

**The influence of congruent emojis on chatbot perceived
competence and customer satisfaction**

Mafalda Pescatore – University of Bologna

Stefania Farace – University of Bologna

THE INFLUENCE OF CONGRUENT EMOJIS ON CHATBOT PERCEIVED COMPETENCE AND CUSTOMER SATISFACTION

Mafalda Pescatore and Stefania Farace - University of Bologna

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EXTENDED ABSTRACT

Chatbots are becoming increasingly important in customer interactions and are projected to replace human agents in customer service (Chong et al., 2021). To improve interactions with customers, firms are enriching chatbot's language with visual cues, such as emojis. However, not all chatbots use emojis appropriately, with respect to context, style, or the topic of conversation, raising questions on the impact of emojis' effectiveness in chatbot-customer interactions. This is an important issue to highlight since 86% of consumers still prefer to interact with human agents (CGS, 2019) because of miscommunication due to chatbot responses that do not meet customer expectations (Luo et al., 2022). These negative experiences are often linked to a perceived lack of competence (Nguyen et al., 202). A common example is chatbots using exaggerated emojis in relation to the conversation's style (Leah, 2022). Consumers are particularly sensitive to this issue, as many believe that improper emoji use can negatively affect a brand's image (Barret, 2024).

Chatbots are designed to simulate human conversations but are predominantly text-based, presenting a "dual nature" that guides much of the existing literature on the topic, which often focuses on how optimizing anthropomorphic and linguistic cues (e.g., Gnewuch et al., 2017; Kull et al., 2021). Some studies combine both textual and visual aspects (e.g., Beattie et al., 2020). Emojis somehow mirror this duality of chatbots, since they can serve to anthropomorphize a computer-mediated message, enhancing its contextual or emotional meaning (Bai et al., 2019). These benefits apply across both facial and non-facial emojis. However, the distinction becomes important when considering the congruence between text and emoji, which can amplify these advantages. Congruence can relate to emotional valence when using facial emojis (e.g., "I'm happy 😊") or to semantic alignment with non-facial ones (e.g., "I picked a flower 🌸"). Existing studies on chatbot emoji usage have focused primarily on face emojis, demonstrating that they enhance perceptions of warmth (e.g., Yu & Zhao, 2024; Li et al., 2019). However, little is known about the influence of non-face emojis that could trigger different mechanisms (semantic vs. emotional congruence), potentially shaping users' perceptions of the chatbot's competence.

Competence is critical in customer service contexts, where studies have shown that its perceptions strongly correlate with customer satisfaction across various industries (e.g., Coulter & Coulter, 2002). Non-facial emojis can make text more vivid and specific (Peng & Zhao, 2021), attributes that contribute to language concreteness (Hansen & Wänke, 2010), which has been shown to influence perceptions of competence (Jiménez-Barreto et

al., 2023) and customer satisfaction (Packard & Berger, 2021). Moreover, non-face emojis include gesture-based ones, that may serve to humanize the sender of a message (Gawne and McCulloch, 2019), thereby enhancing the customer experience and the perceived competence (Ashfaq et al., 2020; Kim et al., 2023). In line with this, we predict that a chatbot that uses high congruent emojis with the text (vs. low vs. text-only) will increase customer satisfaction. This relationship is mediated by the perceived competence of the chatbot.

We designed an online experiment simulating a conversation with a virtual travel assistant, which is an industry where chatbot use is expected to grow significantly (Grand View Research, 2023). Emojis were carefully selected based on their conventional meanings.

Our results confirm our predictions. Specifically, a one-way ANOVA showed a significant main effect of emoji-text congruency on customer satisfaction ($F_{(2, 275)} = 63.66, p < .001$). Satisfaction was highest in the high congruence condition ($M = 5.75, SD = 1.62$), followed by text-only ($M = 4.58, SD = 1.18$), and lowest in the low congruence condition ($M = 3.34, SD = 1.55$). All pairwise comparisons were significant ($p < .001$). Furthermore, PROCESS Model 4 for multi-categorical variable analysis (10,000 bootstrap samples) confirmed that perceived competence mediates the effect of congruency on customer satisfaction. The 95% confidence interval (CI) for perceived competence excluded zero for both the high congruency vs. text only (indirect effect = 1.0331, BootSE = .1577; 95%CI: .7215, 1.3452) and low congruency vs. text only (indirect effect = -1.4411, BootSE = .2059; 95%CI: -1.8430, -1.0482) comparisons.

This study extends research on emoji congruence to the field of chatbots, focusing on non-facial emojis. Using this simple and cost-effective cue can enhance customer satisfaction by shaping the perceived competence of chatbots. This finding underscores the potential of emojis as a practical solution to address challenges associated with chatbot usage, mitigating those factors that may discourage customer engagement and lead to negative brand perceptions (van der Goot et al., 2020; Altay et al., 2024; Shahzad et al., 2024).

Relevant references

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