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Hotel Leaders' Views on Artificial Intelligence: Opportunities, Challenges, and Future Directions

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ABSTRACT

This research explores the benefits, challenges, and impacts of artificial intelligence (AI) in the hotel industry. Utilizing a qualitative approach, the study examines how the industry has sought to advance technologically. Nine hotel and technology executives from across the United States participated in semi-structured interviews, discussing key topics about artificial intelligence, such as its implementation within hotel properties, effects on employees, and satisfaction with guests.

Participants emphasized several challenges, including the early-stage development of AI and the difficulties of integrating it into existing hotel systems. The findings suggest that, although artificial intelligence is set to play a significant role in the future of the hotel industry, its full impact on employees and guests has yet to be realized. Participants also emphasized the importance of employees embracing technology rather than fearing displacement.

The importance of preserving a human presence among employees and ensuring that automation does not alter the guest satisfaction experience is highlighted. Valuable insights into the intentions of hotel executives and the future direction of their establishments, such as the potential benefits artificial intelligence could bring for both executives and guests, are revealed, providing recommendations for successful integration.

Keywords: artificial intelligence-driven services, artificial intelligence integration, automation in hospitality.

INTRODUCTION

The adoption of artificial intelligence (AI) in the hospitality industry has accelerated rapidly, particularly in hotels, driven by the dual pressures of technological advancement and ongoing labor shortages. Before the COVID-19 pandemic, AI was cautiously explored at industry trade shows but often met with skepticism. However, the hospitality sector was hard-hit by the pandemic, pushing businesses to seek innovative solutions to ensure operational viability. As companies struggled with employee retention and service gaps, AI and robotics emerged as viable tools to reduce costs, maintain service quality, and minimize human contact. Forecasts suggest that by the 2030s, a significant portion of hospitality jobs could be automated.

Research shows that AI can reduce communication errors and enhance guest interactions in hotels (Epiknetworks & Makadia, 2018; Francis, 2021; Johnson & Ogunnaike, 2020). AI and robotics also offer strong operational benefits, helping hotels lower labor and operating costs (by 15-25%), automate repetitive tasks, increase revenue, and boost employee satisfaction (Bowen, 2018; Editors, 2023; Ivanov & Webster, 2017; Li et al., 2020; WTM, 2018). Profitability remains a key motivator and companies that design services around AI or robotics may gain a competitive edge (Peter, 2023). As costs fall and technology advances, hybrid models blending AI and human staff are expected to shape the future of hotel service (Bornet, Barkin, & Wirtz, 2020).

There are concerns, however, about personalized service loss, which weakens guest trust and loyalty (Seo & Jee, 2021; Krzak, 2023) as many guests prefer human interaction over robotic efficiency. Privacy issues arise from AI's use of facial recognition and data analytics, with guests expressing discomfort about surveillance and embedded cameras, necessitating strong data protection measures (Johnson & Ogunnaike, 2020; Krzak, 2023). AI tools often lack emotional intelligence for meaningful communication, potentially causing frustration and reputation damage (Zhong et al., 2021). Implementation costs, maintenance, and specialized staffing also create significant barriers, particularly for smaller hotels (Bornet et al., 2020; Krzak, 2023). Additionally, rapidly evolving AI technology requires continuous training investments, adding operational strain (Reis et al., 2020). This study explored hotel leaders' perspectives on AI adoption,

focusing on the opportunities, challenges, and implications of its integration.

METHODS

Semi-structured interviews were conducted with nine senior leaders in the hotel industry asking questions about the benefits, challenges, and impacts of AI (Malone, 2024). Prospective participants were identified and invited to the study using LinkedIn; only males responded to participate. To protect their identities and ensure confidentiality, each participant was assigned a pseudonym (Table 1).

Table 1: Demographic Profile of Participants

Identifier Name	Years in the Hotel Industry	Employment- Hotel Types	Current Position
Terry	13 in hotels 17 in technology	Boutique Small Chains Large Chains	Vice President of Engagement
River	31	Large Chain	Vice President Operations
Alex	30 in hotels 8 months in technology	Small Chain Large Chain Luxury Resorts	Global Director, Travel, Transportation, and Hospitality
Riley	14	Large Chain	Senior Director of Data Science
Drew	40	Luxury Resorts	Chief Commercial Officer
Charlie	30	Mid to Upscale Chain	Regional Director of Operations
Morgan	27	Boutique Small Chain Large Chain	Culinary FOH/Banquet Manager Former Dual Director of Sales
Carey	28	Mid to Upscale Chain	Chief executive officer
Jordan	11	Large Chain Limited Service	General Manager

Note: *Hotel Types based on EHL Insights, n.d.*

RESULTS

Participants shared their views on current AI use in hospitality, noting applications such as automated customer service, predictive maintenance, and personalized guest experiences. They cited benefits like increased efficiency, cost savings, and improved guest satisfaction, while acknowledging drawbacks including reduced human interaction, privacy concerns, and high implementation costs. Participants revealed that AI adoption remains in early stages, even among large hotel brands. Alex noted the hospitality industry's slow adoption, attributing it to a general lag in embracing new technologies, while emphasizing AI's potential in translation, speech recognition, and generative AI. Overall, participants agreed that AI offers value through task automation and efficiency enhancement yet emphasized preserving human interaction as central to guest satisfaction.

Challenges include implementing AI across franchised properties, where ownership structures hinder consistent integration. When asked "What made you want to start using AI at your property(ies)?" participants' responses revealed several common themes (Table 2).

Table 2: Major Themes, Sub-Themes, and Supporting Quotes

Major Themes	Sub-Themes	Supporting Quotes
Cost Savings and Staff Efficiencies	Labor market optimization, task automation	*AI has the potential to address labor shortages, provide more efficient and personalized service, and allow employees to focus on higher-level tasks."* — Terry *"We've seen operational efficiencies improve, especially with tasks like housekeeping automation, where staff can be redirected to more meaningful guest interactions."* — Drew
Guest Experience Enhancement	Personalization, convenience	*"Guests have used digital keys to check in and out of hotels without having to interact with the hotel staff."* — Charlie

Balancing Human Touch and Automation	Maintaining human connection	*"Hospitality is about people, not a 'thing'. AI should complement human interaction."* — Alex
Challenges and Concerns	Job displacement, employee concerns	*"There are legitimate concerns about adoption and utilization of AI by employees."* — Terry
Marketing to Multiple Generations	Younger generations' tech engagement	*"The technology holds a 90% opportunity, but its potential may be lost if hotels fail to embrace it."* — Carey
Transparency and Education	Guest awareness, intuitive design	*"Making AI technology intuitive and seamless for guests is essential."* — Terry
Employee Acceptance and Interaction	Positive reception, new roles	*"The mobile keys have been impacting for 8 plus years and everyone is trained on those."* — Jordan
Revenue Growth and Profitability	Pricing optimization, guest satisfaction	*"AI can improve the guest experience by providing personalized recommendations, resolving issues quickly, and anticipating guest needs."* — Alex

Participants discussed AI's long-term implications, identifying benefits such as cost reduction, revenue growth, and operational efficiency. AI was expected to automate housekeeping, maintenance, and check-ins while enhancing revenue through personalized recommendations and dynamic pricing. Drew emphasized that widespread AI use is inevitable due to rising consumer expectations and competitive pressure.

However, significant challenges emerged: high implementation costs, job displacement risks, data privacy concerns, and technical hurdles including specialized expertise needs and system integration with PMS, POS, and CRM platforms. Customer acceptance remains concerning, with participants emphasizing needs for transparency, intuitive design, technical stability, and strong support to ensure AI enhances rather than detracts from guest experience. Participants shared AI examples including speech recognition, text-to-speech features, and AI-powered concierge systems are becoming common, particularly among younger generations more comfortable with technology. Mixed opinions emerged regarding guest preferences. Some guests appreciate AI for basic tasks like digital check-ins or service requests, but many still favor human interaction for more personal experiences.

Although participants disagreed about AI's emotional intelligence or its ability to meaningfully connect with guests, there was agreement that AI should complement, not replace, humans. As for AI's influence on attracting guests, views varied; some saw it as a competitive edge, while others felt it would not be a major factor. Participants emphasized that thoughtful implementation aligned with guest expectations is key to AI's success in hospitality.

Participant reports of employee reactions were mixed. They noted that staff directly involved with AI welcomed it, while others expressed job security concerns. Terry noted AI may alter many roles without resulting in widespread job loss, with hotel owners weighing AI cost-effectiveness versus traditional staffing. Most believed employees viewed AI as supportive rather than threatening, with many embracing its ability to streamline tasks in sales, marketing, finance, and revenue management. Mobile keys were frequently cited as an example of a successful preliminary AI integration.

DISCUSSION

Hotel leaders participating in this study identified key motivations for using AI, including cost savings, staff efficiencies, and guest experience enhancement, aligning with literature suggesting AI can reduce operating costs and improve service delivery (WTM, 2018; Ivanov & Webster, 2017). However, implementation faces significant barriers including high costs, technical complexity, and concerns about maintaining hospitality's human-centered approach (Bornet et al., 2020; Krzak, 2023) and mixed reactions from employees. Guest awareness of AI remains limited, with continued preference for human interaction over robotic efficiency, supporting previous research on the importance of emotional connection in hospitality (Seo & Jee, 2021).

CONCLUSION

This study provides timely insights into AI adoption in hospitality, revealing that while implementation remains in early stages, hotel leaders recognize significant

potential for operational transformation and labor challenge solutions. Successful AI integration requires balancing efficiency gains with human-centered service, employees who show cautious optimism when AI complements rather than replaces their roles, and guests who maintain strong preferences for meaningful human interaction despite younger generations' increasing technological comfort.

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