



ESG RESEARCH INSIGHTS REPORT

The Impact of Advancing Your Analytics Maturity

Achieving Better Business Outcomes with Analytics

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Driving the Modern Business with Data

As organizations continue to embrace data as a differentiator, data-driven initiatives continue to take precedence over almost all other business priorities. But while data centrality permeates throughout the business, so too do skills gaps, operational complexities, and cost. While organizations will forever work to overcome dynamic business and data challenges, some organizations have overcome the initial data roadblocks to take the lead in their competitive markets, fueled by data.

Organizations that have made the investments and put in the work to achieve data excellence compared to their less data-savvy peers continue to reap rewards. Analytics is proving to have a bigger impact at these more mature organizations across the board, from customer experience (CX) and strategy to product innovation. These leaders are also not resting on their laurels as they understand the importance of maintaining their position atop the data analytics maturity curve. So, what are these analytically mature organizations doing better than their peers? They are...

- **Rich in data** and use more data from more disparate data sources to feed analytics applications.
- **Heavily investing** in analytics by spending more (as a percentage of their IT budgets) on analytics than their peers and they are further along in their adoption of AI/ML technologies for analytics applications.
- **Focused on analytics**, placing analytics initiatives as among their top five business priorities, if not their number one priority.

Assessing Analytics Maturity

ESG recently completed a custom research study to better understand and quantify the relationship between the use of data, advanced analytics, and artificial intelligence to positive business outcomes. For the analysis, ESG leveraged an established analytics maturity framework that enabled the grouping of respondents into three separate categories based on their responses about their analytics usage, investment, prioritization, and supporting infrastructure environments.

Details on the research study and the methodology leveraged to define each group are explained in greater detail in the *Research Overview* section at the end of the paper. For the purposes of reviewing the findings, ESG divided participants into one of three groups based on their maturity in the use of analytics.

Figure 1. ESG Analytics Maturity Model



Source: Enterprise Strategy Group

Leveraging this maturity framework, ESG observed numerous correlations between high levels of analytics maturity and positive business outcomes. When compared to less mature organizations:

- Stage 3 organizations are **2.5x more likely to outpace competitors on customer satisfaction**.
- Stage 3 organizations have **increased revenue per employee 350% more over the past two years**.
- Stage 3 organizations launched **46% more products on average over the last two years**.

The Business Impact of Analytics Investments

Data analytics investments are helping more than four out of five organizations achieve a variety of business goals. In fact, more than 50% of organizations have seen their investments in analytics extensively (and positively) impact operational efficiency, cybersecurity, and customer experience/satisfaction. They are leveraging data warehouses, data lakes, real-time analytics, and AI to increase innovation, get products and services to market faster, and improve sales and marketing performance. Using data analytics, organizations are reducing risk around business decision making and forward-looking strategies by improving the efficiency and effectiveness of research and development to uncover new market opportunities.

Customer Experience

While all organizations recognize the importance of customer satisfaction, leading organizations are focused on the overall customer experience. They are looking to leverage data to maintain their high standing with existing customers, while attracting new customers by delivering a next-generation customer experience rooted in data analytics.

Stage 3 organizations are significantly more likely to report that their analytics investments are having an extensive impact on CX. And when it comes to their less mature peers, Stage 3 organizations are 2.5x more likely to outpace their competitors on customer satisfaction.

Stage 3 organizations are 2.5x more likely to outpace their competitors on customer satisfaction.

Strategy and Revenue

Business leaders are tasked with charting the long-term success of the business through an effective business strategy. Is the business properly aligned to customer needs? Is it agile enough to quickly pivot if something unexpected happens or an opportunity presents itself where it can capitalize? Increasingly turning to analytics is proving to be a differentiator for organizations that are mature in their use of data. When making major business strategy decisions, Stage 3 organizations are 3x more likely to extensively leverage analytics information than Stage 1 organizations.

One of the reasons that Stage 3 organizations use analytics information is to reduce risk by preparing for potential headwinds that could negatively impact the business. While most Stage 3 organizations say analytics investments have helped them reduce risk when it comes to strategy, unforeseen issues are bound to occur. How prepared are Stage 3 organizations? Whether they are in the form of slumping sales, client dissatisfaction, or issues with products/services, business leadership at Stage 3 organizations are 2.7x more likely than Stage 1 organizations to identify business issues

Business leadership at Stage 3 organizations are 2.7x more likely to identify business issues early.

early. And they are gaining this advantage through next-generation technology. In fact, analytics maturity correlates with users that more aggressively use predictive and real-time analytics. Users at Stage 3 organizations leverage predictive analytics 23% more than their peers at less mature organizations, and the prevalence of real-time analytics at Stage 3 organizations is 44% higher than at Stage 1 organizations.

While most organizations leverage analytics to support marketing and sales initiatives, more mature organizations are in a particularly advantageous position. Stage 3 organizations are 2x more likely to be impacting sales and marketing performance with analytics, resulting in an improved bottom line. ESG sought to measure revenue growth across the analytics maturity spectrum and found Stage 3 organizations to be nearly twice as likely to be among the leaders in their competitive set when it comes to revenue growth.

Revenue advantage for Stage 3 organizations:

- Nearly twice as likely to be among the leaders in their competitive set when it comes to revenue growth.
- Increased revenue per employee 350% more over the past two years.

In fact, Stage 3 organizations have increased revenue per employee 350% more than less mature peers over the past two years (a +9% increase versus +2% for Stage 1 organizations). These results have led to a high degree of business optimism at Stage 3 organizations.

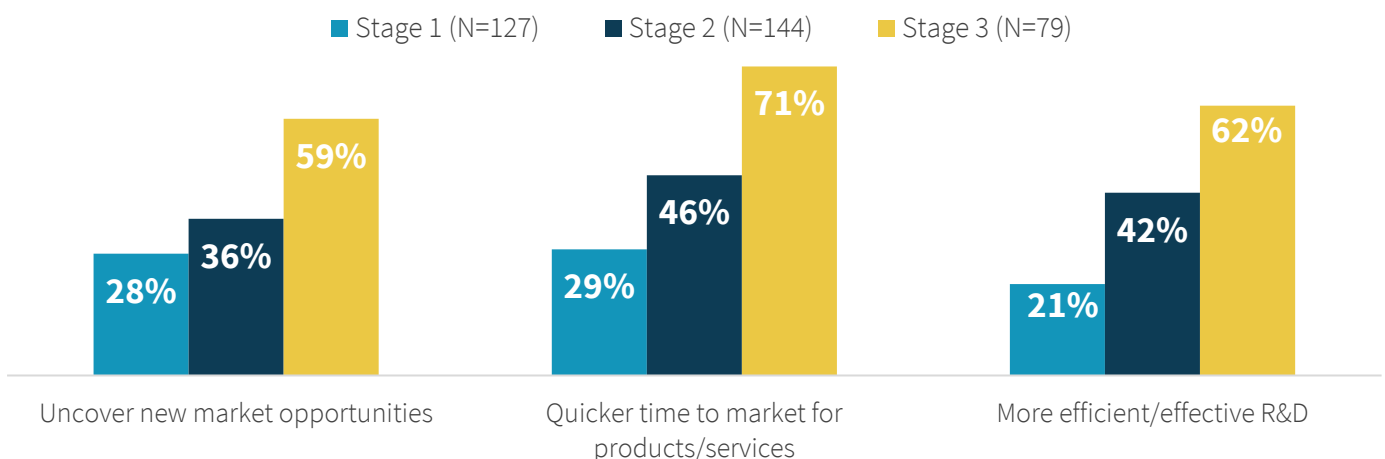
Innovation

Innovation leads to business success, and Stage 3 organization have a distinct innovation advantage. Stage 3 organizations more often report that analytics have an extensive impact on their ability to uncover new market opportunities, get to market faster, and conduct R&D effectively (see Figure 2).

- Stage 3 organizations are **2.1x likelier** to report that analytics extensively impact their ability to **uncover new market opportunities**.
- Stage 3 organizations are **2.4x likelier** to report that analytics extensively impact their ability to **bring products/services to market faster**.
- Stage 3 organizations are **3x likelier** to report that analytics extensively impact their ability to **operate more efficient/effective R&D**.

Figure 2. Innovation Advantage

To what extent is your organization uncovering new market opportunities, shortening time to market, and improving R&D with its analytics investments? (Percent of respondents selecting “extensively”)



Source: Enterprise Strategy Group

ESG asked respondents to consider their organization’s product/service portfolio with a goal of quantifying the impact analytics use has had over the last two years. On average, **Stage 3 organizations have launched 46% more products/services over the last two years compared to their less analytically mature peers, and this has led to increased revenue.** In fact, when considering these new products and services that they’ve launched over the last two years, Stage 3 organizations have seen significant revenue improvements from them. On average, **Stage 3 organizations drive 30% more revenue from new products that simply did not exist two years ago.**

Modern Data Infrastructure

Organizations derive value from analytics investments by ensuring the timely delivery of technology, right-sized resources, and data to relevant stakeholders. Whether leveraging a foundational data warehouse or a recently deployed data lake, organizations recognize the need to evolve their data infrastructures to support a modern, data-driven business. ESG sought to understand what operational practices and system capabilities the most mature organizations were turning to when it comes to underlying systems and infrastructures that will support the future of an organization’s data and analytics platform. Capabilities in areas such as performance, cloud-like agility, operational efficiency, and data protection and security all proved especially critical to Stage 3 organizations.

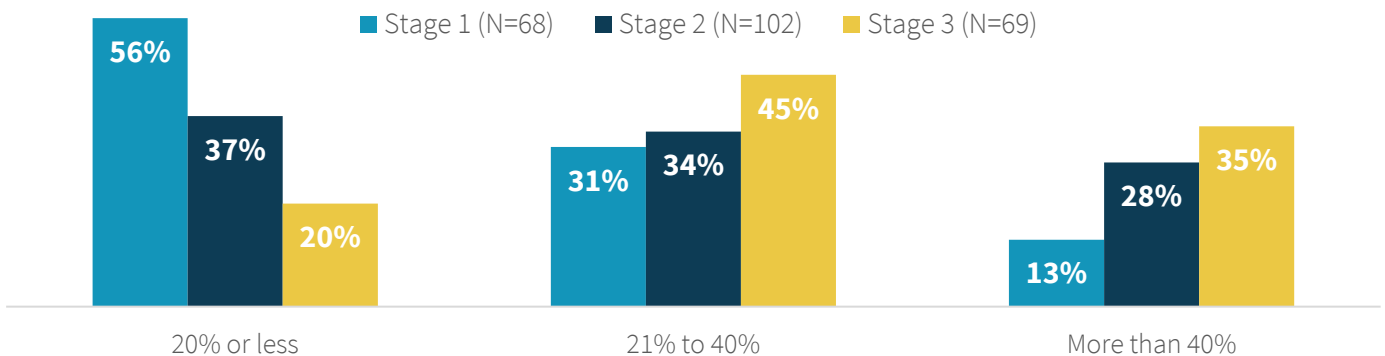
Performance

With performance being viewed as a critical infrastructure attribute, it is no surprise that flash storage is used broadly, particularly by the most mature organizations. In fact, when ESG asked respondents about the use of flash storage within an organization’s data warehousing and/or data lake environment, Stage 3 organizations are **66% more likely to use all/most flash storage for their data warehouse and/or data lake environment** compared to Stage 1 organizations.

The use of flash storage does not only help improve latency and responsiveness and support more concurrent end-users on a particular system, but also can enable organizations to support more advanced use cases or capabilities, with a great example being the use of real-time analytics. The ability to incorporate new data immediately in analysis can enable the business to react to a request, change, anomaly, or opportunity without delay. Stage 3 organizations are capitalizing on the use of real-time analytics. In fact, **the prevalence of real-time analytics at Stage 3 organizations is 44% higher** than at Stage 1 organizations. Further, Stage 3 organizations are **2.7x likelier to have more than 40% of their analytics/reporting used by end-users and conducted in real time.**

Figure 3. Analytics/Reporting Generated in Real Time

Approximately what percentage of analytics/reporting end-users at your organization use in their day-to-day jobs can be described as being generated in real-time (as opposed to near real-time or batched)?



Source: Enterprise Strategy Group

Cloud-like Agility

While the rotation to cloud environments is clear, analytics infrastructure for all organizations is hybrid and is likely to remain so for years to come. Looking specifically at data warehouses and data lakes, hybrid is expected to remain dominant, as five years from now 66% of respondents expect to operate a data warehouse on a hybrid mix of public and private cloud solutions, and 65% expect to operate data lakes with hybrid cloud solutions. The need to operate effectively in both public and private cloud environments is likely why more mature organizations list support for public infrastructure as an important capability of underlying systems and infrastructure for the future of their organization's data/analytics

Nearly 2 in 3 organizations believe that five years from now their data warehouse and/or data lake will be supported by hybrid cloud infrastructure.

platforms. Future trends point to a continuing mix of deployments, with on-premises preference for specific workloads for Stage 3 organizations. When it comes to data lakes in particular, Stage 3 organizations are **2.5x more likely to expect their data lake to be 100% on-premises in the future.**

Operational Efficiency

For analytics, management of data estates is often tied to the desire to improve operational efficiency. When considering the increased complexity of operationalizing data, the distributed nature of data, the number of tools and technologies, the increased number of users looking for access to data, and the speed at which organizations are hoping to have answers, it's not surprising that the more mature an organization is at using data to support the business, the greater challenges they experience in association with management. When it comes to the supporting infrastructure being leveraged to support analytics applications and workloads, one of the greatest challenges for Stage 3 organizations is dealing with managing data growth and capacity. **Stage 3 organizations are more apt to report additional key challenges in association with management and operations, such as a 70% increased likelihood of experiencing challenges associated with the time and complexity of provisioning servers and a 93% increased likelihood of struggling to support the desired frequency of reporting.**

Stage 3 organizations are 45% more likely than less mature organizations to extensively invest in data-centric technologies to improve operational efficiency.

As organizations invest in data-centric technologies to positively impact the business, improving operational efficiency continues to be the top area where all organizations extensively leverage data. In fact, while 56% of all organizations extensively invest in technologies like data warehousing, data lakes, real-time analytics, and AI/ML with a goal of improving operational efficiency, Stage 3 organizations are 45% likelier than less mature organizations to extensively invest in data-centric technologies to improve operational efficiency. As a likely result of being aware of multiple key challenges and addressing them through investment, Stage 3 organizations are 46% more likely to report improved operational efficiency with analytics investments.

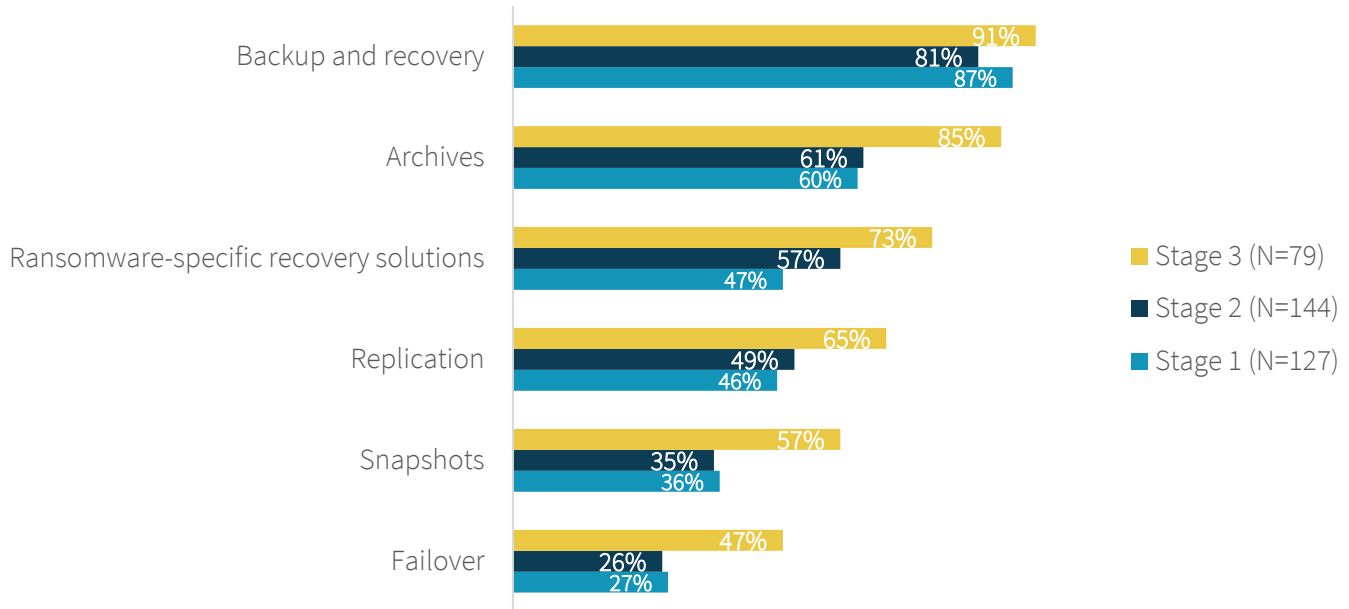
Data Protection and Security

Ensuring the availability of data in a reliable way is critical to business success. This is a big reason why 41% of survey respondents selected reliability as the most important attributes to their organization with respect to underlying systems and infrastructure to support future data analytics initiatives. Interestingly, the research showed that while 33% of organizations have lost analytics data in the last 12 months, Stage 1 organizations have seen 4.6x more data loss events, on average, than more mature organizations. A big reason for that is because high maturity organizations bring more tools to bear to protect their analytics data. **Stage 3 organizations are more rigorous in their protection of analytics data by using**

more data protection tools and technologies at a greater clip, including archiving, replication, snapshots, failover, and ransomware-specific recovery solutions (see Figure 4).

Figure 4. Data Protection Capabilities to Protect Analytics Data

What data protection capabilities does your organization leverage or plan to leverage to protect analytics data? (Percent of respondents, multiple responses accepted)



Source: Enterprise Strategy Group

In addition to Stage 3 organizations ensuring more reliable access to data, a common theme found in the research from both a challenges and priorities standpoint was security. As more employees ask for access to more data, organizations are increasingly scrutinizing ways to ensure security and compliance. 50% of survey respondents selected data security as the most important infrastructure attribute to support future data-centric initiatives. A majority of organizations are leveraging analytics to ensure a more fortified cybersecurity landscape with proper coverage and protection throughout the entire data estate. From network security, ransomware detection, and insider threat detection to social engineering, log analytics/SIEM, and AI/ML-based security tools, all areas of security are being enriched with data analytics to support the rapid identification of security threats. High maturity organizations have recognized the power of using analytics to enrich security. In fact, **Stage 3 organizations are 2.2x more likely to expect to significantly increase security analytics spending over the next 12-24 months** as they apply analytics more broadly throughout their security programs. They also rate themselves as being more effective than their less mature peers at applying analytics to identify threats.

Stage 3 organizations are 2.2x more likely to expect to significantly increase security analytics spending over the next 12-24 months.

The Bigger Truth

As data increasingly becomes a foundational launching pad for business success, prioritizing the democratization of data analytics is proving to add substantial value to the business. Whether delivering a differentiated custom experience rooted in personalization, innovating to deliver more and better products to market faster than the competition, or reducing risk by prioritizing the security and protection of more data across the data estate, analytics can have an extensive impact on all facets of the business.

For organizations deemed the most mature when it comes to leveraging data analytics, common themes emerge that separate them from their less mature peers. They prioritize analytics initiatives over most, if not all, other business priorities. They place larger bets on analytics investments at a greater clip. And they leverage as much data as possible regardless of size, speed, type, or location, to feed analytics applications used by more data stakeholders within the business. That means that everyone from IT to finance to HR to support are empowered to leverage data and analytics on their terms using right-sized infrastructure to support their goals and the goals of the business. And most importantly, the most mature organizations recognize that data-driven success using analytics is a moving target. That means that while they have a competitive lead over their less mature peers, they cannot rest and must continue to innovate by turning to next-generation technology like AI to continue to separate themselves from the pack.

For those organizations that are behind their peers when it comes to leveraging data analytics to better support the business: it is not too late. There is still plenty of time to explore the ways data analytics can enable you to transform your business. By looking at those organizations that have seen success, you can put your business on a similar path to analytics success. Do not get left behind.

Appendix

Research Methodology

This study—fielded in 2021—included IT decision-makers (e.g., IT senior management or management) and/or data architects with knowledge of and/or responsibility for their organization’s analytics initiatives and goals.

After applying data quality control best practices and screening the remaining completed responses (on several criteria) for data integrity, a final sample of 340 respondents from North American (US and Canada) remained. 83% of respondents were from enterprise organizations (1,000+ employees) and 17% were from mid-market organizations (500-999 employees). Multiple industry verticals were represented including manufacturing, financial, technology, and healthcare, among others. All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

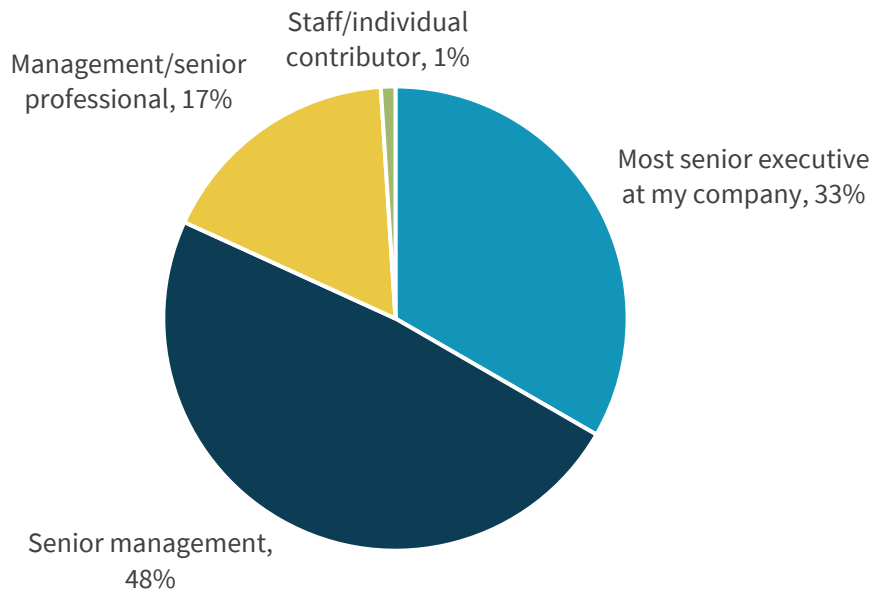
Respondent Demographics

Figures 5-8 detail the demographics and firmographics of the respondent base.

Note: Totals in figures and tables throughout this report may not add up to 100% due to rounding.

Figure 5. Respondents by Responsibility

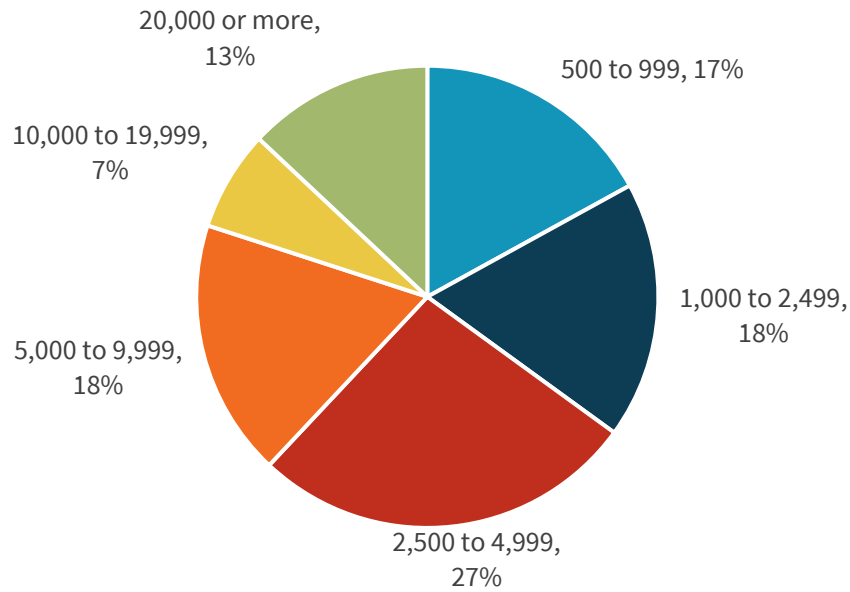
Which of the following best describes your current responsibility within your company? (Percent of respondents, N=350)



Source: Enterprise Strategy Group

Figure 6. Respondents by Number of Employees

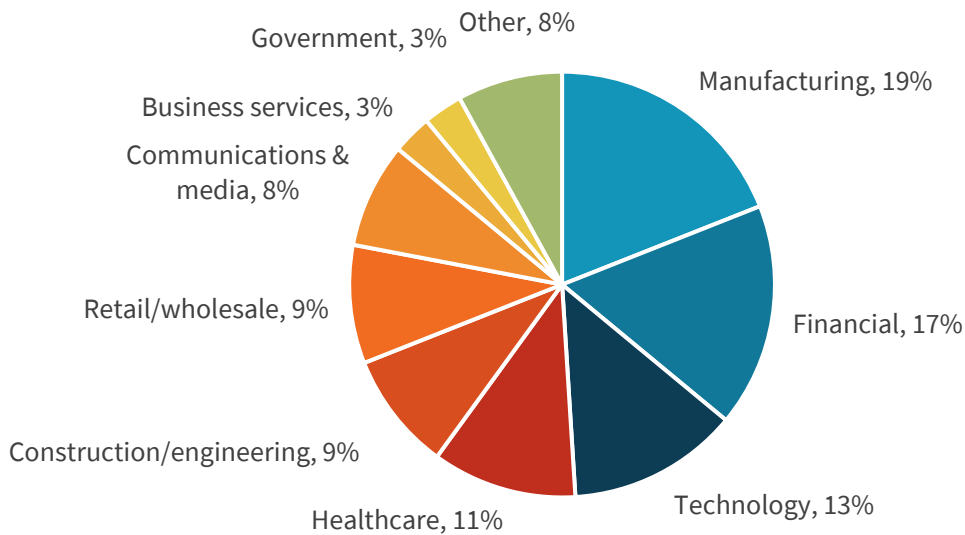
**How many total employees does your company have worldwide?
(Percent of respondents, N=350)**



Source: Enterprise Strategy Group

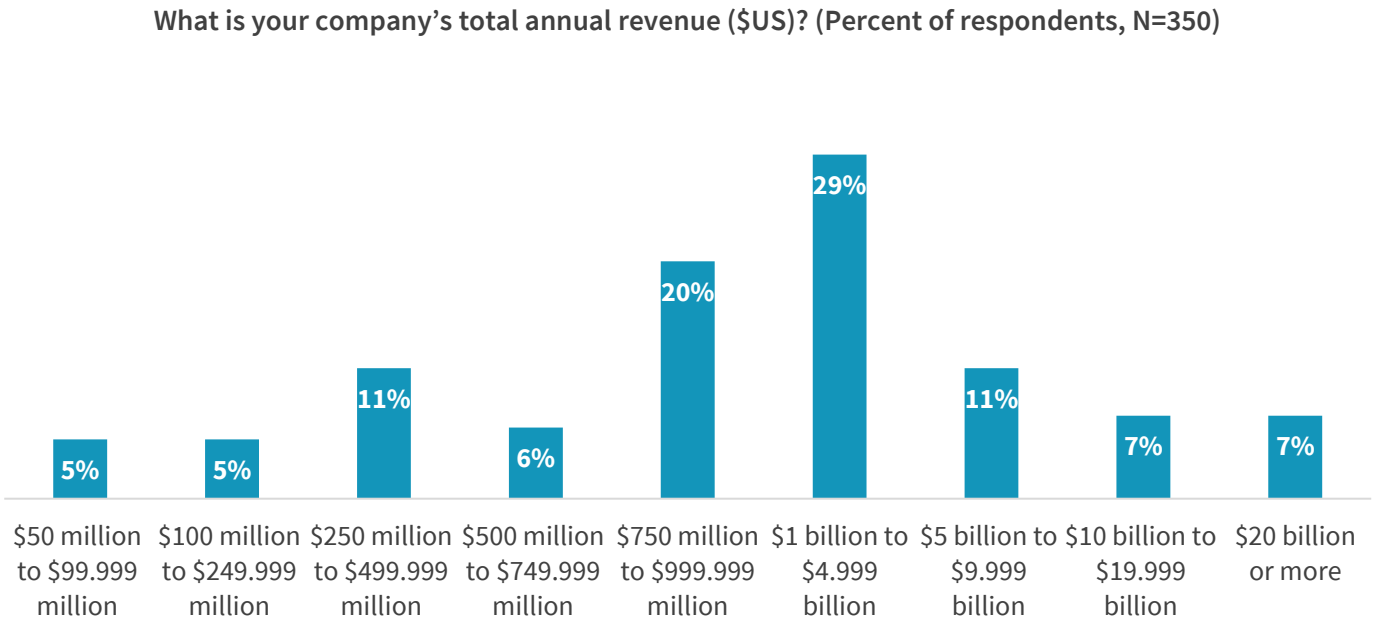
Figure 7. Respondents by Industry

What is your company's primary industry? (Percent of respondents, N=350)



Source: Enterprise Strategy Group

Figure 8. Respondents by Annual Revenue



Source: Enterprise Strategy Group

Analytics Maturity

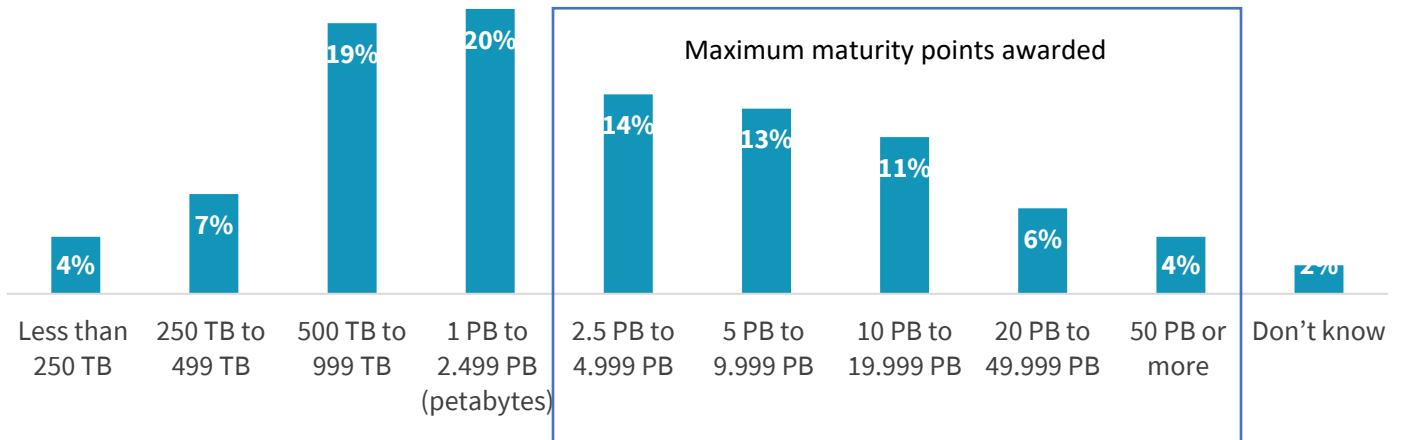
As part of ESG's comprehensive survey delving into the relationship between high levels of expertise and usage of analytics and positive business results, ESG leveraged an established analytics maturity framework that enabled ESG to group respondents into separate categories based on their responses about their analytics usage, investment, prioritization, and their supporting infrastructure environments.

ESG leveraged several pillars to assess the relationship between analytics maturity and other aspects of an organization's IT environment. From a process standpoint, organizations prioritizing the use of data-driven analytics were credited with more maturity points in the framework. In total, an organization could earn a maximum of 5 maturity points, broken down as follows: Those organizations that earned less than 2.5 maturity points (36% of respondents) were categorized as Stage 1 (the least mature in their usage of analytics); those that earned between 2.5 and 3.5 maturity points (41% of respondents) were categorized as Stage 2; and those that earned more than 3.75 points (23% of respondents) were rated as Stage 3 (the most mature in their usage of analytics).

Figures 9-13 detail the questions that served as the pillars for assessing analytics maturity and the responses that earned organizations the most maturity points.

Figure 9. Size of Analytics Storage Environment

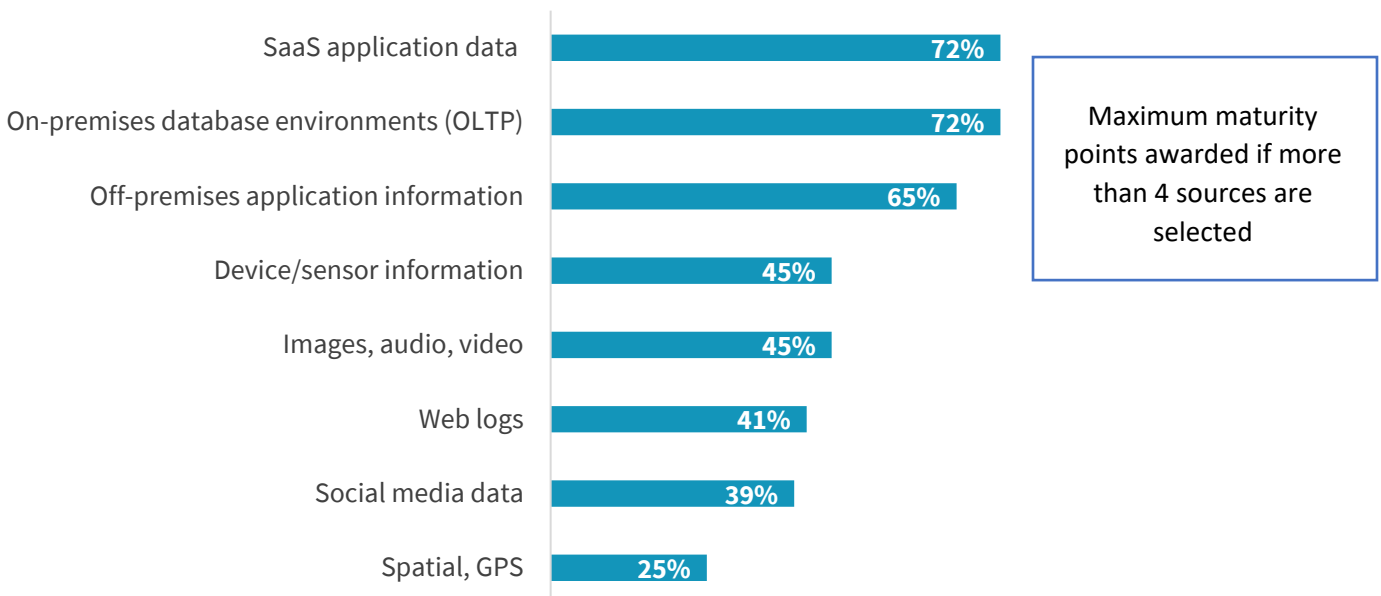
Approximately how much total data storage capacity is required to support your company's analytics and business intelligence applications and associated data? (Percent of respondents, N=350)



Source: Enterprise Strategy Group

Figure 10. Analytics Data Sources in Use

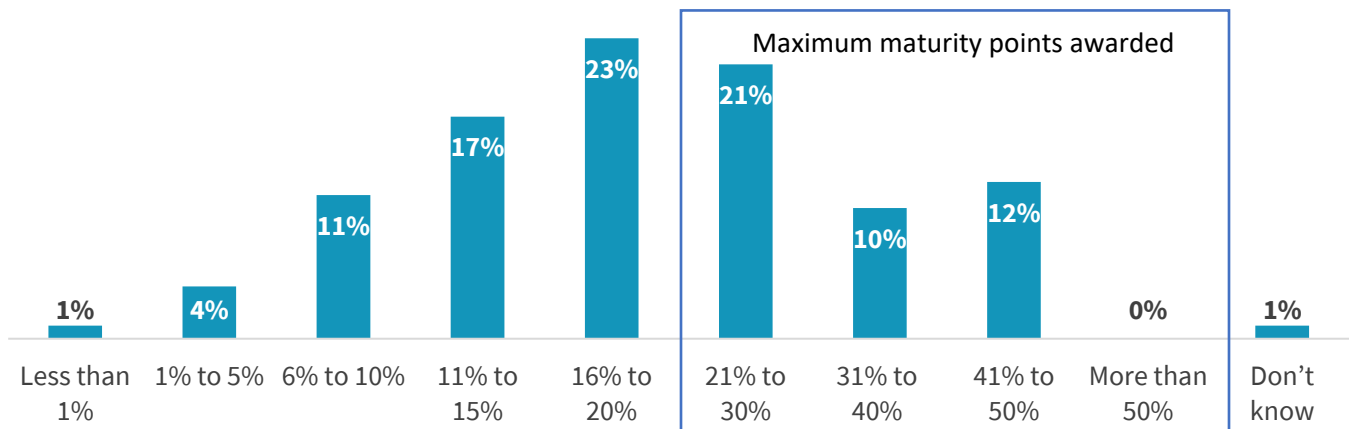
Which of the following types of data sources feed your organization's analytics/business intelligence environments? (Percent of respondents, N=350, multiple responses accepted)



Source: Enterprise Strategy Group

Figure 11. Analytics Investments

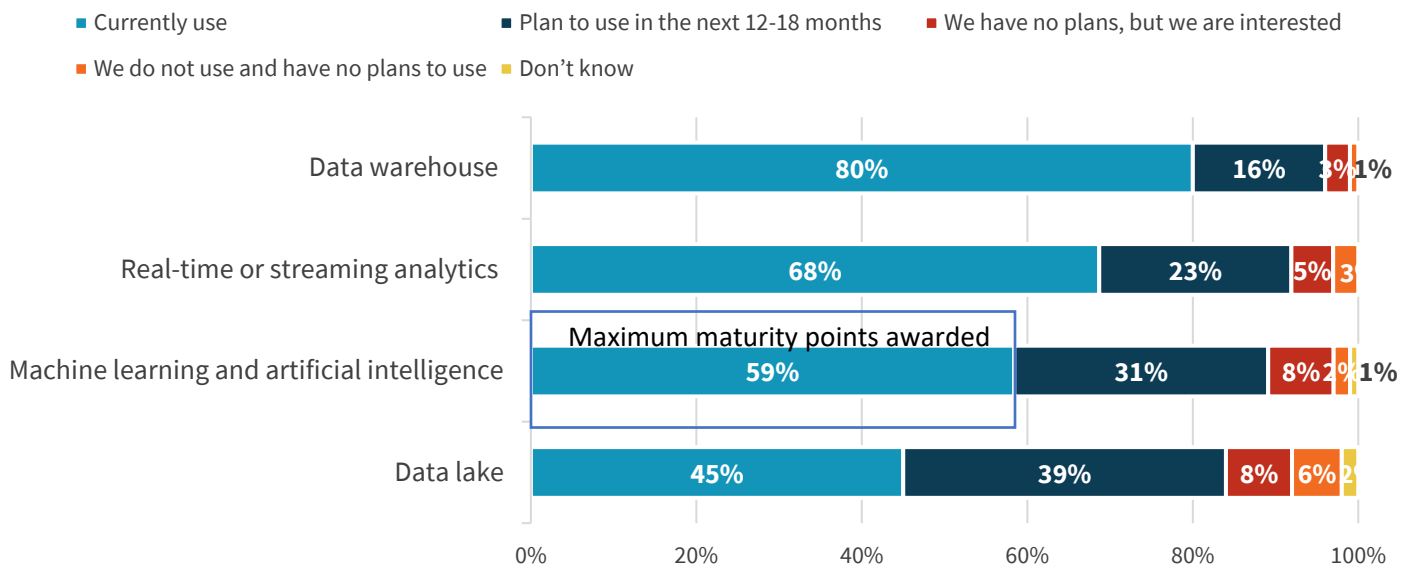
As a percentage of your organization’s total IT budget, how much does your organization plan to spend on analytics and business intelligence technologies in the next year? (Percent of respondents, N=350)



Source: Enterprise Strategy Group

Figure 12. Adoption of AI/ML for Analytics

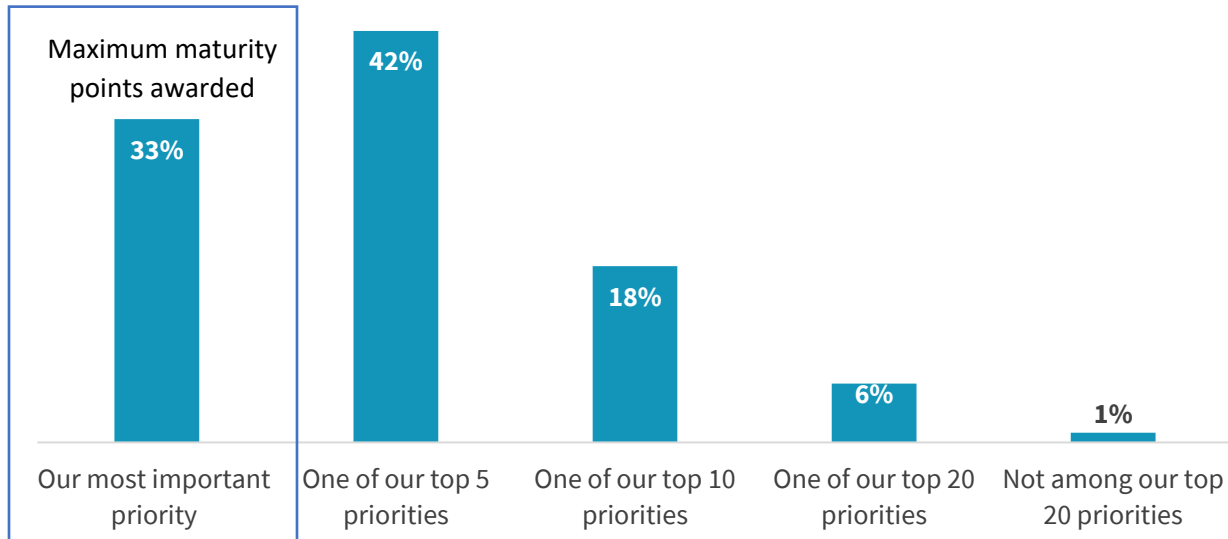
Which of these technologies does your organization currently or plan to use in the next 12-18 months? (Percent of respondents, N=350)



Source: Enterprise Strategy Group

Figure 13. Priority Placed on Advancing Analytics

Relative to all of your organization’s business and IT priorities over the next 12-18 months, how would you rate the importance of analytics projects and initiatives? (Percent of respondents, N=350)



Source: Enterprise Strategy Group

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