REPORT

Embracing generative AI

A unique moment of workplace optimism

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How workplace optimism can unleash human potential

Businesses everywhere are enticed by generative AI's potential to boost productivity and spark innovation.

Gartner® forecasts that

> "by 2030 every dollar of GDP, created anywhere on the planet, will be influenced by AI", "every person in a developed country will have an interaction with at least one AI instance every single day", and "100% of IT development will incorporate AI in the design, development, testing, or supporting production."[1]

The vision of generative AI woven into every aspect of our professional lives is no longer science fiction - its measurable impact is just over the horizon.

Organizations are acting quickly to seek first-mover advantage, with 92% of implementations taking less than a year. Moreover, recent research[2] from IDC found that for every dollar organizations invest in AI, they are realizing an average 3.5x in returns. From accelerating discovery of new drugs and diagnosing diseases, to automating software development, to opening up new possibilities for scientific collaboration, generative AI, used responsibly and appropriately alongside humans, is set to bring a technological step-change to virtually every industry.

Traditional AI vs. Generative AI

Artificial intelligence has existed in various forms for decades, and has been widely deployed in many industries, for example in banking for fraud protection and in manufacturing for quality control.

Generative AI is relatively new, takes a different technological approach, and is being deployed in new use cases.

Traditional AI models rely on rule-based systems, are often designed for specific, narrow tasks, and have limited adaptability. They are used to analyze data and make predictions, but can struggle with complex situations and are unable to learn over time without additional programming. The financial model is clear and well understood.

Generative AI models are based on deep-learning and neural networks. They learn patterns and generate new content such as text, images, and computer code. They are adaptable and can handle a wide range of tasks but require vast amounts of computing power to train and operate.

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Against this backdrop of industry excitement about generative AI's potential as a new catalyst for every business, Virtusa surveyed workplace attitudes towards generative AI in the U.S. (see end notes for details on methodology). The findings suggest that the window to successfully orchestrate generative AI for the enterprise is right now.

> Often, the reason an IT project fails, particularly one involving a new application or business process, is due to resistance or lack of buy-in from those it aims to serve.

Our data shows that with generative AI that likely won't be the case because these projects are not likely to face the workforce opposition as recent media hype suggests. We found both employees and business leaders are generally positive and optimistic about its potential impact on the workplace.

This is unique when it comes to new workplace technology. Prior technologies have often been viewed with skepticism or indifference by those who may not fully understand how they work or how they will help them. For example, video conferencing was an expensive and cumbersome solution for decades until web communication protocols superseded proprietary protocols. It took the pandemic for it to become widespread and embedded into corporate culture. Today, generative AI has captured the popular imagination of both leaders and workers as well as across generations. Such consensus gives organizations a green light to develop new AI-based functionalities, and not just on a project or enterprise scale. It also gives the go-ahead to entire industries to improve efficiency, free up workers' time for more meaningful tasks, and even create new products, services, and revenue streams.

Although a wait-and-see attitude is understandable, given the potential risks of widespread implementation, the risk of doing nothing is far greater. These may include ceding advantage to competitors, falling behind technologically, and being seen by employees and customers as laggards and thus losing talent or business.

The need to go fast, but smart

Importantly, our survey findings also point to the urgent need for companies to address the unique challenges of generative AI. Those that don't create a thoughtful generative AI strategy may encounter serious risks. These include irresponsible usage by employees (e.g., giving away company secrets), providing erroneous data (e.g., leading to disastrous decisions), and bias (e.g., illegal hiring practices).

Many current use cases of generative AI focus on sifting through vast amounts of information and then generating content from it. This includes things like powering better chatbots, creating customized marketing or sales content, and quickly generating summaries of documents or collections at speed and scale that even 12 months ago was considered impossible. Software developers are also increasingly using it as a sort of smart auto-complete to help them instantly write code.

While a number of these examples drive jaw-dropping cost efficiencies; they are about doing tasks much faster than existing tools or human-only approaches. A **recent paper** on generative AI in the legal industry found that it cost $74 on average for a junior lawyer to review a contract while the fastest AI cost just two cents, representing savings of more than 99.97%.[3]

This year we expect that companies will become bolder and more experimental with generative AI. We see them growing more comfortable with these new tools, moving beyond simple task efficiency.

Organizations will leap beyond chatbots and marketing emails to use cases involving new products and revenue streams. Some promising areas include generating complex, sophisticated computer code at scale, creating new forms of multimedia and interactive entertainment, driving scientific breakthroughs, analyzing clinical trials for pharmaceuticals, and performing customer sentiment analysis.

This report will explore how workplace optimism over generative AI provides a unique moment for organizations to act. We'll delve into differences among certain groups in their attitudes toward generative AI, and what companies can do to close the gaps while highlighting the need to understand your workforce and address potential risks. We'll end with takeaways for forming a generative AI strategy for your organization.

How different industries are using generative AI

Generative AI is a universal content engine with virtually unlimited applications. It can facilitate hyper-personalized customer experiences, enable the democratization of insights and expertise, and allow for greater scale and automation where organizations were once limited by a lack of process standardization. Here is a sample of how generative AI is already being deployed across industries.

Financial services and banking	**Life sciences**
Hyper-personalized sales and marketing	Clinical trials management
Technology, media, and telecoms	**Retail**
Generative content for video games	Customer service center management
Healthcare	
Claims denial appeals	

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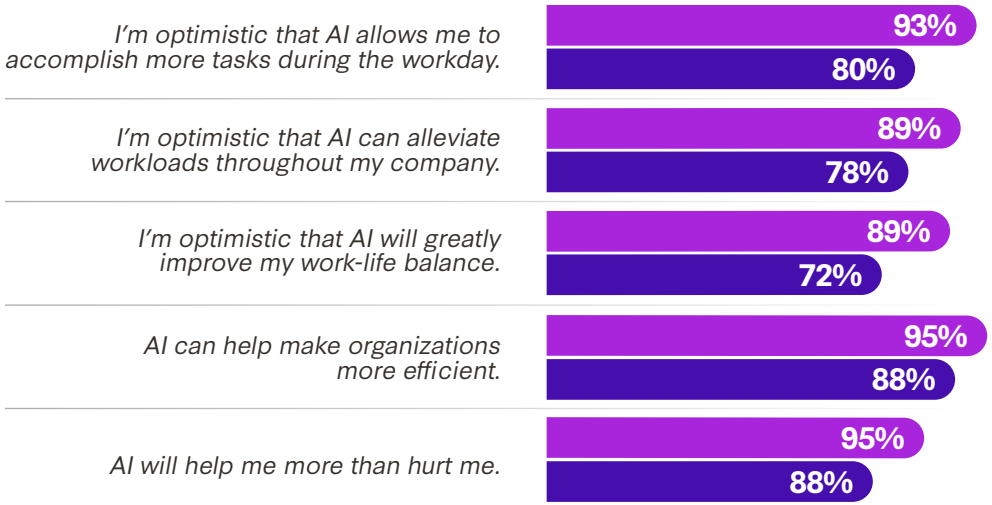
A consensus of optimism must spur action

Much of the current media coverage on generative AI focuses on the debate between so-called Doomers and Boomers. AI Doomers worry about the potential negative consequences of the technology such as mass unemployment, a flood of disinformation, and even the potential existential threat of an AI that surpasses human intelligence. AI Boomers, on the other hand, emphasize how generative AI can solve complex problems, create scientific and medical breakthroughs, and ignite an economic boom. Across generations and organizational levels, people now have one of the most thrilling yet potentially risky tools to learn and master. So how is this debate playing out in the workplace?

Our survey found that there is more universal optimism and support for generative AI in the workplace than in the broader public debate. Large majorities of respondents expect generative AI to make their organizations more efficient, competitive, and thus accelerate growth. Roughly 90% of office workers and business leaders believe AI can make their organization more efficient. Some 80% of workers and 93% of leaders are optimistic that AI will enable them to accomplish more tasks at work. Both groups express high levels of comfort with using AI for analytic, mundane, and administrative tasks. This sets the stage for a win-win scenario where human beings and machines work alongside each other to drive efficiency, innovation, and business results.

Large majorities of business leaders and office workers are optimistic about generative AI

Perceptions about AI (**business leaders** | **office workers**)



Generative AI is already saving substantial time for many workers. Three-quarters of office workers say it saves them an hour or more in a typical day, mostly in content creation, data analysis and reporting, and research and information gathering. That's five hours a week or 250 hours a year -- time workers can now spend on high-value tasks such as connecting with customers, learning a new skill, or preparing for their next role in the organization.

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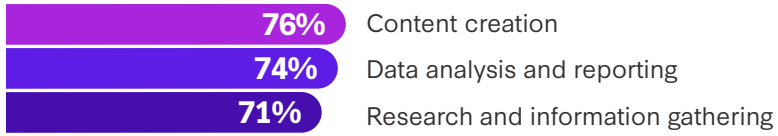
Generative AI is already delivering significant time savings

3 out of 4 office workers say generative AI saves them an hour or more per day.

Top three tasks where AI helped save an hour or more



Office workers and business leaders also see deeper creative and business possibilities for generative AI. Generative AI models are incredibly adaptable. They can digest images, huge amounts of text, social media content, audio and video, program code, and structured data. They can then generate all-new content like summaries, stories, and articles; translate languages; perform sentiment analysis, and even create realistic photos and videos.

They are universal content machines with virtually unlimited potential applications. Three-quarters of workers and 88% of leaders see great potential for these tools to help with such creative tasks. Business leaders expect generative AI to become extensively integrated in business operations, enhance products and services and identify new customers and channels. More than 9 out of 10 leaders believe AI will increase revenue and nearly as many say AI will give them an edge over competitors.

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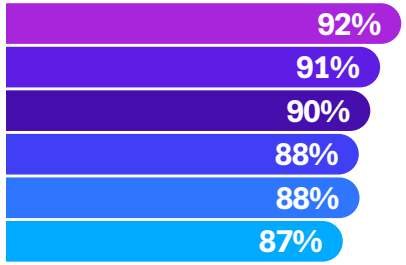
Business leaders believe AI will have a powerful impact on their operations

% of business leaders somewhat/strongly agree that AI will:



- Lead to revenue growth
- Identify new customer bases
- Identify new markets
- Lead to cost savings
- Influence branding and marketing
- Influence new products and services

Despite concerns that generative AI could eliminate many white-collar jobs long assumed to be immune from automation, few office employees say they are worried about being replaced.

Worry that AI will take their jobs

32% Office workers

30% Business leaders

Believe AI will help them more than hurt them

72% Office workers

81% Business leaders

Crucially, generative AI is no longer a theoretical development on the horizon. As people play at home with tools like DALL-E or Midjourney to create images, or ChatGPT for text, it opens their eyes to the potential impact on the workplace. When it comes to the workplace, the generative AI train has already left the station. Indeed, four out of five office workers and 92% of business leaders say it has already impacted their organization or day-to-day work. Companies can take advantage of positive sentiment towards AI and use this momentum to further implementation goals for new AI programs or training.

83% of business leaders say using AI in their personal life makes them more optimistic of its impact on their business

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Addressing the gaps

Optimism is unevenly distributed

While the optimism toward generative AI is broad-based, digging into the data reveals important gaps. Differences between certain demographics point to new areas of concern and must be thoughtfully addressed in any generative AI strategy. For instance, while being broadly optimistic about generative AI, business leaders are two times more likely to be extremely familiar with it than office workers. That points to the need for training.

Business leaders are 2x more likely to be extremely familiar with AI in the workplace

% who say they are "extremely familiar" with AI in their professional role

70% Business leaders **35%** Office workers

Business leaders are also more likely to see generative AI as critical to organizational and professional growth and believe it will have a major impact on their daily work, organization, and industry. Business leaders are also more likely to see AI as critical for job retention, with 71% saying so versus 54% of office workers. The importance of generative AI skills must be evangelized and promoted so that employees are prepared for an AI-assisted future.

% of business leaders vs. office workers who perceive a major role for AI on...

Their industry:
56% vs. **40%**

Their organization:
51% vs. **34%**

Their daily work:
47% vs. **30%**

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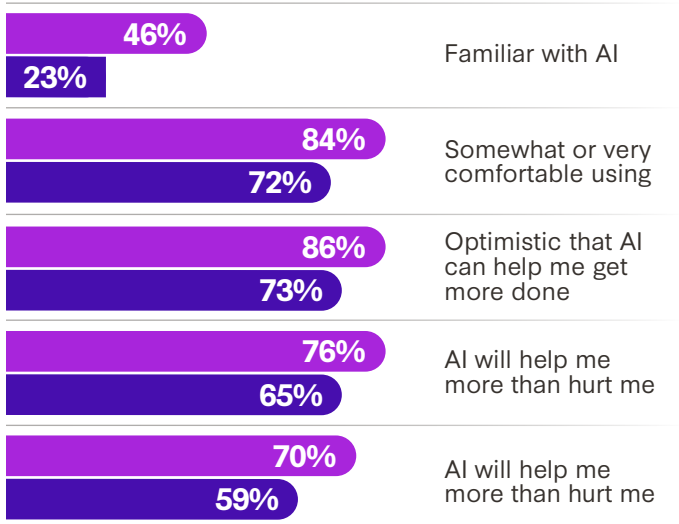
Perhaps unsurprisingly, younger workers who grew up as digital natives are embracing this new technology more quickly than older workers. Gen Z and Millennials are more familiar with generative AI, more comfortable using it, and more optimistic than Gen X and older generations.

Younger generations are twice as familiar with AI and more comfortable using it

Gen Z and Millennials | **Gen X and Boomers**



As with previous technologies from computers to the internet to social media, younger generations also show more enthusiasm and trust toward AI. They are more likely to enroll in training and see AI as critical for professional growth. Most strikingly, younger generations are far more likely than older workers to trust AI to make decisions for them. This finding highlights the importance of considering generational differences when implementing generative AI in the workplace. Organizations may need to tailor their approach to accommodate varying attitudes across different groups.

Younger workers show more enthusiasm towards AI

% of **Gen Z/Mil** vs. **Gen X/Boomer** who somewhat or strongly agreeing that AI can help...

Accomplish more during the	**86%** vs. **73%**
Provide better customer service	**81%** vs. **66%**
Make decisions for me	**63%** vs. **37%**
Alleviate workloads in my org	**84%** vs. **71%**
Improve my work-life balance	**80%** vs. **63%**

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Differences also emerged between the genders, with male office workers aligning more closely with business leaders than female office workers in terms of familiarity and comfort with generative AI. Notably, male workers are 25 percentage points more likely to say they are extremely familiar with AI than female workers.

Key differences between men and women in attitudes towards generative AI

48%
23%

48% of male workers say they are extremely familiar with AI, versus just **23% of female workers**

85%
71%

85% of men are somewhat or very comfortable with generative AI compared with **71% of women**

81%
62%

Male workers are **19** percentage points more likely than female workers to think AI will help them instead of hurt them (**81%** vs **62%**)

7 out of 10 men (70%) say they already use AI to its full potential in their daily work, compared to less than half of women (46%)

Men are also more enthusiastic than women about AI's role at work and are more likely to see it as critical for professional growth.

% agreeing that AI will help in the following areas

(**male** vs. **female workers**)

86%
75%
Allow me to accomplish more tasks

84%
72%
Alleviate workloads in my org

83%
69%
Is a competitive advantage

82%
67%
Can provide better customer service

80%
65%
Will greatly improve work-life balance

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This aligns with other preliminary research showing that gender differences can significantly affect views towards AI in general. **The Pew Research Center** found that women are more skeptical about some uses of AI, such as driverless cars. In general, they are also less likely than men to say that technology has a mostly positive effect on society, citing concerns about safety and inclusion. Another **study** conducted by a behavioral neuroscience lab in Norway[4] found significant differences between men and women in optimism towards AI, namely that men perceive AI as more useful and more favorably than women. These differences may stem from concerns about safety, such as deepfakes, and the bias of AI models that may cause them to reflect gender stereotypes found in their training data.

> Understanding that generative AI is going to influence or be adopted by your entire workforce (young and old, multi-gender, and multi-cultural) is critical to an organization's AI strategy.

Bridging generational and gender gaps requires a two-pronged approach working from both top-down and the ground up. Generative AI stands apart from other forms of AI in its ability to resemble human cognition. This results in some understandably cautious attitudes towards this technology, especially from a workforce that is already or will soon be using it to accomplish day-to-day tasks. Organizations need to design their implementation strategies and change-management processes to address these differences.

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Engineering a generative AI strategy

Three keys to success

The general workplace optimism about generative AI points to a unique window for advancing initiatives at enterprise and even industry scale. Traditionally, IT implementations stumble for two main reasons. First, there is not always a solid and shared understanding across the organization of what the technology is going to do for the business. A pet project might start in one department that is trying to solve its own particular challenge, but have little relevance to others. Second, a lack of planning around how to get employees to embrace change can lead to a bumpy rollout, lackluster adoption, and even outright revolt.

These are shaping up to be lesser concerns with generative AI. From the C-suite on down, businesses are energized by generative AI and its potential. Leaders and employees are playing with the technology, determining the best use cases, and examining the ROI. No doubt, there is a long list of use cases that business groups have now collected and now want to fund. These must now be approached bearing in mind the total cost of building and operating a generative AI-based solution. This means capturing inputs and forecasting one-time and ongoing costs based on volume while also keeping the people aspect front of mind.

different set of reasons: security and safety tied to irresponsible use, hallucinations, lack of trust or explainability caused by poor data integrity or hygiene, and more. To realize the potential of generative AI while navigating its pitfalls, businesses must focus on three main areas: **employee training, organizational challenges,** and **governance.**

1 Employee training

Our survey data suggests that employees are way ahead of their companies in using generative AI. This is good. Most workers are familiar with generative AI, know how to use it, and are eager to embrace it in the workplace. However, without proper training, policies, and guardrails, their use of these tools could expose their companies to significant risk. Queries are often fed back into the models to refine their training. That can expose sensitive company information to such training data. For example, some health insurers are facing class action suits accusing them of using traditional AI to wrongfully deny claims. In another instance, two New York lawyers were sanctioned after a generative AI tool they used to create a legal brief made up, or hallucinated, citations to non-existent cases. These and other cases underscore that companies must get ahead of employees on responsible use of generative AI within the business.

Companies must bring *all* employees along on the generative AI journey. As we've seen, some employees still lag leaders or their peers in familiarity and enthusiasm. Everyone should feel empowered to use these groundbreaking tools, but they won't if they don't feel safe. This means acknowledging and addressing the very real concerns by certain segments of employees such as women, older workers, and marginalized groups. They must be assured that whatever generative AI model an organization adopts is free from bias or offensive results, and mechanisms are in place to quickly address any issues.

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2 Organizational barriers

The survey data bears out what we are seeing among our customers, namely, that key stakeholders across organizations are all-in on generative AI. However, top-level alignment is a necessary, but not a sufficient element of a successful AI implementation. Perhaps even more important is integrating siloed data, processes, and systems that are common in any organization. Thus, a thoughtful data strategy emerges as a foundational part of any AI strategy.

Leaders must also be prepared for unexpected costs. Traditional AI has a fairly straightforward path to good ROI. But with generative AI, someone else has likely spent billions of dollars to train their model. While individuals have been able to explore these capabilities for free or a modest monthly subscription, at enterprise scale it can quickly run up a large tab. Training the large language models (LLMs) that power generative AI services is prohibitively expensive for all but those with the deepest pockets. And token-based models, in which an organization buys a certain number of compute tokens that are spent as it uses the service, raise the challenges of allocating this currency fairly across teams, forecasting usage, and maintaining flexibility based on usage patterns and business needs.

To be clear, no one is ruling out generative AI because of cost; they are finding ways to make it work. That might include turning to open-source models or shopping around for a lower-cost cloud-compute service. Hardware advances, software innovation, and new revenue streams for LLMs will also drive costs down over time. It is likely that most large LLM providers will reach cost parity, the market will see some level of commoditization, and generative AI development and operations costs will similarly recede.

3 Governance

Generative AI poses unique questions in corporate governance, spanning privacy and regulatory compliance, security, bias, and cultural and ethical risks. These are particularly acute in highly regulated industries like financial services and banking and healthcare that manage vast amounts of sensitive personal data. If not considered at the outset, these factors can slow adoption as organizations stumble across them in the course of implementation. Embracing the concept of responsible AI must be a top priority.

A whole body of control and assurance techniques for traditional AI have been built up over a period of decades. These aren't enough for generative AI, where the inner workings of the model are opaque even to its designers, and where the outputs can differ minute to minute. New evaluation frameworks are needed for LLMs that ensure the tools' responses are accurate and explainable, while also checking for toxicity, privacy, and security. To reduce address these risks, organizations must protect the privacy and security of the data that trains the models. This may involve:

Key ways for organizations to reduce risk around generative AI

- Ensuring data access policies are in place across an organization
- Limiting analysis only to appropriate data
- Building constraints for data usage and analysis

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A generative AI strategy starts with an engineering mindset

We are at a unique moment where workplace optimism towards generative AI gives organizations a green light to implement these solutions. Across generations, levels, and genders, workers and leaders are already using generative AI and are enthusiastic about its potential to help them get more done and unlock innovation. Yet this optimism shouldn't obscure higher skepticism and discomfort among certain worker groups that underscore some of the risks associated with this powerful new technology. Any generative AI strategy must be based on best practices in employee training, organizational barriers, and governance best practices.

Successfully navigating all these factors will not be easy. It requires addressing a complex mix of technical, organizational, and behavioral challenges at the same rapid pace at which the technology itself evolves.

> To achieve the promise of generative AI that has both leaders and employees so optimistic, organizations must define the user experience, business outcomes, and how its value will be measured.

This is best served by embracing an engineering mindset that sees the dynamic clearly from all angles and ensures proper execution against outcomes that are clearly defined from the outset. It involves deep domain expertise that understands not only the particular challenges of an industry but also each company's unique business needs. It requires extensive data science know-how to achieve outputs that are useful, accurate, reliable, and responsible. It involves thinking about what's next, moving beyond efficiency gains and time savings to create richer, more valuable services that confer a competitive advantage and unlock new revenue streams.

The age of generative AI isn't about nudging humans aside, it's about amplifying human potential. The journey from testing to implementation of these powerful new tools should underscore this synergy of people and machines. For organizations to thrive, leaders should clearly communicate this vision to workers and form a clear plan that bridges the gap between code and community. The future belongs to those who wield generative AI as a force for good. Now is the time for all stakeholders to shape that future together.

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Enterprise-wide generative AI training

Virtusa partnered with Emeritus to launch the Kellogg Executive Education program through Northwestern University to train executives and senior leaders across the company in generative AI. The training enabled top-down ideation, which has significantly enriched client conversations. We also launched a bottom-up generative AI hackathon and innovation program with our engineers under the Virtusa Icon program.

References and methodology

1. Gartner Webinar, IT Spend Forecast 4Q23: What to Expect in 2024 and Beyond, John Lovelock, February 8, 2024. https://www.gartner.com/en/webinar/559438/1265432.

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2. IDC Infographic, sponsored by Microsoft, The Business Opportunity of AI, doc #US51315823, November 2023.

3. Lauren Martin, Nick Whitehouse, Stephanie Yiu, Lizzie Catterson, and Rivindu Perera, "Better Call GPT, Comparing Large Language Models Against Lawyers," Onit Inc. AI Center of Excellence, January 2024.

4. Simone Grassini and Alexander Saevild Ree, "Hope or Doom AI-ttitude? Examining the Impact of Gender, Age, and Cultural Differences on the Envisioned Future Impact of Artificial Intelligence on Humankind", September 2023.

5. A 15-minute online quantitative survey with 1,100 individuals was conducted between August 25 to September 15, 2023, in the United States. The survey targeted two audiences: Office workers and business leaders. Office workers (n=1,000) are defined as: mid-level and above employees and business leaders (n=100) are defined as: VP+ executives. The survey of office workers included a boost to ensure coverage (n=200 each) of four key industries: Healthcare & Life Sciences, Insurance, Financial Services, and Telecoms & Media.

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