The Elastic Generative AI Report:

One year on, identifying the impact and challenges
of early generative AI implementation worldwide
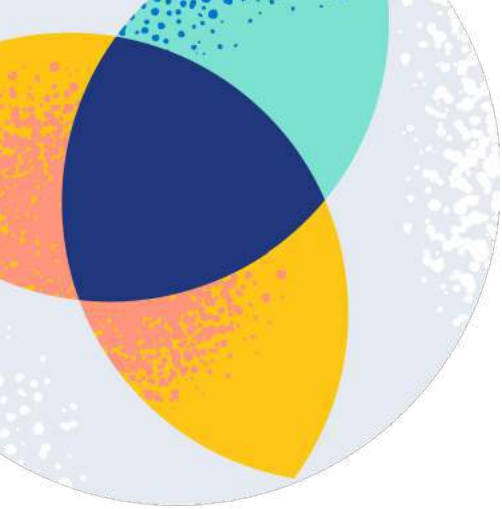
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I. Introduction

Generative AI was the most disruptive technology of 2023, and 2024 is trending in the same direction. Generative AI's arrival and early adoption signals a new era: how we live and work are undergoing seismic shifts. For businesses, the journey to adopt generative AI is an arms race: the fastest to operationalize this revolutionary technology will be the authors of history. When implemented with intention, generative AI is a transformative tool that can improve operational resilience and productivity, enhance customer experiences, and mitigate security risks.

Underpinning the transformative power of generative AI is one multi-dimensional tool: search. Search is fundamental to powering generative AI. Coupled with natural language processing (NLP) and machine learning (ML), search gives generative AI the capability to find answers in real-time across datasets and data types. As the volume of data explodes, businesses need to quickly and efficiently navigate their proprietary data and find relevant answers to create actionable insights—fast.

Recognizing the global urgency to adopt generative AI, this report provides a view of the common challenges and opportunities across industries as companies consider generative AI for their businesses. This report also aims to inform and guide the decision-making processes of organizations pursuing generative AI adoption.

The report covers four main areas:

- An overview of generative AI adoption
- Data challenges faced by organizations
- The role of search in organizations
- Building operational and security resilience
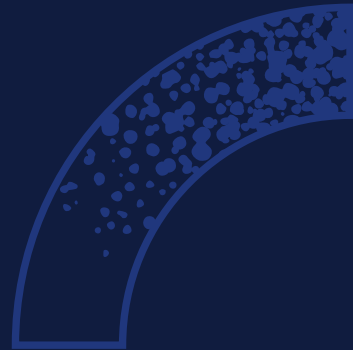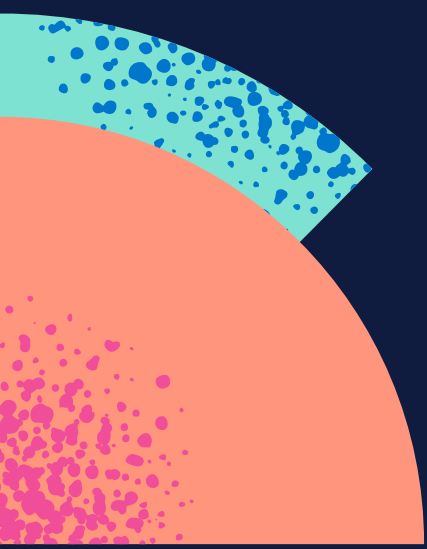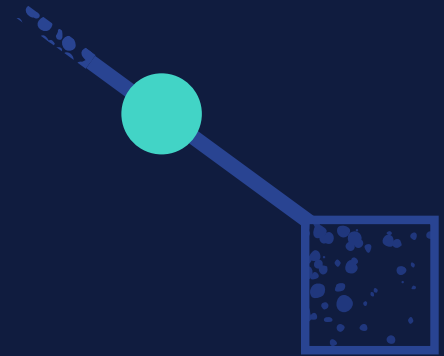
II. Generative AI:
An Organizational Snapshot

Organizations worldwide see the transformative potential of generative AI

From mitigating security risk to improving operational efficiency, driving productivity, and enhancing customer experiences, it's clear that generative AI is the next cornerstone of innovation. **99% of all surveyed organizations reported they believe it has the potential to drive change within their organization, be it internal or external.** This is true regardless of the different stages of their generative AI journeys—some have fully embraced the technology's potential, others are only starting, and a few have been forced to adopt it by their employees.

Key Findings.

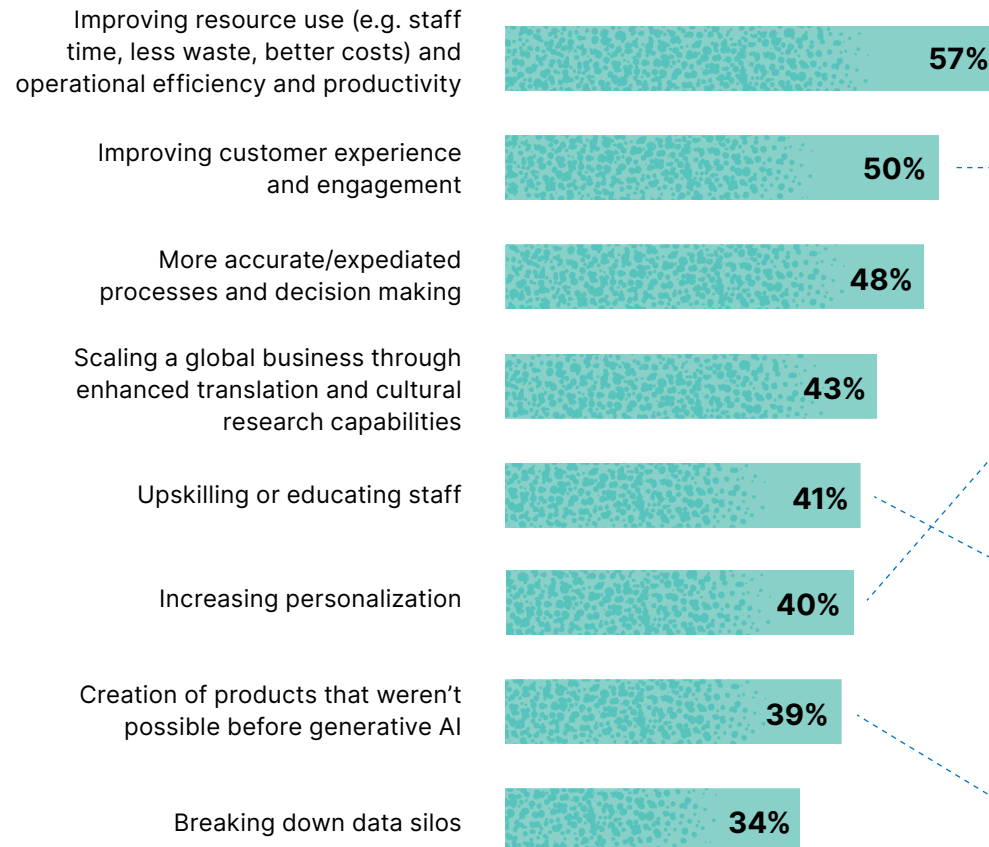**Overall,** the study found that organizations recognize two primary generative AI-led change drivers:

57% of all respondents saw an opportunity to **improve their resource use, operational efficiency and productivity** through better time management and cost efficiency.

50% of all respondents saw an opportunity to **improve customer experience and engagement** with the help of generative AI.

Ways in which generative AI could drive change in organizations

Improving resource use (e.g. staff time, less waste, better costs) and operational efficiency and productivity **57%**

Improving customer experience and engagement **50%**

More accurate/expediated processes and decision making **48%**

Scaling a global business through enhanced translation and cultural research capabilities **43%**

Upskilling or educating staff **41%**

Increasing personalization **40%**

Creation of products that weren't possible before generative AI **39%**

Breaking down data silos **34%**

Geographic insights

Intended generative AI use cases vary by region:

Australia reported customer-centric priorities:

48% of respondents indicated that improving customer experience and engagement was their first intended generative AI use case

42% reported that increasing personalization was theirs, demonstrating the customer-forward focus within Australia.

France reported worker-focused priorities:

43% of respondents chose upskilling or educating staff.

Netherlands reported product-focused priorities:

48% of respondents chose to create new products that were impossible before generative AI.

"We see AI as providing a real opportunity on how we can get more automated and creative, particularly around what we call advice-driven commerce [...], a bit more of a technology-enabled, savvy, intelligent generative AI approach to bringing some of that advice content to bear, then leading that into a sales journey."

CIO
Retail firm in Australia

POV: Technology

With search powered generative AI, businesses get quicker visibility into IT systems, enabling faster incident remediation and boosting operational resilience. The result: businesses can enhance their AIOps capabilities, augmenting security and workflows to monitor their IT infrastructure, and/ or provide personalized customer service, improving customer engagement and experience overall.

Generative AI Implementation Status

Geographic insights
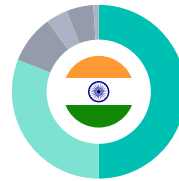
India and Singapore are the furthest ahead in implementing generative AI. **81%** of respondents within India reported that generative AI was implemented and in use or partial use in their organization, compared to **63%** in Singapore. In India, this may reflect the large services industry and its pressing need to create actionable insights in real time.
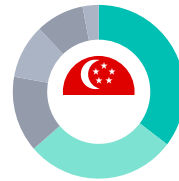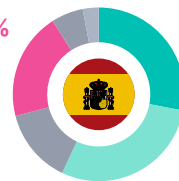
While adoption within Spain isn't far behind (**57%**), the country has one of the highest proportions of respondents who stated employees are using generative AI technologies individually, though they aren't officially adopted by the organization. As Spain pushes further forward with their adoption and organizations roll out official use policies, this proportion is likely to fall.

20%
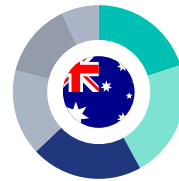
Australia reported that organizations are currently trialing the use of generative AI intra-organizationally, signaling a willingness to explore how these technologies might benefit them.

21%

Industry insights

Of the 13 industry sectors surveyed, generative AI adoption is further along in these three industries:

Manufacturing and production (66%)

Consumer services (63%)
(trades/crafts; domestic repairs/services; beauty/wellness; tutoring)

Energy, oil, gas and utilities (62%)

These industries reported their organizations have begun implementing generative AI technologies and that they are either mostly or partially in use. While the adoption rate of the consumer services industry likely coincides with generative AI's well-documented customer experience improvement capabilities, the analytical capabilities of generative AI lend themselves to energy and manufacturing industries.

Worth noting: Construction and property industries have the greatest percentage of respondents reporting that while generative AI technologies aren't currently in use, there are plans to implement them in the future.
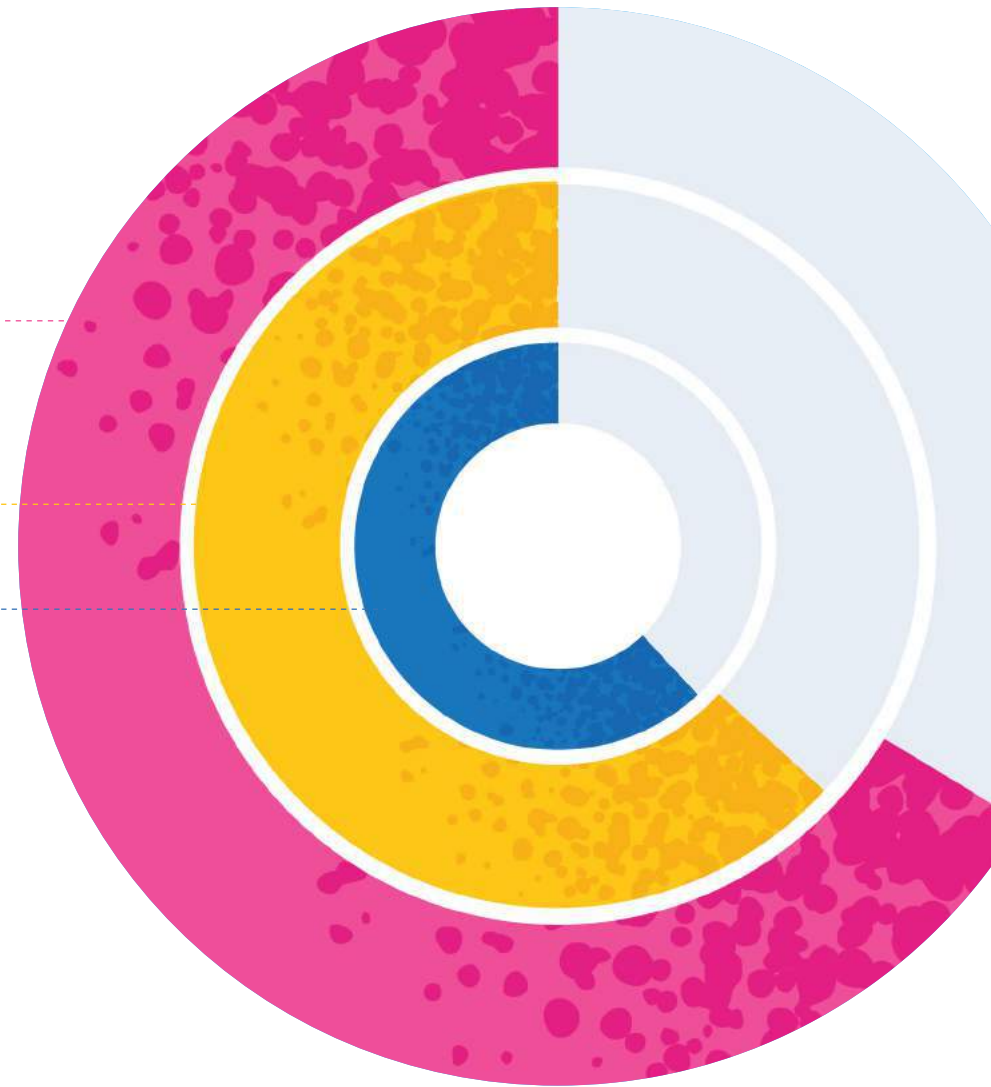
"What would take a human maybe a week to do a 1,000-line code review, it can do it literally in one minute or less [...], so we are projecting that our code development process can reduce by as much as 20%-30% by using generative AI."

VP of IT
retail firm in the U.S.

In spite of appetite, adoption is slowed by fears

Ultimately, while **99%** of respondents recognize the positive impacts generative AI can have on their organization **89% of respondents report that their use of generative AI is being slowed.**

This is due to a variety of factors:

40%	37%	36%
Fears around the security and privacy of generative AI technologies	Regulation issues	The skills gap to implement generative AI in-house
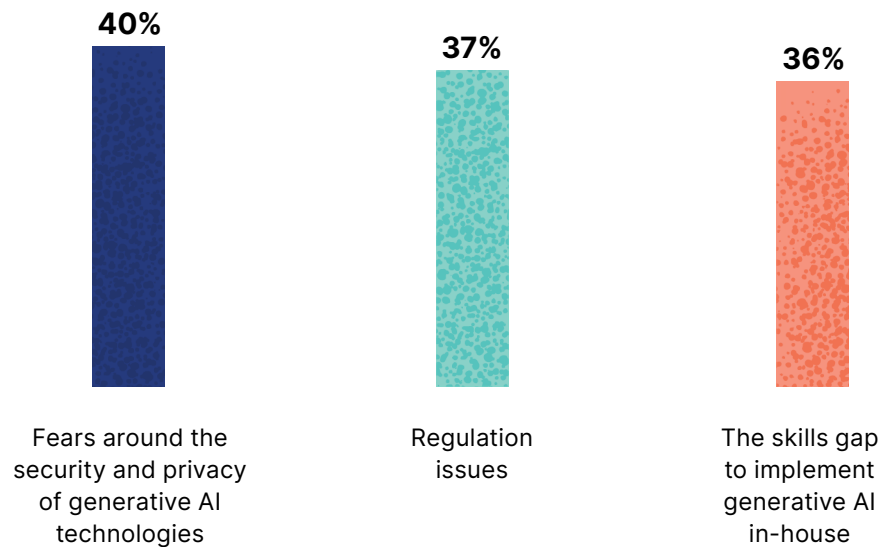
POV: Technology

As AI becomes more widely used by bad actors, the threat landscape broadens. To respond to an increasing volume of threats more swiftly, organizations will need to automate security workflows. Safely implementing generative AI tools in security processes can help teams detect vulnerabilities and anomalies in real time, significantly reducing response times to security breaches. However, the need for a secure generative AI tool to analyze proprietary data and offer relevant insights highlights the necessity of using a unified data platform for effective data management and security.

III. Key Data Challenges

Organizations are struggling with viewing and accessing the data they need when they need it

Getting real-time actionable insights from data is one of the most significant challenges industries across the board face today. As data stores keep growing, some large enterprises generate 1.8ZB of data per day and handle roughly more than 300TB of data per day. The challenge lies in parsing through relevant data quickly to gather insights and effectively monitor system operations and security.
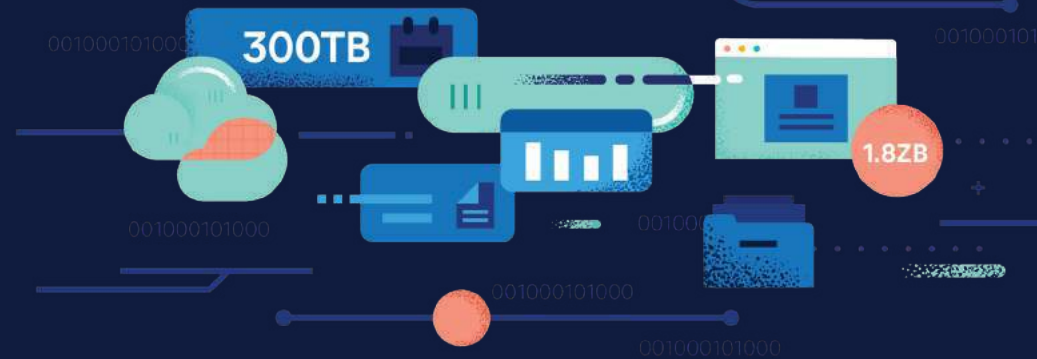
69% of respondents reported the employees in their organization struggled to get access to the data when they needed it.

75% of respondents reported viewing data across all environments is a key difficulty for their organization.

Why? Information security is a key concern for organizations. Access controls and data stored across multiple systems are important data access barriers—and the need to keep data secure is effectively reinforcing certain data silos.

Nearly all respondents (**96%**) reported their organization faces challenges when analyzing and producing insights using their data. The most stated challenge: producing insights for use by multiple teams across the organization. This lack of cross-datastream visibility means organizations aren't making the most of their data. Unable to cross data silos—a challenge for more than two in five, especially within organizations with 5,000 or more employees—and obtain holistic, relevant visibility of their data, organizations face slow data analysis and stalled critical decision-making.

The struggle is *real.*

69%
75%
66%
68%

Employees in my organization struggle to access the data they need when they need it

Viewing data across all environments is a key difficulty for my organization

My organization is not currently getting the most out of all of its data

Critical decision making is stalled by slow analysis of my organization's data
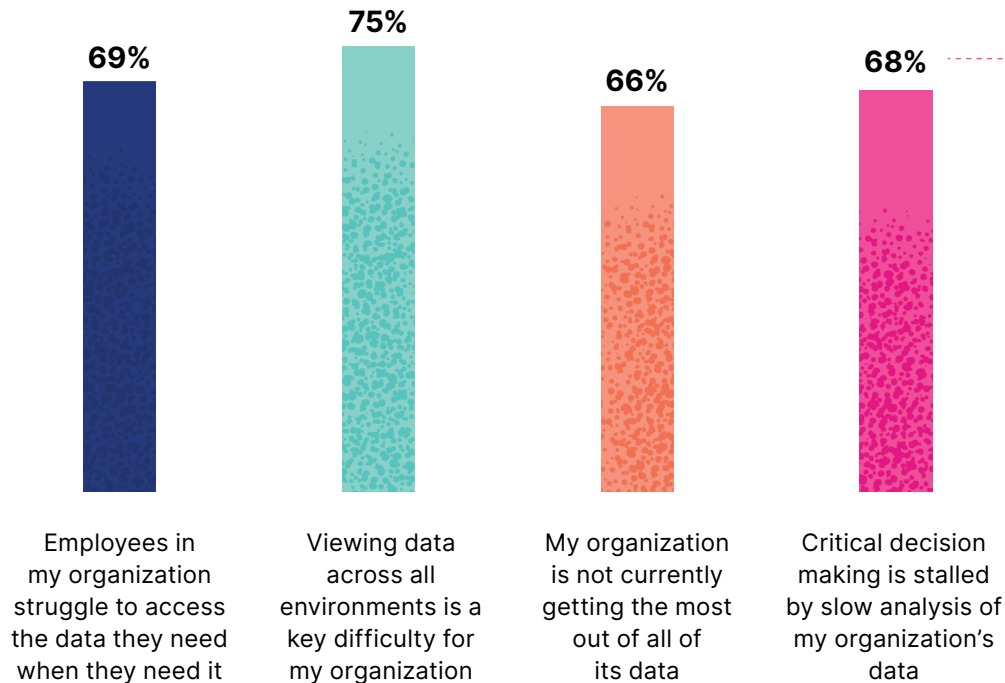
By operationalizing search powered generative AI, organizations can conquer these hurdles and break down (or see through) data silos. The combination of both search and generative AI technologies provides automated processes to accelerate data parsing and ensures results are current, relevant, and derived from real-time data.

Geographic insights

The UK is among the countries most likely to agree that it has difficulty accessing or viewing its data and that its critical decision-making is stalled by slow data analysis.

India, at **80%**, reported the highest agreement level concerning stalled decision-making.

While deploying generative AI can also assist in breaking down data silos, **96%** of organizations are concerned generative AI will impact their data hygiene practices. Ultimately, these fears are also slowing adoption.

"The quality of decision-making that would get made, based on much more rigorous insight more quickly, would be a more powerful benefit than just saving some time to get access to information."

IT decision maker
Telecommunications firm in Australia

IV. How Organizations Are Adapting

The vast majority of organizations face data search challenges

Parsing data to get actionable insights requires one important capability: search. The ability to search across structured and unstructured data, find, and identify trends and relationships within the data—invaluable to successful data management and business practices—is one of the main challenges organizations currently face.

Speed is a key factor in critical decision-making and a big search-related challenge for organizations: **42%** of respondents reported they cannot quickly answer their questions through their organizational data, while **40%** reported that searching through their organizational data is currently inefficient.

Additionally, **45%** of respondents reported struggling to use search results effectively to obtain actionable insights, and **44%** cited that their search capabilities can't cover multiple sources of information. This is likely contributing to their struggle to produce insights for multiple teams across the organization.

Main challenges facing organizations' search capabilities

We struggle to use search results effectively for actionable insights **45%**

Our search capabilities cannot cover multiple sources of information simultaneously **44%**

We cannot obtain answers to questions of our organization's data quickly enough **42%**

We cannot be sure of the accuracy of our search results **40%**

It is inefficient to search through our organization's data at present **40%**

We struggle to draw meaningful links between data **38%**

We are not able to yield real-time results **34%**

Geographic insights

Search capability challenges vary by region:

Netherlands: **50%**

Australia: **48%**

Singapore: **48%**

Spain: **48%**

France: **48%**

Singapore: **46%**

Germany: **48%**

Netherlands: **48%**

Japan: **46%**
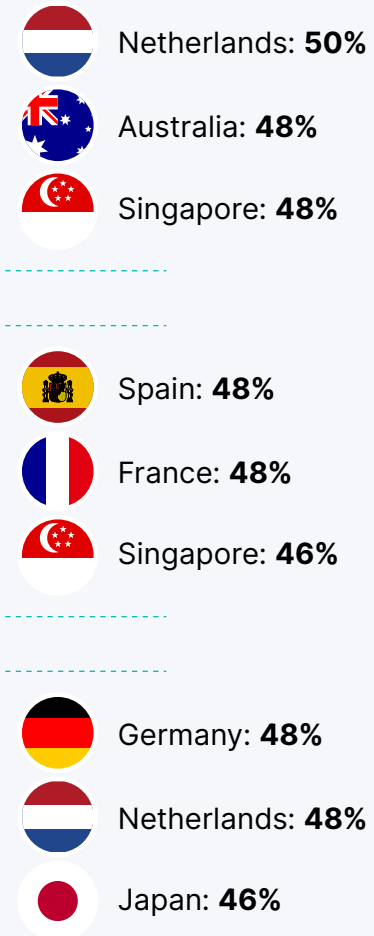
How search powered generative AI could help the workweek

Survey respondents welcomed the ability of generative AI to improve their working lives. They expressed a desire for more time for face-to-face customer or client engagement, personal development, creative work, and strategic priorities. They reported seeing the potential to improve job satisfaction, enhance customer experiences, and help their ability to adapt to rapidly changing events.

44%

of respondents believe their organization would be able to **save** an average of **at least two days per week per employee** if they could search their organizational data in a conversational manner.

Indeed, as many as **97%** of respondents believe a more conversational search experience would make their organization more productive. A natural language-led search experience powered by generative AI would likely improve users' search experience, helping meet the need for speed. The result is increased productivity.

"Productivity and therefore time saving is going to be significant."

CIO
Retail firm in Australia

"It'll save me some breathing room for more creative thought if my rote functions are taken care of by AI. So, my work week probably will become more sane, and therefore, I'll have probably better thoughts, better judgment, and not be pressured by deadlines."

CISO
IT and technology firm in the U.S.

Respondents from India were by far the most likely to report a conversational search experience would make their organization more productive. As the country furthest along in its adoption, and therefore most familiar with the opportunities generative AI affords, their experience underlines how powerful this search function can be. Senior decision-makers were more likely to report this as well, which suggests they understand the amount of time search inefficiencies take.

The percentage of respondents that felt conversational search would by far improve their search experience by country/industry.

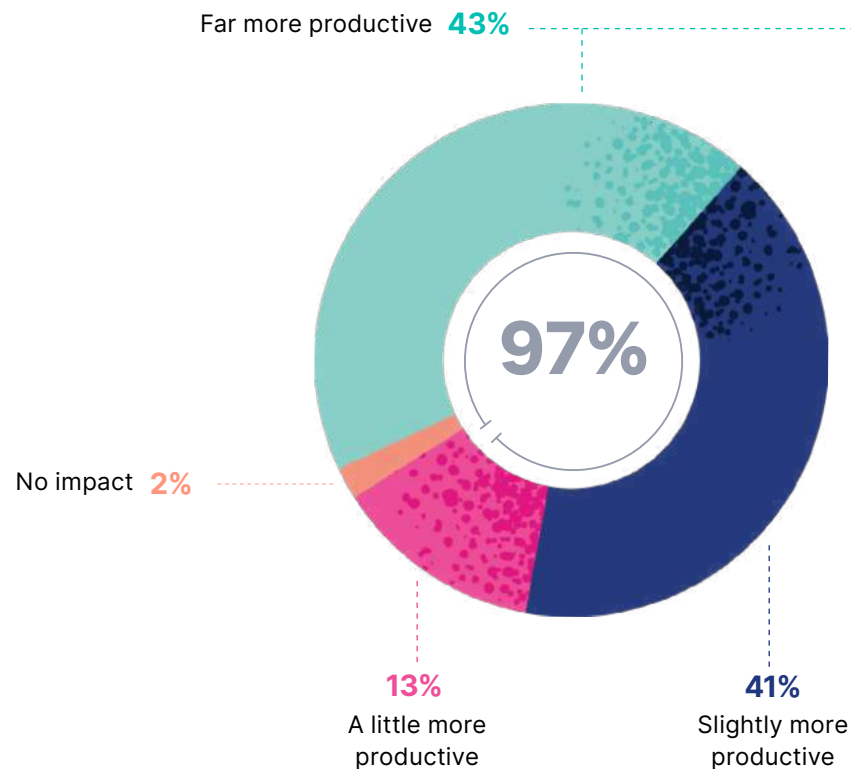## Geographic insights

India: **73%**

UK: **51%**

US: **46%**

Industry insights

Distribution and transport: **61%**

Consumer services: **57%**

Financial services: **50%**

Far more productive **43%**

97%

No impact **2%**

13%
A little more
productive

41%
Slightly more
productive

POV: Technology

By using search powered generative AI, companies can access highly relevant information in natural language formats. However, generative AI tools can sometimes provide incorrect information, or hallucinations, due in part to their reliance on extensive internet data. To counter this, organizations should feed their proprietary data into secure generative AI tools to ensure accuracy and relevance, and maintain trust in the output.

Organizations understand the value: respondents cited **accessibility and accuracy as key benefits for their organizations' search capabilities** when using generative AI.

38% of respondents believe generative AI can help them fill in the gaps in research. This added capability would likely lead to more informed decision-making, solving one of the key challenges stated by respondents.

The benefits generative AI can bring to an organization, whether through conversational search, enhanced analytics, or the ability to correlate data from multiple sources and types, are clearly understood by respondents.

>70%

of companies are willing to commit more spending in generative AI in 2024.

This signals an intentional move towards the technology, highlighting the tension between the benefits it brings and the friction organizations are facing in the early stages of adoption.

V. Operational Resilience and Security

Nearly all organizations need to improve operational resilience

As IT infrastructures grow and become increasingly complex, the need to monitor across environments, applications, and services is paramount to smooth operations. Organizations already have a wealth of telemetry data, which is used for identifying issues like application bugs, user errors, and cyber attacks. Coordinating these data streams for actionable insights, however, is proving difficult.

95% of organizations face observability challenges today

Main challenges facing organizations' observability

54% — Actionable insights into how we can improve are difficult to obtain

51% — The growing complexity of modern applications

51% — We lack the ability to quickly identify what is not working in our systems

47% — Data silos and discrepancies

46% — Blind spots in our IT systems

37% — Lack of funding

Observability challenges vary by country/industry:

Geographic insights

Japan: **58%**

Australia: **54%**

Industry insights

Media, leisure and entertainment: **57%**

Retail: **57%**

As these responses indicate, speed, data silos, and data quality are a recurring challenge for organizations. Generative AI can help navigate these hurdles, and respondents felt the same, citing that enhancing missing data handling (**48%**), improving data masking and privacy (**43%**), and the ability to conduct rigorous and regular data quality assessments using synthetic data (**43%**) would be the most common generative AI benefits for their organizations.
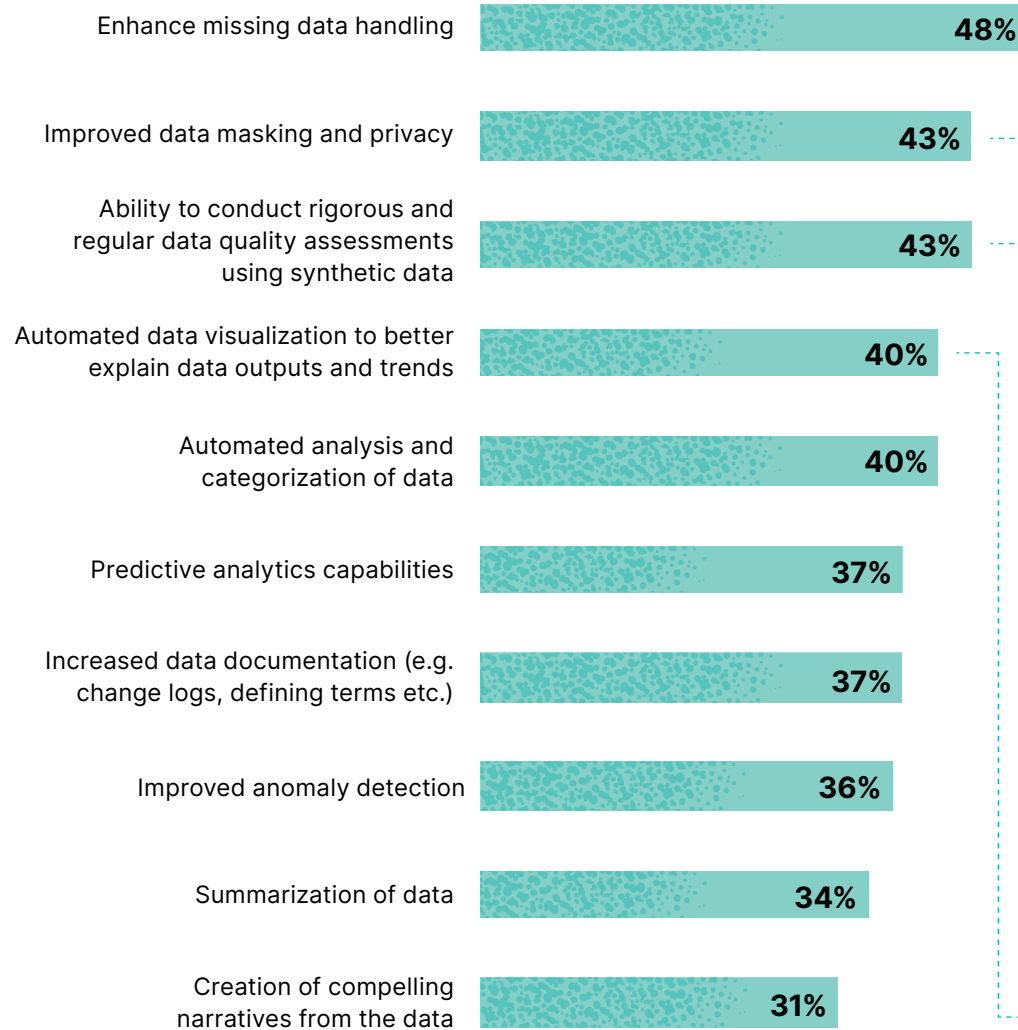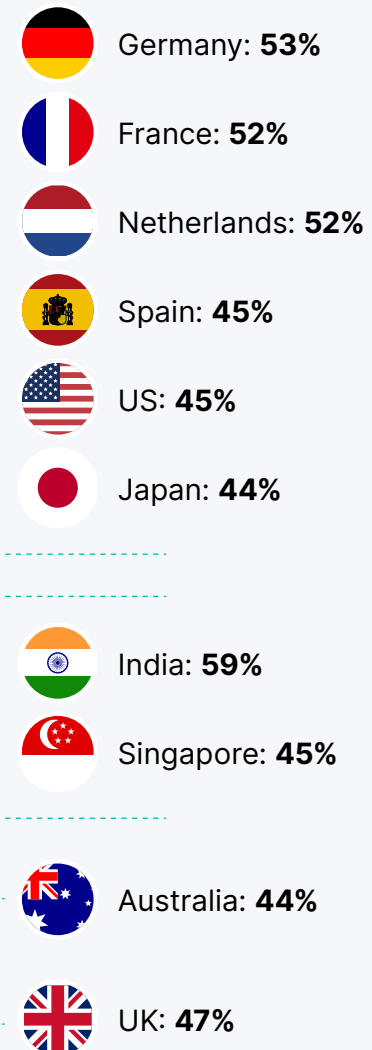
POV: Technology

The key to improving operational resilience lies in a unified data platform. It can optimize the use of generative AI and further facilitate transforming data into valuable actionable insights.

Benefits of generative AI technology for observability

Benefit	%
Enhance missing data handling	48%
Improved data masking and privacy	43%
Ability to conduct rigorous and regular data quality assessments using synthetic data	43%
Automated data visualization to better explain data outputs and trends	40%
Automated analysis and categorization of data	40%
Predictive analytics capabilities	37%
Increased data documentation (e.g. change logs, defining terms etc.)	37%
Improved anomaly detection	36%
Summarization of data	34%
Creation of compelling narratives from the data	31%

Geographic insights

Country	%
Germany	53%
France	52%
Netherlands	52%
Spain	45%
US	45%
Japan	44%
India	59%
Singapore	45%
Australia	44%
UK	47%

A common challenge: security

In tandem with these observability challenges, **97% of organizations face IT security challenges.** The data challenges organizations are facing also extend to their security teams. **84%** of respondents reported some strengthening is needed in regard to their ability to analyze datasets following the detection of a threat or cybersecurity attack. As the threat landscape continues changing, the ability to ensure security practices are kept up to date and relevant and the ability to correlate the right data quickly become crucial.

Main challenges facing organizations' IT security

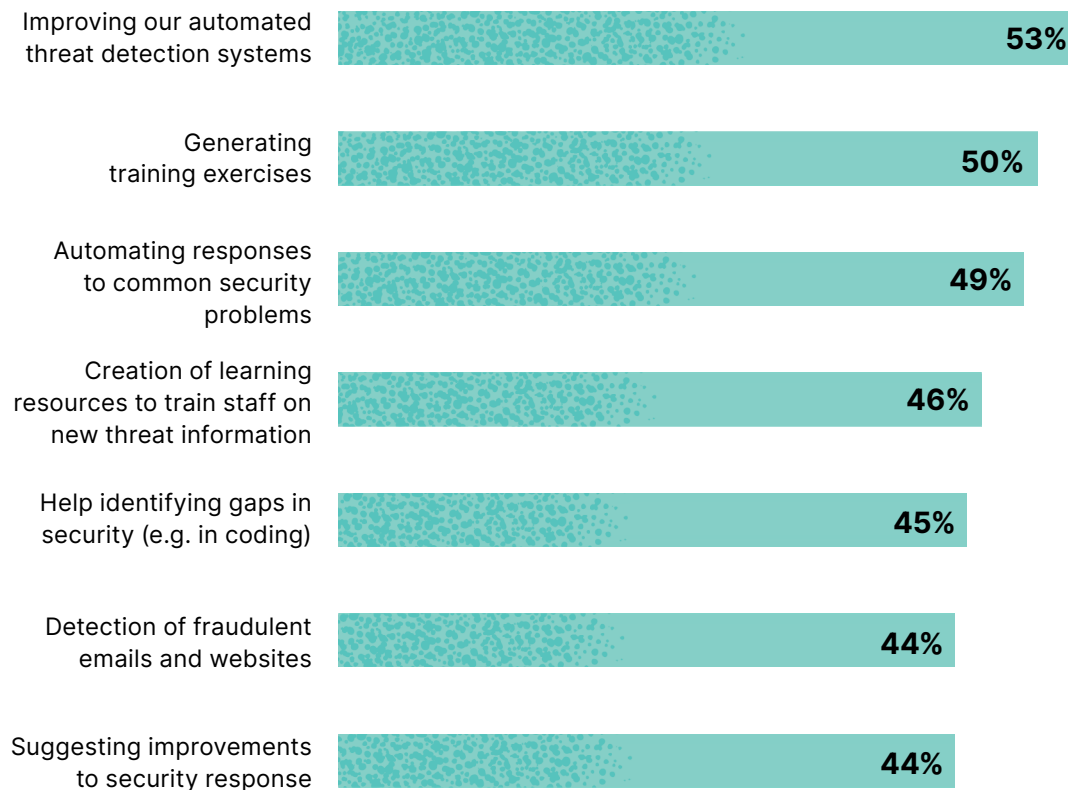| 51%	40%	37%	37%
Ensuring our security practices are kept up to date and relevant for a changing threat landscape including increasing security threat scale	Detecting and responding quickly to threats	Maintaining staff vigilance for common security threats	Lack of visibility over and integration between organization data and case management capabilities

97%

of organizations face IT security challenges

Industry insights

Media, leisure and entertainment: **59%**

Manufacturing and production: **54%**
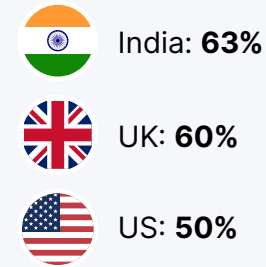
Distribution and transport: **54%**

It is unsurprising then, that **for two in five respondents, detecting and responding quickly to threats is a key challenge.** Once more, speed is an important hurdle.

In response, organizations are looking to generative AI to automate security workflows. They understand automation is important in obtaining fast, relevant data analytics in a security context. It enables security teams to free up valuable resources and focus instead on value-add and mission-critical tasks.

Anticipated security uses of generative AI technologies

Improving our automated threat detection systems	53%
Generating training exercises	50%
Automating responses to common security problems	49%
Creation of learning resources to train staff on new threat information	46%
Help identifying gaps in security (e.g. in coding)	45%
Detection of fraudulent emails and websites	44%
Suggesting improvements to security response	44%

Geographic insights

India: **63%**

UK: **60%**

US: **50%**

Unsurprisingly, automation is a specific focus point for respondents in India, the UK and the US. It is also a focus point for larger enterprise organizations of 5,000 or more employees.

Ultimately, security is top of mind for organizations: both an important IT challenge and one of the main concerns around generative AI adoption, addressing security challenges is a priority that can be addressed with the implementation of generative AI.

"[Generative AI has] got potential to provide a lot more insight as to what's happening in our environment and search a lot of data and potentially [...] flag threats to us more quickly."

CIO
UK legal firm

VI. Conclusion

Generative AI has the potential to transform our working lives: to make us more productive, more creative, better-informed, and to give us more time to focus on what could most benefit our organizations. Externally, generative AI can help revolutionize the customer experience by providing a more personalized customer journey and content, with greater, quicker access to advice, guidance, and support.

For IT departments, generative AI can also allow for greater monitoring of cybersecurity threats and quicker reaction times, as well as empower business users to address IT issues independently, freeing up IT staff time for other priorities.

It's no wonder then, that generative AI will be a key area of investment for organizations: **nearly 9 in 10 (88%) organizations report budgets dedicated to generative AI will increase over the next three years.**

Overall, the primary uses or planned uses for generative AI are:

- Analyzing data and process workflows (**57%**)
- Processing data (e.g., searching for and summarizing data) (**56%**)
- Helping manage data records (e.g., updating records, handling duplicated data, etc.) (**56%**)

The combination of search technology and generative AI is ultimately what will enable organizations to improve these data management capabilities.

Next Steps

In order to successfully implement generative AI, consider these strategies:

- **Accessibility:** Ensure all employees can use generative AI as an assistant for their working lives to achieve the maximum benefit.

- **Training and Culture:** Empower staff with the creative and analytical skills necessary to use generative AI most effectively. Train staff on the best prompts for generative AI to deliver the optimal output.

- **Data Quality:** Ensure the data used is clean and bias-free.

- **Unified Data Platform:** Invest in bolstering search capabilities and using a unified data platform for data management and security.

- **Security:** Take advantage of generative AI as a cybersecurity tool to help monitor a wider range of threats and respond quicker to cybersecurity risks.

- **Expertise:** Partner with a vendor who can offer a proven enterprise-grade search powered generative AI tool to securely analyze proprietary data and offer relevant insights.
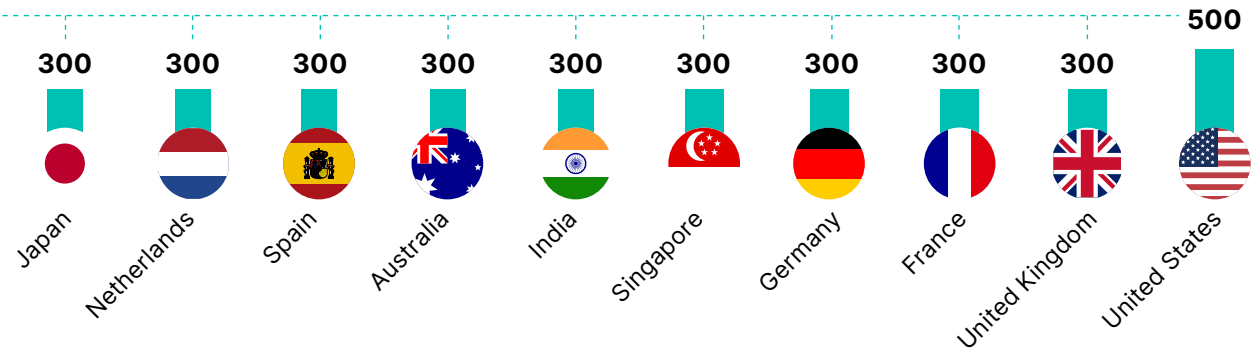
VII. Methodology & Demographics
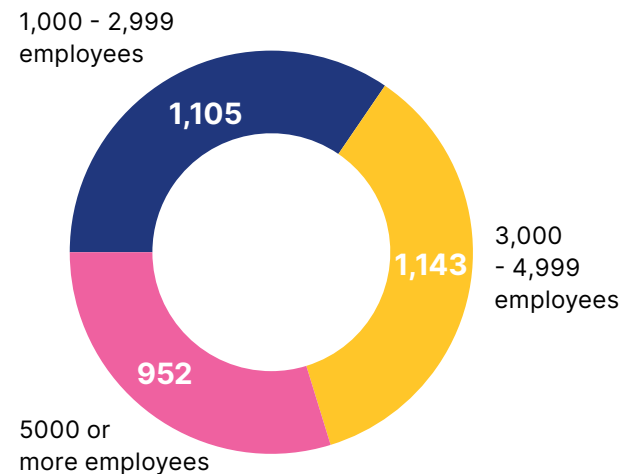
By country

3,200

IT/Analytics/Data respondents were interviewed around the globe from the US, Europe, and APJ. Respondents had to be from organizations with 1,000 or more employees and from a range of private and public sectors.

The interviews were conducted online and were undertaken using a rigorous multi-level screening process to ensure that only suitable candidates were given the opportunity to participate. Unless otherwise indicated, the results discussed are based on the total sample.
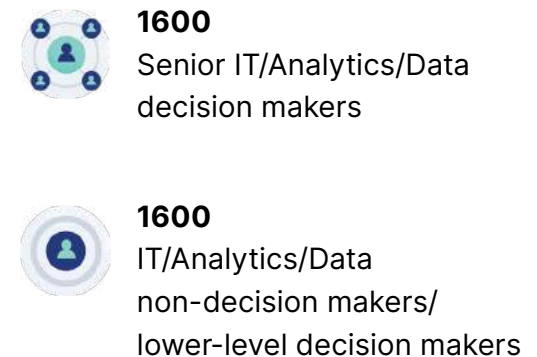
300	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**300**	**500**
Japan	Netherlands	Spain	Australia	India	Singapore	Germany	France	United Kingdom	United States

By organization size

1,000 - 2,999 employees

1,105

1,143 — 3,000 - 4,999 employees

952

5000 or more employees

By respondent type

1600
Senior IT/Analytics/Data decision makers

1600
IT/Analytics/Data non-decision makers/ lower-level decision makers

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This report was commissioned by Elastic, the leading platform for search powered solutions for everyone. Elastic is dedicated to helping organizations, their employees, and their customers find what they need faster while keeping applications running smoothly and protecting against cyber threats.

At the forefront of generative AI adoption know-how, Elastic democratizes AI, ML, and search at every scale. In other words, Elastic is uniquely positioned to help businesses harness the power of AI.

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