

Chapter 1

Robotization and Smart Technologies in the Hospitality Industry

Züleyhan Baran

Akcakoca Vocational School, Duzce University, Turkey

Şükran Karaca

Tourism Faculty, Sivas Cumhuriyet University, Turkey

Huseyin Baran

Art Design and Architecture Faculty, Duzce University, Turkey

ABSTRACT

New-gen technologies have profoundly impacted all aspects of life and various economic sectors. The tourism industry, known for its inclination towards innovation, has been quick to embrace technological advancements. In response to the global pandemic, tourism businesses such as hotels, food services, and transportation have increasingly utilized robotic systems to ensure social distancing, hygiene, and sanitation measures. However, digitization presents significant challenges for the tourism industry, requiring companies to adapt their operations to stay competitive. Automation has emerged as a highly beneficial trend, simplifying tasks and introducing innovative processes to tourism business models. This enables companies to provide personalized services tailored to the preferences of “digital tourists.” Overall, new-gen technologies are reshaping the tourism industry and driving it toward enhanced efficiency and customer satisfaction.

INTRODUCTION

The tourism industry is undergoing great transformation and unprecedented change. Digital processes and innovative solutions driven by new-generation technologies have led to the emergence of new players and models. The industry has gained a new dimension with smart technologies that offer unprecedented

DOI: 10.4018/978-1-6684-6985-9.ch001

application opportunities (Neuhofner et al., 2015). Hotels are one of the core structures of the tourism industry and new technologies in this field also encourage the development and innovation of the hotel industry. One important way to differentiate in the hotel industry is by offering added value through technology (Smartvel, 2020).

According to the International Federation of Robotics, a service robot is a type of autonomous robot that performs useful tasks for humans through sensing and adapting to different situations without human intervention (Paral, 2022). Service robots are defined as social intermediaries that can replace human service providers in service trials (Van-Doorn et al., 2017). Bowen and Morosan (2018) defined service robots as “physically embodied, artificial intelligence (AI) agents that can perform actions that have effects on the physical world.” According to Ivanov, Webster, and Berezina (2017), service robots are “programmable, intelligent devices with a certain degree of autonomy, mobility, and sensory capabilities designed to perform a specific task” that are useful to humans. The term “social robot” is used to describe service robots that have the ability to interact and communicate with humans and follow social norms (Chi et al., 2020). Service robots are expected to play an increasingly important role in the hospitality and tourism industries, improving the service experience and quality (Mende et al., 2019). The use of robots in tourism and hospitality enterprises has the potential to enhance guest experiences and make them more efficient and enjoyable (Ivanov et al., 2017).

Robotic applications are widely used in manufacturing, military forces, medicine, and home care services. So, these applications are becoming increasingly common in hospitality and tourism (Murphy et al., 2017). The use of robots in the hospitality and tourism industry is one of the most modern, innovative, and advanced ever. The use of service bots ranges from basic AI chatbots to assist with the service process to sophisticated assistant bots that enhance the guest experience and satisfaction. As the number of companies using service bots increases, it is important to understand their impact on both business and customer satisfaction (Belanche et al., 2020). While some of these robots perform basic and routine tasks in hotels and restaurants, such as robotic floor cleaners (Murphy et al., 2017), the potential for their use in the industry is vast and varied.

The topics of AI and robotic technologies are rapidly spreading and widely used around the world, and are being studied by various disciplines in the literature. The field of tourism is also gaining attention as one of the disciplines in which research has been conducted in recent years. In this context, robots play a significant role in the application areas of the tourism sector (Kılıçhan & Yılmaz, 2020). Especially in light of the great developments in the field of information and communication technology, as well as the use of AI techniques in many areas, including tourism, smart technology has gained significant importance in the tourism industry today.

The objective of this chapter of the book is to provide an understanding of the concept of smart hotels and the application of new technologies in this field. It aims to create a discussion platform about the use of new technologies in smart hotels. To achieve this goal, the concept of smart hotels and the new-generation technology components that make up this concept will be explained based on the literature. Finally, a futuristic outlook will be presented in the conclusion chapter using the theoretical information obtained.

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