Chapter 14
Robotics Technology in the Tourism and Hospitality Sector in the Wake of the COVID-19 Health Crises

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ABSTRACT

During the global pandemic, the worldwide tourism and hospitality sector has affected severely, and robotics can be a good instrument for providing significant physical distance during the pandemic as humans avoid physical interaction. In this chapter, examination has been performed on whether it would be helpful or whether it will have adverse effects on using robotic systems to offer physical distance for the tourism and hospitality sector. The chapter further revealed that robotics technology builds a technological wall among tourists and staff, enhancing physical and emotional distance between them. Therefore, tourism and hospitality businesses need to augment robots with other technologies to promote social interaction and counteract the adverse consequences of complete distance.

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INTRODUCTION

Literature Review

The hospitality industry, like any other industry, is heavily influenced by information and communication technology (ICT). Recently, due to advances in artificial intelligence and robotics, hospitality businesses have started to use a wide range of service robots with different technical capabilities (robots that look like humanoids, zoomorphic or more), such as consultants, moderators, porters, kitchen staff, room servers, staff in the house, portraits and waiters (Fragapane et al., 2021). The service robots are used for repetitive, dirty, boring, and dangerous tasks such as providing information, cleaning floors, disinfecting, and providing room service (Seyitoğlu & Ivanov, 2020). Therefore, there are more and more studies on service robots in the hotel industry and tourism. A new coronavirus disease is causing an alarming pandemic (COVID-19) worldwide (Cucinotta & Vanelli, 2020). Many businesses, such as hospitality and tourism, have had a significant impact as individuals avoid interactions with others (Al-Qasem, 2021). According to the World Health Organization (2020), physical and social distancing slows the spread of a virus because there is no physical contact and space between the newly infected individuals (Karaman, Alhudhaif, & Polat, 2021). This study shows that service robots in tourism and hospitality can be used efficiently for physical distance. Tourism and hospitality are some sectors that require the most social interactions, personal touches, and physicality than any other industry. With COVID-19 classified as a pandemic by the World Health Organization (WHO), shutdowns have impacted this business. New restrictions have hampered it in terms of social distancing and travel bans. The tourism and hospitality industry increasingly depends on robotics, automation, and artificial intelligence (AI). Consequently, human presence in public places such as airports, hotels, transportation systems, and restaurants is decreasing. Human-to-robot connections are also increasing in business and society (Network, 2021). Robots and other advanced devices such as socially conscious robotics are commonly used in service industries, including tourism and hospitality (Network, 2021).

In the past, a crisis has brought about technical advances and advancements. As a result, the current COVID-19 scenario has taken place. Artificial technology (AI) developments have created new opportunities for automation, such as using robotics in the travel, tourism, and hospitality industries due to the current economic crisis (Gaur et al., 2021; Zeng et al., 2020). Artificial intelligence has enabled robots to become more socially aware and emotionally sensitive (Chuah & Yu, 2021; Yan et al., 2021). Intelligent robots can understand emotional signals and behave like humans. They use artificial intelligence (AI) to communicate with humans (Kumar et al.,