WHITE PAPER

AI acceleration and the future of innovation

2022 AI momentum survey report

By SAS, Accenture and Intel with Forbes Insights

Forbes INSIGHTS

Contents

At the threshold of AI's true potential

Artificial intelligence continues to gain momentum within business, government and society at large, but the world has yet to see its full potential.

This is the conclusion from the 2022 AI Momentum Survey, which includes responses from more than 500 executives worldwide. Together, their insight paints a picture of a burgeoning technology brimming with interest, activity and growing confidence. Nearly all the conditions are in place for large-scale AI adoption – a major leap from when this survey was first conducted in 2018.

What's changed? In 2018, there were pockets of interest in AI, but many respondents were still watching the AI conversation unfold. Today, nearly all respondents indicated they are either deploying, developing, testing or actively interested in AI.

Meanwhile, the tools, technologies and other AI enablers are evolving at a rapid pace. If you want to launch AI capabilities at scale today, you've got ready access to everything you need to do it. Technological barriers are crumbling, and there are more qualified vendors to help you.

Yet, while AI is becoming more prevalent, it's far from pervasive. The report reveals how many adopters continue to tiptoe toward full-scale implementation, while others remain in the very early stages of planning. Despite growing interest and confidence in AI, there's clearly more work to be done before it becomes the ubiquitous technology many anticipate it will be.

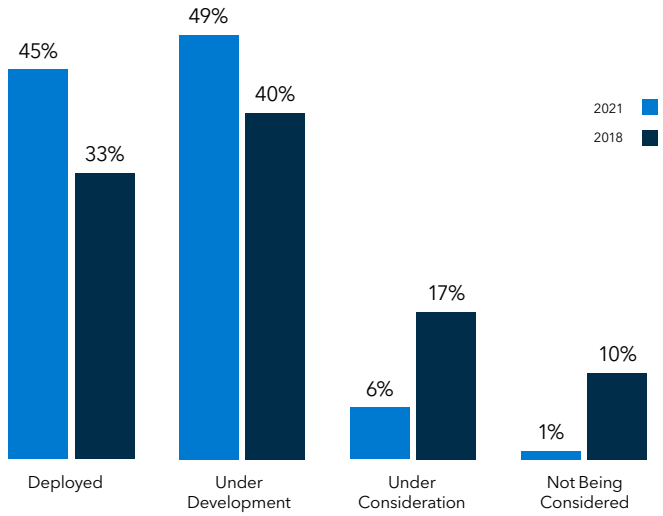
For technology veterans, this is a familiar story. Transformative technologies never take hold overnight. For AI, there are still plenty of cultural and technical barriers to realizing its full potential. This report offers signposts for anyone curious about AI's path to large-scale adoption.

What will the next few years hold in store for AI? All the signs are here.

Rising adoption, evolving benefits

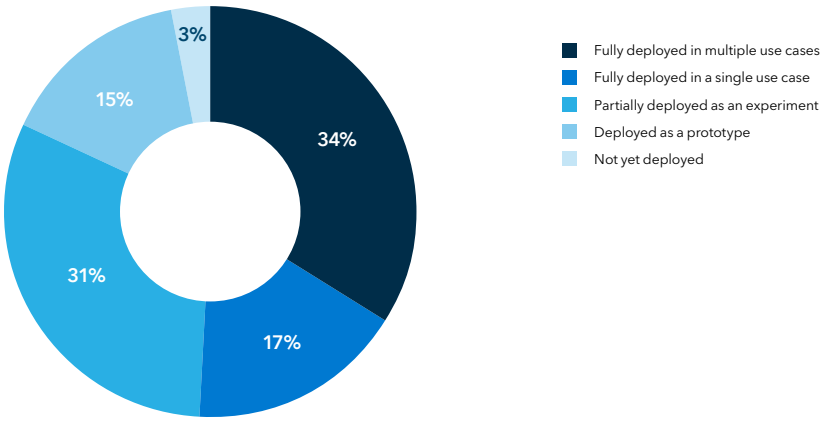
If the 2022 survey reveals one thing for certain, it's that AI adoption rates continue to rise. Respondents are deploying, developing and testing AI technologies at higher rates, and virtually everyone is at least considering AI. In fact, only 1% of respondents indicated they are not considering AI. No matter where they are on the maturity curve, respondents are steadily maturing. Notably, deployment is up 12%, and AI projects "under development or in testing" are up 9%.

State of AI deployment



Why has the momentum behind AI remained steady, despite the massive global disruptions of the past few years? For starters, pandemic-related disruptions may have actually fueled interest in AI, suggests Sunil Adlakha, Managing Director at Accenture. "These survey results show that AI has grown significantly, even in the face of the pandemic," he says. "Considering that most of the executives were so busy helping save their businesses at the outset of the pandemic, taking care of their people, and changing and adapting so quickly, it's remarkable that these responses were still so much higher than three years ago. It shows that despite facing other critical priorities, executives had still thought about AI and embarked on their AI journeys."

Status of AI deployment



> "Companies still haven't really unlocked the value of AI by putting it at the center of all that they do. I don't think we can say that AI is yet realizing the value it has promised but the future looks bright."
>
> **Matthew Arellano**, Managing Director at Accenture

Advances in enabling technologies have fueled AI adoption, as well. For example, organizations now have better access to off-the-shelf AI capabilities that require less coding experience, including many that are embedded in cloud offerings. These technological advances make it easier to experiment with AI and roll out capabilities at scale.

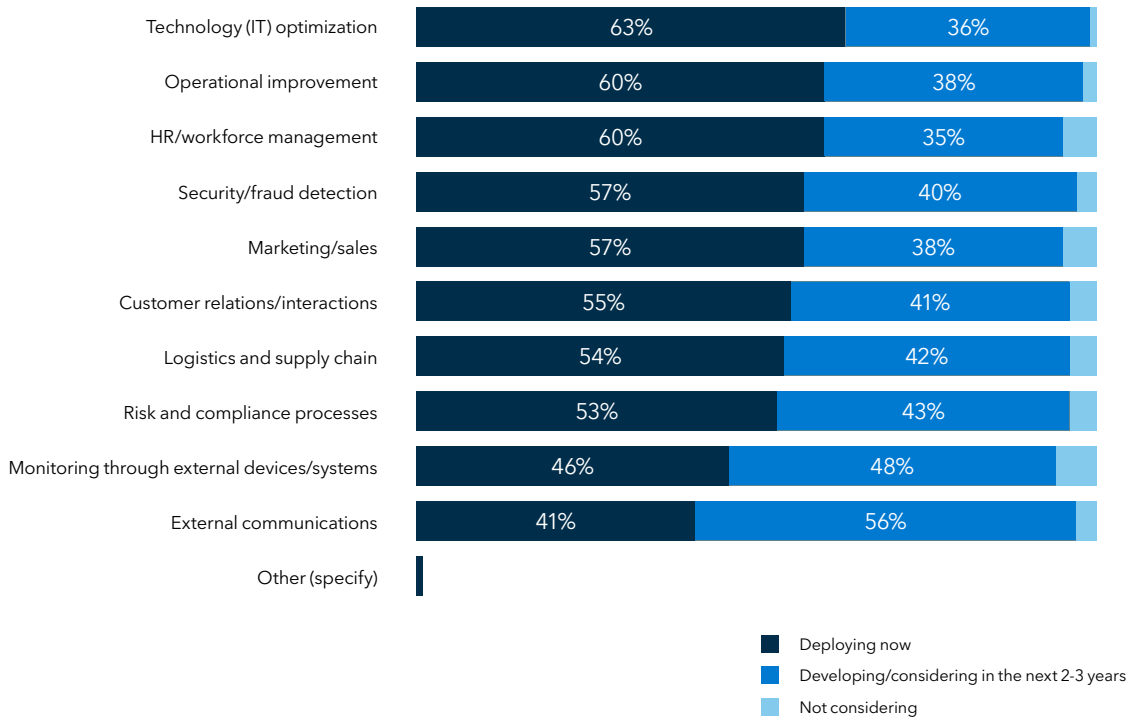
Whatever the cause, performance ratings for AI have risen considerably since 2018. On interpretability, scalability, accuracy and ease of integration, each category saw double-digit increases. "It's just a lot easier to deploy models today," says Josefin Rosén, AI and Analytics Lead, Nordics, at SAS. "A growing number of tasks are automated now, and there's more guidance around ModelOps – both the market and AI customers are maturing."

Yet, Matthew Arellano, Managing Director at Accenture, notes that the amount of investment in AI has far outstripped the amount of growth in AI adoption. "Companies still haven't really unlocked the value of AI by putting it at the center of all that they do," says Arellano. "I don't think we can say that AI is yet realizing the value it has promised but the future looks bright."

Expanding applications

When respondents were asked where they are deploying AI within the business, the results were dispersed over a host of functional areas, from IT optimization and marketing to sales, risk and compliance. For Rob Risany, Director of Edge AI Solutions Architecture at Intel, this broad spectrum tells an interesting story. "More than half of respondents are considering applying AI capabilities in all of these areas," says Risany. "That's a big deal. They're not looking for a few focused applications. They're looking at a whole host of possibilities, suggesting we could be on the verge of an explosion in AI activity."

Current and future functional areas of deployment

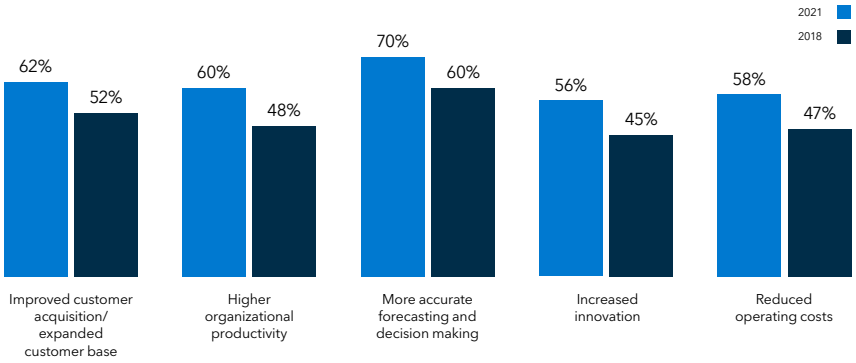


Gretchen Stewart, Chief Data Scientist, Public Sector, at Intel echoes this sentiment. "Yes, there are lots of people saying, 'Let's try a use case here or an experiment there – scenarios that have been exploited by tools and applications in the cloud,'" she says. "But I'm hearing a lot more people starting to ask, 'How can we do this at scale?' That's a momentous shift."

Broadening benefits, rising expectations

With AI adoption rising, the benefits are coming into focus. In fact, more than half of those who deployed AI say they've realized value from the technology. Double-digit increases in reported benefits since 2018 suggest that benefits are rising proportionally with deployments. Taken together, these are encouraging trends, suggesting that organizations are increasingly finding their way on AI and reaping the rewards.

Current benefits of using AI technologies

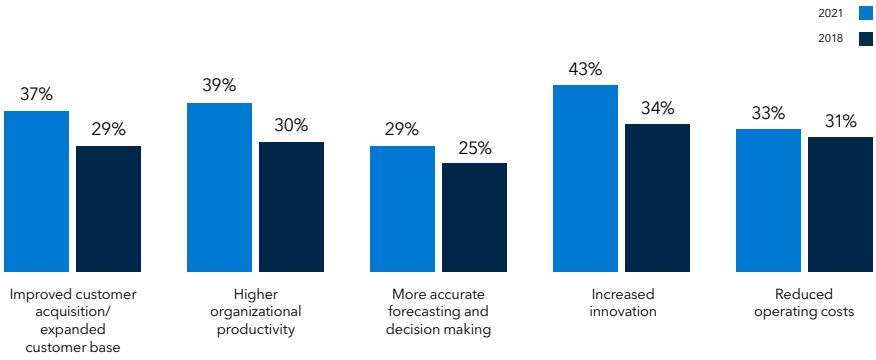


The primary benefits being realized today are in the category of operational optimization. This includes more accurate forecasting and decision making, improved customer acquisition and higher organizational productivity. Since these benefits are more attainable, repeatable and relevant to pandemic-related business needs, it makes sense they're being embraced by AI adopters.

"Initially, many organizations were excited about using AI to reduce operating costs through increased automation," says Intel's Stewart. "I think they're finding that AI delivers big benefits in areas such as customer acquisition and more accurate forecasting, but when it comes to reducing operating costs, they may need to modify their expectations."

> "With AI, one size does not fit all: companies will use a spectrum of capabilities to create value. Cloud-enabled services create analytic dexterity, shifting focus away from infrastructure and tools to solving business problems."
>
> **Jay Upchurch**, Executive Vice President and Chief Information Officer at SAS

Expected future benefits of using AI technologies



Leaders say AI offers more strategic value than optimization alone. "The benefits today provide a good runway for more high-value applications in the near future," says Iain Brown, Head of Data Science at SAS UK & I. "Next, we can expect to see even more innovation, at a larger scale, and with bigger results." Survey findings confirm this, with "increased innovation" topping the list of expected benefits.

Enablers and obstacles

The evolution of AI is following a similar course to other transformative technologies. In the early phases of these technologies, understanding the technology itself and how to integrate it with adjacent systems are the primary challenges. As these issues are resolved, the focus shifts to organizational adoption, governance, scalability and other higher-level matters.

Similarly, with AI, organizations continue to grapple with early-phase challenges. Fortunately, rapid progress is streamlining the path to large-scale adoption.

Cloud reliance expanding

Cloud plays a significant role in AI strategy, with 76% of respondents saying they use the cloud in some fashion. One explanation for this broad cloud usage is that cloud providers are including more AI development tools in their offerings. Even organizations developing their own AI capabilities are taking advantage of these tools.

76% Utilize cloud computing

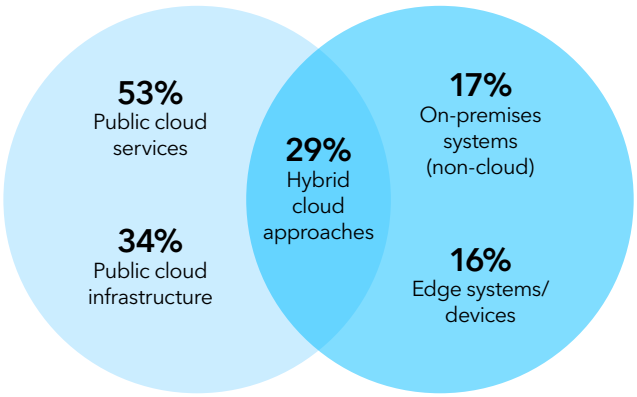
53% Use cloud for ≤ 25% of use cases

23% Use cloud ≥ 25% of the time

"We view cloud as an enabler, data as a driver and AI as a differentiator," says Accenture's Arellano. "But today, most organizations are still in the early phases of their cloud journey, using it primarily as an infrastructure tool, and data remains difficult to manage. As organizations notch more progress in these areas, it should have a direct, positive impact on AI adoption and execution."

> "We view cloud as an enabler, data as a driver and AI as a differentiator. But today, most organizations are still in the early phases of their cloud journey, using it primarily as an infrastructure tool, and data remains difficult to manage."
>
> **Matthew Arellano**, Managing Director at Accenture

Types of infrastructure supporting current AI initiatives



Respondents have yet to settle on a preferred model for cloud infrastructure; public, private and hybrid clouds are all in play today. Given the staying power of legacy systems, which are deeply entrenched and difficult to move, hybrid approaches will likely play a significant role for the foreseeable future. While AI strategies will rely heavily on cloud capabilities, many will still involve on-premises infrastructure.

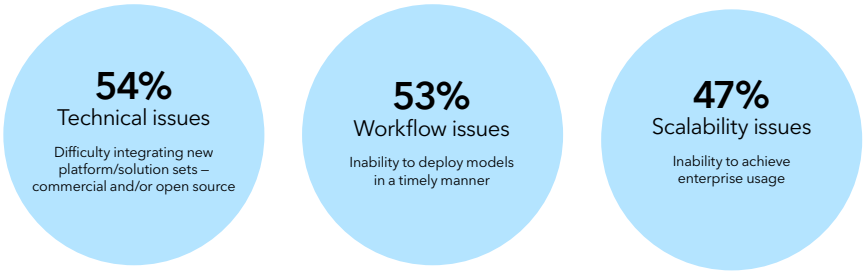
What to make of the fact that edge systems are supporting AI initiatives at a similar level as on-premises capabilities? "I'm not sure anyone yet knows what will be undertaken on the edge," says Mathias Coopmans, Head of Technology Futures at SAS. "It could be that we're seeing a give-and-take relationship between edge and on-premises deployments, where organizations are collecting more on the edge, but because most edge devices still have only basic processing capabilities, the data is being moved back to the core for analysis and other purposes." The emergence of edge capabilities at a level commensurate with on-premises infrastructure suggests IoT will play an important role in AI adoption.

Familiar challenges

AI is becoming easier to implement – but it's still not easy.

Notably, while funding was identified as a leading challenge to successfully implementing and applying AI in 2018, today it's the least of respondents' concerns. Only 8% identified funding and cost-related issues as a serious obstacle. "Today, if you can establish a good business case for AI, the funding will be there," says Coopmans.

Primary challenges to successfully implementing and applying AI

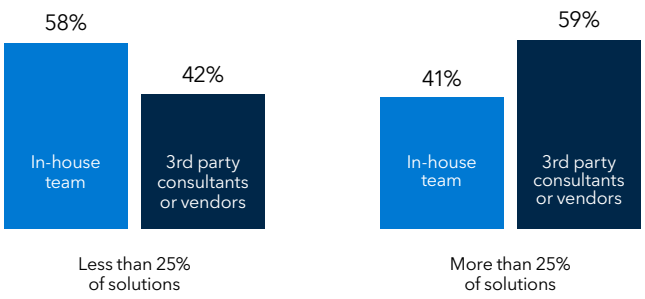


Instead, technical and workflow issues top the list of challenges, at 54% and 53%, respectively. But many observers anticipate that ongoing advances in enabling AI technologies will shrink these obstacles. Enhanced interoperability features, tighter preintegration, advances in ModelOps, and other developments being pursued by software providers and open-source leaders are already having an impact in these areas – but their greatest impact is yet to be felt.

Third parties as crucial AI enablers

Both external service providers and internal teams play critical roles in developing and deploying AI capabilities. For Accenture's Adlakha, deciding whether to use vendors often comes down to how quickly organizations need to deploy AI capabilities and whether they have the skills to deliver. "If you're a CXO facing an audacious, transformative AI strategy – one that is mission critical to the organization – you're probably looking to cultivate in-house delivery capabilities to sustain that strategy over the long term," he says. "But even in a long-term context, it's important to notch some quick wins and demonstrate early success, and third parties can be instrumental in doing so. And if you're simply trying to automate a repetitive task for quick benefit, you're more likely to turn to a specialized solution provider who can do the work quickly."

Who is building AI Solutions?

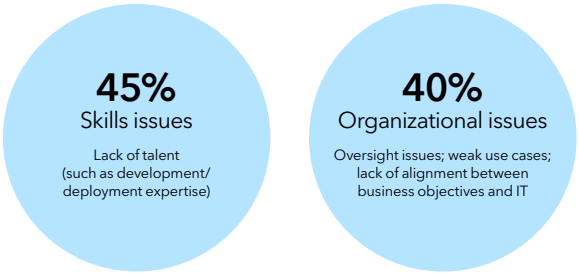


Intel's Risany says the top challenges identified by respondents make a strong case for engaging with third parties. "Integrating different technology capabilities is clearly a big issue. How do you get everything to connect properly? How do you move data from the edge to the cloud? If you're a retailer, how do these systems connect to the cash registers? If you're in manufacturing, how do AI capabilities mesh with the factory's existing automation platform? Practical questions like these are why there's still a critical role for the vendor ecosystem, which offers specialized expertise on demand. You need to think outside your four walls and bring in a range of resources to make sure you do this right."

A continuing challenge: Culture and skills

As technical challenges recede, culture and talent are likely to emerge as the more significant challenges to AI implementation. "We already have all the tools and technologies we need," says Accenture's Arellano. "The biggest barrier we face now is culture. It's having people be comfortable with the outputs and allowing models to drive real-time recommendations, with the certainty of knowing that the underlying technology and model were developed in a responsible manner."

A continuing challenge



The AI skills gap is a worrisome trend that is unlikely to end anytime soon. "The lack of talent is a problem," says SAS' Coopmans. "The gains that come from training in this environment are incremental – they'll take time. Meanwhile, the talent challenge affects every other aspect of an organization's AI strategy."

Meanwhile, the fast pace of AI innovation makes it difficult for training and learning strategies to keep up. Technology leaders must have a resourcing strategy in place that prioritizes what's most important to their organization and clearly distinguishes between what they can accomplish on their own and where they need outside help.

> "I don't think AI is one of the top priorities for the most senior executive leaders yet. But that doesn't mean we shouldn't be actively discussing how that level of executive sponsorship might work, especially with new AI-focused regulations on the way."
>
> **Sunil Adlakha**, Accenture

Trust, oversight and governance: Greater scrutiny as AI matures

As AI capabilities move out of the experimental phase and into enterprise-level deployment, AI-related ethics and trust issues are emerging as a leading concern for business and technology leaders. For many, especially those in Europe, the spotlight on these issues shines even more brightly today due to AI-focused regulations that are rapidly being developed, formalized and adopted by the EU.

51%
have concerns about built-in bias and ensuring AI-based outputs are objective and neutral

The survey reveals some mixed signals on the issue of trust. For example, when asked whether they agree with the statement "We trust AI to make the appropriate predictions and suggested actions," 73% signaled their agreement – an 11-point increase over 2018 responses. But 63% agree with the statement "We do not understand enough about AI to fully appreciate whether it will benefit our organization," and 51% cite trust issues – concerns about built-in bias and ensuring that AI-based outputs are objective and neutral – as a primary challenge to implementing and applying AI.

Interestingly, the survey shows AI governance is a topic of conversation but still not a top priority for the C-suite at most organizations. For Accenture's Adlakha, this reflects the nascent state of AI in most organizations today. "I don't think AI is one of the top priorities for the most senior executive leaders yet," he says. "But that doesn't mean we shouldn't be actively discussing how that level of executive sponsorship might work, especially with new AI-focused regulations on the way."

> "There should be a lot more reworking of AI systems underway today within the lens of ethics, governance and bias. AI is an ongoing practice, not a one-and-done activity."
>
> **Gretchen Stewart,**
> Chief Data Scientist,
> Public Sector at Intel

Beliefs about AI

In addition, relatively few respondents indicated they've had to rethink, redesign or override AI-based systems. Taken together, these findings reflect clear dichotomies between levels of trust, literacy and comfort with AI deployments today. This may be a function of the early phase of AI adoption, when it's being entrusted with lower-level, lower-stakes responsibilities. As AI becomes more pervasive and responsible for more ambitious goals, it's reasonable to anticipate greater scrutiny. "There should be a lot more reworking of AI systems underway today within the lens of ethics, governance and bias," says Intel's Stewart. "AI is an ongoing practice, not a one-and-done activity."

Olivier Penel, Head of Global Advisory at SAS, also emphasizes the role governance plays in taking AI beyond the lab where experimentation is done. "Moving AI from a cottage industry to a fully industrialized approach at scale – with the same level of repeatability, consistency, efficiency, predictability and cost-efficiency – is essential for organizations to realize the benefits from their data science investments and to develop a competitive advantage."

Our AI future: When, where and how?

While the transformational potential for AI is clear, its progress has been measured and even frustratingly slow for those who recognize the benefits. As Laetitia Cailleteau, European Lead for Data and AI and the Global Lead for Conversational AI at Accenture, points out, "The AI revolution is coming – we're on the cusp of it."

Taken as a whole, the 2022 AI Momentum Survey illuminates the sometimes contradictory state of AI adoption today. But the top-level trends are clear:

- **Adoption continues to rise.** Deployment is up 12%, and AI projects "under development or in testing" are up 9% since 2018.
- **Interest in AI has grown significantly.** AI interests nearly everyone surveyed, with only 1% saying they're not considering AI at all – down from 10% in 2018.
- **The benefits are real.** More than half of those who have deployed AI say they have realized value.

> "The AI revolution is coming – we're on the cusp of it."
>
> **Laetitia Cailleteau**, European Lead for Data and AI and the Global Lead for Conversational AI at Accenture

Meanwhile, critical AI-adjacent technologies, such as analytics and cloud, have also advanced in capabilities and adoption. Today, 76% of respondents say they're using the cloud for AI in some fashion. These types of advances are creating favorable conditions for an explosion in AI activity.

Aside from growing AI adoption rates, the survey revealed several important caveats, including:

- **Businesses are starting slow.** Only 34% of respondents have fully deployed AI capabilities in multiple use cases or lines of business.
- **Many AI use cases are still experimental.** Forty-six percent (46%) have AI partially deployed as an experiment or deployed as a prototype or "sandbox" project.
- **Implementation challenges abound.** Fifty-four percent (54%) report that technical issues, such as difficulty in integrating new platforms and solutions, are still a barrier to implementing and applying AI.

Despite these growing pains, AI adoption is accelerating. Looking ahead, experts believe AI applications will evolve from an operational focus to more innovative and strategic pursuits. Cultural change, AI literacy and a heightened focus on ensuring the safe, fair and ethical deployment of AI are all factors that will be key to getting there.

The signals are clear: AI is poised to be an increasingly pervasive force in business, culture and society. The only question is how quickly it will happen.

About this survey

A total of 305 respondents solicited by Forbes Insights completed this survey.

WHO WE SURVEYED

29% CHIEF DATA AND/OR ANALYTICS OFFICER

15% CHIEF TECHNOLOGY OFFICER

14% CHIEF INFORMATION OFFICER

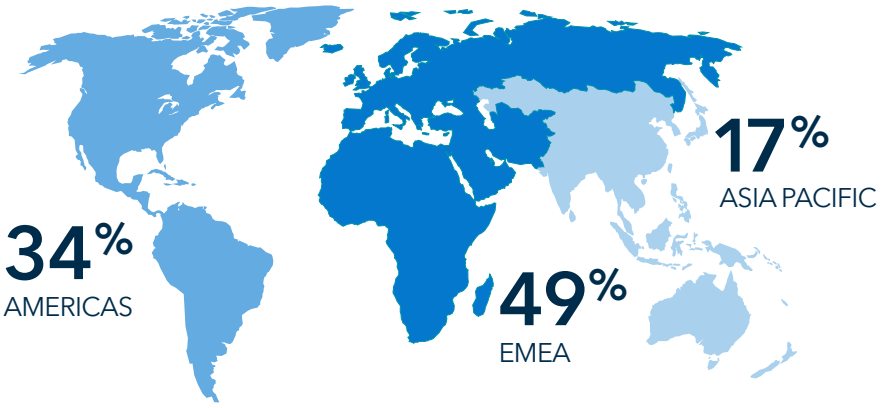
16% EVP/SVP/VP/DIRECTOR OF DATA AND ANALYTICS

11% EVP/SVP/VP/DIRECTOR OF BUSINESS INTELLIGENCE

10% EVP/SVP/VP/DIRECTOR OF DATA SCIENCE

5% OTHER

REGION



KEY INDUSTRY SECTORS

22% FINANCIAL SERVICES

12% HEALTH CARE/ LIFE SCIENCES

16% MANUFACTURING

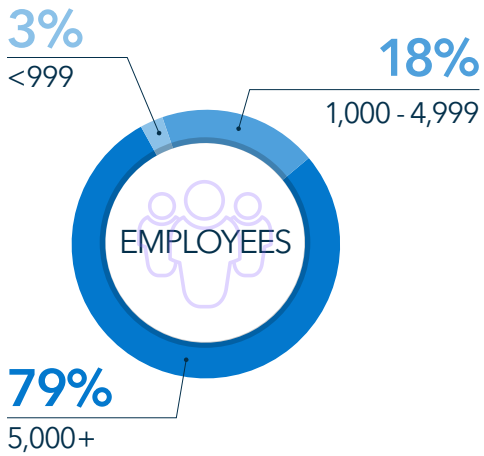
16% RETAIL/CGP

11% GOVERNMENT

11% MEDIA/ COMMUNICATIONS

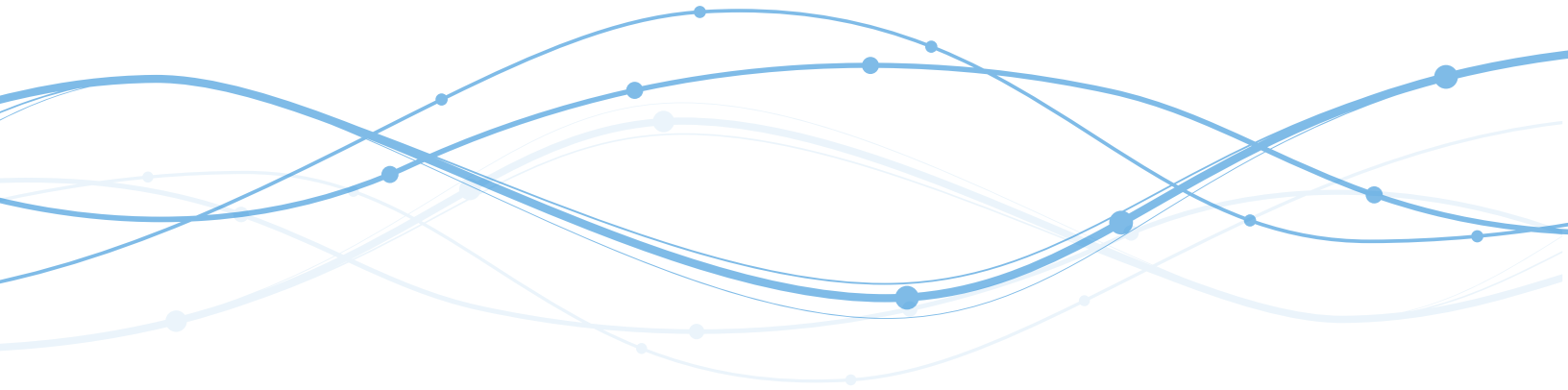
12% OIL & GAS/ ENERGY

SIZE OF ORGANIZATIONS



SAS + Accenture + Intel

Successful analytics initiatives require tight alignment between hardware and software in the hands of skilled technologists and strategists who can put them to work in support of organizational strategies. That's why the ongoing collaboration between SAS, Intel and Accenture is so important for clients. Together, we know how to connect all the dots on analytics strategies to deliver practical solutions that deliver real, measurable results – at any scale.



For more information, please visit sas.com/ai.