



WAVESTONE

**WAVESTONE GLOBAL
TECHNOLOGY & DATA
LEADERS SURVEY 2024**

Are you ready for Generative AI?

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Introduction

Companies around the world have recognized the transformative potential of Generative AI (GenAI) and have rushed out press releases proclaiming their ‘GenAI firsts’. While this has induced a corporate FOMO (Fear of Missing Out) among many, such highly specific, short-term GenAI projects should not be mistaken for real progress.

As GenAI entered the public consciousness over the last year, catching the eye of business leaders, employees, governments and regulators, we have encountered different views about the technology and some skepticism about its utility in corporate life. Our own view is that GenAI is genuinely disruptive: it will impact every aspect of work, technology, health, education – and indeed society as we know it. While we can’t know precisely how people will use these augmented capabilities – we can be sure it will usher in **changes we can only guess at today.**

With GenAI in its infancy, companies need to figure out how to introduce it, and how to understand and manage the deep cultural change it will unleash over the coming years. In the **Wavestone Global Technology & Data Leaders Survey**, we talked to 600 technology leaders – Chief Information Officers/Chief Digital Officers/Chief Technology Officers/Chief Information Security Officers – in Europe, North America, and Asia about the impacts of this seismic technology on all parts of their business – covering topics ranging from sustainability to cybersecurity and from foundational capabilities to functional impacts. We sought to find out if they are building the foundations necessary to take advantage of the opportunities GenAI will bring – while avoiding the risks.

GETTING ON BOARD WITH THE BOARD

In our experience, businesses are looking to GenAI to deliver growth, creative ideas and innovation – and the survey highlights their desire for improved customer and employee experience. Meanwhile, technology leaders are predominantly looking for technology management benefits. Technology and business leaders have not yet aligned on the core benefits of GenAI.

The survey underlines the need for transparency about the challenges of GenAI, the importance of understanding the business’s risk appetite and – in areas such as bias, hallucinations and intellectual property protection where mature solutions do not yet exist – keeping abreast of emerging solutions.

The findings also demonstrate the importance of cross organization collaboration. Whether engaging with business leaders to determine how GenAI can enhance productivity or improve customer or employee experience, or collaborating with HR/Training leaders to develop change management plans, interaction with peers around the organization will be a hallmark of the successful implementation of GenAI.

THE GenAI REVOLUTION HAS ONLY JUST BEGUN

The **Wavestone Global Global Technology & Data Leaders Survey** shows that most companies are still trying to determine how to gain competitive advantage from the technology; these efforts have been hindered by GenAI solution providers in an immature marketplace hailing their tools as a panacea for every business issue. While GenAI will transform many parts of the corporate world, these are clearly overstatements. Nevertheless, the world waits to see the future relevance of the technology – and the pressure is on technology leaders to start laying the foundations to embrace GenAI while avoiding the risks.



Chadi Hantouche
Partner, Wavestone

75%
of technology leaders think they are behind most of their competitors when it comes to using GenAI

KEY TAKEAWAYS

1

EVERYONE IS LATE TO THE PARTY!

The vast majority (75%) agree that they are behind most of their competitors when it comes to using GenAI.

- ▶ This corporate FOMO is often an illusion – progress on GenAI adoption is being made in some areas – for example, individual productivity ('Copilots'), content creation, customer relationship management – but it will be some time before most organizations realize substantial business impact.

2

TECHNOLOGY LEADERS SHOULD BE ALERT TO 'NEW' RISKS

'New' threats associated with GenAI are generally overlooked by respondents: Hallucination (only 26% see as a risk), Bias (23%) and IP protection (27%).

- ▶ Technology leaders must acknowledge and address the specific risks attached to GenAI implementation, not merely their existing concerns. These include not only new threats such as hallucinations, bias, and IP infringement but the possibility of enhanced data and privacy risks with much greater consequences.

3

TECHNOLOGY LEADERS MUST ACCEPT THAT GenAI IS A GAME-CHANGER FOR THEIR BUSINESS

16% of tech leaders believe CEOs should take the lead, a far higher figure than for previous generations of AI.

- ▶ With business leaders showing strong interest in GenAI, the need for technology leaders to align with their goals is non-negotiable. In this high-stakes game, there's no room for ambiguity, misalignment or indecisiveness.

4

GenAI'S PERCEIVED ENVIRONMENTAL IMPACT NEEDS A REALITY CHECK

46% of respondents said the environmental impact of GenAI was taken into account for all projects and strategies while a further 40% said this was true for some projects.

- ▶ This finding does not tally with our experience 'in the field' and suggests undue optimism or a lack of data regarding the emissions related to GenAI. There is a lack of transparency from vendors and a need for the industry to agree on frameworks.

5

THE IMPORTANCE OF CHANGE MANAGEMENT IS STILL UNDERESTIMATED

82% state they are confident they can mitigate the risk of the HR impact of GenAI.

- ▶ The full value of GenAI will only be obtained through profound business and process transformations, which can only occur when it is fully embraced by users, the wider employee base and company leaders. Successful adoption of GenAI will require the implementation of cultural and behavioral change management measures.

6

NO DATA QUALITY, NO GEN AI – PERIOD

Reliability or quality of data (31%) was given as the biggest barrier to implementing GenAI projects.

- ▶ The quality of your data will determine the success or failure of your GenAI initiative, yet many organizations have struggled for decades with data quality issues. Now is the time to fix these problems for once and for all.

01. STRATEGY & LEADERSHIP



Chafika Chettaoui

Chief Data Officer, AXA France

// The question of value for business is key for us. That is why our Data program fully aligns with the company's goals: all the Data initiatives we launch match with AXA France's strategy. Our delivery is therefore driven by business ambitions and business KPIs from end to end, from ideation down to actual usage. It involves deep cultural and organizational changes to support the adoption of technology. Only this way will we leverage the full potential we all foresee in Generative AI. Our motto is clear: a successful AI system is a utilized one!"



GENAI ADOPTION

GenAI will bring sweeping change to every corner of our lives – and is critical to the future success of all organizations; it’s therefore encouraging to see that 74% of companies are embracing the technology. However, there is a certain inconsistency in these findings – 67% say GenAI will be a game-changer (see next page), but 58% say that the technology is a fad. This suggests two very different types of professionals: the future-facing technology leader who goes to conferences, speaks to peers, stays up to date with developments in GenAI, and shares the belief of business leaders in its potential; and those who feel AI is just the latest in a long line of overhyped technologies that have failed to deliver on promises.

ORGANIZATIONAL STRUCTURE

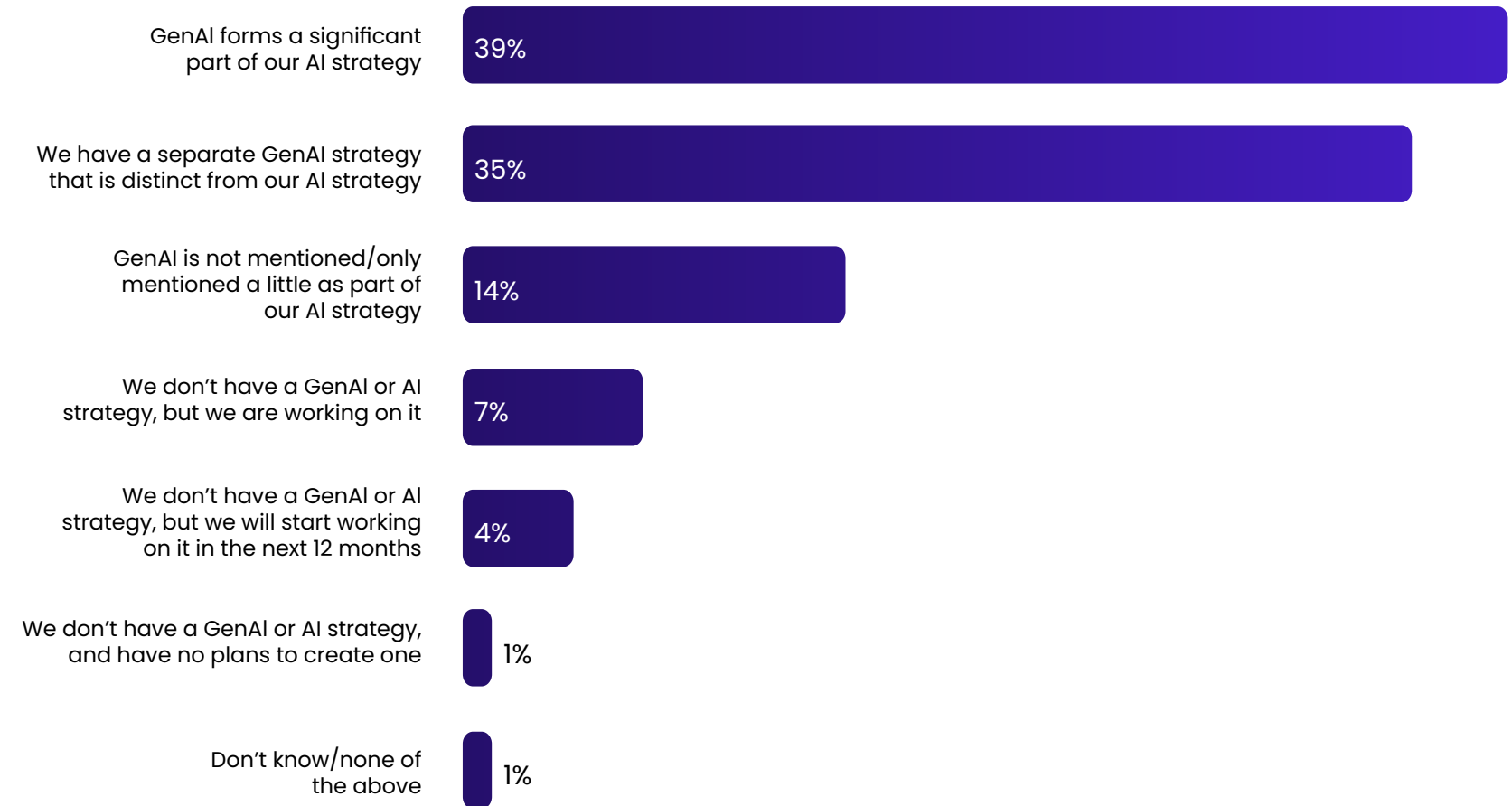
GenAI is not the first AI technology but the latest in a series that includes Machine Learning, Deep Learning and Computer Vision; and an organization’s approach to this new technology is largely dictated by the maturity of their AI capabilities. If you have already embraced earlier versions of AI, then you are likely to simply add GenAI to your existing AI portfolio, whereas those with a less mature AI strategy may opt to create a standalone GenAI initiative.

In truth, there is no binary answer to this issue. There is a case to be made for creating an independent AI function and simply letting people get on with ‘out of the box’ innovation; free from operational governance; while on the other hand, it may make sense to include it within an existing governance framework. (See ‘Take Back Control’ section on page 26).

LEADERSHIP

With most companies still investigating the potential of Generative AI, the survey suggests that those technology leaders that have recognized the significance of GenAI to their organizations may be trying to ‘ringfence’ GenAI projects, rather than allowing other leaders within the business to take ownership. Most respondents felt that those in technology-based roles (CIO/CTO/CDO/CISO) should be the ones leading or funding GenAI initiatives (see page 8): however, 16% felt that CEOs should be leading these projects – not something that would have been said about previous disruptive technologies – indicating that technology leaders may have underestimated the appetite of business leaders to be involved.

Which of the below best describes your organization’s GenAI strategy?



- **74%** are working on a GenAI strategy.
- Only **1%** of companies say they have no plans to create a GenAI strategy.
- **35%** of respondents say their GenAI strategy is distinct from their overall AI strategy whereas **39%** include this in their existing AI initiatives.

Note: The data was collected from 595 respondents, who were asked to select one option

Technology leaders should be in no doubt: GenAI is going to be transformational for every part of the organization and the business will expect a return on its investment in this technology that extends beyond the IT department. It is therefore imperative that GenAI projects serve the needs of the business. Successful adoption of GenAI will hinge on how it's applied and rolled out, necessitating active collaboration with leaders across the organization, including those in HR, training, cybersecurity, and various business functions.

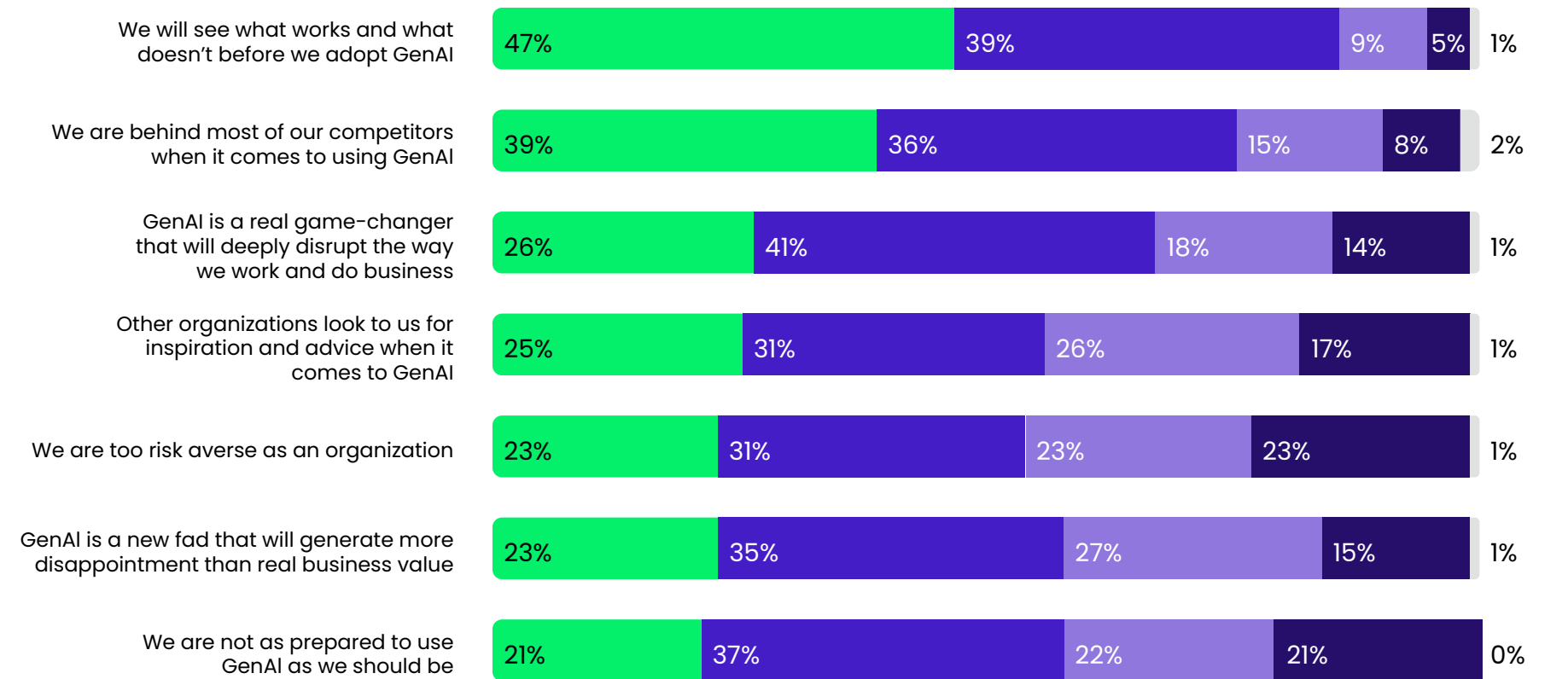
LAGGARDS OR VISIONARIES?

It is perhaps inevitable that 75% of technology leaders feel they are 'behind most of [their] competitors' when companies are rushing out press releases that highlight their 'first mover advantage' in deployment of GenAI tools: for example, one company announced it had rolled out a GenAI chatbot to 75,000 employees. In our view this is more a PR stunt to generate headlines than a fully thought-out initiative to augment human capabilities.

Nonetheless, these kinds of announcements generate a corporate FOMO which may also explain why 58% feel they are not as prepared as they should be to use GenAI. In reality, most organizations are in the same exploratory boat. At Wavestone, our employees see these same reports and request that these tools are made available to them. However, we have assessed the solutions currently available on the market and have yet to find something that delivers what is promised – let alone lives up to GenAI's true potential.

Looking at the lessons of history, we know AOL had a messaging app before WhatsApp was even conceived, yet it was the latter that prevailed. Being the first to introduce a fledgling technology is no guarantee of commercial success: the deep transformations and the huge User Experience innovations are going to take time to emerge – as will the winners that create them.

To what extent do you agree or disagree with the following statements?



● Strongly agree
 ● Agree
 ● Disagree
 ● Strongly disagree
 ● Don't know

- **75%** feel they are behind their competitors when it comes to GenAI.
- **86%** agree that they are taking a 'wait and see' approach to GenAI.

Note: The data was collected from 595 respondents, who were asked to select one option per row

TAKEAWAY:
STRATEGY & LEADERSHIP

01

There's no generic roadmap to GenAI, nor any unique playbook for technology leaders to follow. However, if you are among the 4% of technology leaders that have yet to decide on a GenAI strategy, it is time to start investigating the technology seriously – and to be seen to be doing so – because GenAI is not a fad.

02

Determine whether you have a well-functioning governance system across business lines, IT, and data (the three stakeholders that need to be aligned for a GenAI project to succeed).

- if you do, then it is appropriate to include GenAI in these structures;
- if these structures are not in place (or if they are not working well), then implement your GenAI initiative as an independent project.

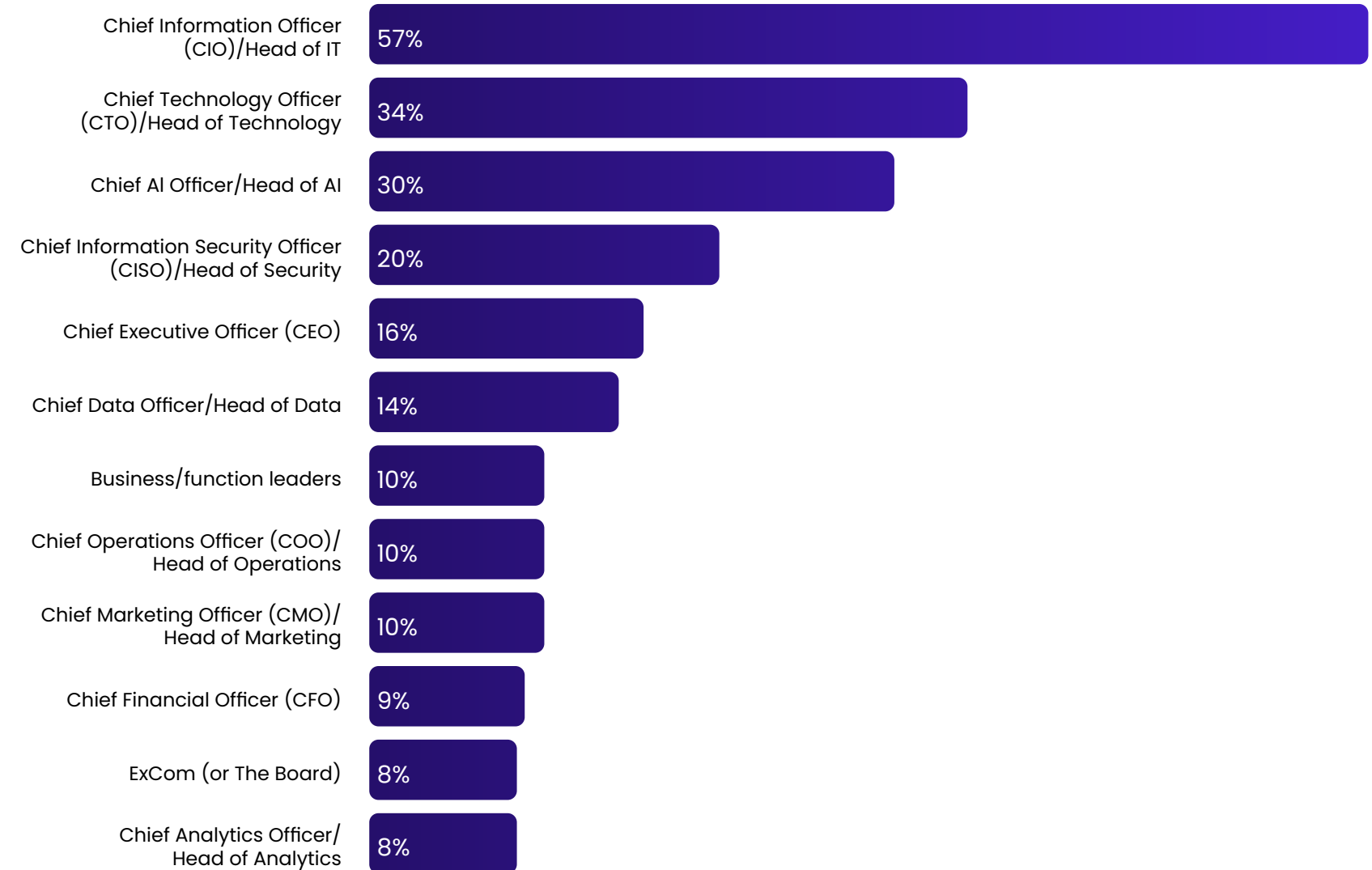
03

Ensure you have put in place the operational foundations to enable the plans of the business.

04

If you are suffering from corporate FOMO, be reassured that everyone is in the same experimental boat: you should focus on the long-term transformational changes that will deliver what your organization will need in two or three years.

Which leadership roles, if any, are most likely to lead/fund GenAI adoption in your organization?



- The most popular responses stated that GenAI initiatives should be led either by CIO (**57%**) or CTO (**34%**) or a dedicated AI leader (**30%**).
- Only **10%** felt that GenAI initiatives should be led by business leaders.

Note: The data was collected from 595 respondents, who were asked to select all leadership roles most likely to lead/fund

02. FOUNDATIONAL CAPABILITIES



Andreas Eisner

MD, Information Management, Thyssenkrupp AG

// To get tangible benefits from any GenAI implementation, we first must build a solid foundation: a robust data governance framework that ensures group wide taxonomies, data quality, integrity and security across the organization. By prioritizing concrete use cases and focusing on these foundational elements, corporations ensure that their GenAI initiatives yield substantial business value."



A SWISS ARMY KNIFE?

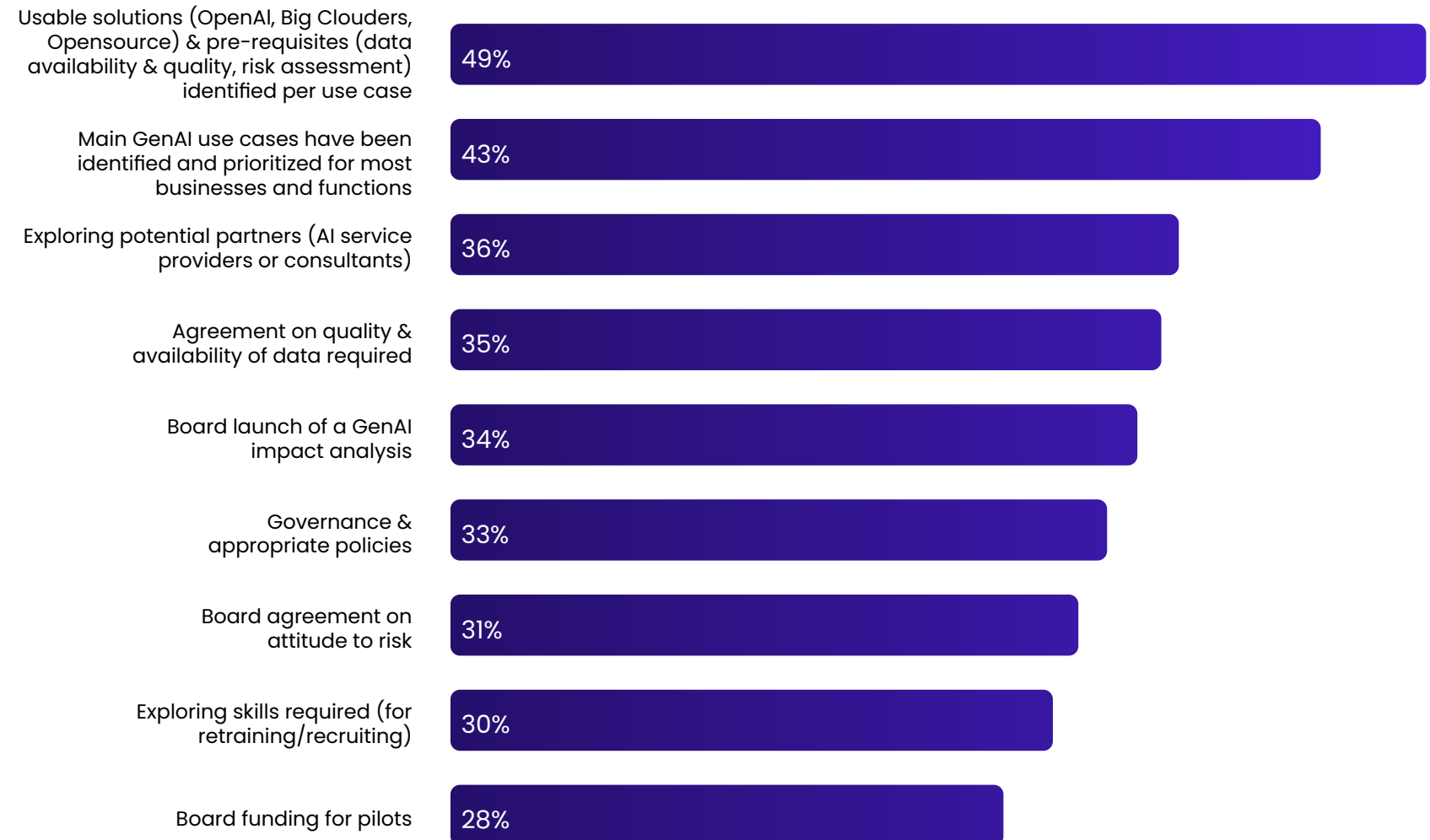
The GenAI market is still in its earliest days and it's not crystal clear yet what shape it will eventually take – or who will dominate it. Hyperscalers such as Microsoft, Google and Amazon are making huge moves in this domain as are major consumer players like Meta and Apple. At the other end of the scale, these behemoths are facing threats from much smaller players: there are already approximately 70,000 AI companies¹ (and new ones being created every day). These include not only OpenAI – which very few had heard of a year ago – but other companies such as the French unicorn, Mistral.

When OpenAI introduced ChatGPT, it provided inspiration for many – including respondents to this survey. This data suggests that respondents understand the potential of the technology and can imagine the different ways in which it can have a significant impact on their business: the most popular responses relate to the search for appropriate use cases and only 29% say the technology is already widely in use. GenAI seems to be seen as a Swiss Army knife with a multitude of potential uses; but identifying those applications that will drive strategic and commercial advantage is not straightforward.

As with the advent of the iPhone, companies are still figuring out how to bring this technology into the corporate world and many of the implications of doing so have yet to be properly considered. Most GenAI solutions will support a wide variety of use cases, but some technology stacks can be more easily integrated into your existing IT estate than others. It is likely that you will default to the technology with which you are most familiar i.e., if you are currently using Microsoft, Amazon, or Google cloud infrastructures, it would make sense to reuse existing skills and to take your Large Language Model (LLM) from them. Your sourcing strategy – whether you are using Hyperscalers, Open Source, or custom in-house development – also needs to be factored into your governance framework (see below).

The amount of regulatory scrutiny your sector attracts is also a consideration: those in more lightly regulated industries may already be using 'off-the-shelf' GenAI products; whereas sectors such as Financial Services, Energy and Transport that have much stricter regulatory oversight (and much greater potential impacts of GenAI on end users) are likely to take a more cautious approach and look for more trusted and mature solutions.

Which, if any, of these foundational capabilities across people, process & technology do you think are pre-requisites to adopting GenAI?



- The two main pre-requisites for the adoption of GenAI are usable solutions (**49%**) and use cases (**43%**).
- Other practical factors – such as having the right partners, analysing the impact, governance and having budgets in place – are seen as secondary.

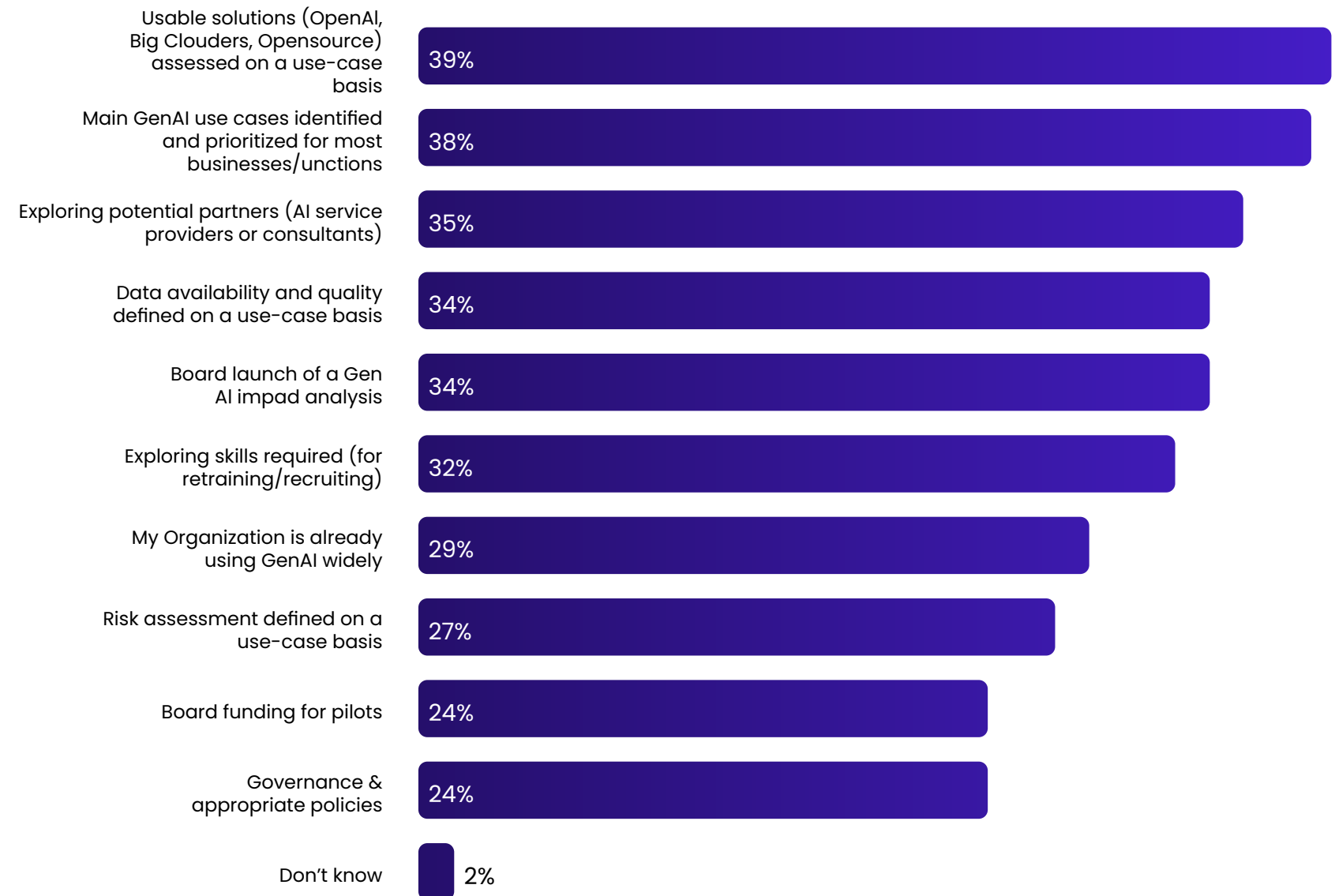
Note: The data was collected from 595 respondents, who were asked to select all foundational capabilities they think are pre-requisites

GOVERNANCE

The lack of focus on governance is both alarming and consistent with our experience of GenAI engagements over the past twelve months. While GenAI can create significant business value, it comes with a whole new set of risks and significant HR and regulatory implications. For example, if you ask a GenAI tool for assistance on the design of a toothpaste tube, its recommendations will draw on similar designs to those of your competitors: therefore, the scope for unconscious plagiarism of intellectual property – and consequent reputational damage – is huge. You may well find that the initial use-case are often innocuous, but you cannot unlock GenAI’s potential without strong AI governance. (You can read more about this in the ‘Take Back Control’ section on page 26).

¹ <https://explodingtopics.com/blog/number-ai-companies>

Which of these foundational capabilities for adopting GenAI has your organization progressed with to date?



- As might be expected, the focus for our respondents’ GenAI efforts is broadly aligned with their answers to the previous question: usable solutions and use cases are where energies are being concentrated.
- GenAI is already widely in use in only **29%** of respondents’ organizations.
- It’s noticeable that only **24%** of respondents have addressed governance issues with the same number making progress on board funding of pilots.

Note: The data was collected from 595 respondents, who were asked to select all foundational capabilities they think are pre-requisites

➤ TAKEAWAY:
FOUNDATIONAL CAPABILITIES

01

Engage with business leaders to understand what business outcomes they want to achieve with GenAI and then focus on how best to operationalize the technology.

02

Governance is one of a range of ‘known unknowns’ – identifiable problems for which no mature solution has yet been found – the significance of which is being severely underestimated, and which will shape how the GenAI market develops.

EU AI ACT

The AI Act was finally approved in early 2024, after a long and intense debate among EU members. The regulation outlines a number of requirements that will apply to companies building or selling AI systems in the European Union. The objectives are to ensure these systems not only adhere to EU values and respect human rights, but also promote innovation within the single market. The Act categorizes AI systems by their level of risk, which is assessed against various criteria such as the industry sector and the intended purpose of the application. The AI Act covers not only existing AI systems but also those that will be developed in the future and may apply to some of your current IT partners. Compliance deadlines range from 6 to 36 months, depending on the risk level and the type of AI system being used; and, while some specific details are still to be agreed, companies must start to prepare now, as significant volumes of work may be required.

➤ [To learn more about the details of the Act, please refer to our **whitepaper**.](#)



03. ANTICIPATED BENEFITS



Laurent Carrié
Tech Factory Manager, L'Oréal

// GenAI is on the rise everywhere, but some industries are moving faster than others: it is the case of software engineering, which is relatively advanced. Generative AI is revolutionizing the world of coding at a rapid pace, by bringing a level of productivity that might change the game. Of course, some key questions are still to be fully answered, such as the real value in the long term, the structural changes it will cause, and of course legal aspects (e.g. Intellectual Property, liability, etc.). Companies whose core business is software will have to ride the wave or take the risk of disappearing. IT services company will be impacted in terms of productivity, automation and cost optimization. As for others, it will at least augment them, from app development to UX/UI, DevOps and test automation.”

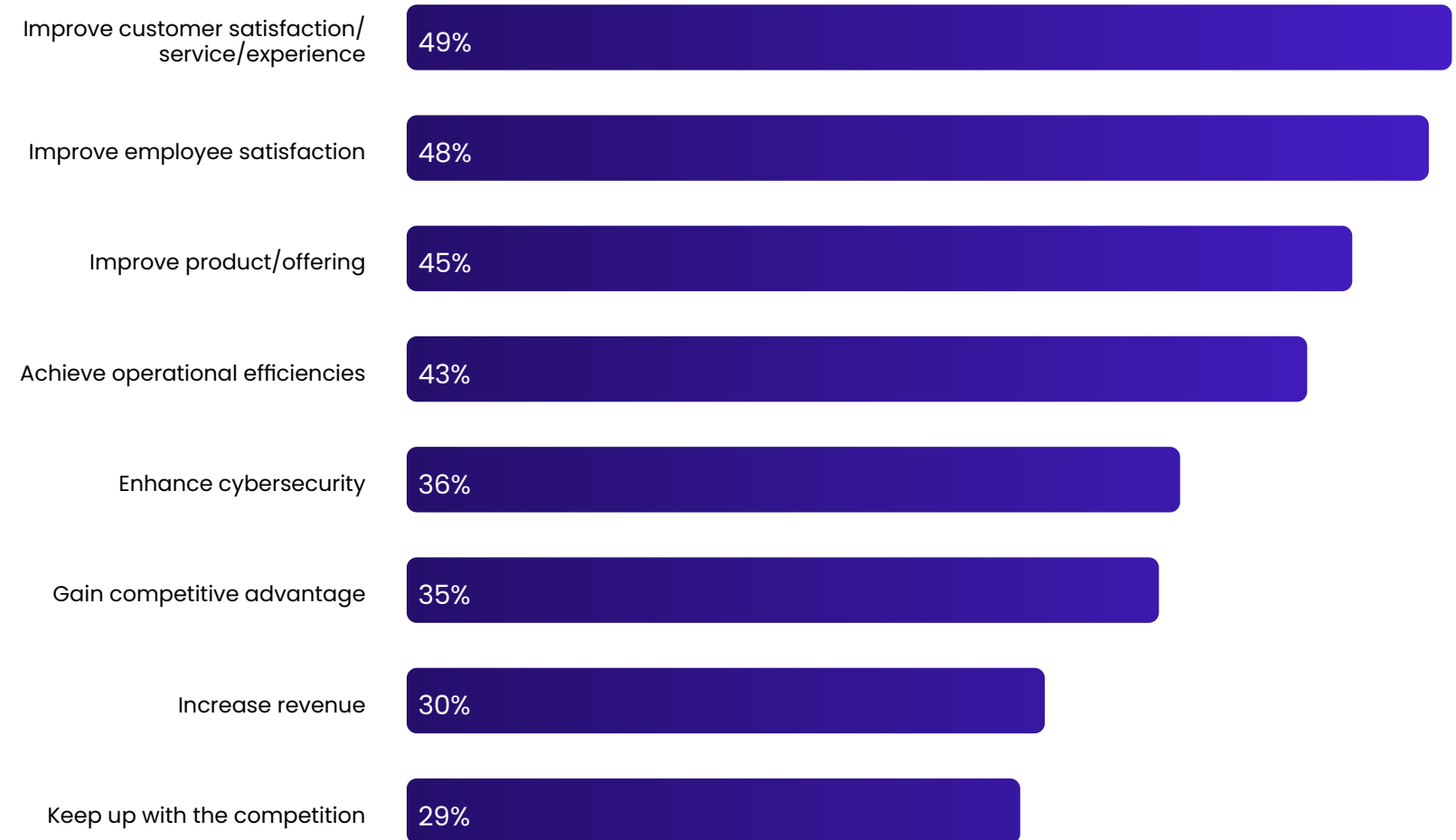


MIND THE GAP

It is clear GenAI will have a huge impact on the experience of both the customer and the employee, and business leaders want resources to be focused on these areas. By contrast, technology leaders are much more interested in what the technology can do for them: almost twice as many respondents listed IT operational performance and management as an example of an area where the technology would be applied than for any other type of initiative.

The fact that IT and business leaders want different things from GenAI points to trouble ahead: this gap must be closed if future conflict is to be avoided.

What benefits would, or is, your organization hoping to gain from adopting GenAI within the next 3 years?



- There is a clear disconnect between the opportunities companies seek to realize and those where IT leaders see advantages.
- The two groups were, however, broadly aligned on the need to use GenAI to address cybersecurity issues.

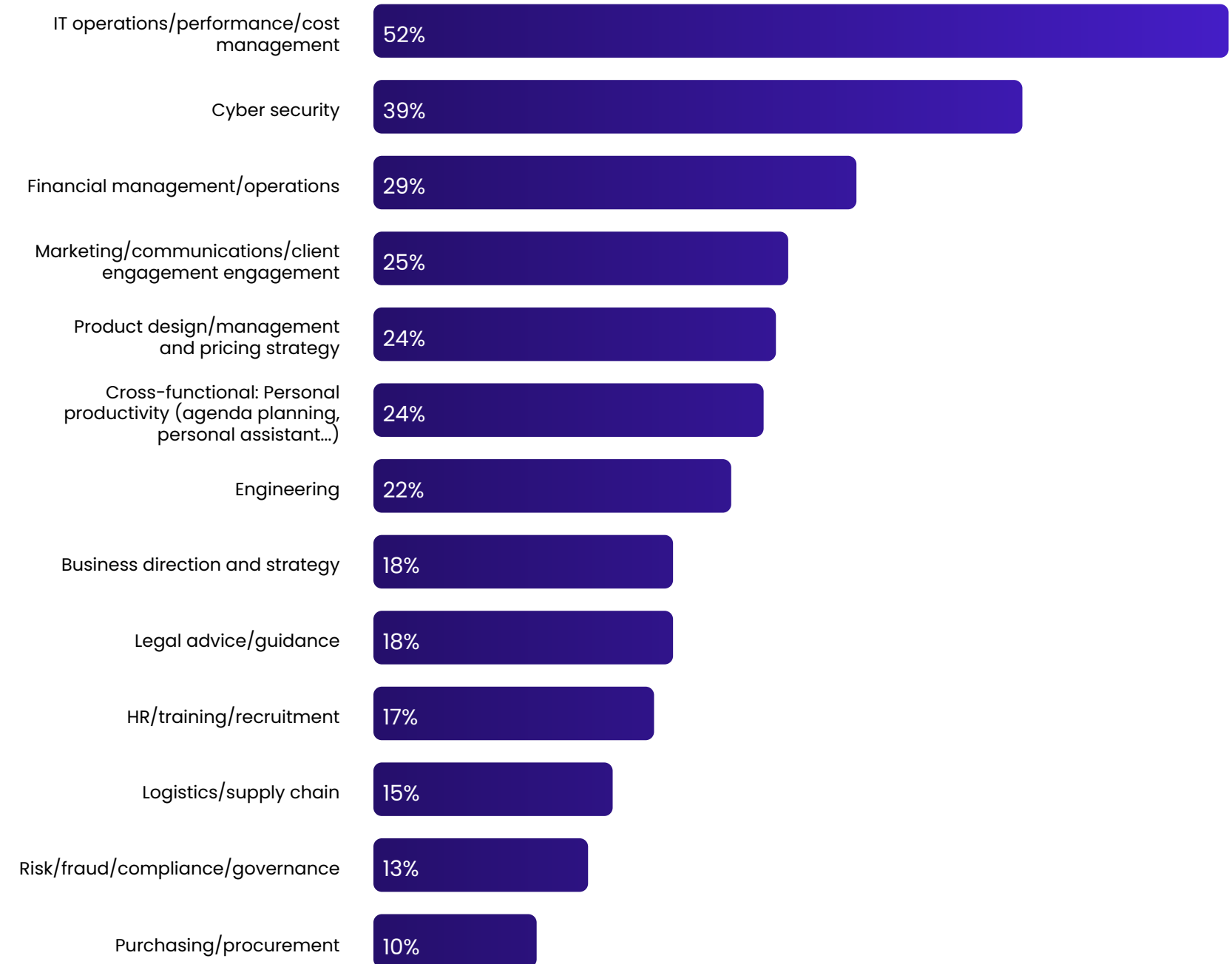
Note: The data was collected from 595 respondents, who were asked to select all foundational capabilities progressed with to date

TAKEAWAY:
ANTICIPATED BENEFITS

01

While it's undoubtedly true that GenAI can bring efficiency to IT operations, business leaders will be looking for a company-wide return on their investment. It is therefore important to ensure you understand your business leaders' expectations and jointly identify the use cases that will drive value across your organization.

Looking at functional areas within your organization, where do you expect GenAI to make the biggest impact within the next 3 years?



Note: The data was collected from 595 respondents, who were asked to select up to five functional areas where GenAI is expected to make the biggest impact

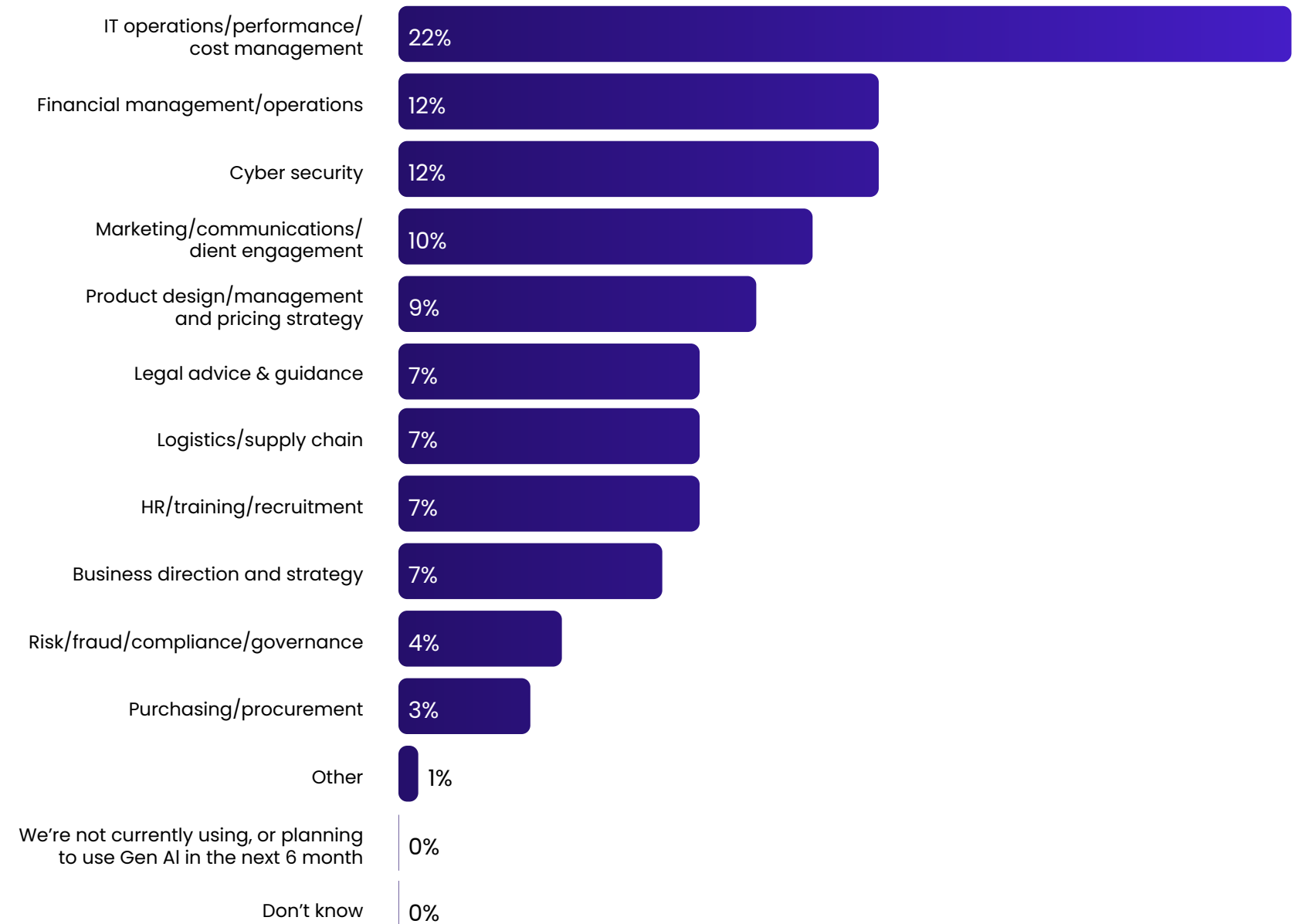


Senthil Jayaprakasam

Vice President of Technology, JC Penney

// The GenAI hype is undeniable. Not only are we led to believe, there’s clear leaders and laggards, there are wild claims suggesting it is the be-all, end-all solution to our problems. Substantial wins and true advancements can be gained, but only if we break down the massive GenAI proverbial rock into smaller, manageable pebbles: starting with realistic problem identification, utilizing data as the foundation, and crafting use cases towards achieving larger organizational goals. Practicality is key, lest we risk GenAI becoming nothing more than corporate jargon.”

Within your organization, what are three examples where you’re currently using/planning to use GenAI within the next 6 months?



Note: The data was collected from 595 respondents, who were asked to select up to three examples where they're using or planning to use GenAI

04. RISK MITIGATION & BARRIERS



Aldrick Zappellini

Group Chief Data Officer, Crédit Agricole S.A.

// Resource consumption is very hard to assess for two main reasons: it is difficult to get reliable information on the models' consumption, and the same algorithm might have a different environmental impact depending on the energy mix of the country where the hosting datacenter is located! One thing is for sure: it is not sustainable to use billion-parameter LLMs to perform simple tasks that could be done with much more frugal models, or even with simpler AI tools (such as regressions or random forests). A general principle we apply is that there must be consistency between the choice of using Generative AI and its resource consumption. At Crédit Agricole S.A., we address this principle through our policies and guidelines: for a given use case and business result, the goal is to use the simplest (or most frugal) model."



SAFETY FIRST

It's no surprise that data breaches and privacy issues feature so strongly as such attacks have occurred frequently. As GenAI systems are non-deterministic and self-learning, they will naturally evolve over time: this adds complexity and makes it challenging to guarantee security. This uncertainty can lead to concerns about misinformation, cyberattacks, data leaks, privacy violations, and intellectual property breaches.

These risks can be addressed via both reactive and proactive strategies. While incidents are inevitable, proper preparation and swift response can mitigate their impacts. This involves continuous training in incident management and staying alert to new vulnerabilities.

ADDRESSING CYBERSECURITY CONCERNS

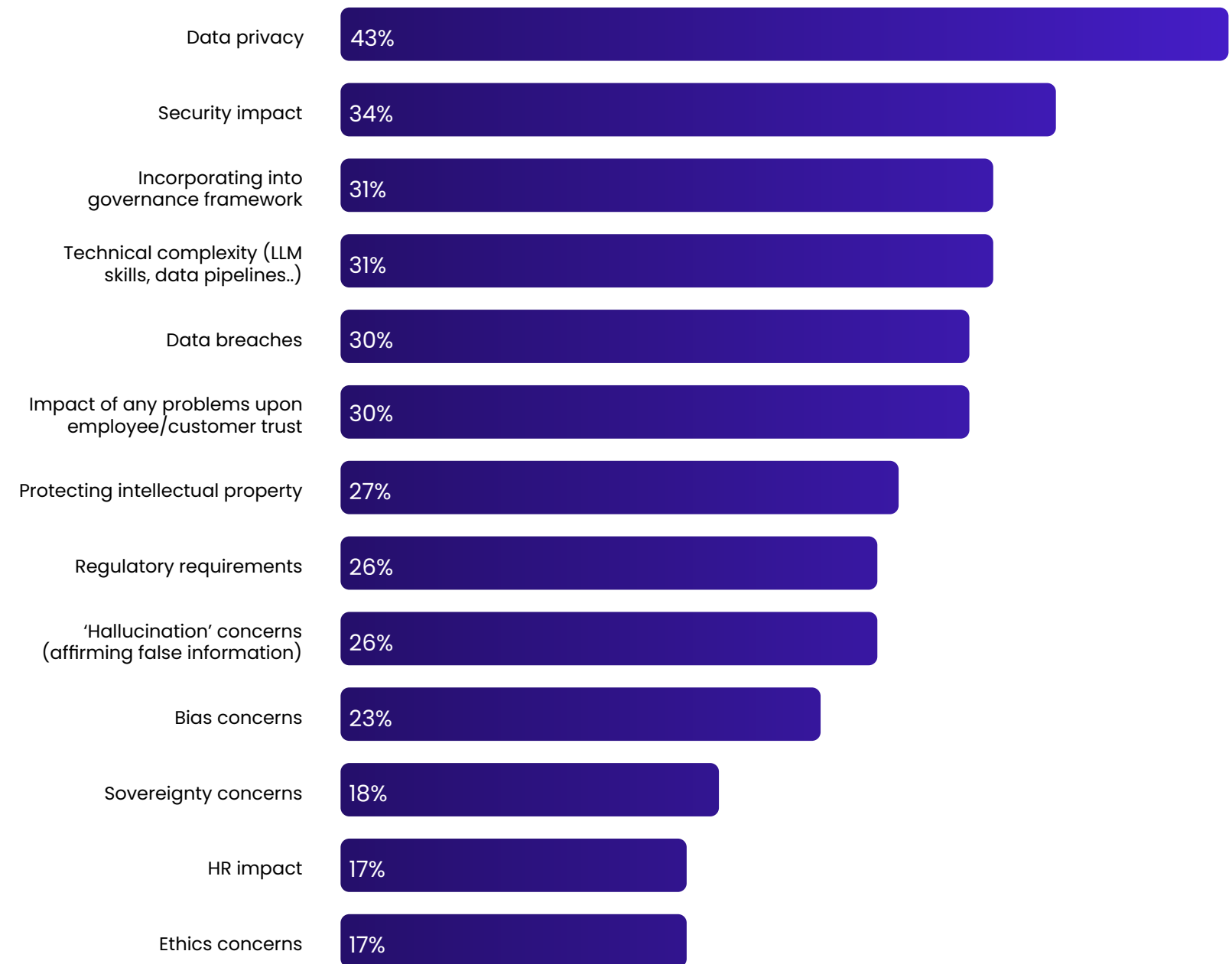
While GenAI promises to revolutionize the world, it poses significant privacy and security concerns. Our experience over the past few years has demonstrated that AI systems are mainly targeted in three ways:

- 01. Oracle Attacks:** bad actors exploit a model by providing a series of inputs and observing the outputs. In this category we find all the prompt injection attacks that have been observed over the past few months.
- 02. Poisoning Attacks:** training data is corrupted during the learning phase, leading to the AI system generating incorrect answers, as seen with the Microsoft Tay chatbot or more recently in attacks on platforms like HuggingFace.
- 03. Evasion Attacks:** algorithms are modified by small perturbations (e.g., alterations to traffic signs that prevent GenAI systems from identifying them correctly) that can cause large – and possibly dangerous – modifications to the outputs.

Based on Wavestone's recent experience, and the recommendations of renowned institutions such as the ENISA and the NIST, we recommend:

- **Upgrading your policies and risk analysis methodology:** Understand the AI risks, conduct pragmatic risk assessments and define the right framework for your AI projects.
- **Adopting AI-specific security measures:** Implement comprehensive security measures from input to output stages, including ethical guidelines during learning phases and advanced cyber-AI techniques.
- **Implementing audit and evaluation:** Utilize "AI Red Teaming" to assess security efficacy in real world.
- **Staying informed:** Remain up-to-date on industry trends and regulatory changes.

What risks, if any, do you associate with adopting GenAI at your organization?



Note: The data was collected from 595 respondents, who were asked to select any risks they associate with GenAI adoption

ROSE TINTED SPECTACLES

Given the importance of GenAI in both facilitating – and mitigating – cybercrime, it is perhaps no surprise that technology leaders view the risks of GenAI through the lens of existing problems. The risks highlighted here – privacy, incorporation into security and governance frameworks, data breaches – are real, but mirror concerns IT leaders have about existing technologies. Our interpretation of these results is that IT leaders are preparing for the risks that they already encounter today instead of preparing for the risks they don't yet understand.

Issues specific to GenAI – such as IP protection (27%), hallucinations (27%), and bias (23%) – are assessed as less significant risks. Also, if customer and employee satisfaction are at the top of business leaders' ambitions for GenAI, we would expect that HR impact and ethical concerns to feature prominently – but they are at the bottom of the list. And at least 80% of all respondents are completely or somewhat confident they can mitigate all these risks.

This over-confidence might stem from the existence of well-defined policies and established measures within many companies regarding these concerns; or it may be simply that the risks are underappreciated – or are perceived as being secondary – by technology leaders.

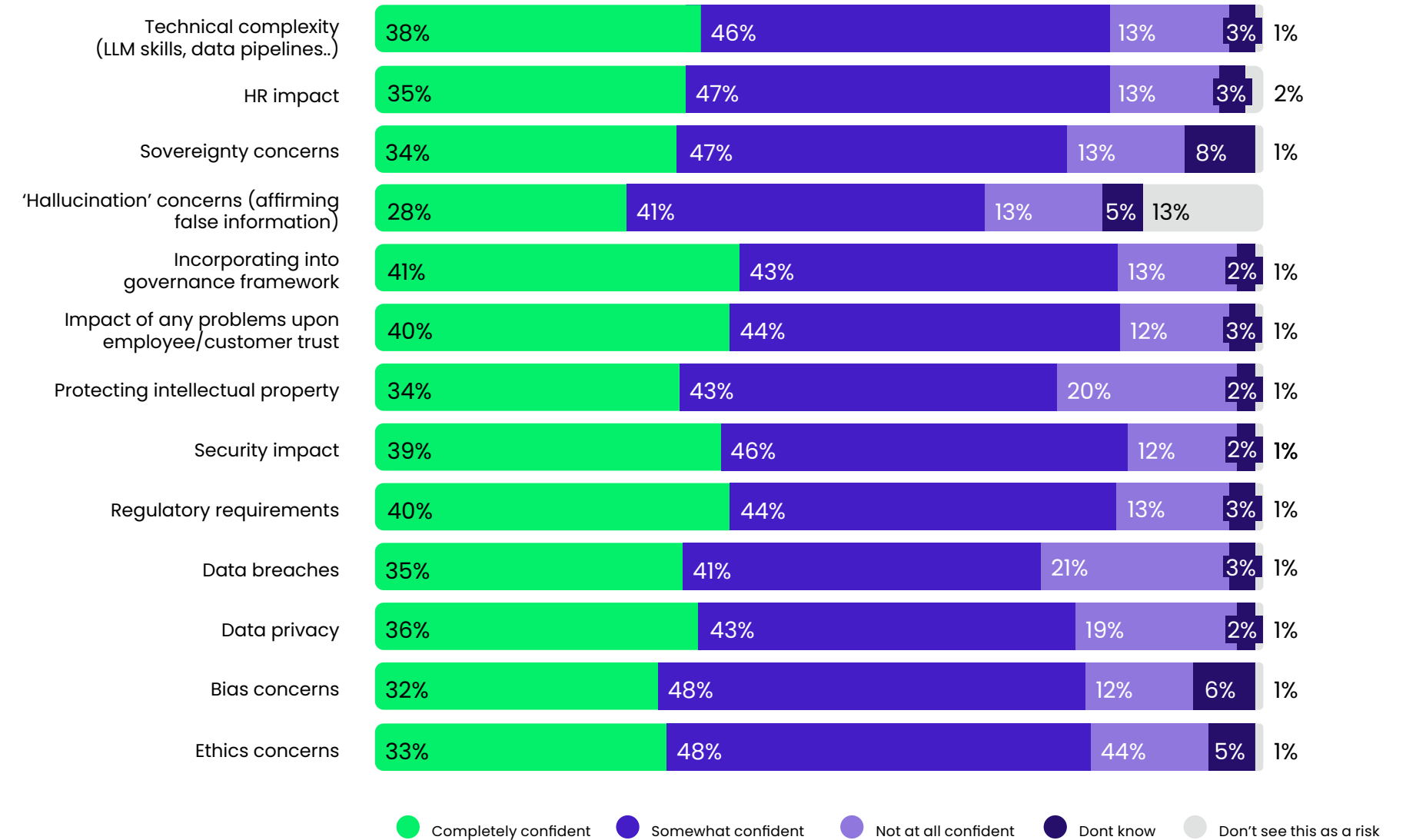
RISK MITIGATION

Governance, client trust, and regulatory aspects are all areas where proactive measures can be hugely effective. You should conduct risk planning, implement technical and legal countermeasures, and conduct crisis management exercises (such as simulating an AI model attack). It's also important to remember that these risks apply not only to the systems you develop in-house but also to those developed by your IT partners, so these third-party infrastructures and applications need to be integrated in your risk landscape. It's not just about preventing incidents, but also about being prepared to manage and respond effectively when they arise.

The issue of AI 'hallucination' is more complex. Responses vary depending on the use case. For instance, the likelihood of hallucination increases with generic queries on a large database. Conversely, this risk diminishes when the AI is directed to rely on specific, limited data sources.

In summary, risk mitigation is a combination of proactive planning, continuous training, and adaptive strategies tailored to the unique challenges of GenAI.

How confident are you that you could mitigate these potential risks if they arose?



- There is a high degree of confidence that all these risks could be mitigated.
- Only **12-14%** of respondents were not at all confident about any of these risks with the exception of protecting intellectual property (**20%**), data breaches (**21%**), and data privacy (**19%**).
- **13%** didn't see hallucination as a risk.

Note: The data was collected from 595 respondents, who were asked to select one response per row

A GOLDEN OPPORTUNITY FOR DATA QUALITY

The base data used for training your model will be critical for the success of your GenAI project. It is also likely to be subject to considerable fine-tuning as we can't yet know what the ultimate regulatory regime is going to look like (see, 'Right to be Forgotten').

Selection of base data will also be critical for avoiding issues like bias as models (such as ChatGPT today) reflect the existing prejudices and assumptions on which they are trained.

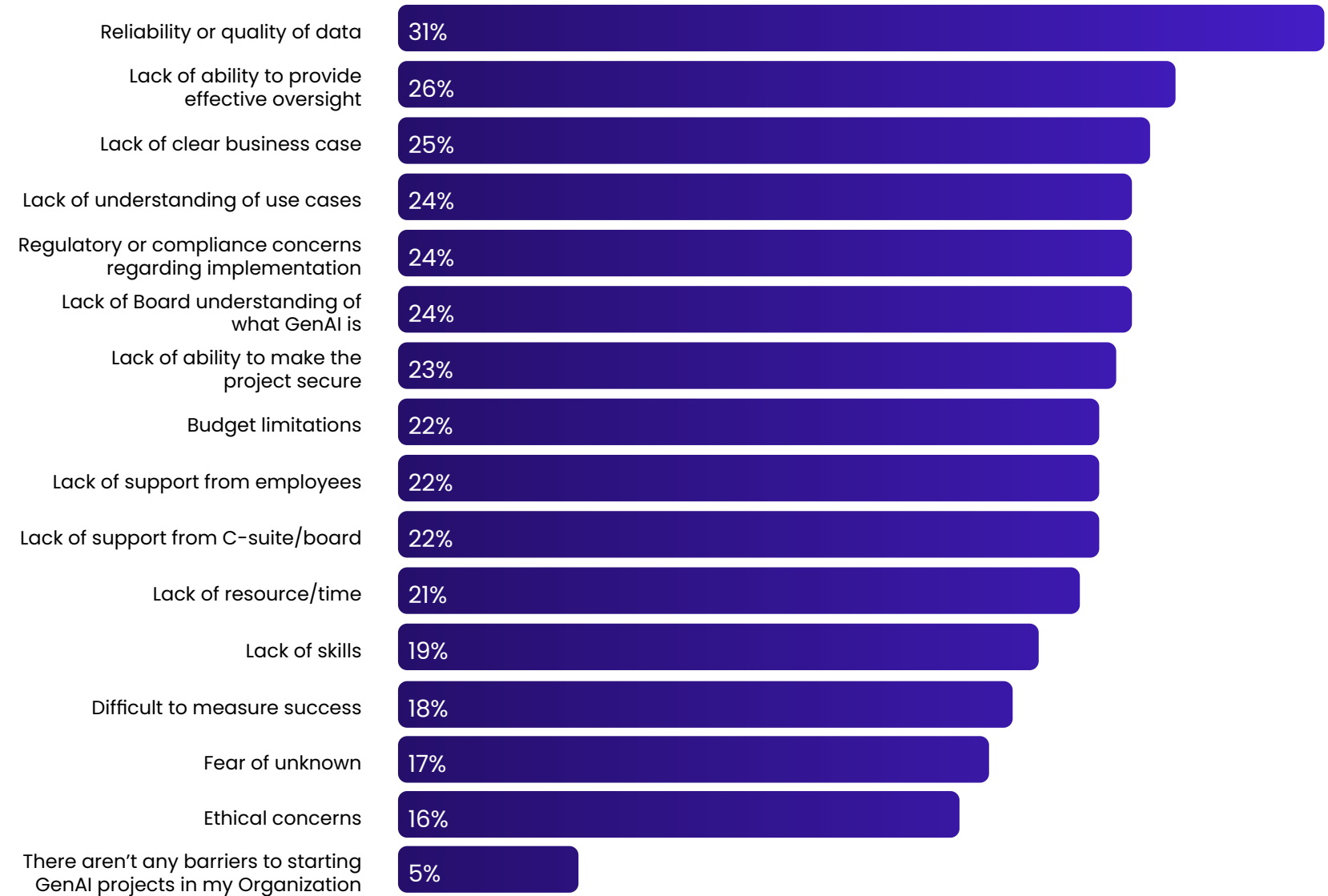
GIGO (Garbage In, Garbage Out) has always been the golden rule for data – and is especially true for GenAI. However, the demands for clean, reliable data are not unreasonable – leaders are not being asked to do the impossible.

THE HOLY GRAIL: TRUE DATA-DRIVEN DECISION MAKING

As AI veteran Andrew Ng says: "Data is food to AI". Without high-quality data, an issue as old as computer science itself, AI systems cannot learn effectively and produce reliable outputs. This is especially true for GenAI, which requires large amounts of data to generate comprehensive and coherent content: good quality data is the core of any large-scale, efficient GenAI solution. Unless you can be sure that a GenAI system's answers are accurate, you will just simply see it as a clever toy, but never a serious business tool.

For many organizations, the introduction of GenAI may end their search for that most elusive of Holy Grails – the transition to truly data-driven decision-making. This has remained tantalizingly out of reach for two main reasons: firstly, data quality has been too poor to be relied upon for the most strategic of decisions; and secondly, the lack of user-friendly tools and dashboards has made data analysis largely the preserve of data scientists rather than decision-makers. The critical need to have clean data on which to train language models creates the opportunity to solve the first problem; and GenAI's natural language or speech interfaces promise to solve the second. It may be that the potential of GenAI to enable this fundamental transition has been overlooked in the rush to provide improved customer and employee experiences.

What barriers, if any, exist to GenAI projects in your Organization?



Data quality is the most critical issue. The data that the AI model is trained on will be the most significant determinant of the quality of the results it will produce.

Note: The data was collected from 595 respondents, who were asked to select all barriers, if any, to GenAI projects

THE SKELETON IN THE CLOSET?

46% of respondents claim that the environmental impact of all strategies and approaches is properly accounted for. However, this is strikingly at odds with what Wavestone sees in the field. GenAI – particularly those based on Large Language Models (LLMs) – is very computationally intensive and generates significant carbon emissions.

Of course, the rise of GenAI takes place against a backdrop of concern about sustainability issues and the commitment of many organizations to Net Zero targets; these findings may indicate that technology leaders feel pressured to understate the true environmental impact of these projects. While a clear majority of respondents believe these impacts are being managed, it is more likely that they have yet to acquire a more realistic understanding of the environmental impact of their GenAI initiatives.

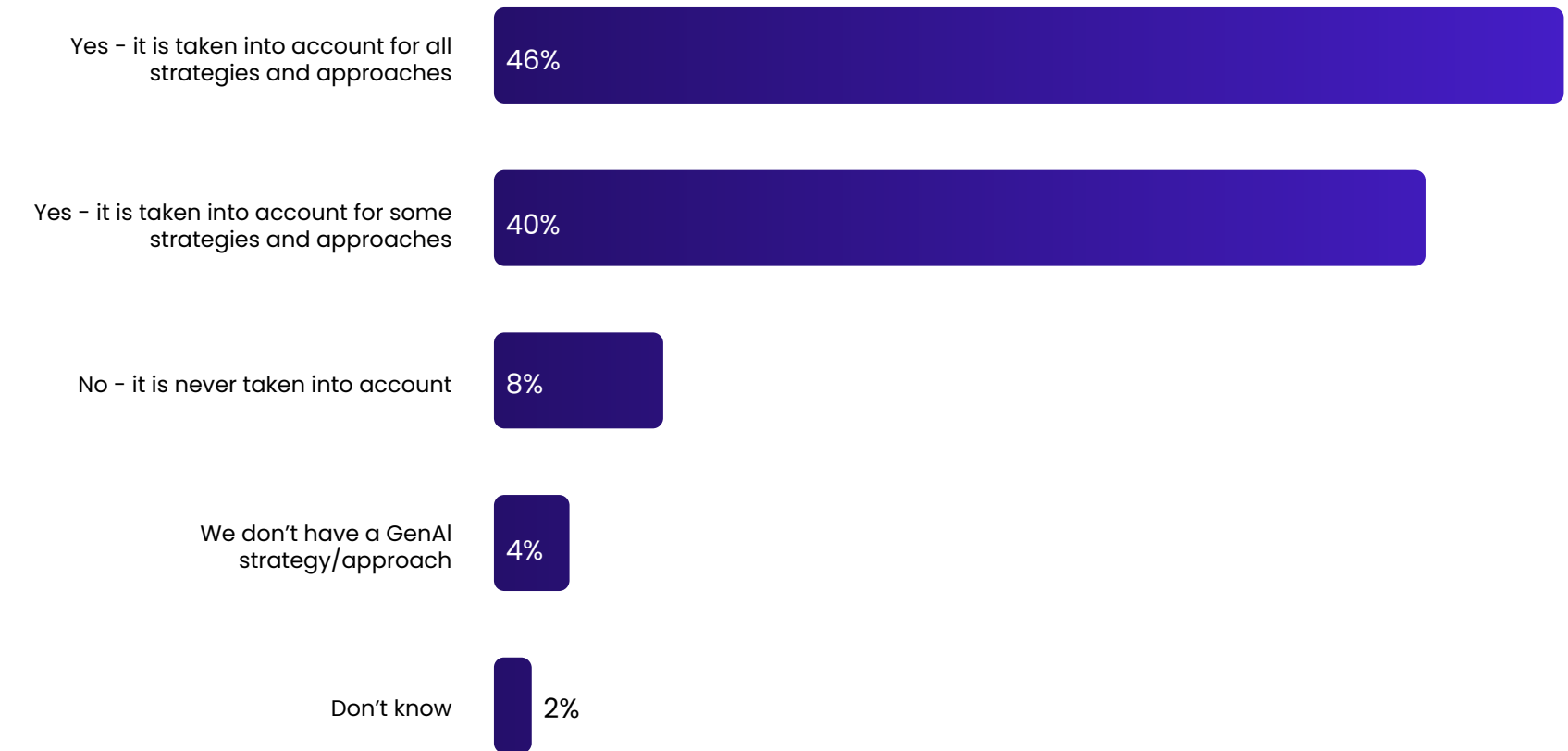
The challenge for corporates is the lack of transparency about the emissions associated with GenAI – vendors such as OpenAI and others have proven to be reluctant to share statistics around their energy use – because the statistics don't make for pleasant reading. The industry should be pushing for more transparency around the carbon footprint of GenAI and agree on frameworks. It's early days, but ethical AI researchers such as Dr. Sasha Luccioni are starting to make progress around such frameworks.

SUSTAINABILITY

Not all LLMs are created equally. They differ in their training datasets, architectures, and optimization methods; as a result, recent studies have shown that their energy needs can vary by several orders of magnitude. In general, this topic is not yet fully understood as there is insufficient transparency around the energy consumption of LLMs: there is no standard way to measure and report the environmental impact of LLMs, and many developers and providers do not disclose this data.

Research and industry communities are aware of the need to reduce the environmental impact of GenAI, and we can expect to see rapid improvements in the efficiency of both the models and the hardware they run on. However, the urgency of the climate crisis means we cannot afford to wait for these improvements to happen. We need more transparency from the major players in the field, but we also need to use GenAI in a reasonable and responsible manner: do we really need GenAI to monitor the content of our refrigerators, or to generate endless variations of images when the future viability of the planet is at stake?

Is the environmental impact of GenAI (carbon cost for data storage, training Large Models..) taken into account within your organization's strategies and approaches?



The high proportion of technology leaders, **46%**, that believe carbon impacts are fully accounted for is at odds with our field experiences.

Note: The data was collected from 595 respondents, who were asked to select one option

> TAKEAWAY:
RISKS & BARRIERS

01

Fight the temptation merely to tactically patch data quality issues. Instead seize this opportunity to address ongoing and long-standing problems. Leverage the momentum around GenAI to progress an in-depth data quality initiative that not only fixes the immediate problems but addresses what has been an Achilles heel for IT projects on a global and industry-wide basis.

02

Prepare for the 'known unknowns', the risks you can foresee – environmental impact, hallucinations, bias, HR impact – but for which mature solutions are not yet available. Stay abreast of developments that address these risks and implement mitigation methods if no clear solution is yet available. The critical steps are to assess your organization's risk appetite and ensure business leaders are clear about – and comfortable with – the risks you may encounter.

THE RIGHT TO BE FORGOTTEN

Training a LLM costs tens of millions of dollars. The question you need to ask yourself is: what happens if a customer objects to the use of their Intellectual Property in your model?

Adding data to an existing model is straightforward but, as Microsoft points out², "unlearning isn't as straightforward as learning. To analogize, imagine trying to remove specific ingredients from a baked cake – it seems nearly impossible". For the time being, retraining a model to forget some of the data on which it was trained is very expensive.

These challenges didn't stop a team from Microsoft training a model to forget the magical realm of Harry Potter. They claimed some success but noted that, "in the absence of knowledge about the books, the model resorts to hallucination... rather than admitting unfamiliarity". If you can imagine extending the right to be forgotten to every content author on the planet, you can see we still have some way to go before we can apply this privilege in a pragmatic and realistic manner.

² <https://www.microsoft.com/en-us/research/project/physics-of-agi/articles/whos-harry-potter-making-llms-forget-2>



05. EMPLOYEE EXPERIENCE & CHANGE MANAGEMENT



Satabhish Aeka

Head of Digital Transformation, Lam Research

// AI in our industry has a huge potential to transform how we create and drive value across the organization, the key is to identify the right use cases, data sets and foundational models to drive real results. One of the top things we think of is empowering employees to engage in a secure, safe environment by providing a controlled space to not only preserve and retain hard-earned intellectual property but also provide the freedom for creativity and innovation."



TO GENAI OR NOT TO GENAI

The use of email on smartphones was initially banned by many companies but employees found a way to circumvent the rules – using methods that were inherently more insecure than any corporate-driven solution. Eventually, employees were either given work phones or allowed to access work email via personal phones but not before the emergence of a ‘shadow IT’ estate. The same could easily happen with GenAI.

With every survey of business leaders suggesting GenAI is going to transform value creation, the 28% of businesses that forbid use of the technology within their organizations will probably change their minds – hopefully before unwittingly creating ‘shadow GenAI’ with no control over how it is being introduced. Put simply, the GenAI genie is not going back into the bottle.

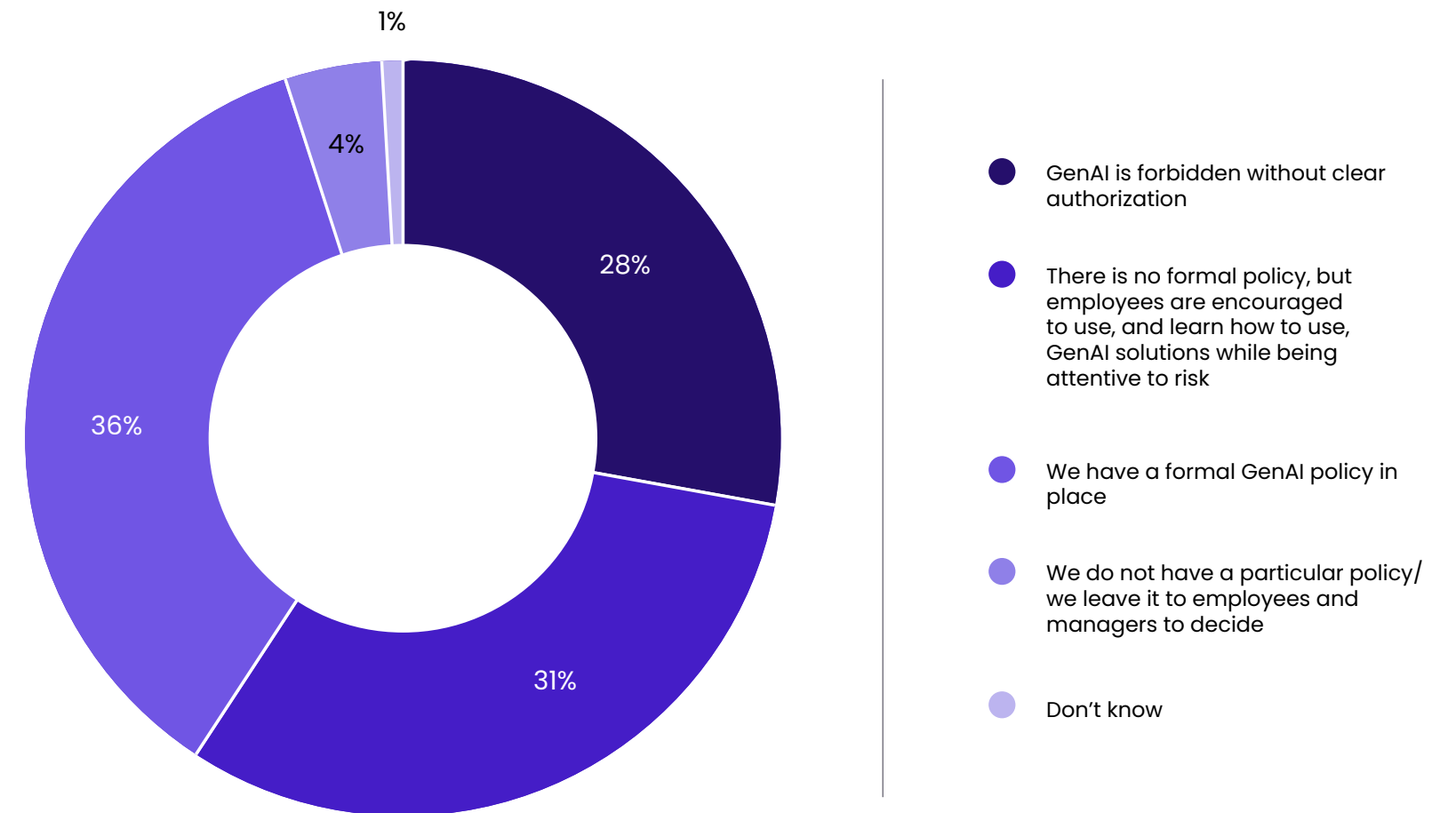
ALL CHANGE

Disruption is an overused word in our industry, but GenAI will be disruptive – at both an operational and a structural level. Technology leaders should be prepared to address both challenges. The fact that regular communication tops the list of tactics to support the introduction of GenAI – ahead of investment in solutions or specifying expertise in job titles – suggests that most companies are still focused on the operational aspects of the technology; however, it is the structural changes that will have the greatest impact.

OPERATIONAL CHANGE

The old axiom – if you give someone a fish, they eat for a day; if you teach them to fish, they eat for a lifetime – applies firmly to GenAI training. We recommend mandatory ‘Passport’ MOOC (Massive Open Online Course) training to ensure that essential AI knowledge and literacy is uniformly distributed across the organization, and ‘Prompting Academy’ sessions to help employees master the art of using GenAI effectively.

Regarding the use of available GenAI by employees, which of the below statements most closely summarizes your organization’s company policy?



- **36%** have developed a specific policy.
- **31%** don't have a policy but encourage usage.
- **28%** prevent the use of GenAI without specific authorization.

Note: Respondents asked to select one option

It is also vital to dedicate the time to hosting meetings and highlighting specific use cases that illustrate the potential benefits of GenAI within the organization, thus bolstering employees' confidence in using it. This means demystifying AI and ensuring that employees understand that its implementation does not imply any inadequacy on their part; instead, it enhances their capabilities. Employees should be reassured that using AI is a skill that contributes positively to their role and offered specialized training to equip them with the skills they need to maximize the benefits of GenAI – such as enhanced decision-making, increased productivity, and improved efficiency, to name but a few.

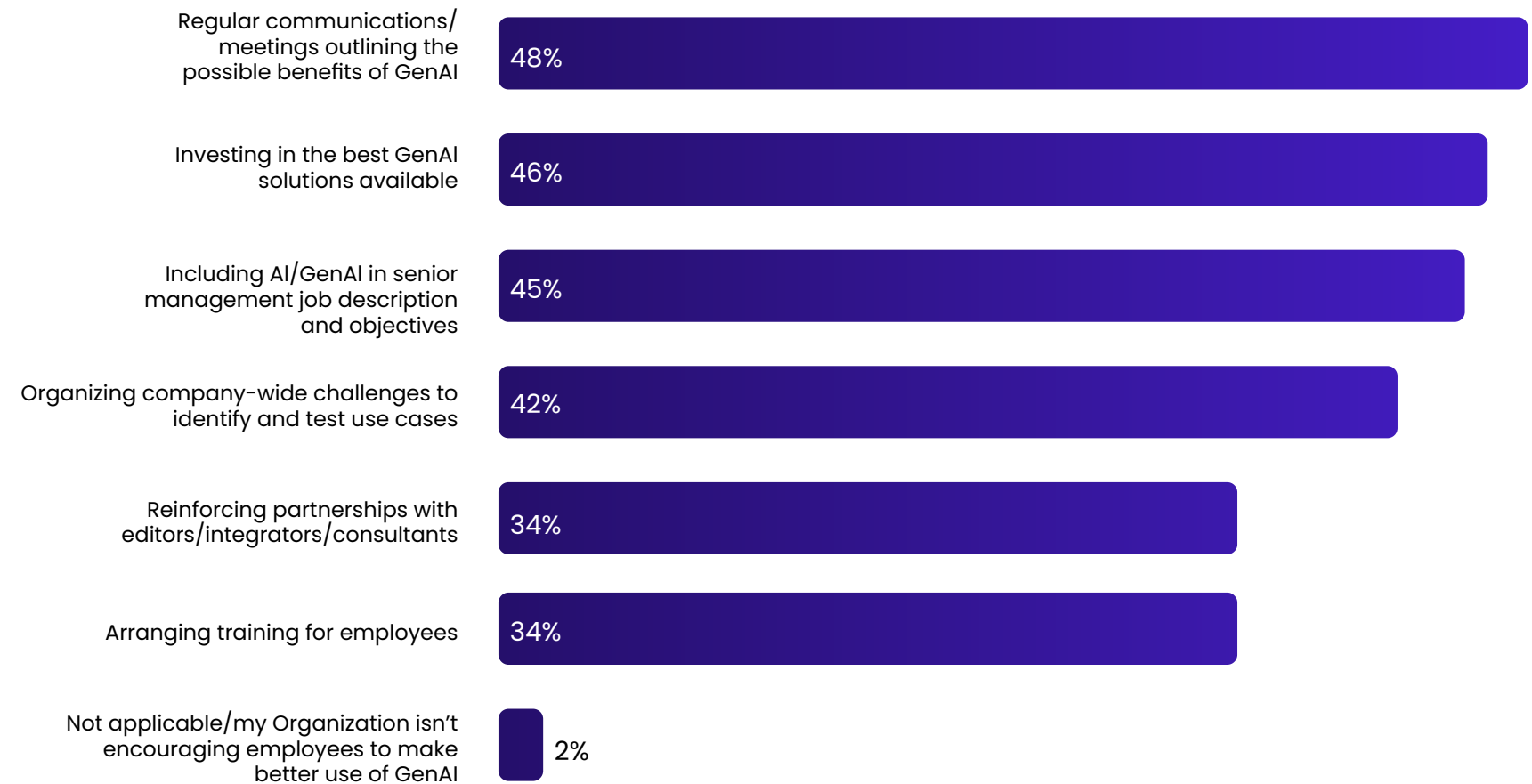
STRUCTURAL CHANGE

None of the training described above will support the degree of cultural change GenAI entails. By way of a metaphor, web browsing and digital transformation rely on the same underlying technologies, but the two are hardly equivalent – the same is true for GenAI. For example, giving your communications teams the operational skills to use GenAI to create content is one thing, but understanding the impact of GenAI on the way the team functions is quite another. In this context, you may want to ask yourself if you need external copywriters and designers any longer and, if not, how you should reengineer your marketing function accordingly. And, in fact, you should be asking similar questions about every function in your business.

Wavestone is supporting several customers in rolling out AI tools – and change management is by far the most significant part of the project. A well-crafted change process will be critical to the successful adoption of GenAI, and HR's involvement will be crucial – especially when addressing questions related to employee evaluation and performance assessment. HR can also provide valuable insights into how AI impacts talent management and development.

It is impossible to underestimate the effort involved in implementing GenAI: as with email and smartphones, GenAI is more than just a tool and the cultural impact of its company-wide deployment will be far greater than its impact on your IT organization or technology stack.

What, if anything, is your organization doing to encourage employees to make better use of GenAI?



Most companies are still at the stage of investing in solutions and factoring GenAI capabilities into new appointments, less so in training.

Note: The data was collected from 595 respondents, who were asked to select all activities their organization is doing

RAMPING UP, ROLLING OUT

IT leaders should emphasize the importance of investing in top-tier GenAI solutions and share success stories and examples that showcase the positive outcomes of AI experiments. Additionally, you should maintain an open attitude toward Proof of Concept (POC) proposals from employees, encouraging them to bring forward their AI ideas for testing. You should also sponsor company-wide challenges designed to identify and test AI use cases: these should help to foster a culture of innovation and collaboration by encouraging employees from various departments to come together and brainstorm innovative ways to leverage AI.

TAKE BACK CONTROL

We're witnessing a significant increase in the adoption of AI within organizations; and while GenAI is now being hailed as a breakthrough application, it won't be long before it is regarded as no more exotic than a spreadsheet. However, given the unique nature of both GenAI and the use cases it will usher in, the business will have to decide what use it wishes to make of these. Technology leaders therefore have a critical role to play in ensuring that governance is implemented at the right levels. CTOs, CISOs and CDOs must work collaboratively with each other – and with the HR and legal departments – to formulate and enforce the right AI policies and guidelines.

Many companies are torn between centralizing AI through the creation of a dedicated hub on the one hand, and a decentralized approach that relies on a firmly established framework for uses and operation across various entities on the other. Wavestone recommends a parallel approach depending on how GenAI is being used:

- For foundational capabilities and cross-functional AI applications, implement a centralized, controlled approach involving strict controls and guidelines to ensure the secure and responsible use of AI. This should address how employees should position themselves in relation to the insights generated by AI for analytical purposes.
- For business-centric usage, it is important to recognize that AI applications can vary widely based on the nature of different business activities. Therefore, it's essential to complement the centralized approach with guidelines tailored to specific business units or functions that offer more specific rules and recommendations for AI usage.

CHANGE MANAGEMENT

Today, GenAI's stage of development is similar to that of the Internet in 1997: we can glimpse its possibilities but are still far from understanding its full impact – or the implications of its widespread use. The technical challenges of developing and deploying GenAI systems will be solved in a matter of years, but the real challenge will be ensuring people can use them effectively and responsibly.

As with any disruptive technology, society will only realize the full benefits of GenAI if it is widely adopted and integrated into various domains and contexts. To achieve this, we need to educate and support GenAI users – whether they are employees or members of the general public – in prompting GenAI systems and choosing the right tools for their needs. They must also learn how to manage the risks and ethical issues – such as detecting and preventing fake content – that they may encounter. This will be a long-term endeavor, one that will require innovative and adaptive educational methods – and considerable time investments.

TAKEAWAY:

EMPLOYEE EXPERIENCE & CHANGE MANAGEMENT

01

Prohibition is not the answer. Use of GenAI will become widespread over the next few years. Allow your employees to explore the value it can deliver to your organization – but in the context of a well-considered governance framework.

02

Like email several decades ago, GenAI is a tool that everyone will have to learn how to use. Understanding and supporting cultural change will therefore be one of the long-term requirements of GenAI adoption if you don't want to leave people behind.

- Look at your value chain, identify what activities are likely to become commoditized by GenAI and thereby decide where the value added by your people will reside.
- Based on this analysis, put in place a solid training and change management strategy.
- To complement these activities, establish communities focused on specific AI usage areas that are driven by practical applications of GenAI and aim to explore the full range of possibilities.

Wavestone recommends a parallel approach to GenAI governance: implement a centralized, controlled approach for company-wide applications and complement this with business-specific guidelines for use in line-of-business function.

CASE STUDY: MICROSOFT COPILOT

Wavestone is currently helping more than 20 organizations trial Microsoft for M365, with the first scale-ups involving several tens of thousands of licenses. As a reminder, Copilot for Microsoft 365 is a GenAI-powered tool designed to assist employees in making the most from their M365 apps (Teams, Outlook, PowerPoint...) in a more efficient and intuitive way of working.

Our approach centers on cross-functional and business use cases across representative populations, and helps employees get to grips with the tool and develop new skills around the new art of 'prompting'. The trials have shown time savings ranging from 15 minutes to 2 hours per day.

The next crucial task is to identify how best to reallocate this time: whether to carry out other tasks (productivity), improve work already done (quality), train on new subjects (competence), help colleagues or participate in corporate philanthropy (mutual aid) or take time out for oneself (well-being). We are currently in the final stages of several trials and are focused on selecting the populations that can best leverage the value provided by Microsoft for M365 for more extensive roll-outs.

ACCELERATING YOUR TRANSITION TO GenAI IMPLEMENTATION

The UK had an AI summit last year hosted by the UK Prime Minister and attended by (among many others) US Vice President, Kamala Harris, and the European Commission president, Ursula von der Leyen – and France will soon host the follow-up event.

There were no equivalent summits for the metaverse, Augmented Reality, blockchain or any of the other technologies whose advocates claimed it would change our world. The fact is that viable use cases are still being sought for these much-hyped technologies several years after they hit the mainstream; whereas breakthrough commercial applications for GenAI have already been established, even though the technology is still in its infancy.

In the long run, GenAI undoubtedly has the potential to create winners and losers. As with the introduction of Internet and mobile communications in the past, those that are quickest to make the transformations necessary to fully exploit the power of GenAI will realize significant commercial advantage; while those that are slower to do so will be consigned to irrelevance.

This survey makes abundantly clear that most organizations have started their GenAI journey but almost none have identified their ultimate destination – and very few have even a clear short-term development roadmap. The majority are at the early stage of identifying the right solutions and getting the right people to work on the right topics as opposed to having a fully developed plan that simply needs to be executed.

A VIRTUOUS CIRCLE

Our experience of the first wave of AI was that IT departments were too slow to apply AI on their own perimeter, earning the distrust of business leaders who opted to buy external AI solutions rather than back internal expertise and technology stacks. This survey suggests that technology leaders may have overreacted to this by downplaying the value of GenAI or by focusing resources on their own internal challenges – IT management and cybersecurity. Conversely, their executives see GenAI as reinventing customer or employee processes, but business leaders are often somewhat optimistic about the ‘magical’ capabilities of the technology and tend to underplay the need for strong engagement with their employees to create the value they seek.

However, it is perfectly possible to bridge this gap. Technology leaders should build deep internal GenAI capabilities within their teams to work on their own use cases – but this should not come at the expense of developing strong partnerships with business leaders to deliver on their needs. This can create a virtuous circle in which the more success technology leaders can demonstrate on their own use cases, the more they will be trusted to deliver on the GenAI priorities of their peers around the organization.

A CALL TO ACTION

In that context, the lack of consensus between technology and business leaders about the true value of their GenAI initiatives identified in this survey is alarming. It is likely to result in conflict and a waste of time, budgets, and opportunities. Addressing this disconnect is the surest way to end up as one of the winners in the competition for GenAI supremacy.

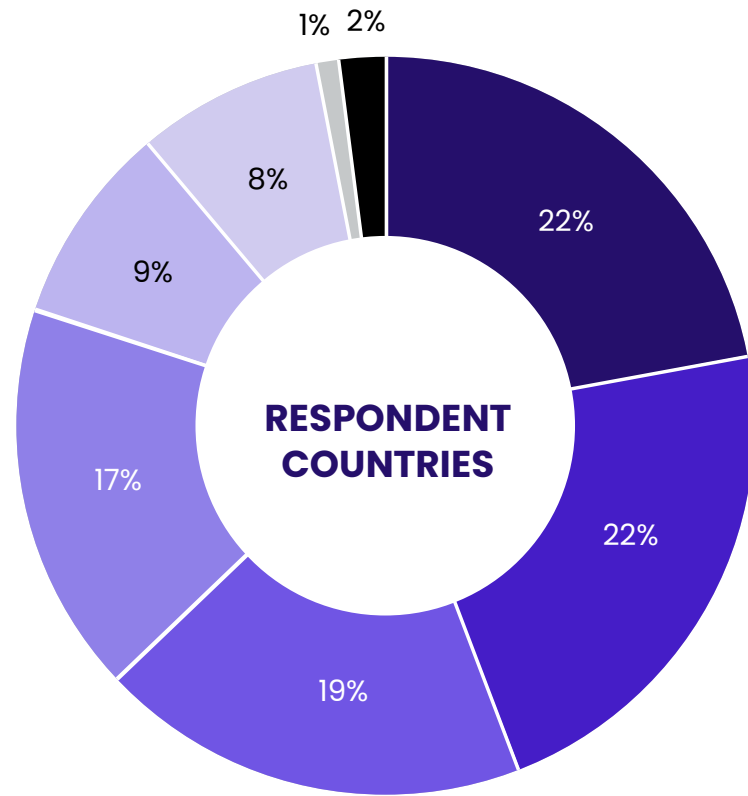
If you have yet to create a fully formed GenAI strategy, then don’t panic – the GenAI revolution has only just begun, and you are in the same boat as everyone else. But, there is no time to waste.

77%
say GenAI is a real game-changer that will deeply disrupt the way we work and do business

ABOUT THE SURVEY

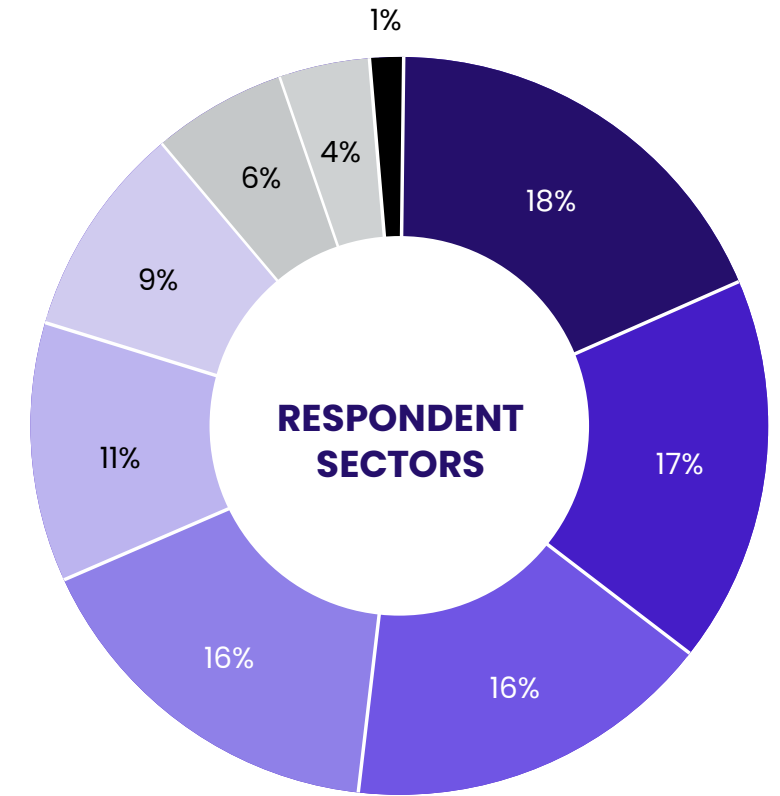
Wavestone surveyed 600 mainly technology (but also cyber, data & AI) leaders based predominantly in the US, the UK, France, Germany, Singapore, and Hong Kong in late 2023.

- Respondent organizations' global annual revenues were:
 - **53%** in the 1.1 billion - 5 billion USD category;
 - **23%** in the 5.1 - 10 billion USD category,
 - **6%** in the 500.1 million - 1 billion USD category and the remaining respondents were spread between 50 million and more than 50 billion USD revenues.
- **39%** of respondents were Board/CXO level positions and **60%** were Senior Management positions. **1%** were in the 'Other' category.



- France
- US
- UK
- Germany
- Hong Kong
- Singapore
- Switzerland
- Other countries*

*Luxembourg, Belgium, Tunisia, Spain, Ireland, Canada Morocco & UAE



- Manufacturing
- Financial Services
- Consumer goods, retail & luxury
- Energy, utilities & renewables
- Transport & distribution services
- Life Sciences
- Government & international institution
- Technology, media & communications
- Other commercial sector

Note: Total less than 100 due to rounding

AUTHORS/GET IN TOUCH

Report Author



Chadi Hantouche

Partner



Chadi would like to thank the following for their contributions:



G r me Billois

Partner



Ghislain de Pierrefeu

Partner



Julien Floch

Senior Manager



Key AI Contacts:



Europe:
Chadi Hantouche

Partner



US:
Cecilia Edwards

Partner



UK:
Shakti Mohapatra

Associate Partner



Asia:
Axel Chagnoleau

Senior Manager



ABOUT WAVESTONE

Wavestone, a leading independent consultancy headquartered in France, and Q_PERIOR, a consulting leader in the Germany-Switzerland-Austria region, joined forces in 2023 to become the most trusted partner for critical transformations.

Drawing on more than 5,500 employees across Europe, North America and Asia, the firm combines seamlessly first-class sector expertise with a 360° transformation portfolio of high-value consulting services.

Wavestone is listed on Euronext Paris and recognized as a Great Place to Work®. www.wavestone.com

HOW CAN WAVESTONE HELP?

In a world where Generative AI is truly becoming a disruptive technology, Wavestone empowers organizations to unlock their full potential. With more than a decade of experience in Artificial Intelligence, we have the skills and track record to lead your AI projects toward success: identifying and validating use cases, design, deploying complex algorithms, and managing change. We also stay on top of the latest AI trends and best practices, thanks to our strong partnerships and investments in the Data & AI ecosystem.

Wavestone firmly believes that the value brought by this technology goes through broad adoption: our multidisciplinary teams combine business, human, and technological expertise to tailor solutions that fit your specific challenges and goals.

Get in touch: chadi.hantouche@wavestone.com

VIEW MORE OF OUR GenAI INSIGHTS:

- **AI Act: Keys to Understanding and Implementing the European Law on Artificial Intelligence**
- **Generative Artificial Intelligence: 2023 Radar of French "GenAI" Startups**
- **Artificial Intelligence and Cybersecurity: Kick-starting key initiatives**
- **Data & AI Executive Leadership Survey 2024 (Wavestone)**