Chapter 29
The Role of AI Chatbots in Transforming Guest Engagement and Marketing in Hospitality

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ABSTRACT

With rapid AI advancements, AI chatbots have become vital for hotels to enhance customer experience and optimize marketing strategies. This chapter examines AI chatbot integration in hotel marketing, its impact on customer experience, and implementation strategies. Through literature and case studies, it highlights AI chatbots' roles and challenges in hotel marketing and offers strategic solutions to technical, user acceptance, management, operational, and socio-cultural issues. AI chatbots personalize services, boost operational efficiency, and enhance customer satisfaction and loyalty by understanding and responding to customer needs. They provide instant information and solutions, offering more humane and efficient services. Additionally, AI chatbots help hotel management better understand customer

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behavior and preferences, leading to accurate market positioning and service optimization. This chapter explores how AI chatbots transform guest engagement and marketing in the hotel industry and provides strategic recommendations and a research agenda for further exploration.

INTRODUCTION

The impact of artificial intelligence (AI) on the hotel industry is a topic of increasing concern, and hotel service processes may change (Bulchand-Gidumal et al., 2023). As AI technology continues to advance, it is expected to bring major changes to various fields such as marketing and customer experience (Lemon & Verhoef, 2016). The use of AI chatbots in hotel services is a specific area within the broader discussion of AI in the hospitality industry. Chatbots driven by AI have the potential to simplify customer interactions and improve service efficiency (Khan & Iqbal, 2020). As an intelligent customer service system, AI chatbots are gradually being applied in various industries, especially in the hotel industry, providing 24/7 service to hotel guests and providing personalized and instant customer support, thereby changing the traditional hotel service process (Pillai & Sivathanu, 2020; Putri et al., 2019). In the field of hotel services, AI chatbots mainly use natural language processing (NLP) technology to achieve functions such as quick response to customer inquiries, automatic processing of frequently asked questions, quick reservations and check-in, etc., providing efficient customer service for hotels, thus improving customer satisfaction and branding. image (Patel & Trivedi, 2020). Secondly, AI chatbots can also reduce labor costs in the hotel industry. Some hotels have begun to try to introduce AI chatbots to assist customer services, including booking, check-in, and providing information. For example, Hilton, Marriott Hotels, Shangri-La Hotels, etc. have implemented AI technology services (Yang et al., 2021). This article explores how AI chatbots can be integrated into hotel marketing, analyzes their potential impact on improving customer experience, and proposes implementation strategies.

AI chatbots are revolutionizing hotel service processes by enhancing customer interaction and operational efficiency. They play a vital role in reshaping the marketing function, improving customer service and personalizing services (Bulchand-Gidumal et al., 2023; Shawal et al., 2023). These chatbots can not only provide customers with tailored suggestions for room reservations, payment systems, and dining options, but can also enhance the guest experience and increase the hotel's operating income. Their seamless integration with existing hotel management systems helps streamline reservation processes, check-in/check-out procedures, streamline daily tasks, and reduce human errors and response times (Astuti et al., 2024). This

automation not only saves costs by minimizing the need for manual labor, but also ensures guests receive fast and accurate assistance, contributing to a smoother and hassle-free stay (Islam & Rashid, 2023). Additionally, AI chatbots can collect and analyze valuable guest data, providing insights that can inform strategic decisions and improve overall service quality, but hotels must balance the use of AI with human interaction to maintain guest preferences (Hussein Al-shami et al., 2022; Kumar Bisoi et al., 2020). Therefore, AI chatbots are crucial to transform hotel service processes, optimize operations, and enhance guest experience in the digital era.

However, despite its potential benefits, AI chatbots also face various challenges in the hotel industry. Nam et al. (2021) Research shows that the adoption of AI and robot applications and services has an important impact on hotel operating costs and customer service quality. Mingotto et al. (2021) conducted further research on the impact of AI and service robots on service experience. However, the challenges of technical implementation of AI chatbots in the hotel industry are still unknown. Research by Nguyen et al. (2023) and Pillai and Sivathanu (2020) emphasizes that customers' confidence in AI chatbots mainly stems from concerns about privacy protection, data security, and service quality. However, there are currently few studies on the challenges of data privacy and security issues for AI chatbots in the hotel industry. Meyer-Waarden et al. (2020) studied the impact of customer acceptance and use of chatbots on service quality. However, there is a lack of information on the hotel industry, and in particular there are few studies on its impact on socio-cultural factors. Research shows that chatbots in the hotel industry are still a relatively new field (Lukanova & Ilieva, 2019), but there are still challenges in the management and operation of AI chatbots in the hotel industry.

This chapter explores how AI chatbots can be integrated into hotel marketing, delving into its technical implementation and privacy data security, as well as the impact on user acceptance and analyzes its potential impact on improving customer experience, and proposes implementation strategies. In addition, through the analysis of relevant literature, the role and challenges of AI chatbots in hotel marketing are highlighted, including technical challenges, user acceptance challenges, management and operational efficiency challenges, and socio-cultural factors challenges. In addition, corresponding solutions are proposed to improve the overall service quality. Finally, through case study analysis, strategic recommendations and future research trends for the successful implementation of AI chatbots in the hotel industry are proposed. Ultimately, this study contributes to a deeper understanding of the changing dynamics between technology and service marketing in the hotel industry to enhance customer experience, paving the way for innovation and advancement in future hotel management practices.

OVERVIEW OF AI CHATBOTS

AI chatbots are computer programs that can interact with humans through natural language. They use AI technologies, especially NLP, machine learning, and deep learning, to simulate human conversations to provide automated online support and services (Kusal et al., 2022; Lin et al., 2023; Maher et al., 2020). These technologies enable chatbots to understand user input and generate corresponding and meaningful responses.

In the hotel industry, the application of AI chatbots is mainly focused on improving customer service efficiency, optimizing booking processes, and enhancing customer experience. For example, a study demonstrated a practical AI system based on text messages that can search and book hotels. It has been deployed on a commercial scale and handles tens of thousands of hotel search requests every day (Li et al., 2019). This shows that the application of AI chatbots in the hotel industry is not only feasible but has begun to produce practical results.

However, although AI chatbots show great potential in the hotel industry, they also face some challenges: First, ensuring that chatbots can accurately understand and respond to user needs is an ongoing challenge, as the complexity and diversity of natural language require chatbots to be highly flexible and adaptable (Ansari et al., 2022; Singh & Thakur, 2020). Second, how to incorporate emotional and personalized elements while maintaining high efficiency to provide more humane services is also an important consideration (Li et al., 2019). In addition, as technology develops, chatbots need to be continuously updated and optimized to adapt to new technological advances and user expectations (Mostafa et al., 2023).

THE ROLE OF AI CHATBOTS IN HOTEL MARKETING

AI chatbots can provide customized service experiences by understanding and responding to customer needs through NLP technology. For example, by collecting customer preferences and historical behavior data, AI can recommend personalized room layouts, dining options, etc. (Al-Hyari et al., 2023; Gupta et al., 2022). In addition, studies have shown that the willingness to use AI devices is affected by factors such as social influence, hedonic motivation, and anthropomorphism (Lin et al., 2020), which further illustrates the potential of AI in providing personalized services.

AI chatbots can simplify the check-in and check-out process, improve efficiency and reduce labor costs. For example, through an automated question-and-answer system, customers can quickly complete operations such as registration, payment, and room reservations (Chen et al., 2023). In addition, AI can also provide instant

support when customers need help, such as answering common questions and handling booking errors (Nguyen et al., 2023).

AI technology is not limited to front desk services but can also be extended to room management. For example, by integrating smart home devices, AI can control the lighting, temperature, music, etc. in the guest room to meet the personalized needs of customers (Tuomi et al., 2021). This intelligent guest room experience not only improves customer comfort, but also increases the competitiveness of the hotel.

Using AI for data analysis can help hotels better understand customer behavior and preferences, to make more accurate market forecasts and decisions. For example, by analyzing customer feedback on different service items, hotels can optimize service processes and improve customer satisfaction (Al-Hyari et al., 2023; Daqar & Smoudy, 2019). In addition, AI can also be used to predict market trends and help hotels stay ahead in the competitive market (Rasheed et al., 2024).

In summary, AI chatbots play multiple roles in hotel marketing. They can not only provide personalized services and simplify service processes, but also improve customer experience and market competitiveness through smart room control and data analysis. However, to fully realize these advantages, hotels need to ensure a balance between AI technology and human interaction, while paying attention to customers' needs for traditional interpersonal services (Al-Hyari et al., 2023).

CHANGES IN GUEST ENGAGEMENT

AI chatbots improve customer service experience by providing instant responses. According to (Chen et al., 2023), the service quality of AI chatbots positively affects customer loyalty through perceived value, cognitive trust, emotional trust, and satisfaction. This shows that when customers feel that the service is fast and effective, they are more likely to trust the brand and remain loyal. In addition, AI chatbots are able to handle a large number of customer inquiries, thereby reducing waiting time and improving service efficiency (Daqar & Smoudy, 2019).

AI chatbots enhance customer experience through personalized service. Research shows that providing personalized customer experience is crucial to the overall customer experience of an enterprise (Daqar & Smoudy, 2019). AI chatbots are able to customize services based on customer preferences and historical behaviors, thereby providing more intimate and personalized services (Patel & Trivedi, 2020). This personalized service not only improves customer satisfaction, but also enhances customer loyalty.

However, it should be noted that there are also some potential risks in the use of AI chatbots. For example, if users perceive a high level of privacy risk, they may be less satisfied with the service (Cheng & Jiang, 2020). Therefore, when deploying

AI chatbots, companies need to ensure data security and transparency to protect the privacy rights of users.

AI chatbots significantly improve the quality of customer service by providing instant responses and personalized services, thereby effectively improving customer satisfaction and loyalty. To maximize these advantages, companies should focus on improving service quality, protecting user privacy, and continuously optimizing the functions and interactive interfaces of AI chatbots.

INTEGRATION OF TECHNOLOGY AND MARKETING

In exploring the integration of technology and marketing, especially customer relationship management (CRM) system integration, marketing automation, and cost-benefit analysis, AI chatbots are a powerful tool whose role and impact have been confirmed in multiple studies. The following is a detailed analysis of these topics based on the materials I searched.

CRM System Integration

The combination of AI chatbots and CRM systems can achieve data sharing and customer insights. This is supported by multiple studies. For example, studies have shown that AI can improve consumer awareness, effectiveness, and loyalty through automation tools (Deb et al., 2018). In addition, the readiness of AI-integrated CRM systems has been widely discussed, highlighting the need for organizations to take different approaches to handle various types of customer data to make it suitable for AI algorithms to promote business success (Chatterjee et al., 2019). This shows that AI can not only improve the efficiency of CRM systems, but also enhance customer experience and satisfaction through in-depth analysis of customer data.

Marketing Automation

The application of AI chatbots in automated marketing activities, such as personalized recommendations and promotions, is another important area. Studies have shown that AI-driven sales automation can improve sales through the use of chatbots (Hildebrand & Bergner, 2019). In addition, the application of AI in marketing decision support has also been widely discussed, emphasizing how AI can be used to improve the marketing decision-making process (Overgoor et al., 2019). These studies show that AI chatbots can not only provide a personalized customer service experience, but also improve efficiency and effectiveness by automating marketing activities.

Cost-Benefit Analysis

Evaluating the cost-effectiveness of AI chatbots in hotel marketing is a complex but crucial task. Although there is less direct evidence for cost-benefit analysis, its potential value can be indirectly inferred from the application of AI in CRM and marketing automation. For example, AI has been found to effectively reduce the time and cost of screening a large number of patents during prior art searches (Setchi et al., 2021). Similarly, AI chatbots have the potential to reduce the demand for human resources, thereby reducing costs in various industries. At the same time, by increasing the level of automation and personalization of marketing activities, companies can more effectively attract and retain customers, which may lead to higher returns (Gacanin & Wagner, 2019).

CHALLENGES OF AI CHATBOTS IN HOTELS

The application of AI chatbots in traditional hotel service processes faces many challenges, which can be analyzed from the perspectives of technical challenges, user acceptance, socio-cultural factors, and management and operations.

Technical Challenges

The first is human-computer interaction design, human-computer interaction design is the key to achieving effective communication. Studies have shown that perceived ease of use and perceived usefulness are important factors affecting user acceptance (Davis, 1989; Venkatesh, 2000). However, how to design an interface that is both in line with human usage habits and can fully utilize AI functions is a technical challenge. In addition, the attributes of service robots, such as whether they have human-like characteristics or intelligence, will also affect the establishment of relationships between customers and robots (Qiu et al., 2020).

The second is system integration and compatibility issues, integrating AI chatbots into existing hotel service systems does present compatibility challenges that need to be addressed. Research has highlighted the significant impact of AI chatbots on customer trust and behavior in the hospitality industry, emphasizing factors such as empathetic responses, anonymity, and customization (Chi & Nam, 2022; Dwivedi et al., 2024; Nguyen et al., 2023). While AI chatbots have transformative potential in enhancing customer interactions and service delivery, there are also potential pitfalls and challenges in implementing generative AI tools such as ChatGPT in the hospitality industry, as highlighted in the literature (Ramirez-Villaseñor et al., 2023). However, research has shown that well-designed chatbot systems can improve

customer service by providing valuable data, improving the quality of communication, and influencing customers' willingness to pay for hotel services (Hoang & Thi, 2022). Therefore, addressing compatibility issues between AI chatbots and existing hotel systems is critical to successfully integrating and maximizing the benefits of these technologies in the hospitality industry.

The third is data privacy and security issues, with the application of AI technology, a large amount of customer data will be collected and processed. How to ensure the security and privacy rights of this data is a major challenge facing AI chatbots (Pillai & Sivathanu, 2020). Implementing AI safety principles, including content protection, stability and robustness, operational transparency and traceability, can significantly enhance data protection and user privacy in AI chatbot interactions (Díaz-Rodríguez et al., 2023). New frameworks such as privacy protection through text cleaning aim to filter out sensitive information before interacting with large language models to ensure the security and privacy of conversations (Brown et al., 2022). Research has highlighted the importance of protecting sensitive user information while maintaining the efficiency of machine learning models (Al-Hyari et al., 2023). Innovative methods such as differential privacy, federated learning, and data minimization techniques have been proposed to address these challenges (Sebastian, 2023). Furthermore, the integration of generative AI techniques such as ChatGPT in the hospitality industry is seen as transformative, but also brings potential privacy issues that need to be addressed (Nguyen et al., 2023). In addition, user privacy needs to be protected in conversational models to prevent data leakage and ensure secure conversations with chatbots (Dwivedi et al., 2024). These findings highlight the need for strong privacy-enhancing techniques and frameworks to protect customer data in AI-driven hospitality services.

User Acceptance

The first is the user's perceived ease of use, research in the hospitality industry has highlighted the importance of the perceived ease of use of AI chatbots on their acceptance (Al-Hyari et al., 2023). Studies have highlighted that perceived ease of use is a key factor influencing user acceptance of information technology and has a direct positive impact on behavioral intention (Ghazi et al., 2023; Konar et al., 2024). Improving the ease of use of AI chatbots is indeed key to improving user acceptance as it can increase satisfaction and loyalty among luxury hotel guests (Ramirez-Villaseñor et al., 2023). Furthermore, it has been shown that the use of AI technologies, including chatbots and virtual assistants, can revolutionize the concept of guest satisfaction by simplifying operations and providing personalized experiences, ultimately improving guest convenience and comfort (Alfani et

al.,2023). Therefore, focusing on improving the ease of use of AI chatbots can greatly contribute to improving user acceptance and satisfaction in the hospitality industry.

The second is the user's perceived usefulness, the value of AI chatbots depends not only on their ease of use but also on their perceived usefulness, which significantly influences user acceptance and behavior (Al-Hyari et al., 2023; Ghazi et al., 2023; Zhu et al., 2023). Research emphasizes that AI technologies, including chatbots, can improve guest satisfaction by providing personalized experiences, simplifying operations, and improving convenience, ultimately increasing loyalty and competitive advantage (Ramirez-Villaseñor et al., 2023). Research also emphasizes the importance of AI in meeting customer needs and optimizing customer experience, demonstrating the potential of AI to revolutionize guest satisfaction in luxury hotels (Morosan & Dursun-Cengizci, 2024). In addition, ensuring that AI systems are perceived as ethical and beneficial is critical to improving user acceptance and utilization, which emphasizes the importance of providing truly useful services through AI chatbots in the hospitality industry.

The third is user trust, users' trust in AI chatbots plays a crucial role in influencing their willingness to adopt the technology. Research highlights that perceived trust can indirectly influence users' willingness to use AI chatbots through perceived usefulness and perceived ease of use (Ghazi et al., 2023; Nguyen et al., 2023). Factors such as empathetic response, anonymity, and customization significantly influence users' interactions with AI chatbots, with empathetic response being the strongest driver of interaction (Al-Hyari et al., 2023). In addition, the perceived advantages of AI technology play an important mediating role in customers' behavioral intention to adopt AI hotels, especially during crises such as the COVID-19 pandemic (Morosan & Dursun-Cengizci, 2024). In addition, ethical considerations and perceived ethics of AI systems are key determinants of users' acceptance of hotel technology agents, highlighting the importance of ensuring that AI systems conduct ethical and beneficial decision-making processes to enhance user trust and utilization of the technology (Cabrero-Daniel & Sanagustín Cabrero, 2023).

Sociocultural Factors

The first is the substitution effect of traditional travel agents, with the introduction of AI chatbots, the role of traditional travel agents may be challenged. This not only affects their livelihoods but may also change customers' expectations and habits of travel services (Samala et al., 2020). AI has redesigned internal processes, achieved large-scale personalization, and changed customer processes and services in the hotel industry, illustrating the changes that AI has brought to hotel marketing functions (Bulchand-Gidumal et al., 2023). In addition, research has highlighted the importance of understanding customer acceptance of AI devices and the ethical

implications of the tourism and hotel industries, emphasizing that service innovation and customer experience optimization require practical references (Zhu et al., 2023). The integration of AI chatbots in hotel services affects customer trust through factors such as empathetic response, anonymity, and customization, revealing how AI chatbots affect customer behavior and decision-making in the hotel industry (Demir & Demir, 2023).

The second is the customer's cognitive bias towards AI technology, customers may have biased perceptions of new technologies, which may affect their acceptance of AI chatbots. For example, some customers may be hesitant due to fear or misunderstanding of technology (Pillai & Sivathanu, 2020). Research shows that customers' perception of the importance of AI during the crisis directly affects their behavioral intentions towards hotels adopting AI, and perceived benefits play an important mediating role (Ghazi et al., 2023). In addition, factors such as empathetic response, anonymity, and customization significantly affect customers' trust in AI chatbots for hotel services (Nguyen et al., 2023). Furthermore, hotel acceptance of technology agencies is influenced by perceived ethics, benefits, risks, and convenience orientation, highlighting the importance of ethical considerations in AI adoption (Morosan & Dursun-Cengizci, 2024). Furthermore, while AI has the potential to improve guest satisfaction in luxury hotels, balancing the use of AI with human interaction is critical, as many guests still value the personal touch of traditional hotel services (Al-Hyari et al., 2023). By defining AI as an enhancement rather than a replacement, customer enjoyment and ease of use can be increased, thereby improving the acceptance of AI in the hotel industry (Vorobeva et al., 2024).

Management and Operational Challenges

The first is the lack of talent and system integration capabilities, the hotel industry may face a talent shortage when adopting AI chatbots, especially in terms of system integration and maintenance. In addition, how to effectively integrate AI technology into existing service processes is also a challenge (Tuomi et al., 2021). While AI has the potential to improve guest satisfaction and revolutionize luxury hotel services, balancing AI with human-computer interaction is essential to meet guest expectations (Al-Hyari et al., 2023). In addition, implementing generative AI tools like ChatGPT can have a transformative impact on the hotel industry, but it also brings challenges related to system maintenance and service delivery processes (Dwivedi et al., 2024). Understanding how AI affects organizational functions (such as hotel marketing) can reveal trends such as data-driven competitiveness and personalized customer service, highlighting the need for effective integration strategies (Bulchand-Gidumal et al., 2023; Islam et al., 2024). Furthermore, the impact of AI on the work outcomes of employees in the hospitality industry highlights

the importance of addressing talent shortages and ensuring that AI technologies are smoothly integrated into existing service processes to optimize outcomes and mitigate challenges (Ersoy & Ehtiyar, 2023).

The second is the change in labor demand in an aging society, in response to the growing demand for a young and skilled workforce in an aging society and the hospitality industry, continuous structural updates are essential for the effective integration and utilization of new technologies. An evolving macro, meson, and micro labor organization system is essential for improving labor efficiency and adapting to changing environmental conditions (Petlin, 2023). EU hotel chains have adopted innovative approaches to manage post-pandemic labor potential, such as hiring and training employees from different backgrounds and offering attractive incentives to address labor shortages (Konar et al., 2018; Postova et al., 2023). Furthermore, modernizing higher vocational education to meet international standards and incorporating digital technologies into training programs is essential to train future hospitality professionals to excel in the industry (Andriushchenko, 2022). As industries shift towards automation and AI, the need for new skills such as robotics and AI is becoming increasingly prominent, urging educational institutions to focus on the all-round development of students through STEM (Science, Technology, Engineering, Mathematics) courses (Misra, 2023).

SOLUTION STRATEGIES

Technological Innovation and Optimization

The first is in-depth study of user needs and preferences, analyzing user interaction data of AI chatbot systems is essential for developing chatbots that are more efficient, reliable, and effective in meeting user needs (Dongbo et al., 2023; Shahsavar & Choudhury, 2023). Research has shown that factors such as performance expectations, risk-return assessments, and decision-making processes influence users' intention to use AI chatbots for self-diagnosis, highlighting the importance of understanding user expectations (Chaka, 2023). In addition, scoping reviews have highlighted the importance of evaluating chatbot functionality, communication models, and user experience to enhance chatbot design to effectively promote health and behavior change (Almutairi et al., 2023). By leveraging AI techniques such as bidirectional recurrent neural networks and fuzzy naive Bayes classifiers, chatbots can be equipped with sentiment analysis capabilities to provide accurate responses and improve user interactions. Ultimately, gaining a deep understanding of user preferences and needs through interaction data analysis is essential for developing

AI chatbots that effectively meet user requirements and expectations across various industries.

The second is develop a more efficient and reliable AI chatbot system, to improve the efficiency and reliability of AI chatbots, it is critical to adopt advanced NLP techniques and deep learning algorithms, such as those used in large language models (LLMs) such as ChatGPT (Al-madi et al., 2023; Chaka, 2023; Di Bello, 2023). These models leverage generative AI (GAI) techniques and deep learning frameworks such as Tensorflow and Keras to generate responses that mimic human interactions (Fraiwan & Khasawneh, 2023; Zielinski et al., 2023). While traditional AI approaches have struggled with language understanding, the advent of neural networks and downstream methods has revolutionized the field, enabling systems such as ChatGPT to generate more coherent and contextual responses. However, challenges remain, including issues such as plagiarism, lack of acknowledgement of sources, and generating superficial responses that lack key nuances of the original source. By incorporating deep convolutional neural networks (CNNs) into tasks such as image classification, AI chatbots can significantly enhance their recognition capabilities, further improving the overall performance and reliability of these systems.

Strategies for Enhancing Customer Experience and Training

The first is strengthen users' understanding and acceptance training of AI technology, to improve users' understanding and acceptance of AI technology, targeted education and training programs should be carried out. This includes introducing users to the basic principles, application scenarios, and potential pros and cons of AI technology through online courses, seminars, and workshops (Følstad et al., 2018). In addition, allowing users to experience the actual application of AI technology through case studies and practical exercises can help enhance their confidence and interest (Qi et al., 2021).

The second is strategies to enhance customer experience, the role of AI chatbots in collecting and processing customer feedback cannot be ignored. Studies have shown that AI-driven chatbots can positively predict user satisfaction with the brand by providing informative, entertaining, technical, and social satisfaction (Cheng & Jiang, 2020). In addition, extracting valuable customer experience insights from chatbot interviews through sentiment analysis can effectively understand customer emotions and further optimize services (Sidaoui et al., 2020). This shows that AI chatbots are not only able to collect customer feedback in real time, but also identify opportunities for service improvement through in-depth analysis of these feedback.

Multi-channel customer interaction is another key strategy to enhance customer experience. By integrating AI chatbots into websites, mobile apps, and social media platforms, hotels can provide a seamless and consistent customer service experience.

This not only increases the convenience of customer interaction, but also improves the accessibility and efficiency of services. For example, studies have found that the service quality of AI chatbots positively affects customer loyalty through perceived value, cognitive trust, emotional trust, and satisfaction (Chen et al., 2023). This shows that by integrating AI chatbots across multiple channels, high-quality customer service can be maintained on different platforms, thereby enhancing customer loyalty.

Continuous learning and service optimization are key to ensuring the long-term effectiveness of AI chatbots. Through machine learning, AI chatbots can continuously improve their service quality to better meet customer needs. For example, the use of a multi-round response trigger model (MRTM) enables chatbots to make smarter responses at the right time, thereby improving the coherence and efficiency of the conversation process (Liu et al., 2020). In addition, the application of advanced NLP technologies such as BERT (bidirectional encoder representations from transformers) enables chatbots to understand and generate natural language more accurately, thereby providing more humane and personalized services (Devlin et al., 2018).

Security and Privacy Protection Measures

With the widespread application of AI technology, ensuring data security and privacy protection is crucial (Azam et al., 2022; Fang et al., 2023; Kan et al., 2023; Li et al., 2023). Some scholars (Badewi et al., 2023; Chang et al., 2024; Liyanaarachchi et al., 2024; Martin et al., 2022) have shown that the use of advanced technology has an impact on psychological resistance. Chang et al. (2024) stated that the mediating role of engagement in the relationship between consumer technology experience and willingness to use new technologies depends on privacy issues. Therefore, to ensure the security of user information, effective data encryption measures must be taken, and a strict user authentication mechanism must be implemented. (Shahriar et al., 2023; Zhao & Chen, 2020). For example, fully homomorphic encryption (FHE), which allows calculations on encrypted data without leaking sensitive information (Hägglund, 2023). In addition, strict user authentication mechanisms can enhance security measures and ensure that only authorized individuals can access sensitive data. By integrating AI and blockchain technologies, innovative privacy protection methods such as multi-layer distributed ledgers and k-anonymity methods can further strengthen data security and confidentiality. The adoption of these advanced encryption strategies and authentication protocols is essential to address the pressing issues surrounding data privacy in the era of widespread AI applications.

Social and Cultural Adaptation and Integration

When developing and deploying AI chatbots, sociocultural factors must be fully considered to ensure the universality and acceptance of the technology. This includes in-depth research on the language habits, communication styles, and values of users in different cultural backgrounds to design AI systems that are more in line with local cultural characteristics (André, 2021). Collaboration with experts in social sciences and anthropology can provide valuable insights into the needs and preferences of users from different cultural backgrounds, which can help to better understand and respect cultural diversity in the design and deployment of AI systems (Nadarzynski et al., 2023; Tanjung & Hidayat, 2023). By incorporating these sociocultural factors into the development process, AI chatbots can be tailored to the specific needs of different cultural groups, improve their effectiveness, promote inclusive technology adoption (Goffi & Momcilovic, 2022; Konstantis et al., 2023; Kunst & Bierwiaczonek, 2023), and be widely accepted in various cultural contexts, thereby improving their effectiveness and user engagement.

CONCLUSION

According to Pillai and Sivathanu (2020), a study on the adoption of AI chatbots in the Indian tourism industry showed that customer behavioral intention towards AI chatbots was mainly influenced by perceived ease of use, perceived usefulness, perceived trust, perceived intelligence, and anthropomorphism. This suggests that it is crucial to ensure that when designing and developing AI chatbots, they are easily accessible, user-friendly, more human-like, and can communicate with customers in multiple native languages. In addition, techno-anxiety did not affect the behavioral intention of chatbots, which means that designers and developers need to ensure that chatbots can effectively reduce customers' technology anxiety. According to Athikkal and Jenq (2022), AI chatbots can interact with guests through voice input. This voice-based chatbot can convert human two-way interactions into text-to-speech and speech-to-text conversions in NLP systems, thereby improving service efficiency and customer satisfaction. Li et al. (2019) demonstrated a practical conversational AI system that searches and books hotels through text messages and handles tens of thousands of hotel search requests every day. This case highlights the importance of developing efficient and scalable conversational AI systems and how to overcome various challenges in the development process. Sidaoui et al. (2020) explored how to extract valuable insights about CE from chatbot interviews by conducting SA using an enhanced AI chatbot. This shows that AI chatbots can not only be used to

provide customer service, but also as a tool to collect and analyze customer feedback, thereby helping companies better understand and improve customer experience.

The integration of AI chatbots in hotel marketing has significantly improved customer experience by providing personalized services, improving operational efficiency, enhancing customer satisfaction and loyalty, and optimizing customer experience. These robots can understand and respond to customer needs, provide instant information and solutions, so that customers can experience more humane and efficient services. In addition, the application of AI chatbots can also help hotel management better understand customer behavior and preferences, to conduct more accurate market positioning and service optimization. AI chatbots are easy to use, useful, and trustworthy is the key to improving user acceptance and frequency of use; second, adding intuitive interactive elements can significantly increase user engagement; third, developing efficient and scalable conversational AI systems is essential for handling a large number of requests; finally, using AI chatbots for sentiment analysis can provide companies with the opportunity to gain in-depth insights into customer experience. These experiences are invaluable for companies that want to implement or optimize AI chatbot applications in the hotel industry.

RECOMMENDATIONS AND FUTURE DIRECTIONS

From the perspective of technological innovation, the technical foundation of AI chatbots mainly includes advanced technologies such as NLP, deep learning, and generative pre-trained transformers. These technologies enable chatbots to understand and generate human language, thereby providing a more natural and smooth interactive experience. With the continuous advancement of technology, future AI chatbots will be able to better simulate human emotions and behaviors and improve user experience. In addition, with the development of emerging technologies such as metacognitive AI and reflexive AI, AI chatbots will have more advanced self-awareness and learning capabilities and will be able to continuously optimize and adapt in interactions with users. From the perspective of future industry trends, the application of AI chatbots in hotel marketing is gradually becoming a trend. From improving customer service efficiency to personalized recommendations, AI chatbots are changing the operating model of the hotel industry. For example, by analyzing customer data, AI chatbots can provide customized travel advice and services, thereby improving customer satisfaction and loyalty. In addition, with the impact of the COVID-19 epidemic on the tourism and hotel industries, AI chatbots have also shown the potential to provide services while maintaining social distance. Strategic planning that should be adopted, to fully utilize the potential of AI chatbots in hotel marketing, companies need to formulate corresponding strategic plans. This

includes investing in the latest AI technologies to maintain a competitive advantage; training employees so that they can work effectively with AI systems; and ensuring data privacy and security to enhance customer trust. In addition, companies should also pay attention to the challenges that AI technology may bring, such as employment impact and ethical issues, and develop corresponding strategies to address these challenges. This chapter offers actionable guidance for hotels on successfully integrating AI chatbots into their marketing strategies. This could include advice on selecting the right AI chatbot technology, training staff to effectively manage and utilize the technology, and measuring the return on investment (ROI) of AI chatbot implementation. Addressing ethical considerations and potential biases in AI chatbot interactions would also be crucial to ensure responsible and fair use of this technology.

Future research directions should include: 1) In-depth exploration of the adaptability and effectiveness of AI chatbots in different cultural and language backgrounds; 2) Research on how AI technology can work with human employees to maintain the humanization of services while improving efficiency; 3) Explore the ability of AI chatbots in handling complex interactions and emotional expressions, and how to improve user satisfaction and loyalty through improved algorithms.

Industry development suggestions include: 1) The hotel industry should increase investment in AI technology, especially in improving customer experience and operational efficiency; 2) When designing and deploying AI chatbots, user privacy and data security issues should be fully considered to ensure user trust; 3) Hotel operators should continue to pay attention to the latest developments in AI technology and continuously update and upgrade systems to remain competitive.

In summary, AI chatbots have great development potential in future hotel marketing. Through continuous technological innovation, they will be able to provide more intelligent and personalized services to meet the needs of modern travelers. At the same time, companies need to develop reasonable strategic plans to fully utilize the advantages of these technologies while addressing possible challenges. With the continuous advancement of technology and the accumulation of industry practices, AI chatbots are expected to play a more important role in the field of hotel marketing. The application of AI chatbots in hotel marketing can not only improve customer experience, but also bring higher efficiency and benefits to hotels. With the continuous advancement and improvement of technology, its role in the hotel industry will become more and more important.

REFERENCES

Al-Hyari, H. S., Al-Smadi, H. M., & Weshah, S. R. (2023). The Impact of Artificial Intelligence (AI) on Guest Satisfaction in Hotel Management: An Empirical Study of Luxury Hotels. *Geojournal of Tourism and Geosites, 48*(2spl), 810–819. 10.30892/gtg.482spl15-1081

Al-madi, N. A., Maria, K. A. A., Al-madi, M. A., & Maria, E. A. A. (2023). An Intelligent Arabic Chatbot System to Reduce Admissions Department Burdens. *Authorea Preprints*. 10.22541/au.168302932.22818952/v1

Alfani, D. S., Yuniarto, A., & Handrito, R. P. (2023). The Effect of Perceived Ease of Use on Intention to Use on Bank Syariah Indonesia Mobile Banking Users is Mediated by E-Trust and Religiosity as Moderators. *International Journal of Economic, Business, Accounting* [IJEBAS]. *Agriculture Management and Sharia Administration*, 3(4), 1248–1259.

Almutairi, S., Khan, S. A., Kuhail, M. A., & Taj, I. (2023). Chatbot Design Challenges and the Effect on User Behavior. *Trends, Applications, and Challenges of Chatbot Technology*, 24–35.

André, E. (2021). Socially interactive artificial intelligence: Past, present and future. *Proceedings of the 2021 International Conference on Multimodal Interaction*. ACM. 10.1145/3462244.3480862

Andriushchenko, Y. (2022). *Current Trends and World Experience of Professional Training of Hotel Business Specialists*.

Ansari, T., Arshad, P., Khetan, V., Bembre, B., & Halle, P. (2022). Conversational AI Assistant. *International Journal for Research in Applied Science and Engineering Technology*, 10(11), 1169–1172. 10.22214/ijraset.2022.47554

Astuti, E., Harsono, I., Uhai, S., Muthmainah, H. N., & Vandika, A. Y. (2024). Application of Artificial Intelligence Technology in Customer Service in the Hospitality Industry in Indonesia: A Literature Review on Improving Efficiency and User Experience ARTICLE HISTORY. In *Sciences du Nord Nature Science and Technology, 1*(1).

Athikkal, S., & Jenq, J. (2022). Voice chatbot for Hospitality. *ArXiv Preprint ArXiv:2208.10926*. 10.5121/csit.2022.121315

Azam, N., Michala, L., Ansari, S., & Truong, N. B. (2022). Data privacy threat modelling for autonomous systems: A survey from the gdpr's perspective. *IEEE Transactions on Big Data*, 9(2), 388–414. 10.1109/TBDATA.2022.3227336

Badewi, A. A., Eid, R., & Laker, B. (2023). Determinations of system justification versus psychological reactance consumer behaviours in online taboo markets. *Information Technology & People*, 36(1), 332–361. 10.1108/ITP-12-2018-0555

Brown, H., Lee, K., Mireshghallah, F., Shokri, R., & Tramèr, F. (2022). What does it mean for a language model to preserve privacy? *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency*, (pp. 2280–2292). ACM. 10.1145/3531146.3534642

Bulchand-Gidumal, J., William Secin, E., O'Connor, P., & Buhalis, D. (2023). Artificial intelligence's impact on hospitality and tourism marketing: Exploring key themes and addressing challenges. *Current Issues in Tourism*, 1–18.

Cabrero-Daniel, B., & Sanagustín Cabrero, A. (2023). Perceived trustworthiness of natural language generators. *Proceedings of the First International Symposium on Trustworthy Autonomous Systems*, (pp. 1–9). ACM.

Chaka, C. (2023). Generative AI chatbots-ChatGPT versus YouChat versus Chatsonic: Use cases of selected areas of applied English language studies. *International Journal of Learning*. *Teaching and Educational Research*, 22(6), 1–19. 10.26803/ijlter.22.6.1

Chang, J. Y.-S., Konar, R., Cheah, J.-H., & Lim, X.-J. (2024). Does privacy still matter in smart technology experience? A conditional mediation analysis. *Journal of Marketing Analytics*, 12(1), 71–86. 10.1057/s41270-023-00240-8

Chatterjee, S., Ghosh, S. K., Chaudhuri, R., & Nguyen, B. (2019). Are CRM systems ready for AI integration? A conceptual framework of organizational readiness for effective AI-CRM integration. *The Bottom Line (New York, N.Y.)*, 32(2), 144–157. 10.1108/BL-02-2019-0069

Chen, Q., Lu, Y., Gong, Y., & Xiong, J. (2023). Can AI chatbots help retain customers? Impact of AI service quality on customer loyalty. *Internet Research*, 33(6), 2205–2243. 10.1108/INTR-09-2021-0686

Cheng, Y., & Jiang, H. (2020). How do AI-driven chatbots impact user experience? Examining gratifications, perceived privacy risk, satisfaction, loyalty, and continued use. *Journal of Broadcasting & Electronic Media*, 64(4), 592–614. 10.1080/08838151.2020.1834296

Chi, N. T. K., & Nam, V. H. (2022). The impact of AI chatbot on long-term relationships between customers and hotels. *VNU University of Economics and Business, 2*(6).

Daqar, M. A. M. A., & Smoudy, A. K. A. (2019). The role of artificial intelligence on enhancing customer experience. *International Review of Management and Marketing*, 9(4), 22–31. 10.32479/irmm.8166

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *Management Information Systems Quarterly*, 13(3), 319–340. 10.2307/249008

Deb, S. K., Jain, R., & Deb, V. (2018). Artificial intelligence—creating automated insights for customer relationship management. *2018 8th International Conference on Cloud Computing, Data Science & Engineering (Confluence)*, 758–764.

Demír, Ş. Ş. &, & Demír, M. (2023). Professionals' perspectives on ChatGPT in the tourism industry: Does it inspire awe or concern? *Journal of Tourism Theory and Research*, 9(2), 61–76. 10.24288/jttr.1313481

Devlin, J., Chang, M.-W., Lee, K., & Toutanova, K. (2018). Bert: Pre-training of deep bidirectional transformers for language understanding. *ArXiv Preprint ArXiv:1810.04805*.

Di Bello, F. (2023). Unraveling the Enigma: How can ChatGPT perform so well with language understanding, reasoning, and knowledge processing without having real knowledge or logic? *AboutOpen*, 10(1), 88–96. 10.33393/ao.2023.2618

Díaz-Rodríguez, N., Del Ser, J., Coeckelbergh, M., de Prado, M. L., Herrera-Viedma, E., & Herrera, F. (2023). Connecting the dots in trustworthy Artificial Intelligence: From AI principles, ethics, and key requirements to responsible AI systems and regulation. *Information Fusion*, 99, 101896. 10.1016/j.inffus.2023.101896

Dongbo, M., Miniaoui, S., Fen, L., Althubiti, S. A., & Alsenani, T. R. (2023). Intelligent chatbot interaction system capable for sentimental analysis using hybrid machine learning algorithms. *Information Processing & Management*, 60(5), 103440. 10.1016/j.ipm.2023.103440

Dwivedi, Y. K., Pandey, N., Currie, W., & Micu, A. (2024). Leveraging ChatGPT and other generative artificial intelligence (AI)-based applications in the hospitality and tourism industry: Practices, challenges and research agenda. *International Journal of Contemporary Hospitality Management*, 36(1), 1–12. 10.1108/IJCHM-05-2023-0686

Ersoy, A., & Ehtîyar, R. (2023). The Impact of Artificial Intelligence on Hospitality Employees' Work Outcomes. [AHTR]. *Advances in Hospitality and Tourism Research*, 11(4), 505–526. 10.30519/ahtr.1264966

Fang, B., Li, B., Wu, S., Zheng, T., Ding, S., Yi, R., & Ma, L. (2023). Towards generalizable data protection with transferable unlearnable examples. *ArXiv Preprint ArXiv:2305.11191*.

Følstad, A., Brandtzaeg, P. B., Feltwell, T., Law, E. L. C., Tscheligi, M., & Luger, E. A. (2018). SIG: chatbots for social good. *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*, (pp. 1–4). IEEE.

Fraiwan, M., & Khasawneh, N. (2023). A review of chatgpt applications in education, marketing, software engineering, and healthcare: Benefits, drawbacks, and research directions. *ArXiv Preprint ArXiv:2305.00237*.

Gacanin, H., & Wagner, M. (2019). Artificial Intelligence Paradigm for Customer Experience Management in Next-Generation Networks: Challenges and Perspectives. *IEEE Network,* 1–7. 10.1109/MNET.2019.1800015

Ghazi, K., Kattara, H., Salem, I. E., & Shaaban, M. N. (2023). Benefit-triggered or trust-guided? Investigation of customers' perceptions towards AI-adopting hotels amid and post COVID-19 pandemic. *Tourism and Hospitality Research*, 14673584231184160. 10.1177/14673584231184161

Goffi, E. R., & Momcilovic, A. (2022). Respecting cultural diversity in ethics applied to AI: A new approach for a multicultural governance. *Misión Jurídica: Revista de Derecho y Ciencias Sociales*, 15(23), 111–122. 10.25058/1794600X.2135

Gupta, S., Modgil, S., Lee, C. K., Cho, M., & Park, Y. (2022). Artificial intelligence enabled robots for stay experience in the hospitality industry in a smart city. *Industrial Management & Data Systems*, 122(10), 2331–2350. 10.1108/IMDS-10-2021-0621

Hägglund, M. (2023). HEIDA: Software Examples for Rapid Introduction of Homomorphic Encryption for Privacy Preservation of Health Data. *Caring Is Sharing—Exploiting the Value in Data for Health and Innovation. Proceedings of MIE*, 2023(302), 267.

Hildebrand, C., & Bergner, A. (2019). AI-driven sales automation: Using chatbots to boost sales. *NIM Marketing Intelligence Review*, 11(2), 36–41. 10.2478/nimmir-2019-0014

Hoang, N. Vu., & Thi, T. C. Nguyen. (2022). The Impact of AI Chatbot On Customer Willingness to Pay: An Empirical Investigation in The Hospitality Industry. *Journal of Trade Science*, 92–104. 10.54404/JTS.2022.10.04.09

Hussein Al-shami, S. A., Mamun, A. A., Ahmed, E. M., & Rashid, N. (2022). Artificial intelligent towards hotels' competitive advantage. An exploratory study from the UAE. *Foresight*, 24(5), 625–636. 10.1108/FS-01-2021-0014

Islam, M. R., & Rashid, M. M. (2023). A Survey on Blockchain Security and Its Impact Analysis. *Proceedings of the 9th International Conference on Computer and Communication Engineering, ICCCE 2023*, (pp. 317–321). IEEE. 10.1109/ICCCE58854.2023.10246031

Islam, M. T., Kumar, J., & Konar, R. (2024). Small Steps, Big Impact: Conceptualising the Adoption of Social Media Marketing in Bangladesh's SMEs. In *AI Impacts in Digital Consumer Behavior* (pp. 217–240). IGI Global.

Kan, Z., Qiao, L., Yu, H., Peng, L., Gao, Y., & Li, D. (2023). Protecting user privacy in remote conversational systems: A privacy-preserving framework based on text sanitization. *ArXiv Preprint ArXiv:2306.08223*.

Khan, S., & Iqbal, M. (2020). AI-Powered Customer Service: Does it optimize customer experience? *2020 8th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)(ICRITO)*, (pp. 590–594). Research Gate.

Konar, R., Ali, F., & Hussain, K. (2018). Empowerment in hospitality service leadership: A moderated mediation approach. *Asia-Pacific Journal of Innovation in Hospitality and Tourism*, 7(2), 21–38.

Konar, R., Bhutia, L. D., Fuchs, K., & Balasubramanian, K. (2024). Role of Virtual Reality Technology in Sustainable Travel Behaviour and Engagement Among Millennials. In *Promoting Responsible Tourism With Digital Platforms* (pp. 1–19). IGI Global. 10.4018/979-8-3693-3286-3.ch001

Konstantis, K., Georgas, A., Faras, A., Georgas, K., & Tympas, A. (2023). Ethical considerations in working with ChatGPT on a questionnaire about the future of work with ChatGPT. *AI and Ethics*, 1–10. 10.1007/s43681-023-00312-6

Kumar Bisoi, S., Roy, M., Samal, A., Bisoi, S., & Professor, A. (2020). Impact of Artificial Intelligence in the Hospitality Industry. *International Journal of Advanced Science and Technology*, 29(5), 4265–4276. https://www.researchgate.net/publication/343180745

Kunst, J. R., & Bierwiaczonek, K. (2023). Utilizing AI questionnaire translations in cross-cultural and intercultural research: Insights and recommendations. *International Journal of Intercultural Relations*, 97, 101888. 10.1016/j.ijintrel.2023.101888

Kusal, S., Patil, S., Choudrie, J., Kotecha, K., Mishra, S., & Abraham, A. (2022). AI-based conversational agents: A scoping review from technologies to future directions. *IEEE Access : Practical Innovations, Open Solutions*, 10, 92337–92356. 10.1109/ACCESS.2022.3201144

Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, 80(6), 69–96. 10.1509/jm.15.0420

Li, B., Jiang, N., Sham, J., Shi, H., & Fazal, H. (2019). Real-world conversational ai for hotel bookings. *2019 Second International Conference on Artificial Intelligence for Industries (AI4I)*, (pp. 58–62). Research Gate.

Li, Z., Kong, D., Niu, Y., Peng, H., Li, X., & Li, W. (2023). An overview of AI and blockchain integration for privacy-preserving. *ArXiv Preprint ArXiv:2305.03928*.

Lin, C. C., Huang, A. Y. Q., & Yang, S. J. H. (2023). A Review of AI-Driven Conversational Chatbots Implementation Methodologies and Challenges (1999–2022). In *Sustainability (Switzerland)* (*Vol. 15*, Issue 5). MDPI. 10.3390/su15054012

Lin, H., Chi, O. H., & Gursoy, D. (2020). Antecedents of customers' acceptance of artificially intelligent robotic device use in hospitality services. *Journal of Hospitality Marketing & Management*, 29(5), 530–549. 10.1080/19368623.2020.1685053

Liu, C., Jiang, J., Xiong, C., Yang, Y., & Ye, J. (2020). Towards building an intelligent chatbot for customer service: Learning to respond at the appropriate time. *Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, (pp. 3377–3385). ACM. 10.1145/3394486.3403390

Liyanaarachchi, G., Viglia, G., & Kurtaliqi, F. (2024). Addressing challenges of digital transformation with modified blockchain. *Technological Forecasting and Social Change*, 201, 123254. 10.1016/j.techfore.2024.123254

Lukanova, G., & Ilieva, G. (2019). Robots, artificial intelligence, and service automation in hotels. In *Robots, artificial intelligence, and service automation in travel, tourism and hospitality* (pp. 157–183). Emerald Publishing Limited. 10.1108/978-1-78756-687-320191009

Maher, S., Kayte, S., & Nimbhore, S. (2020). Chatbots & its techniques using AI: An review. *International Journal for Research in Applied Science and Engineering Technology*, 8(12), 503–508. 10.22214/ijraset.2020.32537

Martin, B. A. S., Chrysochou, P., & Strong, C. (2022). Crypto freedom! Effects of trait reactance and regulation content on intention to buy cryptocurrency. *Personality and Individual Differences*, 194, 111659. 10.1016/j.paid.2022.111659

Meyer-Waarden, L., Pavone, G., Poocharoentou, T., Prayatsup, P., Ratinaud, M., Tison, A., & Torné, S. (2020). How service quality influences customer acceptance and usage of chatbots? *SMR-Journal of Service Management Research*, 4(1), 35–51. 10.15358/2511-8676-2020-1-35

Mingotto, E., Montaguti, F., & Tamma, M. (2021). Challenges in re-designing operations and jobs to embody AI and robotics in services. Findings from a case in the hospitality industry. *Electronic Markets*, 31(3), 493–510. 10.1007/s12525-020-00439-y

Misra, P. (2023). Skill Sets for Future Hospitality Jobs. *Journal of Economics. Management and Trade*, 29(7), 98–103. 10.9734/jemt/2023/v29i71108

Morosan, C., & Dursun-Cengizci, A. (2024). Letting AI make decisions for me: An empirical examination of hotel guests' acceptance of technology agency. *International Journal of Contemporary Hospitality Management*, 36(3), 946–974. 10.1108/IJCHM-08-2022-1041

Mostafa, S. A. M., Islam, M. Z., Islam, M. Z., Jeehan, F., Jafreen, S., & Islam, R. U. (2023). Critical Role of Artificially Intelligent Conversational Chatbot. *ArXiv Preprint ArXiv:2310.20474*.

Nadarzynski, T., Knights, N., Husbands, D., Graham, C. G., Llewellyn, C. D., Buchanan, T., Montgomery, I., Rodriguez, A. S., Ogueri, C., & Singh, N. (2023). *P077 Chatbot-assisted self-assessment (CASA): designing a novel AI-enabled sexual health intervention for racially minoritised communities*. BMJ Publishing Group Ltd.

Nam, K., Dutt, C. S., Chathoth, P., Daghfous, A., & Khan, M. S. (2021). The adoption of artificial intelligence and robotics in the hotel industry: Prospects and challenges. *Electronic Markets*, 31(3), 553–574. 10.1007/s12525-020-00442-3

Nguyen, V. T., Phong, L. T., & Chi, N. T. K. (2023). *The impact of AI chatbots on customer trust: an empirical investigation in the hotel industry*. Consumer Behavior in Tourism and Hospitality.

Overgoor, G., Chica, M., Rand, W., & Weishampel, A. (2019). Letting the computers take over: Using AI to solve marketing problems. *California Management Review*, 61(4), 156–185. 10.1177/0008125619859318

Patel, N., & Trivedi, S. (2020). *Leveraging Predictive Modeling*. Machine Learning Personalization, NLP Customer Support, and AI Chatbots to Increase Customer Loyalty.

Petlin, I. (2023). Tasks and Directions of Improving work Organization at Enterprises of the Hotel Industry. *Eastern Europe: Economy. Business and Management*, 1(38). 10.32782/easterneurope.38-8

Pillai, R., & Sivathanu, B. (2020). Adoption of AI-based chatbots for hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 32(10), 3199–3226. 10.1108/IJCHM-04-2020-0259

Postova, V., Riabenka, M., Mazurkevych, I., Onyshchuk, N., & Vivsiuk, I. (2023). Application of Innovative Methods of Managing the Labor Potential in the Hotel and Restaurant Business Establishments. *International Journal of Professional Business Review: Int.J. Prof. Bus. Rev.*, 8(6), 8.

Putri, F. P., Meidia, H., & Gunawan, D. (2019). Designing intelligent personalized chatbot for hotel services. *Proceedings of the 2019 2nd International Conference on Algorithms, Computing and Artificial Intelligence*, (pp. 468–472). ACM. 10.1145/3377713.3377791

Qi, P., Huang, J., Wu, Y., He, X., & Zhou, B. (2021). Conversational AI Systems for Social Good: Opportunities and Challenges. *ArXiv Preprint ArXiv:2105.06457*.

Qiu, H., Li, M., Shu, B., & Bai, B. (2020). Enhancing hospitality experience with service robots: The mediating role of rapport building. *Journal of Hospitality Marketing & Management*, 29(3), 247–268. 10.1080/19368623.2019.1645073

Ramirez-Villaseñor, E. P., Pérez-Espinosa, H., Álvarez-Carmona, M. A., & Aranda, R. (2023). Design, development, and evaluation of a chatbot for hospitality services assistance in Spanish. *Acta Universitaria*, 33.

Rasheed, H. M. W., Yuanqiong, H., Khizar, H. M. U., & Khalid, J. (2024). What drives the adoption of artificial intelligence among consumers in the hospitality sector: A systematic literature review and future agenda. *Journal of Hospitality and Tourism Technology*, 15(2), 211–231. 10.1108/JHTT-02-2022-0045

Samala, N., Katkam, B. S., Bellamkonda, R. S., & Rodriguez, R. V. (2020). Impact of AI and robotics in the tourism sector: A critical insight. *Journal of Tourism Futures*, 8(1), 73–87. 10.1108/JTF-07-2019-0065

Sebastian, G. (2023). Privacy and data protection in chatgpt and other ai chatbots: Strategies for securing user information. [IJSPPC]. *International Journal of Security and Privacy in Pervasive Computing*, 15(1), 1–14. 10.4018/IJSPPC.325475

Setchi, R., Spasić, I., Morgan, J., Harrison, C., & Corken, R. (2021). Artificial intelligence for patent prior art searching. *World Patent Information*, 64, 102021. 10.1016/j.wpi.2021.102021

Shahriar, S., Allana, S., Fard, M. H., & Dara, R. (2023). A survey of privacy risks and mitigation strategies in the Artificial intelligence life cycle. *IEEE Access : Practical Innovations, Open Solutions*, 11, 61829–61854. 10.1109/ACCESS.2023.3287195

Shahsavar, Y., & Choudhury, A. (2023). The role of AI chatbots in healthcare: a study on user intentions to utilize ChatGPT for self-diagnosis. *JMIR Preprints*.

Shawal, N. S. M., Saiful, M. F., Bakhtiar, M. A. A. K. N., Adila, N., & Kedin, A. H. T. (2023). Exploring User Acceptance, Experience and Satisfaction towards Chatbots in an Online Travel Agency (OTA). *International Journal of Academic Research in Business & Social Sciences*.

Sidaoui, K., Jaakkola, M., & Burton, J. (2020). AI feel you: Customer experience assessment via chatbot interviews. *Journal of Service Management*, 31(4), 745–766. 10.1108/JOSM-11-2019-0341

Singh, S., & Thakur, H. K. (2020). Survey of various AI chatbots based on technology used. *2020 8th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)(ICRITO)*, (pp. 1074–1079). Research Gate.

Tanjung, T. M., & Hidayat, R. (2023). Implementation of two language chatbot web to find information on batik using the artificial neural network model. *TEKNOKOM*, 6(2), 50–57. 10.31943/teknokom.v6i2.125

Tuomi, A., Tussyadiah, I. P., & Stienmetz, J. (2021). Applications and implications of service robots in hospitality. *Cornell Hospitality Quarterly*, 62(2), 232–247. 10.1177/1938965520923961

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*, 11(4), 342–365. 10.1287/isre.11.4.342.11872

Vorobeva, D., Costa Pinto, D., António, N., & Mattila, A. S. (2024). The augmentation effect of artificial intelligence: Can AI framing shape customer acceptance of AI-based services? *Current Issues in Tourism*, 27(10), 1551–1571. 10.1080/13683500.2023.2214353

Yang, H., Song, H., Cheung, C., & Guan, J. (2021). How to enhance hotel guests' acceptance and experience of smart hotel technology: An examination of visiting intentions. *International Journal of Hospitality Management*, 97, 103000. 10.1016/j.ijhm.2021.103000

Zhao, H., & Chen, L. (2020). Artificial Intelligence Security Issues and Responses. *2020 IEEE 6th International Conference on Computer and Communications (ICCC)*, (pp. 2276–2283). IEEE.

Zhu, J. J., Liu, Z., Huang, T., & Guo, X. S. (2023). Roboethics of tourism and hospitality industry: A systematic review. *PLoS One*, 18(6), e0287439. 10.1371/journal.pone.028743937390063

Zielinski, C., Winker, M. A., Aggarwal, R., Ferris, L. E., Heinemann, M., Lapeña, J. F.Jr, Pai, S. A., Citrome, L., Alam, M., & Voight, M. (2023). Chatbots, generative AI, and scholarly manuscripts: WAME recommendations on chatbots and generative artificial intelligence in relation to scholarly publications. *Colombia Médica (Cali, Colombia)*, 54(3), e1015868. 10.25100/cm.v54i3.586838089825