



Exploring the Impact of AI in Tourism and Hospitality: Insights from COVID-19 Perceived Risk and Hotel Safety Practices, Navigating Opportunities and Challenges through Responsible Deployment

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DESCRIPTION

This study aims to explore the potential impact of AI on the future landscape, drawing insights from research on "COVID-19 perceived risk, travel risk perceptions, and hotel staying intention: Hotel hygiene and safety practices as a moderator". The tourism and hospitality industry have experienced significant changes due to the pandemic, necessitating innovative solutions to address safety and operational challenges [1]. While AI (Artificial Intelligence) shows promise for enhancing safety, efficiency, and guest satisfaction in hotels, concerns persist regarding job displacement, privacy breaches, bias, and security [2]. By responsibly leveraging AI, hotel operators can optimize operations, personalize guest experiences, and adapt to evolving consumer preferences. However, it is essential to carefully consider the risks associated with AI integration to safeguard human well-being, privacy, and social equity in the future of the hospitality industry [3].

The COVID-19 pandemic has had a profound impact on the global tourism and hospitality sector, resulting in significant shifts in traveler behavior, heightened safety concerns, and operational challenges for hotels. This study seeks to explore the potential role of Artificial Intelligence (AI) as both a blessing and a threat in the post-pandemic era within this context [4-8]. Drawing insights from research on COVID-19 perceived risk, travel risk perceptions, hotel staying intention, and hotel hygiene and safety practices, the extended analysis aims to shed light on the prospective implications of AI in shaping the future landscape. While I am inclined to view AI as a promising boon for humanity, I also recognize the need to address potential adversities arising from its pervasive integration. Nonetheless, I argue that AI can yield substantial benefits for humanity if deployed judiciously and regulated ethically. This discourse endeavors to comprehensively delve into both dimensions [9].

In the post-COVID-19 era, AI emerges as a significant blessing for the hospitality industry, offering innovative solutions to

enhance safety, efficiency, and guest satisfaction [10]. Firstly, AI technologies revolutionize safety and hygiene practices in hotels by automating temperature screening, contactless check-ins, and disinfection processes. These advancements not only mitigate the risk of virus transmission but also reassure travelers, instilling confidence in hotel stays [11]. Secondly, AI-powered chatbots and virtual assistants personalize guest experiences by offering tailored recommendations, concierge services, and real-time assistance. This personalized approach enhances overall guest satisfaction and loyalty [12]. Thirdly, AI-driven solutions optimize hotel operations by predicting demand, managing inventory, and optimizing staffing levels in real-time. By harnessing the power of AI, hotels can streamline their operations, leading to cost savings and increased efficiency [13]. Fourthly, AI's data analytics capabilities enable hotels to make data-driven decisions by identifying patterns and trends in guest feedback, social media, and market trends [14]. These insights empower hoteliers to adapt to changing consumer preferences and stay competitive in the market. Finally, AI-enabled technologies such as voice recognition, facial recognition, and robotics facilitate contactless interactions between guests and staff, minimizing physical contact and reducing the risk of virus transmission. Through these advancements, AI enhances the safety and well-being of both guests and staff, ensuring a secure and comfortable hotel experience in the future [15]. However, the diverse and rapid development of technology presents another side of AI that may pose threats to humanity. Firstly, many AI technologies assist in hazardous or highly repetitive tasks, and even replace manpower in cases of labor shortages [16]. This has led to job displacement, which is a significant concern with the widespread adoption of AI and automation technologies in the hospitality industry, particularly affecting low-skilled workers and exacerbating socioeconomic inequalities. Secondly, AI-driven monitoring systems and data analytics have raised privacy concerns, potentially infringing on privacy rights and contributing to surveillance capitalism, as hotels may collect and analyze guest

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data without sufficient transparency or consent [17]. Thirdly, bias and discrimination are inherent risks with AI algorithms, which may perpetuate existing societal inequalities based on factors such as race, gender, and socioeconomic status, resulting in unfair treatment of guests and employees. Because anthropomorphic AI algorithms may not yet transcend considerations of diversity and conditions. Fourthly, dependence on AI technology may threaten interpersonal relationships, interactions, and enthusiasm between consumers and service personnel during hotel stays, as consumers' behavior gradually changes due to the experiences of many technologies, altering their original preferences for close interactions and personalized experiences [18]. The relationship between AI technology's automated services and consumer satisfaction may also be undergoing transformation. Finally, the application of AI technology in hotels brings information security risks, making them susceptible to cyberattacks, data breaches, and malicious manipulation, thereby jeopardizing guest privacy, safety, and personal information [19].

In conclusion, while Artificial Intelligence (AI) presents opportunities for the tourism and hospitality industry in the future, it also brings significant challenges and risks to human well-being, privacy, and social equity. While AI-driven technologies can enhance hotel safety, efficiency, and customer experience, concerns have arisen regarding job displacement, privacy infringement, bias, and security vulnerabilities. Therefore, it is essential to harness the benefits of AI while addressing its limitations. This entails prioritizing responsible and ethical deployment of AI in the tourism and hospitality sector. Hotel operators should invest in robust data protection measures, promote transparent and consent-driven data collection practices, and prioritize diversity and inclusivity in AI development and implementation. By doing so, this study can leverage the transformative potential of AI while safeguarding human well-being, privacy, and social equity.

REFERENCES

1. Ardolino M, Bacchetti A, Dolgui A, Franchini G, Ivanov D, Nair A. The Impacts of digital technologies on coping with the COVID-19 pandemic in the manufacturing industry: A systematic literature review. *Int J Prod Res.* 2024;62(5):1953-1976.
2. Bozkurt V, Gursoy D. The Artificial Intelligence paradox: Opportunity or threat for humanity?. *Int J Human-Comp Inter.* 2023:1-4.
3. Carvalho I, Ivanov S. ChatGPT for tourism: Applications, benefits and risks. *Tour Rev.* 2024;79(2):290-303.
4. Garcia-Madurga MÁ, Grilló-Méndez AJ. Artificial Intelligence in the tourism industry: An overview of reviews. *Adm Sci.* 2023;13(8):172.
5. Hui Z, Khan AN, Chenglong Z, Khan NA. When service quality is enhanced by human-artificial intelligence interaction: An examination of anthropomorphism, responsiveness from the perspectives of employees and customers. *Int J Human-Comp Inter.* 2023:1-6.
6. Leung XY, Zhang H, Lyu J, Bai B. Why do hotel frontline employees use service robots in the workplace? A technology affordance theory perspective. *Int J Hospit Manage.* 2023;108:103380.
7. Manroop L, Malik A, Milner M. The ethical implications of big data in human resource management. *Human Res Manage Rev.* 2024:101012.
8. Morosan C, Dursun-Cengizci A. Letting AI make decisions for me: An empirical examination of hotel guests' acceptance of technology agency. *Int J Contemp Hospit Manage.* 2024;36(3):946-974.
9. Ozmen Garibay O, Winslow B, Andolina S, Antona M, Bodenschatz A, Coursaris C, et al. Six human-centered artificial intelligence grand challenges. *Int J Human-Comp Inter.* 2023;39(3):391-437.
10. Patel K. Ethical reflections on data-centric AI: Balancing benefits and risks. *Int J Artif Int Res Dev.* 2024;2(1):1-7.
11. Pillai R, Sivathanu B. Adoption of AI-based chatbots for hospitality and tourism. *Int J Contemp Hospit Manage.* 2020;32(10):3199-3226.
12. Shin H, Kang J. Reducing perceived health risk to attract hotel customers in the COVID-19 pandemic era: Focused on technology innovation for social distancing and cleanliness. *Int J Hospit Manage.* 2020;91:102664.
13. Teng CC, Cheng YJ, Yen WS, Shih PY. COVID-19 perceived risk, travel risk perceptions and hotel staying intention: Hotel hygiene and safety practices as a moderator. *Sustain.* 2023;15(17):13048.
14. Thakur J, Kushwaha BP. Artificial intelligence in marketing research and future research directions: Science mapping and research clustering using bibliometric analysis. *Glob Bus Org Exc.* 2024;43(3):139-155.
15. Vinnakota S, Mohan MD, Boda J, Sekuini J, Mustafa M, Madala H. Leveraging artificial intelligence in the hospitality industry: Opportunities and challenges. *Asian J Soc Sci Manage Technol.* 2022.
16. Wach K, Duong CD, Ejdys J, Kazlauskaitė R, Korzynski P, Mazurek G, et al. The dark side of generative Artificial Intelligence: A critical analysis of controversies and risks of ChatGPT. *Entrep Bus Econ Rev.* 2023;11(2):7-30.
17. Wang PQ. Personalizing guest experience with generative AI in the hotel industry: There's more to it than meets a Kiwi's eye. *Curr Iss Tou.* 2024:1-8.
18. Wang XV, Wang L. A literature survey of the robotic technologies during the COVID-19 pandemic. *J Manuf Syst.* 2021;60:823-836.
19. Wu DC, Zhong S, Wu J, Song H. Tourism and hospitality forecasting with big data: A systematic review of the literature. *J Hospit Tour Res.* 2024:109.