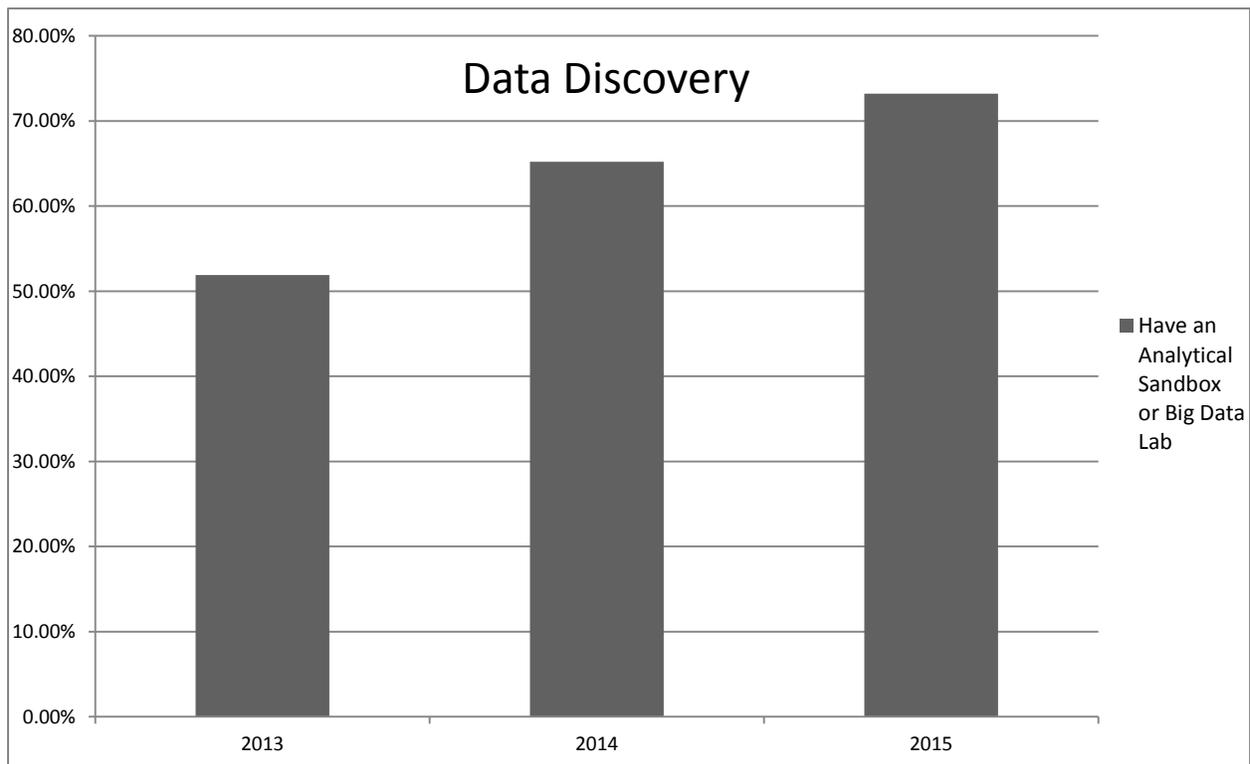
Data Discovery	2013	2014	2015
Have an Analytical Sandbox or Big Data Lab	51.9%	65.2%	73.2%

Rise of the Data Lake

Firms are looking to the Data Lake or Data Hub as an alternative approach or complement to the Enterprise Data Warehouse.

The percentage of firms indicating that they plan to invest in a Data Hub or Data Lake approach has grown sharply from 24.1% in 2014 to 41.1% in 2015. Another 28.6% expect that Big Data will co-exist with the Enterprise Data Warehouse.

Only 7.1% of firms expect Big Data to replace the data warehouse.
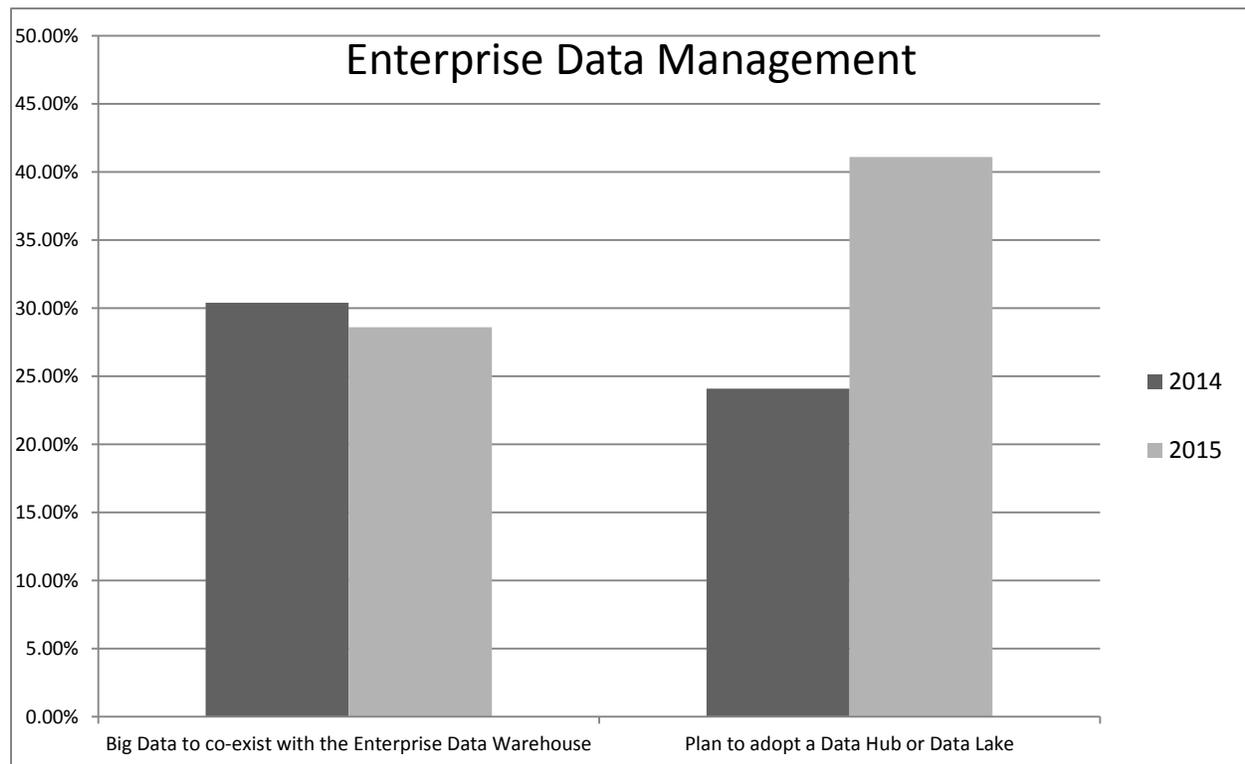
Enterprise Data Management	2014	2015
Big Data to co-exist with the Enterprise Data Warehouse	30.4%	28.6%
Plan to adopt a Data Hub or Data Lake	24.1%	41.1%

About NewVantage Partners

NewVantage Partners LLC is a management consulting firm whose exclusive focus is the delivery of world-class expertise in Data Strategy and Big Data Execution for Fortune 1000 clients.

NewVantage helps clients leverage their data assets to realize business value — by providing expertise in the planning, design, execution, and implementation of Data Strategy, Data Governance, and Big Data initiatives that align with and support the business goals of the organization.

NewVantage has forged a reputation as global thought-leaders in Data Strategy and Big Data.

Our activities include our Big Data Executive Thought-Leadership Roundtable Breakfasts, a monthly column on Big Data in the Wall Street Journal, frequent contributions to MIT Sloan Management Review, Harvard Business Review, and Information Management among others, frequent speaking activities, and an annual Big Data Executive Survey.

NewVantage Partners was founded in 2001.

The firm is based in Boston, New York, and San Francisco, with operations in Austin, TX, Charlotte, NC, and growing.

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