

Board Brief on Generative AI

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Recent advances in GenAI make it the most disruptive set of technologies and capabilities to hit the global market in decades. Boards of directors must become familiar with the competitive opportunities provided by GenAI as well as potential threats to meet enterprises' evolving oversight needs.

This document was revised on 9 May 2023. The document you are viewing is the corrected version. For more information, see the [Corrections](#) page on gartner.com.

What Is Generative AI, and Why Should My Board Pay Attention to It Now?

Generative AI is the ability of a computer program to create brand-new, completely original variations of content (including images, video, music, speech and text). Generative AI (GenAI) can analyze, improve or alter existing content, and it can create new data elements and novel models of real-world objects, such as buildings, parts, drugs and materials.

While GenAI and AI have been around for decades, the arrival of ChatGPT in November 2022 democratized access to this technology and created the potential to transform the way virtually all enterprises compete and do work. ChatGPT is a computer program developed by OpenAI that talks like a human and can answer questions or have a conversation with people using text messages.

This advance makes the technology accessible to millions of users who lack the programming skills to use traditional AI technologies. People can now use ChatGPT to access vast data pools based on the entire internet and more, and generate an endless array of content simply by asking it to do so.

ChatGPT hit 100 million users in *one week* and has over 1 billion monthly views on its website.

This board brief summarizes some of the key board-level issues that board directors should consider and questions they can ask when engaging with the executive team on GenAI.

What Are the Strategic Opportunities for My Company?

GenAI has the potential to significantly impact shareholder value by providing new and disruptive opportunities to increase revenue, reduce costs and improve productivity, and better manage risk. In the near future, GenAI will become a competitive advantage and differentiator.

GenAI will disrupt white-collar workers similarly as robotics disrupted blue-collar workers on the manufacturing line. It will heavily augment some workers and entirely replace others over time. Board directors of enterprises with a high proportion of professional or data-driven services in their product portfolios should work with their executive teams now to understand the opportunities afforded by GenAI. Below are some of those opportunities.

Revenue opportunities:

- **Product development** — AI will enable many enterprises to create new products more quickly. Pharma, healthcare, manufacturing (CPG, food and beverages, chemicals, and materials science) will become AI-first industries to create new drugs, less-toxic household cleaners, novel flavors and fragrances, new alloys, and faster and better diagnoses.
- **New revenue channels** — Enterprises with greater levels of AI maturity will gain greater financial benefits associated with revenue, according to a recent Gartner survey. Top AI use cases among mature AI organizations are leveraging AI more for creating new revenue channels (34%). ¹

Cost and productivity opportunities:

- **Worker augmentation** — Use cases demonstrate the ability of GenAI to augment workers' ability to draft and edit text, images and other media. It can summarize, simplify and classify content. It can also generate software code, translate and verify, and improve chatbot performance. At this stage, GenAI is highly proficient at creating a wide range of artifacts that users can describe or imagine, quickly and at scale.

- **Long-term talent optimization** — Employees will be distinguished by their ability to conceive and execute ideas, projects, processes, services and relationships in partnership with AI. This symbiotic relationship will accelerate the time to proficiency and greatly extend the range and competency of workers. The impact on job roles and staff skills, going forward, will be profound.
- **Process improvement** — GenAI has the ability to derive real, in-context value from vast stores of content, such as documents, correspondence and transcripts. Until now, a wealth of data has gone largely unexploited. Now, with GenAI, it will generate more value for enterprises that leverage it. Most content, data and workflow jobs will change.

Risk opportunities:

- **Risk mitigation** — GenAI can analyze vast amounts of data, providing broader and deeper visibility across data, such as customer transactions and, potentially, faulty software code. This provides an enhanced ability to recognize patterns and to identify potential risks to the enterprise more quickly.
- **Sustainability** — GenAI can help enterprises comply with sustainability regulations, mitigate the risk of stranded assets, and embed sustainability into decision making and product design and processes.

How Much Will GenAI Cost?

The costs for GenAI will range from negligible to many millions, depending on the use case, scale and requirements of the company. Small and midsize enterprises may derive significant business value by using the free versions of public, openly hosted applications such as OpenAI, or by paying low subscription fees. For example, OpenAI currently costs \$20 per user per month. It should be noted that free or minimal costs are associated with minimal protection of enterprise data and associated output risks.

GenAI capabilities will increasingly be built into the software products that companies and customers have likely already purchased and use everyday, such as OpenAI, Google Bard, Bing, Microsoft 365, Microsoft 365 Copilot and Google Workspace. This is effectively a “free,” or close to free, tier with benefits to productivity that will naturally flow to the organization. Vendors will pass costs on to customers as part of bundled incremental price increases for both GenAI and other capabilities they build into their tools.

Larger enterprises, or enterprises that desire greater analysis or use of their own enterprise data, with higher levels of security, IP and privacy protections, will need to invest in a range of custom services. This can include building their own licensed, customizable and proprietary models, with data and machine learning platforms that will require working with vendors and partners, and cost in the millions to create and maintain. Our downloadable slide deck provides additional details on models and costs.

What Are the Challenges for Cyber-risk Oversight?

The risks associated with GenAI are significant and rapidly evolving. Just as enterprise employees can use GenAI to easily augment their work, the same is true of a wide array of threat actors that have already been using the technology to create “deepfakes,” or copies of products, and generate artifacts to support increasingly complex scams.

Current GenAI tools such as ChatGPT are trained on large amounts of publicly available data that may not yet be used without permission. They are not designed to be compliant with GDPR and copyright laws. To protect the enterprise from brand and reputational risks, boards must pay close attention to their enterprises’ use of the platforms.

Oversight risks to monitor include:

- **Lack of transparency risks** — GenAI and ChatGPT models are not explainable and unpredictable. Even the vendors don’t understand everything about how they work internally. For boards whose auditors and regulators require attestations regarding the data used by the enterprise, this will limit enterprise use or create risks.
- **Accuracy risks** — GenAI systems consistently produce inaccurate and fabricated answers. Outputs generated by ChatGPT and GenAI should be assessed for accuracy, appropriateness and actual usefulness before being accepted. Premature acceptance of GenAI outputs could be damaging to brand equity.
- **Bias risks** — Enterprises must have policies or controls in place to detect biased outputs and deal with them in a manner consistent with company policy and any relevant legal requirements.

- **Intellectual property and copyright risks** — There are currently no verifiable data governance and protection assurances regarding confidential enterprise information. Users should assume that any data or queries they enter into the ChatGPT application will become public information. Enterprises should put controls in place to avoid inadvertently exposing enterprise IP directly in ChatGPT. Alternatively, enterprises may choose to invest in cloud-based approaches where the data is not retained by ChatGPT and can be encrypted and remain under enterprise control.

Users must also filter out copyrighted materials in ChatGPT outputs to which OpenAI does not have the rights, creating potential legal risks for the user and the enterprise:

- **Cyber and fraud risks** — Enterprises must prepare for malicious actors' use of GenAI systems for cyberattacks and fraud, such as deepfakes and those that use deepfakes for social engineering of personnel, and ensure that the executive team has mitigating controls in place. Enterprises should confer with their cyber insurance providers to verify the degree to which AI-related breaches are covered by their existing policies.
- **Sustainability risks** — GenAI uses significant amounts of electricity. Enterprises that invest in GenAI should encourage the executive team to choose vendors that reduce power consumption and leverage high-quality renewable energy to mitigate the impact on sustainability goals.

Rapidly Evolving Regulatory Environment

Board directors must also closely monitor regulatory developments and litigation regarding GenAI. Countries such as China and Singapore have already put into place new regulations regarding the use of AI and GenAI. Italy has banned the use of ChatGPT as of publication. Countries and regions such as the U.S., Canada, India, the U.K. and the European Union are considering regulations as well. Our downloadable slide deck provides additional information.

What Is the Maturity of GenAI Technologies and the Vendor Market?

As we noted earlier, the reason boards and CEOs are discussing GenAI at this time is due to organizations like OpenAI, Google, Anthropic, Amazon Web Services and IBM having invested hundreds of millions of dollars and massive compute power to build the foundational models on which services like ChatGPT and others depend. Such large-scale foundational models will likely be few, given the cost and difficulty of creating them and the scarcity of AI talent and skills globally. OpenAI founder Sam Altman has said publicly that GPT-4 cost well over \$100 million to build.

But a massive ecosystem of tools and applications that build on, extend and commercialize those underlying foundational models will present many opportunities for both established companies and startups.

The level and pace of investment in the ecosystem of GenAI technologies are breathtaking: According to PitchBook, there are already several hundred GenAI startups and growing. ² Venture capitalists have invested \$408 million in GenAI in 2018, \$4.8 billion in 2021 and \$4.5 billion in 2022, despite rising economic uncertainty and high interest rates.

In 1Q23 alone, venture capitalists funded 46 more deals for a total of \$1.6 billion. Multiple large consulting companies have also announced plans to invest tens of billions of dollars in GenAI-related capabilities.

Even accounting for the possibility of a bubble in GenAI investments, these sums are a proxy for the potential that the venture capital and vendor community sees in winning some part of this market.

What Questions Should the Board Ask the CEO and Executives About GenAI?

GenAI is beginning to emerge as a topic on earnings calls. From January to April 2023, 2% of S&P Global 1200 CEOs mentioned GenAI on their earnings calls, and 1% of them discussed implementing it. AI more broadly is also at the top of CEOs' list of disruptive technologies. More than 21% of 442 CEOs surveyed in 2023 named AI as the technology with the most strategic value, going forward. ³

Board directors should engage with their CEOs and executives by exploring the following questions:

- What is the current state of our GenAI strategy and investments?
- What are our competitors doing in GenAI?
- How will GenAI be disruptive to our business model and corporate strategy?
- How should we factor GenAI into our talent strategy?
- What parts of the business have the most promising use cases?
- What are our opportunities to improve productivity and margins?

- What are our opportunities to generate new products and revenues and reduce enterprise risks?
- What are our current policies regarding employee use of GenAI, and what should they be?
- What level of investment will we need, going forward?
- Should we build a custom GenAI capability?
- What is our plan to assess and mitigate risks in our GenAI investments?
- How can we use GenAI to accelerate our sustainability progress?
- Whom should we partner with, and how will we deal with the nascent vendor market?

Our downloadable slide deck provides additional information about vendors, use cases and other topics.

This brief will be updated periodically to reflect major developments.

Evidence

¹ **2022 Gartner AI Use-Case ROI Survey:** This survey sought to understand where organizations have been most successful in deploying AI use cases and figure out the most efficient indicators that they have established to measure those successes. The research was conducted online from 31 October through 19 December 2022 among 622 respondents from organizations in the U.S. (n = 304), France (n = 113), the U.K. (n = 106) and Germany (n = 99). Quotas were established for company sizes and for industries to ensure a good representation across the sample. Organizations were required to have developed AI to participate. Respondents were required to be in a manager role or above and have a high level of involvement with the measuring stage and at least one stage of the life cycle from ideating to testing AI use cases. Disclaimer: The results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

² **2023 Gartner CEO and Senior Business Executive Survey:** This survey was conducted to examine CEO and senior business executive views on current business issues, as well as some areas of technology agenda impact. The survey was fielded from July 2022 through December 2022, with questions about the period from 2022 through 2024. One-quarter of the survey sample was collected in July and August 2022, and three-quarters was collected from October through December 2022. In total, 422 actively employed CEOs and other senior executive business leaders qualified and participated. The research was collected via 382 online surveys and 40 telephone interviews. The sample mix by role was CEOs (n = 277); CFOs (n = 95); COOs or other C-level executives (n = 19); and chairs, presidents or board directors (n = 31). The sample mix by location was North America (n = 169), Europe (n = 105), Asia/Pacific (n = 102), Latin America (n = 29), the Middle East (n = 11) and South Africa (n = 6). The sample mix by size was \$10 million in revenue to less than \$50 million (n = 3), \$50 million to less than \$250 million (n = 51), \$250 million to less than \$1 billion (n = 102), \$1 billion to less than \$10 billion (n = 190) and \$10 billion or more (n = 76). Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

³ [Generative AI Startups Jockey for VC Dollars](#), PitchBook.

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