



Generative AI

Why AI Boosts Creativity for Some Employees but Not Others

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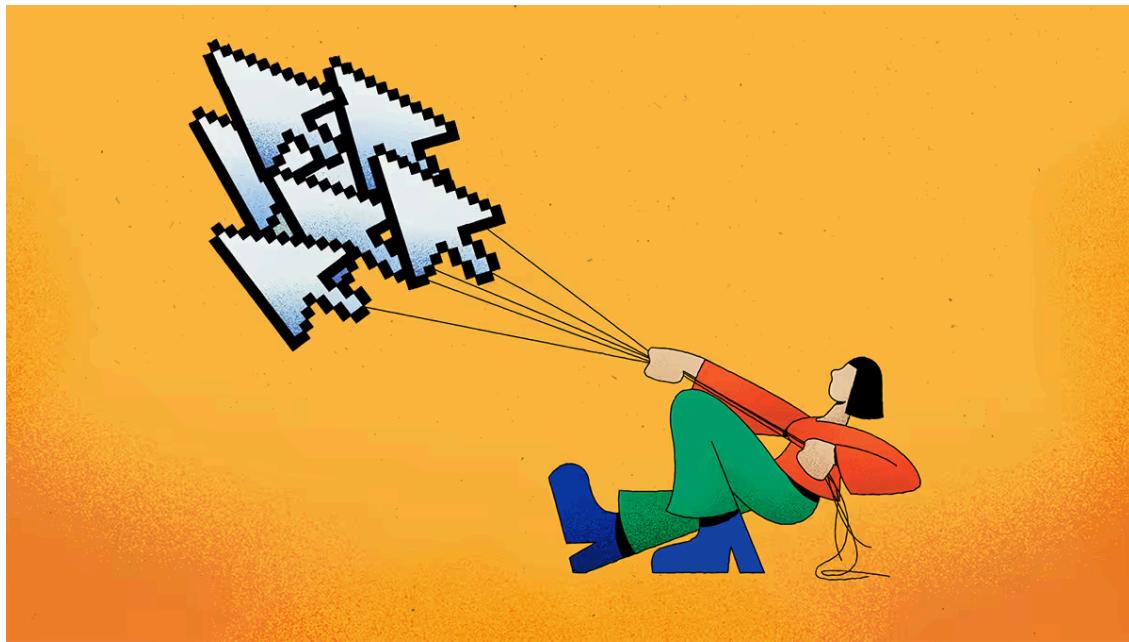


Illustration by Gabriel Masella

Summary. Generative AI is transforming workflows, yet its impact on employee creativity remains uneven. New research reveals one explanation: AI boosts creativity primarily for employees with strong metacognition—the ability to plan, monitor, and refine thinking. These individuals strategically use AI to expand knowledge, free cognitive capacity, and break fixed mindsets, thereby fueling creative ideas. Leaders should pair AI adoption with metacognitive training and design workflows that encourage strategic and iterative engagement. Organizations that cultivate metacognitive skills will turn AI from a productivity tool into a sustained source of creative advantage. [close](#)

Generative AI is increasingly embedded into day-to-day workflows across organizations globally. Employees are using AI tools like ChatGPT to brainstorm solutions, explore alternatives, summarize information, and accelerate projects. As these tools become more capable, many organizations hope they will spark higher levels of creativity, enabling employees to generate more novel and impactful ideas.

Yet, despite this promise, the creative payoff has been surprisingly inconsistent. A [recent Gallup survey](#) found that only 26% of employees who use generative AI report improvements in their creativity. This gap between widespread adoption and limited creative gains raises an important question for leaders: Can generative AI truly enhance creativity in the workplace, and why do some employees benefit while others do not?

Our new research, published in the [Journal of Applied Psychology](#), answers this question. We find that generative AI can indeed boost employee creativity, but the gains are not universal. Specifically, employees with stronger metacognition—the ability to plan, evaluate, monitor, and refine their thinking—are more likely to experience creative gains from using generative AI, because they can use it more effectively to acquire the cognitive job resources that fuel creativity.

For leaders and organizations, this finding reframes the challenge of AI-enabled creativity: to unlock AI's potential for boosting workplace creativity, organizations must go beyond simply rolling out new tools; they also need to invest in developing employees' metacognition and promote the thoughtful, strategic use of AI so

employees can translate AI outputs into more effective creative performance.

The Research

To understand how and for whom generative AI enhances creativity, we focused on an important insight from creativity research: Employees produce more creative ideas when they have sufficient cognitive job resources. These resources include two key elements: a) information and knowledge, and b) the opportunity to adjust work methods and tasks, such as switching between complex and simple tasks and taking mental breaks. Information and knowledge are essential for creativity because creativity fundamentally involves recombining and synthesizing information in novel and useful ways. Similarly, opportunities to adjust work methods and tasks are crucial for creativity because they allow employees to break fixed mindsets and restore cognitive capacity.

Our research proposes that using generative AI can increase employees' cognitive job resources in two key ways. First, by expanding knowledge: Although employees' own knowledge is limited, generative AI can provide large amounts of information within seconds. This expands employees' knowledge base and enables them to integrate insights across domains. Second, by freeing mental capacity: When generative AI handles tasks such as summarizing texts, managing data, and drafting content, it reduces employees' cognitive overload, allowing them to redirect resources to complex problem-solving. Employees can also use AI to support complex, cognitively demanding tasks while periodically shifting to simpler ones, allowing them to restore mental capacity and break fixed mindsets.

However, access to AI tools alone does not guarantee that employees can acquire the cognitive resources needed for

creativity. Employees differ substantively in their ability to leverage AI to obtain these cognitive job resources. We found that a key differentiator is employees' metacognition: their ability to actively monitor their thinking while completing tasks. For example, employees with strong metacognition usually think through the steps to perform a task, keep track of how effective their approach is, and adjust when they notice a lack of progress. This ongoing reflection makes them more aware of their knowledge gaps, the demands of the task, and their own mental states. Therefore, they can better understand what information they need and when to shift gears or take breaks to disrupt fixed thinking patterns and restore cognitive capacity. By contrast, employees low in metacognition are more likely to accept AI's first answer, rely on default outputs, and fail to check whether AI's suggestions are accurate or relevant. As a result, employees with stronger metacognition are far better positioned to use AI tools to acquire the cognitive job resources that fuel creativity, whereas those with weaker metacognitive skills see few creative gains from AI.

To examine these ideas in real work settings, we conducted a field experiment with 250 employees at a technology consulting firm in China. Employees were randomly assigned either to an AI condition, where they received a ChatGPT account for use in their daily work, or to a control condition without AI access. One week later, we assessed employees' creativity using two independent evaluations: a) managers' evaluations of employees' overall creative performance over the week and b) two external raters' evaluations of the novelty and usefulness of employees' responses to a creativity task. Using a survey, we also measured metacognition with an established scale (asking people to list their level of agreement with statements such as, "While working toward my goal, I kept track of how effective my approach was").

The results were clear. Employees with stronger metacognition became more creative when they used AI—they generated ideas that were judged as more novel and more useful. But for employees with weaker metacognition, AI made little difference. In other words, only employees who knew how to engage thoughtfully with the tool were able to use AI to expand the cognitive resources that fuel creativity.

In short, our research reveals a pivotal insight for leaders: Generative AI does not automatically make employees more creative. What matters is whether employees have the metacognition to use AI in a reflective way. The central question for leaders, therefore, is not whether employees use AI, but whether they have the metacognitive skills to engage with it thoughtfully and strategically—turning AI's suggestions into creative insights.

How Leaders Can Help Boost Employee Creativity

As organizations and teams increasingly adopt generative AI, leaders should recognize a critical insight from our research: Employees' metacognition is a key factor in determining whether AI actually enhances creativity. The following steps can help organizations and leaders maximize the creative impact of generative AI.

1. Help employees use AI to expand the cognitive job resources that fuel creativity.

Generative AI can enhance employees' creativity by expanding their access to information and knowledge and freeing up their mental capacity for creative problem-solving. Leaders should encourage employees to use AI to gather diverse information, explore multiple angles, and offload routine tasks to restore cognitive capacity. By using AI to enlarge their knowledge base,

break fixed mindsets, and reduce cognitive overload, employees create the conditions that make creative insights more likely. However, our findings suggest that these benefits depend largely on how employees engage with AI—pointing to the importance of metacognition, which we highlight in the next takeaway.

2. Raise awareness that metacognition is the engine of AI-supported creativity.

Leaders might assume that integrating generative AI into their workflows will automatically make *all* employees more creative. Yet our research shows that creative gains tend to occur among employees who can actively monitor their own thinking and then evaluate, question, and refine AI outputs. In practice, this means employees must treat AI suggestions as starting points rather than final answers—iterating on them, probing gaps, and challenging assumptions. For example, two employees using the same AI tool may end up with very different results: One may accept AI's first suggestion without checking, while the other may examine its accuracy, push for alternatives, and integrate new insights. The latter approach is far more conducive to creativity. Leaders should help employees understand this distinction to facilitate more productive AI engagement.

3. Build metacognitive skills through targeted and scalable training.

Leaders should consider employees' metacognitive abilities when implementing AI and invest in developing these abilities through training. Notably, metacognitive skills can be strengthened through various methods. Companies can offer short training sessions that introduce metacognition and walk employees through real examples of AI errors, asking them to anticipate, detect, and correct those mistakes. Longer programs can focus on helping employees build deeper habits of planning, monitoring,

and evaluating their thinking. Even simple checklists—clarifying the problem, determining how to evaluate AI’s suggestion, and exploring alternatives—can shift employees from passive reliance on AI to more active, strategic engagement. Depending on budget and priorities, organizations may adopt brief interventions or more extensive programs.

4. Design workflows that promote active, iterative engagement with AI.

Leaders should design workflows that position AI as a thinking partner rather than a shortcut. Instead of encouraging employees to use AI for quick answers, leaders should establish processes that involve generating multiple perspectives, comparing and critiquing AI outputs, and refining ideas across several rounds. For example, a product team might use AI to generate contrasting viewpoints, debate their strengths and weaknesses during a meeting, and then synthesize the strongest ideas into a final recommendation. Such iterative processes naturally activate metacognitive thinking and prevent overreliance on AI defaults. Over time, organizations may even consider employees’ metacognitive capabilities when hiring for AI-intensive or creativity-intensive roles. But for most companies, building these skills through training and day-to-day practice will be more scalable than relying on selection alone.

Caveats and Limitations

When applying these insights, leaders should consider several limitations. First, our findings are based on a single organization in China. Although the underlying mechanisms are likely to generalize, people’s attitudes toward AI may vary across countries and industries. Second, other personal traits—for example, motivational traits such as a strong desire to learn or to pursue ambitious goals—may also influence how effectively employees engage with AI to enhance creativity. Third, our study examined

short-term effects within a single week. The long-term consequences of sustained AI use remain open questions. Organizations should regularly assess how AI use influences employee learning and skill development over time.

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In sum, our research shows that generative AI can meaningfully enhance creativity—but only for employees with strong metacognition. By pairing AI deployment with deliberate support for metacognitive thinking, organizations can unlock deeper insights, accelerate innovation, and ensure that employees drive the tool rather than letting the tool drive them.

As generative AI becomes woven into global workflows, cultivating employees' metacognition will be what separates organizations that are merely adopting AI from those that are truly unlocking its creative power. Organizations that help employees strengthen these skills won't just keep up with AI—they'll turn it into a sustained source of creative advantage.



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