Chapter 3
Behavioral and Financial Barriers to the Integration of Artificial Intelligence in the Tourism and Hospitality Industry: A Systematic Approach

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ABSTRACT

As artificial intelligence (AI) transforms tourism and hospitality practices, this chapter examines the behavioral and financial barriers to its adoption. The study highlights major challenges such as resistance to change, high implementation costs and lack of resources. A systematic analysis of key themes from 29 recent articles, carried out with IRaMuTeQ, reveals that these barriers are holding back technology adoption. The results underline the need for inclusive strategies, including incentive policies and training programs, to ensure an equitable and sustainable digital transition.

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INTRODUCTION

With artificial intelligence gaining prominence, major technology revolutions have remapped traditional practices and strategies in various sectors. From recommendation systems by e-commerce sites to supply chain optimization algorithms within manufacturing, the new face of operations is being refashioned using various automated solutions for an integrative solution (Kaplan and Haenlein, 2019; Dwivedi et al., 2021). In a global context marked by increasing digitalization and heightened competitiveness, the tourism and hospitality sector is no exception to this transformation. Faced with rapidly changing customer expectations, companies in the sector are forced to adapt by integrating technologies capable of meeting increased demands for personalization, responsiveness and operational efficiency (Gretzel et al., 2015).

One role for AI involves personalized customer experience: personalization of service, ordering or booking in itself, with resource management all set for even smoother and easier procedures. That is where 24/7 service through chatbots powered by AI and, again, revenue-maximizing price adjustments from machine-learning-based dynamic pricing come into play for customer service (Tussyadiah, 2020). Internally, AI improves operations management, with intelligent tools for inventory management and forecasts based on data analysis (Ivanov and Webster, 2017).

Despite these promising benefits, AI adoption in the tourism and hospitality sector remains low compared to other industries, such as logistics or finance, where this technology has already been tried and tested (Mariani and Baggio, 2022). The peculiarities of the sector, like heavy reliance on human interaction, sometimes rigid organizational structures, and cultural resistance to technological change, are acting as barriers to this transition (Bilgihan et al., 2016).

Artificial intelligence (AI) has been a tremendous technological revolution that has brought multi-faceted changes in business practices and strategies in several industries (Kaplan & Haenlein, 2019). Particularly from recommendation systems in e-commerce to supply chain optimization algorithms in manufacturing, AI is redefining traditional operating models through innovative and automated solutions (Dwivedi et al., 2021). Therefore, in the world of increased digitalization and fierce competition, the tourism and hospitality industry is not an exception to this evolution. Subjected to the increasingly changing customers' expectations, the companies within this sector must develop ways of fitting technologies that could help satisfy the growing needs for personalization, responsiveness, and operational efficiency (Gretzel et al., 2015).

Artificial intelligence is at the very core of facilitating individualized experiences for customers; it personalizes customer service, optimizes bookings, and pro-actively allocates resources. Specifically, online chatbots with artificial intelligence have enabled 24-hour customer support. Dynamic pricing systems supported by machine-learning algorithms adjust real-time rates for greater revenue (Tussyadiah, 2020). From an internal perspective, artificial intelligence supports operations with intelligent inventory management and forecasting with the aid of data analysis (Ivanov & Webster, 2017).

However, however, the rate at which AI is adopted in the hospitality industry is relatively slow when compared with other industries such as finance and transportation, to which this useful technology has gained economic validation (Mariani & Baggio, 2022). Extreme dependence on human interaction along with sluggish organizational structure and culture inherent in the tourism and hospitality industries impede this transition (Bilgihan et al., 2016).

Tourism and the hospitality industry represent some of the huge pillars of the world economy. Before the COVID-19 pandemic began to have its impact, tourism contributed 10.3% of the world GDP and supported approximately 330 million jobs (Slaoui, 2021). Additionally, it serves as a source for foreign