

Machines versus Humans: The Impact of AI Chatbot Disclosure on Customer Purchases

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Abstract

Empowered by artificial intelligence (AI), chatbots are surging as new technologies with both business potentials and customer pushbacks. This study exploits field experiment data on over 6,200 customers randomized to receive sales calls from chatbots or human workers. Results suggest that undisclosed chatbots are as effective as proficient workers and four times more effective than unexperienced workers in engendering customer purchases. However, a disclosure of chatbot identity before the machine-customer conversation reduces purchase rates by over 79.7%. Additional analyses find that these results are robust to non-response bias and hang-ups, and the chatbot disclosure substantially decreases call length. Exploration of the mechanisms reveals that when customers know the conversational partner is not a human, they are curt and purchase less because they perceive the disclosed bot as less knowledgeable and less empathetic. The negative disclosure effect seems to be driven by a subjective human perception against machines, despite the objective competence of AI chatbots. Fortunately, such negative impact can be mitigated by a late disclosure timing strategy, prior AI experience, and an optimizer algorithm leveraging heterogeneous treatment effects. These findings have useful implications for chatbot applications, customer targeting, and advertising in conversational commerce.