

# Quantifying the Potential of Generative AI

What to know about how generative AI can revolutionize business practices, boost workforce efficiency, and accelerate time to market

Generative AI has dominated technology news cycles over the last year. From the impressive text and coding capabilities of ChatGPT and GPT-4 to Midjourney's high-resolution image generation, generative AI can transform how companies do business. Emerging machine learning (ML) models that can generate image, text, voice, video, code, and more in response to a prompt have such a wide range of profitable use cases that industries are already strategizing how best to deploy them to get the greatest return on their AI investments.

While concerns remain about AI risks regarding privacy, model hallucinations, and bias, the consensus is that generative AI holds significant promise in areas as diverse as customer service, data analytics, and cybersecurity. In the next few years, we expect to see generative AI penetrate design, product development, app development, asset management, contract management, risk management, content creation, and more. In the public sector, generative AI holds the potential to streamline things like customer service, fraud detection, budgeting, automated compliance, urban planning, and emergency response preparedness.



The scope of the potential disruption is vast: It's believed that by 2025, 50% of drug development will use generative AI as part of the process, 30% of outbound messages from large enterprises will be written by AI, and 90% of quarterly reports will be synthetically generated.<sup>1</sup> A 2023 report by Goldman Sachs estimates that AI could drive a \$7 trillion annual increase to the global GDP over the next 10 years.<sup>2</sup> In this paper, we'll explore what we see as the most exciting benefits and use cases of generative AI in enterprise and government.

## Productivity

AI has long been the answer to achieving greater efficiencies across business functions. Many organizations have already incorporated nongenerative AI into their workflows, operations, and analytics to achieve greater accuracy, predict future needs, better manage workflows, and automate manual work. But generative AI opens up new kinds of work to automate and enhance human capabilities through human-AI collaboration. Organizations that use large language models (LLMs) will improve their workforce productivity, free up staff for higher-value work, and decrease customer wait times. For example, in government, generative AI will answer citizens' questions and evaluate applications, significantly reducing backlogs. In business, expect generative AI to transform workflows, allowing one worker to accomplish far more.

## Time to Market

Generative AI is expected to significantly reduce time to market in many industries, allowing companies that adopt it effectively to be first movers — and, in the pharmaceutical industry, even potentially save lives. Implementing generative AI across all aspects of product development, from design to marketing, will help companies reduce the time it takes to go from idea to launch. In the pharmaceutical industry, generative AI is already being used to accelerate drug discovery by finding compounds that could be effective and by modeling the outcomes of those interventions to help researchers deliver life-saving drugs to market faster.

## Competitive Advantages

A common truism for generative AI and the future of work is that it won't replace most workers, but a worker better at using it will likely replace a worker who isn't. The same goes for companies. A company successfully deploying generative AI to achieve a competitive advantage across functions is likely to replace a company that isn't a market leader. Generative AI is an opportunity for technology — focused companies to disrupt their sectors — or to sustain and improve their market position.

## Benefits

You've likely already read about many of the potential benefits that the widespread adoption of generative AI is expected to offer to both enterprise and government organizations. But a deeper perspective is vital for those benefiting from these game-changing technologies. While the particular advantages of generative AI to any organization will depend on the organization's challenges and goals, these are the core benefits we predict organizations will see through the deployment of more advanced AI across multiple internal use cases.

<sup>1</sup> Bilan, Maryna. Potential of Generative AI for Enterprise: Statistics, Use Cases, Top Business Examples. Master of Code. (<https://masterofcode.com/blog/generative-ai-for-enterprises-statistics-use-cases-business-examples>)

<sup>2</sup> Briggs, Joseph. The Potentially Large Effects of Artificial Intelligence on Economic Growth. Goldman Sachs: Global Economic Analyst. ([https://www.ansa.it/documents/1680080409454\\_ert.pdf](https://www.ansa.it/documents/1680080409454_ert.pdf))

## Healthcare

Healthcare will use generative AI for patient communications as well as medical simulations, personalized treatment plans, medical imaging analysis, patient care monitoring, and diagnostic support.

## Financial Services

Financial services won't just deploy generative AI in customer service or to streamline business processes. The technology will also be used for fraud prevention, predictive modeling, policy underwriting, purchase order reconciliation, and speeding the time to market for new financial products.

## Sustainability and Climate

Organizations that provide sustainability and climate services or integrate sustainability or climate goals will find that generative AI can help them meet their objectives. AI will be used to improve compliance with internal and external sustainability regulations, calculate sustainability and climate implications or decisions, and integrate sustainability in all stages of operations, from product design to delivery.

## Government

Public service agencies may benefit the most from generative AI. From finding fraudulent transactions to streamlining document processing and management, generative AI can reduce deadlocks and wait times across government. Expect to see it deployed to automate compliance, simplify tax filing, support smarter planning, improve emergency response through modeling, and enhance predictive analytics.



### Innovative Use Cases

Customer service and content creation are obvious use cases for generative AI, but pioneering use cases will emerge for the technology across industries.

## Predictions

The optimal use cases for generative AI are currently limited by drawbacks within both the models and the technology. For example, models still cost a significant amount to train or fine-tune. That leads to relatively high consumption-based pricing on model outputs that makes them ill-suited for some lower-value tasks or functions which they might perform well. However, this is just the beginning of generative AI innovation, and some companies have already greatly reduced their pricing, as OpenAI did following the initial launch of ChatGPT. Significant price reductions are also expected in the future.

Organizations should expect and plan for specialty models trained for very specific use cases (e.g., medical purposes), smaller models that work just as well as large ones and cost less to train and use, and, eventually, models small enough to work directly on edge devices like phones, tablets, and PCs. Ultimately, these advancements will expand the areas where generative AI can be used, lead to more effective and highly specialized models, and make the technology more cost-effective for niche or low-value use cases. For example, specialized medical models will make generative AI better at medical tasks like communicating with patients, and on-device models will provide workers with a personalized AI assistant to make them more productive.

## Risks

Despite all the clear advantages of generative AI, the technology is not without risks. Generative AI models of all kinds have been shown to have issues with accuracy—from LLMs giving factually incorrect answers to image generators unsure of how many fingers humans have. In some use cases, that risk of inaccurate information will need to be controlled for.

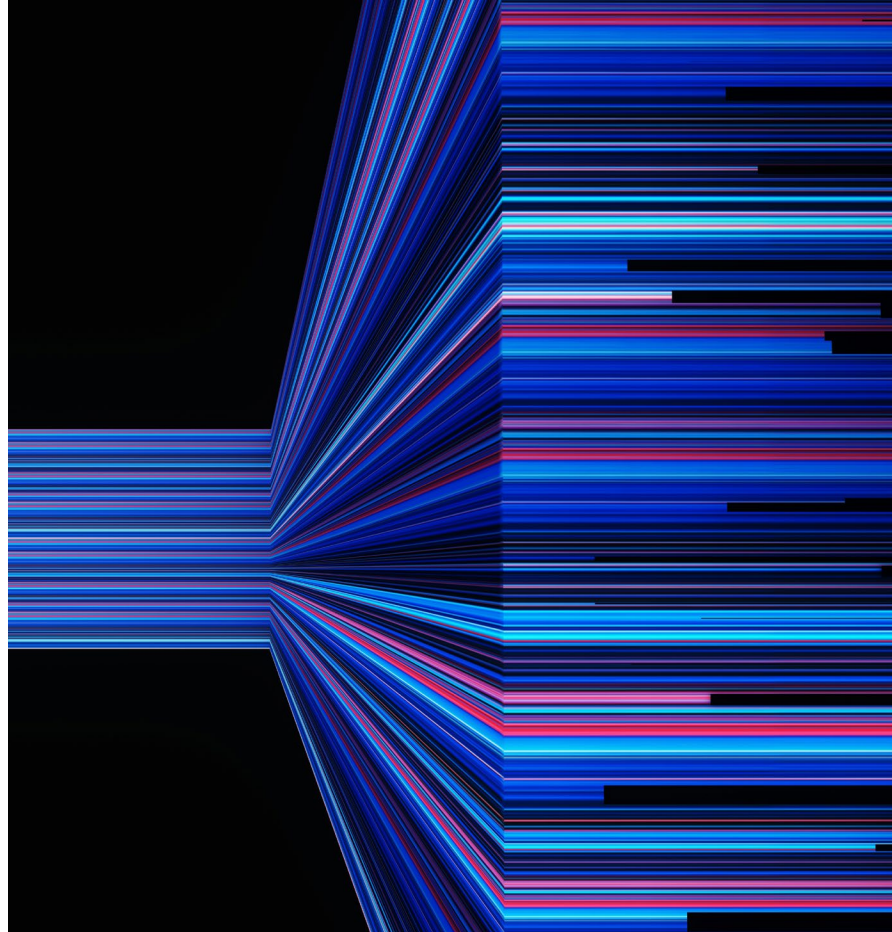
There are also safety risks. For example, a model that has been trained on biased data could impact a healthcare decision, or a model could provide the wrong diagnosis recommendation, leading to serious health consequences in healthcare use cases. Concerns about the environmental impacts of generative AI are a factor, too, since the technology uses significant computing power to generate responses, which could impact an organization's science-based climate targets.

But while these are all important risks to keep in mind and control when using generative AI, there are ways to manage them properly and still benefit from the technology. In our next article, we'll explore generative AI's risks and how to mitigate them in greater depth.

## Conclusion

It's critical that all organizations move quickly to create a generative AI taskforce and plan—not just to take advantage of the paradigm-shifting benefits of the technology, but also to stay competitive against others who use the technology. To do that effectively, it's important to deeply understand how to balance AI's risks against its benefits and know which use cases to prioritize in your industry.

Guidehouse understands generative AI and industry-specific compliance requirements and challenges. With our cross-functional experience in multiple sectors, we're the perfect partner to help business and governmental organizations create a generative AI plan to use the technology and maximize its benefits while reducing costs and risks.



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