

# Chapter 5

## AI in the Tourism and Hospitality Industry in Bangladesh: Challenges and Ways Forward

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### ABSTRACT

*Artificial intelligence (AI) is reshaping industries globally, and the tourism and hospitality sector in Bangladesh presents a landscape ripe for transformation. This chapter explores AI adoption in Bangladesh's tourism and hospitality industry, analyzing data from academic literature, government, and industry reports, identifying utilization of artificial intelligence platforms, associated challenges, as well as ways forward. It examines the impacts of adopting AI-powered chatbots, virtual assistants, personalized recommendation engines, and advanced price optimization algorithms in the tourism and hospitality industries of Bangladesh. The chapter investigates the associated key challenges regarding data privacy, job disruption, algorithmic biases, change aversion, technical inexperience, and implementation costs. The chapter recommends the ways forward for integrating AI-driven solutions with skillful human interaction for ensuring effective marketing, data security, enhanced service quality, transparent information dissemination, improved visitor*

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## **BACKGROUND**

Artificial Intelligence (AI) has evolved over decades and is used in many sectors including tourism and hospitality industry (Tsvetkov, 2021). Historically, at an academic meeting in 1956, John McCarthy invented the phrase “artificial intelligence” to describe the automation of intelligent behavior with a concentration on arithmetic and logic difficulties (McCarthy, 2007). AI began in the 1980s with knowledge-based expert systems, focusing on high-level cognitive processes like multi-step reasoning and natural language semantics (Collins et al., 2021; Tong et al., 2022). In the 1990s, AI shifted to machine learning (Goodfellow et al., 2016). AI progress was accelerated by access to big data and rapid learning algorithms in 2010 (Duan et al., 2019). Deep learning, combining data and computer technology, has expanded AI applications in healthcare, marketing, education, and tourism and hospitality industry (Huang & Rust, 2018). AI-generated art and music, content suggestions, and immersive virtual reality experiences have revolutionized various industries, including diagnostics, medication development, patient care, education, entertainment, gaming, and tourism etc. (Meenigea & Kolla, 2023). From voice assistants and chatbots to social media content curation, AI has become part of consumers' daily life (Collins et al., 2021).

## **INTRODUCTION**

Due to technology advances, AI is becoming an intrinsic aspect of many organizational processes (Huang & Rust, 2022), including customer value activity guidance and leveraging. According to *Statista* (2022), the global AI market—worth US\$327.5 billion—has grown due to investment. According to a poll of business executives, 24% of U.S. enterprises use AI in sales and marketing, and 60% will by 2022 (*MIT Technology Review*, 2020). AI has transformed the hotel and tourist businesses (Law et al., 2019). AI also enhances social services by answering restaurant queries, assisting airline passengers, providing travel advice, and servicing hotel guests. Its massive data access, computing capacity, context recognition, and emotional sensitivity can improve customer service, reduce costs, and expand capacities (Mariani & Borghi, 2021; Tuomi et al., 2021).

AI is being utilized to revolutionize manufacturing and best practices, particularly in the hotel and tourist industry. Researchers are exploring AI's potential to solve management, operational, and marketing challenges, as well as its psychological

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