RESEARCH BRIEF • APRIL 2024

The Adoption of ChatGPT

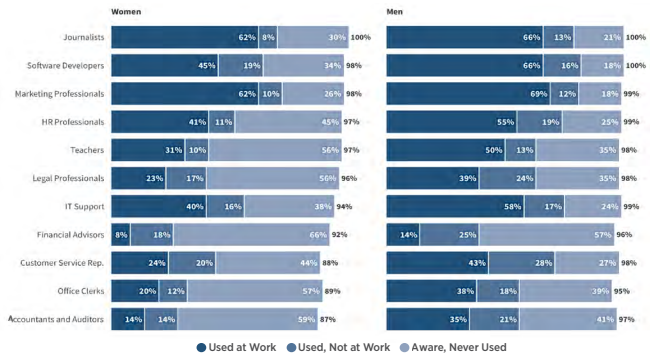
Based on BFI Working Paper No. 2024-50, "The Adoption of ChatGPT," by Anders Humlum, University of Chicago; and Emilie Vestergaard, University of Copenhagen

Half of workers have used ChatGPT, with younger, less experienced, higher-achieving, and especially male workers leading the curve. Workers see substantial productivity potential in using ChatGPT, and informing workers about expert assessments of ChatGPT shifts their beliefs but has limited impacts on their adoption of ChatGPT.

Recent research from UChicago economists has revealed that the AI chatbot ChatGPT can excel at investing tasks including predicting corporate investment policies, processing dense corporate disclosures, and detecting corporate risk. Beyond investing, experts predict that ChatGPT will disrupt many high-skilled occupations, including journalism, IT support, human resources, and marketing. In this paper, the authors study the adoption of ChatGPT, providing descriptive and experimental evidence on who has already adopted ChatGPT, how workers anticipate it will affect their jobs, and why some workers use ChatGPT and others do not.

In collaboration with Statistics Denmark, the authors survey 100,000 workers from 11 occupations that are exposed to ChatGPT between November 2023 and January 2024. Their survey includes an experiment component in which they test whether informing workers about expert assessments of ChatGPT in their job tasks impacts their adoption of the tool. The authors link their survey responses to administrative data on participants' labor market histories, earnings, wealth, education, and demographics. They find the following concerning the adoption of ChatGPT:

Figure 1 · Adoption of ChatGPT across Occupations, by Gender



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- ChatGPT is widespread in the exposed occupations. Half of workers have used the technology, with adoption rates ranging from 79% for software developers to 34% for financial advisors. Nearly all workers in the exposed occupations are aware of ChatGPT. Workers differ in their intensity of ChatGPT

usage, with 32% currently using it and 6% having a Plus subscription.

- Younger and less experienced workers are more likely to use ChatGPT. Every year of age (experience) is associated with a 1 (0.7) percentage point lower likelihood of using ChatGPT. However, despite their lower tenure, workers who use ChatGPT earned slightly more already before its arrival, reflecting that higher-achieving individuals (in particular, individuals with more education and higher grades) are more likely to use ChatGPT.
- Women are 20 percentage points less likely to use ChatGPT compared to men in the same occupation. This gender gap persists among coworkers within the same workplace and is not explained by workers' specific mixes of tasks.
- Workers see a substantial productivity potential in using ChatGPT in the exposed occupations. Workers are twice as likely to state that ChatGPT provides smaller rather than larger time savings for workers with greater expertise.
- Informing workers about expert assessments of the time savings from ChatGPT in their job tasks shifts their *beliefs*, shrinking the gap between worker and expert assessments by 15%, an effect that persists for at least two weeks. The treatment has little effects on workers' *adoption* of ChatGPT, however.
- Workers report restrictions on use and needing training as the primary barriers to adoption, highlighting the role of firm policies in steering the further adoption of ChatGPT. Conversely, few workers cite "existential fears" of dependency on technology or job redundancy as reasons for not using ChatGPT.

This research suggests that firms could play a critical role in facilitating further adoption of tools like ChatGPT, and that a proactive approach by firms or governments to encourage the adoption of ChatGPT could mitigate some concerning trends highlighted by this research. For example, the fact that workers who currently use ChatGPT already earned more before its arrival suggests that workers with less expertise may need further assistance to reap the benefits of generative AI. Similarly, providing women with further training may reduce the gender gap revealed by this research. Finally, many workers report that they will not expand their output in tasks where ChatGPT boosts their productivity. However, as firms reorganize their workflows around tools like ChatGPT, these productivity gains may also deliver greater expansion in output, ultimately contributing to economic growth.

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