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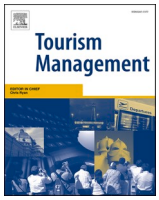

Strangers or friends? Examining chatbot adoption in tourism through psychological ownership

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A B S T R A C T

Most tourism literature focuses on the potential advantages of AI adoption. This study focuses specifically on chatbots for managing customer relationships in tourism. It advances psychological ownership as a useful theoretical lens to address the potential negative consequences of employing chatbots in tourism. A study on survey data from 200 customers shows that replacing the human component of the relationship with a chatbot decreases tourists' psychological ownership feelings, negatively affecting selfefficacy, accountability, and self-identity. Ultimately, using chatbots diminishes relationship commitment and leads to lower rebooking intention.

1. Introduction

Chatbot applications such as HiJiffy, Juliet (WestJet), Chuck (MegaBus), and Edward (Edwardian Hotels), to name some of the most popular, are flourishing in tourism. The tourism industry is on the frontline of such transformation, and McKinsey predicts that chatbots will manage 95% of customer interactions by 2025. Yet, scholars are calling to address the potential "dark side" of these technologies and provide data-based evidence (Cao et al., 2023), particularly in tourism (e.g., Van Esch et al., 2022) and especially when it comes to chatbot potential negative impact on customer relationships in tourism (e.g., Orden-Mejia & Huertas, 2022). This issue is critical in tourism today, as in "the hospitality and tourism industry (…) the potential dark side of AI has scarcely been studied" (Hu & Min, 2023, p. 1).

In particular, the tourism industry relies on personal interactions and emotional engagement between operators and customers. Chatbots lack human emotions and the ability to establish empathic connections, so customers may find it challenging to develop meaningful relationships with chatbot-driven systems (Ben-Saad & Choura, 2023; Van Esch et al., 2022). Furthermore, AI algorithms and automated systems, while efficient, lack human judgment and intuitive understanding, struggling to adapt to unique customer needs/desires (Hoffman et al., 2022), which can reduce customer satisfaction (Zeng et al., 2022). In this vein, Puntoni et al.'s (2021) conceptual paper recently invited scholars to work on understanding the consumer AI experience by taking a psychological perspective.

This research contributes by examining the potential negative impact of chatbots on customer rebooking intention, takes a psychological perspective to address consumers' encounters with AI-based conversational bots, and provides initial empirical evidence in tourism. Recent works in tourism already addressed AI's potential dark side. For instance, Hu and Min (2023) focused on the impact of AI design features on consumers' privacy concerns. However, the present research focuses on what psychological mechanism could explain consumers' potential negative reactions. Specifically, building on Puntoni et al.'s (2021) suggestion to take a more psychological perspective to address the consumer AI experience, it advances psychological ownership (i.e., feeling tied to and part of something, regardless of legal ownership; Pierce et al., 2003) as the theoretical lens to understand tourists' potential negative reactions to chatbots. Such a perspective constitutes a new way to interpret the phenomenon.

2. Theoretical background

We advance psychological ownership as a theoretical framework to help understand chatbots' potential negative impact on customer relationships in tourism. Unrelated to legal ownership, psychologists define psychological ownership as the feeling of being tied to and part of something (Pierce et al., 2003). They identify four components of psychological ownership: self-efficacy, accountability, belongingness, and self-identity (for a review, see Pierce et al., 2003). These facets articulate psychological ownership alongside expectations of control, information sharing, influence over the direction of the ownership target, socio-emotional needs, feelings of having a place, and communication/construction of self-identity.

Based on the features of chatbots on one side and psychology literature on psychological ownership on the other hand, we advance that the limitations of chatbot interactions in terms of emotional connection,

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personalization, human judgment, and adaptability (Ben-Saad & Choura, 2023; Hoffman et al., 2022) contribute to lower feelings of psychological ownership compared to human-managed relationships.

Specifically, chatbots' lack of emotional connection can diminish psychological ownership, making it more challenging for individuals to develop feelings of belongingness and self-identity (Avey et al., 2009; Shu & Peck, 2011). Furthermore, chatbots, although efficient in handling straightforward queries, often struggle with providing personalized experiences (Ben-Saad & Choura, 2023; Hoffman et al., 2022). They rely on pre-programmed responses and algorithms, which may not fully capture individual customers' unique needs and preferences. The lack of customization and personal touch could significantly affect psychological ownership, as individuals feel a stronger connection when their specific needs are acknowledged and catered to (Morewedge et al., 2021; Pierce et al., 2003).

Furthermore, with chatbot-managed relationships, customers may feel a reduced sense of self-efficacy and accountability as they navigate predetermined pathways. Not allowing for open-ended conversations and shared decision-making can reduce the perception of psychological ownership. Similarly, chatbots are programmed to follow specific guidelines and may struggle to adapt to unexpected circumstances (Hoffman et al., 2022). This inflexibility could result in customer frustrations and a disconnect, not fostering psychological ownership (Karahanna et al., 2015), as customers feel their unique needs are not recognized and addressed. Thus.

H1. A chatbot-managed customer relationship will lead to lower psychological ownership than a human-managed relationship.

Although commitment can stem from different sources, it is a typical consequence of psychological ownership (Karahanna et al., 2015; Pierce et al., 2003), which influences how individuals perceive and engage with objects, places, and relationships, influencing individuals' emotional investment, sense of responsibility, long-term perspective, resistance to disengagement, and motivation (Karahanna et al., 2015; Morewedge et al., 2021; Pierce et al., 2003). Specifically, self-efficacy is one's perceived ability to manage and control the relationship effectively (Pierce et al., 2003). It is crucial for users' relationship commitment, as individuals are more likely to invest time and effort when they believe they can contribute positively to the relationship (Scarpi et al., 2022; Shu & Peck, 2011). Furthermore, self-efficacious individuals show resilience in challenges, displaying greater commitment to maintaining the relationship and more collaborative effort to resolve problems. The proactive approach stemming from self-efficacy strengthens consumers' commitment to -and willingness to invest in-the relationship (Karahanna et al., 2015).

Furthermore, accountability is the sense of responsibility one feels toward the relationship regarding the expected right to hold others accountable and the expectation for one's self to be held accountable (Pierce et al., 2003). Accountability fosters psychological ownership and builds relationship commitment by encouraging consumers to prioritize the relationship's success, driving individuals to invest effort and work towards maintaining positive dynamics (Mayhew et al., 2007; Pierce et al., 2003). Through accountability, individuals their role in maintaining a healthy relationship and are motivated to engage in collaborative problem-solving, which strengthens relationship commitment (Scarpi et al., 2022). In particular, accountability fosters a long-term perspective, further enhancing relationship commitment (Shamsollay et al., 2021) and instilling a sense of permanence and vested interest (Karahanna et al., 2015; Mayhew et al., 2007).

Finally, belongingness is the feeling of attachment to the relationship that becomes a 'home', the sense of being part of something, while self-identity refers to how much individuals perceive the relationship as an extension of themselves, helping them define, maintain, and transform their self-identity (Pierce et al., 2003). These two psychological ownership components are relevant to understand consumers' commitment, as belongingness or the feeling part of a relationship leads to commitment through emotional investment (Avey et al., 2009). Such investment constitutes an emotional bond fueling individuals' dedication to maintaining, improving, or protecting the relationship they feel ownership over (Shu & Peck, 2011). Similarly, when individuals see their own values, identity, and personal growth aligned with the relationship, their commitment deepens as the relationship becomes an extension of their self-concept, and they invest in its success to enhance their fulfillment and growth (Morewedge et al., 2021; Pierce et al., 2003).

Finally, commitment works alongside satisfaction, trust, loyalty, and relationship seniority to reinforce the relational bond (Scarpi et al., 2022; Shamsollahi et al., 2021). Thus, we posit that psychological ownership-derived commitment shields a firm against a customer's intention to demote the relationship, leading to rebooking.

H2. Psychological ownership positively affects relationship commitment.

H3. Relationship commitment positively affects the intention to rebook.

3. Method

Two-hundred prospective tourists were recruited through a UK market research company with an online invitation. To participate, respondents had to: 1-have booked a hotel recently; 2-considering rebooking the hotel for their next holiday. Individuals meeting the requirements were directed to a website that allowed them to interact in a text-based chat with the hotel's human employee or digital assistant, depending on their randomly assigned experimental condition. In reality, they were all chatting with a human: the purpose was to compare the customers' perceptions across experimental conditions. The information exchanged was the same in both scenarios.

Respondents reported their psychological ownership (Karahanna et al., 2015), relationship commitment (Scarpi et al., 2022), and rebooking intention (Shin et al., 2021). They also rated their technology proficiency on a 1 to 7 item. Furthermore, they were asked whether they had already experienced chatbots (and, if so, for tourism). Technology proficiency and experience were entered as model covariates.

3.1. Results

A factor analysis confirmed the underlying factorial structure ($\chi 2/df = 1.12$; RMSEA = 0.06, GFI = 0.96, CFI = 0.96), Cronbach alpha ranged between 0.89 and 0.97, AVE and CR exceeded the recommended minimum thresholds. Common method bias did not appear to be a concern: Harman's one-factor test showed a significantly worsened fit imposing a one-factor solution (χ^2/d.f. = 8.32), and Bagozzi et al.'s (1991) method led to similar conclusions, as the correlation among constructs was <0.0.9.

SPSS-PROCESS (model 80) was run with 5000 bootstrap samples, using the items' mean composite scores for each construct. As Fig. 1 shows, chatbots lower all psychological ownership components: self-efficacy (Effect = −0.64, p = 0.04), accountability (Effect = −0.51, p = 0.05), belongingness (Effect = −0.76, p = 0.01), and self-identity (Effect = −0.60, p = 0.04), supporting Hypothesis 1. In turn, all psychological ownership components contribute to relationship commitment: self-efficacy (Effect = 0.17, p = 0.05), belongingness (Effect = 0.40, p = 0.004), self-identity (Effect = 0.34, p = 0.002), except accountability that had no significant impact. This evidence aligns with Hypothesis 2. Finally, as Hypothesis 3 advanced, commitment positively affected rebooking intention (Effect = 0.49, p < 0.001).

No significant direct effect emerged, supporting full mediation by psychological ownership. Finally, the covariates technology proficiency and experience show no significant impact on the considered relationships, thus ruling out proficiency- or experience-based alternative explanations.

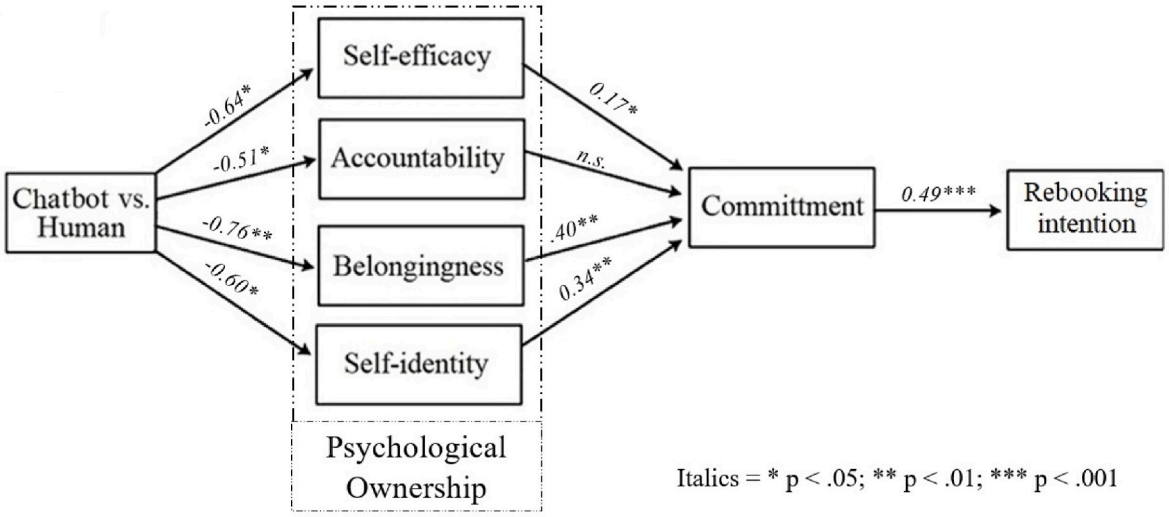

Fig. 1. Model estimation.

4. Discussion

This research looks into how chatbots can harm customer relationships in the tourism industry and addresses psychological ownership's role in predicting how tourists will respond to chatbots. The findings contribute to psychological ownership literature by expanding its application in tourism and relating it to conversational AI systems, answering recent calls (e.g., Orden-Mejia & Huertas, 2022). The findings also contribute to chatbot literature by addressing psychological ownership as the theoretical lens to interpret their potential negative effects on customers' reactions, answering calls for new theoretical insights into chatbots' effects (Ben-Saad & Choura, 2023; Hoffman et al., 2022).

The findings add that chatbots diminish psychological ownership, negatively affecting tourists' sense of belongingness, self-efficacy, accountability, and self-image, which in turn wears out relationship commitment and rebooking intention. Psychological ownership encourages long-term thinking, resistance to disengagement, emotional investment, and a sense of duty, all supporting commitment in customer relationships. Individuals are likelier to show dedication with a strong sense of psychological ownership. This outcome highlights the value of psychological ownership in maintaining and improving customer relationships in the tourism industry.

Furthermore, chatbots do not automatically lead to demotion: rather, lower rebooking stems only as much as chatbots diminish tourists' psychological ownership-induced commitment. Empathic chatbots could be needed to achieve profitable automated customer relationship management. In this regard, recent tourism research emphasizes the importance of emotions for maintaining relationships in tourism contexts (e.g., Bayighomog & Arasli, 2022), while research on AI shows some systems start possessing emotional and social intelligence (Huang & Rust, 2021; Pantano & Scarpi, 2022). Scholars could address these considerations to understand how emotions and empathy by conversational systems rather than human employees can affect relational dynamics.

Overall, the results provide initial empirical support for the novel insight that chatbot-managed customer relationships lead to lower feelings of psychological ownership than human-managed relationships. The findings highlight the importance of considering the limitations of chatbots in terms of emotional connection, personalization, and adaptability when managing customer relationships in the tourism industry (Hoffman et al., 2022). In particular, the findings identify psychological ownership as a relevant explanation and suggest its integration into the chatbot literature stream.

Accordingly, the results suggest that tourism managers should focus on enhancing customers' psychological ownership. Specifically, self-efficacy can be helped by ensuring the chatbot provides clear instructions, guided troubleshooting, and interactive tutorials. By breaking down a problem into manageable steps, the chatbot can empower customers to address issues independently, boosting confidence in their problem-solving abilities. Adding progress indicators for multi-step tasks would show customers how far they've come and enhance their self-efficacy by giving them a sense of control and accomplishment. When customers need to make decisions, the chatbot can present options and help them weigh their pros and cons. This approach would empower customers and makes them feel more efficacious.

Similarly, managers could foster a sense of accountability by adding a confirmation request. Asking customers to confirm they understand/accept the chatbot-provided information or solutions prompts customers to take ownership of their interaction. Furthermore, chatbots can help customers set specific goals related to their inquiries and periodically check in on progress toward these goals, thus promoting accountability, especially if task reminders are put in place to help customers feel accountable for their commitments and stay on track.

Personalized greetings acknowledging the customer by name are an easy way to create a sense of connection right from the start, especially if customers are incentivized to connect their social media profiles with the chatbot, enabling conversations aligned with the customer's online presence, thus fostering a sense of belonging. Furthermore, incorporating storytelling into chatbot interactions and sharing narratives about the company's history, mission, and values helps customers connect emotionally with the tourism venue. Finally, providing customers access to exclusive offers through the chatbot makes them feel like part of an insider group and enhances their sense of belonging.

Finally, self-identity could be strengthened with personalized recommendations and customizable interactions to demonstrate that the company understands the customer's individuality and empowers customers to shape their interaction experience in a way that aligns with their self-identity. In this vein, chatbots could offer customers to choose a persona or avatar that represents them during interactions, allowing customers to express their self-identity. Finally, a chatbot informing customers about affinity groups, newsletters, or subscriptions catering to their specific interests or identities would encourage participation in communities that align with their self-identity.

Relatedly, individual factors and contextual variables may influence customers' reactions to chatbot-managed relationships. Thus, as conversational AI systems rapidly evolve, future studies could address

which characteristics constitute boundary conditions for the effects found in this research. Relatedly, Zhang et al. (2023) recently found that chatbots' anthropomorphism attenuates the effect of psychological ownership. Complementarily, other scholars found that psychological ownership is enhanced when conversational AI assistants help personalize a service experience (Li et al., 2023) and are asked to perform hedonic tasks (e.g., booking a spa) (Ruiz-Equihua et al., 2023). Finally, this research addressed rebooking intentions: while intentions can guide subsequent behavior, we would like to stress the need for future studies going beyond and measuring actual behavior.

Credit author statement

This is a single-author paper. Thus, Daniele Scarpi was responsible for all parts of the paper.

Impact statement

The world is shifting toward digital servitization and automated management, and most tourism literature focuses on the potential advantages of AI adoption. This study opens up the possibility that AI implementation (specifically, chatbots) in tourism could also produce negative effects, such as a lowered intention to rebook. It examines the potential negative impact of chatbots on customer rebooking intention, takes a psychological perspective, and provides initial empirical evidence in tourism. Specifically, it advances psychological ownership (i.e., feeling tied to and part of something, regardless of legal ownership) as the theoretical lens to understand tourists' negative reactions to chatbots.

The empirical study shows that replacing humans with chatbots decreases psychological ownership, negatively affecting self-efficacy, accountability, belongingness, and self-identity. Ultimately, commitment and rebooking intention decrease. Insights for scholars and managers are provided, with suggestions for maintaining high levels of psychological ownership despite using chatbots.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tourman.2023.104873.

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