# Generative AI Challenges and Potential Unveiled:

How to Achieve a Competitive Advantage

Generative AI is transforming the workplace – and society – at a whirlwind pace by introducing a new way that humans and technology interact. Based on new research, this report reveals the challenges and opportunities companies face as they implement this pioneering technology. It also shares generative AI best practices: the optimal way to use the technology while accelerating innovation across your business, protecting your data and cultivating trust in changing times.
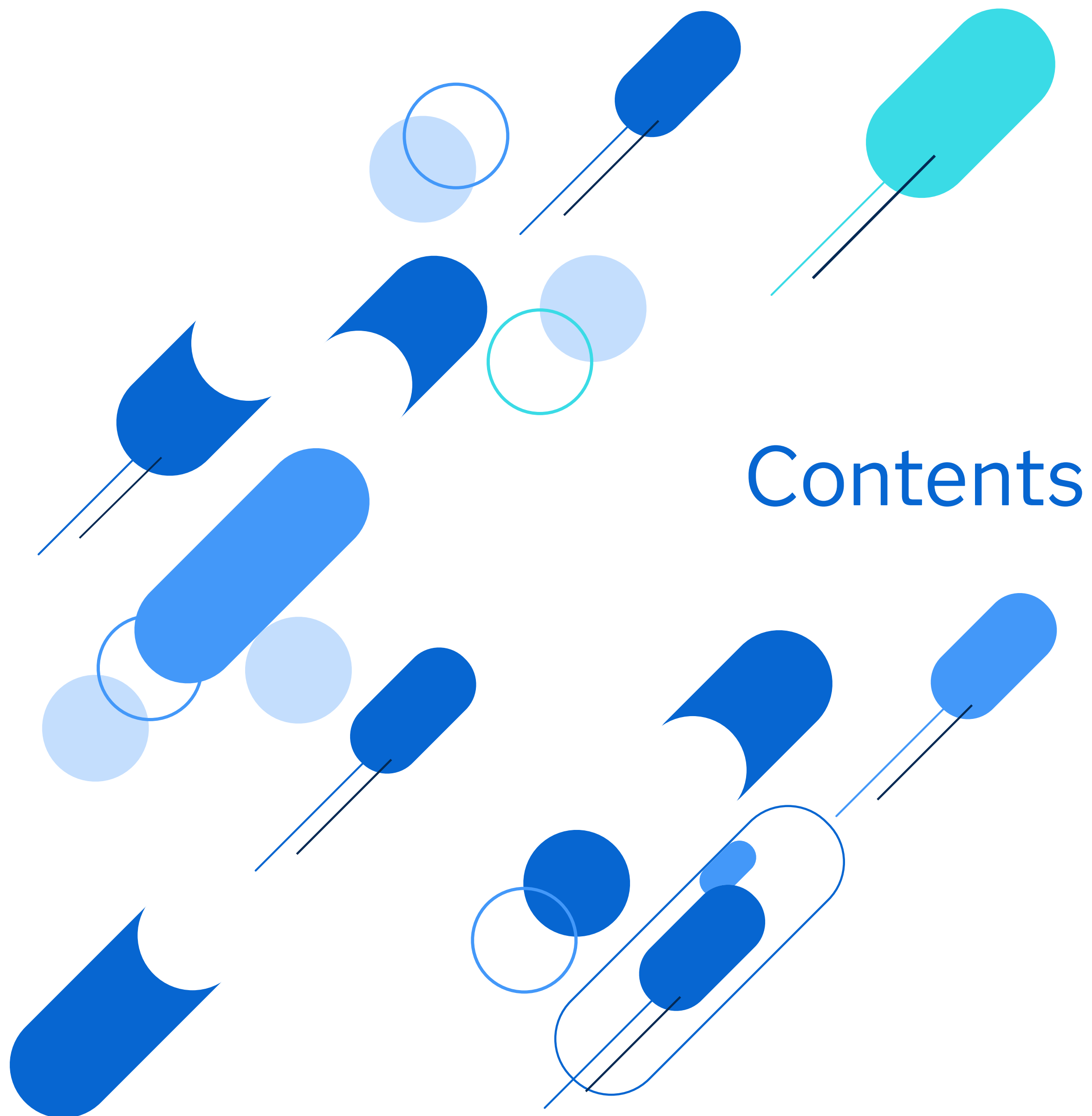
Contents

01
Foreword

By Marinela Profi, Strategic AI Advisor at SAS

The advent of generative AI promises to revolutionize the landscape of human and business productivity. As we embark on this transformative journey, it is imperative to acknowledge both the boundless potential of this new technology and the challenges that accompany such innovation.

This report is based on a new survey of 300 organizations based across the United States. Our research assesses their current plans to deploy generative AI, reveals how the technology is integrated into their strategic planning, and explores the specific issues they have encountered along the way. Through meticulous analysis, we examine the pulse of the market – offering insights into the prevailing sentiments around generative AI and the hurdles that organizations face as they integrate the technology into their operations.

From discussions on orchestration, governance and data privacy to considerations on hallucinations (incorrect or misleading results generated by language models) and cost implications, this report offers a comprehensive examination of the challenges that companies must navigate and the opportunities for increased productivity and competitive advantage.

Through this exploration, we uncover the blueprint for gaining competitive advantages – revealing not just best practices but thriving strategies in tomorrow's technological landscape.

This report presents best practices and strategic insights aimed at empowering businesses to harness generative AI's full potential. By embracing these practices, organizations can not only overcome obstacles but also position themselves at the forefront of innovation, driving sustainable success in an increasingly competitive landscape.
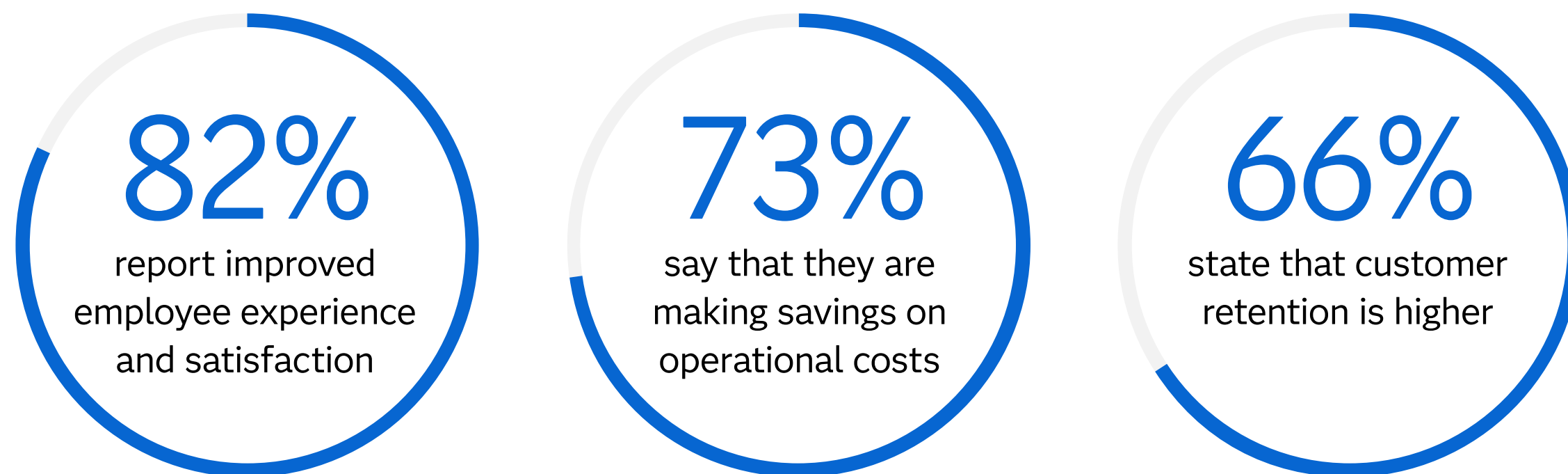
In this report, you will learn:

- The strategic investments companies are making to harness the unparalleled potential of generative AI.

- How to identify your best generative AI use cases to deliver speedy return on investment.

- What data and AI techniques can help augment large language models' (LLMs) accuracy and explainability.

- How you can combine generative AI with an AI-based decisioning workflow system to facilitate measurable outcomes.

- How to proactively prepare your organization in an era of exponential innovation.

02
Executive Summary
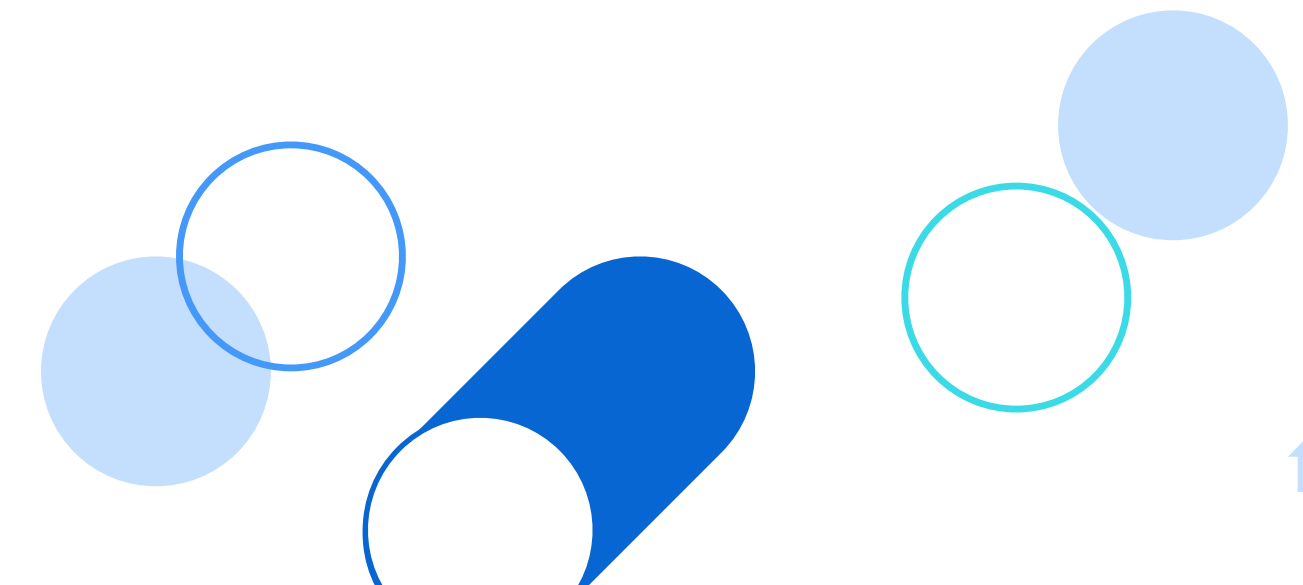
Since the launch of ChatGPT in November 2022, generative AI has emerged as a technology with extraordinary potential. US decision makers recognize that generative AI can drive innovation, new conversational experiences and operational efficiency.
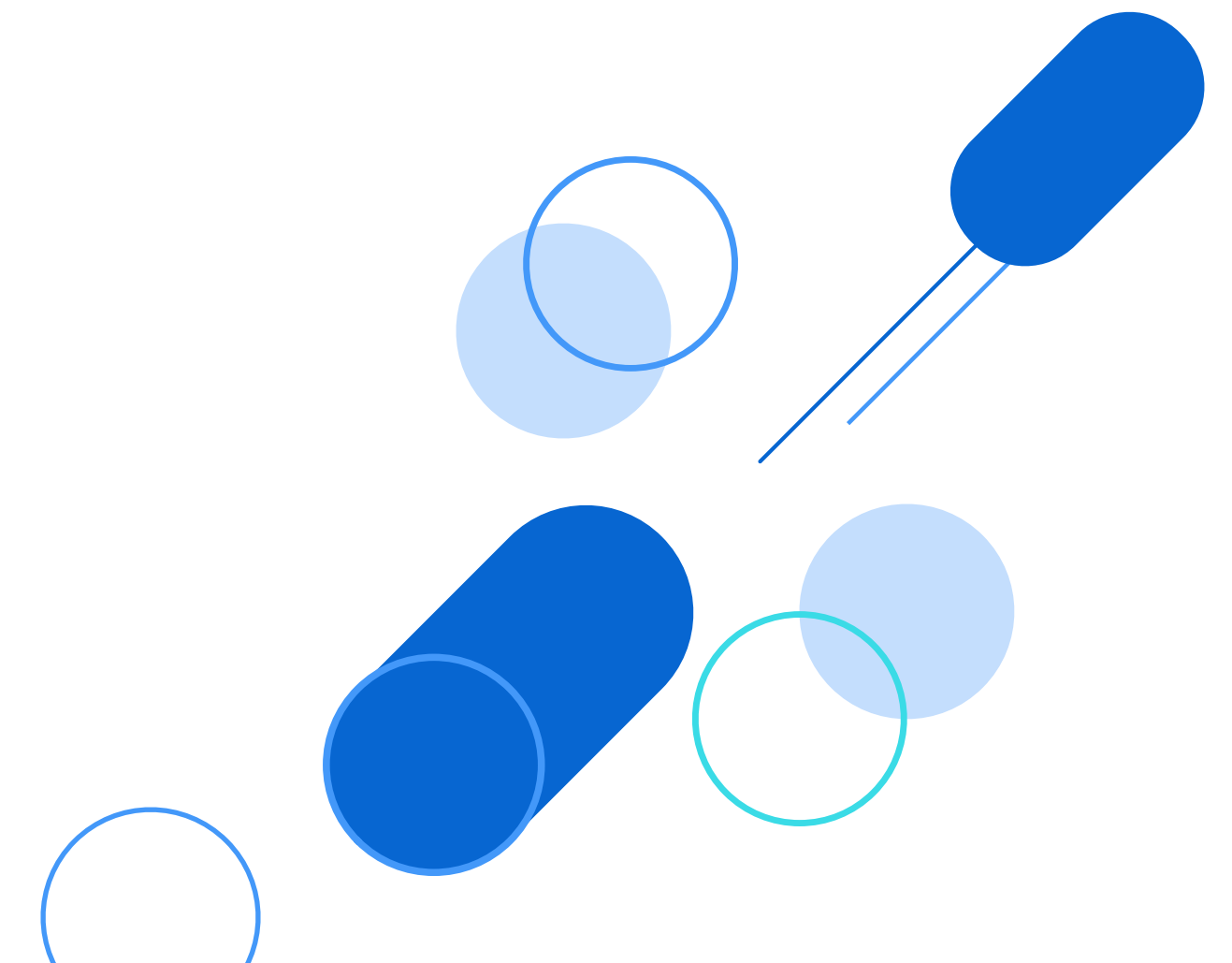
Our research shows that US businesses that embrace generative AI are seeing significant benefits.

82%
report improved employee experience and satisfaction

73%
say that they are making savings on operational costs

66%
state that customer retention is higher

However, with increased focus on, and investment in, generative AI, many US firms are encountering difficulties with implementation. These issues threaten to waste resources, dissuade customers and even render companies legally non-compliant. In organizations that have fully implemented generative AI projects, 43% say they are struggling with prohibitive costs and find it a challenge to integrate the technology into existing systems. These issues are best resolved at an early stage, ideally before generative AI is deployed and significant resources are invested.

There are four steps to achieving success with your generative AI investment.

1. Strategic deployment
2. Comprehensive governance
3. Technological integration
4. Expert guidance

03

US Market Pulse

US businesses are seeing significant benefits from generative AI. A large majority (82%) report improved employee experience and satisfaction, 73% say they are saving on operational costs, and 66% state that customer retention is higher.

It is no surprise that the technology is being swiftly adopted by companies across the US. Our research reveals that 7 in 10 US businesses have begun to implement generative AI, including 10% that have fully integrated the technology at an enterprise level. The vast majority (83%) of American companies are investing in generative AI for 2024-25. A quarter plan to roll out generative AI at an enterprise level, and 80% are undertaking or planning to embark on projects to build their own LLMs in-house.
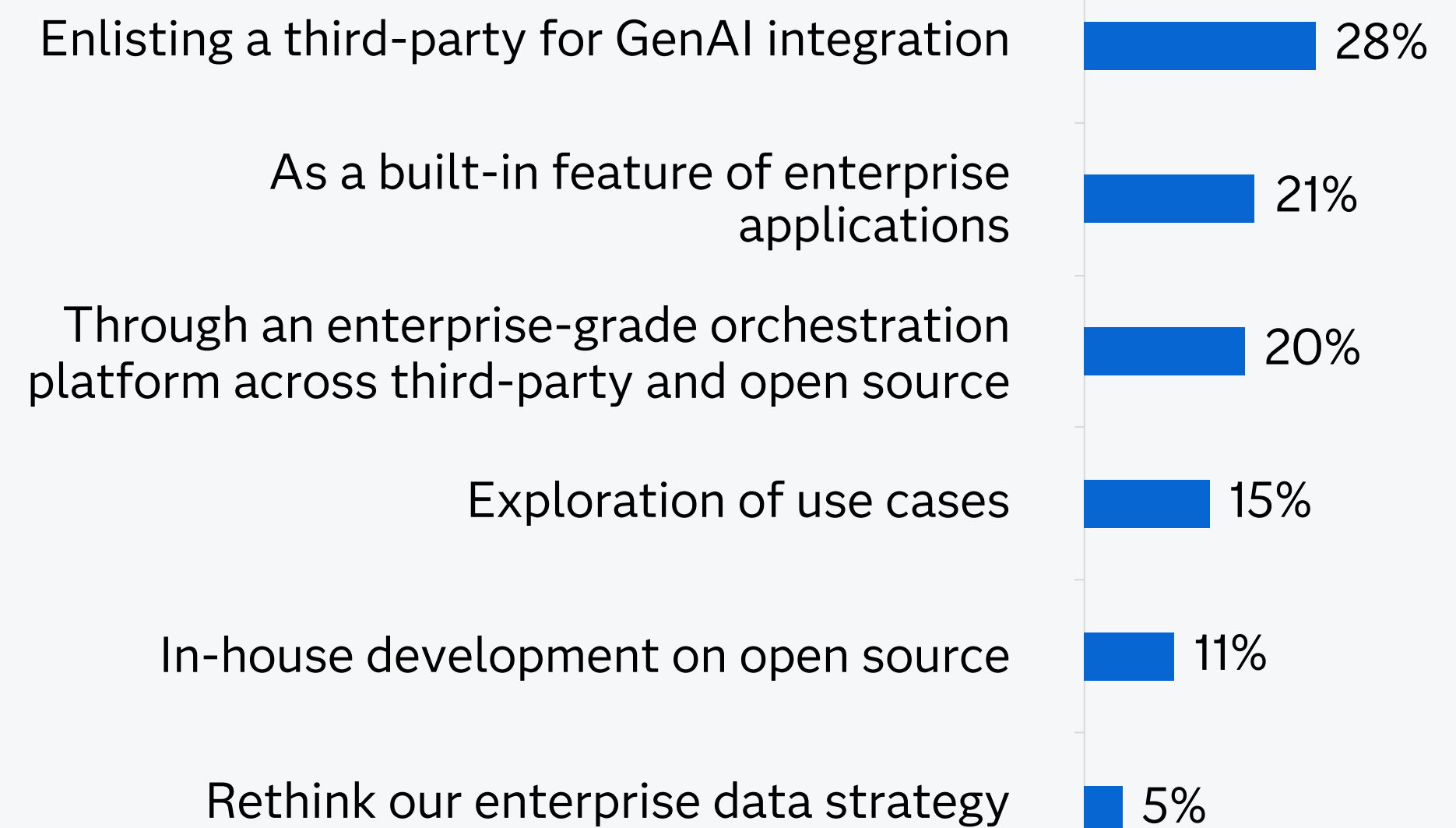
Organizations are using – or planning to use – generative AI across multiple departments. A massive 90% of respondents have either begun or are planning to deploy generative AI across sales departments. For finance departments, that figure is 84%; for IT and for production, 81%; and for marketing, 79%. Even in those departments where generative AI adoption is least likely, the majority are still either using or planning to bring it on board: 70% in HR and 67% in legal departments. A fifth of the workforce (19%) currently use generative AI tools to generate text, images or video every day.

As companies adopt generative AI, they seek to understand how to use it safely and ethically. Over half (65%) have a generative AI usage policy in place for staff to adhere to, indicating that even where governance is patchy, leaders are making

efforts to standardize generative AI usage. Almost half (48%) are planning to enlist third-party support to ensure that they make the most of generative AI's potential.

Many are enlisting third parties to support generative AI integration, including through orchestration platforms.

How do you envision scaling generative AI within your business processes?

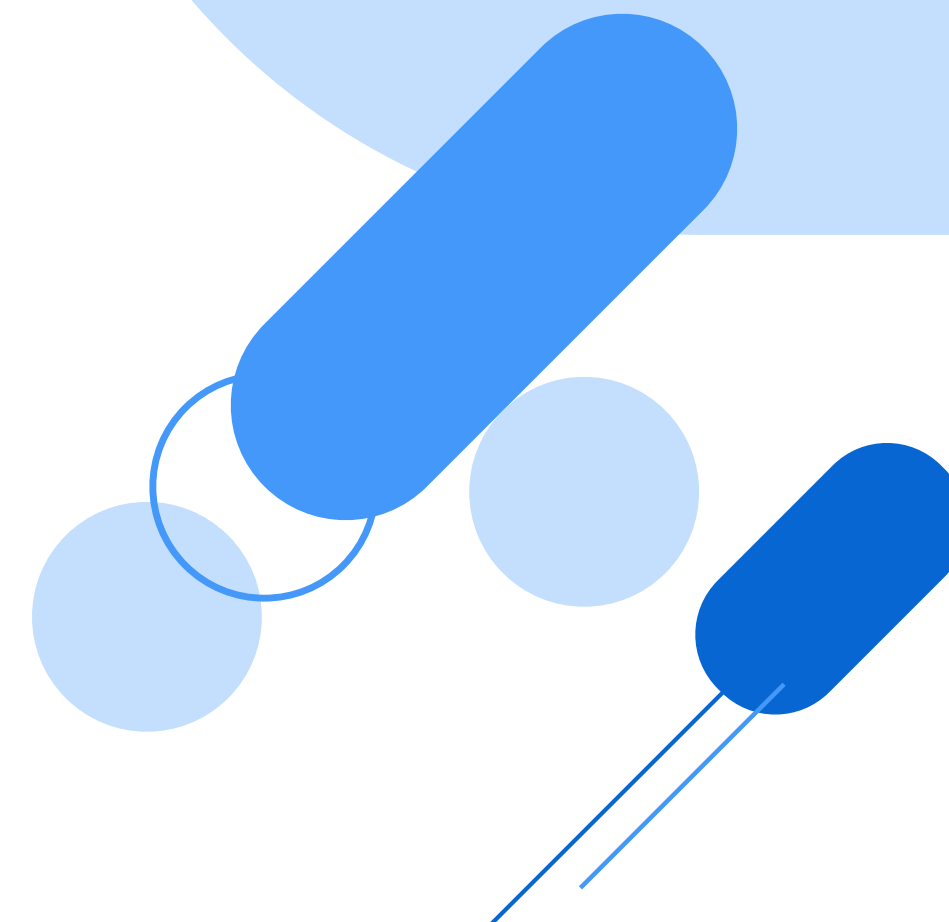|	
Enlisting a third-party for GenAI integration	28%
As a built-in feature of enterprise applications	21%
Through an enterprise-grade orchestration platform across third-party and open source	20%
Exploration of use cases	15%
In-house development on open source	11%
Rethink our enterprise data strategy	5%

04
Strategies for Successful Adoption

Organizations are racing to invest in generative AI: Our research shows that 83% of US businesses are committing financially to the powerful technology in 2024-25. But what does successful deployment look like?

Our research shows that while organizations aspire to attain this nirvana, they hit stumbling blocks in four key areas of implementation.

- **Unlocking value:** Translating the implementation into measurable benefits.

- **Increasing trust in data usage and achieving compliance:** Embedding trust in your business outcomes.

- **Orchestrating generative AI into existing systems and processes:** Ensuring that your systems and tools do not limit generative AI's potential.

- **Talent and skills:** Identifying the skilled talent who can support your generative AI strategy.

So what do these challenges look like in practice, and what are the solutions?

To maximize productivity, generative AI must be seamlessly embedded within business processes and systems. Performance should be reliable, transparent and ethical, accelerating productivity and improving customer experience, while adding measurable value to stakeholders.
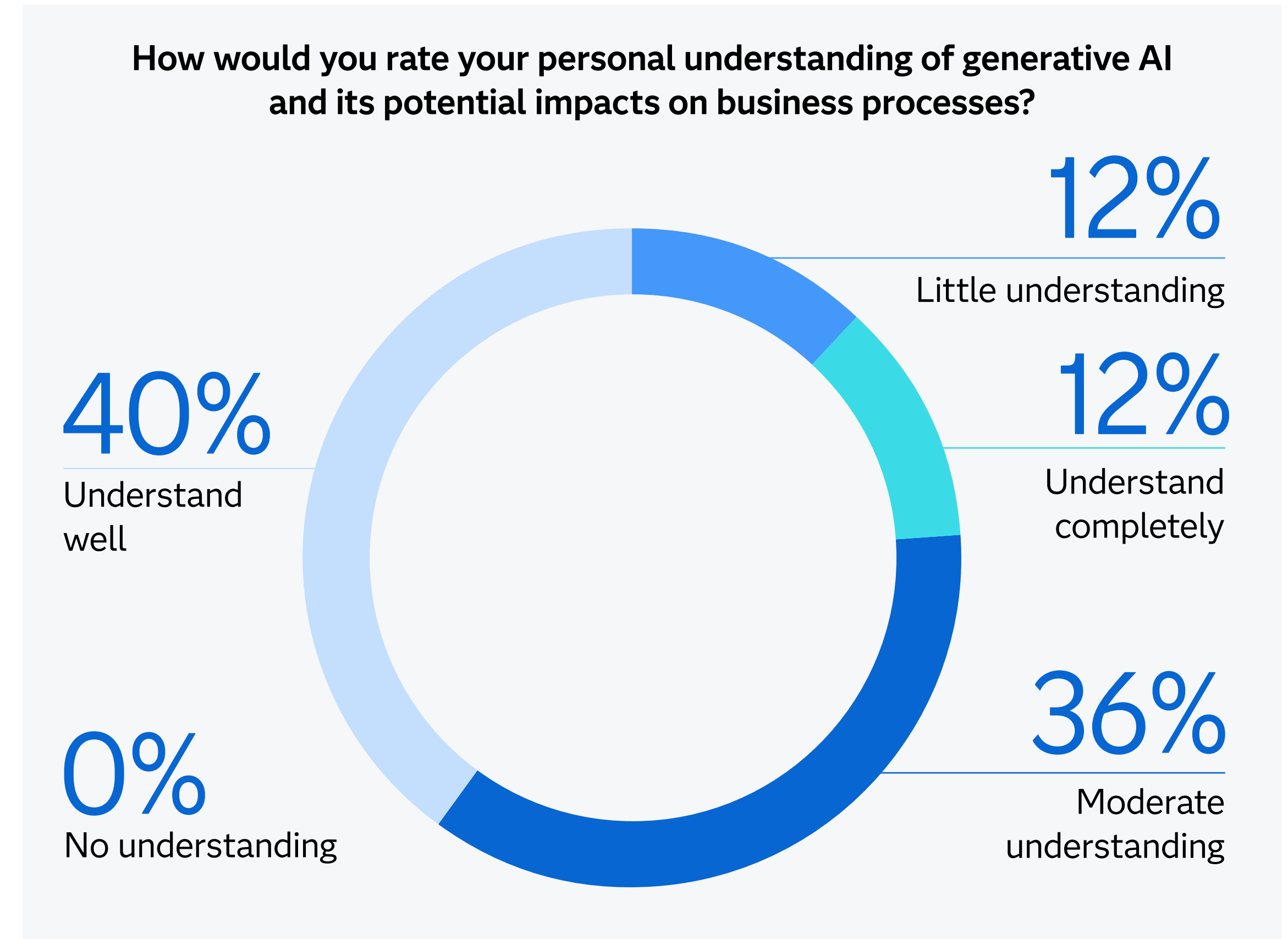

Senior decision makers are not always completely familiar with generative AI adoption in their organizations
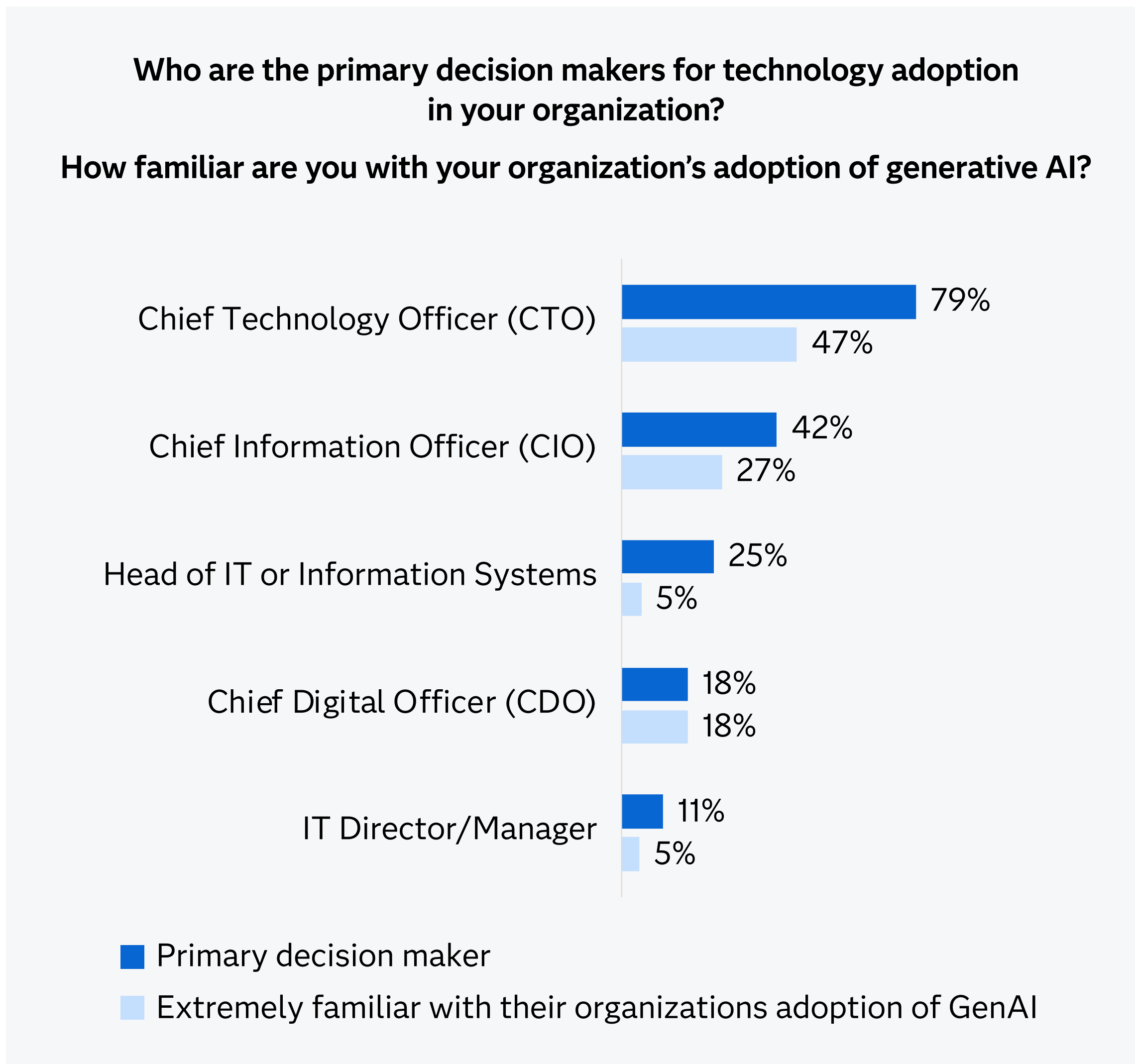
35% do not have a generative AI usage policy in place for their staff to follow

Who are the primary decision makers for technology adoption in your organization?
How familiar are you with your organization's adoption of generative AI?

Chief Technology Officer (CTO) — 79% / 47%
Chief Information Officer (CIO) — 42% / 27%
Head of IT or Information Systems — 25% / 5%
Chief Digital Officer (CDO) — 18% / 18%
IT Director/Manager — 11% / 5%

■ Primary decision maker
■ Extremely familiar with their organizations adoption of GenAI

Does your organization have a generative AI policy that dictates how your employees can and cannot use it for the business?

35% No
65% Yes

Insight 1:

Ensure that key decision makers are AI literate before they develop your comprehensive generative AI strategy. This requires time and will most often involve outside experts.

Insight 2:

Identify your best generative AI use case to deliver speedy return on investment.

For many companies that set out to deploy generative AI, the first item on their to-do lists is to clean up the data they hold. However, a better approach is to identify high-impact use cases for the technology in order to deliver a measurable return on investment as quickly as possible.

Increasing trust in their data usage and achieving compliance

Embedding trust in your technological investment

When their generative AI investment performs reliably, transparently and ethically, businesses see the benefits. However, in reality, many lack full oversight of the technology, and the majority are at risk of noncompliance when it comes to regulation.

Our research finds that:

- Only 1 in 10 US organizations **(14%)** has undergone the preparation needed to comply with generative AI regulations.

- **93%** of US businesses lack a comprehensive governance framework for generative AI.

- Fewer than 1 in 10 organizations **(8%)** is providing a high level of training on generative AI governance and monitoring.

- 8 out of 10 respondents are concerned about data privacy **(79%)** and security **(80%)** when generative AI is used in their organizations.

- Only 1 in 10 organizations **(8%)** has a reliable system in place to measure bias and privacy risk in large language models (LLMs).

- 7 in 10 organizations **(70%)** are not able to continuously monitor their generative AI systems.

Only 1 in 10 businesses has undergone the preparation needed to comply with current and upcoming regulations concerning generative AI

The majority of organizations lack a comprehensive governance framework for both AI and generative AI (8 in 10 adopters admit to this)

How prepared is your organization to comply with current and upcoming regulations concerning generative AI?

	Total	We are using generative AI and have fully implemented it	We are using generative AI but haven't yet fully implemented it	We are not yet using GenAI but intend to within the next two years (net)
Fully prepared	14%	33%	13%	3%
Moderately prepared	46%	40%	61%	33%
Slightly prepared	37%	26%	26%	57%
Not prepared	3%	0%	0%	8%

- Total
- We are using generative AI and have fully implemented it
- We are using generative AI but haven't yet fully implemented it
- We are not yet using GenAI but intend to within the next two years (net)

How would you describe your current generative AI/AI governance framework?

Artificial Intelligence (AI)
Governance framework

	Total	Using & fully implemented	Using, not fully implemented	Not yet using, intend to
Well-established and comprehensive	18%	25%	23%	8%
Ad hoc or informal	15%	6%	5%	32%
In development	65%	69%	72%	54%
Nonexistent	2%	0%	0%	7%

Generative AI
Governance framework

	Total	Using & fully implemented	Using, not fully implemented	Not yet using, intend to
Well-established and comprehensive	7%	21%	6%	0%
Ad hoc or informal	24%	29%	18%	26%
In development	61%	50%	76%	50%
Nonexistent	8%	0%	0%	24%

Fewer than 1 in 10 organizations provide a high level of training on generative AI governance and monitoring

8 out of 10 respondents are concerned about data privacy (80%) and security (79%) when generative AI is used in their organizations

What level of training does your organization currently have regarding generative AI/AI governance and monitoring?

Generative AI
Governance and monitoring training

- High: 8%
- Adequate: 35%
- Minimal: 56%
- None: 1%

Artificial Intelligence (AI)
Governance and monitoring training

- High: 21%
- Adequate: 39%
- Minimal: 40%
- None: 0%

What are your concerns regarding the usage of generative AI in your organization?

Rank 1/2/3/4/5 Summary

- Data security: 80%
- Data privacy: 79%
- Governance: 55%
- Over-reliance/dependence: 53%
- Potential for bias: 52%
- Ethical implications: 49%
- Explainability and accuracy of the output: 48%
- Culture resistant to change: 44%
- In-house talent/skills: 40%

How would you assess your ability to measure LLM bias/privacy risk in your organization?

Ability to measure LLMs

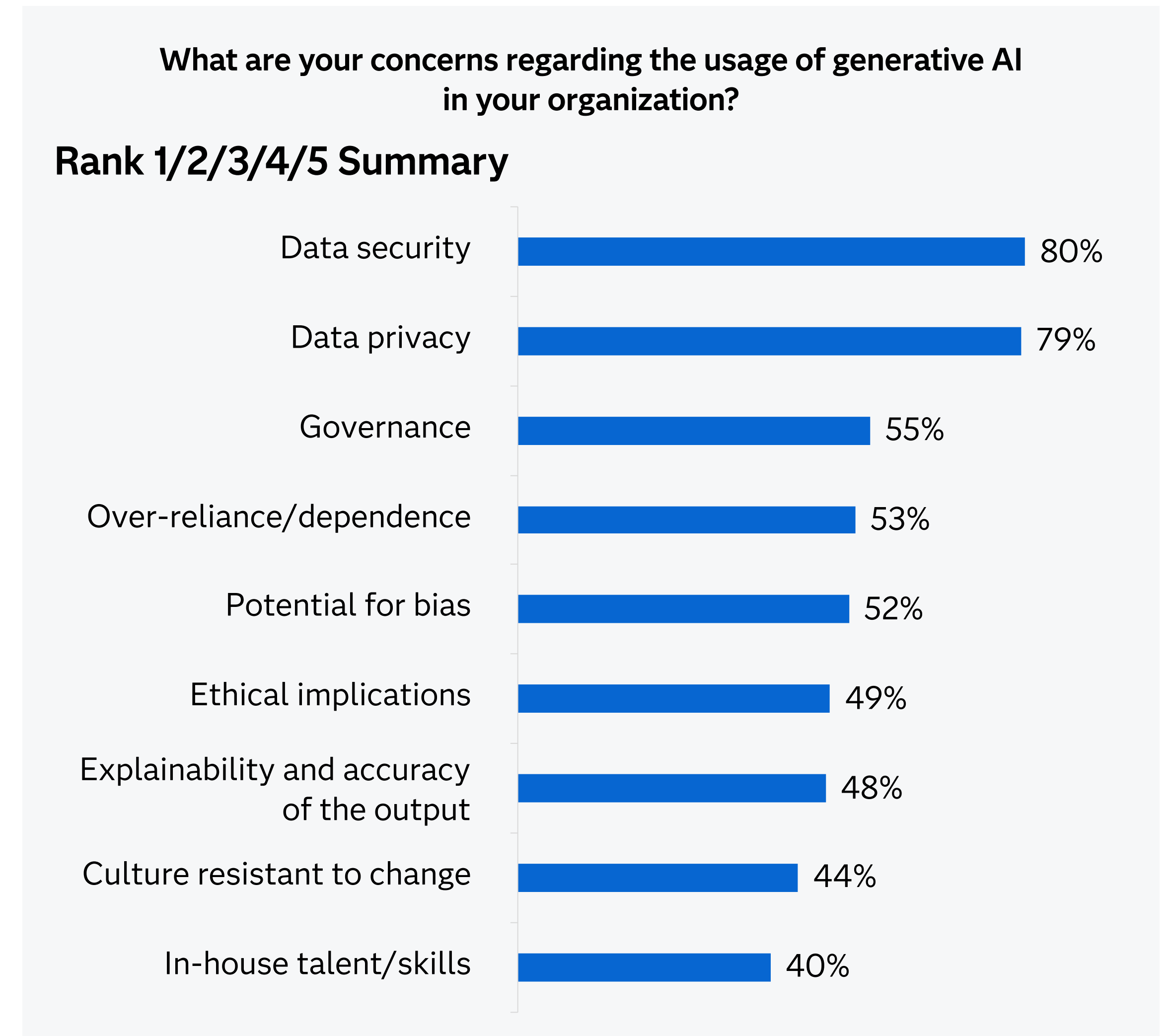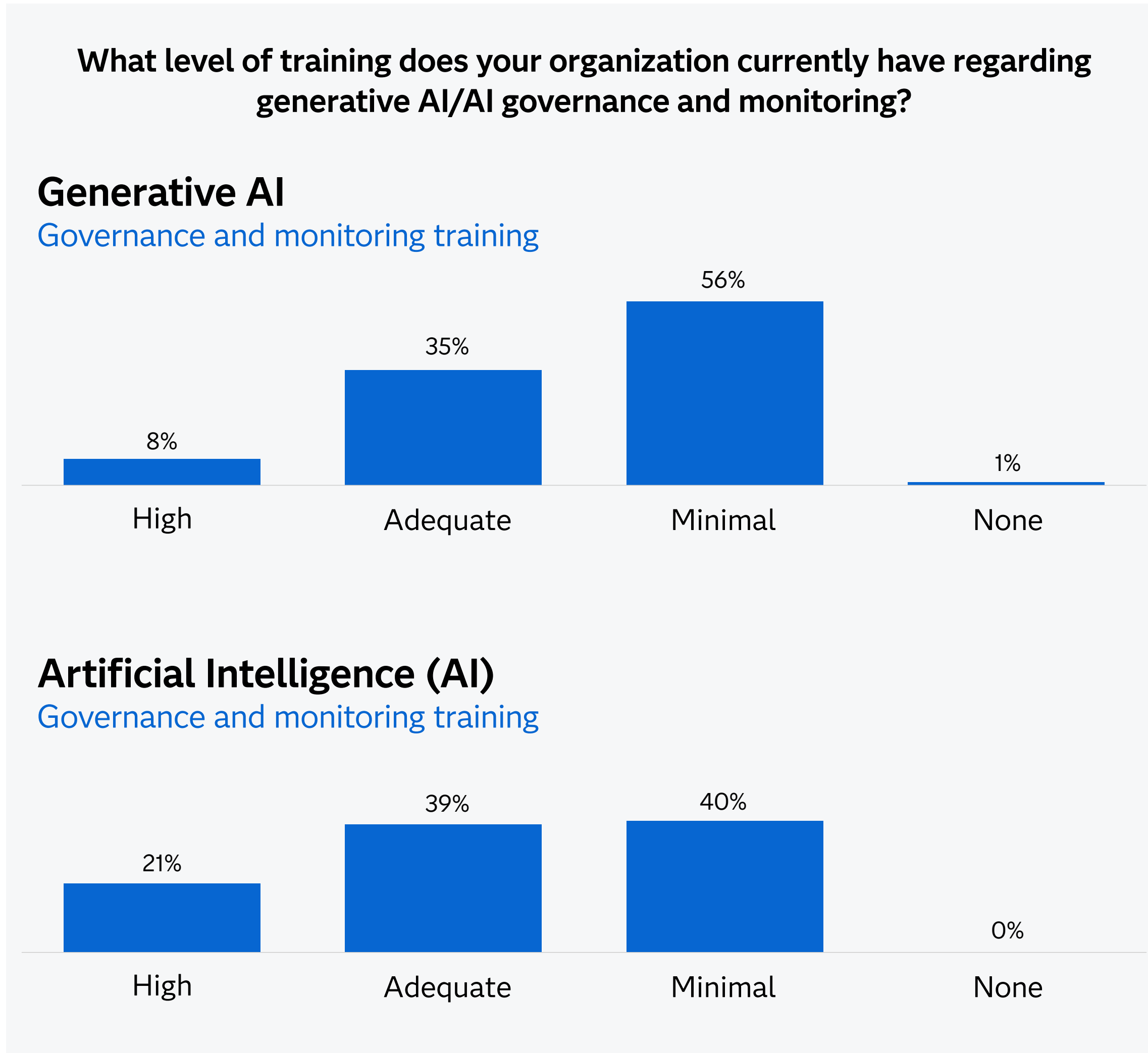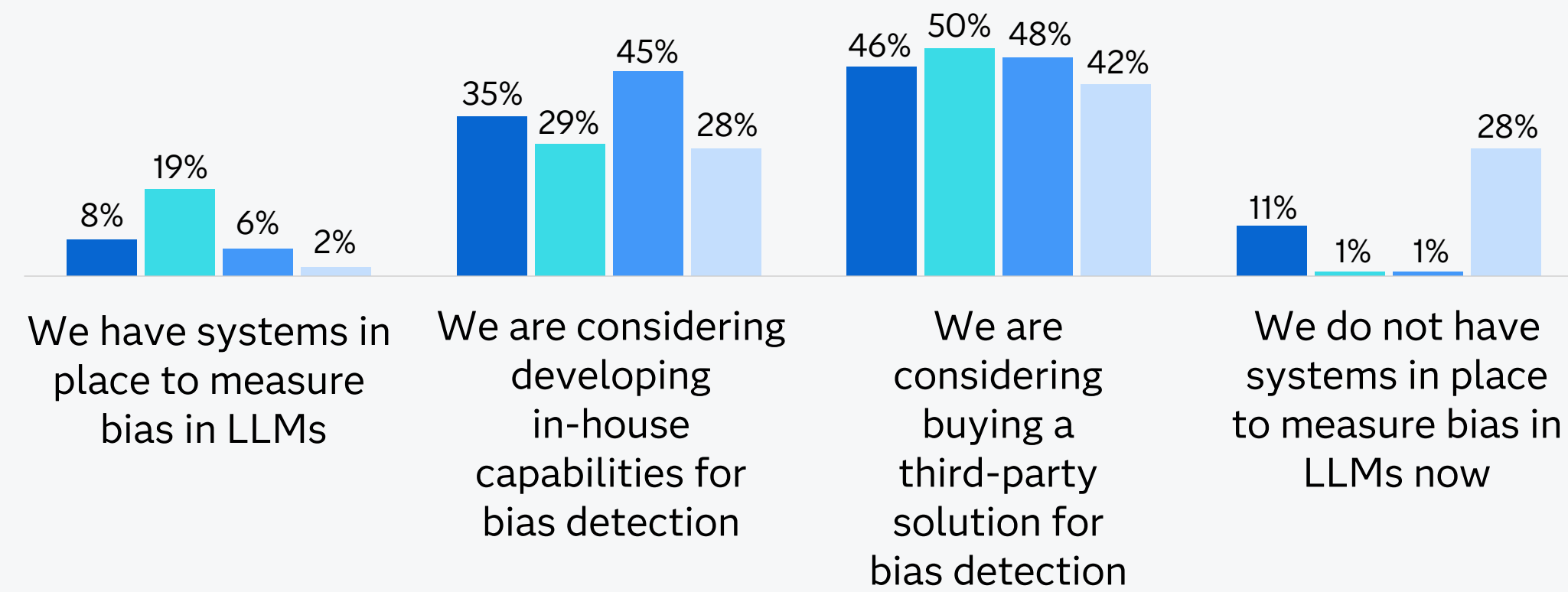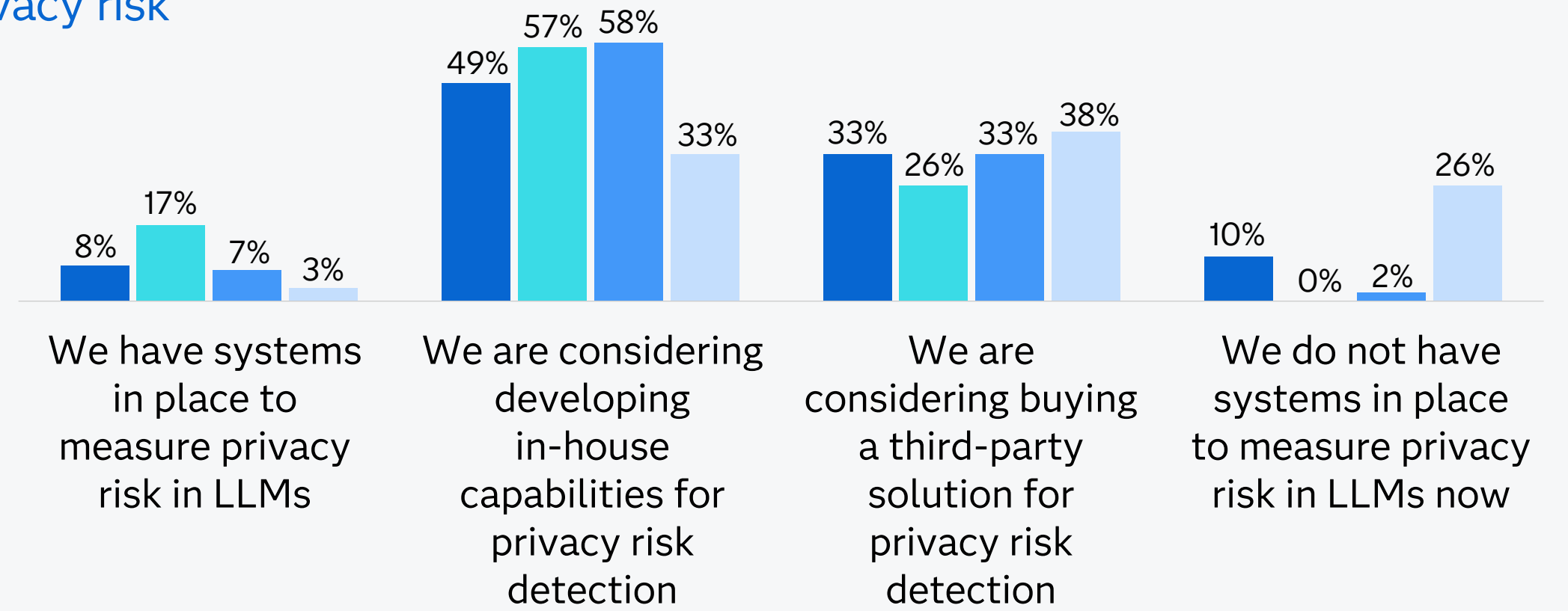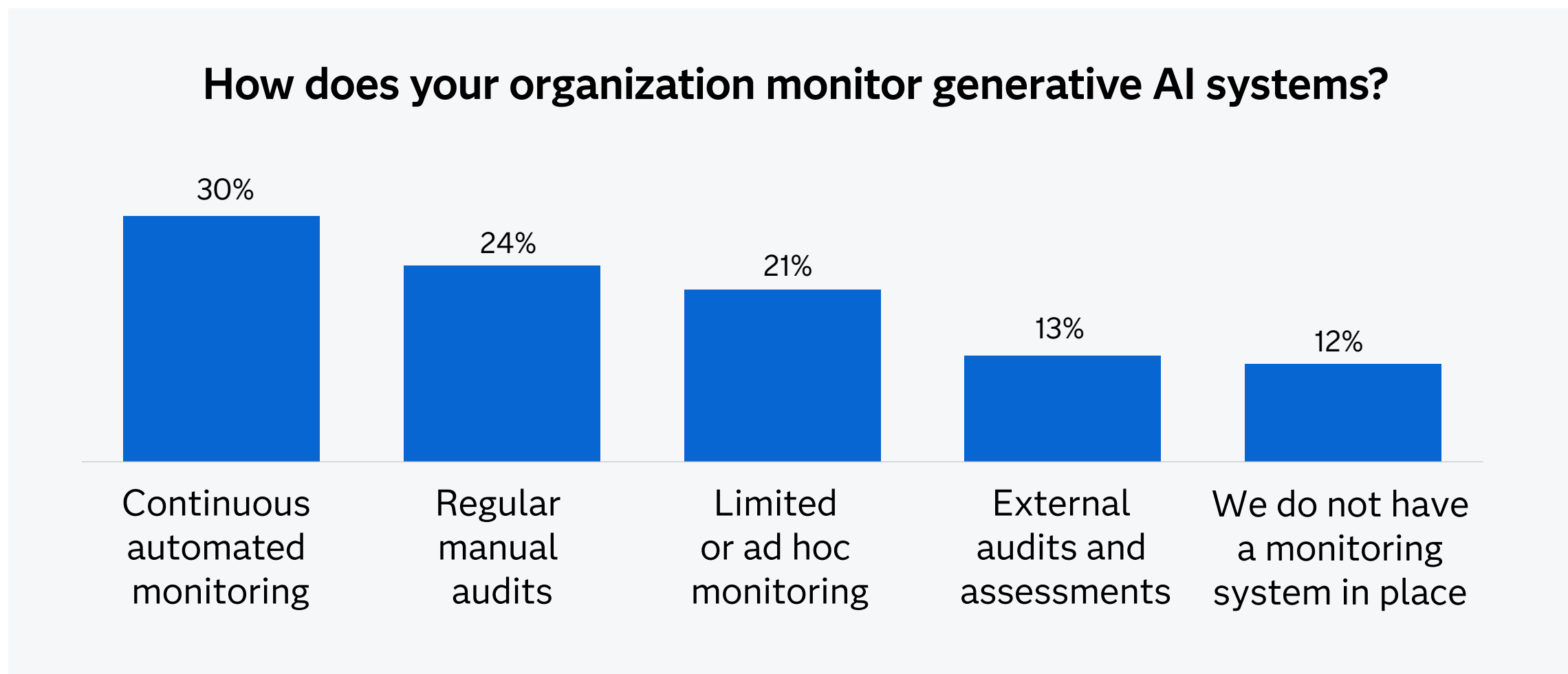### Bias

Privacy risk

- ■ Total
- ■ We are using generative AI and have fully implemented it
- ■ We are using generative AI but haven't yet fully implemented it
- ■ We are not yet using GenAI but intend to within the next two years (net)

7 in 10 organizations (70%) are not able to continuously monitor their generative AI systems

How does your organization monitor generative AI systems?

Continuous automated monitoring	30%
Regular manual audits	24%
Limited or ad hoc monitoring	21%
External audits and assessments	13%
We do not have a monitoring system in place	12%

Across US businesses, generative AI usage opens anxieties about data privacy, security, lack of governance, dependence on the technology, and its potential for amplifying bias. Nevertheless, many have not fully prepared themselves to comply with regulations and do not have generative AI governance in place, or even any ways to monitor the technology. Our research shows that businesses are rushing into generative AI before establishing adequate systems of governance, which could result in serious issues with quality and compliance later.

Insight 3:

Data management tools are essential to ensure that LLMs are fed the highest quality data and prompts – data that is both auditable and traceable.

These tools can provide user privacy and security with robust data protection measures, including data minimization, anonymization and encryption, ensuring that sensitive information remains safeguarded. Furthermore, workflows can be automated for the shortest, most direct route to building or tuning an LLM.

Insight 4:

Data management and analytics tools can help minimize potential bias in raw data used to feed LLMs.

Data management and analytics tools can detect outliers and sources of bias in the raw data used to train LLMs.

Technological Integration

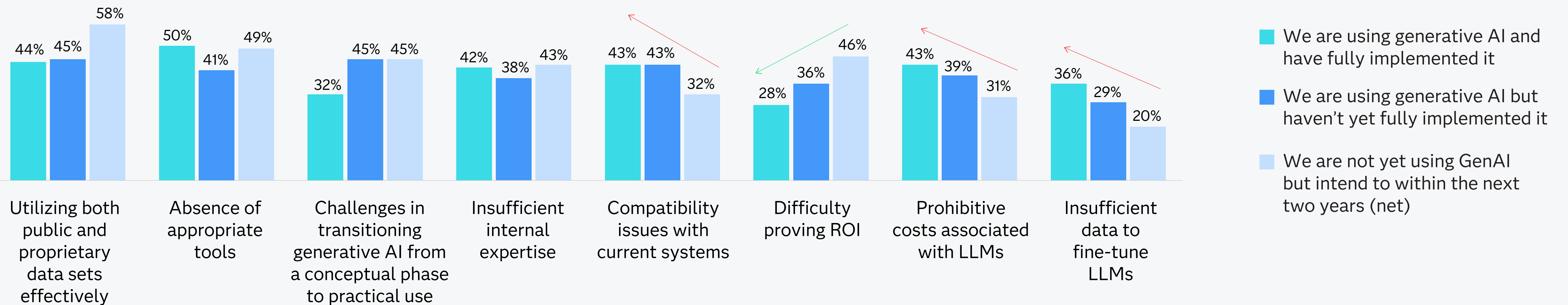**Ensuring that your systems and tools do not limit generative AI's potential**

At best, generative AI is seamlessly embedded within a business's processes and systems. But many companies struggle to integrate the technology with the tasks and tools they already have.

Our research finds that:

- Almost half **(46%)** of US decision makers report that they do not have appropriate tools to implement generative AI.
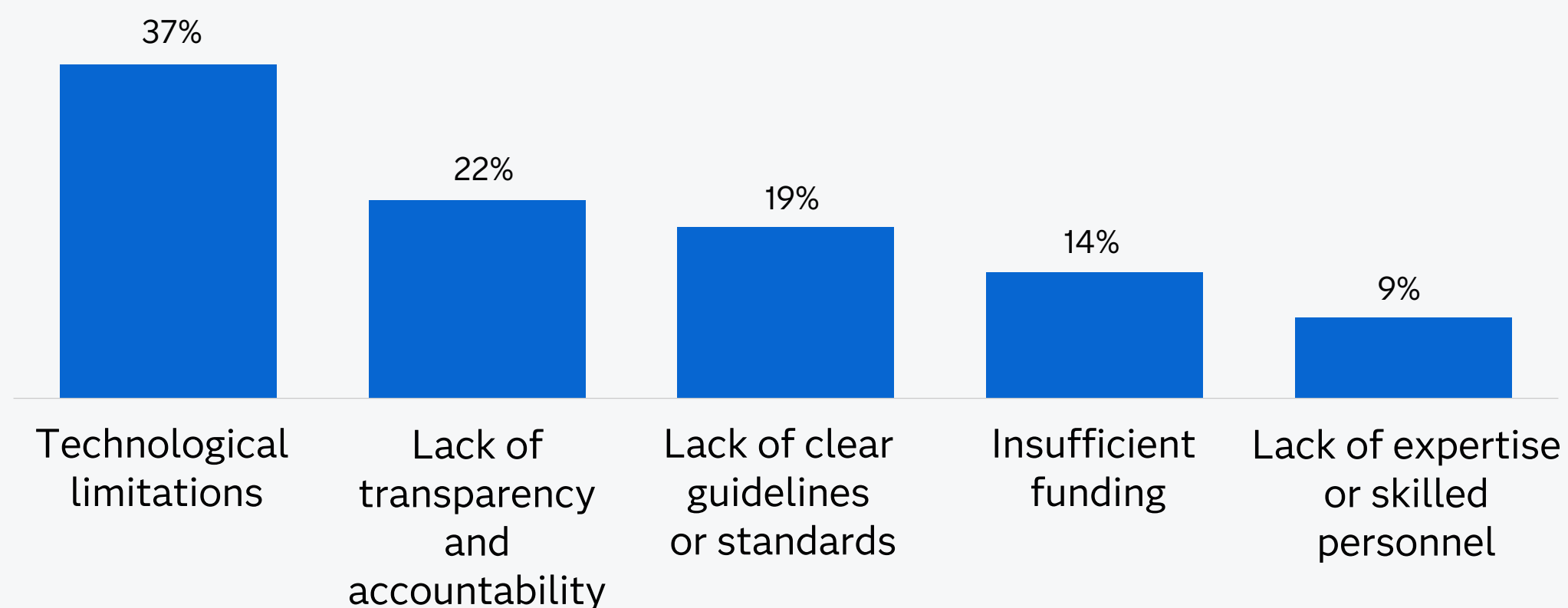
- 4 in 10 **(39%)** are experiencing compatibility issues when they try to combine generative AI with their current systems.

- Half of US decision makers are encountering obstacles in using public and proprietary data sets effectively.

- Over a third **(37%)** say that the biggest challenge to monitoring generative AI is technological limitations.

US decision makers report that they do not have appropriate tools, are experiencing compatibility issues, and encounter obstacles in using public and proprietary data sets effectively

Utilizing both public and proprietary data sets effectively: 44%, 45%, 58%
Absence of appropriate tools: 50%, 41%, 49%
Challenges in transitioning generative AI from a conceptual phase to practical use: 32%, 45%, 45%
Insufficient internal expertise: 42%, 38%, 43%
Compatibility issues with current systems: 43%, 43%, 32%
Difficulty proving ROI: 28%, 36%, 46%
Prohibitive costs associated with LLMs: 43%, 39%, 31%
Insufficient data to fine-tune LLMs: 36%, 29%, 20%

Legend:
- We are using generative AI and have fully implemented it
- We are using generative AI but haven't yet fully implemented it
- We are not yet using GenAI but intend to within the next two years (net)

Over a third of US businesses face technological challenges when they set out to implement and utilize generative AI

**What would you say is your biggest challenge in implementing effective governance and monitoring for generative AI?**

37%	Technological limitations
22%	Lack of transparency and accountability
19%	Lack of clear guidelines or standards
14%	Insufficient funding
9%	Lack of expertise or skilled personnel

Insight 6:

Leveraging decisioning workflow systems to infuse generative AI into existing business processes facilitates measurable outcomes.

LLMs can only execute a few tasks of a use case. Organizations still need an end-to-end process that orchestrates the AI life cycle while enhancing transparency and governance of LLMs.

Insight 5:

Make sure that your generative AI software vendors can work with existing workflow and decisioning platforms.

Generative AI is an ideal contributor to hyper-automation – facilitating automation of all feasible tasks within an organization. It excels in summarizing vast amounts of data to support decisioning workflows, enabling real-time interactions aligned with your preferred business processes.
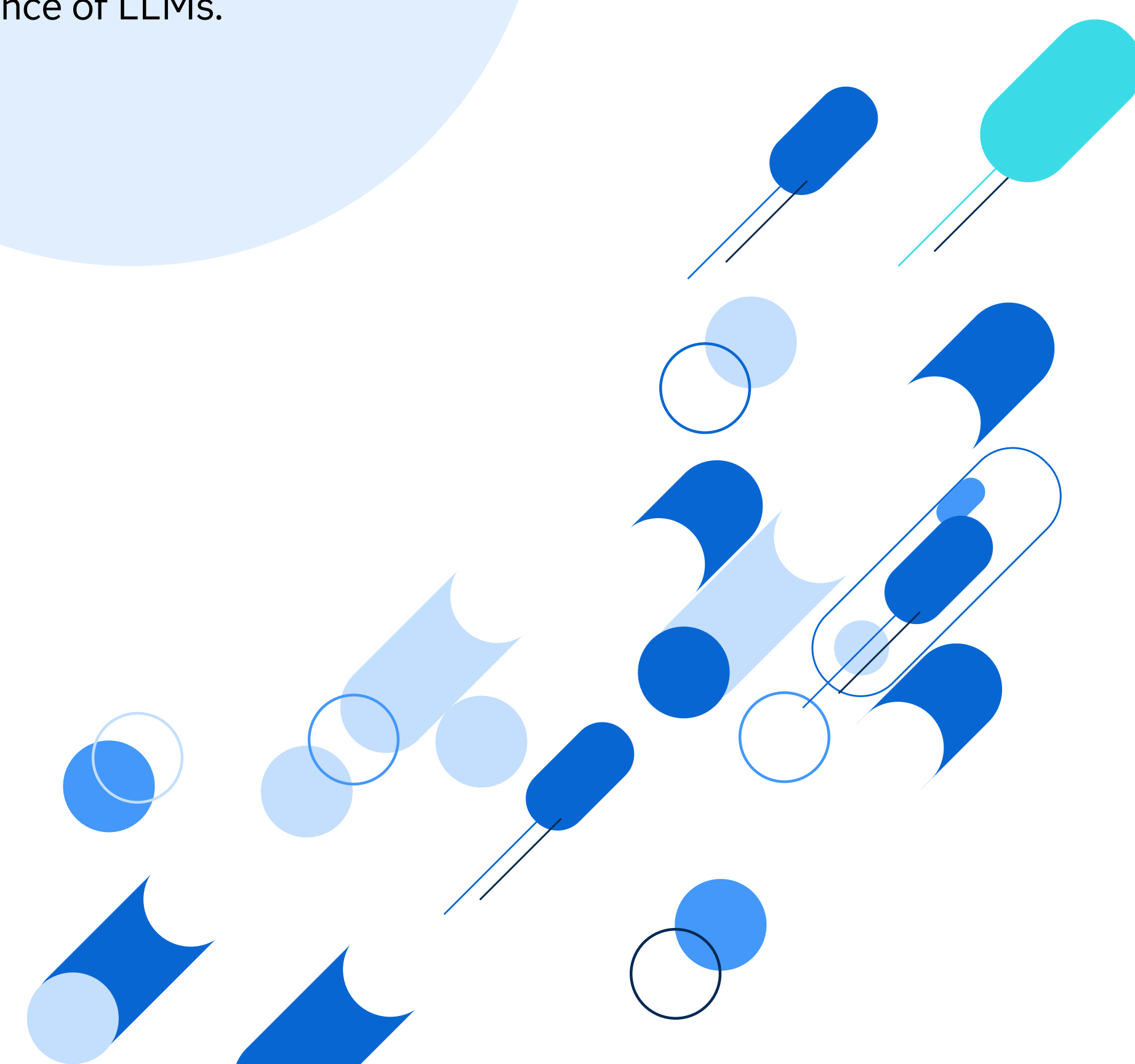
Orchestrating generative AI into existing systems and processes

For many companies, it really comes down to this: In-house generative AI expertise is lacking. As HR departments encounter a scarcity of suitable hires, organizations worry that they do not have access to the necessary skills to make the most of their generative AI investments.

Our research finds that:

- 4 in 10 organizations **(40%)** are concerned that they do not have the skills in-house to utilize the technology effectively.

- A similar proportion of respondents **(41%)** say they have found insufficient internal expertise to be an obstacle to implementing generative AI.

Insight 7:

Organizations need a structured framework to grow their generative AI capability. Seeking external advice is one way to draw on the expertise they need.

41% have found that insufficient internal expertise is an obstacle in generative AI implementation

What obstacles do you foresee, or have you encountered, in the implementation of generative AI?

41%

Insufficient internal expertise

05
Blueprint for Gaining Competitive Advantage

It is key that generative AI projects are built in a way that not only meet current needs but are also poised for future growth and innovation.

LLMs alone do not solve business tasks. The key is to integrate them into a decisioning process, layered with orchestration and governance while using tools that accelerate business tasks and address data privacy challenges.

Specifically:

- **Accelerated innovation:** Seamlessly integrate generative AI models into decisioning workflows, AI/ML applications and existing business processes by leveraging decisioning flow tools like SAS Intelligent Decisioning as part of SAS® Viya®.

- **Data protection:** Ensure user privacy and security with robust data quality measures, including synthetic data generation, data minimization, anonymization and encryption, ensuring that sensitive information remains safeguarded.

- **Trustworthy and explainable results:** Data experts can apply natural language processing techniques to preprocess data and explain the generated output, minimizing hallucinations and token costs.

- **Enhanced governance:** Use built-in workflows that validate the entire life cycle of LLMs, from regulatory compliance to model risk management.

As organizations continue to experiment with generative AI, we recognize that real business value will come down to identifying real-world use cases that deliver trusted and scalable value.

As one of the AI and analytics companies with the longest experience in the field, SAS is equipped to be the trusted partner to help organizations confidently succeed in the generative AI journey across different industries, regulatory scenarios and applications areas.

As organizations explore generative AI, SAS prioritizes identifying high-ROI, ethically applied use cases. We aim to enable secure adoption, fostering accelerated productivity, trusted results and faster innovation across diverse industries and regulatory landscapes.

We provide software and services, including:

- **Generative AI orchestration:** SAS Viya integrates external generative AI models, orchestrating LLMs for end-to-end enterprise use cases.

- **Viya Copilot productivity tools:** Facilitate conversational data querying throughout the AI life cycle, spanning data exploration, model development, deployment and monitoring. Viya Copilots offer diverse tools for tasks like data cleaning, exploration, model execution and dashboard generation. In addition, using generative AI for tailored industry specialized tasks enhances productivity for business users.

- **Synthetic data generation:** Addresses limited real data challenges by generating synthetic tabular data that is statistically representative of the original training data without compromising sensitive information, enabling organizations to address data privacy, scarcity and veracity challenges.

GENERATIVE AI

PLATFORM

Ssas viya

SOLUTIONS

MODELS
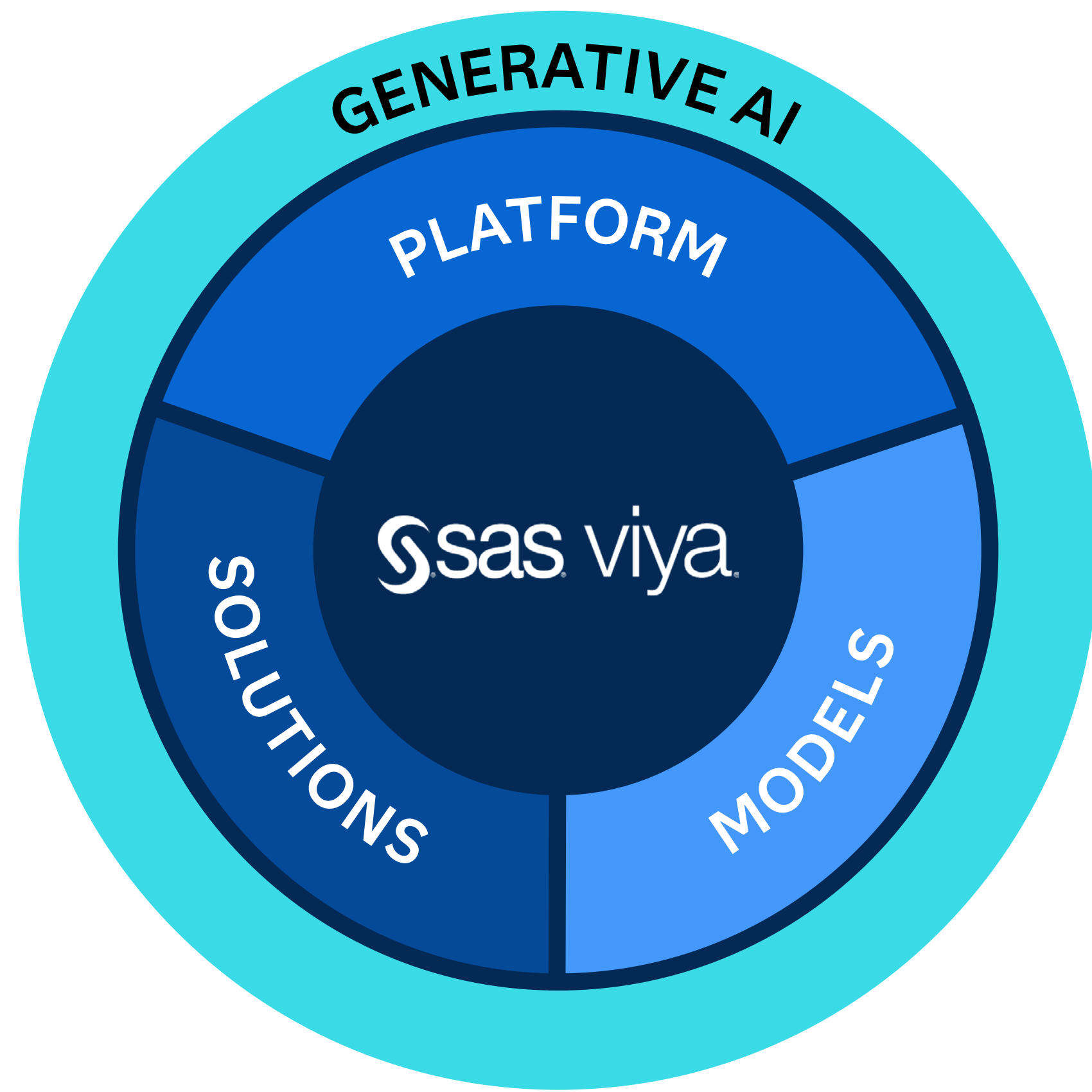
GenAI Orchestration Platform	SAS Viya Copilots	Synthetic Data Generation
Explain, Govern, Orchestrate LLMs	Accelerate AI/Business Tasks	Mitigate Data Quality and Scarcity
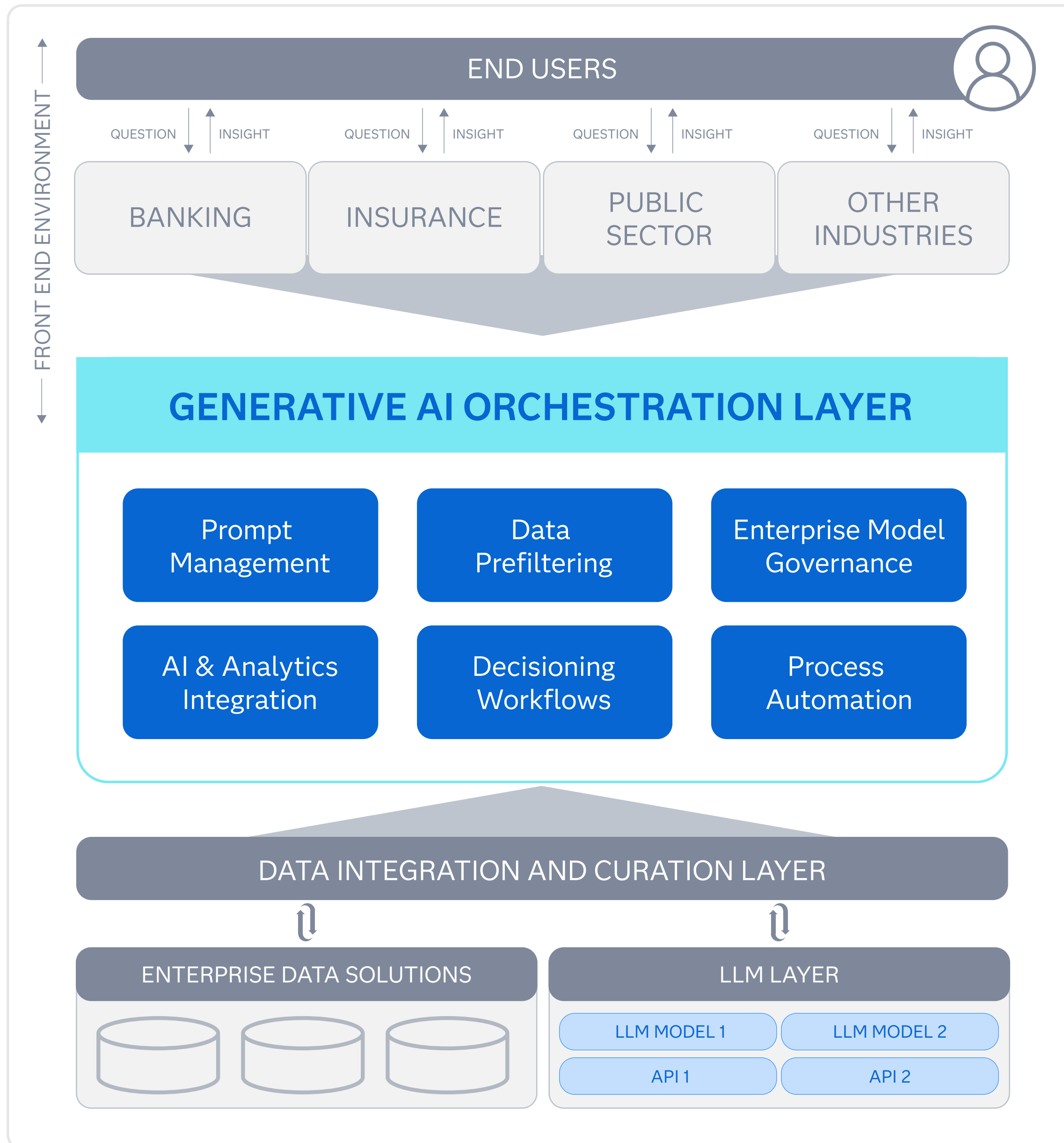
The benefits vary across many industries and use cases.

- **Financial institutions** can integrate SAS Viya and LLMs to analyze and augment financial documents that are part of complex credit review processes, reducing time to approval without impacting their credit risk or regulatory obligations.

- **A plant worker** in a manufacturing company can leverage a generative AI-powered interface to create a conversational-style narrative outlining the optimal level of raw materials to maximize profits while maintaining high production quality.

- **A pharmaceutical company** can generate synthetic data to simulate clinical trials by generating patient data based on an existing data set, accelerating the trial design process while addressing data privacy or bias concerns.

- **A bank** can enable faster innovation with generative AI by leveraging the prompt management and LLM governance capabilities enabled by SAS Viya.

06
About This Research

The survey was conducted by Coleman Parkes from Feb. 14 to March 4, 2024, and targeted 300 decision makers in generative AI strategy or data analytics in organizations across key sectors in the United States. Survey respondents work across a range of sectors: banking, insurance, the public sector, life sciences, health, telecom, manufacturing, retail, energy and utilities, and professional services. Their job titles include Data Manager, IT Director and Chief Information Officer. The smallest organizations we surveyed employed a workforce of 1,000-1,999 people, and the largest had more than 10,000 employees.

This research conforms to the British **Market Research Society's Quality Standards**, including ISO 20252.

About Coleman Parkes

Coleman Parkes is a full-service B2B market research agency specializing in IT/technology studies, targeting senior decision makers in SMB to large enterprises across multiple sectors globally. For more information, contact Stephen@coleman-parkes.co.uk.

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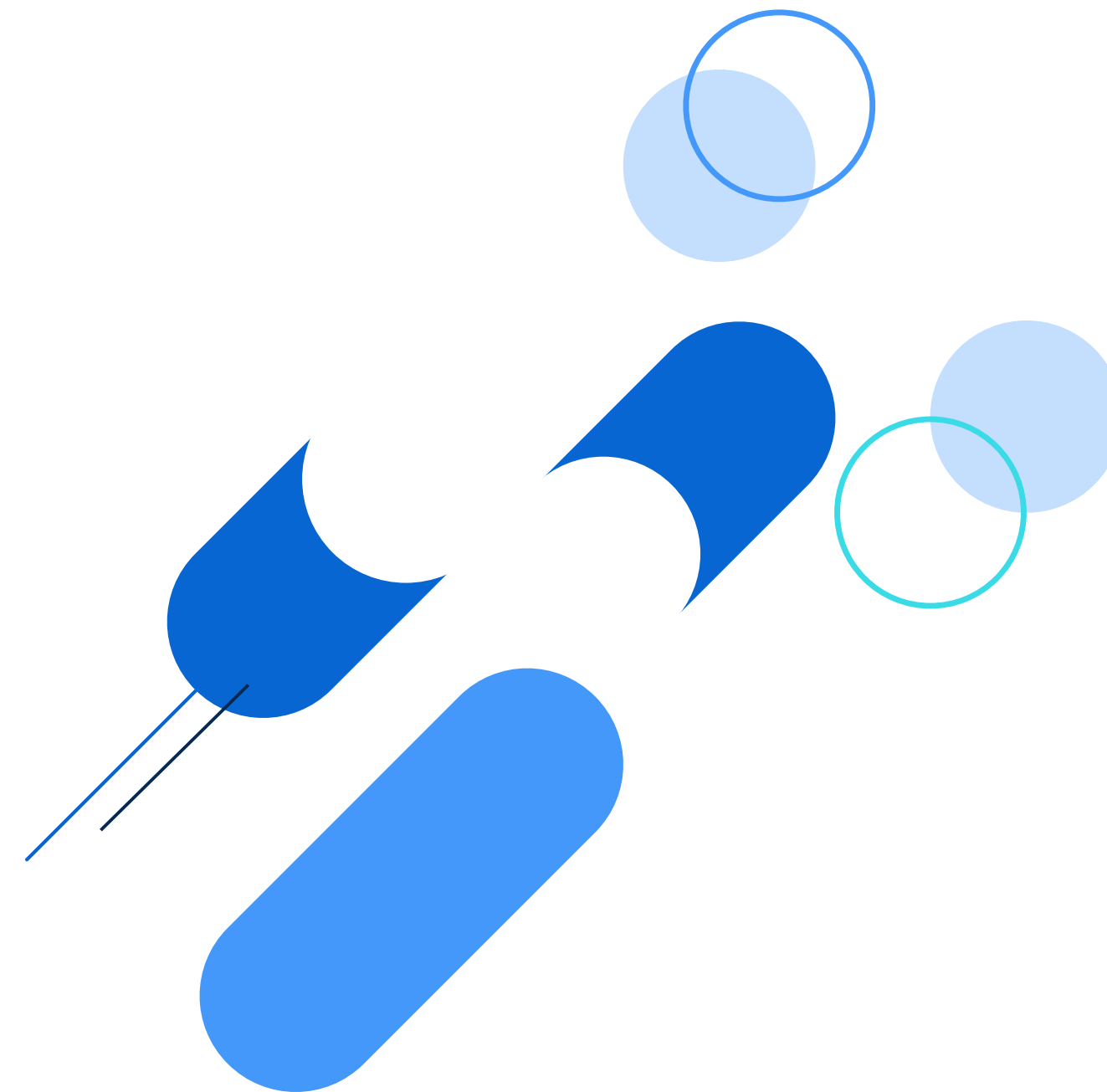
To learn more, please visit **sas.com/generative-ai**.

To contact your local SAS office, please visit: **sas.com/contact**.