

MSI Webinar: How and When Artificial Intelligence Augments Employee Creativity

March 26, 2024 | Virtual | 12:00 pm – 12:30 pm ET

Speaker:

Xueming Luo - Charles Gilliland Distinguished Chair Professor of Marketing, Professor of Strategy and MIS, and Founder/ Director of the Global Institute for Artificial Intelligence & Business Analytics, Fox School of Business, Temple University.

Overview:

Xueming Luo examines research conducted in partnership with Nan Jia (University of Southern California), Zheng Fang (Sichuan University), and Chengcheng Liao (Sichuan University) to ascertain if artificial intelligence (AI) can assist human employees in increasing employee creativity. To gain insight, the researchers conducted a field experiment at a telemarketing company and supplemented their findings with a qualitative study involving semi-structured interviews with the employees. Findings from the study suggest that AI support alters job roles by increasing employees' engagements with more significant customers. This, in turn, allows highly skilled employees to create innovative scripts and cultivate positive emotions in the workplace, facilitating creativity. Conversely, the study indicates that employees with lower skill levels make limited enhancements in script development and tend to experience negative emotions while working with AI assistance. This implies that while employees can attain creativity augmented by AI, this outcome is influenced by skill levels, favoring experts with advanced job skills.

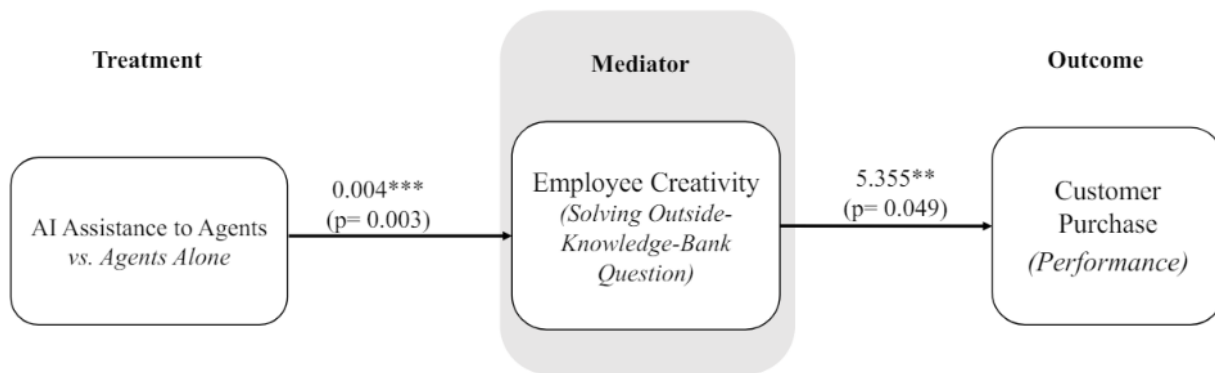
Takeaways:

- "Technology can indeed increase human productivity." **AI can provide a boost to human worker's efficiency of doing their jobs.**
 - When there are **established solutions**, AI robots (e.g. chat bots, text bots) are better in retrieving correct information, more efficiently than their human counterparts.
 - In situations where **solutions are unknown**, AI can augment human intelligence, making room to create new solutions (creativity).

- **H2:** Suggests that Domain knowledge is important for fostering creativity. The additional motivation and energy saved by AI are less advantageous for lower-performing employees who lack the ability to solve intricate problems.
- **H3:** Suggests that when artificial intelligence (AI) assists employees, the overall performance (AI + employees) is higher compared to the performance when employees work alone.

Results

- Causal evidence from the field experiment at the telemarketing company showed that AI assistance in generating sales leads increased employee creativity in addressing customer questions during sales persuasion, leading to enhanced sales.



- The impact of AI assistance on creativity is more significant for higher-skilled employees.
- The qualitative study using semi-structured interviews revealed that AI assistance alters job design, intensifying employee interactions with serious customers.
 - This intensification enables higher-skilled employees to create innovative scripts and foster positive emotions, enhancing creativity.
- Conversely, lower-skilled employees show limited script improvements and experience negative emotions with AI assistance.
- The study concluded that AI can augment employee creativity but favors experts with advanced job skills.

Selected sources:

When and how artificial intelligence augments employee creativity.

Source: Jia, N., Luo, X., Fang, Z., & Liao, C. (2024). [Academy of Management Journal](#), 67(1), 5–32.

The productivity J-curve: How intangibles complement general purpose technologies.

Source: Brynjolfsson, E., Rock, D., & Syverson, C. (2021). [American Economic Journal: Macroeconomics](#), 13(1), 333–372.

Employee creativity: Personal and contextual factors at work.

Source: Oldham, G. R., & Cummings, A. (1996). [*Academy of Management Journal*](#), 39(3), 607–634.

Human resource systems, employee creativity, and firm innovation: The moderating role of firm ownership.

Source: Liu, D., Gong, Y., Zhou, J., & Huang, J.-C. (2017). [*Academy of Management Journal*](#), 60(3), 1164–1188.

Creativity and innovation in organizations.

Source: Amabile, T. M. (1996). [*Harvard Business School*](#).

Absorptive capacity: A new perspective on learning and innovation.

Source: Cohen, W. M., & Levinthal, D. A. (1990). [*Administrative Science Quarterly*](#), 35(1), 128–152.