ChatGPT Increasingly Adopted in Education, Technology, and the Economy Raising Debate about Its Benefits and Downsides

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Sam Altman (1985–), cofounder of OpenAI; CEO of OpenAI, 2020–present.

Elon Musk (1971–), cofounder of OpenAI; CEO of Tesla, 2008–present; owner of Twitter, 2022–present.

Summary of Event

Artificial intelligence (AI) is not a new concept. It has been the subject of science-fiction novels for decades, and tech companies have been pursuing it and its potential for much of the twenty-first century. The tangible reality of AI continued to seem the stuff of fiction, however, until late 2022 when ChatGPT burst onto the scene. A product of the company OpenAI in partnership with tech giant Microsoft, ChatGPT was the first AI tool that opened up genuinely new possibilities, that seemed to be able to do things that until then only human beings were capable of doing. It could answer questions. It could seemingly hold a conversation. And most notoriously, at least in some circles, a student could type in a prompt, and ChatGPT would reply with a multi-page paper that apparently could fool some teachers and professors into thinking the student had written it.

ChatGPT was technically ChatGPT-3, the third iteration of OpenAI's chatbot (ChatGPT-4 was released in March 2023). OpenAI was founded in 2015 when Sam Altman, Elon Musk, and other tech entrepreneurs came together. They were concerned about where AI was headed, particularly because large companies such as Google were developing AI tools in secret. Musk and others feared that if AI was not regulated and then fell into the wrong hands, it could have catastrophic consequences. OpenAI was founded to create open-source AI tools, where safety and well-understood boundaries would be built into the processes and which anyone could access.

GPT stands for Generative Pre-trained Transformer, and it is a neural network using machine learning that attempts to mimic how a human brain functions. This and other neural networks are trained on enormous datasets of human-generated text. GPT-1 was trained using hundreds of books. GPT-2 was trained on millions of websites and included over a billion parameters, which made text prediction possible. GPT-2 was not released to the public because OpenAI claimed it was afraid it could be used to generate fake news, write scam emails, and interact in racist or bigoted ways.

Soon thereafter, however, OpenAI shifted away from an open-source approach and also away from the nonprofit framework that it initially began with. Instead, the new company, OpenAI LP, realized it needed much, much greater amounts of computing power if its AI tools were going to become more sophisticated. To access that computing power required partnering with a for-profit company, Microsoft in this case. That decision led some of OpenAI's founders and researchers, including Musk, to leave the company, and Musk in particular has distanced himself from ChatGPT.

The result for ChatGPT, however, was a quantum leap forward in its capabilities. By late 2022, OpenAI believed it was ready to show off ChatGPT-3 to the world, and it did so with incredible fanfare spread by almost breathless media stories. ChatGPT's ability to seemingly have a conversation with people was particularly startling, although those conversations also led down some disconcerting paths, enough so that Microsoft temporarily disabled the AI chatbot feature in its Bing search engine.

What many people may not realize about the publicity surrounding OpenAI's products is that artificial intelligence needs data to further refine itself. There is only so much that it can do with freely available data on the internet, so OpenAI needs regular people to interact with its products, which then further "trains" the AI tools. For example, in January 2021 OpenAI released Dall-E, a product that uses natural language to create and edit images. For a few weeks, it was a sensation on Twitter and other social media platforms, as people enjoyed creating outlandish images and then sharing the results with friends. That was a boon to OpenAI, as it continued to refine the artificial intelligence that creates those images, leading to Dall-E 2 in 2022 and other image-related products in the following months.

The same was true with the release of ChatGPT in late 2022. As people used it, some in productive ways and others just seeing what it could do, ChatGPT continued to train and become more sophisticated. That is why the company stirred up as much coverage and speculation as it could. The more people who interacted with ChatGPT, the better the product would get. Think of ChatGPT's early adopters as people happily volunteering their time for OpenAI.

OpenAI has not been secretive about this. In a February 2023 press release, the company stated, "We launched ChatGPT as a research preview so we could learn more about the system's strengths and weaknesses and gather user feedback to help us improve upon its limitations." The company then acknowledged that it would soon start charging for people and businesses to use the product.

Although ChatGPT and OpenAI have generated the most publicity, it is hardly the only company pushing to use AI in its products and develop new uses for it. Google had kept its work under wraps, but in March 2023 it launched an app similar to ChatGPT called Bard. The same month, the Chinese tech giant Baidu also unveiled a competitor to ChatGPT it calls Ernie, although investors were underwhelmed by the product's unveiling. Facebook has made it clear that it has thrown resources into building AI tools and does not plan on being left behind.

Baidu and other Chinese companies such as Huawei and Tencent are likely to face higher hurdles as they rush to build AI infrastructure and products. Because China's government maintains tight controls on the internet, those limit the ways in which AI tools from Chinese companies can develop. As Jeffrey Ding, an assistant professor at George Washington University said in a March 2, 2023, *Aljazeera* article, artificial intelligence is "shaped by the specific political, cultural, linguistic context in which these models are developed and deployed." If that context is more limited because of censorship and other controls, the resulting tool will be different and likely less sophisticated.

Furthermore, the Chinese government has already instituted new regulations about how Chinese companies should manage their AI tools. Those regulations indicated that innovation was encouraged but that anything new must adhere to "core socialist values" and also abide by existing laws on data security. It also reminded companies that anyone who does not abide by the regulations could be fined or jailed. In the past, the vagueness around some Chinese regulations has made its companies cautious, so as not to run afoul of the government. Analysts noted that this, even more than the regulations themselves, may hinder Chinese companies in their desire to develop new uses for artificial intelligence.

Impact of Event

The larger question about AI and ChatGPT is whether this signals an inflection point in how human beings interact with technology. Has artificial intelligence reached a place where the genie is out of the bottle, so to speak? Are AI tools going to start taking our jobs and possibly more in the years to come? Or is this just another example of a technology that changes aspects of our economy and culture but moreso in gradual ways where people adjust over time, as has been true of many technological developments in the last century?

One early sign of how AI tools could affect the economy came in January 2023 when the online site Buzzfeed said that it would use ChatGPT to create its quizzes and modify some of its other content. Then in April, Buzzfeed announced that it would shut down its entire journalism division known as BuzzFeed News. Although the two announcements were not necessarily linked, the company said that BuzzFeed News had never been profitable and that it was going to emphasize content creation that was likely to be more profitable, which would not take a whole stable of writers and editors. Cofounder and CEO Jonah Peretti explained the company's shift, "We will bring more innovation to clients in the form of creators, AI, and cultural moments."

Buzzfeed is hardly the only business hoping to use AI to streamline its workforce. Many large companies are starting to integrate AI into their customer service divisions. In most cases, AI chatbots are not sophisticated enough yet to take on every aspect of customer service, but they can certainly answer the most common and simple questions. Furthermore, companies have already noticed that allowing human customer service representatives to utilize AI in responding to customers improves the quality of those responses.

Another field that is already finding AI incredibly useful is medicine. No, AI-powered robots will not be in surgery anytime soon, but doctors are already thrilled at how using AI to do time-consuming paperwork is freeing up their days, both to spend more time with patients and to improve their own quality of life. Doctors are now able to record a patient visit on their smartphone, and then AI software summarizes the treatment plan and fills out the billing paperwork for health insurance. Instead of filling out paperwork for an average of two hours each day, doctors now say going over and editing the AI reports takes only twenty minutes.

This is an example of what AI enthusiasts hope will happen as AI becomes more integrated into the workplace. Rather than replacing employees, as may have happened with Buzzfeed, they expect AI will take over the tedious tasks employees now do, but which AI can do much more efficiently. That will enable people to spend their time in areas that are more worthwhile, for themselves and their employers.

Experts expect this kind of efficiency to transform sectors such as investing, sales and marketing, and legal services and securities,

just to name a few. ChatGPT may not be ready to take over the legal profession quite yet, however. In the spring of 2023, a comical instance of AI-gone-wrong made the news when it was discovered that a legal brief was submitted that had been written by ChatGPT. Not only was the legal argument "nonsensical" according to the judge, the brief was full of made-up citations and even made-up cases. The judge upbraided the two lawyers responsible, and those using ChatGPT were reminded that it is still full of bugs and prone to howling errors. Students hoping to find an easy way to write that history paper should beware.

On the other hand, OpenAI might need some real lawyers, as legal battles over the company's practices are already starting. After Dall-E 2 was launched in 2022, some artists realized the images that Dall-E 2 was "creating" actually resembled their own artwork. Even more, the artist signatures on some of the images had been blurred out, as if the company knew that it was problematic and it had trained Dall-E 2 on existing artwork without acknowledging that use or compensating the original artists.

The ethics and possible illegality of how OpenAI has trained its AI tools is gaining more attention. GitHub Copilot, another OpenAI tool, helps write computer code, and some people believe it could transform the computer software industry, obviating the need for many computer programmers and coders. There were reports, however, that people applying for software positions at OpenAI had to complete unpaid five-hour coding projects as part of the application process. Furthermore, these seemed designed not to determine whether the applicant was qualified but simply to train GitHub Copilot.

That may be merely unethical, but the actress Sarah Silverman and two authors, Christopher Golden and Richard Kadrey, believe that OpenAI and Facebook's parent company, Meta, have crossed a legal line. In July 2023, they sued the companies, alleging that the defendants' AI tools had been trained on copyrighted material from the plaintiffs' books. If the authors can prove that such training violated their copyright, that could open a whole slew of lawsuits from authors, artists, and other creators who believe that their work has been used illegally and that they deserve compensation.

In June of 2023, the European Union moved to pass a law that would put some restrictions on artificial intelligence, particularly in its use of facial recognition software and how AI companies use data to create their programs. A month later, the U.S. Federal Trade Commission (FTC) announced an investigation into OpenAI, particularly over its data collection practices and how it handles personal data.

Although OpenAI CEO Sam Altman has been tight-lipped about possible legal challenges, he has been forthright in his belief that the government needs to step in and regulate AI technology. It should be noted that some of Altman's detractors believe he is being self-interested in his calls for regulation. In other words, Altman may desire such regulation because it would weed out the competition and ensure those at the front of the pack, like his company, remain there.

To be fair, however, Altman has held the same position for years. He has argued that the possibilities for AI are mostly positive, but that the dangers are not insignificant, especially in the long term. As he said in a February 20, 2023, *Business Insider* article, "Current-generation AI tools aren't very scary. I think we are potentially not that far away from potentially scary ones."

When people talk of the long-term dangers of AI, their concerns are not with just lost jobs and data collection. It is that AI could somehow turn against its creators and even lead to humanity's extinction. No one can predict how the technology will develop, but it has clearly advanced significantly in just the last few years. When Musk called for greater government regulation of the technology in February 2023, he argued, "It has great promise and great capability, but with that also comes great danger."

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