

Customer service and the generative AI advantage

Power up conversational AI to gain a competitive edge

How IBM can help

Faced with rising customer expectations and operational costs, companies and business owners are increasingly challenged to modernize their customer service.

With AI for customer service, IBM Consulting helps organizations develop a data and AI strategy to transform the customer service experience and empower their employees, delight customers, and unlock new revenue streams for improved profitability. For more information, visit ibm.com/consulting/customer-service.



No matter where an organization is in its AI journey, adding generative AI can provide a much-needed performance lift.

Key takeaways

- **Generative AI is raising the bar**
65% of customer service leaders expect using generative AI in conjunction with conversational AI to increase customer satisfaction.
- **Experimentation lets AI novices reduce risk while they develop capabilities**
Organizations with more AI experience deliver better results by focusing on more advanced use cases.
- **Generative AI can boost ROI—especially for novices**
Customer service teams that have a long track record of using conversational AI see 37% higher ROI when they deploy generative AI. This figure jumps to 117% for organizations with less AI experience.

Perspective

Two paths to progress

In this paper, we discuss how organizations with different levels of AI experience are approaching the generative AI opportunity. While not every organization falls into one of these two groups, assessing their distinct approaches to generative AI—and the real-world business results they've delivered—reveals useful insights. Here's how we define two key groups that we analyze in the following pages:

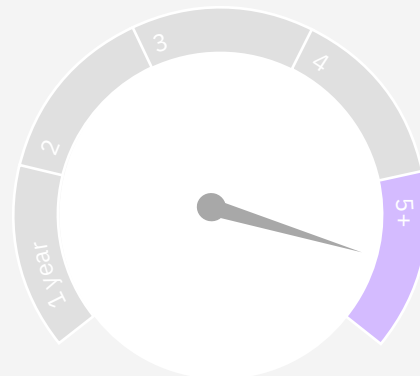
Novice

An organization that has used conversational AI in at least one customer service use case for **one to three years**



Veteran

An organization that has used conversational AI in at least one customer service use case for **at least five years**



89% of organizations that have used conversational AI in customer service for at least three years are already using generative AI to answer customer queries directly.

Customer service is the proving ground for generative AI

Customer service is the tip of the spear for generative AI—the function that pierces through the unknown to deliver unprecedented business value.

In fact, as this transformative technology disrupts how work is done across the enterprise, customer service has become the C-suite's top priority for adoption.¹ That's no surprise, as it's the next logical step for companies that have already been using traditional AI in customer service for years.

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. By creating dynamic, personalized experiences for both customers and human agents, it has the potential to supercharge traditional AI, spurring a seismic shift in productivity and effectiveness. Making the right bets can pay off exponentially—but where companies should invest depends on where they're starting from.

So, where do business leaders at different stages in the AI journey see the most promise? To answer this question, the IBM Institute for Business Value (IBM IBV) surveyed nearly 1,500 customer service managers, directors, and executives from organizations that have used conversational AI for at least 12 months across 34 countries and all major industries. We asked how their organizations are using generative AI in customer service today, which use cases show the greatest potential, and where this technology is already delivering the most business value.

Overall, customer service leaders agree that adopting generative AI is essential for their business. In fact, every single respondent says their organization plans to use generative AI in customer service—and 67% say they’ve already begun. More than half (54%) of these organizations have deployed generative AI in one to four customer service use cases (see Figure 1).

But not every organization plans to use generative AI the same way. Those earlier in their AI journey need to experiment with generative AI to explore opportunities and validate use cases. Those with more experience can tap generative AI to drive broader transformation.

To better understand the path to value for organizations at different starting points, we looked at how their experience with traditional AI influences their approach to generative AI. Our data suggests the number of years an organization has used conversational AI, which is designed to understand and respond to customer queries in natural language, is a telling predictor of whether it will be an aggressive early adopter of generative AI. We see that organizations with the most experience using conversational AI have the confidence to be bold, implementing more sophisticated use cases. For instance, 89% of organizations that have used conversational AI in customer service for at least three years are already using generative AI to answer customer queries directly.

However, our research also reveals that using generative AI in conjunction with conversational AI can deliver significant business benefits regardless of how much AI experience an organization has. Veterans do see best-in-class performance—but novices could gain the biggest edge over their peers. This means organizations at every maturity level have opportunities to outpace their competitors—and deliver game-changing performance improvements. They just need to know the best next step to take.

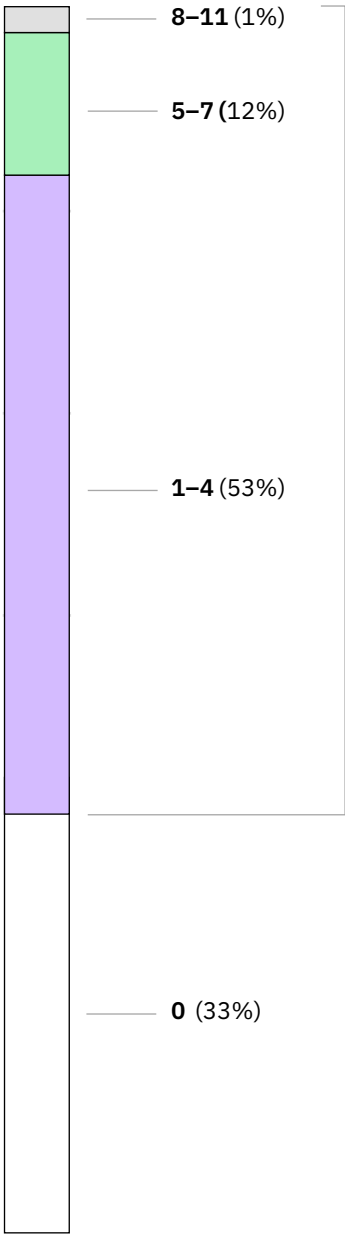
Read on to learn how organizations are leveraging generative AI in customer service today, how it can impact key performance metrics—including cost per contact and ROI—and which approaches work best for novices and veterans. Then explore an action guide that outlines how organizations in each group can get the most value from generative AI.

FIGURE 1

AI powers combined

Most organizations using conversational AI have already deployed generative AI.

Number of generative AI use cases



67%
have already deployed generative AI

Note: Number don't add up to 100% due to rounding.

More than 40% of organizations are using generative AI to create test cases for training conversational AI.

AI gets a nitro boost

When conversational AI came on the scene, it helped companies improve on early chatbot experiences, which were driven by rule-based systems that delivered pre-defined responses. Used primarily to address common, easy-to-answer customer questions, chatbots had limited capabilities.

Conversational AI made chatbots better by leveraging natural language processing (NLP) and machine learning algorithms to understand and respond to customer questions. When trained well, these AI assistants sound more like humans and less like machines. However, while these enhanced AI assistants can successfully execute much more complex interactions, their capabilities eventually hit a wall.

Generative AI offers the next evolution. 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.

Many organizations are using generative AI for this purpose, layering it on top of conversational AI to improve the speed and accuracy of the tools they already have in place. For example, 44% of organizations already using generative AI in customer service are tapping it to create test cases to train conversational AI. And even more businesses (46%) are using it to generate dialogue for conversational AI (see Figure 2).

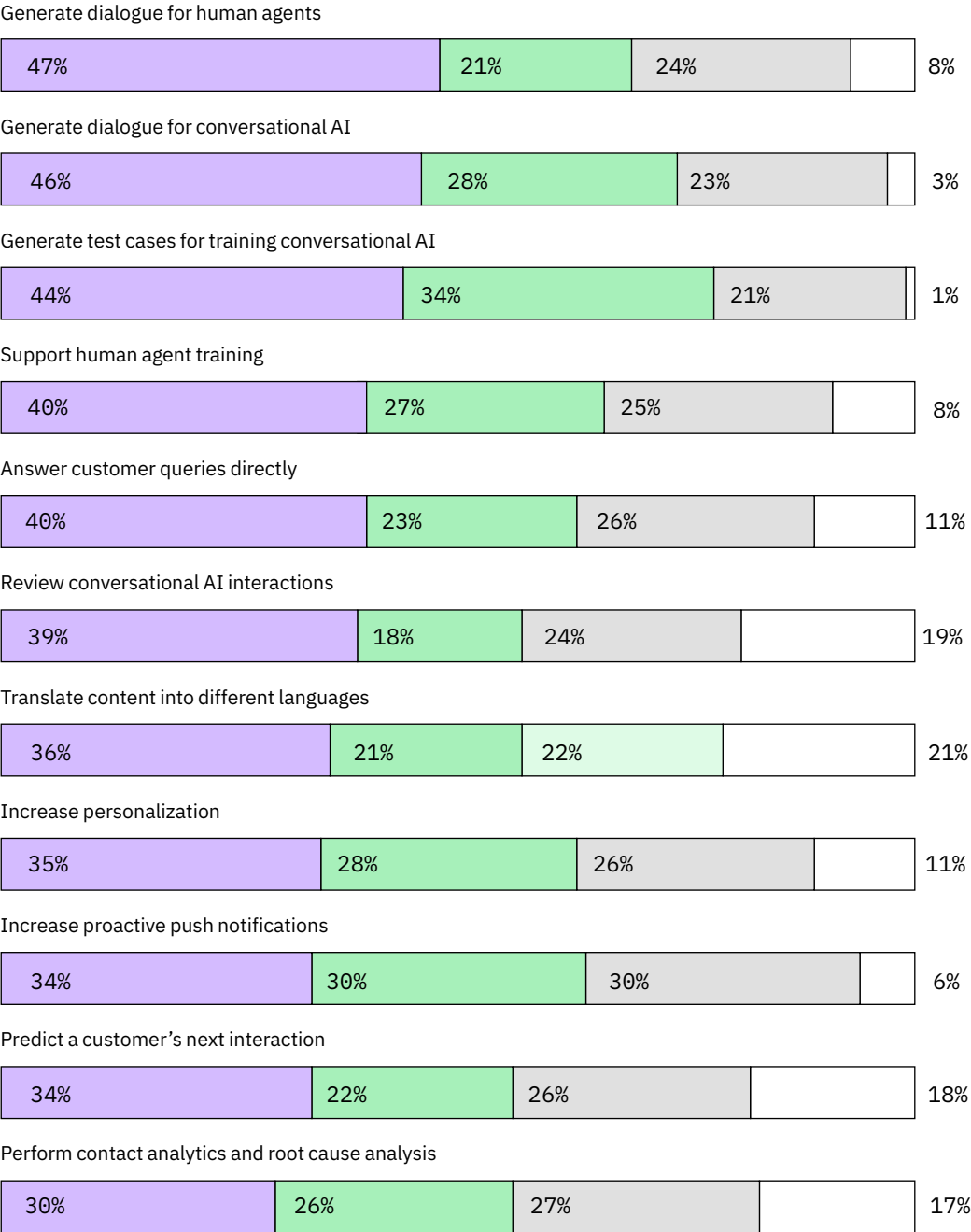
FIGURE 2

Generative AI expands its reach

Organizations plan to adopt generative AI for a wide variety of customer service use cases by the end of 2024.

Adoption timeline

Already adopted
 2024
 2025 to 2027
 Not sure



Business benefits abound

With so many use cases in play, it's no surprise that organizations expect to see business benefits across the board. Nearly two-thirds of respondents expect generative AI to increase customer satisfaction (65%), and more than half anticipate higher human agent satisfaction (58%), revenue growth (56%), and customer retention (53%). Just under half also expect it to lower their cost per contact (46%).

Business leaders see the potential benefits, but some are pursuing these outcomes more aggressively than others. Our research reveals that an overwhelming majority (87%) of veteran organizations—those that have used conversational AI for at least five years—were using generative AI in at least one customer service use case in mid-2023. Only 43% of novices—those that have used conversational AI for three years or less—could say the same.

Why is this the case? Partly because succeeding with generative AI requires confidence, acumen, and governance guardrails—which gives more experienced companies a leg up on the competition. Plus, many experienced organizations already have the technical infrastructure needed to capitalize on the generative AI moment. For instance, roughly half (49%) of veteran organizations have substantially or fully integrated conversational AI with back-end systems to resolve inbound contacts. Only 16% of novices can say the same.

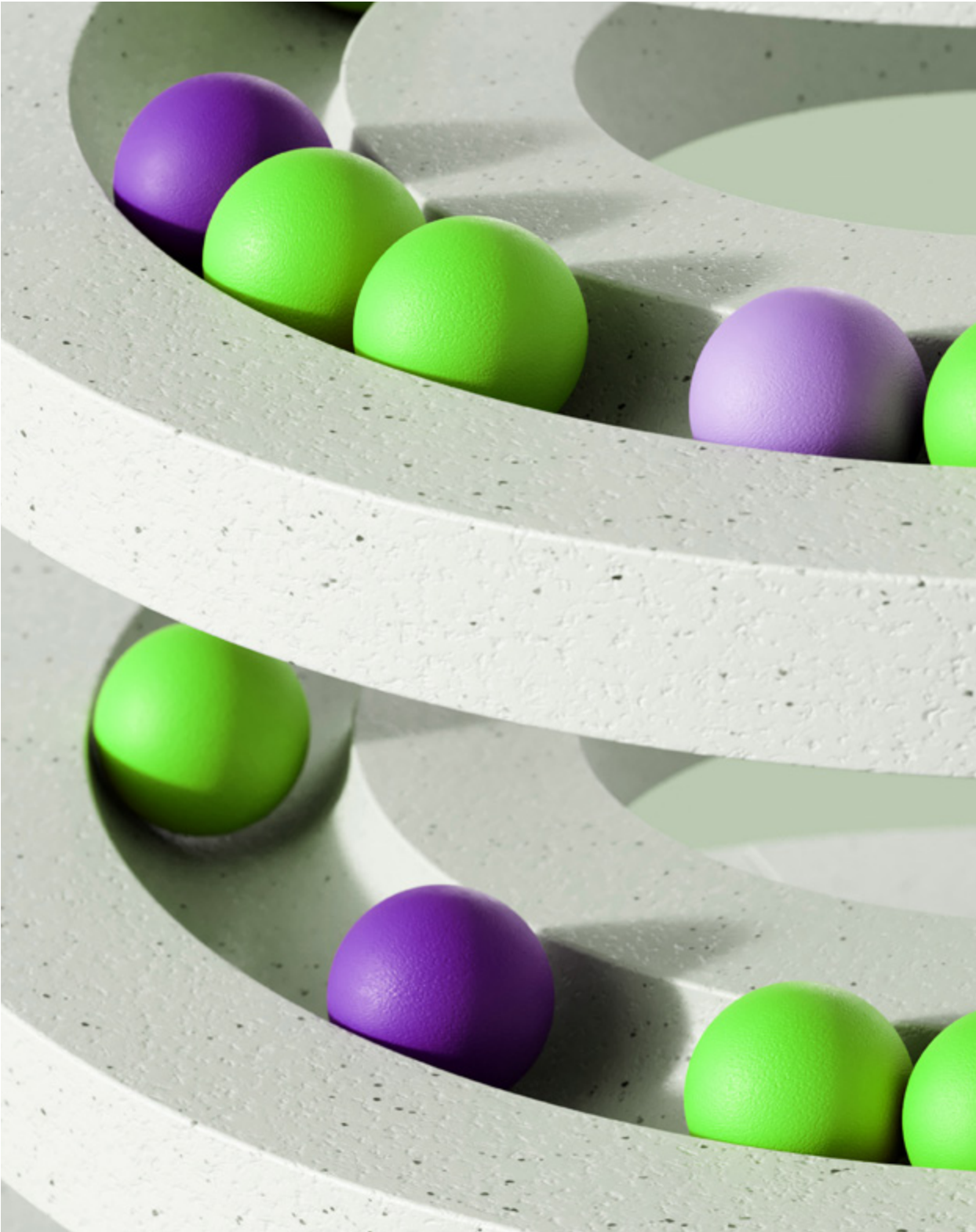
Veterans also have a deeper understanding of how to use conversational AI—and where generative AI can help them improve. 49% say they've fully or substantially optimized the way they review and retrain conversational AI, compared to just 17% of novices.

Case study

WindTRE relies on IBM Consulting and watsonx AI to address customer complaints faster²

Italy's leading telecommunications company knows how important it is to resolve customer complaints quickly and with care. Working with IBM Consulting and watsonx AI solutions, WindTRE is optimizing how complaints are handled to reduce the repetitive activities of its service desk and to accelerate customer results.

IBM Consulting helped to design, develop, and manage an AI solution that understands human language and reason. It includes a dedicated dashboard that continuously shares performance, volumes, and expected benefits, which has improved the effectiveness and efficacy of claims management. To date, the solution has been able to handle over 200,000 reports in an automated manner, achieving high levels of automation. The company can now respond to customer complaints 10 times faster than it could before. This transformation has improved customer service and helped evolve WindTre's operational mindset.



Veterans reap the greatest cost savings with generative AI, but novices can use it to gain traction quickly.

Experience matters—but generative AI is a tide that raises all boats

No matter where an organization is in its AI journey, adding generative AI can provide a much-needed performance lift.

Our research shows that, on average, all organizations using generative AI in customer service report higher levels of customer satisfaction than those that don't. However, organizations that have been using conversational AI longer report the best business outcomes overall (see Figure 3).

ROI

First let's consider ROI for conversational AI. Veteran organizations that aren't using generative AI report an ROI of 73%, while those that have adopted both types of AI are seeing a 100% ROI—an increase of 37%. For novices, this difference jumps to 117%: those not using generative AI report an ROI of 30%, compared to 65% for those that are using it. These results follow the same trend that we saw with cost per contact, with novices gaining a greater edge over their peers with generative AI while veterans realize greater benefits overall.

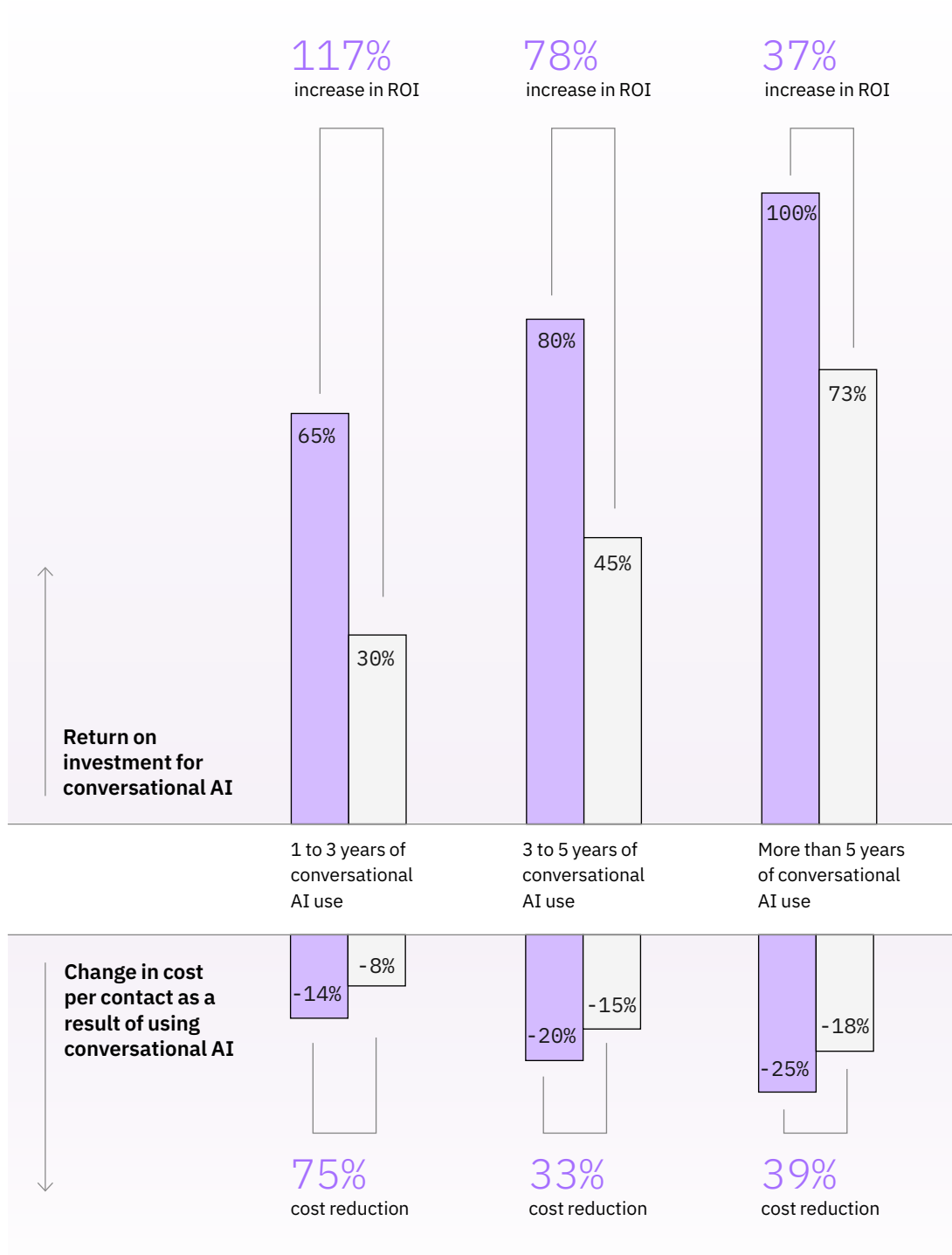
These findings suggest that adopting generative AI to improve customer service gives all organizations, regardless of experience, an advantage over competitors that don't employ generative AI. But what's the best way to roll out this transformative technology? And how should novices invest in generative AI differently than more experienced organizations?

FIGURE 3

Gains at every stage

Veteran organizations deliver better results with generative AI, but novices leap farther ahead of their peers

■ Using Gen AI □ Not using Gen AI



Cost per contact

Now, let's look at cost per contact. Veteran organizations that aren't yet using generative AI report a cost reduction of 18% from using conversational AI alone. But veterans that are using conversational and generative AI in conjunction have seen a 25% reduction in cost per contact—that's a 39% improvement.

In comparison, novices who haven't yet deployed generative AI report an 8% reduction in cost per contact from conversational AI. However, novices that have embraced both generative AI and conversational AI have reduced cost per contact by 14%, representing a 75% increase in savings.

This demonstrates that veteran organizations may be positioned to reap the greatest cost savings with generative AI, but novices are able to use it to quickly gain traction over their peers—and catch up with more experienced competitors.

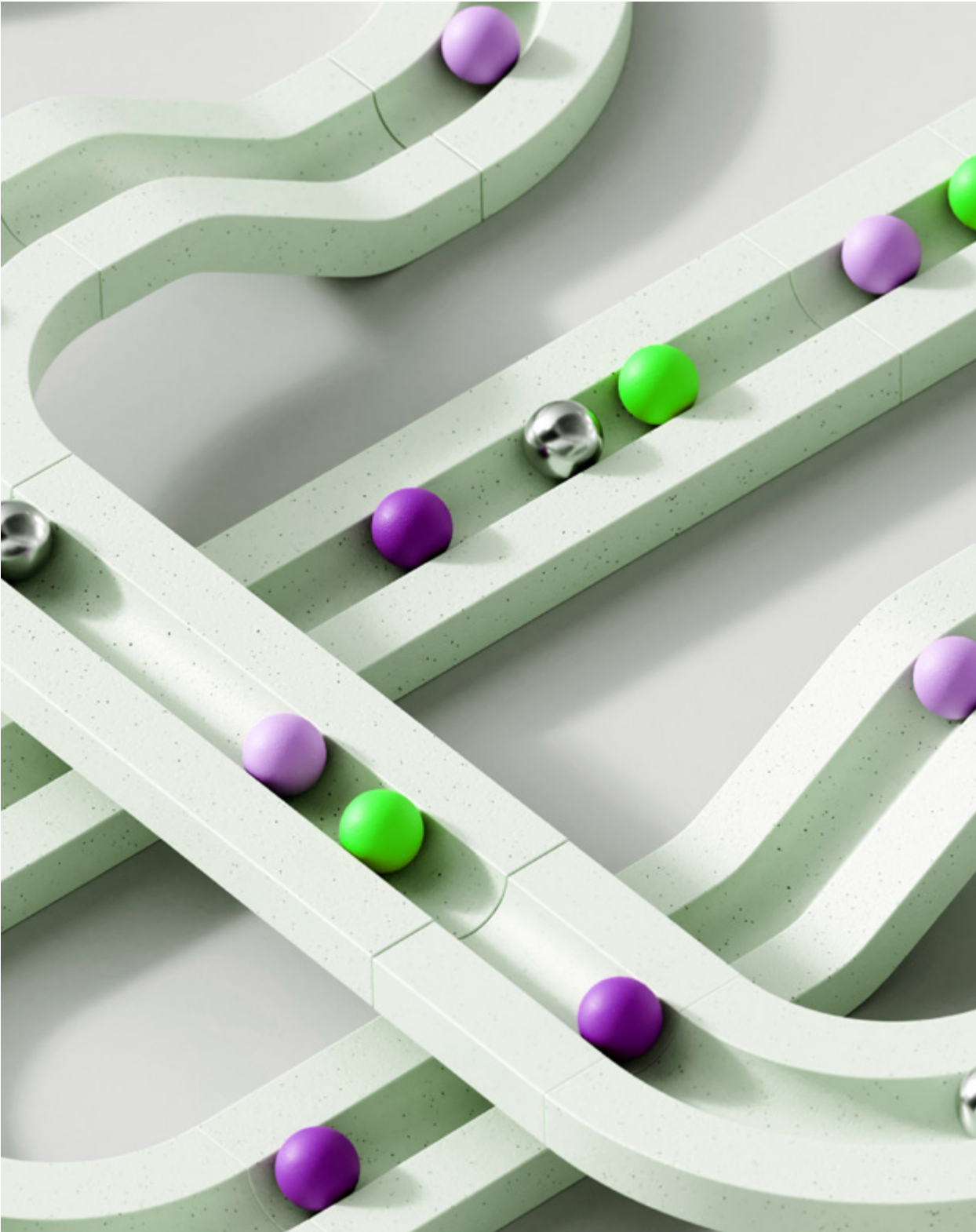
Case study

IBM partners with a British bank to make customer service more intuitive

One stalwart British bank has a vision to support every customer with personal, intuitive, and efficient service. To this end, it wanted to leverage state-of-the-art AI to supercharge chatbot performance and enhance the bank's customer engagement channels overall. With a focus on streamlining the customer service experience, the company aimed to unlock actionable insights from customer interactions and drive more personalization.

In partnership with IBM Consulting, the bank is pushing the boundaries of large language models (LLMs), leveraging generative AI to help identify customers' evolving needs and to reduce manual effort from managing, training, and supporting various engagements.

This partnership also helped the bank improve conversation classification accuracy, better determine which data should be discarded, and improve productivity using a repeatable, transparent, and trusted process. Overall, generative AI has helped the bank save £2 million in annual costs and thousands of hours of labor. Today, more than 90% of customer queries are answered correctly by the AI assistant—boosting the customer service team's productivity.



All organizations will need to address ethical, compliance, and governance challenges to roll out responsible generative AI.

Less is more for veterans, while novices should experiment broadly

When it comes to generative AI adoption, one size doesn't fit all. Organizations that are seasoned conversational AI veterans understand best practices, have identified capability gaps, and see how generative AI can help build on past successes in customer service.

Experience translates to confidence for these veteran organizations, with 59% already using generative AI in at least three distinct customer service use cases. At first glance, this seems intuitive—of course organizations with more experience would want to expand their AI expertise and scope.

But our findings suggest this may not be the best approach. Rather, veteran organizations deliver greater business value when they focus generative AI on a smaller number of more sophisticated implementations. It's the customer service teams with less conversational AI experience that see better results from investing in more use cases early on.

Cost-per-contact results highlight this trend. When novices use both conversational AI and generative AI in three or more customer service use cases, they see a cost reduction of 25%. With only one or two use cases, the savings drop to just 10%. Conversely, veteran organizations see a 30% reduction in cost per contact when adding generative AI to just one or two customer service use cases. This figure drops to 10% when they experiment with five use cases or more (see Figure 4).

There are many reasons why this might be the case. For starters, novices have a steeper learning curve with generative AI, which means they need to experiment broadly—and measure results—to see what works best. They also have more low-hanging fruit to pick from, which means they can capture quick wins by using generative AI to streamline multiple workflows. Veterans, on the other hand, have already cashed in on easy process improvements. Instead, they need to develop more sophisticated capabilities to drive cost savings and revenue growth—and that takes focused investment.

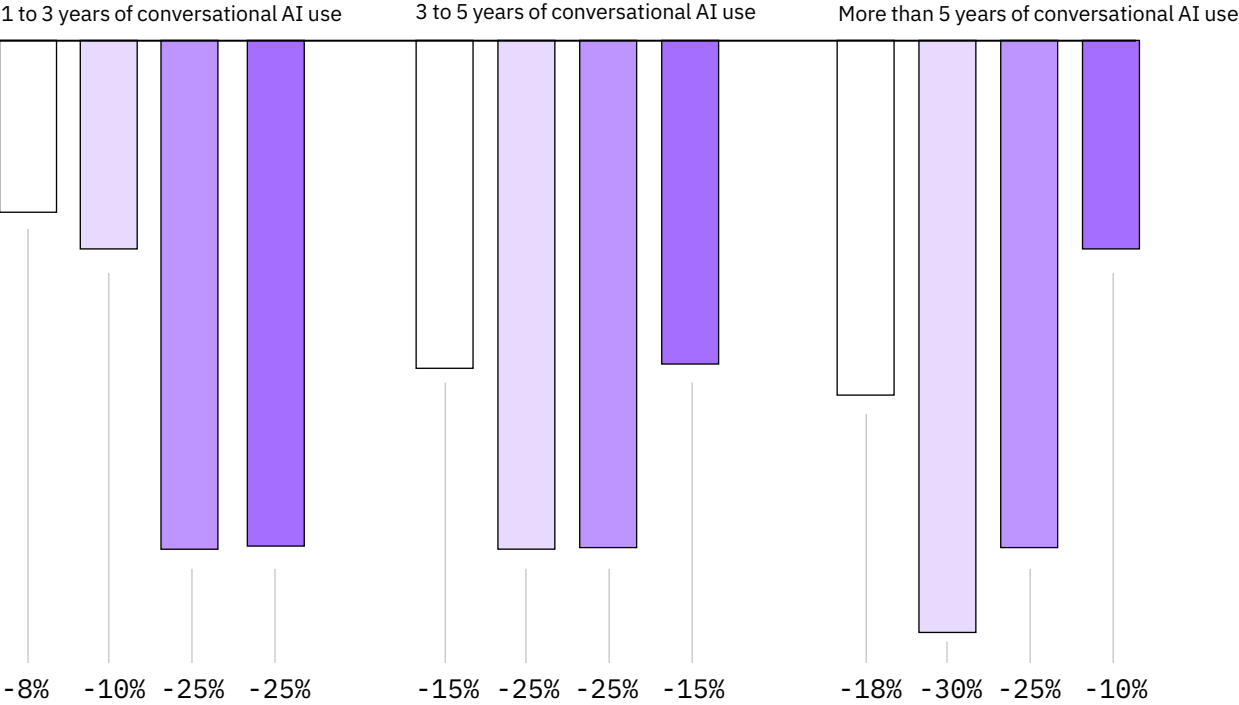
FIGURE 4

Experimentation versus expertise

More use cases translate to lower cost per contact for novices—but veterans save more with fewer use cases.

Number of generative AI use cases

□ Not using □ 1-2 □ 3-4 □ 5+



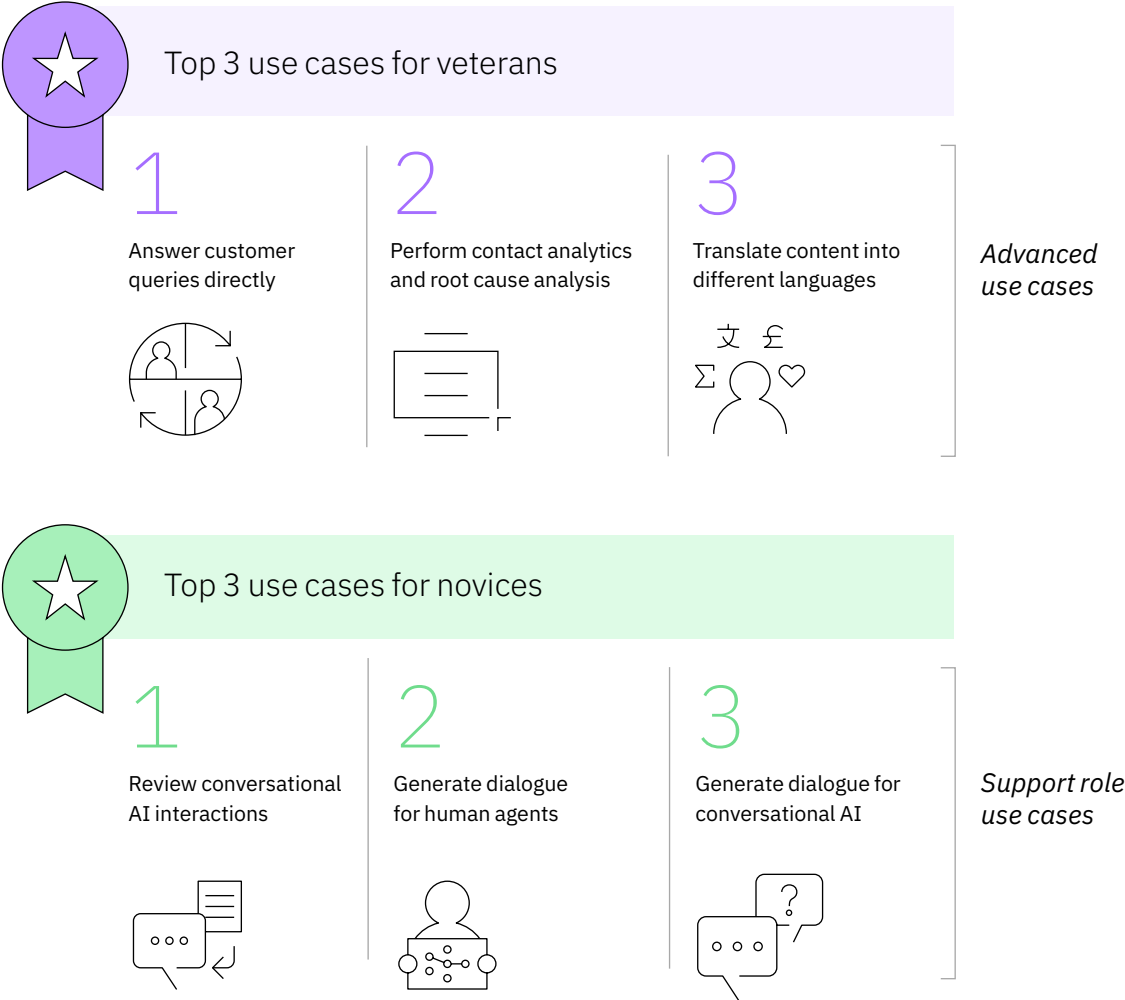
Reduction in cost per contact

So, which use cases should companies in each category prioritize? Our research shows that in 2023 roughly twice as many veteran organizations were experimenting with customer-facing use cases than novices. While novices today are starting to close that gap, veterans are still more focused on using generative AI in advanced use cases, such as answering customer queries directly and translating content into different languages. On the flip side, novices’ most popular generative AI use cases continue to be those serving a support role (see Figure 5).

FIGURE 5

A bold step forward

Veterans are experimenting with more advanced use cases than novices.



Spotting the speedbumps

The challenges organizations in each category face also differ. Novices are most concerned that generative AI may not offer a secure environment for their organizational data (44%) and that it may be difficult to integrate generative AI with their organizational processes (38%). Veterans are concerned that generative AI may make it more difficult to meet social responsibility goals (46%) and environmental sustainability goals (42%) and may not offer a compliant environment for customer data (40%).

In short, more advanced capabilities translate to more sophisticated concerns. Novices are concerned with the basics—how to integrate generative AI without putting sensitive data at risk. Veterans see the speedbumps further down the road. While industry regulations could also influence which use cases leaders prioritize, all organizations will need to address ethical, compliance, and governance challenges as they work to roll out responsible generative AI.

Novices that prioritize the principles of trustworthy AI from the outset—explainability, fairness, robustness, transparency, and privacy—may be able to scale faster in the future. And veterans that can clearly outline how they've integrated generative AI into customer service solutions responsibly have the chance to outcompete in an evolving regulatory landscape.

Yet, recent IBM IBV research shows that many organizations are struggling to turn principles into practice. While 79% of executives say AI ethics is important to their enterprise-wide AI approach, less than 25% have operationalized AI ethics. In this environment, companies with strong ethics and governance capabilities have a chance to stand out from the crowd, with three in four executives citing ethics as a source of competitive differentiation.³

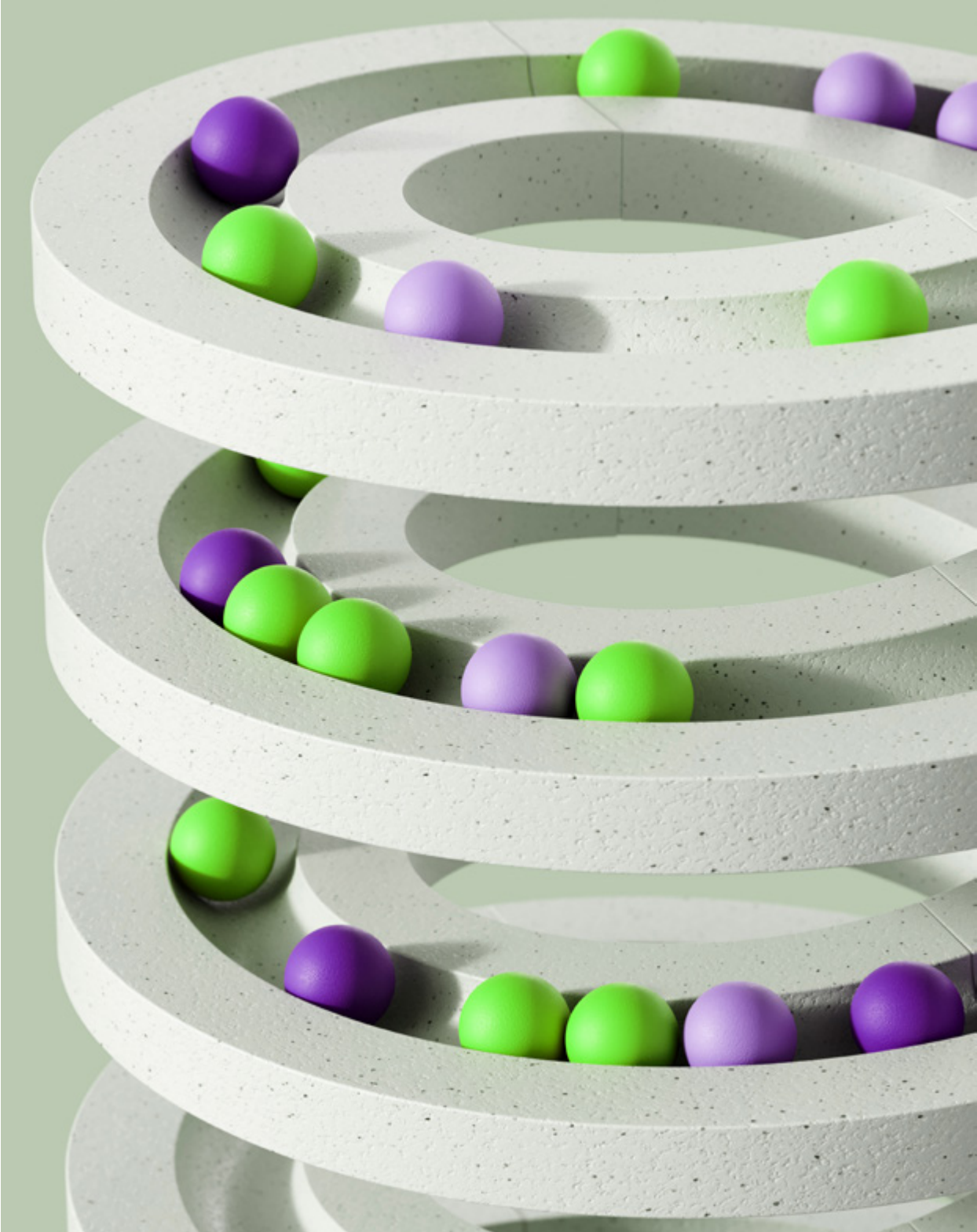
Harnessing the human element

Generative AI isn't a silver bullet. It enhances productivity and enables new business models—but people are at the heart of the opportunities it creates.

As new use cases for generative AI emerge, employees must be empowered to identify new opportunities to drive efficiencies, deliver value, and elevate their roles. At each step in the generative AI journey, humans are also central to designing, implementing, and reviewing outputs to help ensure they are ethical and unbiased.

Customers have a broad set of cultural, emotional, and social needs that are communicated in subtle and diverse ways—cues that require high emotional intelligence to read. As generative AI helps organizations gain insights into customer interactions and predict what they'll do next, people will be an essential part of translating those insights into action.

By combining the strengths of humans and AI, organizations can move faster and more decisively without compromising their values. With responsible leaders at the helm, they can build a tech-fueled customer service function that increases loyalty, builds trust, and enhances user experience as customer and employee expectations evolve.



Action guide

The race is on

No matter where your organization is in its generative AI journey, it's time to pick up the pace. But not every investment will provide the same boost to the bottom line. Stay mindful of what differentiates your company from the competition and use generative AI to enhance what sets it apart.

Priorities for novices

- *Address customer pain points.* Find the friction in the customer experience and explore how you can use generative AI to smooth it out. Use technology to uncover ways to improve how things work—and apply the human touch to the details that make all the difference.
- *Find high-value opportunities that were previously off-limits.* See where generative AI changes the business case for implementations that once seemed too risky or costly. Set your sights on critical operations that generative AI is primed to support—even if your capabilities aren't quite there yet. This can let you evolve quickly once you have the right foundation in place.
- *Fuel the AI flywheel.* Use generative AI to fine-tune the conversational AI you already have in place. By tapping generative AI to write dialogue, review interactions, and create test cases for conversational AI, teams can learn how to leverage this transformational technology behind the scenes. Add guardrails, such as post-processing filters, to identify and address hallucinations before they make their way into work products. Experiment broadly, measure outcomes, and collect feedback from agents and customers to find opportunities to increase the scope, scale, and speed of generative AI adoption.
- *Foster a culture of innovation.* Empower customer service professionals to experiment with generative AI by providing clear guardrails that align with a larger AI ethics framework. Create a design guide for AI that includes a specific section on algorithmic accountability. Encourage teams to share both successes and failures to avoid repeating the same mistakes. Give ethics teams a seat at the table to close the gap between intentions and actions.
- *Train agents to train AI.* Unsupervised generative AI increases the risk of misinformation, hallucinations, or biased responses. People must provide the backstop. Require AI ethics and bias identification training programs to reinforce the principles of trustworthy AI. With the right governance in place, agents' interactions will train generative AI foundation models to deliver higher-quality outputs and manage the risks that come with generating inaccurate content.
- *Build predictive capabilities.* Collect relevant customer intel—such as demographic information, purchase history, and behavioral data—to feed into a closed generative AI model. Integrate the model with existing CRM or ERP systems to deliver insights directly to employees.

Action guide

Priorities for veterans

- *Put customers first.* Extend generative AI use cases into areas that do the most to improve customer experience. This may include letting generative AI handle simple customer interactions to increase the speed of service. For more sophisticated requests, give agents generative AI tools that let them expertly answer customer questions and provide targeted product recommendations. The key is making sure customers know when they're engaging with a generative AI assistant—and giving them the opportunity to request human help at any point in the process.
- *Fine-tune your AI ethics framework.* Make sure you have an AI ethics committee that includes representatives from legal, compliance, data privacy, and customer service to provide ongoing feedback into generative AI use cases.
- *Hold everyone accountable.* Conduct regular audits to help ensure all new applications align to ethical principles and guidelines. Establish accountability mechanisms that designate teams or individuals responsible for the actions and outputs of generative AI models.
- *Create bespoke experiences.* Use generative AI to create personalized conversation flows that consider individual customer preferences, behaviors, and previous interactions. Develop sentiment analysis capabilities that help generative AI assistants understand the emotional tone of customer interactions and respond accordingly.
- *Encourage enterprise AI adoption.* Share learnings and successes across the enterprise to inform and inspire broader generative AI adoption. As one of the most experienced functions, customer service can pave a path for other departments to follow.

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Study methodology

In collaboration with our research partner, Oxford Economics, the IBM Institute for Business Value conducted a double-blind quantitative survey in late 2023 of 1,495 individuals with deep expertise in customer service, ranging from executives to directors and managers.

This global survey was issued to organizations in 34 countries, spanning multiple industries, including banking and finance, government, healthcare, insurance, manufacturing, media and entertainment, professional services, retail, software, telecommunications, transportation, and utilities.

All organizations in our sample have been employing conversational AI in customer service for a year or more, and all respondents are very familiar with the benefits and challenges this technology presents and the way their customer service function has been working to enhance productivity, quality, and scale support with generative AI.

Our analysis focused on which generative AI use cases are most common and delivering the greatest business value to customer service teams today. We then correlated the potential value organizations could realize based on the duration of organizations' conversational AI journey.

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The value of virtual agent technology: Improve customer service and boost financial results with AI-enabled systems

<https://www.ibm.com/thought-leadership/institute-business-value/en-us/report/virtual-agent-technology>

Notes and sources

- 1 *The CEO's guide to generative AI: Customer service*. IBM Institute for Business Value. August 2023. <https://ibm.co/ceo-generative-ai-customer-service>
- 2 "Streamlining claims management processes." IBM. Accessed May 1, 2024. <https://www.ibm.com/case-studies/windtre>
- 3 *The CEO's guide to generative AI: Responsible AI and ethics*. IBM Institute for Business Value. October 2023. <https://ibm.co/ceo-generative-ai-responsible-ai-ethics>

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