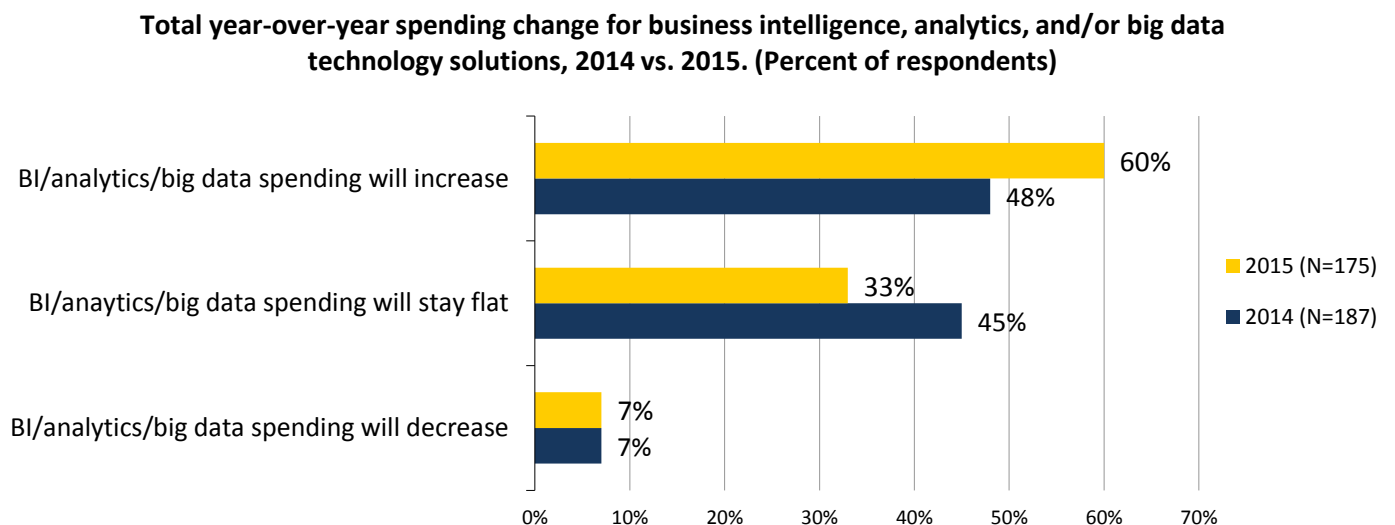*ESG Brief*

2015 'Big Data' Spending Trends

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Abstract: *A majority of organizations plan to increase spending on the applications, services, and infrastructure underlying big data initiatives, especially those larger in size and affiliated with the retail and health care verticals. This may be attributable to the fact that not only are many organizations that have been experimenting with big data pilot projects now moving into full-scale enterprise deployments, but also those more conservative organizations that have been waiting for more market maturity are now confident enough to proceed with their own initiatives.*

BI/Analytics Spending Outlook for 2015

ESG recently completed its annual IT spending intentions survey of 601 senior IT decision makers at midmarket (i.e., 100 to 999 employees) and enterprise (i.e., 1,000 or more employees) organizations across North America and Western Europe.[1] As part of that research, respondents with purchase influence or authority for business intelligence and analytics products and services used to support "big data" initiatives were asked about their organization's spending plans in this area over the next 12 months. As seen in Figure 1, nearly two-thirds (60%) will increase their budget relative to last year, a significant increase from the number of organizations that expected to increase their spending going into 2014, while an additional 33% expect no year-over-year change.

Figure 1. Year-over-year BI/Analytics Data Spending Change, 2014 versus 2015

Total year-over-year spending change for business intelligence, analytics, and/or big data technology solutions, 2014 vs. 2015. (Percent of respondents)

- BI/analytics/big data spending will increase — 60% (2015), 48% (2014)
- BI/analytics/big data spending will stay flat — 33% (2015), 45% (2014)
- BI/analytics/big data spending will decrease — 7% (2015), 7% (2014)

2015 (N=175)
2014 (N=187)

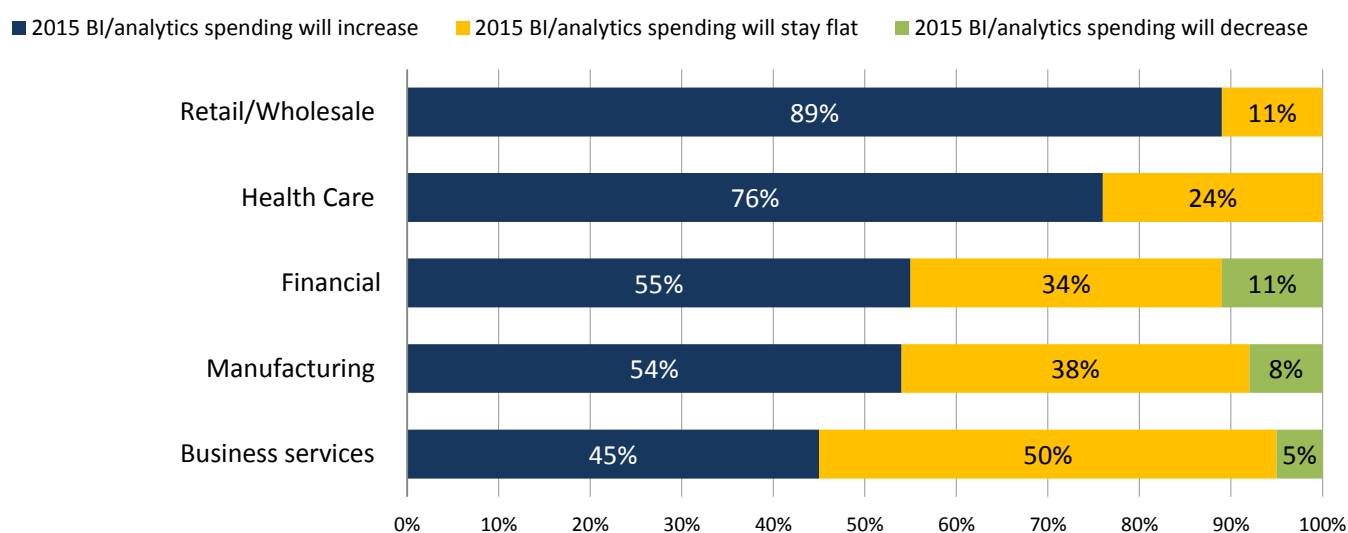*Source: Enterprise Strategy Group, 2015.*

How do these spending trends vary when viewed from an industry perspective? In addition to being the vertical with the strongest overall IT spending change outlook for 2015, retail organizations are more likely than their industry counterparts to prioritize investments when it comes to supporting "big data" initiatives. Indeed, ESG's research reveals that 89% of retailers will increase their spending on BI/analytics solutions relative to 2014 (see Figure 2). Big data is bringing new opportunities to all industries, but retail organizations are embracing newer analytics applications and platforms as a way to harness these large valuable pools of information in order to focus product R&D, tune supply chain logistics, effectively segment customers, individualize pricing, tailor marketing, optimize staffing at physical store locations, and of course detect—and ideally prevent—fraud.

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[1] Source: ESG Research Report, *2015 IT Spending Intentions Survey*, February 2015.

Health care has some of the most interesting big data use cases, from more accurate diagnoses through proactively identifying risky profiles and behaviors to the development of new treatments. A lot of unstructured data from patients was simply lost in the past, but big data now enables the detection of subtler patterns across bigger populations with more genetic, lifestyle, and environmental variables. Related use cases like effective staffing, cost control, and insurance fraud prevention are developing rapidly. Manufacturing also is finding many solutions from big data, including new product research and development, supply chain optimization, and logistics improvements. Here especially, big data starts to intersect the Internet of Things (IoT) as production processes, equipment, and even the products themselves may be instrumented and studied.

Figure 2. BI/Analytics Spending Change in 2015, by Industry

2014 to 2015 BI/analytics spending change, by industry. (Percent of respondents)

Source: Enterprise Strategy Group, 2015.

In terms of a company profile, Table **1** provides a perspective on 2015 BI/analytics spending trends based on an organization's size, as measured by both total employees and 2015 IT budget. Specifically, nearly two-thirds (64%) of enterprise organizations (i.e., 1,000 or more employees) expect to increase their technology spending in support of big data projects in 2015, compared with only 52% of their midmarket (100 to 999 employees) counterparts. Similarly, 67% of organizations with at least $50 million allocated for 2015 IT investments anticipate increased budget levels for BI/analytics products and services over the next 12 months as opposed to only 44% of those with less than $5 million earmarked for IT budgets. Some of this increase by larger enterprises may be attributed to the complexity of building a complete big data technology stack. With many required components needing integration across all disciplines of IT, standing up a new solution can be daunting for smaller organizations. This trend should level out as more vendors and channel partners work to simplify design, deployment, and operation of big data ecosystems.

Table 1. BI/Analytics Spending Change in 2015, by Number of Employees and 2015 IT Budget

To the best of your knowledge, to what extent will your organization's 2015 spending for business intelligence, analytics and/or big data change relative to 2014?	By company size		By 2015 IT budget		
	Midmarket (100 to 999 employees, N=60)	Enterprise (1,000 or more employees, N=115)	Less than $5m (N=45)	$5m to $49.999m (N=60)	$50m or more (N=70)
2015 BI/analytics spending will increase	52%	64%	44%	63%	67%
2015 BI/analytics spending will stay flat	40%	30%	49%	30%	26%
2015 BI/analytics spending will decrease	8%	6%	7%	7%	7%

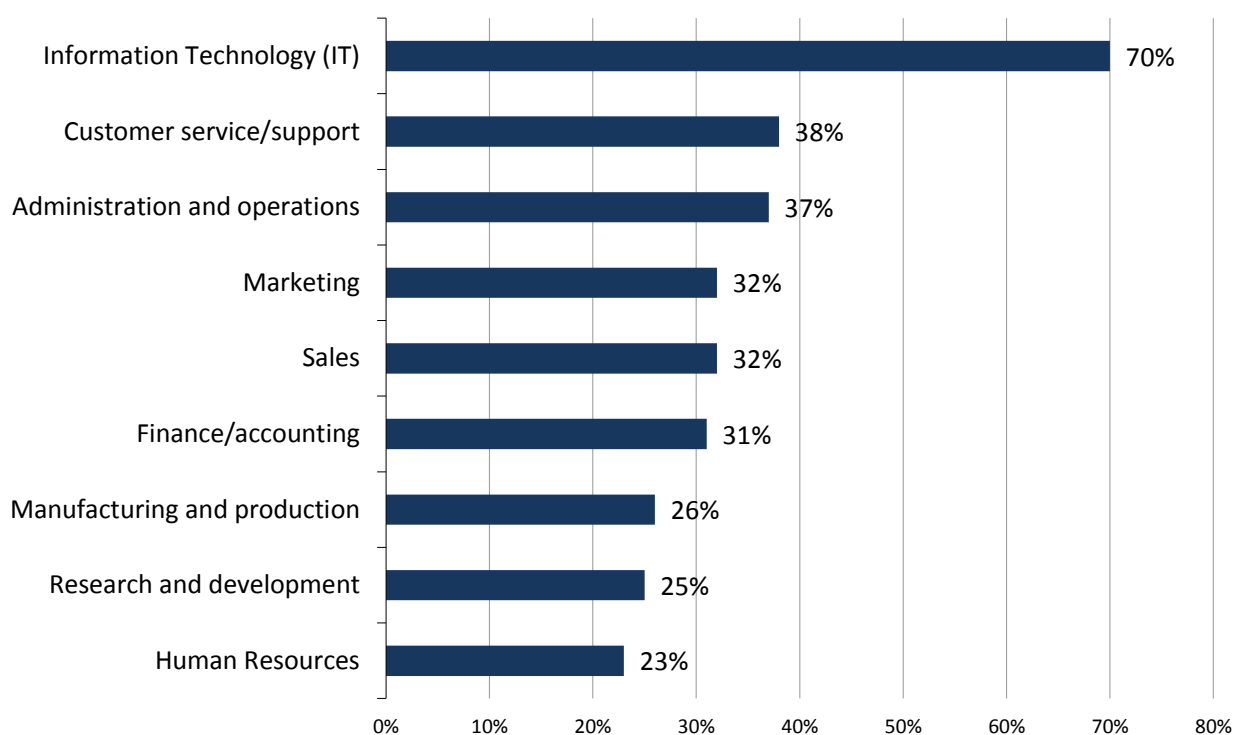Source: Enterprise Strategy Group, 2015.

Usage Trends for Newer Analytics Platforms and Applications

While certain applications and workloads are used broadly throughout the organization by employees regardless of group or role, others are deployed and/or used in a more selective manner. This is no different when it comes to BI/analytics products and services. Specifically, more than two-thirds (70%) of respondents indicate that IT is among the groups within their organization that leverages newer tools like Hadoop and in-memory analytics to support big data initiatives (see Figure 3). In the case of IT groups, an obvious use case is harnessing the large pools of log data collected by the various systems deployed in order to optimize operations and deliver enhanced services to line-of-business groups. IT should arguably be a stakeholder in *all* big data initiatives, but the increasing availability and popularity of ready-to-use, cloud-based big-data-as-a-service type offerings means that this isn't always the case. More shadow IT projects are emerging in enterprises in this market space as line of business groups sometimes require solutions at a rate that exceeds IT's ability to deliver.

In addition to the IT angle, Figure 3 also reveals that big data has many diverse users and use cases, and often times these will be specialized horizontally by department as much as vertically by industry. In general, the big data market is shifting from a focus on generalized data platforms and analytics packages toward more customized applications for particular business activities. Ideally, this market space will become less about the technology and more about the insights, as is natural for any maturing market.

Figure 3. Internal Groups Currently Leveraging Newer Analytics Platforms and Applications

Which of the following groups currently leverage newer analytics platforms and applications (e.g., Hadoop, NoSQL, in-memory analytics, etc.) as a means of extracting incremental value from "big data"? (Percent of respondents, N=175, multiple responses accepted)
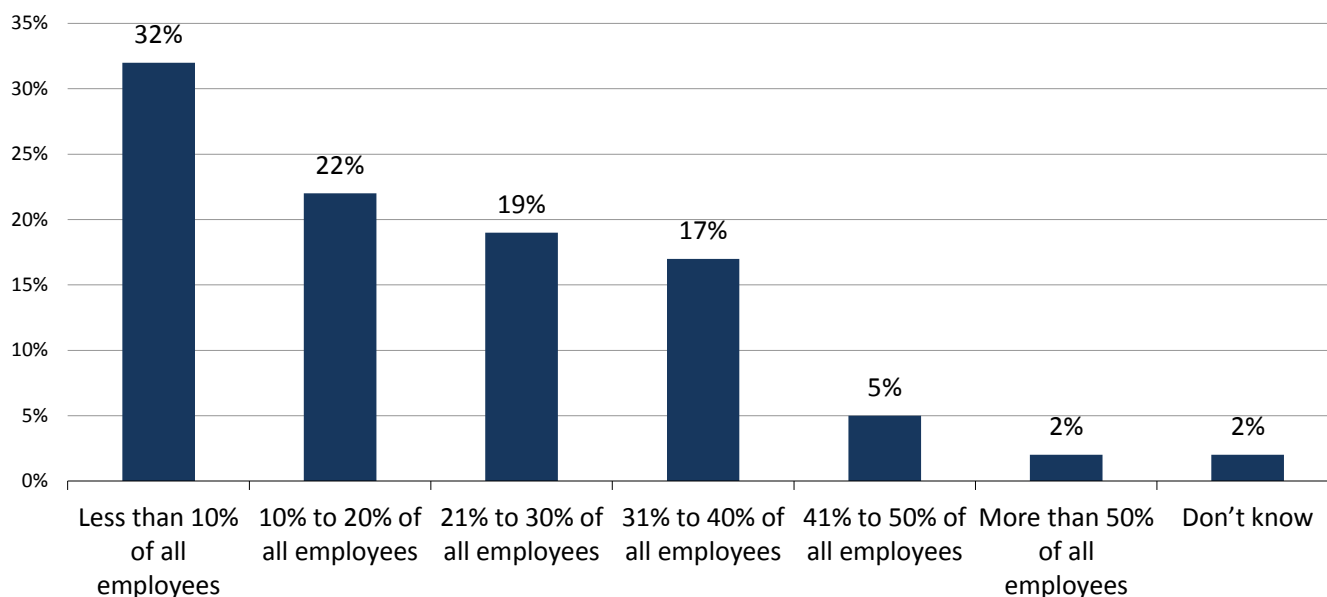

Source: Enterprise Strategy Group, 2015.

Regardless of which groups leverage newer BI/analytics platforms and applications, how pervasively are these tools used by organizations based on relative overall employee headcount? While the plurality (32%) of respondents say that less than 10% of all their employees make use of these newer offerings, it is worth noting that nearly one-quarter (24%) report that more than 30% of their employees leverage these solutions designed specifically to accommodate the demands of big data (see Figure 4). As more of the general population of a business becomes reliant on big data

technologies and applications, more robust solutions will be required. Applications and the underlying stack of infrastructure software and hardware will have to satisfy traditional enterprise requirements for performance, availability, and reliability, all while satisfying security and governance mandates. Many vendors are trying to differentiate themselves not just on analytics functionality, but on meeting these operational business needs, too.

Figure 4. Percentage of Employees Currently Leveraging Newer Analytics Platforms and Applications

What percentage of your organization's employees (all employees, not just IT staff) currently leverage newer analytics platforms and applications (e.g., Hadoop, NoSQL, in-memory analytics, etc.) as a means of extracting incremental value from "big data"? (Percent of respondents, N=175)

Source: Enterprise Strategy Group, 2015.

The Bigger Truth

While many suggested that the big data movement was over-hyped and would likely plateau quickly, ESG research has found that spending continues to accelerate in 2015. The marketplace is maturing rapidly and solutions that were previously seen as attractive to have but difficult to build are now becoming much easier for many organizations to achieve. This trend should continue, with big data becoming more pervasive and more tightly integrated with an extremely wide range of industries and lines of business, and even smaller companies, too.

As products and applications mature, there will be a counter-wind on spending coming into effect as well. Where in the recent past, big data initiatives often "got a pass" on showing ROI and TCO and were seen as "must have" at any cost, more groups are now being asked to justify their investments in this area. This is another sign of market maturity and should be welcomed. Organizations that can define a clear business case for how and why big data can add value will succeed, and vendors that can deliver solutions with superior economic considerations will gain mind—and ultimately market—share rapidly.