Press Release
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AI chatbot adoption linked to 4.3% rise in startup employment, new HEC Paris research finds

A new paper shows that high-growth tech startups adopting AI chatbots went on to employ more people, not fewer, with the largest gains in sales.

New research by Stephen Michael Impink, Assistant Professor of Strategy at HEC Paris, and Manav Raj of the University of Pennsylvania finds that adopting AI chatbots is associated with employment growth at high-growth tech startups, rather than job cuts. The study offers some of the first firm-level evidence on the question.

The authors examined 13,241 high-growth digital software startups between 2019 and 2024, a period when off-the-shelf chatbots became far more capable and easier to deploy. They compared startups that adopted a chatbot with closely matched non-adopters of similar age, size, region, funding, product stage and prior growth. Startups that adopted a chatbot saw employment rise by 4.3% compared with those that did not.

Sales roles grow more quickly than customer service roles

Employment grew across all three functions studied: sales, programming and customer service roles. The largest increase was in sales. Customer service employment, in roles whose tasks overlap most with what chatbots do, increased, but at a lower rate than in roles focused on scaling the venture. The increases appeared at the point of adoption, which provides some evidence that startups were reorganizing work rather than simply hiring after customers arrived.

"A common assumption is that automating customer-facing tasks will shrink teams. Instead, startups that adopted chatbots employed more people, and the biggest gains were in sales. It looks less like substitution and more like firms expanding what they can do," said Professor Impink.

The relationship is strongest once a product is on the market and the venture is ready to scale

The association is strongest among startups that have already launched a product. Earlier-stage startups are more likely to adopt chatbots, but the link with employment is strongest after launch, when firms are ready to scale and demand is growing. It is also stronger among

startups with more developed technology stacks, which may find chatbots easier to build into existing workflows.

The findings also suggest that the link between chatbot adoption and employment growth is stronger for more resource-constrained startups, such as those with less funding. Chatbots can enable these firms to stretch their limited resources while scaling. As the authors note, that is the opposite of what a "replace workers to cut costs" story would predict.

Professor Impink added: "Chatbots tackle the routine questions, which frees up time for human labor to handle escalations, to focus on building relationships with key customers, and to integrate customer feedback into product development. These are not large firms, and labor is a key constraint for high-growth startups."

The HEC Paris findings are in line with a 2023 survey by contact-centre provider 8x8 in which only 6% of firms were using chatbots to reduce headcount. In high-growth tech startups, at least, adopting AI that automates tasks has so far coincided with expansion rather than displacement. Results may differ for larger, older or less tech-intensive firms, and may change as chatbots become more capable and autonomous.

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Press Contact:

Julie Dobiecki, Head of Media Relations, HEC Paris – dobiecki@hec.fr

Elise Moyou, Press Officer, HEC Paris – moyou@hec.fr