



AI in hospitality and tourism: Rewriting the customer journey

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Abstract

Artificial intelligence (AI) is transforming the hospitality and tourism industry by reshaping the customer journey across pre-purchase, on-site, and post-purchase stages. This study explores AI's role in enhancing hyper-personalization, operational efficiency, and stakeholder value, while addressing challenges like ethical concerns and workforce impacts. Using stakeholder theory and accessibility-diagnostics theory, the research synthesizes current literature to analyze AI's disruptive potential. Findings highlight AI applications such as chatbots, big data analytics, and IoT, offering actionable insights for businesses, policymakers, and researchers. The study proposes a future research agenda to balance innovation with trust and sustainability, guiding responsible AI adoption in the digital era.

Keywords: artificial intelligence, hospitality, customer journey, stakeholders

Introduction

Among the many changes the tourism and hospitality industries have witnessed in recent decades, artificial intelligence (AI) has been one of the largest integrations in the customer journey. The current customer journey consists of five stages: Pre-purchase, research, booking, on-site, and post-purchase. Although the customers' adoption of technology can vary, it is obvious that all customers utilize AI to enhance their lives (Rasoolimanesh et al., 2019). As customer demand for and reliance on AI continues to grow, understanding the use of AI applications can help create value for different stakeholders in the customer journey.

There is potential value in promoting a disruptive customer journey with AI under the hospitality and tourism lens. Therefore, the current study aims to synthesize previous research in hospitality and tourism to develop a new business strategic value. In particular, the purpose of the study is to understand how AI applications can create value at different stages of the customer journey with different stakeholders. The research questions include: (RQ1) How can AI applications disrupt the customer journey? (RQ2) How can AI applications help to identify potential impacts (e.g., enhance experience and business performance) at different stages of the customer journey? and (RQ3) How can AI applications help create value for different stakeholders in the customer journey? The study findings will help to suggest future research directions for hospitality researchers and provide industry practitioners with practical implications.

Literature Review

Customer journey perspective in the digital era, how can this be disrupted

Technological disruption has been an emerging theme in the customer journey context in the past five years (Tueanrat et al., 2021). With the rise in disruptive innovations in hospitality and tourism, these new advances are facilitated through various applications at any time in the consumer journey (Ramadan et al., 2021). Due to the nature of the fast-paced technological advancements in hospitality and tourism, there is a growing concern that these advancements change the structure of the customer journey (Farah et al., 2022). Firms are

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now expected to identify what part of the journey the consumer is on and act accordingly to propel them towards the next point in that journey (Farah et al., 2022).

Figure I identifies current technologies embedded in the five-stage customer journey.

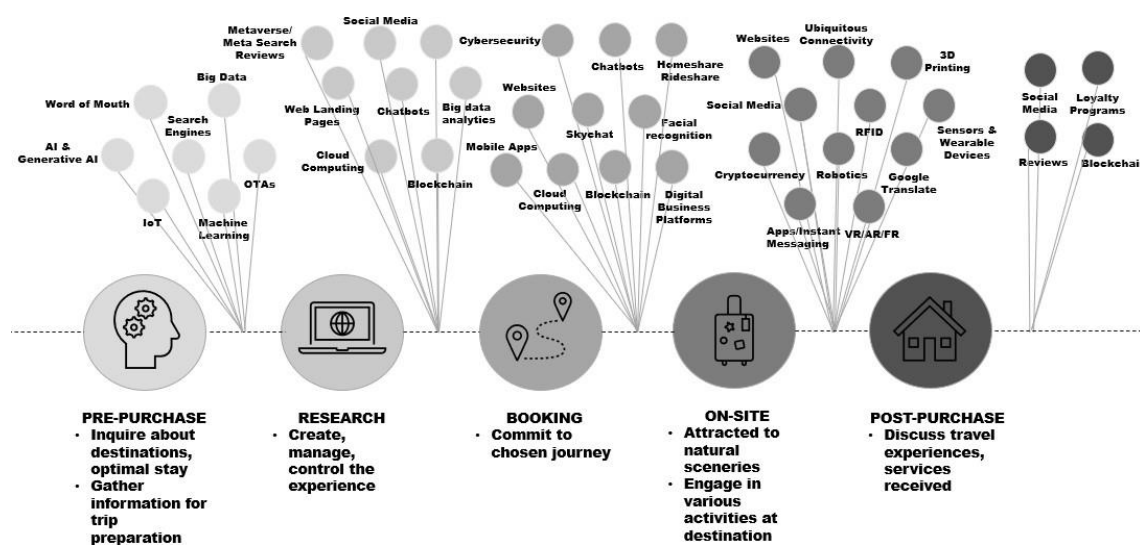


Figure 1. Technologies involved in the current customer journey

AI applications as one of the disruptive technologies

The development of AI has motivated the automation of processes and services, which facilitates the direct interaction with customers in frontline service (Belanche et al., 2020). The impact of technology on the experience (Hoyer et al., 2020). Increased personalization, customer involvement, and co-creation enhance opportunities for customer-technology interactions through touchpoints and encounters (Ghesh et al., 2024).

AI is a major source of innovation (Huang and Rust, 2018) with potential for disruption, particularly high in services (Bock et al., 2020). Increasing interest in implementing automated forms of interaction in services (Paluch & Wirtz, 2020; Balanche et al, 2020), and this trend is not different in the tourism, leisure, and hospitality industry. In addition, service automation may have a great impact on customer choices and behaviors (Van Doorn et al., 2017).

People in tourism, hospitality and events (e.g. hospitality managers and employees, event planners and attendees and tourists) use and experience AI via AI- powered information and communication technology (ICT; i.e. the convergence of telecommunication and computing through a link system for assessing, securing, processing, transmitting and storing information) and smart devices (i.e. electronic devices with wireless protocols to connect with other networks or devices) (Doborjeh et al., 2023; Gaur et al., 2021; Gretzel et al., 2015; Stankov et al., 2019).

Stakeholder Theory

This study employs stakeholder theory to serve as the theoretical framework. A stakeholder is any group or individual who has an interest in an organization. In the management field, stakeholder theory stipulates that businesses should consider the interests of all stakeholders in their decision-making processes (Freeman, 1984). To achieve long-term organizational success, businesses should emphasize the importance of managing relationships with stakeholders to create value for stakeholders.

For hospitality and tourism organizations, customers are a major stakeholder. Their consumption experience with products and services is critical to satisfaction and loyalty. Both management and employees play an essential role in creating a memorable experience, which can be facilitated by technology. Therefore, stakeholder theory will provide a theoretical framework to support the study's conceptualization, research design, and data analyses.

Accessibility– Diagnosticity Theory

Accessibility-Diagnosticity Theory (ADT) offers a valuable lens through which to examine the hospitality and tourism consumer journey. This theory posits that consumers prioritize information that is both easily accessible and highly diagnostic in making decisions. In the context of hospitality and tourism, this means that consumers are more likely to rely on information that is readily available and perceived as relevant to their specific needs and preferences (Chen et al., 2024).

By understanding ADT, hospitality and tourism providers can optimize their marketing and service delivery strategies to better cater to the needs and preferences of their target audience. This involves making relevant information easily accessible through various channels, such as websites, social media, and in-person interactions (Stergiou & Nella, 2024). Additionally, providers should strive to create highly diagnostic content that resonates with consumers and helps them make informed decisions throughout their journey.

Methodology

To achieve research objectives, the present study rigorously follows a structured systematic literature review process (Tranfield et al., 2003). To identify critical aspects of AI applications affecting various stakeholders in the customer journey, we employed a two-stage literature review search approach. First, preliminary searches were performed in the Web of Science database with search terms such as “Artificial intelligence” and “AI”, leading to an initial dataset containing 162 articles published from 2019 to October 2024. The search was limited to 25 hospitality and tourism journals ranked as Q1 and Q2 journals in the Web of Science to capture the most recent, relevant, and impactful research in the hospitality and tourism field. As suggested by prior studies (Adams et al., 2017; Booth, 2016; Lee et al., 2023), this study considered only research articles to capture critical issues and ensure high-quality findings by excluding research notes, case studies, and industry reports. (Adams et al., 2017).

In the second stage, researchers independently reviewed and coded all articles to determine whether each article is directly related to focal topics and can be included or not in this study (Pautasso, 2013; Xiao & Watson, 2019). This two-stage sampling process led to 92 articles as the final dataset. Lastly, the authors performed content analysis to identify critical theories, emerging research trends, and other relevant information on AI in the hospitality and tourism context.

Findings and discussion

As this study is a work-in-progress, the authors have identified current technologies (Table 1) in the five-stage customer journey and aim to redefine technologies in a more condensed, three-stage customer journey identified as pre-purchase, on-site, and post-purchase. Additionally, the authors will redefine the technologies under the affected stakeholders of customers, employees/management, and government. Based on the findings of the study, the authors aim to create a new customer journey table and figure.

Table 1. Technologies in the current customer journey

Technology	Pre-Purchase	On-Site	Post-Purchase
AI	X	X	X



Generative AI	X	X	X
Word of Mouth	X		
IoT	X		
Search engines	X		
OTA	X		
Machine learning	X		X
Big data	X		X
Metaverse/Meta search reviews	X		
Web landing pages	X		
Cloud computing	X		
Social media	X	X	X
Chatbots	X		
Blockchain	X		X
Big data analytics	X		

Theoretical implications

The integration of Accessibility-Diagnosticity Theory (ADT) and Stakeholder Theory offers a robust theoretical framework to explore the implications of AI applications on the customer journey. ADT emphasizes the importance of accessible and diagnostic information in influencing consumer decision-making. In the context of AI, this suggests that AI-powered tools can significantly enhance the accessibility of relevant information, tailoring it to individual preferences and needs. For instance, AI-driven chatbots can provide instant, personalized assistance, making information readily available and easily digestible.

Furthermore, AI can enhance the diagnosticity of information by analyzing vast datasets to identify patterns and trends. This enables businesses to deliver highly relevant and targeted recommendations, improving the overall customer experience. By understanding individual preferences and behaviors, AI can anticipate needs and proactively offer solutions, thus optimizing the customer journey.

Stakeholder Theory, on the other hand, highlights the importance of balancing the interests of various stakeholders, including customers, employees, investors, and society. AI applications can contribute to this by providing valuable insights into stakeholder needs and expectations. For example, AI-powered sentiment analysis can monitor social media and customer reviews to identify emerging trends and potential issues. This information can be used to make informed decisions that benefit all stakeholders.

By combining ADT and Stakeholder Theory, this research aims to explore how AI can be leveraged to optimize the customer journey, enhance business performance, and create value for all stakeholders involved.

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