Chapter 3
Generative AI in Personalized Travel Planning

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ABSTRACT

This chapter explores the transformative role of generative artificial intelligence (AI) in redefining personalized travel planning within the modern tourism landscape. As travelers increasingly seek experiences tailored to their individual interests, behaviors, and real-time contexts, generative AI has emerged as a powerful enabler of hyper-personalized journeys. Utilizing technologies like deep learning, natural language processing, and recommendation systems, AI is now used to generate bespoke itineraries, intelligent booking process, real time conversational assistance and immersive previews of destinations via AR and VR. It offers a thorough look at how generative AI is woven throughout the travel value chain, from content creation and itinerary generation to multilingual chatbots and adaptive booking platforms. It also tackles crucial ethical and operational issues such as data privacy, algorithmic bias, and the requirement for explainable AI to build user trust.

INTRODUCTION

The global tourism industry is undergoing a fundamental transformation driven by the rapid advancement of artificial intelligence. Among the most disruptive of these technologies is generative AI—a class of algorithms capable of producing human-like text, visuals, and even complex decision frameworks. With travel becoming more

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digitized and consumers expecting more and more individual experiences, there has been a surge in demand for personalized travel experiences. Today's travelers want more than static itineraries, they want journeys that reflect their preferences, their interests, their constraints, and their real-time contexts. In this hyper personalization era, generative AI is not just a tool, it is a catalyst for hyper personalization of travel planning (Peeters & Papp, 2024).

Historically, travel planning involved manual research, generic recommendations, and time-intensive decision-making. However, with generative AI, the platforms now make it possible to offer dynamic, interactive and highly personalized travel experiences. Generative AI is redefining how travelers explore, plan and experience the world by crafting individual itineraries, and creating immersive previews of destinations. From recommending a secret local café according to one's food history to modifying a trip plan due to a sudden weather change, AI is becoming the invisible copilot for the modern traveller (Drammeh, 2024).

Problem Statement

Despite the growing integration of artificial intelligence in the travel industry, there is limited academic exploration of how *generative* AI specifically reshapes personalized travel experiences across the full tourism lifecycle. Most current literature focuses on conventional recommendation systems or predictive analytics, lacking comprehensive insight into generative AI's capabilities, ethical implications, and real-world applications. This gap is particularly critical as travelers increasingly demand contextual, real-time, and emotionally resonant experiences that static AI systems cannot fully provide.

Research Questions

To address this gap, the chapter is guided by the following research questions:

1. How does generative AI enhance personalization in the travel planning process, from itinerary generation to booking and in-destination support?
2. What are the underlying technologies and mechanisms through which generative AI enables dynamic, real-time, and user-specific travel experiences?
3. What ethical, social, and operational challenges emerge with the use of generative AI in tourism?
4. How are leading travel organizations implementing generative AI, and what can be learned from these cases?
5. What future trends are likely to define the next generation of AI-driven travel personalization?