



 DigitalOcean

CURRENTS

DigitalOcean's comprehensive overview
of 2023 startup and SMB trends

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In this latest installment of **Currents**, our recurring research report, we delve into the present state of startups in an uncertain economic landscape. Focusing on key players in the tech ecosystem — founders, executives, and employees — we explored how they're navigating issues like fundraising, hiring, and future-proofing their businesses.

With the world of work in flux, we gauged sentiment toward remote work and return to office policies. As the artificial intelligence boom continues, we also examined how businesses are adopting AI technologies, from conversational agents like ChatGPT to complex machine learning models, and the challenges they face in doing so. Naturally, we also touch upon critical areas like cloud computing and cybersecurity.

To capture a well-rounded view, we surveyed a diverse group that includes respondents from domains such as developer tools, tech infrastructure, fintech, blockchain, gaming, and entertainment. The survey has a global reach, featuring respondents from around the world — from Belarus to Brazil.

The findings are based on 665 completed surveys, with 58% of respondents identifying as full-time employees, 19% as self-employed or entrepreneurs, and 15% as company owners or founders.

Let's get to the details.



Key findings

Economic downturn affects small businesses but optimism persists:

2023 has been characterized by rising inflation, elevated interest rates, and widespread layoffs in the tech sector, posing challenges for both businesses and consumers. We found that 42% of respondents indicate that the current economic situation has negatively impacted their business. However, many businesses remain optimistic—asked about the outlook for their business in the next year, 37% had a somewhat positive stance, while 15% had a very positive posture.

Widespread adoption of artificial intelligence (AI) and machine learning (ML):

Despite economic challenges, most companies remain committed to investing in emerging technologies like AI/ML to improve operations, though ethical concerns and implementation costs are top barriers. Software development tools and data analytics are seen as the most promising AI applications across industries, though the current hype cycle has left many uncertain about tangible benefits. The survey uncovered that 43% of respondents are currently using AI/ML tools for both personal and business use. Meanwhile, 78% of those surveyed believe that their use of AI/ML will increase compared to last year.

Remote and hybrid work structures dominate the tech landscape:

The post-COVID work landscape is diverse, featuring a mix of remote, hybrid, and in-office arrangements as companies adapt to new operational and employee preferences. Answering the survey, 47% of respondents reported that their companies are hybrid remote, while 40% reported being fully remote. A minority, 13% reported that their company is fully in-office. However, 19% of respondents reported that their companies had instituted a return-to-office policy.

Multi-cloud strategies are rising in tandem with cybersecurity investments:

Multi-cloud strategies and cybersecurity investments are becoming increasingly central as organizations strive for both scalability and security. In 2023, 35% of organizations are employing multi-cloud approaches, underscoring the diversification in cloud infrastructure. Concurrently, 37% of businesses plan to increase their cybersecurity spending, indicating a heightened focus on security in tandem with cloud expansion.

For the complete findings, continue reading this edition of Currents.



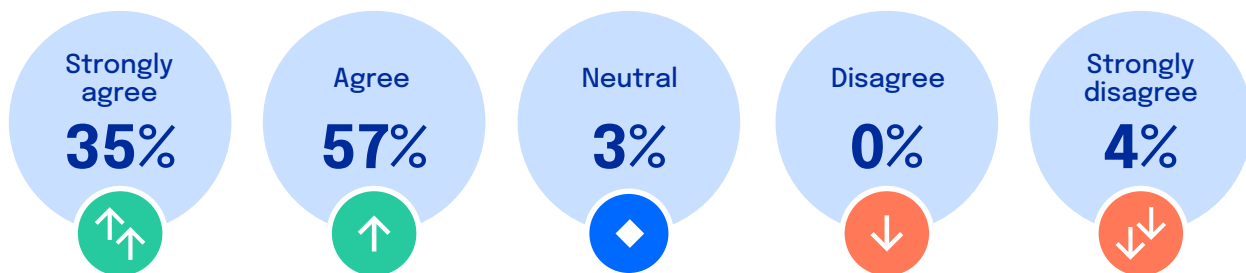
Economic impact on business operations and performance

While a significant portion have weathered the economic storm unscathed or even benefited, the largest share of businesses report taking a hit from broader economic troubles. The high percentage of companies feeling negative effects suggests the wider trends of inflation, rising interest rates, and recession fears are creating strong headwinds for many organizations.

We asked respondents how the current economic situation has impacted their business operations and performance. Forty-two percent said the economic climate has had a negative impact on their business, while 38% indicated they have experienced no impact from the downturn. Additionally, 9% noted a positive impact on their business from the economy.

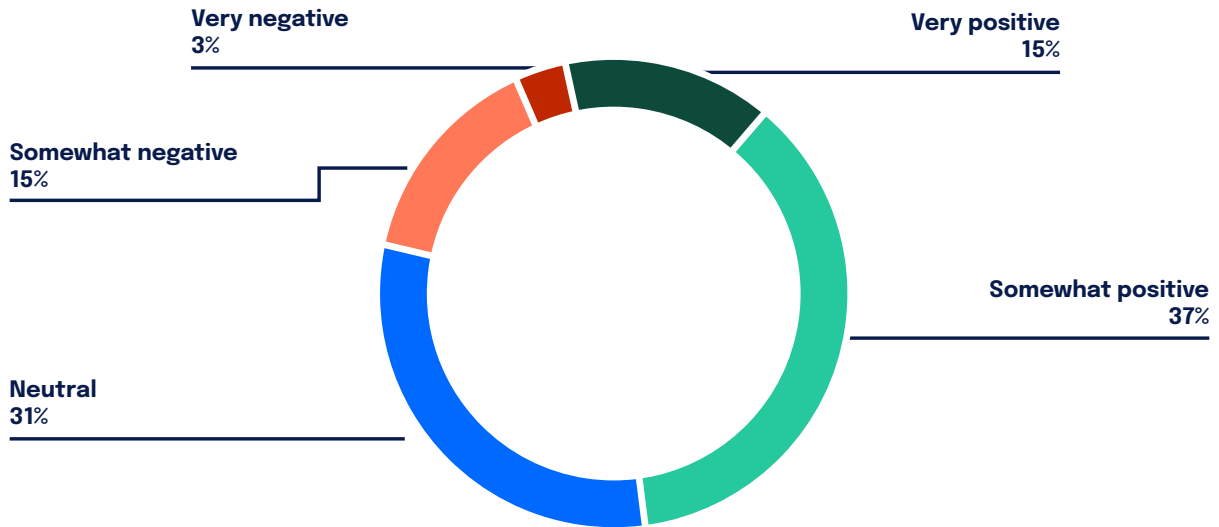
When asked to rate their level of agreement with the statement “the current economic situation has negatively impacted my business,” 92% agreed or strongly agreed and just 4% disagreed or strongly disagreed that the current economic situation has negatively impacted their business.

**Rate your level of agreement with this statement:
“The current economic situation has negatively impacted my business.”**



When we asked about the outlook for their business over the next 12 months, sentiments were mixed but leaned positive overall. The largest share (37%) hold a somewhat positive outlook, while 31% remain neutral on the prospects for their business. Fifteen percent describe themselves as very positive on their one-year ahead business outlook. However, 15% also hold a somewhat negative outlook, and 3% are very negative on the future business landscape.

How do you feel about the outlook for your business in the next 1 year?



The data highlights a complex economic environment, with businesses experiencing a mix of negative, neutral, and positive impacts. Despite these challenges, the prevailing sentiment leans toward cautious optimism for the year ahead.



Capital raising and talent acquisition amid challenging macroeconomic trends

In a climate of challenging macroeconomic trends, businesses are neither retreating nor standing still; they are holding the line with resilient intent. While economic uncertainties loom, companies remain undeterred in advancing their fundraising and hiring agendas. This tenacity reflects a broader industry sentiment: adaptability and strategic realignment are not just options, but necessities for navigating the turbulent economic waters.

While views on industry resilience vary, a majority of respondents lean toward a positive assessment of their ability to withstand current economic challenges. When asked about their industry's resilience against the current economy, 17% of respondents considered it very resilient, 39% somewhat resilient, 22% were neutral, 17% viewed it as somewhat vulnerable, and 5% felt it was very vulnerable.

Startups in search of investors have shown a willingness to pivot their strategies to enhance their appeal and secure funding. Over the past 12 months, 13% of respondents adjusted their business strategy to showcase technology adoption and market fit, 22% highlighted innovative product development, and 15% emphasized sustainable practices to appeal to investors. Meanwhile, 19% made no changes and stuck to their existing strategy, and 1% opted for other strategies. Forty-one percent of respondents said that attracting investors didn't apply to them.

While fundraising can be a key lever for business growth, the past six months have shown varied results among respondents. In the last six months, 15% of respondents have raised funds for their business, while 85% have not. This gap suggests that many companies may be bootstrapped or have opted for alternative financing models, although various external factors, including macroeconomic challenges, could also be at play.

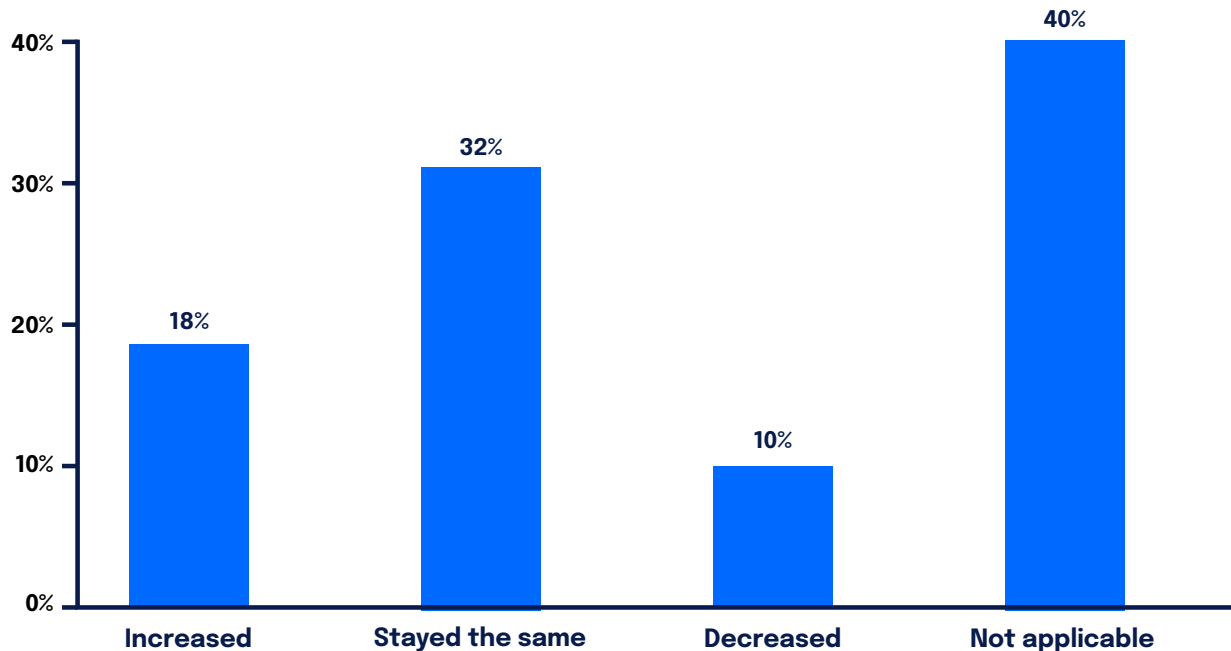


85% say they have not raised funds for their business in the last six months, while 15% have raised money.



Amid challenging economic conditions, businesses are making calculated choices about their fundraising strategies. In the context of the current economy, 18% of respondents have increased their fundraising efforts, 32% have maintained the same level, 10% have decreased efforts.

In light of the current economy, have your fundraising efforts increased, stayed the same or decreased?



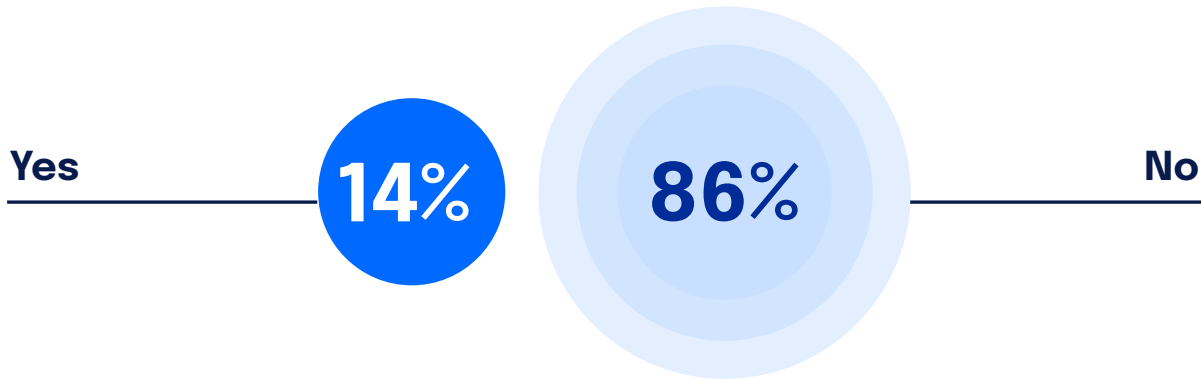
Regarding future fundraising, 28% of respondents have no plans to raise money in the next six months, 27% are probably not planning to, 19% are probably planning to, and 11% definitely are; 14% are unsure. Additionally, 22% have delayed fundraising activities due to economic uncertainties, while 78% have not.



78% have not delayed raising funds due to the uncertain economic situation, compared to 22% who have pursued funding.

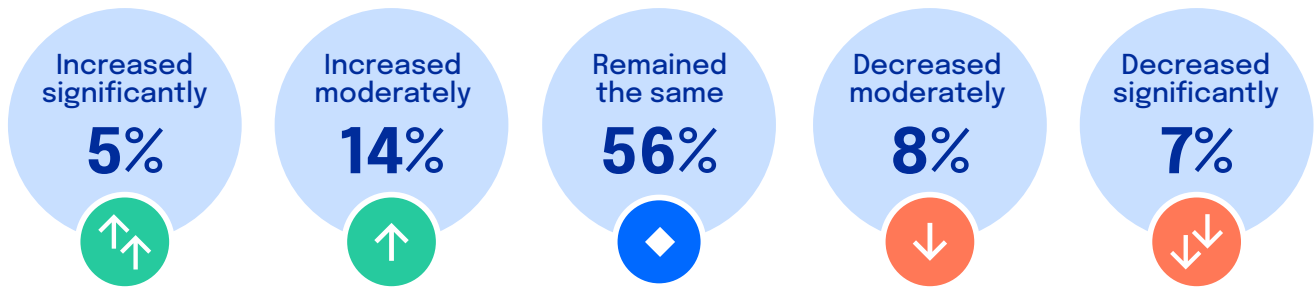
Layoffs have emerged as one response to financial pressures, but not all companies are embracing this approach. In response to the current financial climate, 14% of organizations have conducted layoffs, while 86% have not.

Has your organization conducted layoffs due to the current financial climate?



While most companies aren't resorting to layoffs, it's worth noting that they aren't aggressively expanding their workforce either. Over the past year, 5% of respondents saw a significant increase in hiring efforts, 14% experienced a moderate increase, 56% maintained the same level, 8% had a moderate decrease, and 7% noted a significant decrease.

How would you describe your company's hiring efforts over the last year, in terms of the number of roles you are hiring for?



These findings reflect a cautious approach to growth amid an unpredictable economic landscape. Businesses appear to be in a holding pattern, balancing the need for funding and talent against the risks and uncertainties of the broader market.



The rise of AI and ML in the workplace

The rapid advancements in artificial intelligence and machine learning are fueling a technological gold rush, transforming automation, predictive analytics, and data-driven decision-making. These technologies are not just streamlining operations but also serving as catalysts for innovation across various industries. As companies navigate the challenges of implementation, they unlock opportunities for growth and competitive advantage.

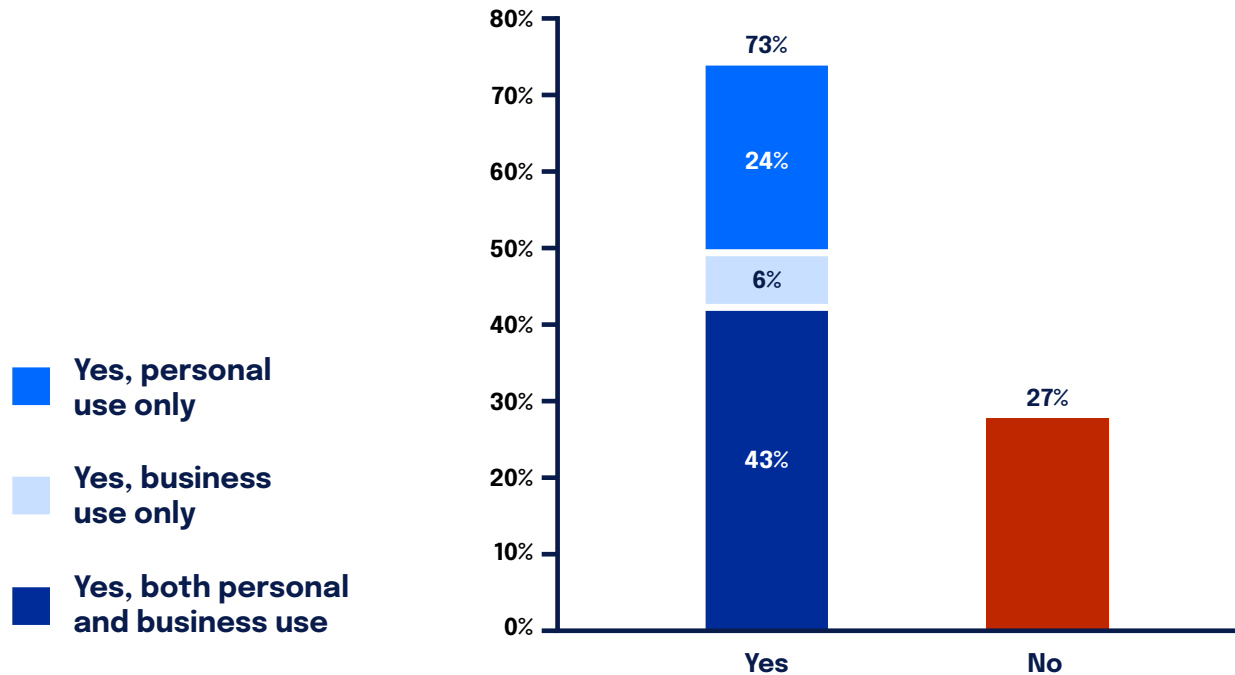
Regarding the rise of artificial intelligence and machine learning tools, 45% of respondents believe these technologies make their job easier, while 43% feel they are over-hyped. Interestingly, 31% don't perceive them as a threat to their job, though 8% do. A notable 27% feel that these tools enable a focus on more critical tasks, while 19% stress the need for additional safeguards before trusting them. Another 19% find no difference in their daily work due to these tools. Some 10% remain undecided, 8% state these tools introduce organizational confusion, 3% believe they complicate their job, and 2% admit unfamiliarity with AI/ML tools altogether.

How would you describe your feelings on the rise of artificial intelligence (AI) / machine learning (ML) tools? Please select all that apply.



Interestingly, 24% of participants reported using these tools exclusively for personal activities. On the other hand, a modest 6% utilize them solely for business operations. Notably, a significant 43% have incorporated AI/ML tools into both their personal and professional tasks. Some 27% have refrained from using AI/ML tools altogether.

Are you currently utilizing AI/ML tools for personal and/or business use?



As part of their push for innovation and experimentation, companies are ramping up their use of AI and machine learning. A total of 78% of respondents anticipate an increase in their use of AI/ML this year compared to the previous year, while only 3% expect a decrease, and 19% foresee no change in their usage.



78% say they expect their use of AI/ML to increase this year, compared to last year.

Answering the survey, 56% of respondents indicated that their company is currently exploring or utilizing AI/ML tools for business use cases, while 27% said they are not. Meanwhile, 16% are uncertain about their company's engagement with AI/ML tools.



Although AI tools are commonly used, the adoption of formal internal policies governing their use has been more gradual. While 27% of companies have established a policy on the use of ChatGPT and generative AI, a significant 63% have not, and 10% remain uncertain. This gap suggests that more companies could benefit from setting up guidelines to manage the ethical and practical sides of AI, helping them use it both responsibly and effectively.

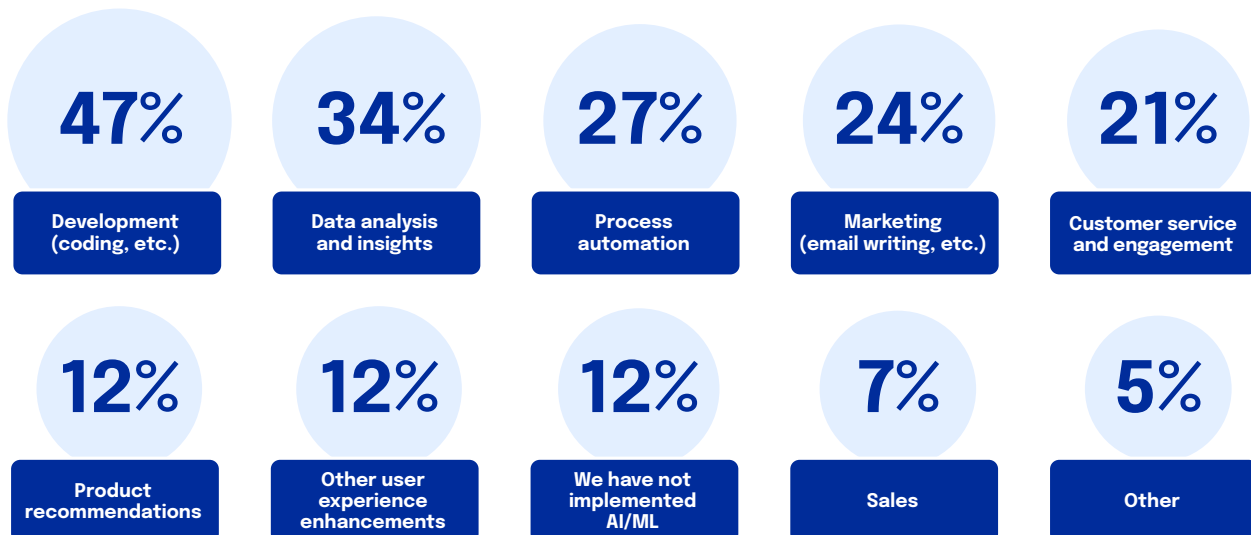


63% say their company does not have a ChatGPT/ generative AI usage policy in place, 27% do have such a policy, and 10% are not sure.

The respondents we asked see different ways AI could significantly impact the performance of their businesses. Data analytics for improved decision-making is considered impactful by 45% of respondents, followed closely by software development tools at 49%. Enhanced customer service via AI-driven chatbots is believed to have a significant effect by 33% of participants. Meanwhile, 40% foresee process automation leading to enhanced efficiency, while 22% anticipate personalized marketing and customer experiences making a difference. AI-driven forecasting for supply chain optimization is highlighted by 13%, and 17% are uncertain about AI's potential impact on their business.

While business leaders identify multiple AI applications as potentially impactful, the tools they actually use may paint a slightly different picture. Businesses have implemented AI/ML in various areas, with 47% using it in software development and coding. Data analysis and insights come next with 34%, followed by process automation at 27%. Marketing, particularly in email writing, stands at 24%, while customer service and engagement have seen a 21% implementation rate. Other areas include product recommendations, other user experience enhancements, and sales at 12%, 12%, and 7% respectively. Interestingly, 12% of businesses reported not having implemented AI/ML at all.

**In which areas of your business have you implemented AI/ML?
Please select all that apply.**

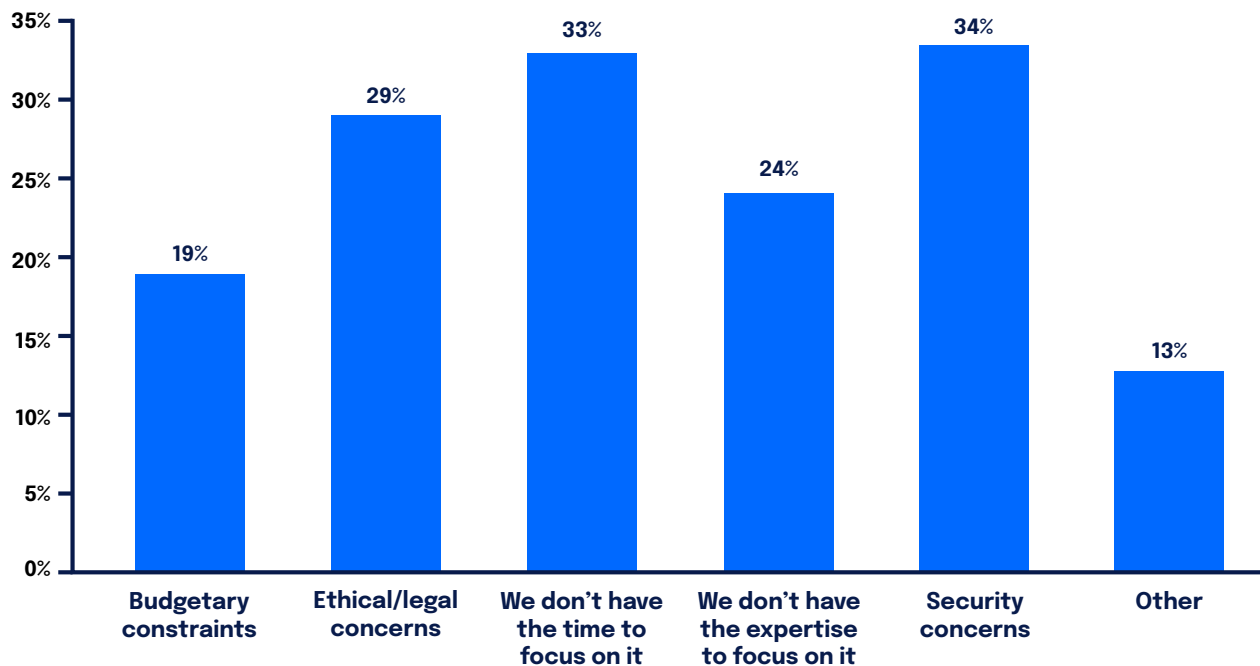


Companies are also exploring diverse applications of large language model-based chatbot programs, such as ChatGPT and Bard. A notable 31% are considering their potential without current implementation. Of those using them, 21% leverage chatbots for content creation and marketing. Enhancing customer support through AI-powered chatbots is cited by 11%, while automating routine tasks with chatbots stands at 13%. Personalizing user experiences with intelligent chatbots is mentioned by 5%. Additionally, 4% use chatbots for market research and data analysis, and 6% explore them as tools for customer engagement and education.

Companies are also actively exploring various AI/ML applications beyond large language models. Object detection and recommender systems both draw interest from 34% of respondents. Speech recognition, converting speech to text, is being explored by 33%. Time-series forecasting and text-to-audio applications are being investigated by 22% and 23% respectively, while 26% are delving into text-to-image technologies. Additionally, 10% are venturing into other unspecified AI/ML areas.

However, several factors have hindered organizations from adopting AI/ML tools more extensively. Budgetary constraints stand as a notable barrier for 19% of organizations. Ethical and legal concerns have deterred 29%, while a significant 33% feel they don't have adequate time to focus on AI. A lack of expertise in the domain has been a challenge for 24% of respondents. Security concerns are the top impediment for 34% of organizations. Additionally, 13% of organizations have other unspecified reasons for their limited adoption of AI/ML tools.

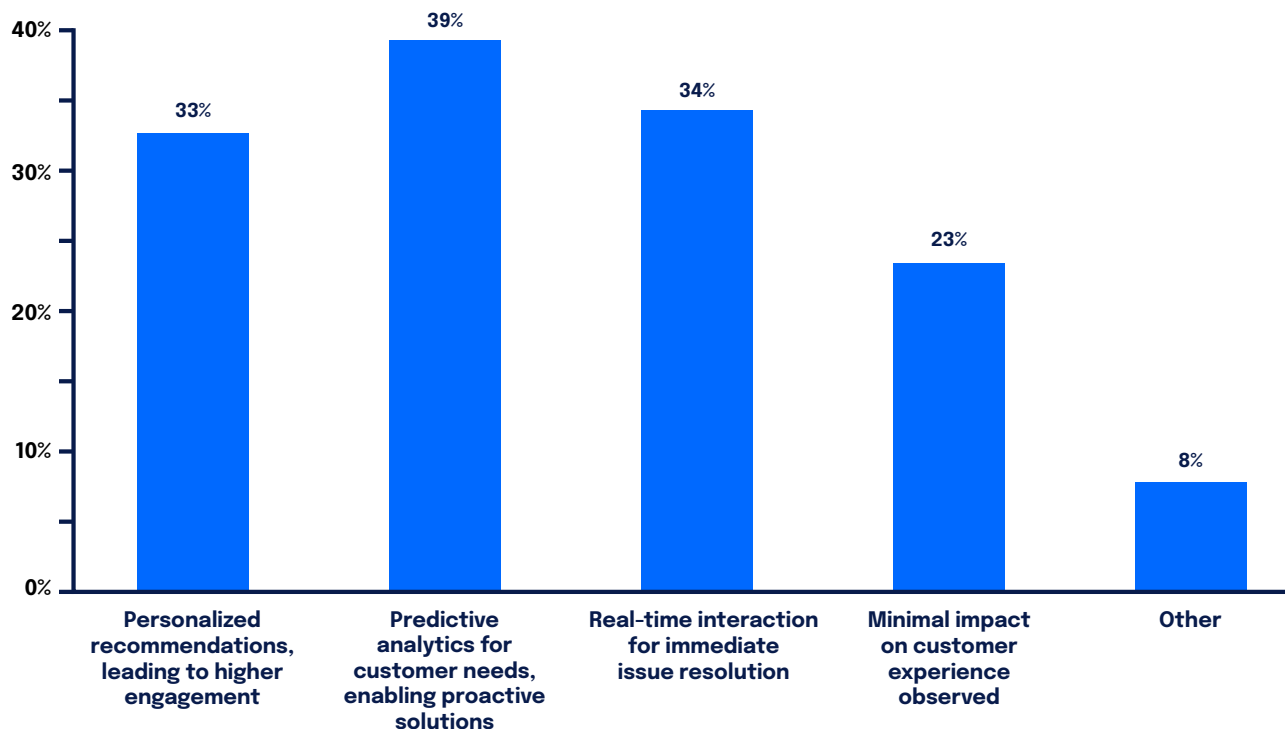
What, if anything, has prevented your organization from adopting AI/ML tools more? Please select all that apply.



Companies are using AI not only to streamline internal operations but also to enrich the products and services they offer to customers. In response to our question on whether AI/ML improved their organization's customer experience, 33% confirmed improvements, 21% saw no enhancements, and 46% were uncertain about its effects.

Organizations reported various ways that AI/ML has enhanced their customer experience. Of respondents, 33% observed that AI/ML led to personalized recommendations, resulting in heightened engagement. Predictive analytics that anticipated customer needs and enabled proactive solutions were cited by 39% of respondents. Meanwhile, 34% benefited from real-time interactions for immediate issue resolution. However, 23% mentioned they witnessed minimal impact on customer experience due to AI/ML. A smaller 8% explored other ways AI/ML influenced their customer interactions.

In what way has AI/ML improved your organization's customer experience? Please select all that apply.



The integration of AI/ML into business operations has proven effective for many organizations, offering enhancements from improved decision-making to customer engagement. While there's a notable inclination towards software tools and data analytics, there remains some uncertainty, as indicated by those unsure of AI's potential impact. However, for those that have adopted AI/ML, areas such as predictive analytics and real-time interaction have emerged as pivotal in optimizing customer experience.

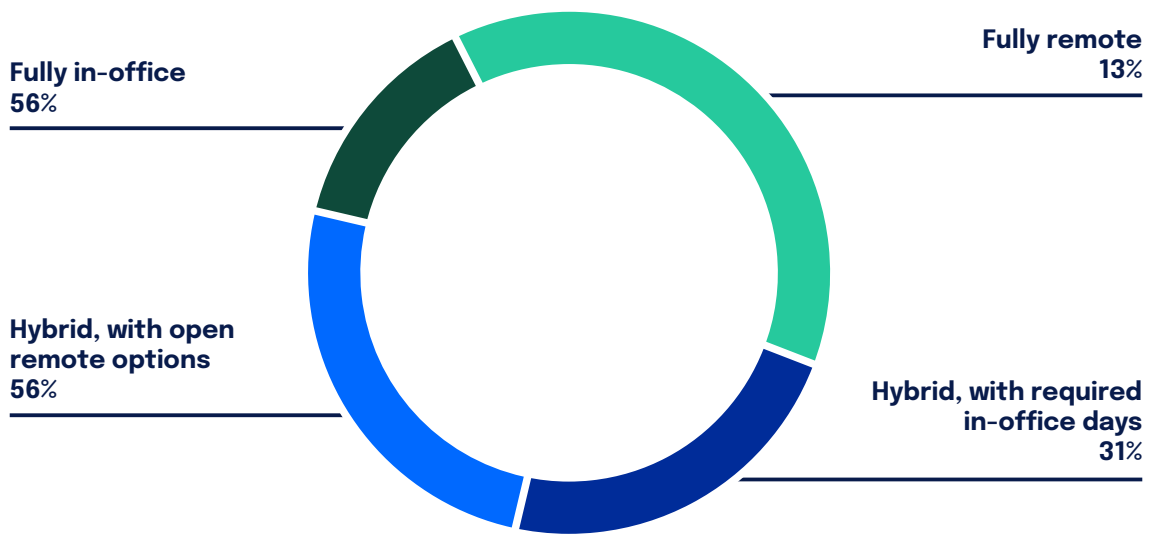


Navigating remote work and the complex return to office

In 2023, the lasting impact of the global pandemic on the world of work remains evident. Remote work, once an emergency response, has evolved into a mainstay for many businesses, challenging the traditional office-centric model. Hybrid work arrangements have also gained traction, offering a flexible middle ground as companies navigate the complexities of returning to physical office spaces.

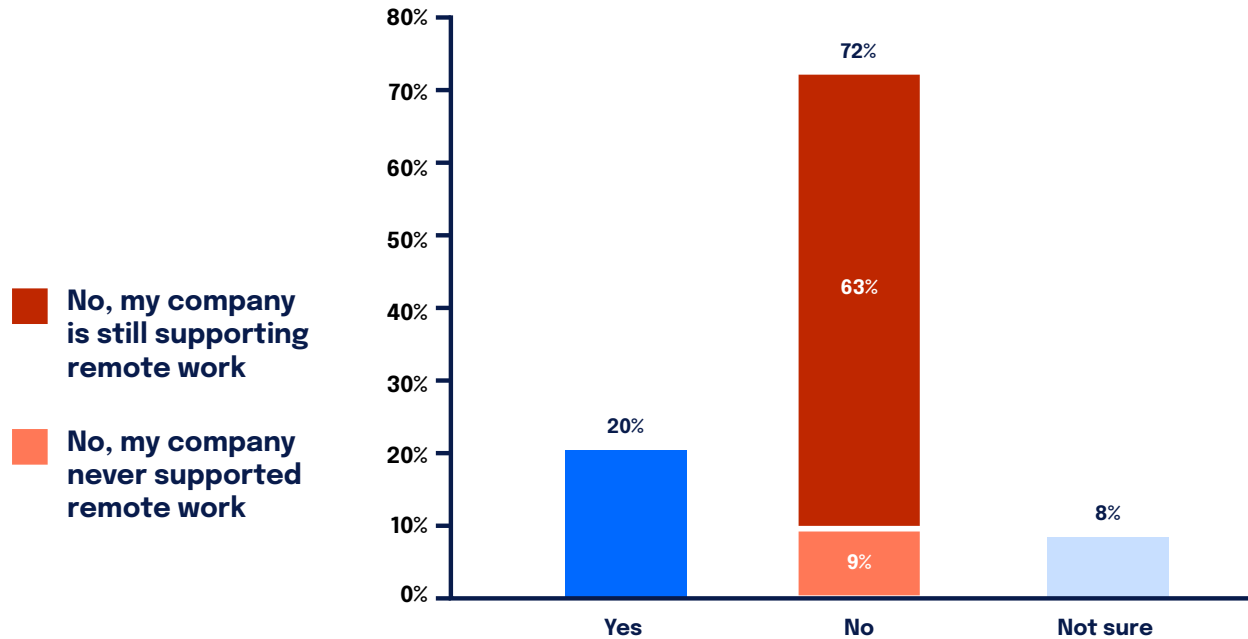
According to our research, 39% of surveyed companies operate fully remotely, while 23% follow a hybrid model with required in-office days. Another 25% have adopted a hybrid approach but offer open remote options. Only 14% of companies remain fully in-office.

Is your company currently remote, hybrid, or fully in office?



The evolution of return-to-office policies reflects ongoing adjustments to the new normal at work. In the past year, 20% of companies have implemented a return-to-office policy. A majority, at 63%, continue to support remote work, while 9% never adopted a remote work model to begin with. Additionally, 8% of respondents are unsure about their company's stance.

Has your company implemented a return-to-office policy in the past year?



When we asked about their preferred office experience, 47% of respondents favor a fully remote setup. A hybrid model with open remote options is preferred by 29%, whereas 16% opt for a hybrid model with specific required in-office days. A mere 8% prefer a fully in-office arrangement.



47% say their preferred work experience is fully remote, 45% desire some variation of hybrid work, while 8% prefer to be fully in-office.



When it comes to preferred office experiences, age plays a notable role in influencing choices. A trend emerges where older respondents, specifically those aged 45-54 years, show the highest preference for a fully remote position at 49%. In contrast, younger individuals, especially those between 18-24 years old, lean more towards a hybrid model with open remote options, clocking in at 47%. This might be attributed to younger professionals seeking more networking opportunities, mentorship, and perhaps the vibrancy of an office environment early in their career.

For those aged 25-44, the traditional fully in-office setup holds the most appeal, with 10% of the 25-34 age group and 11% of the 35-44 age group expressing this preference. The data suggests a diverse range of office desires across age groups, underscoring the importance of flexible workplace policies.

What is your preferred office experience?

	Total	18-24 years old	25-34 years old	35-44 years old	45-54 years old	55-64 years old
Fully remote	47%	26%	44%	45%	50%	49%
Hybrid, with required in-office days	16%	21%	17%	22%	14%	6%
Hybrid, with open remote options	29%	47%	29%	22%	31%	39%
Fully in-office	8%	5%	10%	11%	6%	6%

Regarding the impact of return-to-office policies on employees' intentions, 52% plan to stay with their company unaffected by the policy. However, 31% are considering leaving their company due to the return-to-office policy, and 17% are unsure about their future plans in relation to the policy.



52% say their company's return-to-office policy has not impacted their plans to stay, 31% are thinking about leaving due to the change, and 17% are not sure.

As we navigate the evolving landscape of work in 2023, it's evident that remote work preferences have deeply embedded into the workforce, with a significant portion favoring fully remote or flexible hybrid models. Notably, return-to-office policies can be a pivotal factor in retention, as nearly a third of employees contemplate leaving their companies due to these policies. Organizational leaders should maintain open dialogue with employees to align workplace strategies with both productivity and satisfaction needs.

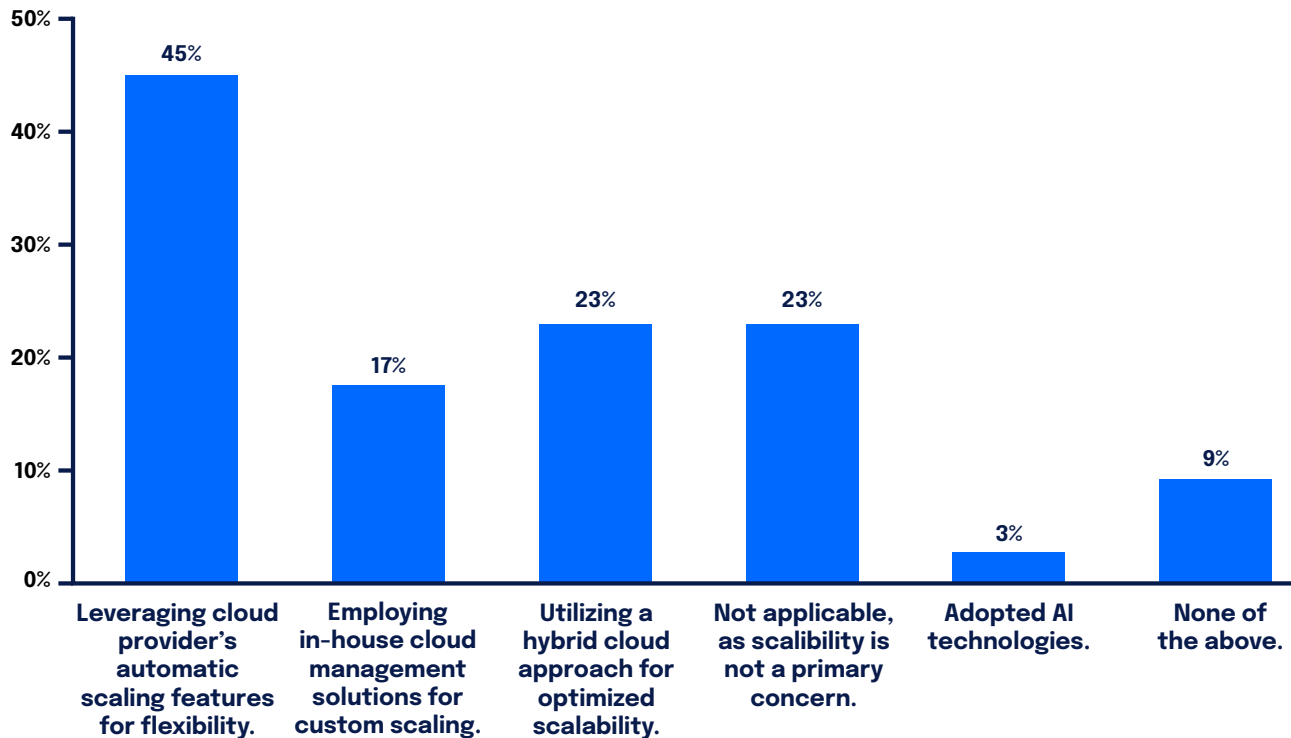


Cloud computing and cybersecurity insights

The rise of cloud infrastructure has dramatically transformed business operations, offering flexibility, scalability, and significant cost benefits. As organizations migrate their systems and data to the cloud, the complexities surrounding security and scalability grow proportionally. Ensuring seamless cloud performance while maintaining robust cybersecurity is crucial for businesses to remain competitive and secure.

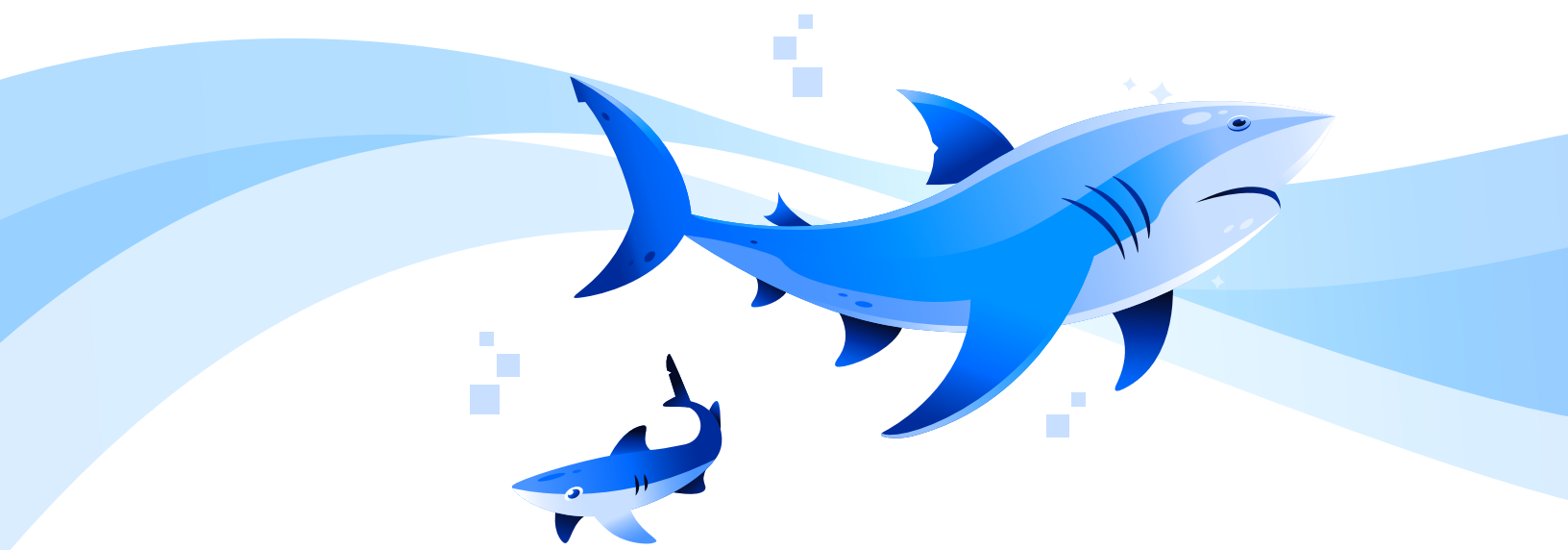
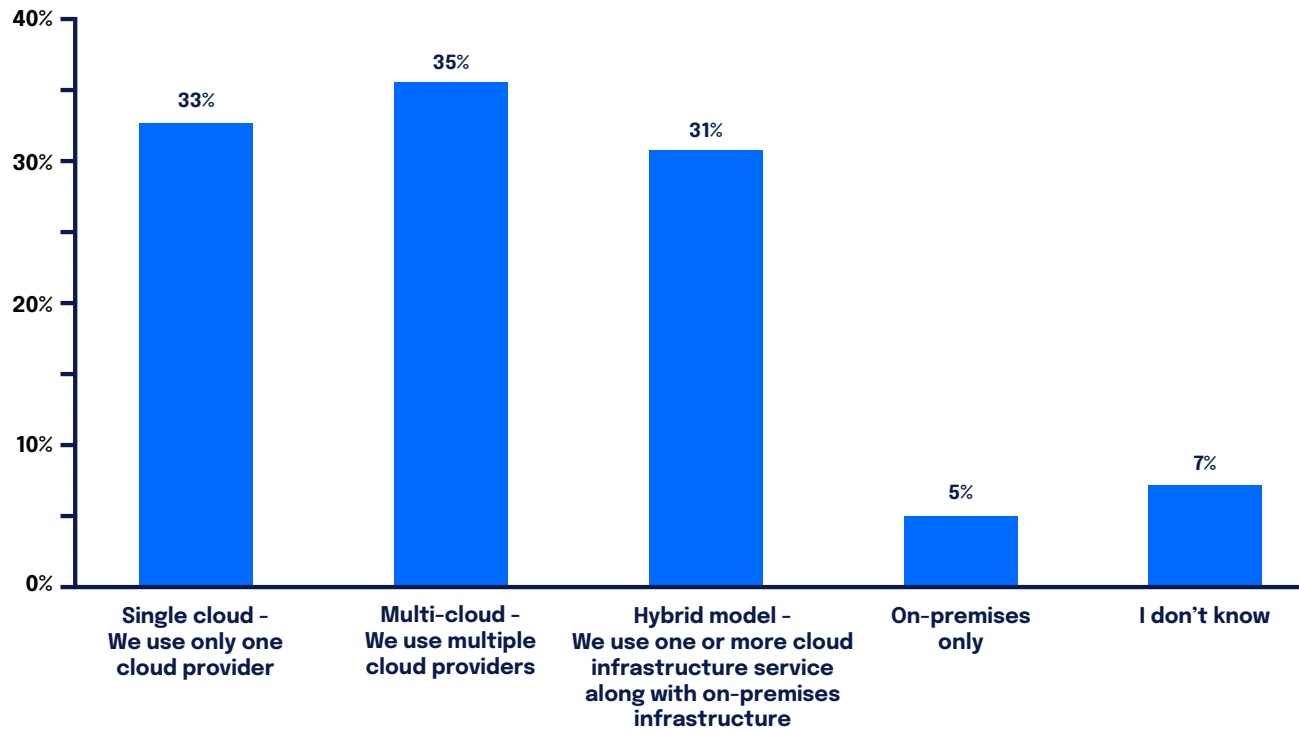
When addressing the scalability of their cloud infrastructure, 45% of organizations leverage their cloud provider's automatic scaling features to ensure flexibility. In contrast, 17% employ in-house cloud management solutions for custom scaling. Utilizing a hybrid cloud approach for optimized scalability is a strategy for 23%, while the same percentage of organizations (23%) indicate that scalability isn't a primary concern. A small proportion (3%) have adopted AI technologies for this purpose, and 9% do not use any of the aforementioned methods.

How does your organization address the scalability of its cloud infrastructure? Please select all that apply.



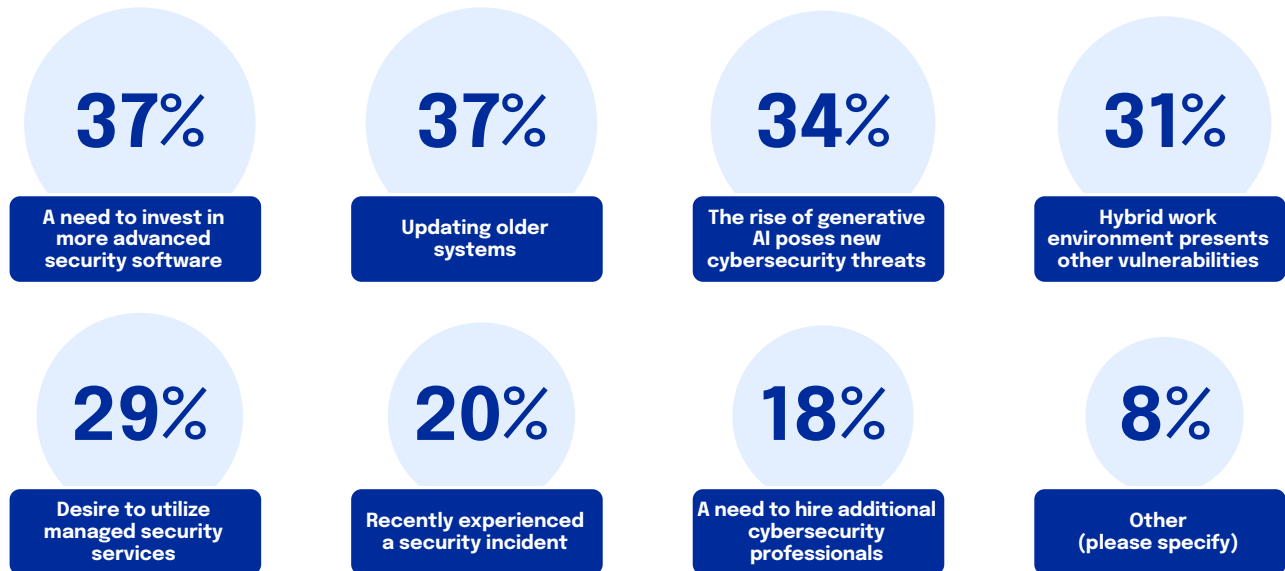
The cloud infrastructure setup of organizations varies. About 33% of organizations solely rely on a single cloud provider. On the other hand, 35% utilize multiple cloud providers, indicating a multi-cloud approach. Meanwhile, 31% of organizations have adopted a hybrid model, integrating one or more cloud infrastructure services with their on-premises setup. A mere 5% maintain an on-premises-only infrastructure, while 7% are unsure about their organization's cloud infrastructure setup.

Which of the following best describes your organization's cloud infrastructure setup?




The decision to increase spending on cybersecurity is influenced by multiple factors. Both the need to invest in advanced security software and updating older systems motivate 37% of businesses. The emergence and risks associated with generative AI account for 34%, while 31% are concerned about vulnerabilities in hybrid work environments. The aspiration to utilize managed security services drives 29% of organizations, and a recent security incident is the impetus for 20%. Hiring more cybersecurity professionals is a reason for 18%, and 8% have other reasons driving their decision.

Which factors have led to your decision to increase spending on cybersecurity? Please select all that apply.



Of the businesses we surveyed, 37% indicate they plan to increase their spending on cybersecurity in the upcoming fiscal year. Conversely, 24% have stated they have no intentions of raising their cybersecurity expenditure. Meanwhile, a significant portion, 39%, remains uncertain about their future spending decisions in this domain.

 **37% say their business plans to increase its spend on cybersecurity in the next fiscal year, 24% have no plans to do so, and 39% are unsure.**

Cloud computing is key for organizations seeking scalability and flexibility. As they adopt different strategies like automatic scaling and hybrid clouds, cybersecurity remains essential. This highlights the interconnectedness of digital infrastructure and security.



Conclusion

Amidst fluctuating economic conditions, this report reveals a notable resilience and adaptability among startups and SMBs. Embracing shifts in the workplace, businesses are capitalizing on AI and ML advancements, pivoting towards remote work strategies, and bolstering their cloud and cybersecurity frameworks. As fundraising and hiring landscapes evolve, companies that strategically harness these technological transitions are poised to not only navigate present challenges but also to thrive in the post-pandemic business world.

Methodology

This survey was conducted through an online survey link from September 13, 2023 to October 17, 2023, and garnered 665 completed responses. The link was distributed to DigitalOcean email lists.

Approximately 26% of respondents were full-stack developers, 13% were CEOs, founders, or owners, and 10% were back-end developers. CTOs made up 7%, while systems architects and systems administrators each accounted for 5%. All other roles, spanning from DevOps specialists to marketing professionals, summed up to 34%. The remaining 5% fell into the “Other” category.

Respondents represent 68 countries, with 34% being in the United States, 8% in the UK, 4% in India, 4% in Germany, and 7% in Canada. The questionnaire was developed by DigitalOcean and was distributed via link through email and social media channels to both DigitalOcean customers and non-customers.

Respondents came from a range of digital industries. A significant 30% were from software or software as a service providers, followed by 13% from technology consulting or agencies. Financial services and other technology businesses were represented by 9% each. Healthcare and education had an equal share with 5% each. Ecommerce, retail, manufacturing, transportation/warehousing, and advertising/marketing firms each made up between 2% to 3% of the responses. The remainder spanned sectors like utilities, construction, and hospitality, with most having less than 2% representation. Additionally, 11% specified other industries not listed.

The gender breakdown was 88% male, 6% female, 1% non-binary, 1% who self-describe, and 4% who preferred not to say their gender. Respondents represent a range of ages: 6% were aged 18-24, 26% were aged 25-34, 31% were 35-44, 22% aged 45-54, 10% aged 55-64, and 4% 65 and older.





About DigitalOcean

DigitalOcean revolutionizes cloud technology, allowing developers and businesses to prioritize software development instead of focusing on infrastructure. With our dependable infrastructure and comprehensive services, DigitalOcean supports developers, startups, and SMBs in swiftly creating, launching, and expanding applications, promoting rapid innovation and heightened efficiency. With simplicity, community engagement, open-source collaboration, and dedicated support, DigitalOcean ensures customers can direct their efforts towards pioneering applications that propel business success.

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