The ingenuity of generative AI

Unlock productivity and innovation at scale

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Key takeaways

Business leaders must translate experimentation into enterprise-grade investments that deliver value at scale.

- **Generative AI investment is surging.**
  Spend increased more than 10 times in 12 months, while IT spend grew at only half the rate of inflation.[1]
- **Financial returns from AI have solidly surpassed the cost of capital.**
  Average AI ROI hit 13% in 2022—and early generative AI wins (led by successful pilots) boosted it to 31% in 2023.
- **Early generative AI experiments are gravitating toward low-risk, noncore use cases.**
  But organizations can deliver more value by focusing on business areas that are more closely related to their competitive advantage.
- **The biggest gains may come from stepping into the unknown.**
  Over the next three years, more than half of executives expect generative AI to enable types of work that weren't previously possible.

"There's no safe space in the corporate world where you can just hang out and enjoy your winnings from the past. You've got to always be driving forward to the next horizon."

Bill Anderson, CEO, Bayer AG

From media sensation to market-ready solution

Generative AI has seemed almost too good to be true. It cuts coding time from days to minutes, personalizes products down to the tiniest detail, and spots security vulnerabilities almost as soon as they appear. And it's helped skyrocket AI ROI from 13% to 31% since 2022.

While this largely reflects the success of pilots, sandbox experimentation, and other small-scale investments, these early results have business leaders rethinking what's possible. Our latest proprietary survey of 5,000 executives across 24 countries and 25 industries reveals that most executives are more optimistic about the generative AI opportunity than they were last year. More than three in four (77%) say generative AI is market ready, up from just 36% in 2023, and nearly two-thirds (62%) now say generative AI is more reality than hype (see Figure 1).

More than three-quarters of executives say they need to adopt generative AI quickly to keep up with competitors. And 72% of the highest performing CEOs say competitive advantage depends on who has the most advanced generative AI, according to the IBM Institute for Business Value (IBM IBV) 2024 CEO study.[2]

Already, business leaders have begun to discover how generative AI boosts the bottom line. Operating profit gains directly attributable to AI doubled to nearly 5% from 2022 to 2023—and executives expect that figure to hit 10% by 2025. And embedded generative AI in existing enterprise software workflows also promises to deliver more sustainable ROI, according to forthcoming IBM IBV research.[3]

Still, despite these early signals, some analysts are skeptical. They anticipate that this hype-driven adoption spike will be followed by a "trough of disillusionment," where organizations back away from the complexity involved with deploying generative AI in core business functions.[4] And in some instances, it's true. One in three companies pause an AI use case after the pilot phase—but two in three don't.

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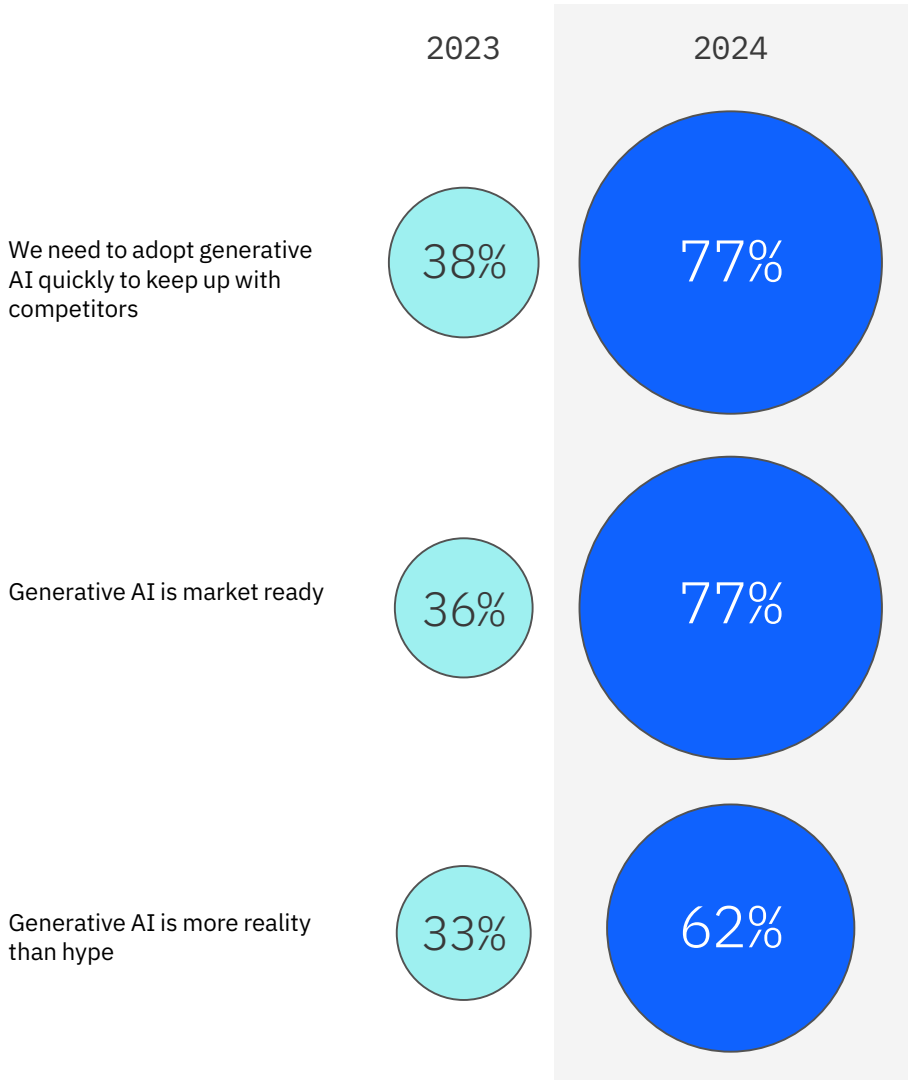
In this setting, how can business leaders best translate successful experimentation into enterprise-grade investments that deliver value at scale? This paper offers a roadmap to help companies answer this question, accompanied by case studies illustrating effectiveness in action. First, we outline where generative AI is currently delivering the highest ROI. Then we explore how executives can capitalize on its long-term potential and overcome key challenges, from organization structure to security. Finally, we offer an action guide on how to transform business with generative AI—regardless of where you are on your AI journey.

FIGURE 1

From skepticism to confidence

Executives see the true potential of generative AI taking shape



Case study

Bayer AG thinks big along the AI continuum[5]

Bayer AG chief executive Bill Anderson has an expansive vision for the future of generative AI: "I think some of the biggest applications we'll use it for are related to how are we going to feed two billion more people in the world in the next 20 years, with less land available, less water, and a need to use less chemicals."

Anderson's resume—he has an advanced degree in chemical engineering from MIT and joined Bayer after a stint as CEO at Roche Pharmaceuticals—suggests a disciplined, evidence-based approach to big predictions. His confidence in generative AI's eventual impact is grounded in an understanding of its place on the continuum of technologies, such as artificial intelligence and machine learning, that have been remaking his company and industry for some time.

"It's just starting, but it's not up for debate," he says of the fast-blooming new generation of applications. "We're definitely moving out of the realm of theory into application."

Generative AI at work

The first big win for generative AI at Bayer is coming in enhanced productivity, a process that is already underway. "It's replacing a lot of manual labor already, and we're just getting started," says Anderson. Collecting, checking, and crunching data to better understand patient populations, for example, can yield meaningful if incremental benefits in terms of testing site and participant selection.

None of this is easy. Counterfeit and simulated products, for example, are a major risk, with generative AI giving criminals the ability to work fast while evading security measures. Deepfakes and false reporting are threats, as well.

But Anderson remains convinced of the potential of generative AI to accelerate drug discovery. In two or three years, he says, a new cancer drug will be in stage three clinical trials because of work being done now with generative AI. "That's really fast," he says.

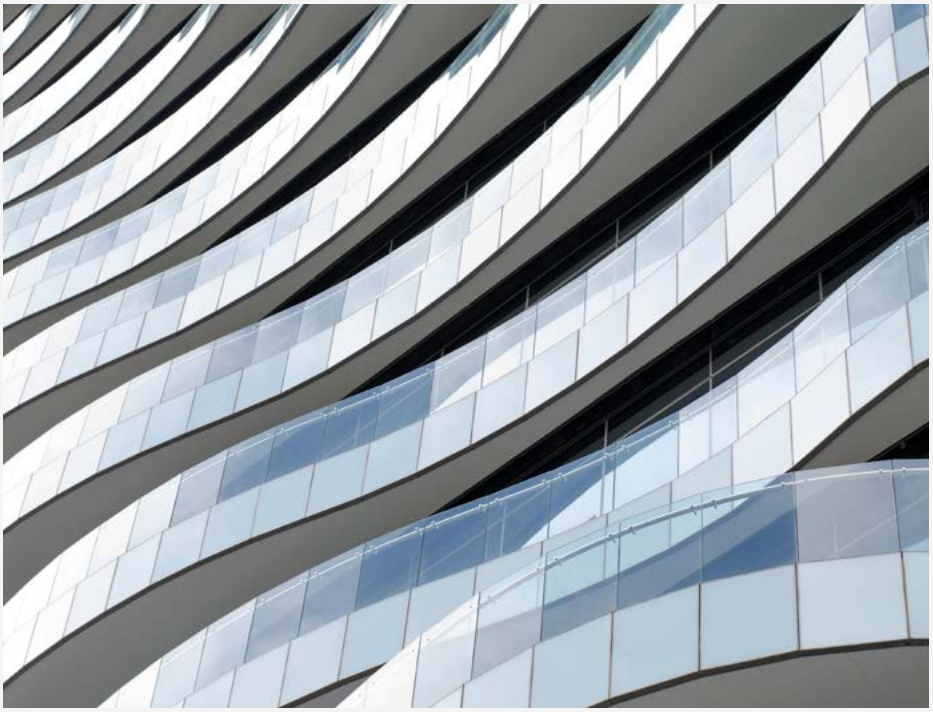
Seeding the future

Over time, Anderson sees generative AI helping Bayer's €25 billion crop science division address the tough challenges of crop protection in a time of climate change. Developing a new insecticide can be even harder than developing a new cancer drug, because a cancer drug affects only the human body while an insecticide can have impacts across entire ecosystems.

"We have to simulate the performance of a new crop protection chemical in 100 different environments—being able to use generative AI to make predictions about which ones are likely to perform best can save us huge amounts of trials."

Before generative AI can fully address such audacious goals, it must be integrated across the Leverkusen, Germany-based company's pharmaceutical, consumer products, and crop science units. Anderson, who took the helm at the global life sciences giant in 2023, is expected to be a change agent. He believes this enterprise transformation is possible—and necessary.

"You don't last 160 years by resting on your successes in the past," he says of the storied business, which operates in 83 countries and brings in €50 billion in annual revenue. "There's no safe space in the corporate world where you can just hang out and enjoy your winnings from the past, right? You've got to always be driving forward to the next horizon."



Focusing generative AI adoption in essential business functions helps organizations create transformative, top-line growth.

Where is generative AI delivering the most value today?

Generative AI promises to be a powerful catalyst for business transformation—but it's not a panacea.

It must be implemented with careful consideration of cost, data governance, and ethical implications, as well as an eye toward talent and skills. Because generative AI's biggest strength is to augment human work rather than automate it, culture change is essential to deliver sustained value. In fact, 64% of CEOs say succeeding with generative AI will depend more on people's adoption than the technology itself.[6]

Instead of applying generative AI as a solution for every problem, leaders need to understand how different tools work together, with traditional AI techniques, generative AI models, and automation each playing their own part. They must break out of the use case mindset and focus on using generative AI to transform how employees work every day. Getting there is a journey—and how much experience an organization has with AI influences where it should start.

Organizations are taking two main approaches to drive the systemic change needed to deliver sustained AI ROI.

1. **Experimentation:** Finding efficiencies in low-risk, non-core functions. Prioritizing generative AI adoption in low-risk areas where traditional AI is already delivering clear business value helps accelerate transformation and can drive incremental profitability. Roughly two-thirds of executives say their organizations are adopting generative AI in customer service (70%), IT (65%), and product development (65%) functions, which is consistent with what we saw in mid-2023.[7]

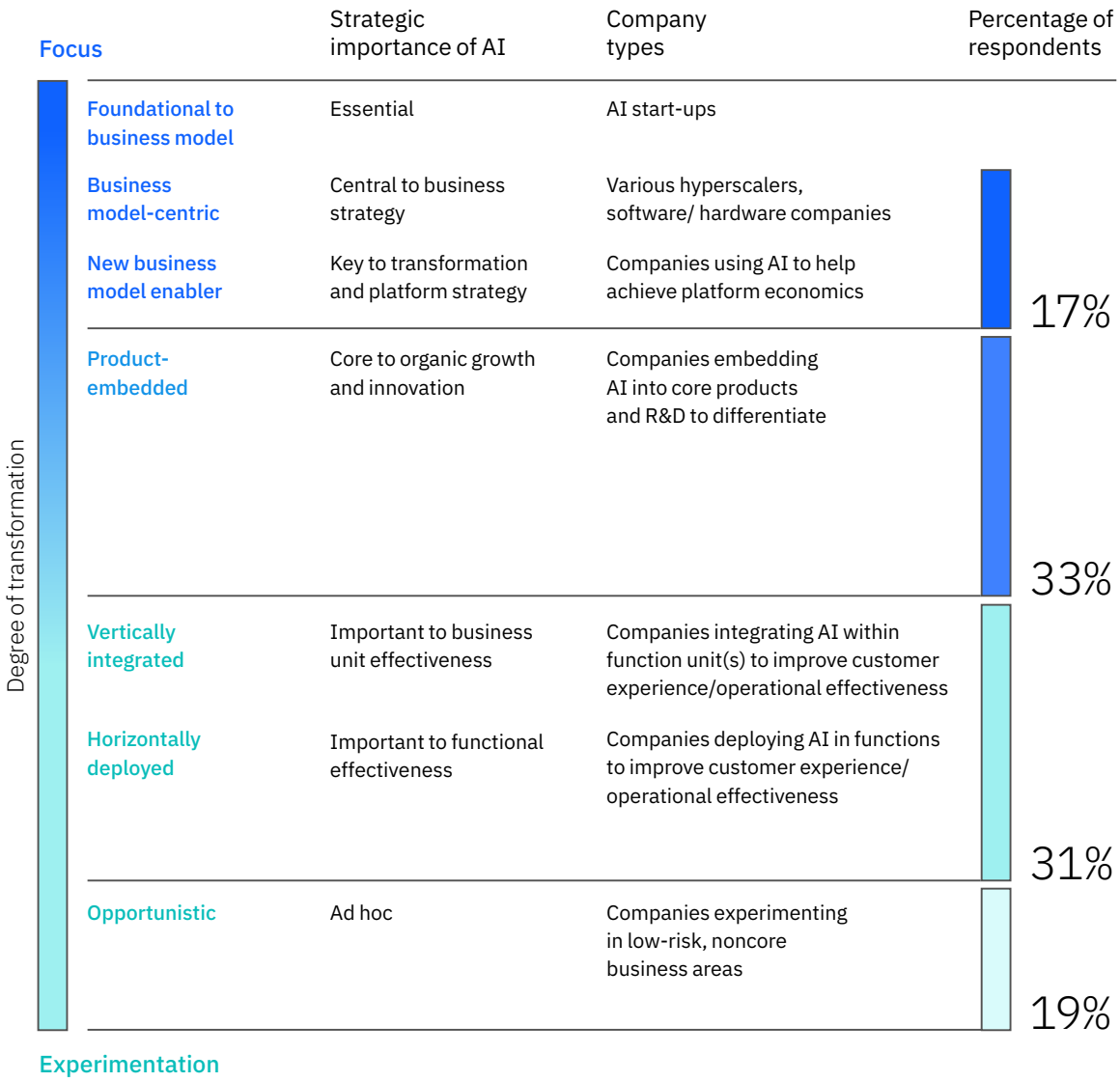
2. **Focus:** Augmenting essential business functions to spark broader transformation. The risk of using generative AI in business operations closer to the core may be higher—but this is where the promise of business transformation begins to take shape. Those willing to focus on the previously underexplored areas of sales; information security; and supply chain, logistics, and fulfillment are seeing higher ROI.

Of course, for many organizations, it makes sense to start a generative AI journey by experimenting in lower-risk areas. They benefit from marginal gains while teams learn how to make the most of the technology. But staying in the shallows also keeps organizations from realizing the more transformative, top-line growth generative AI can create. Only by setting their sights on enterprise-wide innovation—and focusing their efforts in areas with the greatest potential—can organizations achieve long-term, scalable success.

FIGURE 2

Mapping the generative AI journey

Focusing closer to the core does more to drive enterprise transformation



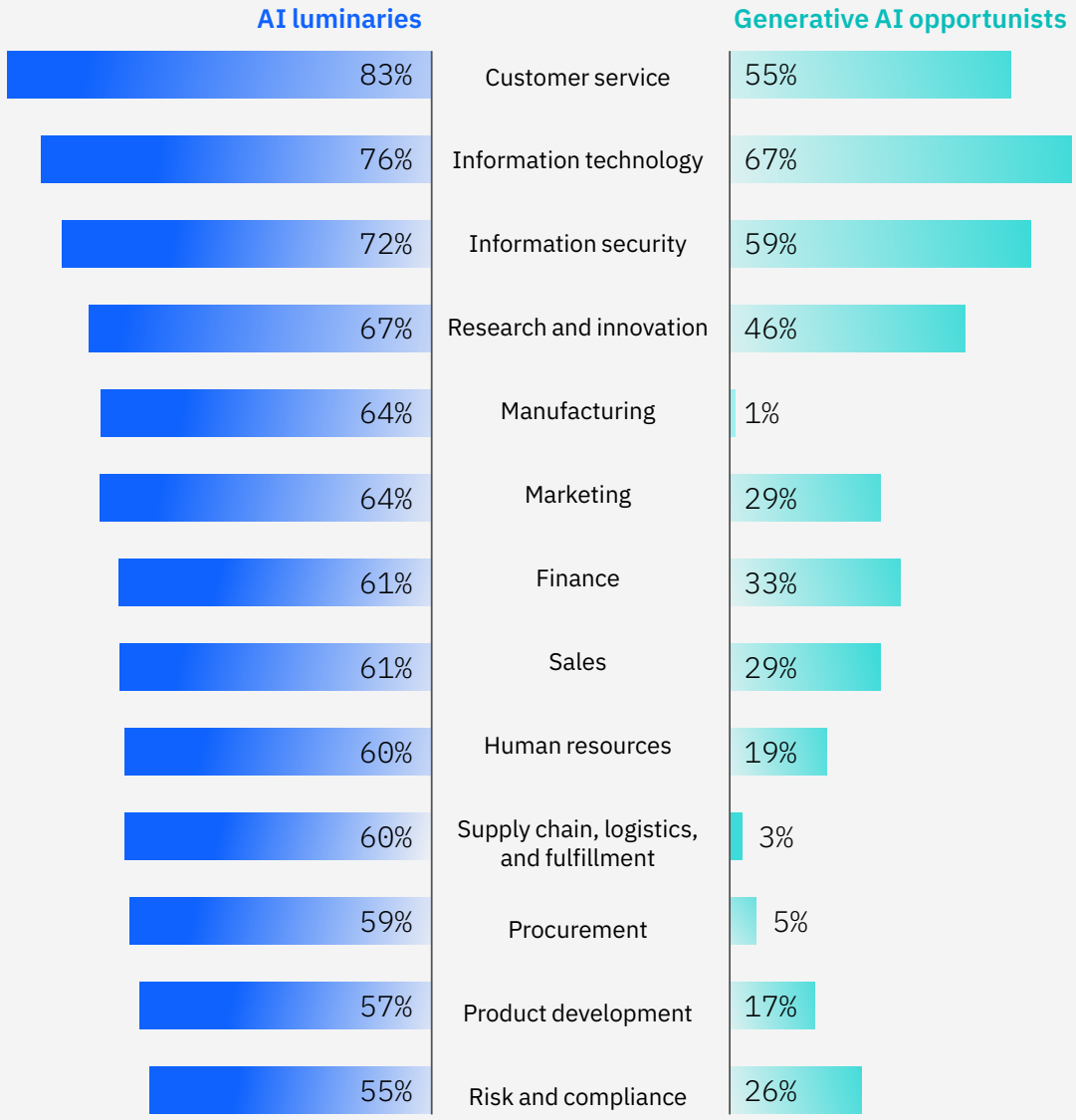
Perspective

Breadth versus depth

Organizations are implementing generative AI differently based on their starting point.

AI luminaries are leveraging their experience to drive wider transformation with generative AI. They're already operationalizing and optimizing traditional AI and are primarily using generative AI to improve on existing AI capabilities. They have the highest adoption maturity across functions for both traditional and generative AI and are delivering higher ROI with traditional AI than their peers. In most functions, at least 60% have implemented generative AI, which means they have an opportunity to focus on the areas that are already delivering the most value.

Generative AI opportunists have low-to-medium levels of adoption for AI overall—though their adoption spikes in areas where they have experience with traditional AI. They're experimenting with generative AI in three key functions: IT, customer service, and information security. By exploring areas where they see the greatest potential, they're delivering higher ROI from generative AI than their peers.



Q: Where is your organization in its adoption of generative AI for the following functional areas? Percentages include respondents who selected implementing, operating, and optimizing.

Productivity gains that provide an advantage today will be table stakes tomorrow.

How to deliver long-term value

The path from experimentation to enterprise-scale innovation isn't a straight line. How adoption evolves depends on where an organization is starting from, which capabilities it has developed, and how prepared its workforce is to adapt.

At the same time, as generative AI matures, it's likely that competitive capabilities will begin to converge—making it more difficult to gain a competitive edge. That's why organizations must do the hard work of addressing the obstacles and challenges that come with generative AI. And they need to do it quickly. What provides an advantage today will be table stakes tomorrow.

For those early in the journey, deploying generative AI in low-risk functions can help jumpstart progress toward business transformation. Experimentation and small-scale wins can streamline workflows and increase efficiency while teams gain their footing. Our research highlights two key areas as smart places to start:

Customer service

Our analysis suggests that in both generative AI adoption and ROI, customer service leads the way. Many companies already have a solid foundation of traditional AI to build upon, such as conversational AI that answers customer queries in natural language. Recent IBM IBV research found that, on average, organizations using generative AI in customer service see higher AI ROI than those that don't.[8] But it's not unambiguous. One trap to be aware of: Most customer-service use cases only focus on making existing workflows more efficient. That will change quickly. By the end of 2024, executives point to three rising opportunities: generating test cases for training conversational AI (78%), generating dialogue for conversational AI (74%), and generating dialogue for human agents (69%) (see "AI shifts customer service into overdrive," page 11).

IT

Developers are leaning on generative AI to help streamline routine tasks. For instance, 77% of companies that have adopted generative AI in IT are using it to generate code. They're also using it to automate code testing by identifying and fixing bugs and helping ensure the code works as intended. Generative AI also speeds the process of creating required documentation, including user manuals and other technical materials that accompany software development and cybersecurity reviews.[9]

These areas are starting points for delivering long-term ROI, offering productivity gains with meaningful impact. But over time, the biggest gains will come from focusing generative AI deployment in business functions closer to the core. Our research indicates that leading organizations are beginning to use generative AI in previously unexplored areas, such as sales and supply chain, to rethink how work gets done:

Sales and marketing

Generative AI can boost sales team performance by tapping customer data to provide insights into their behavior. It identifies quality leads within high-value market segments, making marketing strategies and outreach efforts more effective. In fact, 85% of companies that have adopted generative AI in marketing are using it to summarize market intelligence. Sales and marketing teams are also saving time by using generative AI to write and edit creative content for emails, blogs, social media posts, and websites in minutes—not hours—and then invest the time they've saved into finding new ways to build customer relationships.[10]

Supply chain

As supply chain disruption intensifies, generative AI helps spot potential snags and find workarounds before issues impact delivery. It enables intuitive conversations between supply chain decision makers and AI assistants—making their impact more tangible and relevant by providing the information they need in real time. By automating mundane tasks and augmenting workflows, generative AI also lets supply chain professionals focus on complex problem resolution and process improvement.[11] For example, 80% of companies adopting generative AI in supply chain use it to generate operations documents.

But for some organizations, transformative opportunities like these seem out of reach. That's why some business leaders are considering a platform approach to generative AI that pools resources and gains across departments or partner organizations as a lower-cost, simpler-to-implement option. This way, leaders can avoid starting from scratch in each area and embed generative AI quickly and more strategically across functions that have the greatest potential, including finance, supply chain and manufacturing, human resources, and sales and marketing. However, leaders taking this approach also need to consider the unique needs of each function and find ways to fine-tune generative AI applications accordingly.

75% of organizations are at least piloting generative AI in five or more functions.

Perspective

AI shifts customer service into overdrive

From chatting with customers to creating targeted content to optimizing call center performance, generative AI is taking the transformation of customer service to the next level. Using natural language generation, it answers customer questions with more fluent, contextually relevant responses. It can also tap into a customer's interaction history to tailor responses and deliver a more personalized experience. These capabilities let customers chat with generative AI assistants in the same way they would engage a human agent.

What's more, the applications of generative AI go far beyond direct interactions with customers. This technology can enhance the customer service function more generally by supporting human agent training, increasing personalization, translating content, and predicting future customer behavior. It can also support customer-facing conversational AI by generating test cases and dialogue, as well as reviewing interactions to identify opportunities for improvement.[12]

These use cases help generative AI supercharge conversational AI with less human intervention. Using generative AI to create test cases—steps used to verify that an AI model is working as intended—and responses to a variety of customer queries helps teams training and fine-tuning conversational AI handle a wide range of scenarios, user inputs, and edge cases.

Case study

Zebra Technologies empowers the augmented workforce[13]

Bill Burns, CEO of Zebra Technologies, expects generative AI to have a positive impact on the way people work, including the company's employees and the users of the rugged mobile devices they produce. "Our business is focused on the frontline worker," he says of the $4.5 billion manufacturer-turned-digital-solutions-provider that enables businesses to intelligently connect data, assets, and people in industries. The company makes smart tracking, marking, and printing devices for logistics and other functions in industries including retail, manufacturing, transportation, healthcare and public service.

Early notions about generative AI making people obsolete are themselves outdated, he believes. "It's not replacing the worker, it's automating select tasks within the workflow to augment and return time to the worker, ultimately empowering the worker and allowing them to focus on higher value activities."

Zebra Technologies is methodical in its generative AI investments and has a high standard for acting on use cases across the enterprise. Mr. Burns cites the organization's approach of "Sense, Analyze, Act" as a guide to process and a way to avoid succumbing to the hype. The goal is to understand actions and changes in workflow that drive improved outcomes, such as speed of operations, accuracy, consistency, and overall productivity, then quantify the impact and articulate an ROI. "Prove it to me and demonstrate that there's a business case," he says.

This measured strategy must be weighed against the rapid maturation of generative AI and the demands of the marketplace. "You have to have an urgency around everything you do and operate with two speeds. Speed one is deliberate, focused on execution and getting solutions into the hands of our customers for those use cases we are confident will generate value. Speed two is less structured and experimental, co-innovating with customers and discovering new areas that can benefit from AI innovation," he says. "If we don't do it, somebody else will."

"Generative AI will make employees' jobs easier and improve the customer experience."

Bill Burns, CEO, Zebra Technologies

Zebra Technologies empowers the augmented workforce (continued)

"You have to have an urgency around everything you do...If we don't do it, somebody else will."

Bill Burns, CEO, Zebra Technologies

Mr. Burns is keeping stakeholders across the company close as Zebra begins its generative AI evaluations. The plan: "Educate ourselves on generative AI while connecting with large strategic tech partners, form a cross-functional team with the CTO of the organization looking externally and the CIO looking internally, and work together to define responsible and ethical AI principles across the organization as the space evolves," he says. "One of the keys involves communication and change management to ensure everyone knows of these teams and embraces new ways of operating—and that starts at the top."

Critical decisions for implementation are made after a thorough review of expected benefits, and of costs. "People think it's all free because today they go on to ChatGPT and it's free," he says. "If you want to use it at scale inside an enterprise, it's no longer free, as these solutions consume real resources in the cloud. But Zebra is exploring and has developed a frontline worker application that runs the gen AI model on a mobile device. This reduces costs, improves security, and protects data."

Zebra Technologies has already identified many internal use cases for generative AI that have the potential to change employee workflows. These include everything from building marketing campaigns quickly with multiple languages to enabling its customer service teams to provide a more personalized customer experience with quicker issue resolution times.

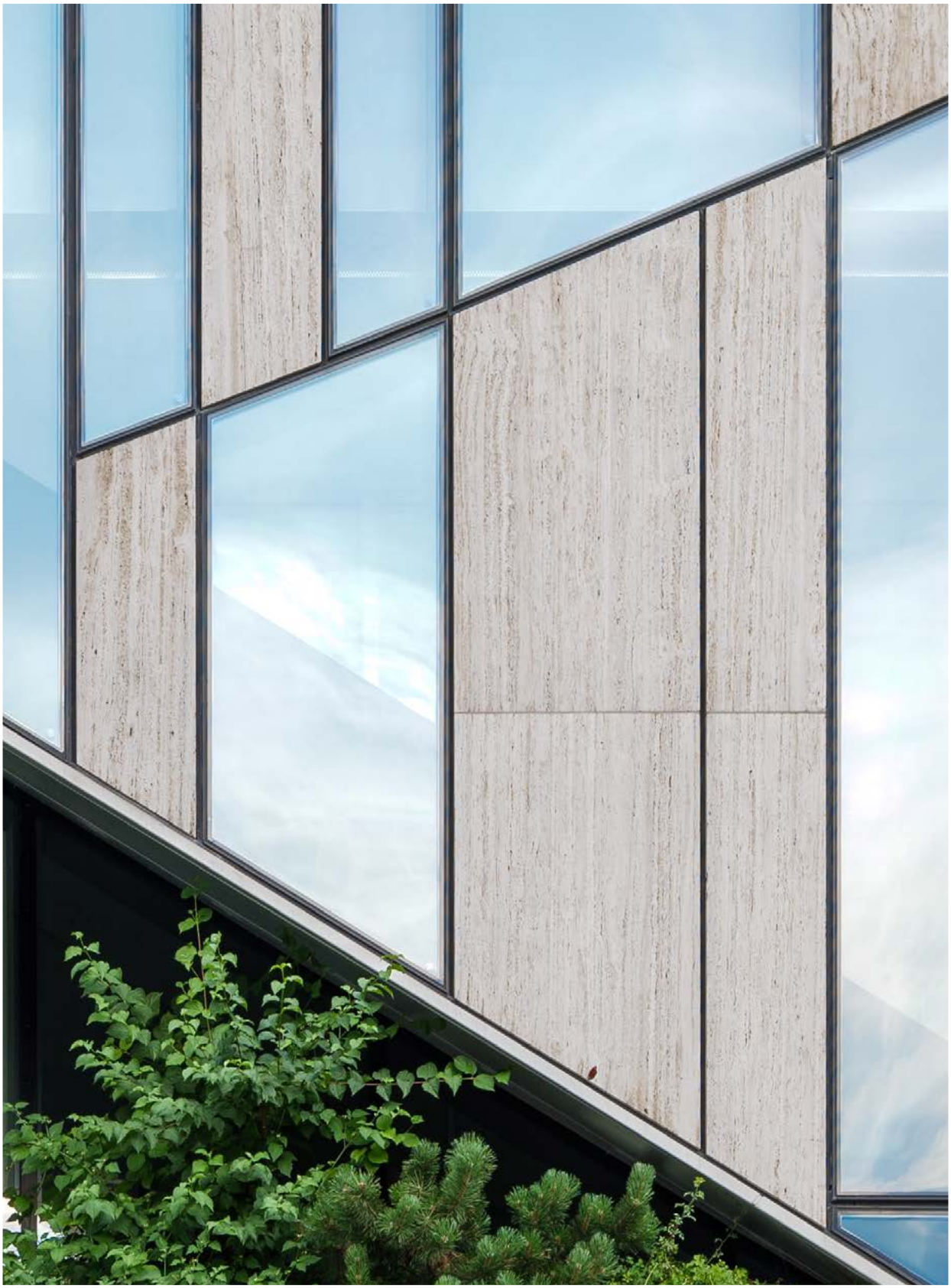
In terms of product development focused on customers, the strategy is to use open-source large language models residing on the company's next-generation mobile devices. Zebra then fine-tunes these models by use case using its own data while leveraging a platform for customers to populate the models with their own data and tie into their systems via Zebra mobile devices.

Creating the future of work

Mr. Burns expects the net impact of generative AI to include many good job opportunities, with new positions created that are less stressful, and let employees focus on more meaningful work, develop enhanced abilities, and learn and grow on the job quickly. He senses a shift in the way executives are talking about what comes next. "It has evolved from all this hype of 'workers are going to be replaced' to tasks being automated," he says. "Generative AI will make employees' jobs easier and improve the customer experience."

He points to the example of software developers who can now use the technology to write code. "Developers will not lose their jobs but instead can spend more time on value-added tasks or simply getting more done, especially given underlying labor availability and cost challenges," he says.

The technology should empower people to move quickly, he says, by giving them easy access to actionable insights derived from both structured and unstructured data. Faster training and reduced time to proficiency obviously pay off for employers, too. For instance, think of businesses in the retail sector, which can see very high job turnover, or fields where new employees have traditionally needed extended training periods. "With a mobile device as a window into a generative AI assistant, the newest employee can quickly become as proficient as a much more experienced employee while benefitting from greatly improved job satisfaction."



Organizations that build a solid foundation for generative AI today will be able to pivot and build momentum as new opportunities arise.

Building a springboard for growth

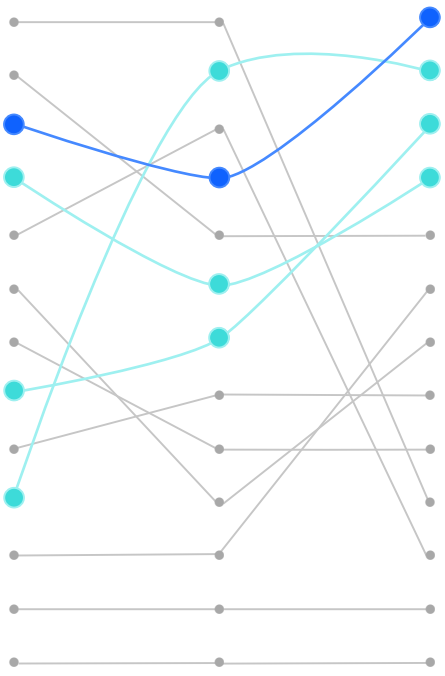
Despite generative AI's progress, challenges remain. Almost half of executives say they're concerned about accuracy and bias—an issue that could create as many new problems as generative AI promises to solve.

Many leaders are also concerned that inadequate expertise, unclear business cases, and insufficient proprietary data could preclude progress with generative AI (see Figure 4).

FIGURE 4

A confluence of challenges

Organizations must overcome many obstacles to make headway with generative AI—and executives' top concerns are shifting as it matures



45%	**Concerns about data accuracy or bias**
42%	**Insufficient proprietary data available to customize models**
42%	**Inadequate generative AI expertise**
42%	**Inadequate financial justification/business case**
40%	Concerns about privacy/confidentiality of data and information
40%	Limited access to technology
36%	Requires too much investment
32%	Concerns about intellectual property
31%	Irrelevant or unclear use cases
31%	Security of data/concerns about cybersecurity
19%	Constrained by regulation/compliance
12%	Not aligned to business strategy
1%	Inadequate infrastructure/no barriers

Overcoming challenges requires an interconnected effort that brings together leaders from technology, finance, security, legal, and AI ethics.[14] It's complex work, but avoiding it comes with serious consequences. From increasing liability to introducing new security vulnerabilities to damaging brand reputation, leaders must understand and mitigate a litany of new risks as they integrate generative AI into business operations.

Some organizations are already making efforts to manage these threats:

80% have a separate part of their risk function dedicated to risks associated with the use of AI or generative AI.

81% conduct regular risk assessments to identify potential security threats introduced by generative AI.

78% maintain robust documentation to enhance explainability of how generative AI models work and were trained.

76% establish clear organizational structures, policies, and processes for generative AI governance.

72% develop policies and procedures for managing data and addressing potential risks.

These activities should be part of any robust generative AI risk management strategy. But identifying where their organization needs to focus its attention should be a top priority for leaders as they begin to use generative AI in areas that are core to their competitive advantage.

Reimagine what's possible

AI has the potential to transform the business world, economies, and societies in ways that are hard to imagine. By building the right capabilities today, organizations can bring these new opportunities into focus.

It's not just about automating things people are doing today. It's about doing things that were never possible before.[15] From helping develop cures for diseases to combatting climate change, generative AI could solve problems that have confounded people for centuries. More than half of the executives in our survey say that, in the next three years, generative AI will make entirely new types of work possible (see Figure 5).

It's difficult to imagine what these new use cases might look like, but that's kind of the point. The generative AI applications that could deliver the greatest value tomorrow have yet to be discovered. The organizations that build a solid, capability-rooted foundation for generative AI today will be able to pivot and build momentum as new opportunities arise.

"Process automation is not about replacing an individual. It's about enhancing the value of individuals—making human work more human."

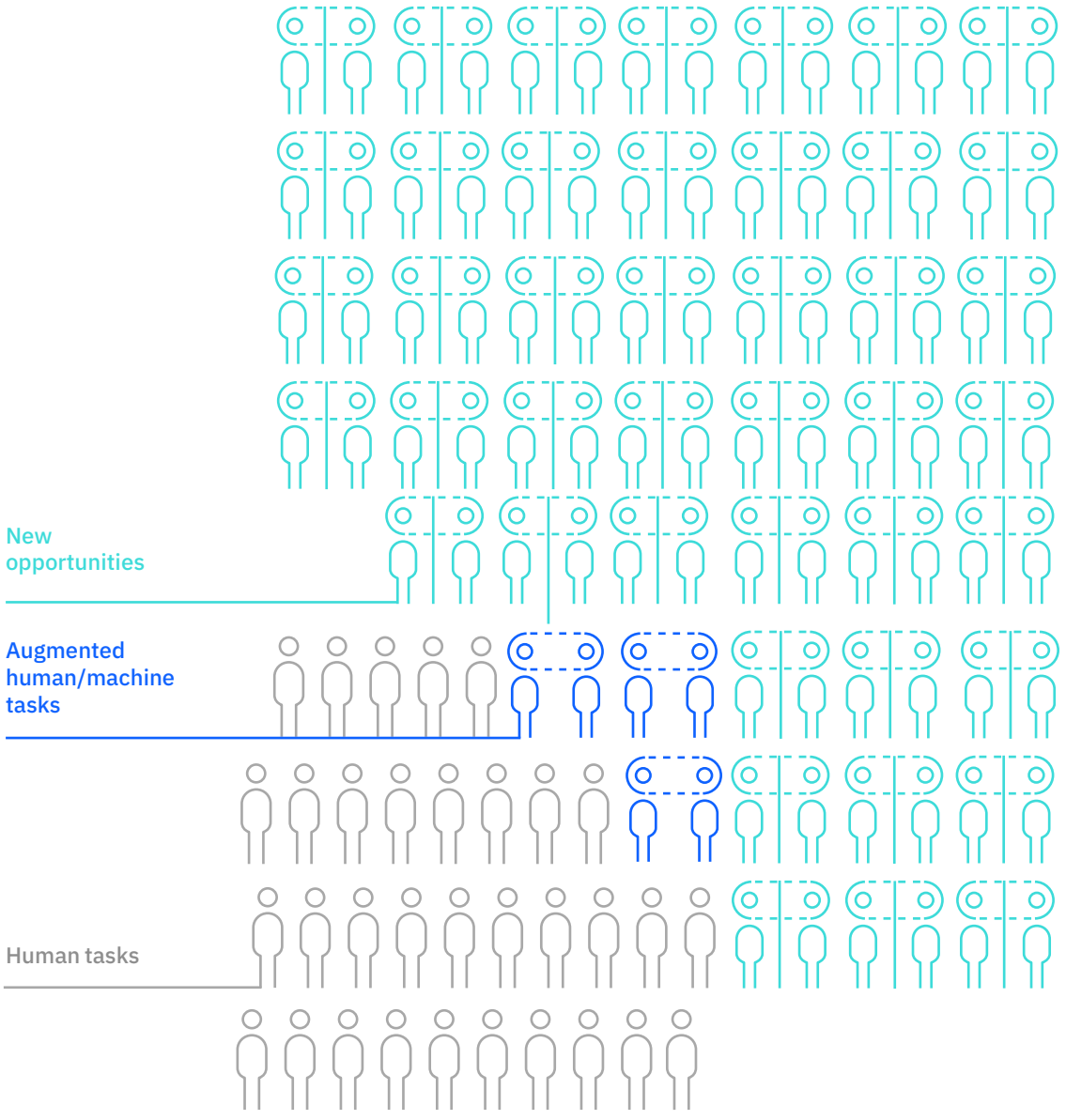
Javier Tamargo, CEO, 407 ETR

By providing a platform that lets employees experiment safely, organizations can unlock the collective genius of their workforce. Leaders will need to foster a growth and innovation mindset—and encourage employees to look beyond what's worked in the past—to pioneer groundbreaking innovation, outpace the competition, and drive transformative growth at scale with generative AI.

FIGURE 5

Forging a new frontier

Generative AI opens a new world of opportunity



Note: Figure is conceptual in nature. Proportions are not derived from data.

Perspective

IBM and NASA are helping humanity adapt to a changing climate[16]

Nearly a quarter of the world's population now lives in a flood zone, and that number is expected to climb as rising seas and heavier storms triggered by a changing climate put more people at risk. The ability to accurately map flooding events can be key to not only protecting people and property now but steering development to less-risky areas in the future.

IBM and NASA's geospatial foundation models are designed to enable important steps toward this goal by converting NASA's satellite observations and data into customized maps of natural disasters and other environmental changes. Potential applications include helping to estimate climate-related risks to crops, buildings, and other infrastructure; monitoring and valuing forests for carbon-offset programs; generating renewable energy forecasts; and developing predictive models to help enterprises create strategies to mitigate and adapt to climate change.

As part of a Space Act Agreement, IBM and NASA set out to build the first-ever foundation model for analyzing geospatial data in early 2023. Previously, users had to train a new model for each task, which required extensive data curation and compute. Rather than train a foundation model on words, IBM Research taught a model to understand satellite images. The team then fed the model hand-labeled examples to teach it to recognize the extent of historic floods and fire burn scars, changes in land-use and forest biomass, and more.

IBM and NASA expanded the family of models in 2024, developing a foundation model for weather and climate data. They customized this model for more specific tasks, such as creating highly localized wind forecasts for renewable energy planning and increasing the resolution of climate simulations to better understand and plan for the local effects of climate change.

Using the foundation model is designed to be as simple as selecting a region, a mapping task, and a set of dates. For example, if a user types "Port-de-Lanne, France" into the search bar and selects a date range of December 13 to 15, 2019, the model highlights in pink how far the flood waters extended. Users can overlay other datasets to see where crops or buildings were inundated. The models and accompanying visualizations can help with future planning during similar disaster scenarios: they provide information that could help mitigate flood impacts, inform insurance and risk management decisions, define infrastructure plans, improve disaster response, and protect the environment.

IBM and NASA are helping humanity adapt to a changing climate (continued)

IBM and NASA built both models using a masked autoencoder for processing video and adapted it to satellite imagery. To train the model to understand sequences of images unfolding through time, researchers blanked out parts of each image and had the model reconstruct it. The more images it reconstructed, the better it became at understanding how satellite imagery is composed. IBM and NASA then fine-tuned the model for specific tasks, such as classifying and segmenting images. To improve the model's efficiency, researchers also shrank the size of satellite images, allowing them to process the data in smaller chunks and use fewer GPUs. They then trained the model using over 5,000 GPU hours on IBM Research's Vela supercomputer.

The results are promising. In tests, researchers saw a 15% improvement in accuracy compared to state-of-the-art deep learning models for mapping floods and burn scars from fires, using half as much labeled data. IBM estimates this model could speed up geospatial analysis by three to four times and help reduce the amount of data cleaning and labeling required in traditional deep-learning workflows.

This technology can be applicable to businesses and governments as they look for easier and faster ways to analyze and draw insights from climate data. For example, IBM recently supported the Kenyan Government in its response to catastrophic flooding by using the flood detection model in combination with other data sources to track the fast-evolving impact on critical assets, such as hospitals, roads, and energy infrastructure. IBM also used this technology to monitor reforestation efforts and quantify forest biomass in Kenya as a way to sustainably fund the restoration through carbon financing.[17]

This solution could also help a large consumer goods company better understand macro trends such as climate change, severe weather, or geopolitical risks that impact where they source their raw materials from and where they might want to consider purchasing those resources in the future. It can also help a large agribusiness to better measure, track, and mitigate the impact of their farming practices on the local environments and surrounding communities by better understanding soil degradation, water conservation activities, or how to reduce pollution caused by runoff from fields to local bodies of water.

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Action guide

Scaling generative AI takes an all-star team

No single executive can lead the generative AI charge on their own. Laying the groundwork needed for long-term business transformation will require close collaboration across functions. Here's what six types of leaders need to do today to prepare their organization for whatever comes next.

C-suite leaders

Set a clear mandate. Make sure your leaders know that scaling generative AI isn't optional. The question is how, not if, it will happen. Assign a senior leader to take the helm and prioritize AI initiatives that are most closely aligned with business strategy.

Reimagine what's possible. Generative AI isn't a technology project. Start the conversation by defining what you want to be able to achieve, then explore how generative AI can get you there. Push teams to redesign operations and workflows to take advantage of the new opportunities created by generative AI.

Encourage a growth mindset. Incentivize teams to try new things and reward the most innovative ideas—even if they don't deliver immediate results. Foster a participatory and inclusive culture that encourages people to grapple with the challenges generative AI brings, rather than avoiding them due to fear of failure.

Business unit leaders

Ditch the use case mindset. Group business issues and their solutions into strategic themes or "families" of use cases. Pair generative AI with employee experience to see the biggest gains. Assess where AI-as-a-service is more cost-effective than building a solution in-house.

Honestly assess what's not working. Identify what needs to change for your teams to leverage generative AI effectively. Don't automate bad processes—reinvent them.

Take smart risks. Experimenting with generative AI in low-risk areas is a good place to start but find ways to evolve core functions as soon as possible. Don't stop with early productivity gains—keep pushing to spur success at scale.

HR leaders

Prioritize data and AI literacy across the enterprise. Upskill the workforce to make people more comfortable adopting generative AI.

Break down silos. Build cross-functional product teams that use generative AI to streamline digital workflows and enhance decision-making.

Hold generative AI rallies to build enthusiasm. Inspire employees with change initiatives that foster mobilization, adoption, and open innovation. Identify the people who are leading the way and give them a platform to inspire others.

Action guide

IT leaders

Be model agnostic. Invest in an open platform that allows you to easily change models when the time is right. Opt for smaller, fit-for-purpose models whenever possible.

Build a composable data and generative AI platform architecture. Ensure flexibility in terms of capabilities, cost, and integration patterns with an IT architecture that can decouple models, engineering tools, infrastructure, and application layers.

Speak the language of the business. Communicate data management, quality, and readiness best practices in a way business teams can understand to help foster innovation from the field.

AI leaders

Adopt a product and platform operating model. Track performance gains and assign operational value to generative AI-enabled workflows.

Prioritize holistic AI governance. Establish practices and processes that ensure AI applications are trustworthy and compliant. Automate model lifecycle governance, risk management, and regulatory compliance documentation when possible.

Establish dedicated engineering and operations practices for data and AI. Leverage templates for data and model pipelines, automation, testing, and end-to-end monitoring to facilitate quality, repeatability, and efficiency.

Ethics and data privacy leaders

Sponsor generative AI innovation days and hackathons that include governance components. Ask teams to use generative AI to find operational efficiencies and solve business problems—then ask them to prove that their solution is ethical and compliant.

Create clear accountability. AI governance should begin at the level of concept and continue throughout the lifecycle of the AI solution. Set funding mandates, identify accountable leaders, and develop AI centers of excellence to keep the enterprise on track.

Create a culture of responsibility and collaboration. Identify leaders who bring a socio-technical perspective to issues of governance and who welcome new approaches to mitigating AI risk, whatever the source. Make governance integral to collaborative innovation efforts and stress that responsibility belongs to everyone—not just model owners.

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Many thanks to the people whose invaluable insights, expertise, and support helped make this report possible:

IBM Consulting: Gianluca Antonini, Stephan Bloehdorn, Phaedra Boinodiris, Francesco Brenna, Matt Candy, Michael Conway, Blaine Dolph, Dominique Dubois, Glenn Finch, Matt Francis, Ambhi Ganesan, David Gerken, Tony Giordano, Rosane Giovis, Jill Goldstein, Teresa Hamid, Avdyl Haxhaj, Vivek Kapur, Jennifer Kirkwood, Kim Morick, John Nevin, Luq Niazi, Wouter Oosterbosch, Linda Perry-Lube, Cathy Reese, Enikõ Rózsa, Aldo de Rubertis, Richard Sarcomo, David Sebaoun, Brent Smolinski, Srini Tummalapenta, John Uysal, Molly Vannucci, Shobhit Varshney, Debbie Vavangas, Sebastian Weir, Alexis Zamkow

IBM Research: Dakshi Agrawal, Lisa Amini, David Cox, Bill Higgins, Mahmoud Naghshineh, Sriram Raghavan, Francesca Rossi, Kate Soule, Kush Varshney

IBM Software: Maryam Ashoori, Kate Blair, Edward Calvesbert, Tarun Chopra, Adam Cutler, Heather Gentile, Milena Pribic, John Thomas

IBM Corporate: Heather Domin, Steven Eliuk, Stefa Etchegaray Garcia, Liliana Horne, Tim Humphrey, Christina Montgomery, Saishruthi Swaminathan, Catherine Quinlan, Jamie VanDodick

IBM Institute for Business Value: Namit Agrawal, Carolyn Baird, Karen Butner, Liam Cleaver, Jacob Dencik, Cathy Fillare, Gerry Parham, Sherihan Sherif, Richard Warrick

Study methodology

The IBM Institute for Business Value, in partnership with Oxford Economics, surveyed 5,000 executives from December 2023 through March 2024. The respondents were from 24 countries across North America, Latin America, Europe, Middle East and Africa, and Asia. They included 20 business and technology roles—primarily executives but also IT and AI professionals—from 25 industries.

The scope of the survey included adoption of generative AI, use cases, and enterprise capabilities around generative AI and traditional AI. In addition to descriptive analysis, the data from the respondents was analyzed to allow for a segmentation of the sample according to how they are adopting generative AI in the enterprise across functions.

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Produced in the United States of America | June 2024

0O9DNRWD-USEN-01