

What is the true potential of GenAI?

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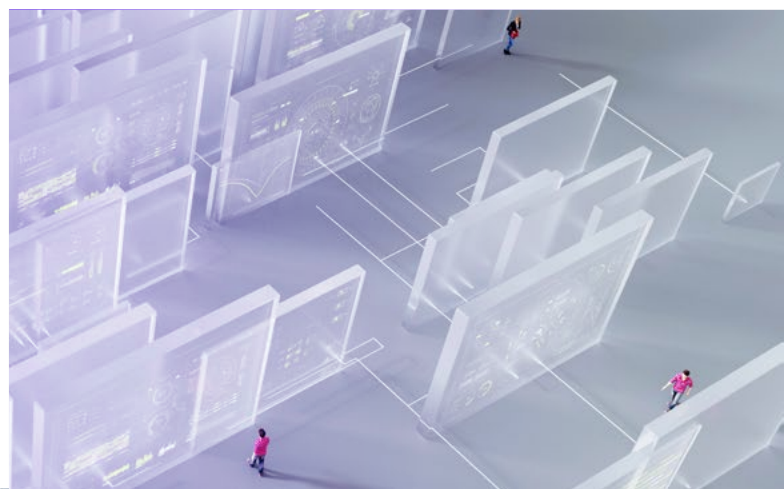
Generative AI (GenAI) is considered the next big thing. Goldman Sachs expects GenAI to add 7% to world GDP¹. McKinsey estimated that GenAI could add USD 2.5 to 4.4 trillion to the global economy². How likely is it to live up to such high expectations?

In 1943, Thomas Watson, Chairman of IBM, famously said, “I think there is a world market for maybe five computers”³. Steve Ballmer, Microsoft CEO, laughed at the recently launched iPhone, “because it does not have a keyboard”⁴. Predicting the impact of technology is extremely challenging. Experts and industry leaders can get it wrong. Big time. And, as a matter of fact, history has been more lenient toward those who overestimated the impact of a technology than skeptics proved wrong. This is due in part to a bias dictated by the fact that it is extremely hard to imagine our lives without everyday technologies such as personal computers and smartphones; and, in retrospect, the benefits of some technology might appear obvious.

It makes sense, then, to lean toward more optimistic projections. Besides, if we are wrong, the chances are higher that our mistake will be forgotten. Whatever happens, current expectations of generative AI (GenAI) are staggering. Goldman Sachs expects GenAI to add 7% to world GDP¹. McKinsey estimated that GenAI could add USD 2.5 to 4.4 trillion to the global economy². How likely is it to live up to such high expectations?

From support to end-to-end automation

Automation promises huge efficiency gains by performing tasks in a fraction of the time that a human would require. Let’s take calculators as an example. In the 19th century, scientists and companies hired people, primarily women, with the task of performing calculations. Computer clusters replaced human calculators and now accurately perform computations at orders of magnitude faster than humans, trimming down execution times from hours to fractions of seconds. This is because no human needs to be involved in the end-to-end calculation process. Word processors also delivered significant efficiency gains over typewriters. However, humans are still involved in the process and, therefore, preparing a document is still something that cannot be executed in a fraction of a second. The question is to what degree GenAI will be able to automate processes such as the preparation of contracts, marketing briefs, documentation and code.



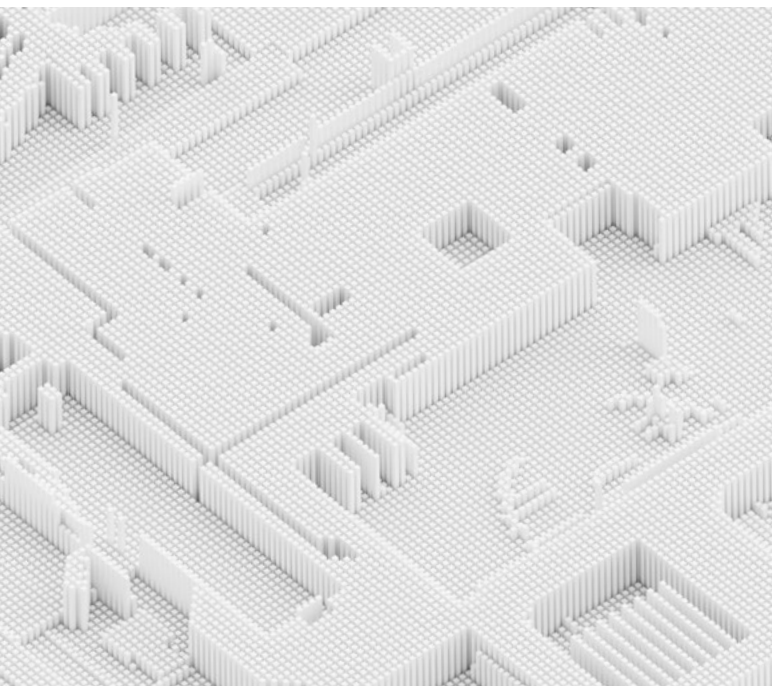


Unreliable and boring

GenAI algorithms learn to produce plausible content by looking at large datasets of examples. GenAI algorithms are not able to differentiate between guessing something plausible and having certainty on something that has been memorized (a fact, a picture, a citation). The risks are therefore several and can only be partially mitigated⁵. They include hallucinations (fabricating facts), plagiarism and potential copyright infringement. GenAI is therefore unsuitable for tasks requiring accurate output as a matter of certainty.

By learning from examples, and by guessing what is plausible, it is inevitable that GenAI output ends up being average, mediocre. Sales and marketing functions jumped on the GenAI opportunity, only to be disappointed. Often deemed bland and uninspiring, AI output, so far, lacks style. AI is boring⁶.

GenAI can help automate the menial task of drafting emails to decline a lunch invite. It accelerates access to information and aids knowledge workers in preparing boilerplate content under the strict supervision of experts who guide it with prompts. However, GenAI is not yet able to automate human creativity, subject matter expertise and critical thinking.



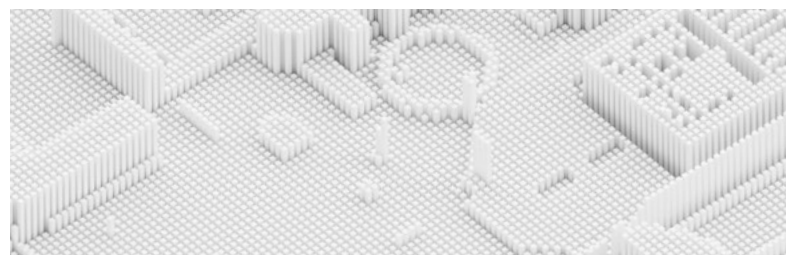
An evolutionary path

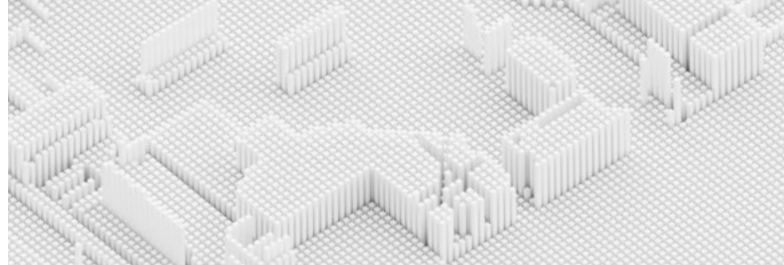
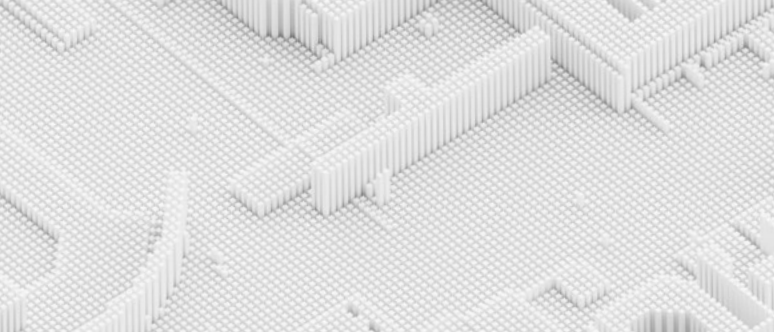
GenAI algorithms will become better – that much is certain. But what should we expect in the next few years? Bill Gates has already warned us that with GPT-4, OpenAI – the company behind it – has plateaued, and he does not feel that GPT-5 will be a significant step forward⁷. OpenAI's own CEO, Sam Altman, has issued a similar heads-up⁸. Concerns are based on two considerations: availability of data and scalability. Availability refers to the fact that data is drying up. The internet, the world's largest data source, has been already exploited at a large extent. Scalability concerns are related to the increasing costs incurred in the training of bigger and bigger machine learning models. While the cost of training machine learning models has grown exponentially, performance gains have been limited.

If we take into consideration the headwinds hindering AI progress, it may seem reasonable to assume that GenAI will remain a tool that can aid users in fetching information and drafting content. It seems improbable that GenAI will replace subject matter experts or offer end-to-end automation of non-trivial tasks in the near future. GenAI will instead help experts become more productive: GenAI tools will be integrated in today's productivity tools (e.g. word processors) and become an integral part of our workplace.

Investing in people

Even if GenAI does not meet its promise of complete, end-to-end automation, GenAI tools, if exploited correctly, can bring productivity gains that outweigh their cost. It is therefore important to continue investing in skills and capabilities. To reap the full benefits of GenAI, knowledge workers will have to understand what GenAI can do and its limitations as well as master the productivity tools offered by GenAI. Knowledge workers will have to learn how to write good prompts and how to interact with GenAI to perfect the output generated by the algorithm.





What should board members do?

In the short term, board members should ensure that GenAI is a top management priority. This includes making sure that employees get timely access to the right GenAI tools and receive the necessary trainings to reap all the benefits the new technology brings.

As we have seen, however, making a forecast is extremely hard. It is important to continue monitoring the progress of the technology. Innovation is not a linear process; new ideas might abruptly bring further disruption and help a technology make a further leap forward. It is the responsibility of board members to make sure that the leadership continuously monitors technological advances and manages a lean organization that is able to quickly adapt and adopt new technologies.

¹ <https://www.goldmansachs.com/intelligence/pages/generative-ai-could-raise-global-gdp-by-7-percent.html>

² <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier#business-value>

³ <https://engines.egr.uh.edu/episode/1059#:~:text=In%201943%20Thomas%20Watson%2C%20chairman,block%20with%20no%20connecting%20wires.>

⁴ <https://timesofindia.indiatimes.com/gadgets-news/watch-microsoft-ceo-steve-ballmer-laughs-at-iphone/articleshow/92539357.cms>

⁵ <https://assets.kpmg.com/content/dam/kpmg/ch/pdf/generative-ai.pdf>

⁶ <https://www.jacob-browning.com/post/generative-ai-is-boring>

⁷ <https://indianexpress.com/article/technology/artificial-intelligence/bill-gates-feels-generative-ai-is-at-its-plateau-gpt-5-will-not-be-any-better-8998958/#:~:text=The%20billionaire%20said%20that%2C%20with,sees%20significant%20potential%20in%20AI>

⁸ <https://www.wired.com/story/openai-ceo-sam-altman-the-age-of-giant-ai-models-is-already-over/>



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