


Chapter 11

Viability of Man and Machine as Co-Workers in the Hotel Industry

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ABSTRACT

This study examines the feasibility of fostering symbiotic relationships between humans and machines in the hotel industry and explores effective strategies for managing their collaboration to maximize benefits. The chapter follows a rigorous methodology, conducting a systematic literature review using scientific databases, analyzing published and unpublished articles and data from various organizations. Key focus areas include the “hospitality industry,” “man and machine,” and “machine as co-workers.” Findings demonstrate that strategic management and implementation of human-machine relationships can enhance organizational performance and yield substantial benefits. Addressing inherent challenges and intricacies is vital for a favorable outcome. The study presents a theoretical framework elucidating the impact of human-machine interaction on organizational outcomes.

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INTRODUCTION

The hotel and tourism industries are large and rapidly growing sectors crucial in boosting employment rates, attracting foreign investment, and contributing to a country's GDP. In India, the hotel industry contributes 9.4% to the GDP and is among the top 10 industries attracting foreign direct investment. It also provides 80% of employment opportunities, making it vital to create a positive work environment to maximize its economic impact.

To promote employee well-being, it is essential to distribute workloads fairly and address work-related stress in the hotel industry. Taking into account individual capabilities and efficiency when assigning tasks is crucial. The ongoing pandemic has severely affected the tourism industry, leading to job losses and increased pressure on remaining employees, resulting in reduced productivity and job satisfaction.

A new approach has emerged to tackle these challenges involving a collaborative effort between humans and machines. By smartly assigning tasks to human workers and automated systems, employees can experience reduced stress and improved efficiency. Let us explore the origin and principles of this concept.

Industry 5.0, the next phase following Industry 4.0, focuses on collaboration between humans and machines to improve productivity and efficiency (Schwab, 2017). Unlike its predecessor, which heavily leaned on automation, Industry 5.0 fosters cooperation, not competition, between man and machine. Industry 5.0 helps boost efficiency and productivity in the hospitality industry, which is crucial during the ongoing pandemic. The pandemic has hit the hospitality industry hard, resulting in massive job losses and decreased profitability (American Hotel & Lodging Association, 2020; Hao et al., 2020).

Strategies and preventive measures are needed to counter these challenges. A critical factor to consider is the guest's perception of hotel safety and cleanliness, which directly affects profitability and growth. Thus, integrating technology, human expertise, and machinery presents a promising solution (Hao et al., 2020; Jiang & Wen, 2020).

Park et al. (2019) found that hotel guests prioritize hygiene and cleanliness. Due to recent circumstances, guests have become more concerned about personal hygiene and social distancing. Traditional visual inspections by housekeeping staff are insufficient in ensuring hotel cleanliness, as highlighted by Almanza et al. (2015) and Kline et al. (2014).

The hotel industry has adopted technology-driven solutions. Contactless services have become prominent (Gursoy & Chi, 2020; Hao et al., 2020), and hotels are improving safety protocols (Shin & Kang, 2020). Collaborative robots, known as Cobots, serve as contactless waiters (Hao et al., 2020; Jiang & Wen, 2020).

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