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ChatGPT: a disruptive force for investors?

The recent release of the artificial intelligence chatbot ChatGPT has generated a great deal of coverage. Indeed, this is a story that has very much gone beyond the specialist media and entered the public consciousness. This broad coverage and continued interest have been driven by the application's ability to produce incredibly human like text, with one commentator labeling it "the best artificial intelligence chatbot ever released to the general public"¹, and others hailing its success as a watershed moment in terms of



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artificial intelligence entering the mainstream.²

Unsurprisingly, the possible implications – including potential risks and downsides – of this new technology have received a broad treatment from commentators, with a range of articles discussing potential ramifications for areas as varied as geopolitics,³ cybercrime,⁴ customer experience.⁵ So given the impact of this technology will likely be broad, reaching into areas of human activity and business way beyond what might traditionally be considered "tech", it will also have implications for investors active in a broad range of sectors.

In order to take a closer look at which industries are likely to be most disrupted by this technology – and thus examine the potential

Key takeaways

- ChatGPT and generative AI set to impact many industries
- Healthcare and education all likely to be strongly affected
- Hardware and semiconductor industries to be at the forefront of delivering the benefits of generative AI
- Ethical and legal issue will be raised as generative AI impacts not just business, but fields such as art and academia



Embracing Disruption

implications for investors – we decide to go straight to the horse’s mouth: we asked ChatGPT to write five bullet points on “industries that will be revolutionized by ChatGPT and why”. Below, we address the platform’s answers and consider the implications for investors in these sectors.

- **Customer Service:** ChatGPT can automate and streamline customer service operations by providing instant and accurate responses to inquiries, reducing wait times and improving customer satisfaction.
- **Healthcare:** ChatGPT can assist medical professionals in diagnosing and treating patients, providing access to vast amounts of medical information and helping to improve patient outcomes.
- **Education:** ChatGPT can revolutionize the way students learn by providing personalized and interactive educational experiences, allowing for more efficient and effective learning.
- **Finance:** ChatGPT can enhance financial decision-making by providing real-time market analysis and investment recommendations, helping to improve investment outcomes.
- **Retail:** ChatGPT can transform the retail industry by providing customers with personalized shopping experiences, allowing for more efficient product recommendations and increasing customer satisfaction.

The five industries chosen by ChatGPT reflect areas where generative AI is already making an impression, or at least where there is a strong promise of the technology’s future disruptive impact. In terms of retail and customer service, the particular USP of ChatGPT and similar applications – the ability to interact and maintain conversation in a humanlike manner – is already delivering more immersive experiences for consumers.

Healthcare and education are two areas where the disruptive impact of generative AI may be strongly felt in the coming years, yet both offer their unique challenges. AI and machine learning have found a growing use in medicine and healthcare for several decades, but the scope of what is now becoming possible will represent a sea change for a range of practices, from drug design and diagnostics through to the management of patient records and e-consultations. However, with healthcare being one of the most highly regulated industries in the world, we are likely to see a cautious approach in some areas. Education will face a similar set of challenges. While perhaps not as highly regulated in the same way as healthcare, it remains a sector with a very high level of state involvement – indeed, in many cases, the state remains the main, or even sole, provider of educational services. Alongside the degree of the state involvement in these sectors, there will also be social and governance issues to navigate in sectors where AI begins to encroach onto tasks previously

undertaken by humans, many of whom may be highly skilled and specialized.

One further area where we are already seeing an impact – and that ChatGPT omitted to mention – is the automation of certain specialized reporting and other activities. For instance, a “Magic Circle” legal firm recently announced that it would be deploying a generative AI tool to assist lawyers in the drafting of certain documents.⁶ As these tools become more developed, this is certainly an area where their use is likely to quickly grow.

Considering the broader effects

The one sector ChatGPT seems to have forgotten about, however, is the one that enables it and its generative AI comrades to perform the feats of quasi-creative writing that amaze us humans: hardware. The leaps and bounds by which machine learning, artificial intelligence, and their latest incarnation, generative AI, have grown in recent years would have been unthinkable without the advances seen in semiconductors and other hardware. In particular, specialized semiconductors and computer chip systems, originally developed for the specific demands of graphic processing, have been essential in powering the processing of the vast data necessary to train AIs such as ChatGPT. It is no wonder, then, that semiconductors are at the forefront of the trade tensions that have emerged between the US and China. Indeed, a further dimension to this competition has been added by the recent announcement from a large Chinese corporate regarding the release of its own generative AI chatbot. We believe the geopolitical implications of competing systems originating from different countries is something that will be keenly observed as it plays out over the coming years.

Another area worth considering is the ethical impact of tools such as ChatGPT. Of course, many new and disruptive technologies come with risks which pose ethical dilemmas, and these issues may be particularly pronounced in the case of generative AI. For instance, the recent prevalence of “deepfakes” potentially brings the problem of fake news to a new and more concerning level. Indeed, computer generated texts, images and videos will lead us to swiftly reassess the standards by which we judge information to be truthful or otherwise. In practical terms, fields such as art and academia will need to develop ways of living with these new tools, and the law will need to deal with copyright ambiguities surrounding the ownership of content generated by AI. These questions have recently been brought sharply into focus by the move from Italy’s Data Protection Watchdog to order ChatGPT’s owners to cease processing Italian users’ data, effectively banning the app in the country.⁷ Furthermore, we are already seeing controversies over the use of the tool at schools and universities around the world.

The view for investors

ChatGPT's response to our query, and the implications discussed above, demonstrate that the disruptive potential of generative AI is huge – indeed, just how disruptive it is likely to be is something that may still be underappreciated by many commentators and market participants. However, it is also clear that its impact will be uneven and individual sectors and industries will face their own issues and move at different paces – not least the hardware sector that underpins all developments of machine learning and AI.

One thing that many sectors have in common is that firms will be subject to Digital Darwinism where there will be clear winners and losers. Those that adapt quickly and leverage the tipping point we're now reaching in terms of the accessibility of disruptive new technologies stand to be big winners, while others may be left behind. For equity investors, what this means is an approach to stock picking that recognizes the nuances both between and within sectors, and the uneven impact that the rapid development and deployment of generative AI will have.



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- ¹ <https://www.nytimes.com/2022/12/05/technology/chatgpt-ai-twitter.html>
- ² <https://www.theverge.com/2022/12/8/23499728/ai-capability-accessibility-chatgpt-stable-diffusion-commercialization>
- ³ <https://ecfr.eu/article/insights-from-an-ai-author-the-geopolitical-consequences-of-chatgpt/>
- ⁴ <https://www.forbes.com/sites/forbestechcouncil/2023/02/24/the-implications-of-chatgpt-on-cybercrime/>
- ⁵ <https://venturebeat.com/ai/chatgpt-and-its-implications-for-customer-experience/>
- ⁶ <https://www.ft.com/content/1e34f334-4e73-4677-9713-99f85eed7ba0>
- ⁷ <https://www.bbc.com/news/technology-65139406>

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