Chapter 4
Artificial Intelligence–Assisted Accommodation Selection in Personalized Tourism Experiences:
Cappadocia Region Example

Eda Özgül Özgül Katlav
https://orcid.org/0000-0002-4168-909X
Faculty of Tourism, Nevsehir Haci Bektas Veli University, Turkey

Koray Çamlıca
https://orcid.org/0000-0003-0746-285X
Faculty of Tourism, Nevsehir Haci Bektas Veli University, Turkey

ABSTRACT

This chapter explores how artificial intelligence (AI) technologies enhance personalized accommodation selection in experience-based tourism, using the Cappadocia region as a case study. With its unique cave hotels and rich cultural atmosphere, Cappadocia offers an ideal setting to examine how AI tools—such as machine learning, natural language processing, and recommender systems—match tourist preferences with suitable lodging options. The chapter discusses how AI-assisted personalization improves tourist satisfaction, perceived value, and emotional engagement with destinations. Drawing on recent studies, the chapter highlights the growing role of AI in boutique and luxury tourism and addresses challenges such as ethical concerns and data privacy. A conceptual model outlining the AI-driven

DOI: 10.4018/979-8-3373-2053-3.ch004

Copyright © 2026, IGI Global Scientific Publishing. Copying or distributing in print or electronic forms without written permission of IGI Global Scientific Publishing is prohibited. Use of this chapter to train generative artificial intelligence (AI) technologies is expressly prohibited. The publisher reserves all rights to license its use for generative AI training and machine learning model development.

personalization process is presented, offering practical insights for tourism businesses and policymakers. This chapter provides a timely contribution to the discussion on smart tourism and destination competitiveness through technological innovation.

INTRODUCTION

In recent years, with the development of digital technologies, the tourism sector has been on the verge of transformation; especially the widespread use of artificial intelligence (AI)-based systems has led to revolutionary developments in individual travel planning (Koo et al., 2021). Artificial intelligence is transforming tourists' decision-making processes by not only facilitating access to information but also providing contextually enriched accommodation recommendations tailored to personal preferences (Lyu & Salam, 2025; Jiang & Han, 2025). This transformation has accelerated the shift away from traditional package tours and towards individualized and experience-oriented forms of travel (Alijoyo et al., 2025). In particular, the COVID-19 pandemic has permanently changed tourist behavior, and the use of artificial intelligence-based solutions in the tourism industry has accelerated in response to these changes. The changes observed in tourist behavior in the post-pandemic period require radical transformations in both service delivery and marketing strategies for hospitality businesses. In line with guests' increasing demands for hygiene, security, and contactless services, hotels should adopt AI-powered solutions, such as digital check-in and check-out, robotic maids, hygiene certificates, and personalized room options (Song et al., 2025). Additionally, for guests with a high-risk perception and seeking individual experiences, accommodation options that offer meaningful experiences away from the crowd and integrated with nature stand out (Miao et al., 2022). Guest segmentation supported by artificial intelligence, flexible booking policies, and sustainability-based practices (e.g., carbon footprint reduction and use of local products) strengthens the competitive advantage of businesses (Terzić, Petrevska, & Demirović Bajrami, 2022; Chansuk et al., 2022). Personalized accommodation recommendations enhance destination experiences by tailoring recommendations to tourists' short- and long-term interests. In particular, the use of knowledge graph (KG)-based recommendation systems and deep learning-based algorithms (e.g., GRU and GCN) enables the drawing of meaningful inferences based on visitors' previous travel behavior (Jiang & Han, 2025). These developments also play a crucial role in mitigating issues such as information overload and cognitive overload. However, the accuracy of the decision recommendations provided by the systems is directly related to user trust. In this context, the impact of artificial inaccuracies,

18 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/artificial-intelligence-assisted-accommodation-selection-in-personalized-tourism-experiences/396831

Related Content

Web-Based Cybersecurity Architectures: Safeguarding Identity, Trust, and Resilience in the Digital Era
R. N. Ravikumarand S. Aarthi (2026). *Impact of Web Technologies on Digital Transformation (pp. 187-216).*
www.irma-international.org/chapter/web-based-cybersecurity-architectures/399892

Future Developments of E-Modules: The Role of Interactive Tools and Multimedia in Teaching European Studies Online
Alina Christova (2011). *International Journal of E-Adoption (pp. 22-28).*
www.irma-international.org/article/future-developments-modules/52581

Theoretical Frameworks and Practices in Web Technologies
Fadhil Ezar Rahmanand Binastya Anggara Sekti (2026). *Impact of Web Technologies on Digital Transformation (pp. 35-66).*
www.irma-international.org/chapter/theoretical-frameworks-and-practices-in-web-technologies/399887

Prognostication of Crime Using Bagging Regression Model: A Case Study of London
Ashansa Kithmini Wijeratne, Nirubikaa Ravikumar, Pulasthi Mithila Bandaraand Banujan Kuhaneswaran (2023). *Handbook of Research on Technological Advances of Library and Information Science in Industry 5.0 (pp. 462-478).*
www.irma-international.org/chapter/prognostication-of-crime-using-bagging-regression-model/316594

Teachers' Perceptions of the Interactive Boards for Teaching and Learning: The Case of Arab Teachers in Israel
Essa Alfahel, Wajeeh Daherand Jamal Abu-Hussain (2012). *International Journal of E-Adoption (pp. 33-50).*
www.irma-international.org/article/teachers-perceptions-interactive-boards-teaching/64341