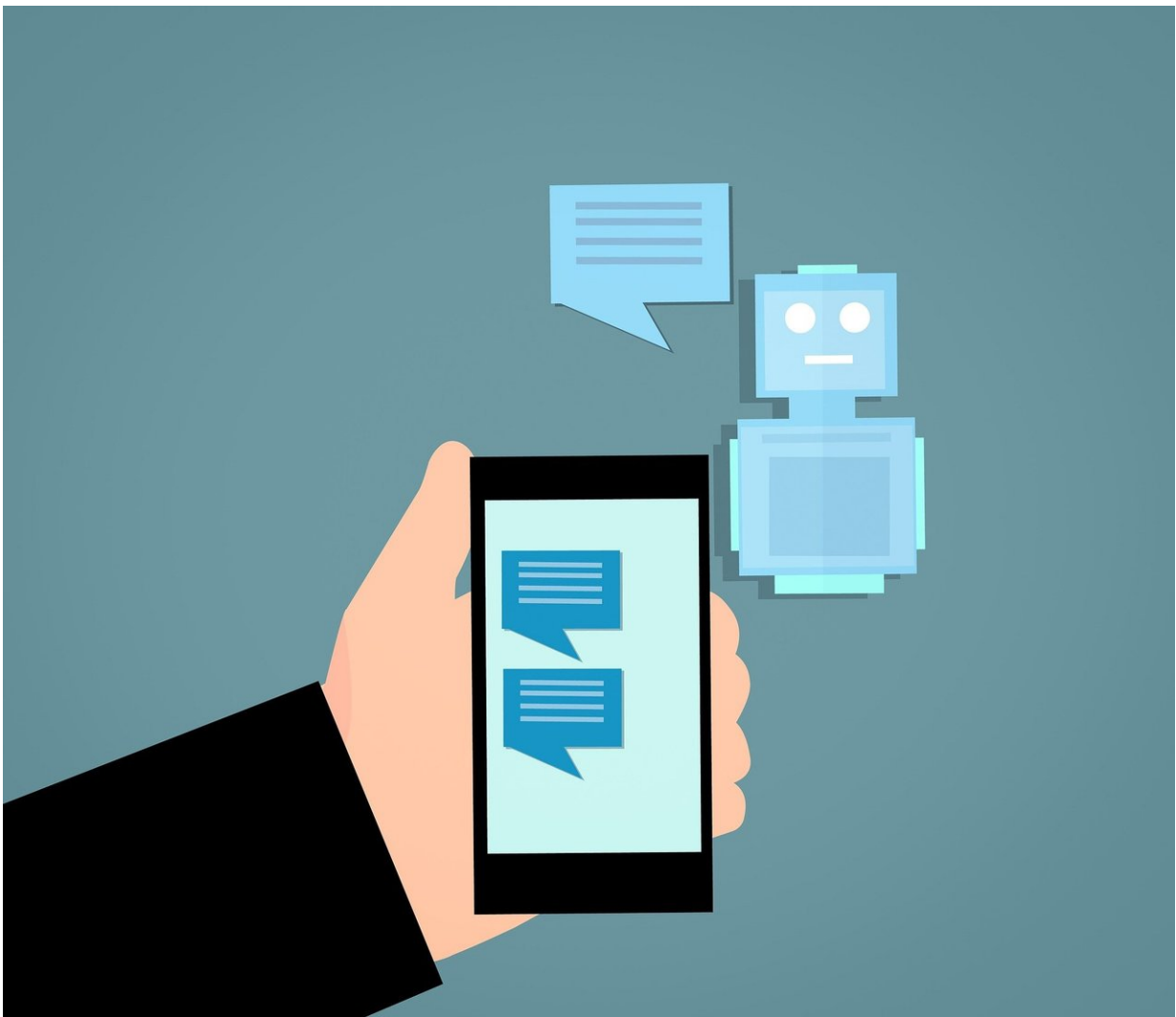


# Bots with feelings: Study explores deploying AI chatbots with emotions in customer service

December 7 2022

---



Credit: CC0 Public Domain

As online retailers increasingly use artificial intelligence chatbots to streamline customer service tasks and replace their human counterparts, new research from the University of South Florida examines how emotion-expressing AI chatbots can impact customer service.

Turns out, AI chatbots that show [positive feelings](#)—such as adding an "I am excited to do so!" or a few exclamation marks—don't necessarily translate into positive reactions or contribute to higher customer satisfaction.

"The reason is because people do not expect chatbots to have feelings. People don't react to chatbots the same way as they react to humans," said Denny Yin, an associate professor in the School of Information Systems and Management in the USF Muma College of Business, who co-authored the study.

The article—"Bots with Feelings: Should AI Agents Express Positive Emotion in Customer Service?"—appears in *Information Systems Research*.

The study's findings come amid the rise of emotional AI—the branch of AI that deals with processing and replicating [human emotions](#)—and on the heels of a claim earlier this year from a Google engineer that an unreleased AI chatbot was "sentient."

That claim and resulting backlash led to the employee's firing for violating employment and data security policies. A [national debate](#) ensued around what "sentient" means and whether Google's chatbot has consciousness or feelings.

In an effort to bring real-world application to the debate, Yin and two co-

investigators explored how customers make sense of and react to positive emotions from an AI chatbot when compared to a human customer service agent.

Yin said research is needed into emotional AI technologies, with the industry projected to grow to \$100 billion by 2024 and \$200 billion by 2026, according to [market research](#) from Global Industry Analysts and Reports and Data.

The researchers conducted three experiments using emotion-capable chatbots in a customer service scenario.

In the first test, participants interacted with either an AI or human customer service agent to resolve a hypothetical service issue. Half the participants chatted with an agent where positive adjectives and exclamation marks were added into its responses, such as "I am delighted to handle your request today!"

The remainder of the group chatted with an agent without any emotions, such as "I am handling your request today." Participants rated the [customer service](#) quality and satisfaction on a seven-point scale.

The experiments revealed some surprising findings:

- While positive emotions from a human are beneficial and increase customer satisfaction, the same emotions from an AI chatbot are not as effective.
- Customers' expectations play an important role, as customers don't expect an AI chatbot to be able to feel emotion. Too much chatbot positivity can be a turn-off for consumers and lead to negative reactions.

"To our knowledge, this research is the very first to explore the

ramifications of equipping service AI agents with emotional expression capabilities," Yin said.

The work further expands the understanding of customers' reactions to emotional AIs as well as gives companies guidance on how and when retailers should use emotion-capable AI service agents.

Researchers cautioned that companies should understand the expectations of customers exposed to AI-powered services before haphazardly equipping AIs with emotion-expressing capabilities.

Other major takeaways from the study include:

- Good feelings can spread from a human agent's positive emotional expressions to a customer, and the same can occur for an AI-powered chatbot. But sometimes those good feelings are canceled out by a negative reaction to not expecting chatbots to display emotions.
- Expectations play an important role on whether an AI [chatbot](#) expressing [positive emotions](#) is a positive or negative experience. Different types of customers will react to the same AI-expressed emotions differently.
- Servion Global Solutions predicts that by 2025, AI will drive 95% of all customer interactions, including live phone calls and online conversations, according to Finance Digest.

"Our work reveals the unique impact of expressed positive emotion by an AI agent on customers' service evaluations along with the underlying mechanisms and a boundary condition, thus opening up exciting research opportunities in the area of human-AI interaction," Yin said.

**More information:** Elizabeth Han et al, Bots with Feelings: Should AI Agents Express Positive Emotion in Customer Service?, *Information*

*Systems Research* (2022). [DOI: 10.1287/isre.2022.1179](https://doi.org/10.1287/isre.2022.1179)

Provided by University of South Florida

Citation: Bots with feelings: Study explores deploying AI chatbots with emotions in customer service (2022, December 7) retrieved 13 March 2024 from <https://techxplore.com/news/2022-12-bots-explores-deploying-ai-chatbots.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--