



FROM DATA TO DECISIONS:

# THE POWER OF DECISION INTELLIGENCE

Fueling Analytics Modernization  
in an Insight-Driven World

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## Executive Summary: The Increasing Imperative of Decision Intelligence

As organizations look to extend the way stakeholders learn from data, decision intelligence (DI) is on the rise. DI refers to the fundamental evolution of business intelligence (BI), fusing BI, augmented analytics, data science, management, and decision modeling. It leverages AI-driven automation and data analysis to uncover key drivers, patterns, anomalies, and segments that are not easily visible. DI applies data science within the frame of business problems and identifies the best course of action by analyzing a large range of possibilities. This is particularly important as the volume of data being analyzed grows and the different dimensions in which that data can be connected gets more complex. It's a big reason why nearly 7 out of 10 respondents say DI is among their organizations' top 5 business priorities for the next 12-18 months (see Figure 1). And organizations are placing very specific bets on DI. In fact, 94% of organizations expect to increase investments in technologies that will enhance their DI capabilities (see Figure 2).

With the right tools and techniques, DI can help organizations make decisions that are not only more accurate but also timelier and more cost-effective. That means organizations can rapidly respond to changing market conditions, identify new business opportunities, and remain agile in the face of dynamic business environments. Further, DI can also be applied to business process optimization. By analyzing data on customer behavior, market trends, and operational performance, DI can help organizations identify areas where they can improve their processes and increase efficiency. This can lead to cost savings, improved productivity, and better customer experiences, all of which are critical for long-term success.

So how can organizations begin or extend their DI journeys? They can look to platforms that infuse machine learning foundationally with a goal of empowering all stakeholders to operate on all data and infuse innovation into all pockets of the business. To reach this nirvana, several capabilities must be prioritized, and in many cases scrutinized, as not all solutions are created equal. True self-service must be a priority to enable higher levels of efficiency between all technical and business stakeholders. Effective and robust governance must be table stakes to ensure trust in all aspects of the data and analytics pipeline. Embedded analytics must be implemented properly to enable greater levels of productivity and the analysis of large data sets with more advanced analytic capabilities without compromising performance or data access. And the right solution should turn the last mile of analytics into a competitive advantage for your business.

Figure 1. Importance of DI Projects and Initiatives

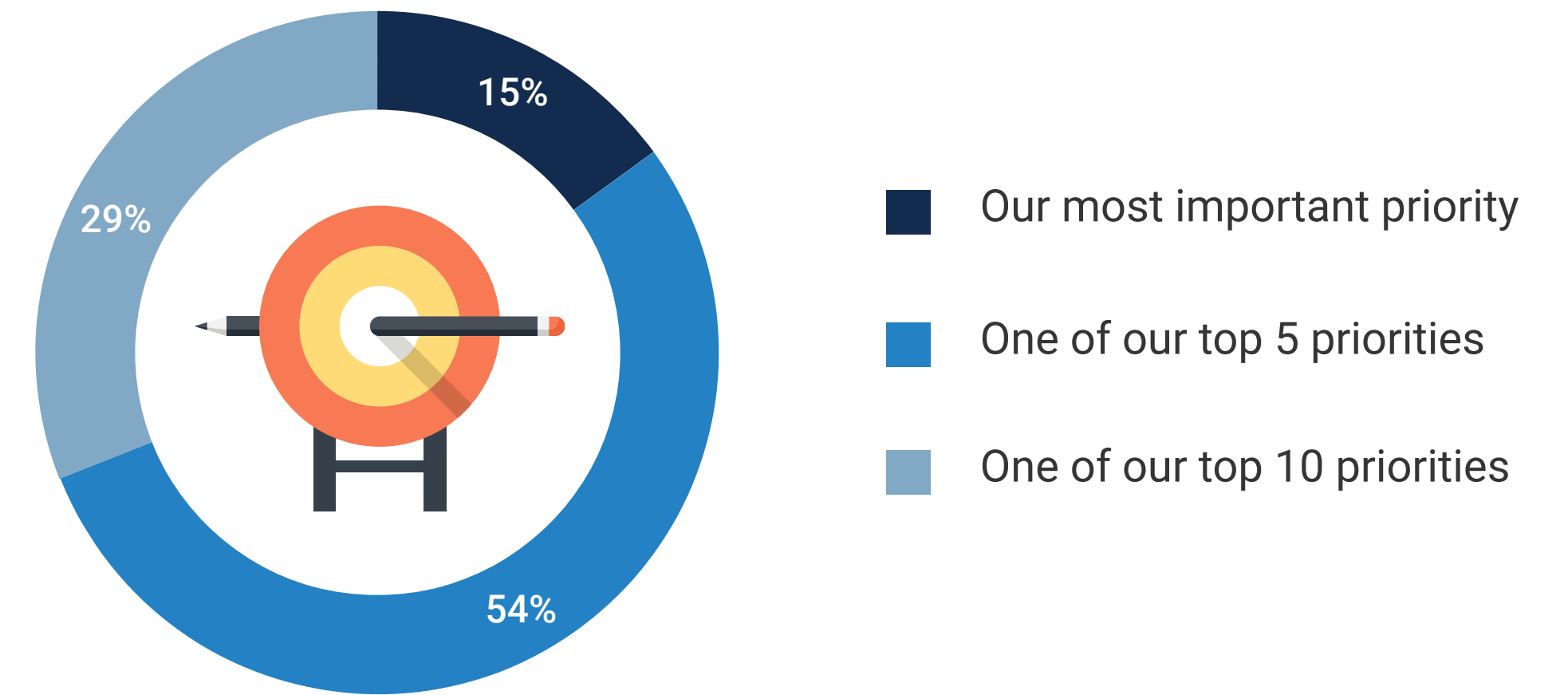
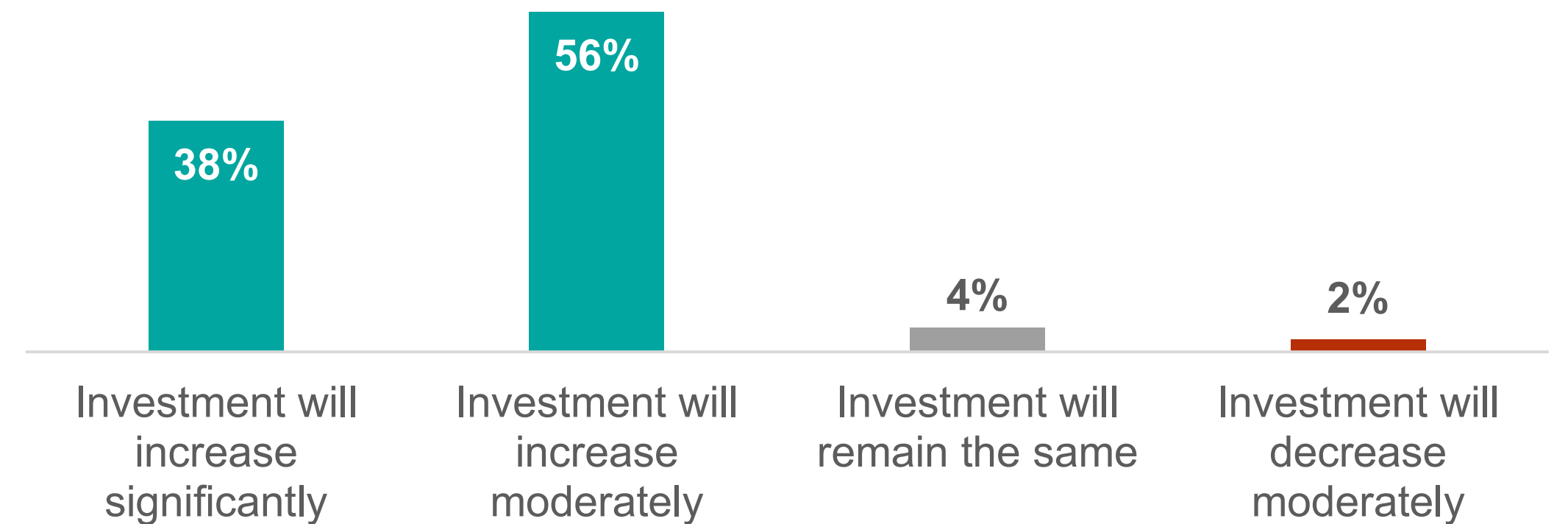


Figure 2. Organizations' Investments in DI Solutions Over the Next 12-24 Months



## Introduction and Research Overview

### OBJECTIVE:

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This study aimed to uncover if, and to what degree, traditional analytics tools are seen as insufficient for today's needs because of issues like long implementation times, limitations in the data types and siloes that can be ingested/processed, and the need for a high degree of expertise to operate and manage. These challenges and more are driving organizations to consider new advanced capabilities and platforms that better connect insight and the business. Additionally, this research is meant to serve as a snapshot of market awareness, readiness, and maturity as it relates to the topic and adoption of decision intelligence. The research survey was commissioned by Pyramid Analytics and executed by TechTarget's Enterprise Strategy Group.

### METHODOLOGY:

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Enterprise Strategy Group conducted a blind online survey of 250 technical and business decision-makers responsible for analytics investments. Of the 250 total respondents surveyed, 55% were based in North America (US and Canada) and 45% in Western Europe (UK, Germany, Austria, and Switzerland).

All organizations represented have 1,000 or more employees across multiple industry verticals, including manufacturing, technology, financial, and healthcare, among others.

Note: The margin of error on a sample of 250 at the 95% confidence level is + or – 6 percentage points. Totals in figures and tables throughout this eBook may not add up to 100% due to rounding.



# The Rise of Decision Intelligence



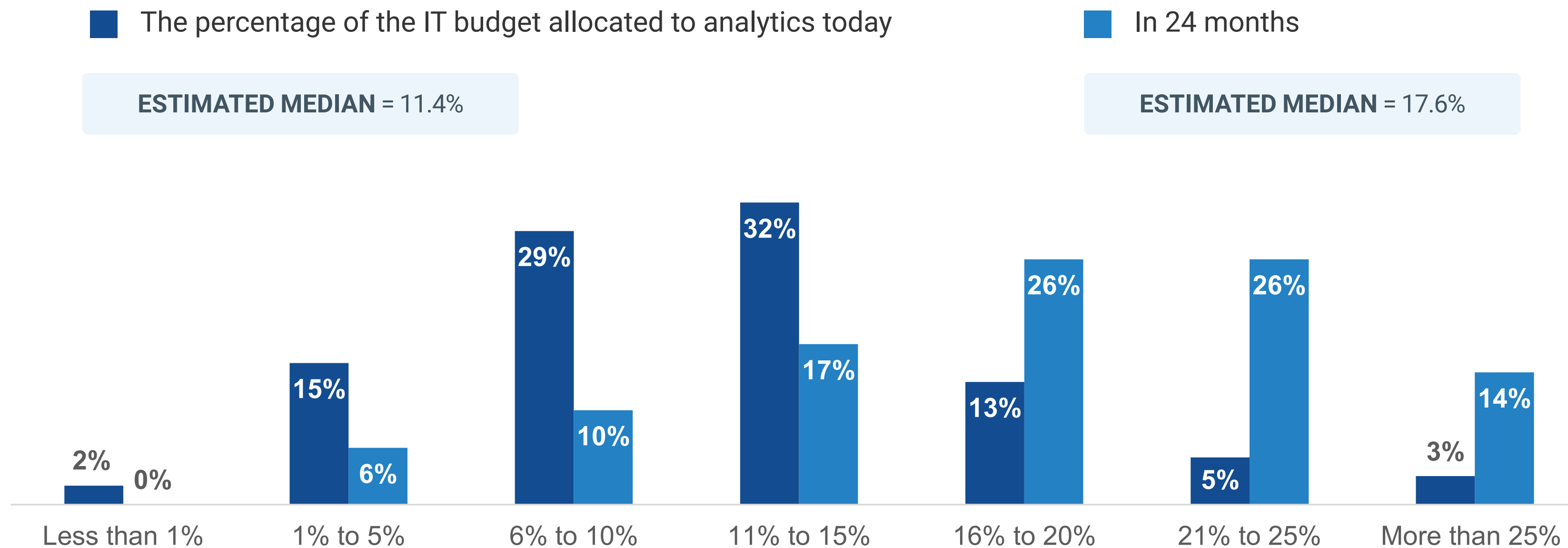


## Analytics Investments Are Growing Rapidly


As organizations pursue their data-driven goals, investments in advanced analytics continue to grow. The technologies that support decision intelligence (DI) and capabilities like augmented analytics are enabling both technical and business stakeholders alike to process and analyze large amounts of data quickly and accurately. And it's not just about crunching numbers but about the ability to interpret the results and present them in a meaningful and understandable way through data visualization tools and dashboards.

When it comes to spending, 11.4% (estimated mean) of today's overall technology budget is being allocated to data analytics technologies, with growth expected over the next 24 months. As shown in Figure 3, the budget allocation for data analytics technologies is expected to grow by 54% in the next 24 months, consuming a total of 17.6% of the overall technology budget. These budgets are generally a piece of the overarching IT budget that are put toward analytics technologies and initiatives.

Figure 3. IT Budgets Allocated for Data Analytics Technologies Now and 24 Months From Now



One of the reasons why companies are investing in analytics so heavily is the fact that data-driven insights can provide a significant competitive advantage. By analyzing data and uncovering patterns and trends, businesses can make more informed decisions that help them stay ahead of the competition. For example, retailers can use analytics and DI to understand buying behavior and optimize their inventory management. Healthcare providers can analyze patient data to improve treatment outcomes and reduce costs, and financial institutions can use DI to detect fraud and mitigate risk.



**KEY TAKEAWAY**

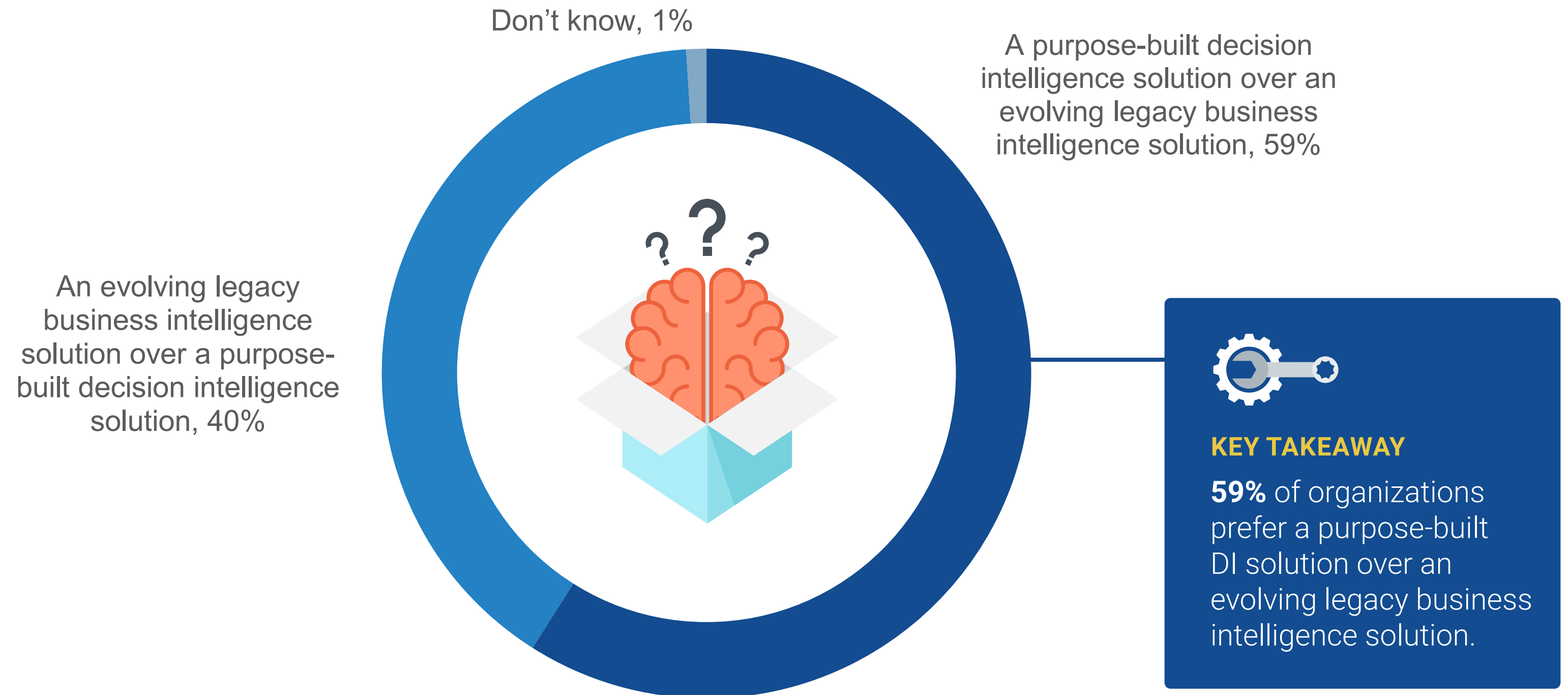
The budget allocation for data analytics technologies is expected to grow by **54%** in the next 24 months.

## Purpose-Built DI Solutions Preferred over Evolving Legacy BI Solutions

There are two approaches that organizations can take to conduct more advanced analytics. The first is a traditional and evolving self-service BI tool that bolts on AI in a limited capacity to help with common tasks such as data visualization and dashboard creation. While effective in certain siloed situations, this approach is proving to not be enough to power modern enterprise use cases. Interactive dashboards are only as powerful as the underlying data makes them. Plus, one dashboard may not be enough, which often forces stakeholders to jump between multiple dashboards and/or interfaces. The second approach is leveraging a purpose-built DI platform, which is built on a direct query architecture and leverages applications of AI/ML throughout the entire platform, enabling more rapid insight generation and decision modeling.

As BI platforms continue to position their modernization efforts by incorporating limited augmented analytics capabilities, purpose-built DI solutions are proving to be the preferred approach. Figure 4 highlights the fact that 59% of organizations prefer a purpose-built DI solution over an evolving legacy BI solution. Because DI solutions operate over more data in real time, they can rapidly incorporate business context and deliver predictive insight and dynamic recommendations to stakeholders.

Figure 4. Type of DI Solution Preferred





# Fueling Innovation with Augmented Analytics





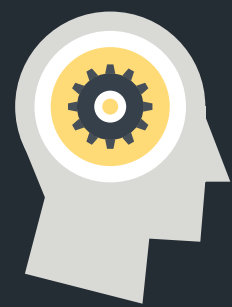
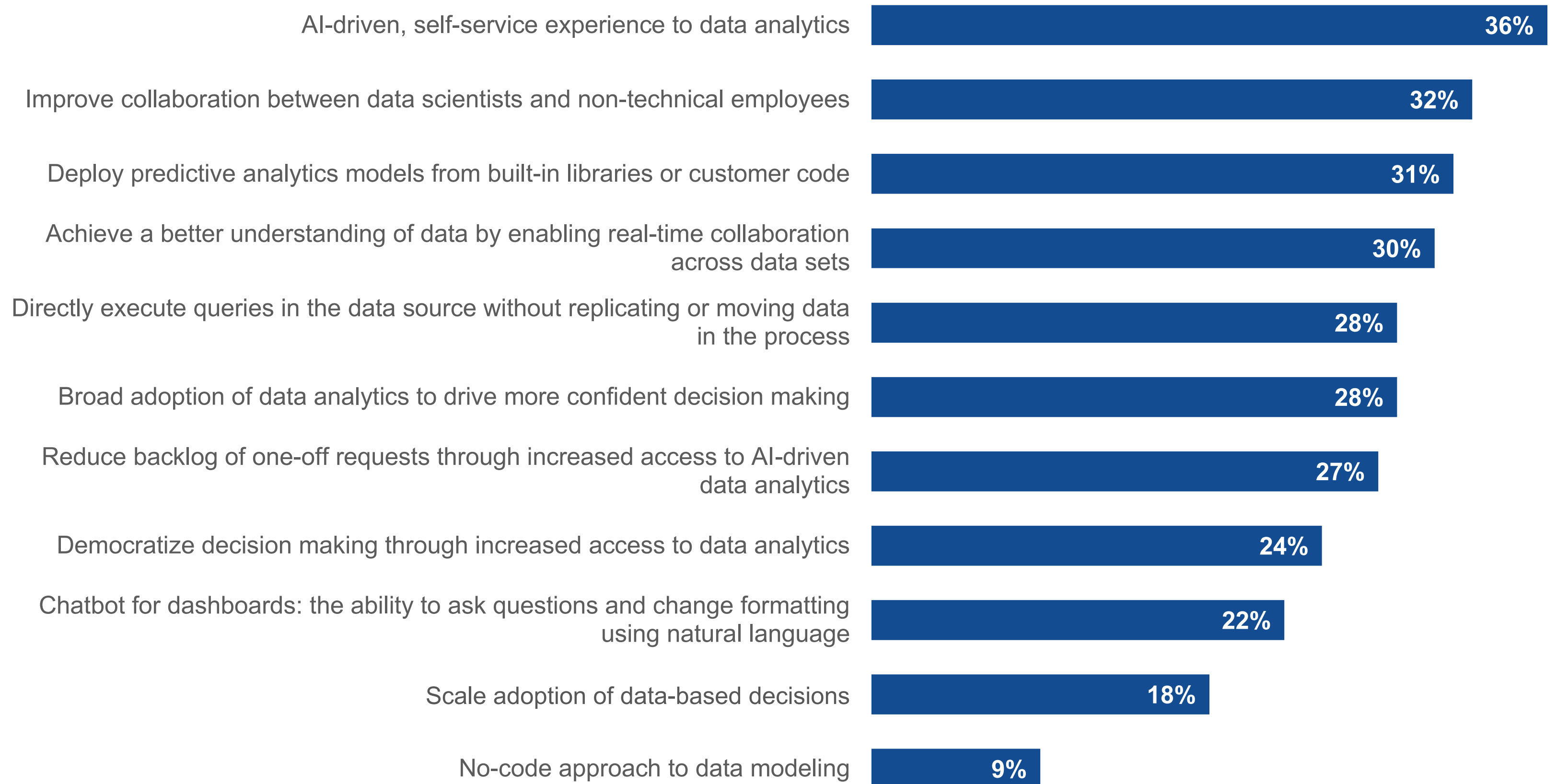
## Augmented Analytics is the Most Desired BI Capability

When asked about the characteristics they would most like to have in their BI toolset/ecosystem, organizations cited AI-driven, self-service experience most often (see Figure 5). And that is precisely what augmented analytics delivers. Augmented analytics is the practice of infusing intelligence into the analytics lifecycle via automation, ML, and natural language processing (NLP). The goal is to enhance data analytics by optimizing processes and workflows, improving data sharing and collaboration, empowering stakeholders, and broadening the adoption of analytics and BI tools.

Augmented analytics can reduce the backlog of one-off requests and democratize data-based decision-making at scale by providing self-service analytics, automating data preparation through a no-code approach to data modeling, generating insights and recommendations, and offering predictive analytics capabilities. This empowers users to explore data, make informed decisions more quickly and efficiently, and anticipate future trends on their terms.

In a more specific use case, one area seeing rapid growth is leveraging augmented analytics as a chatbot within analytics platforms. By using NLP to enable users to interact with the analytics platform in a conversational manner, users can ask questions and receive insights and recommendations in real time, without the need for specialized technical skills or training. This can improve the accessibility and usability of the analytics platform, enabling more users across the organization to make data-driven decisions.

Figure 5. Desired Characteristics in BI Toolsets/Ecosystems



### KEY TAKEAWAY

Organizations cited **AI-driven, self-service experience most often** as the characteristic they would most like to have in their BI toolset/ecosystem.

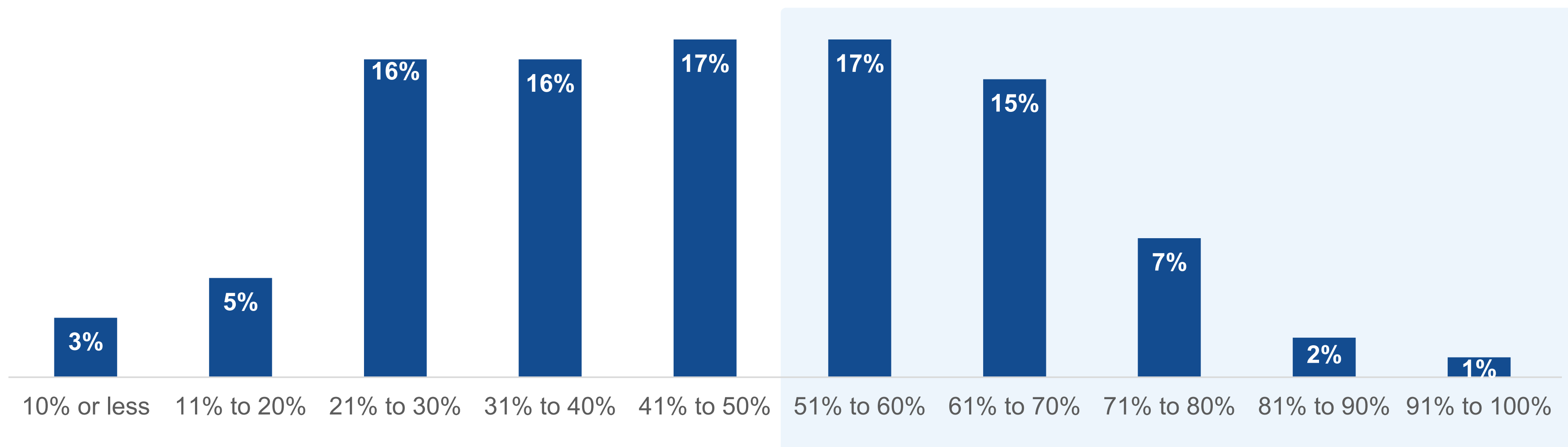


## Significant AI Inroads Reported

With the never-ending growth of data comes complexity associated with integrating and analyzing it. This complexity is a big reason why 58% of respondents agreed that their organizations have a wealth of data but don't, and in many cases can't, act on it consistently. The size of the data is simply too large for humans to effectively analyze, and it's driving organizations to look for new approaches that incorporate advanced analytics tools and techniques to process and analyze data at scale.

This is where augmented analytics capabilities comes in. Because augmented analytics are rooted in AI-based technologies, such as ML and NLP, platforms are not only able to better handle growing volumes of data with ease, but users are empowered to gain insight from the data more rapidly. Further, if implemented the right way, AI algorithms can learn from patterns in the data, identify correlations and causations, and make predictions and recommendations based on those insights. AI can extract meaningful insights and apply business context. Many organizations have already seen this in action. As shown in Figure 6, 42% of organizations reported that more than 50% of their data assets are analyzed by AI solutions today. While this shows significant inroads in the use of AI today, Enterprise Strategy Group expects this number to continue rising, especially as businesses begin prioritizing tools that enable the use of generative AI within their business and to their customers. Organizations that have not at least had exploratory conversations on how to simplify the adoption of AI through the use of augmented analytics capabilities or generative AI are already behind the competition.

Figure 6. Percentage of Data Assets Being Analyzed by AI Solutions/Technologies



**KEY TAKEAWAY**

42% of organizations reported that **more than 50% of their data assets** are analyzed by AI solutions today.



# Building Trust and Efficiency with Governed Self-Service





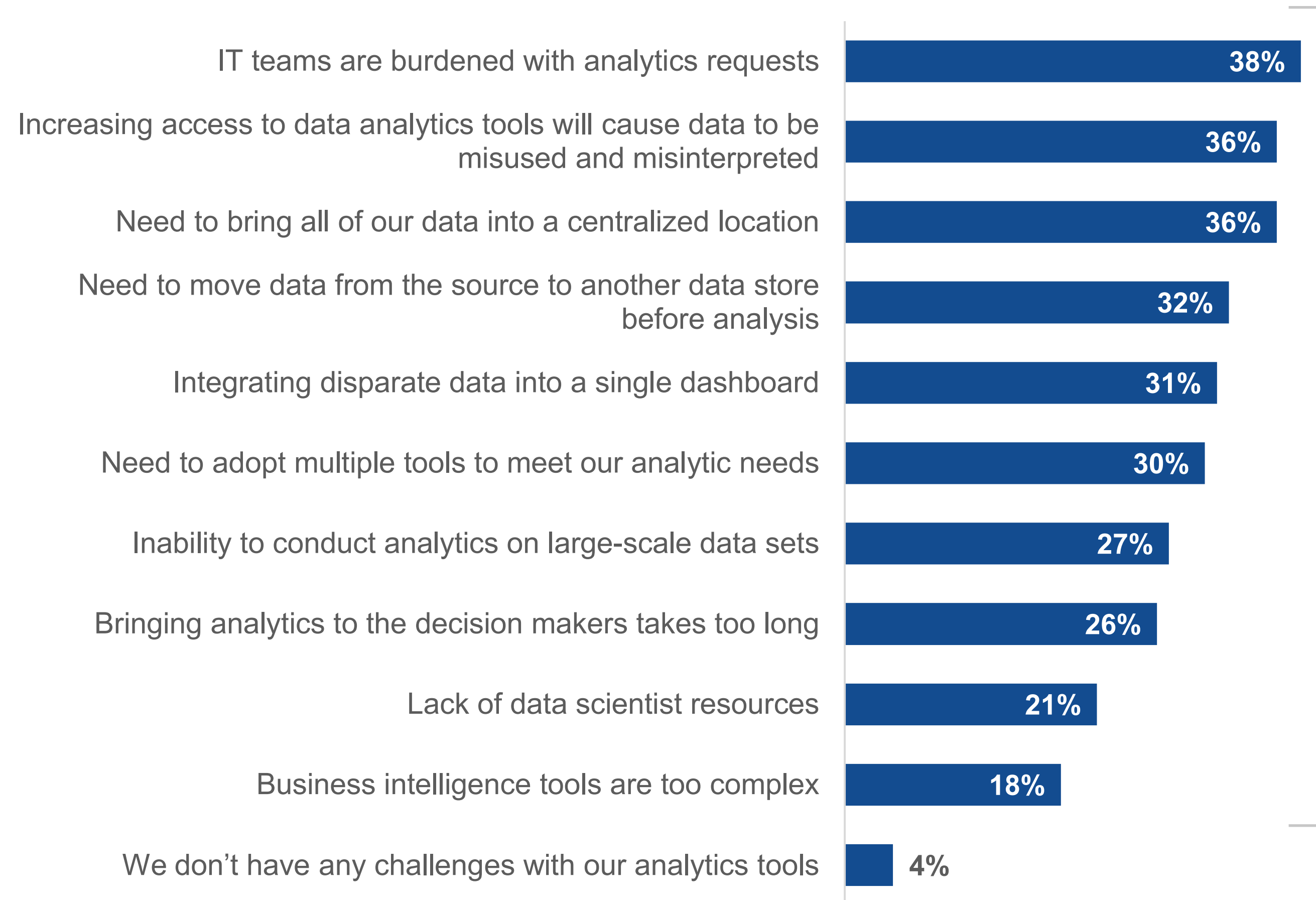
## Challenges Driving a Need for Automation and Self-service

While most organizations agree on the criticality of analytics and will be increasing spending on it over the coming years, 96% of organizations face at least one challenge with their analytics tools/platform (see Figure 7). Many of these challenges are rooted in the diversity, scale, and distributed nature of data burdening various stakeholders responsible for the delivery and management of data. This is especially challenging as executives continue to push the idea of democratizing the use of data.

While exposing more people to more data sounds straightforward, budgets, data silos, data quality, data governance, and security quickly introduce challenges that all but force organizations to use several different BI tools throughout the business. Whether there are different departmental needs or priorities, varying levels of technical expertise among users, or the need for specialized analytics capabilities for a specific business function, one takeaway is clear: the more tools being used, the greater potential for inconsistencies across the business data ecosystem. How can organizations expect to be effective in comprehensive decision-making when there are several pockets of disconnected insights across different tools and business units? Simply put, they can't.

Interestingly, most of these BI tools can't seem to solve the other key issue: running analytics on large (and growing) data sets. It's no secret that traditional BI tools are unable to effectively analyze large data sets, whether due to limited processing power and memory, tight budgets, or not having access to the data. Not only does this lead to slow and inefficient data analysis through longer processing times, but worse, it also leads to incomplete or inaccurate insights. And it results in organizations being hindered while attempting to make timely and informed decisions based on the most relevant data.

Figure 7. Challenges of Analytics Tools/Platforms



**KEY TAKEAWAY**

96% of organizations face at least one challenge with their analytics tools/platform.

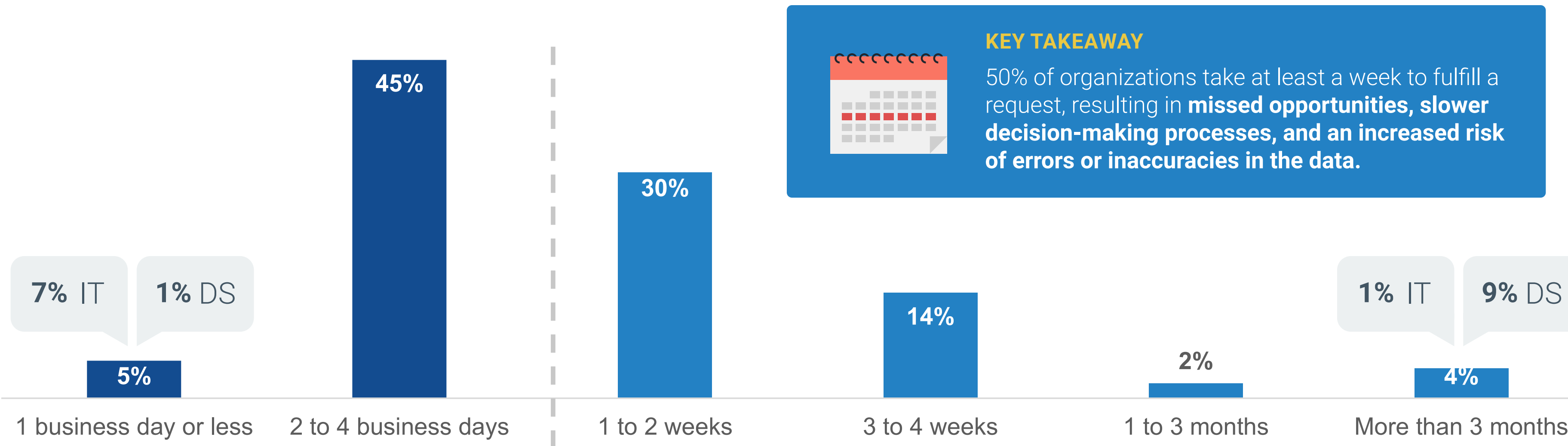


## Ineffective Fulfillment of Analytics Requests Signals the Need for Better/True Self-Service

Analytics challenges are further highlighted by the inability of teams to fulfill analytics requests in a timely manner. As shown in Figure 8, 50% of organizations take at least a week to fulfill a request, resulting in missed opportunities, slower decision-making processes, and an increased risk of errors or inaccuracies in the data. And the delays are not only impacting stakeholder efficiency and productivity but are creating tension among stakeholders, such as business leaders or customers, who may feel that their needs are not being prioritized. In fact, when comparing the responses from technical stakeholders and data consumers, perspectives differ quite significantly. Technical folks feel they are doing well in their timeliness to respond to requests, while the consumers believe responses are taking far too long.

How can organizations address this unproductive tension between business and technical stakeholders? Enterprise Strategy Group recommends investing in an analytics platform that prioritizes the delivery of robust governed self-service capabilities. By empowering stakeholders and giving them greater control to reliably and securely access and analyze data themselves within their preferred tools, organizations can achieve a significant reduction in the requests, support tickets, and burdens regularly placed on IT and operations teams. Stakeholders are enabled to quickly and easily access the information they need to make data-driven decisions, create custom reports, or conduct ad hoc analysis without delays, while backend technical folks can continue to focus on more complex issues without interruptions. By providing a self-service analytics platform, organizations can promote collaboration and alignment between business and technical stakeholders, improving communication and reducing the potential for conflict.

| Figure 8. Length of Time Taken to Provide Analytics Insight to Business Users



When self-service is done poorly, tension between teams grows worse, delays happen more often, and unfortunately, inefficiencies and inaccuracies begin to appear more frequently. To understand if self-service has been implemented properly, organizations should take a quick assessment of tension between IT and data stakeholders. If discrepancies in expectations arise between these two groups, the ineffective implementation of self-service is likely to blame, as it is creating more problems rather than empowering more people with analytics.



**Empowering  
the Business  
with Embedded  
Analytics**

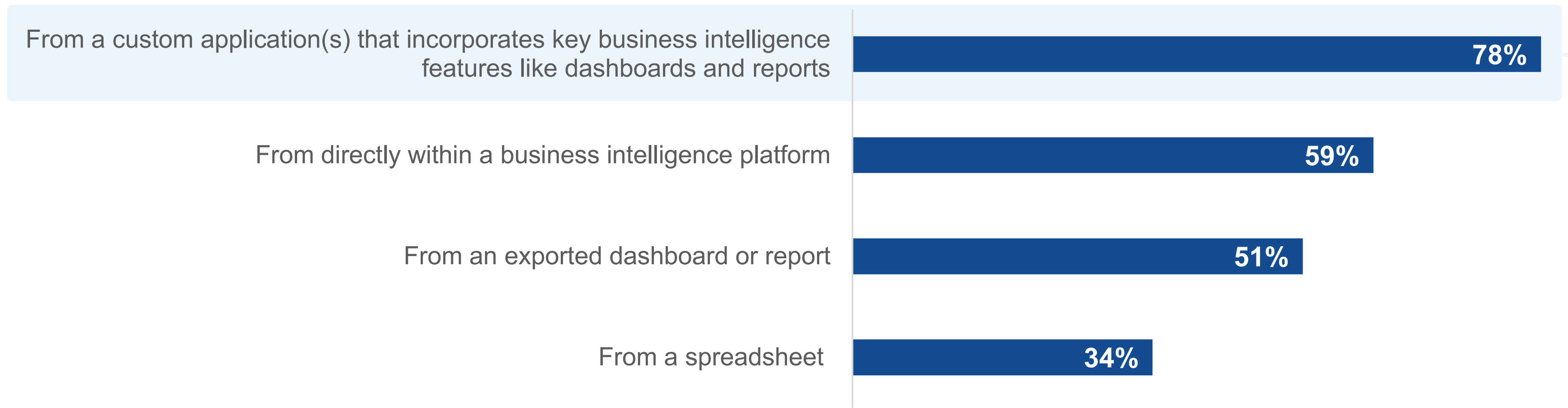




## Embedded Analytics Are Top of Mind

Organizations looking for ways to empower data teams, developers, and customers through the simplified consumption of data and analytics are increasingly turning to embedded analytics. As shown in Figure 9, today, 78% of organizations utilize embedded analytics to some extent and, on average, have been doing so for more than 2.5 years. Embedded analytics serves as a simplified way for end users to consume, analyze, and visualize data within a custom application that incorporates BI features and functionality. And the technology is providing the necessary guardrails for end users to help build confidence and promote data exploration. By embedding analytics into existing applications and everyday workflows, businesses can reduce the need for specialized analytics skills, allowing users to access and interpret data without requiring extensive training.

Figure 9. Ways Business Users Consume, Analyze, and Visualize Data



**KEY TAKEAWAY**

78% of organizations utilize embedded analytics to some extent and, on average, have been doing so for more than 2.5 years.

Embedded analytics capabilities will continue to be critical going forward as organizations prioritize getting not only data, but also advanced analytics capabilities in the hands of as many people as possible. But not all embedded analytics solutions are created equally. Organizations must consider all factors when selecting the right technology partner, including flexibility and customization, scalability and performance, security and governance, third-party integrations, and ease of use. And the right solution should be able to seamlessly integrate with existing applications and workflows, handle large volumes of data and user traffic, provide robust security and governance features, integrate with existing systems and data sources, and be user-friendly, enabling business users to access and analyze data without requiring specialized technical skills or training.

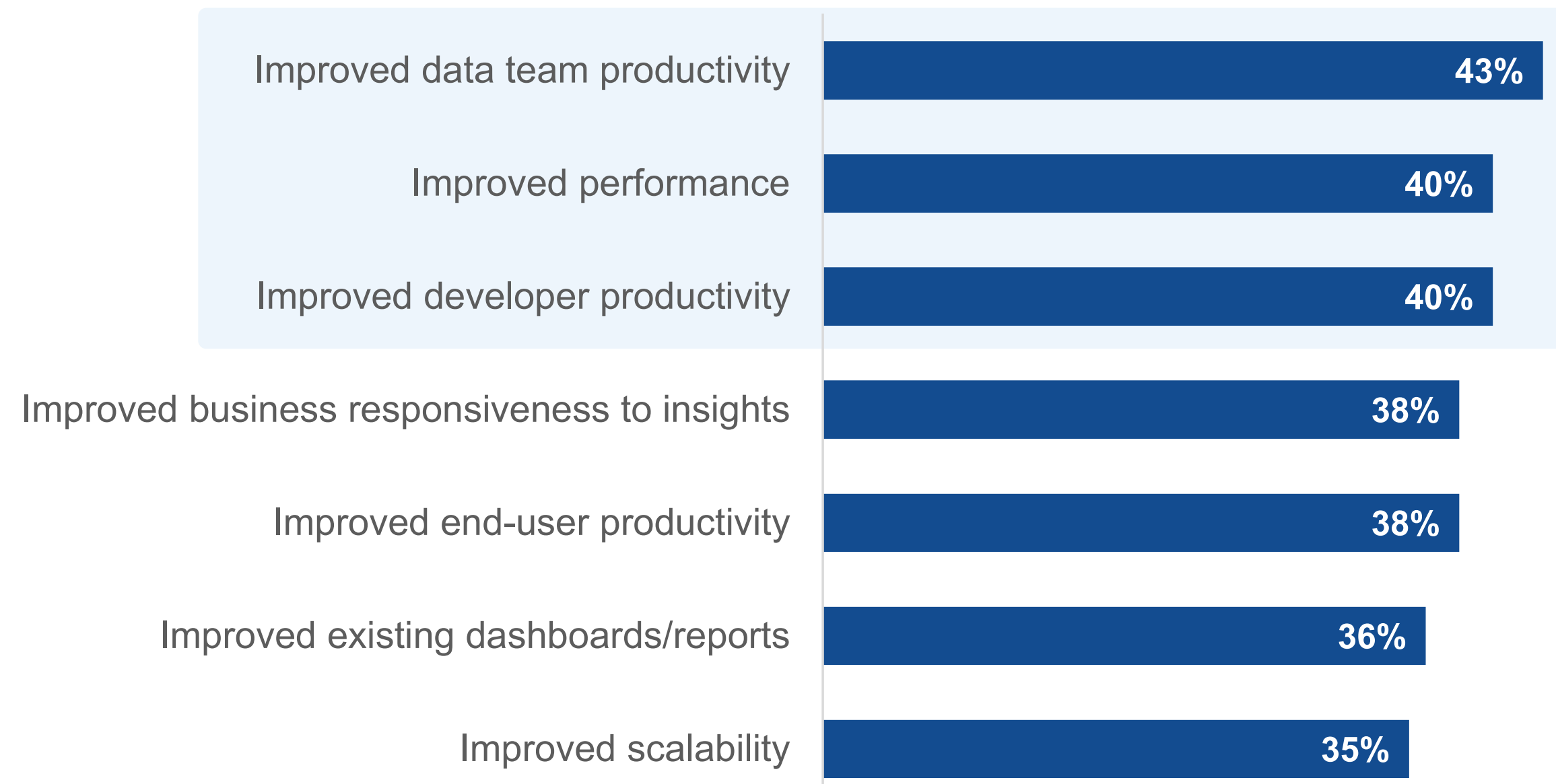


## The Benefits of Embedded Analytics

While embedded analytics, in general, makes a lot of sense, implementation failures are still very common. Many solutions lack the flexibility and customization required to meet the unique needs of different organizations, business units, or even industries. Depending on the user base size, scale and performance can be a major issue in handling larger volumes of data. And let's not forget the importance of ensuring trust in the data and insights derived from it. Several embedded analytics solutions today lack robust security and governance features, leaving data vulnerable to breaches and/or misuse. Finally, some solutions are difficult to integrate with existing systems and data sources, limiting their usefulness and requiring significant time and resources for implementation.

When embedded analytics solutions work as advertised, the benefits are widespread across the business. The top benefits are centered around productivity. Figure 10 highlights that 3 of the top 5 benefits achieved by users as a result of embedded analytics are productivity improvements of data teams, developers, and end users. Additional benefits are centered on performance, efficiency, and scale. And those benefits mean something different depending on whether you're inside or outside the organization. Internally, productivity boosts equate to improved operational efficiency, faster decision-making, enhanced customer experience, and streamlined internal processes. Externally, customers can be provided with personalized recommendations or enhanced product and service offerings based on customer feedback and preferences.

Figure 10. Benefits Achieved From Consuming, Analyzing, and Visualizing Data Within a Custom Application



**KEY TAKEAWAY**

**3 of the top 5** benefits achieved by users as a result of embedded analytics are productivity improvements of data teams, developers, and end users.



**An Increased  
Focus on the Last  
Mile of Analytics**





# Analytics Are Driving Real Business Advancements, but Most Respondents Feel They Are Just Scratching the Surface

The last mile of analytics refers to the idea of connecting analytics insight with business outcomes, and it's no easy feat. Businesses recognize that simply generating insight isn't enough. Whether tracking customer behavior or market trends or hoping to improve operational efficiency, in order to drive measurable results, there must be a greater alignment between analytics and business goals. This is a big reason why nearly 1 in 4 organizations (24%) reported that democratizing decision-making through increased access to data analytics is a top characteristic they would like to have in their BI toolset/ecosystem.

Whether going with a purpose-built DI platform or an evolving legacy BI solution, one overarching goal is clear: Organizations need to do a better job of utilizing data. If that can't be done today, how can organizations expect to keep up with data growth and the pace of innovation? As shown in Figure 11, 93% of organizations agreed or strongly agreed that in the last 12 months they've achieved at least one significant business advancement from data insight, whether developing a new product, entering a new market, adjusting pricing, better identifying and developing talent, or improving business processes. However, 96% say they can make many more business advancements using data if they had the means/expertise (see Figure 12). People know that the answers to their questions are hidden in their data; they just don't know how to uncover and apply them. Furthermore, 87% say they are still exporting data to spreadsheets, a telltale sign that best practices around data-driven decision-making frequently fall apart in the "last mile."

In order to take action on improving the last mile of analytics, organizations must start by having a clear understanding of the business objectives and identifying key performance indicators (KPIs) that align with those objectives. For example, an objective associated with customer growth would look at KPIs such as customer satisfaction, customer lifetime value, customer acquisition cost, and Net Promoter Score. Analytics can then be used to track and analyze these KPIs to identify trends, uncover opportunities, and simply monitor progress toward the objective.

Figure 11. Organizations' Perceptions on Whether or Not They Made a Significant Business Advancement from Data Insights Gleaned in the Last 12 Months

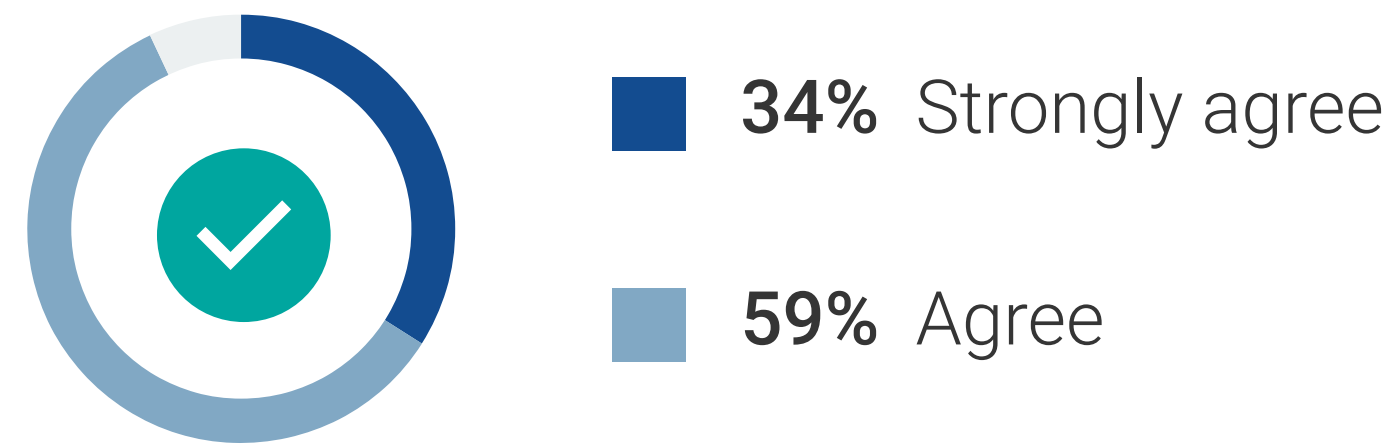
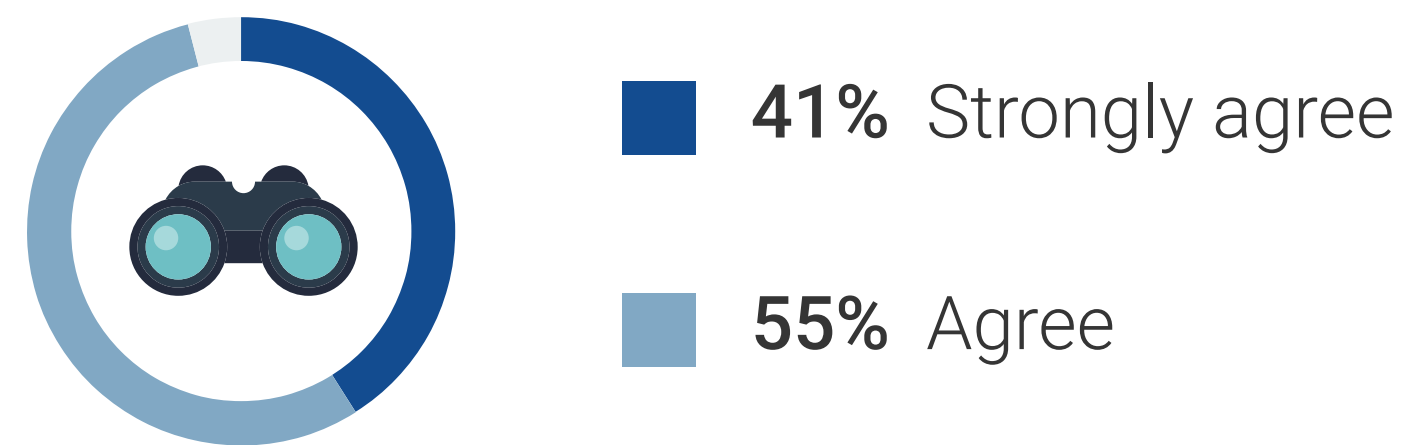


Figure 12. Organizations' Perceptions on Whether They Can Make Additional Business Advancements by Better Utilizing Their Data



**KEY TAKEAWAY**

**87% of organizations say they are still exporting data to spreadsheets,** a telltale sign that best practices around data-driven decision-making frequently fall apart in the "last mile."





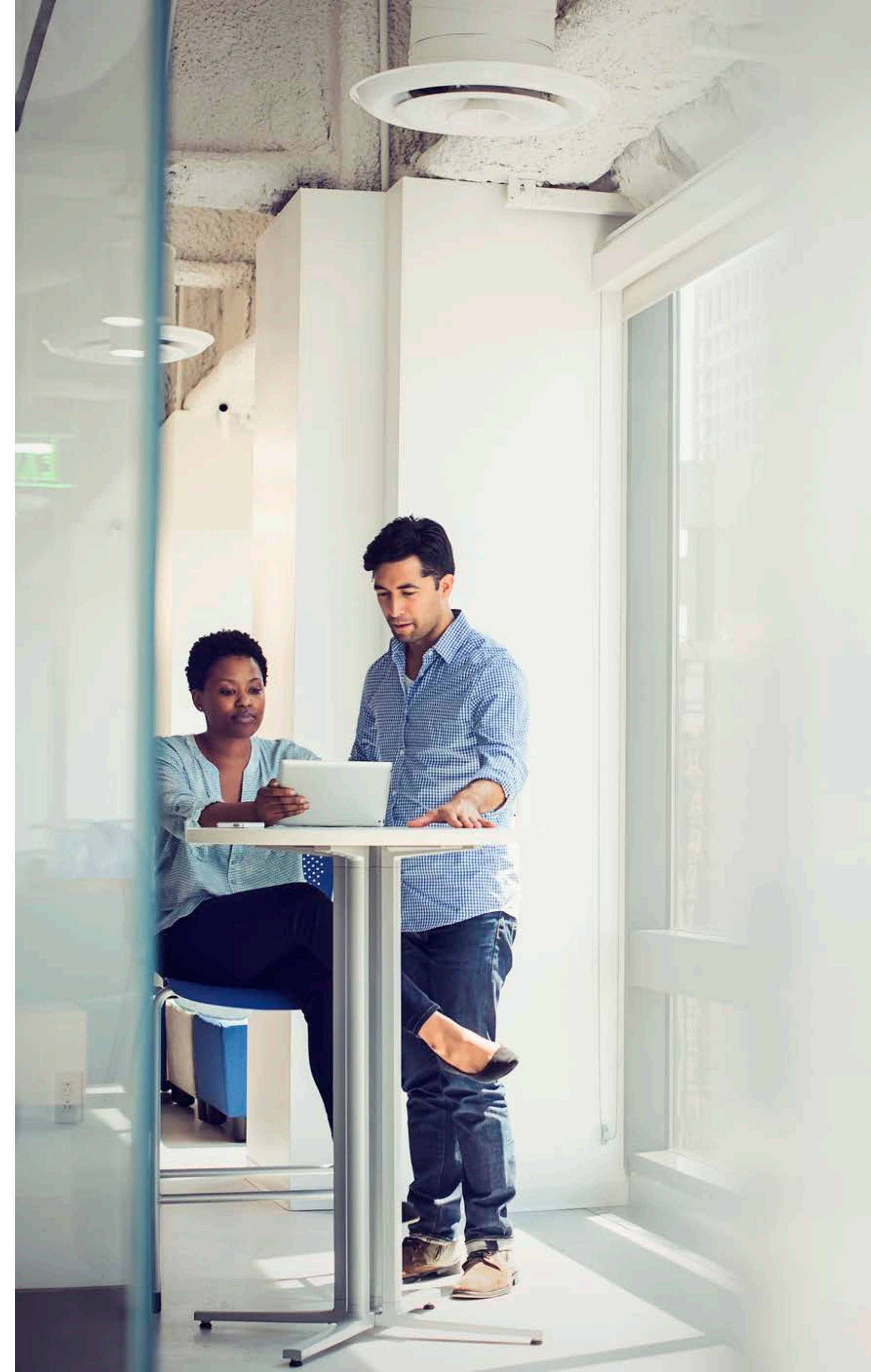
Pyramid is built for what's next. Pyramid's unified DI platform delivers insights for everyone to make faster, more informed decisions. It provides direct access to any data, enables governed self-service for any person, and serves any analytics need in a no-code environment. The Pyramid Decision Intelligence Platform uniquely combines data prep, business analytics, and data science in a single environment with AI guidance, reducing cost and complexity while accelerating growth and innovation.

**Pyramid Decision Intelligence Platform. Shape Your Decisions.**

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## Research Methodology and Demographics

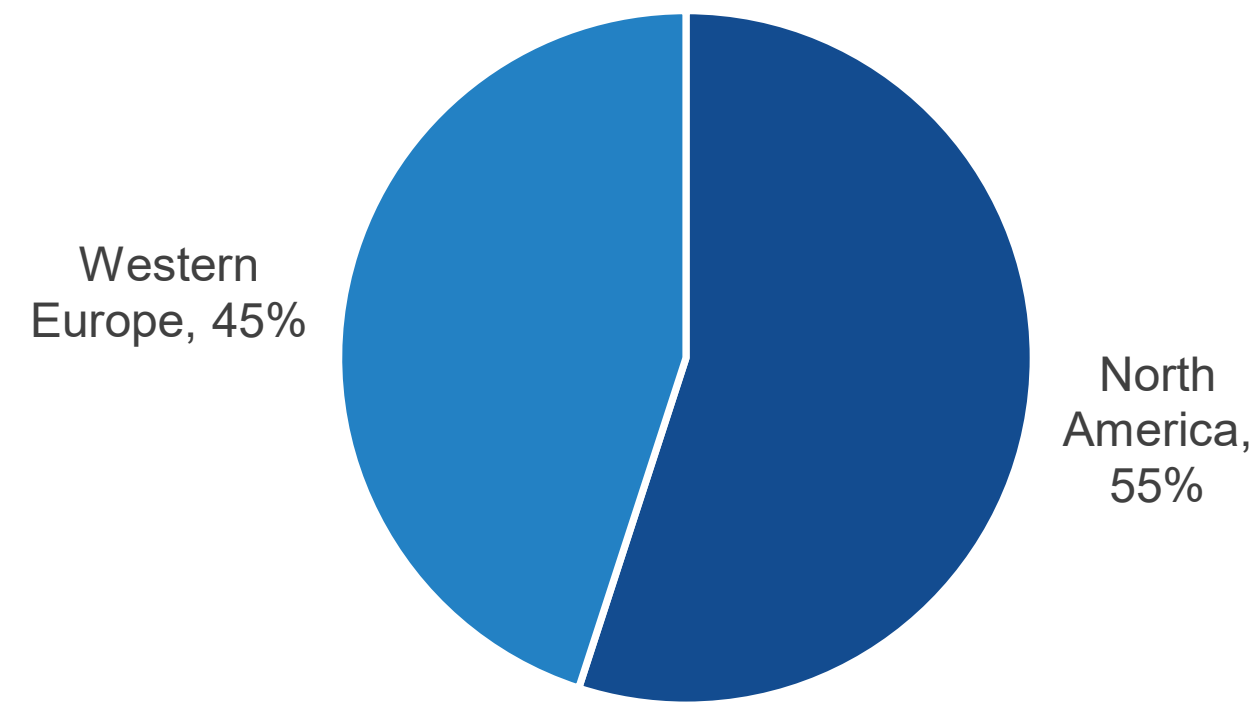
To gather data for this report, Enterprise Strategy Group conducted a broad-ranging online survey of technical and business decision-makers responsible for analytics investments. The survey was conducted between December 16, 2022 and December 23, 2022.

All respondents were based in North America (55% - US and Canada) and Western Europe (45% - UK, Germany, Austria, and Switzerland) and employed at organizations with 1,000 or more employees. Both public and private sector organizations were represented.

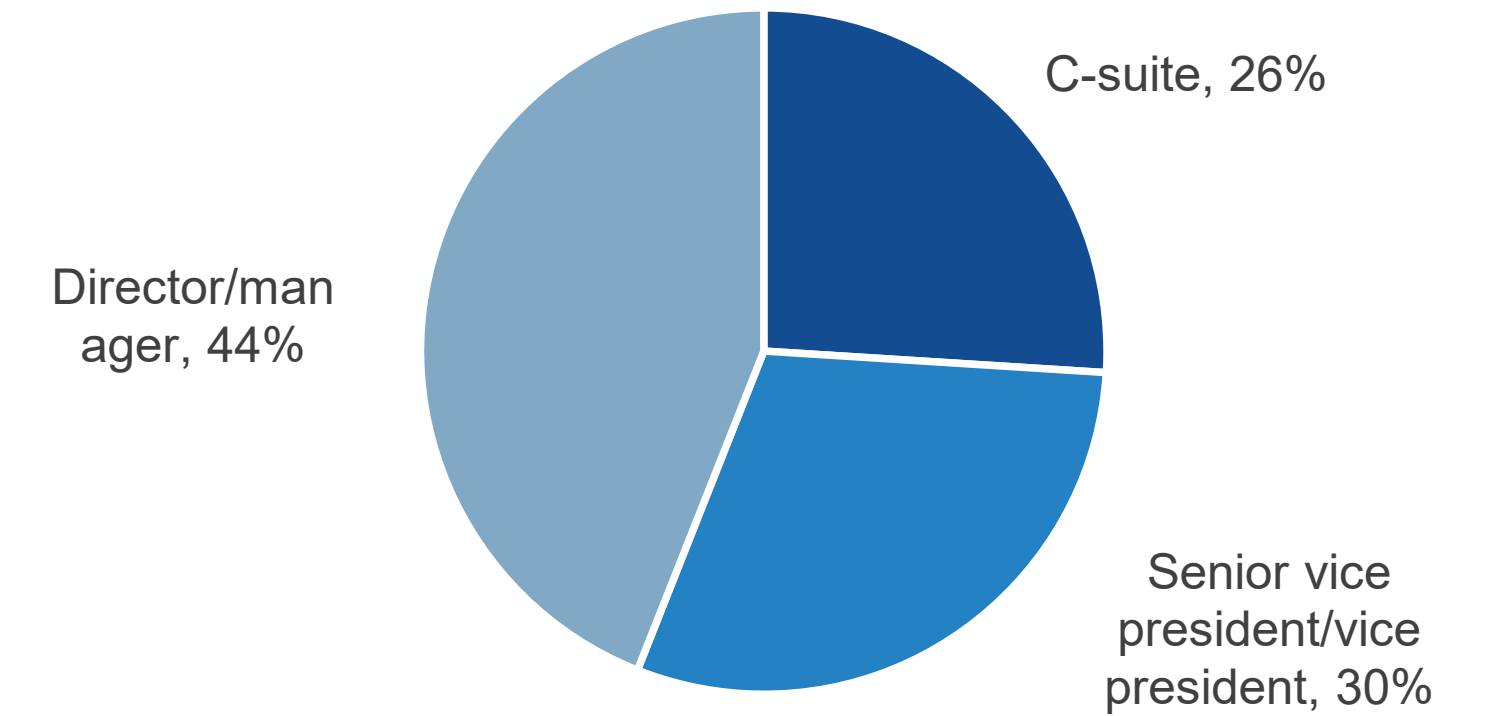
All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on several criteria) for data integrity, a final total sample of 250 respondents remained. The margin of error on a sample of 250 at the 95% confidence level is + or - 6 percentage points.

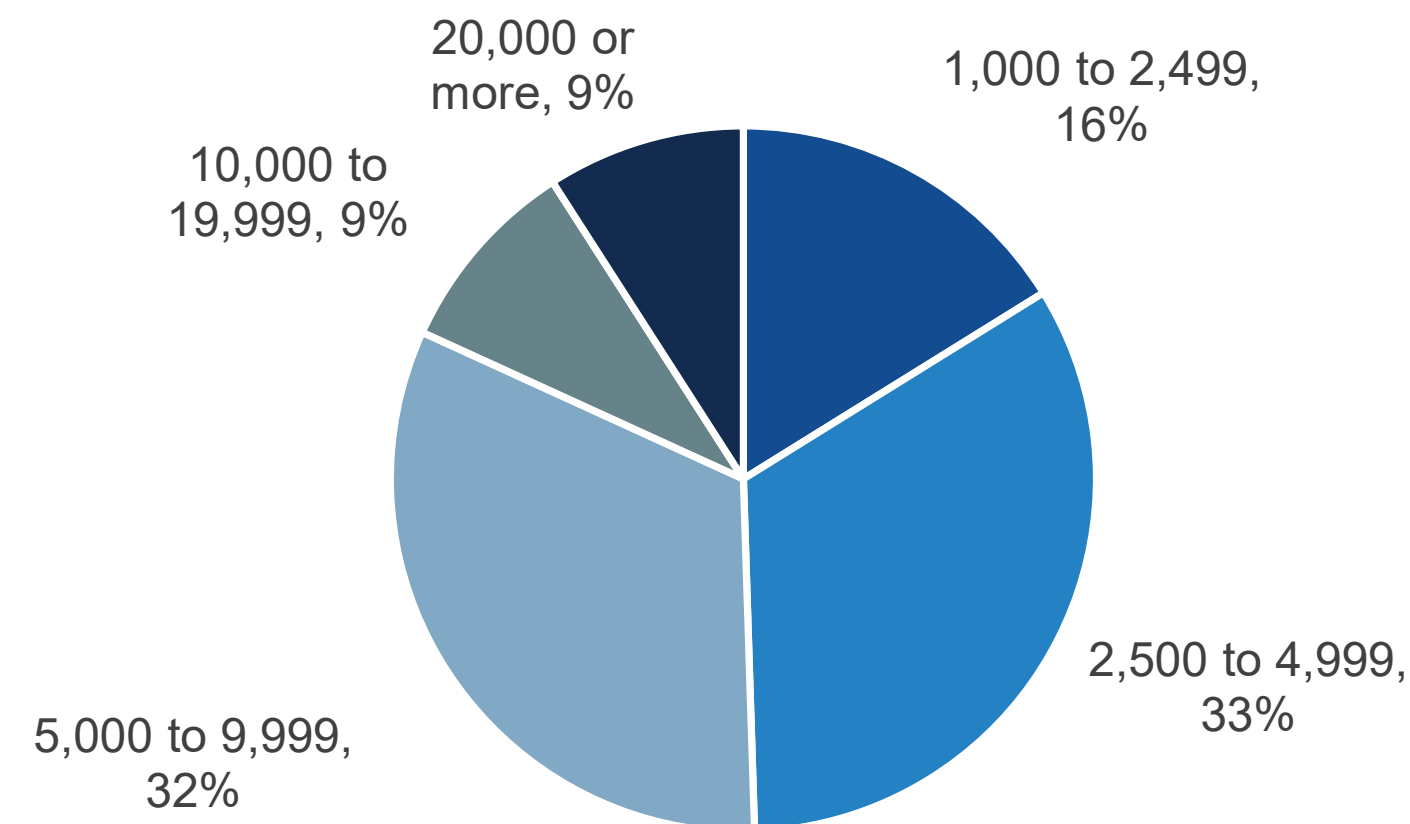
RESPONDENTS BY REGION



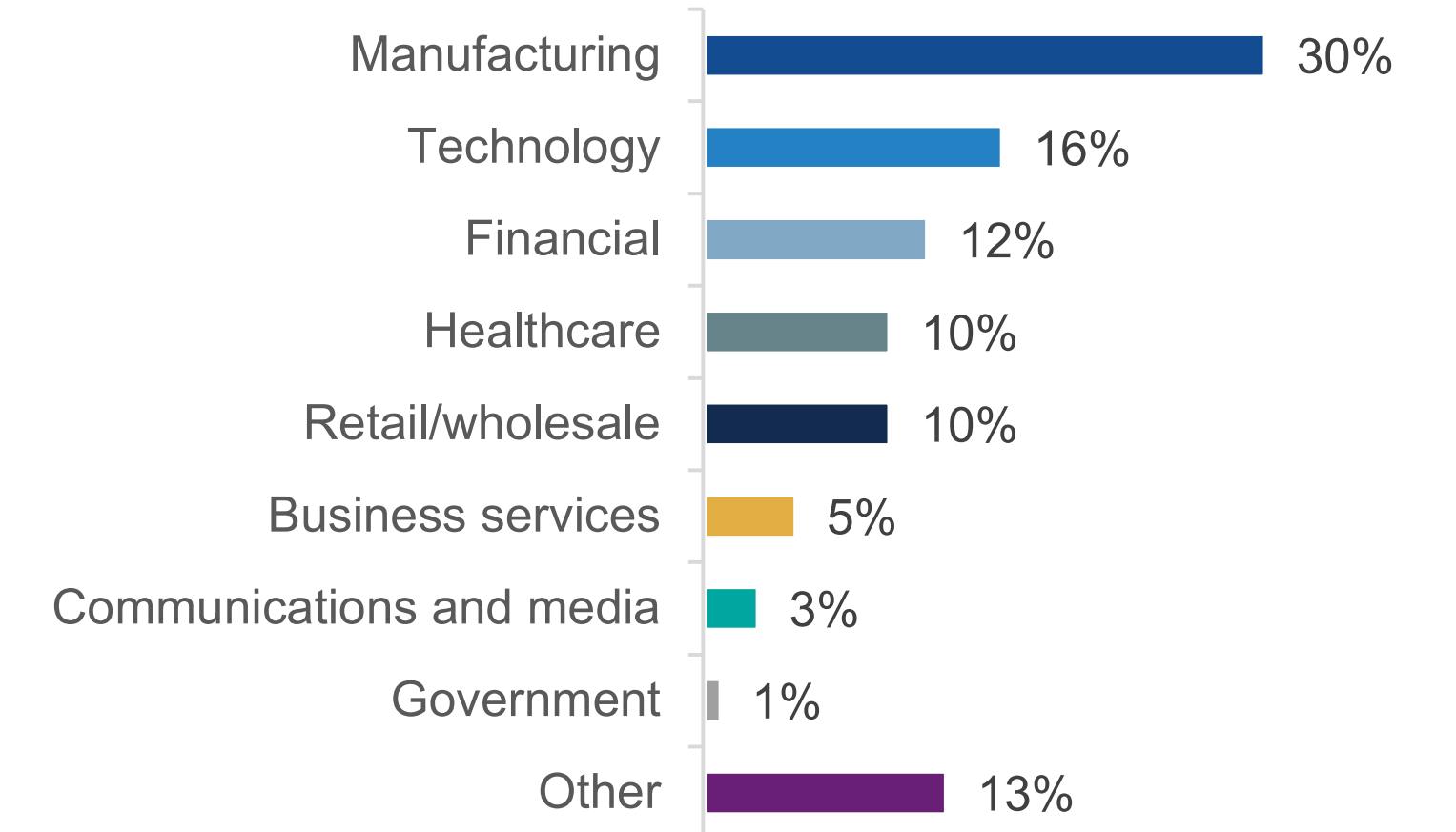
RESPONDENTS BY SENIORITY/ROLE



RESPONDENTS BY COMPANY SIZE



RESPONDENTS BY INDUSTRY





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