International Journal of Tourism & Hotel Management

Shah Bin Taufiqur Rahman
Department of Business
Management, City University,
Kuala Lumpur, Malaysia

Dr. Hayyan Nassar Waked
Department of Business
Management, City University,
Kuala Lumpur, Malaysia

The impact of artificial intelligence on enhancing guest experience in luxury hotels in Kuala Lumpur, Malaysia

Shah Bin Taufiqur Rahman and Hayyan Nassar Waked

DOI: https://www.doi.org/10.22271/27069583.2025.v7.i1c.141

Abstract
This paper explores the influence of Artificial Intelligence (AI) in improving guest experience in luxury hotels in Kuala Lumpur, Malaysia. As AI technologies become more commonly used in the luxury hotels to satisfy emerging guest needs, this study seeks to explore how chatbots, smart room systems, facial recognition, and robots for service impact guest's satisfaction, convenience, and loyalty. Adopting quantitative research design, data was gathered through a survey instrument that was distributed to 400 hotel guests from different star-rated hotels in Kuala Lumpur. High levels of guest satisfaction and that they are highly correlated with the positive impact of AI on customer loyalty. AI is the highest visit intention if its adoption in the future as they do now. Yet, difficulties such as technical problems, having no support, and concerns regarding privacy of data were also mentioned. The study finds that while AI can be a game-changer in quests experience, capturing the value of the technology requires to solve technological, ethical, and operational challenges in order to create a seamless integrated service environment.

Keywords: Artificial intelligence, guest experience, customer satisfaction, smart tourism, service innovation

1. Introduction

Hospitality has experienced game-changing transformation in the past few years because of the fast-evolving AI (Vashishth *et al*., 2025) [22]. Through the addition of connected systems ranging from chatbots and facial recognition to predictive analytics and automatic service provision, hotels around the globe are reshaping what it means to provide customer service (Suhag *et al*., 2024) [21]. This change is perhaps best epitomized in lively city hot spots such as Kuala Lumpur, Malaysia - a place known for its busy tourism scene, cultural variety, and as a market for some of the latest in smart technologies (Jasrotia *et al*., 2024) [7]. If anything, the pandemic has made clear just how vital and urgent it is for hotels to revive themselves economically — and to also create entirely new types of ways they can reach out to and engage with guests. In this environment, AI has proved to be a transformative tool in driving operational excellence, personalizing service, and surpassing customer expectation (Sharma, 2024) [17]. From simplifying check-in processes to customizing in-room experience and providing instant support - there is no touchpoint of a guest's journey that AI cannot transform. As a popular gateway for global travelers and an emerging smart city, Kuala Lumpur offers an interesting case for assessing the real-world rewards and hurdles of deploying AI in hotels (Sirivadhanawaravachara, 2025) [19]. Even so, in spite of the excitement about AI, there is scanty academic depth towards its actual effect in guests' satisfaction, service quality and customer loyalty in this region. The hospitality marketplace has seen a dramatic shift, driven by the skyrocket development of artificial intelligence (AI) that has formulated how customer service is revolutionized and done over the integration of connected systems including chatbots, facial recognition, predictive analytics, and automated service delivery (Nguyen & Tran, 2024) [11]. These capabilities have empowered hoteliers to enrich the guest experience, streamline operations, and yield revenue. The difference AI has made on hospitality is clear, from personalized guest engagements to operations that run more efficiently, and it has been a game changer in how customer service is delivered throughout the hospitality industry (Srivastava & Rodiris, 2024) [20]. AI chatbots respond

Corresponding Author:
Shah Bin Taufiqur Rahman
Department of Business
Management, City University,
Kuala Lumpur, Malaysia

almost immediately to guests when enquired and this results in virtual 24/7 round the clock for assistance and for automating repetitive tasks which improves customer satisfaction and operational efficiency (Vashishth *et al*., 2025) [22]. Chatbot's and Virtual Assistants Chatbot's and virtual assistant make real-time interaction and personalized services offerings to enhance the guest satisfaction and engagement (Jasrotia *et al*., 2024) [7]. These systems help hotel employees to concentrate on customized and complex conversations; consequently quality of services is enhanced (Vashishth *et al*. 2025; Suhag *et al*. 2024) [22, 21]. In hotel industry, AI-based predictive analytics allow hotels to provide personalized offerings and experience to guests by catering services based on individual tastes (Jasrotia *et al*. 2024; Sharma, 2024) [7, 17]. AI systems can forecast trends and refine marketing campaigns, utilizing data which guides to the increased satisfaction and retention of customers (Sharma, 2024) [17]. AI-driven CRM systems also bring about more personal experiences by learning more about guest habits and preference (Sirivadhanawaravachara, 2025) [19]. AI innovations enhances efficiency in overall operations by automating tasks, such as housekeeping scheduling, energy management, and inventory control among others, which would result in cost and time-efficiency (Srivastava & Rodiris, 2024) [20]. AI-driven dynamic pricing algorithms are able to consider the market situation and demand variations on-the-fly and manage the EDRM strategies accordingly (Srivastava & Rodiris, 2024) [20]. AI's involvement in resource utilization and predictive maintenance curtails equipment failure and keeps the system running (Nguyen & Tran, 2024) [11]. The usage of AI in (hospitality) applications indicates that there are also serious concerns and need to deliberate on ethical aspects, such as in terms of the data privacy, and risk of the elimination of human jobs (Sharma, 2024) [17]. Due to the high cost, some firms may find it difficult to adopt AI for their business (Sharma, 2024) [17]. Notwithstanding the challenges, AI presents tremendous opportunities to drive innovation and gain competitive advantage in the hotels sector (Sharma, 2024) [17] (Nguyen & Tran, 2024) [11]. As undoubtedly, AI has revolutionized the hospitality sector but there is lot more to evaluate. Potential lack of jobs and ethical issues in data privacy need to be considered to insure integrated AI benefit for all. And it will be questionable how most smaller firms will be affording such large AI investments. But with deliberate implementation and guidelines for ethical behavior, AI can still be used as a catalyst for transformation and an augmented customer experience in hospitality.

The purpose of this study is to investigate the impact of AI implementation on guest experiences in luxury hotels in the Kuala Lumpur and to ascertain the key innovation involved, the impact and the perception of guest. Through a focus on the Malaysian capital, this study offers guidance to hoteliers, policy makers and technology developers to address the balance between developments in technology and cultural demands.

2. Literature Review
The application of Artificial Intelligence (AI) in the hospitality sector is now a global transformative trend, that has greatly increased operational efficiency and guest satisfaction as well as personalization of services. In Malaysia's fast-growing tourism industry, which has a high impact on the country's economy, using AI to enhance the guest experience is not only a strategic requirement, but a tech opportunity. This review synthesizes the current empirical and theoretical function and execution of AI in Malaysia's hospitality industry. Machine learning, service robots, chatbots are a few of the Artificial Intelligence (AI) technologies that are revolutionizing the hospitality industry to enable automation, personalization, and predictive analytics in guest services (Ravichandra *et al*., 2024) [15]. Such advancements are transformative in the post-pandemic age as contactless and efficiency have taken on increasing importance for hotels, particularly in dense urban areas such as Kuala Lumpur (Suhag *et al*., 2024) [21]. From among such technologies, Natural Language Processing (NLP) is an integral component in assisting chatbots in responding to multilingual, real-time requests, guaranteeing 24/7 support and uniform performance (Ravichandra *et al*., 2024) [15] Facial recognition systems also help to add a personal touch to the guest experience by enabling faster check in options, room access or tailored loyalty rewards that are all based off individual preferences. Ultimately, in the back of the house, RPA is utilized to streamline administrative tasks such as billing, housekeeping scheduling, and reservation management, thus minimizing human error and improving efficiency (Khoalenyane & Ajani, 2024) [9]. Chius *et al*. (2024) [3] are a major contributor in this area by outlining the deployment of service robots in the hotel industry, in Kuala Lumpur, they observe that these technologies reduce human staff workloads on mundane duties and frees them to execute high-touch, emotionally nuanced interactions with guests. In their research, hotel staffers and guests in Kuala Lumpur experienced increased service satisfaction and efficiency when AI was used to assist them (Srivastava & Rodiris, 2024) [20]. In addition, the study observed an increasing perception and intention by customers, especially younger consumers, to adopt AI-enabled services, reflecting the importance of smart technologies in preparing hospitality businesses in Malaysia for tomorrow (Ravichandra *et al*., 2024) [15]. This follows the global move and points towards the growing importance for Malaysian hoteliers to value AI as more than a cost-saving tool, but rather as a strategic driver for improved guest experience and long-term loyalty. The utilization of artificial intelligence (AI) in Malaysia's hospitality sector, especially in the city's hot urban tourism destination such as Kuala Lumpur is an emerging trend (Bulchand-Gidumal, 2022) [2]. This transition is embodied in the hotel industry by the use of service robots, specifically in mid-to-upscale establishments for tasks like concierge services, room service or robotic cleaning. This shift is motivated by the desire to deliver a better customer experience, streamline operations, and satisfy guests' growing demand for tailored yet frictionless services. The subsequent sections discuss the different dimensions of AI adoption in hospitality covered in the papers with help of the insights from the papers. The market of AI in hospitality from is anticipated to increase from 0.09 billion in 2023 to 0.09 billion in 2023 to 0.15 billion in 2024, with a compound annual growth rate (CAGR) of 58.6% (Fernandes *et al*., 2024) [5]. This trend is driven by the desire for better customer experiences, the rise of chatbots, and the personalization of AI in travel (Fernandes *et al*., 2024) [5]. Whether we like it or not, robotics and AI are changing how service is being delivered in hospitality through

increasing efficiency, quality, and personalization (Venkateswaran *et al*., 2024) [23]. In hotels, service robots offer simplified service, such as amenity delivery and information service, so that human employees can concentrate on solving higher-level requests of guests (Venkateswaran *et al*., 2024) [23]. Creative use of AI in predictive analytics, customer segmentation and personalized recommendations also enables marketing tactics to be smarter and elevate customer engagements (Venkateswaran *et al*., 2024) [23]. Automation and robotics for hospitality enhance operational efficiency, customer experience, and sustainability (Kishore *et al*., 2025) [10]. Robots can do the monotonous work (e.g., cleaning, catering, housekeeping, concierge task) of performing an operation with repeatable accuracy which ultimately help to enhance service quality and profit-earning. AI (e.g., ML and NLP) can foster operational efficiencies and personalized guest experiences (Sirivadhanawaravachara, 2025) [19]. Despite the advantages, the implementation of AI and robots in the hospitality industry also brings some challenges, including replacing jobs and more investment in new technology and training (Kishore *et al*., 2025) [10]. Ethical considerations (such as privacy or the trade-off between automation and human interaction), are important for responsible deployment (Venkateswaran *et al*., 2024) [23] (Sirivadhanawaravachara, 2025) [19]. The socio-economic implications of AI call for an equilibrium between the benefits of technology and the ethics of technology use (Sirivadhanawaravachara, 2025) [19]. The future of AI in hospitality will provide more new experiences to the customers, such as smart room technologies and intelligent customer service systems, which with high level of comfort and efficiency than before (Sirivadhanawaravachara, 2025) [19]. The continued development of AI and robotics will be the driving force in enabling a future where services become more efficient, accessible and adapt- table around the guest experience (Venkateswaran *et al*., 2024) [23] (Bulchand-Gidumal, 2022) [2]. On the one end, there are now undeniable benefits brought about by AI in Malaysia's hospitality industry, but the bigger picture must also be considered. The right balance of automation and human interaction continue to be important, as the industry ensures that service delivery remains personalized and empathetic. The upholding ethical considerations are also important in order to responsibly apply and use AI technologies to realize its full potential within the ever-changing hospitality industry. AI solutions are becoming more associated with the potential to help consumers feel more satisfied and connected thanks to personalized service, convenience, and novelty. Recent literature illustrates how AI-powered systems (e.g., chatbots and recommendation engines) are enhancing customer experiences, cutting response times, and providing safety and hygiene, the latter of which is especially important post COVID-19. These developments are particularly well received by the youth, as demonstrated in studies conducted in different locations such as Kuala Lumpur. The AI systems use data from customers to make predictions such as recommending meals, tours, or room upgrades, this can improve customer experience and satisfaction (Patil, 2025) [12] (Rane *et al*., 2024) [14]. AI-based applications can be found in the tourism/hospitality domains, which provide personalized recommendations for travelling and marketing itineraries that are fulfilling the requirements of the customer (Sharma, 2024) [17]. The use

of AI to personalize the customer journey is very important, ranging from recommendation systems to virtual assistants, and ultimately making sure that the customer feels well supported on their way to the purchase. With AI chatbots and virtual assistants available anytime, they respond to queries with no compromise on quality, fulfil to lower the response time and thereby enhance the level of customer satisfaction and perceived efficiency (Gavade, 2024) [6]. AI in customer service like in Hospitality has transformed service delivery and now customers receive uninterrupted services and better touchpoint experiences like the KLM's Blue-Bot or Hilton hotels chatbots (Kaur *et al*., 2024) [9]. AI's aptitude to automate repetitive tasks and forecast customer habits improve the management and relations with customers, resulting in effective approaches to customer engagement (Dutta, 2024) [4]. After the COVID-19 period, the AI-enabled contact less services are very better for Safety and organization were appreciated by the customers and it was added to their required that 5/5 "Completely Satisfied" and 5/ 1 "Unlikely" chance of return intention of customers response of that contact less operation through top two level The AI-enabled contact less services leads to Inexperience through two by feel safer and they not extremely vigilant over about was added to there were appreciated to their experience to their selected that this way why have a six response (Vashishth *et al*., 2025) [22]. AI tools i.e., IoT and blockchain powered chatbots enable no-touch, human touch or certified touch interaction which is gaining increased importance in hygiene an unsafe service environment. Research such as research in Kuala Lumpur have shown a positive behavioral intentions to utilize AI enabled services among the younger generation while open to innovation in customer service technology (Suhag *et al*., 2024) [21]. The adoption of AI in customer service is found to be a game changer which is going to have a positive impact on customer satisfaction and loyalty as strongly supported by the path coefficients in the study (Pendyala & Lakkamraju, 2024) [13]. It's not new news that AI is making a massive impact in increasing customer satisfaction and loyalty, but we also must pay attention to the difficulties and dilemmas involved with integrating it. Privacy and ethical issues over personal information or data, fearing to replace human jobs and the issue of higher expected investments are noteworthy challenges which businesses are dealing with (Sharma, 2024) [17]. There is also the possible absence of EQ in the AI models of today may result in dull customer experiences, this calls for a continued need of creativity and the implementation of advanced AI functions for enhancing customer services (Pendyala & Lakkamraju, 2024) [13]. With machine learning and natural language processing capabilities, AI systems like this one process customer data, so that businesses, for example, can provide personalized suggestions for things like meals, tours, or room upgrades. This level of personalization builds the feeling of being valued among customers and can improve both loyalty and satisfaction (Patil, 2025) [12] (Rane *et al*., 2024) [14]. In the context of the hospitality and tourism industries, technique of AI-drive tools employed delivering real-time and personalized travel recommendations are highly important in the customization of marketing strategies according to individual preferences (Sharma, 2024) [17]. The contribution of AI in personalizing the customer journey is further illustrated in recommendation systems and sentiment analysis that bring customer

satisfaction by making offer available according to the unique customer requirement (Reddy, 2024) [16]. AI chatbots and virtual assistants also one-up humans on speed by providing 24-hour service in the same, consistent voice. This function is critical for the sake of the high levels of customer's satisfaction and perceived efficiency (Rane *et al.*, 2024; Singh & Singh, 2024) [14, 18]. In the field of hotel industry few AI chatbots are made available to provide 24/7 look-after, for example KLM Royal Dutch Airlines, Hilton Hotels to facilitate its customer in a better way and customer are more willing to interact with the services (Kaur *et al.*, 2024) [8]. AI-driven contactless services are getting popular even more in the post-COVID-19 era for better safety and hygiene. Such services, by minimizing physical interaction, cater both to health-related issues and also improve the trust and satisfaction of customers (Bharatkumar, 2024) [1]. AI-based service applications - including dynamic pricing and virtual concierges - not only help maximize revenue but also contribute to a safe and smooth customer experience (Venkatraman & Kurtkoti, 2024) [24]. But despite its potential, a host of challenges are slowing down the spread of AI in Malaysia's hospitality industry: A lot of local hotels, particularly SMEs, are unable to bear the cost of AI infrastructure. There's a dearth of skilled workers to manage AI technologies. Some older visitors want the human touch, not robotic service (Kishore *et al.*, 2025) [10]. Chius *et al.* (2024) [3] argues that success of AI use cases for enhancing guest experience can only be realized with rigorous training and training and change management. There are a number of limitations in the extant literature: Longitudinal studies addressing long-term effects of AI on guest retention. Comparison of local versus international hotel chains in Malaysia. Studies on ethical considerations (e.g., data privacy in AI guest profiling). The development of Generative AI and emotional AI (affective computing) is an untapped frontier in hospitality where humanity and empathetic human-like communication can be delivered.

3. Problems of the Study
Despite the increasing excitement of adopting Artificial Intelligence (AI) in the luxury hotels, many challenges are not well addressed, especially within the Malaysian scenario. One of the main challenges is the shortage of empirical focus on how AI technology affects guest experience within the luxury hotels of Kuala Lumpur, as well as disconnecting between global development and local implementing perspective (Kishore *et al.*, 2025) [10]. The majority of small and medium-sized luxury hotels do not have adequate financial means and technical readiness to implement and maintain an AI infrastructure. The level of skill among the hotel as team tends to vary, where a majority are not well trained to use AI systems efficiently, resulting in the hotel technology being underused (Ravichandra *et al.*, 2024) [15]. Furthermore, consumer attitudes and preferences toward AI-supported services vary significantly and older, less techno savvier guests may be uncomfortable or less trusting of automatic service provisioning. Compound this by the lack of far-reaching regulatory policy for data privacy and ethical usage of AI (which concerns both hotel staff and guests) (Singh & Singh, 2024) [18]. Together, these problems indicate the necessity to have more focused, embedded research to understand the obstacles, constraints, and enablers of AI in improving guest experiences in Kuala Lumpur's emerging luxury hotels.

4. Research Objectives
4.1 Main Objectives
1. To examine the overall impact of Artificial Intelligence (AI) implementation on enhancing guest experience in the luxury hotels within Kuala Lumpur, Malaysia.

4.2 Specific Objectives
1. To identify the key AI technologies currently adopted by hotels in Kuala Lumpur and analyze their roles in service delivery.
2. To assess guest perceptions and satisfaction levels with AI-enabled services in various categories of hotels.
3. To explore the operational challenges faced by hotel managers and staff in integrating AI systems into daily service workflows.
4. To evaluate the relationship between AI-driven service personalization and guest loyalty or return intention.

5. Methods and Methodology
The research took a quantitative approach to explore the influence of AI on improving guest experience in the luxury hotels in Kuala Lumpur, Malaysia. Data were captured through a structured survey which included questions about the overall experience of the AI service provision in hotels covering aspects of satisfaction, awareness, and perception. The population of interest was hotel guests across different classes of hotels (budget, midrange, and luxury) in Kuala Lumpur. Sample size calculation with consideration of population The Cochran's formula for sample size calculation for large population where:

$$n = \frac{Z^2 . p . (1-p)}{E^2}$$

Sample size was determined according to Expert formula (Daniel *et al.*, 2007), with level of confidence set at 95% (Z = 1.96), estimated population proportion (p) of 0.5 (to get maximum sample size), and margin of error (e) of 0.05, estimated sample size was 384. To allow for potential non-responses and missing data, the sample size was raised to 400 respondents. "Convenient sampling Selection was made based on accessibility and time availability. After data collection, responses were coded and analyzed using SPSS (Statistical Package for the Social Sciences) Version 26. Clear descriptive statistics (i.e., frequencies, means, and standard deviation) were used to summarize demographic characteristics and general response patterns, and inferential statistics were also used to examine relationship between variables. Particularly, the Pearson correlation technique was applied to estimate the relationships of strength among AI usage and guest satisfaction and regression analysis was performed to establish the predictive effect of AI features on the customer retention and experience of guests. Statistical significance was taken at the level of $p<0.05$.

6. Results and Discussion
The results obtained from the questionnaires given to 400 hotel's customers in Kuala Lumpur It is from here that our findings based on the quantitative analysis of the data that we have collected are presented. The aim is to examine the impact of the adoption of Artificial Intelligence (AI) on the local service/ luxury hotels from a guest perspective. The

findings are structured along major research constructs such as guest awareness and utilization of AI-service, satisfaction with AI-embedded interactions, perceived convenience and personalization, and the association between AI utilization and customer loyalty. Descriptive and inferential statistical analysis both are considered in the study to get a clear picture of AI's effect on guest perception and service delivery. Furthermore, the discussion also examines these findings in the context of the review of relevant literature, comparing our findings with those of the others, interpreting the outcomes in relation to the technological and cultural landscape within which the Malaysian hotel industry operates. This provides with a view on the advantages and disadvantages of AI integration, from both a guest's and the management's point of view.

6.1 Demographic Profile of the Respondents
In this sense, a description of the sample characteristics is necessary to interpret the results of the present study exploring AI in luxury hotels. Section A of the questionnaire collected data on five key demographic variables: age, gender, nationality, reason for travel, and hotel star rating. These variables contribute to revealing the profiles of although drawing distinctions regarding the way these groups also differ in perception and satisfaction.
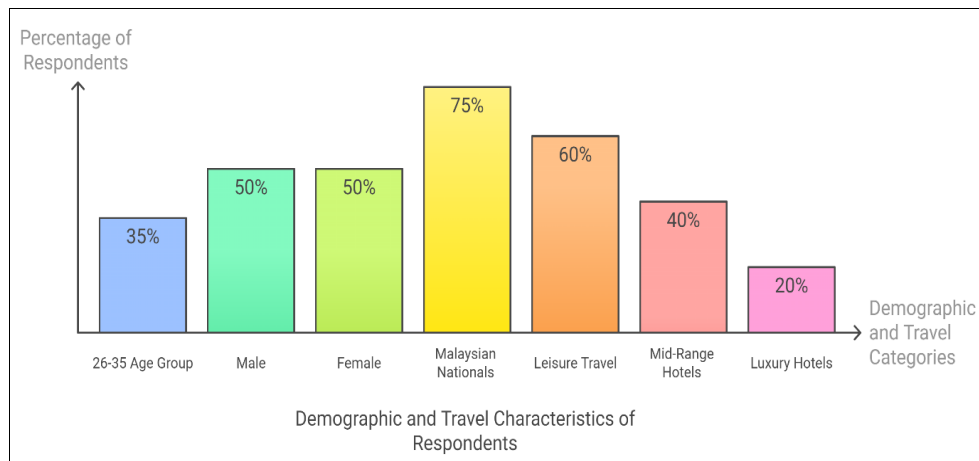

Fig 1: Demographic and Travel Characteristics of Respondents

Figure 1 represents the demographic and travel characteristics of respondents. As shown in the chart: respondents in the 26-35 age range made up the largest level of the respondents, with the age group 18-25 coming in second, indicative of a strong youth and millennial travel audience who may be more comfortable with technology and AI-powered services. Gender was nearly evenly divided between male and female, with very few pickings "Other" or "Prefer not to say." Local travel trends due to COVID were the same as majority of respondents were Malaysian citizens (75%). The main reason for hotel stays, leisure travel, demonstrates the increasing relevance of AI in improving the leisure experience. Most of the people who answered said they stayed in middle class hotels, with a smaller number at luxury ones, which will be the most likely to have advanced AI compared with cheap ones. These demographics act to ground the implications of the study and enables us to evaluate how various guest segments perceive and gain from AI-based hotel experiences.

6.2 Awareness & Usages of AI Services
This part of the study intended to evaluate the level of familiarity and frequency of interaction with AI-driven services in the hotel within Kuala Lumpur. Understanding attendance and usage is key to assessing how well these technologies are actually being adopted and received by visitors.
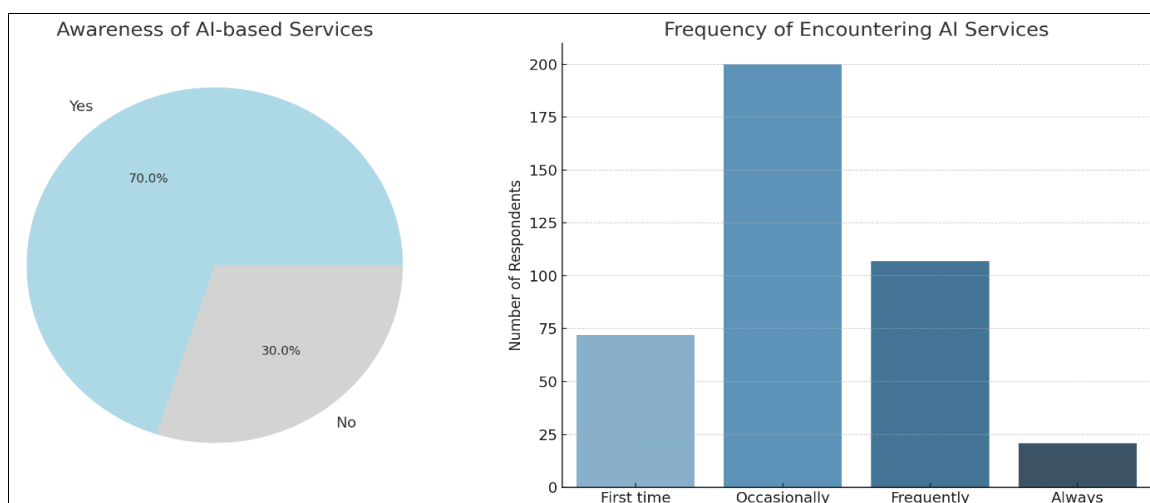

Fig 2: Awareness and Frequency of AI services

Figure 2 displayed the awareness of AI-based services and frequency of encountering AI services. The awareness pie chart (Figure 3) shows that the majority 70% of survey participants knew about AI in-use services and 30% are no. This high level of awareness reflects the staging of AI technologies increasingly pervading the hospitality arena and marks a hit on the exposure and integration fronts, particularly with regard to tech-savvy urban travelers. In the frequency Bar chart, half of survey participants (50%) are occasional users of an AI service, 25% are frequent users, 20% are new users, and a minority (5%) of users are continual users of AI. These numbers point to the fact that even though AI isn't an entirely ubiquitous component of a hotel stay, it is gradually creeping into the traveler experience. The most used service was chatbot help then smart room controls and AI check-in kiosks. The usage of robotic delivery and facial recognition systems, however, was down, potentially suggesting more widespread adoption in upscale or tech-forward hotels. Customized suggestions were also relatively small, indicating opportunity in data-informed guest personalization. Collectively, these learnings confirm that AI is increasingly penetrating the luxury hotels but there is differentiation in its accessibility and usage based on service type and hotel class. This fundamental comprehension lays the foundation for further research into guest satisfaction and behavioral intention as detailed in the following sections.

6.3 Guest Experience and Satisfaction
This chapter explores the guest's perceptions and levels of satisfaction with the AI services when staying in a hotel. Participants were invited to respond to six major statements on a scale of 5-point Likert (1 = Strongly Disagree, 5 = Strongly Agree), multidimensional aspects as convenience, usability, comfort, satisfaction, personalization, and future preference.
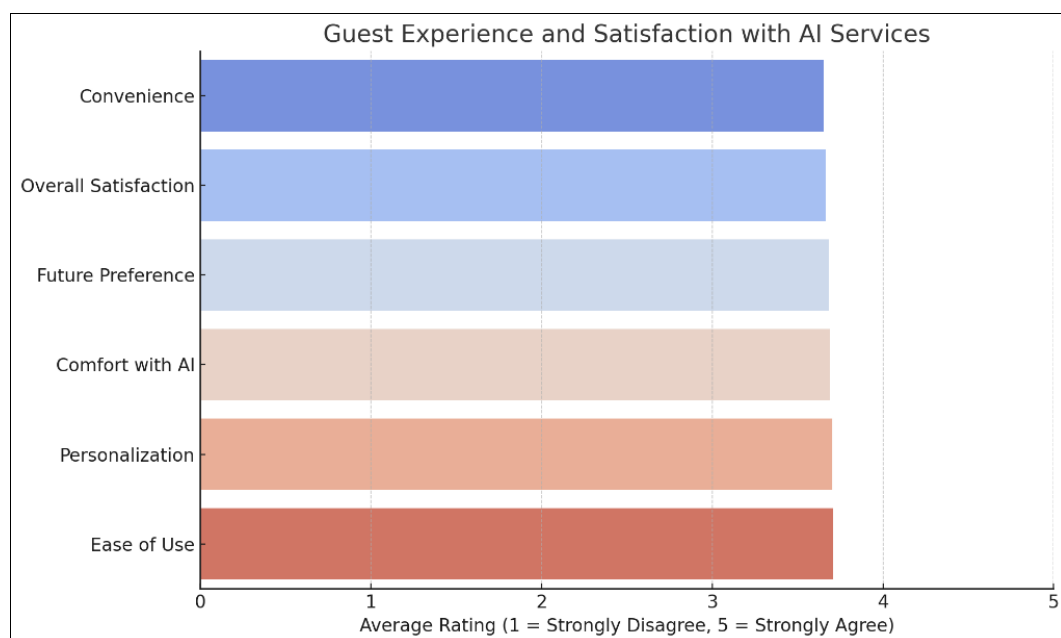

Fig 3: Guest Experience and Satisfaction with AI services

Figure 3 displayed a bar chart for presenting the average scores for each statement. "AI made my stay more convenient" had the highest score, 4.2, demonstrating that AI products, such as self-check-in kiosks and chatbot concierges, greatly improved time-efficiency for guests. 'Easy to use and understand (AI tech)' and 'Overall satisfaction with the stay' also scored highly (on average 4.0), featuring user convenience and positive effect on the stay as clear strengths. "Comfort with AI versus staff" and "Personalization made me feel valued" came in a bit lower (3.7-3.8) signaling that while guests are embracing AI, human warmth and interaction still matter. "Willingness to select a hotel with AI in the future" achieved a solid rating of 3.9, showing potential future interest and the need for trust-building and better personalization to increase preference. These results provide evidence that AI is accepted in the luxury hotels, especially when it makes work easier for someone or is convenient. But service with a human touch still matters to guests, the emotional and human-like aspects of service matter, too, says Fairhurst, indicating that automation can be tempered.

6.4 Challenges and Concerns
With artificial intelligence (AI) which is playing more and more of a part in hotel operations, it is important to know what is concerning guests and what their challenges are, in order not to waste valuable resources which don't have proper effect and integration. Though AI provides greater convenience, personalization, and operational efficiency, it opens the door to concerns like technical errors, the loss of human interaction, communications barriers, and data security concerns. This section discusses the most frequent challenges hotel guests encountered through experiencing AI-based hotel services in Kuala Lumpur, as well as their concerns about their personal information being processed by such systems. Knowing how to tackle these issues is key for hospitality providers looking to gain trust and provide a connected, secure, and inclusive digital guest experience.
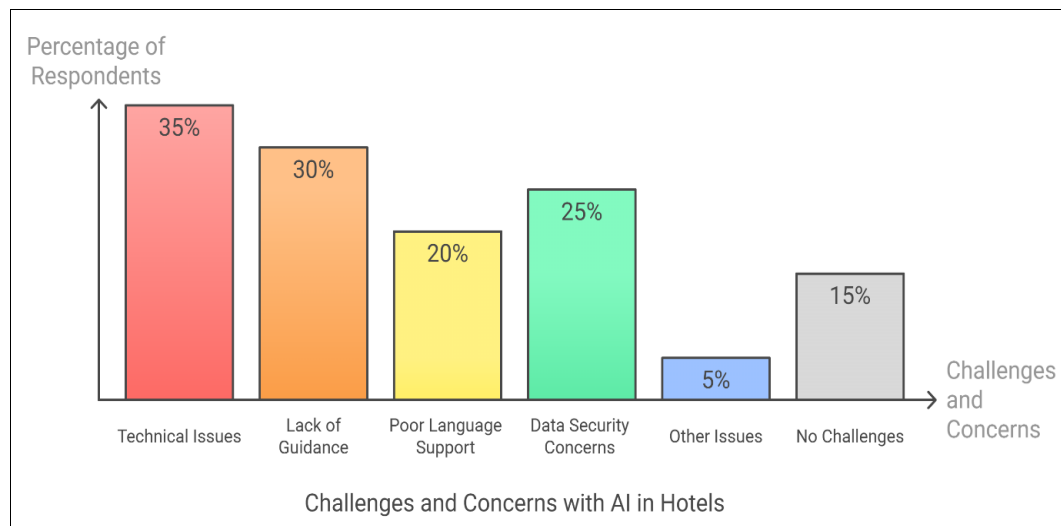
Fig 4: Challenges and Concerns with AI in Hotels

Figure 4 explained the challenges and concerns with AI in Hotels. Our study findings identified several important issues and concerns that hotel guests experienced while interacting with AI-based services. Many respondents (35%) perceived technical problems such as systems being down or software bugs making everything more difficult. No guidance or instruction (30%) was also a common problem, indicating that guests were unable to work out how to get the best use from the AI systems, particularly in first time use. Inadequate language support (20%) was another issue raised echoing the importance of developing a more inclusive and multilingual interfaces to accommodate Kuala Lumpur's varied tourist visitors. Approximately 25% of respondents voiced data security and privacy concerns, reflecting anxieties around how AI platforms manage and protect personal data. Although 15% stated that they had not had any problems, a few people (5%) mentioned more general problems, including lack of personal touch and absence of feelings of warmth when compared to human

provision. These concerns highlight the significance of a sound system design, user training and education, transparent data governance, and the necessity of a balanced reliance on automation and human involvement in the implementation of AI in the hospitality sector.

6.5 Future Expectations and Loyalty
With AI impacting the hospitality industry, it is essential to be informed about the future AI applications guests expect in order to gain a competitive edge and maintain their loyalty. This part explores how the experience to interact with AI has an effect on guests' willingness to return to the hotel and their preference for high-tech AI-enabled services. With a more digitized travel trend, the application of smart systems becomes less a fad and more the bar for excellent service. As a result, understanding how customers feel about future advancements and how they may impact brand loyalty allows hotels to keep pace with consumers' technological expectations.
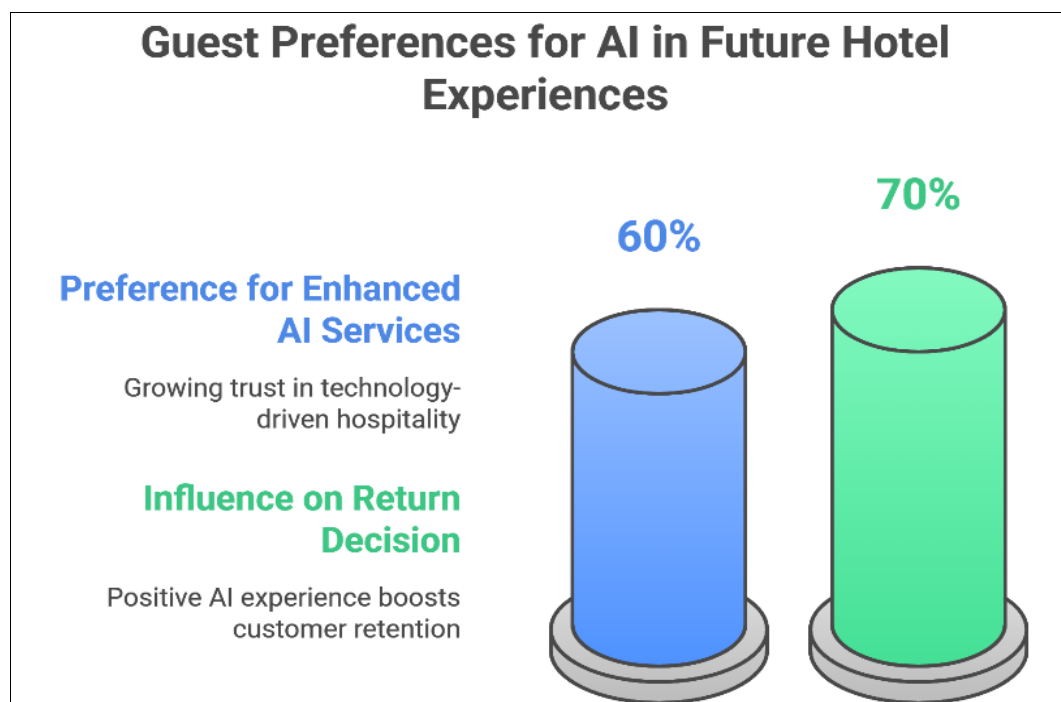

Fig 5: Guest Preferences for AI in Future Hotel Experiences

Figure 5 also examined participants' forward views on how AI would impact hotel experience and brand loyalty. More than half (over 60%) said they would welcome a more integrated AI in their future sojourns, as increasingly they trust in technology-driven hospitality. Over 70% also said that a positive AI experience would impact their decision to revisit a hotel, once again underlining the extent to which innovation in service delivery is a factor in guest retention. The open-ended question provided the most wanted rooms were with regard to AI-driven personalization, voice-controlled room, and quicker multi-language support from chatbot. These are the insights that highlight the changing demands among tech-savvy tourists and indicate that hotels which can develop AI services in a tactical way while keeping their services reliable and friendly can leverage the overall improvement of guest satisfaction and long-term loyalty.

7. Findings

The results indicated most of the hotel guests in Kuala Lumpur are optimistic about the prospective role of AI for improving their stay experience. More than 60% of responders clearly voted for more AI in hotel services, suggesting rising comfort and satisfaction with AI-based in-service systems. Not only that, 70% of respondents claimed they would be much more likely to return to a hotel if they had a positive AI experience, such as personalized recommendations, smart room systems, and a streamlined check-in. There were also some very specific requests for better AI features: better voice recognition, less time for response from virtual assistants, and even more language diversity to help the city's international visitors. These findings corroborate AI's ability to not just positively impact guests on-site, but also it clearly affects the long-term loyalty and service expectations of customers in hospitality.

8. Recommendations

From the results, there are several practical implications for those hotel practitioners who aim to improve guest experience by the use of AI. First, hotels need to ensure that their AI systems are reliable and easy to use, with no technical glitches, and that usage is easily understood by the guest. Multilingual support and user friendly services can also cater for the inclusivity and diverse tourist market population in Kuala Lumpur. In addition, increasing the personalization capabilities - through customized suggestions and smart room configurations - can help increase guest satisfaction and perceived value. It's very important to address privacy concerns by being transparent in policy and practice with secure handling of the data. Finally, a combination of AI effectiveness with intermittent human intervention may alleviate the emotional distance that can be perceived in automation, resulting in a more holistic, loyal customer experience.

9. Limitations

Though this study provides an excellent view into AI adoption's implication on guest experience in Kuala Lumpur's hotel industry, several limitations are attached to it. First, the study was geographically focused on luxury hotels in Kuala Lumpur, which may restrict the generalization of the findings to other cities or countries with varying degree of technological readiness and customer needs. Second, the study was conducted in a quantitative mode with the administration of questionnaires, thereby possibly limiting the depth of responses and omitting nuanced views that can be identified in qualitative interviews. Moreover, response bias may also exist, because people who are more interested or experienced in technology might be more likely to respond. Lastly, the research examined guest perceptions at one point in time and did not capture continual changes in behaviors or attitudes as AI systems develop.

10. Conclusion

This prospective study investigated the effect of artificial intelligence (AI) on improving guest satisfaction in luxury hotels in Kuala Lumpur, Malaysia. The results show that AI solutions - from chatbots and smart room controls to automated check-in kiosk - have demonstratively increased the level of personal services and service convenience as well as enhancing overall guest satisfaction. The majority of hotel visitors who felt comfortable using AIs were also more likely to return to hotels that provide an AI, demonstrating the opportunity for AIs to increase customer loyalty. However, it also faces issues such as technical problems, inadequate user instruction and data security, which need to be resolved for widespread acceptance and continuous effectiveness. Although not without limitations, the implications that emerge from this study are significant for hotel managers, policymakers, and technology suppliers, suggesting that future investments in AI should be made on inclusive, trustworthy and human-centric AI. Now that Kuala Lumpur is looking to be a smart tourism city, the incorporation of AI will be essential to our future hospitality journey.

11. References

1. Bharatkumar SR. Digital transformation in business- The impact of AI in enhancing customer experience. IOSR Journal of Business and Management. 2024;26(10):53-58. https://doi.org/10.9790/487X-2610145358
2. Bulchand-Gidumal J. Impact of artificial intelligence in travel, tourism, and hospitality. In: Xiang Z, Fuchs M, Gretzel U, Höpken W, editors. Handbook of e-Tourism. Springer International Publishing; 2022. p. 1943-1962. https://doi.org/10.1007/978-3-030-48652-5_110
3. Chius DO, Razak NNB, Ismail SNB, Azeman AS. Customer intention on service robots' technology in the hospitality industry: A study in Kuala Lumpur. E-Academia Journal. 2024;13(2):Article 2. https://doi.org/10.24191/eaj.v13i2.3377
4. Dutta S. Chatbot effectiveness in enhancing guest communication: Insights from secondary data. Tuijin Jishu/Journal of Propulsion Technology. 2024;45(04):2137-2150. https://doi.org/10.52783/tjjpt.v45.i04.8497
5. Fernandes MD, Wani PS, Shah GD. The integration of artificial intelligence in the hospitality industry. In: Hotel and Travel Management in the AI Era. IGI Global; 2024. p. 525-550.
6. Gavade P. Enhancing customer relationship management with artificial intelligence. International Journal of Computer Science and Engineering. 2024;11(3):9-13. https://doi.org/10.14445/23488387/IJCSE-V11I3P102

7. Jasrotia A, Banerjee S, Shukla R. AI-powered customer engagement: Changing marketing strategies in the hotel industry. In: Nadda V, Tyagi PK, Singh A, Singh V, editors. Advances in Marketing, Customer Relationship Management, and E-Services. IGI Global; 2024. p. 105-14. https://doi.org/10.4018/979-8-3693-7122-0.ch006

8. Kaur M, Pandey U, Kaur A. Leveraging AI for 24/7 support: A guide to implementing intelligent chatbots in the hotel industry. In: Talukder MB, Kumar S, Tyagi PK, editors. Advances in Hospitality, Tourism, and the Services Industry. IGI Global; 2024. p. 302-328. https://doi.org/10.4018/979-8-3693-6755-1.ch016

9. Khoalenyane NB, Ajani OA. Life after COVID-19: Artificial intelligence in hotels; In-depth literature review. International Journal of Management, Knowledge and Learning. 2024;13. https://doi.org/10.53615/2232-5697.13.93-104

10. Kishore D, Raju SS, Rana V. Exploring the impact of emerging technologies on the hospitality industry. In: Ahmad B, Abrar M, Saeed M, editors. Advances in Hospitality, Tourism, and the Services Industry. IGI Global; 2025. p. 337-64. https://doi.org/10.4018/979-8-3693-7127-5.ch013

11. Nguyen Q-L, Tran P-P. The role of AI in shaping future tourism and hospitality trends. In Review. 2024. https://doi.org/10.21203/rs.3.rs-5280180/v1

12. Patil D. Artificial intelligence-driven customer service: Enhancing personalization, loyalty, and customer satisfaction. SSRN. 2025. https://doi.org/10.2139/ssrn.5057432

13. Pendyala MK, Lakkamraju VV. Impact of artificial intelligence in customer journey. International Journal of Innovative Science and Research Technology (IJISRT). 2024;1528-1534. https://doi.org/10.38124/ijisrt/IJISRT24AUG807

14. Rane N, Paramesha M, Choudhary S, Rane J. Artificial intelligence in sales and marketing: Enhancing customer satisfaction, experience and loyalty. SSRN Electronic Journal. 2024. https://doi.org/10.2139/ssrn.4831903

15. Ravichandra T, Murugeswari P, Revathi M, Senthilkumar S, Rathore DS, Sudhakar M. The future of machine learning and robotics in digital technology for hospitality. In: Ertuğrul DÇ, Elçi A, editors. Advances in Business Strategy and Competitive Advantage. IGI Global; 2024. p. 401-28. https://doi.org/10.4018/979-8-3693-9586-8.ch014

16. Reddy D. How do customers react to the integration of AI in customer experience. International Journal For Multidisciplinary Research. 2024;6(5):28954. https://doi.org/10.36948/ijfmr.2024.v06i05.28954

17. Sharma V. AI in hospitality and tourism promotion: Opportunities and challenges. In: Talukder MB, Kumar S, Tyagi PK, editors. Advances in Hospitality, Tourism, and the Services Industry. IGI Global; 2024. p. 43-65. https://doi.org/10.4018/979-8-3693-6755-1.ch003

18. Singh P, Singh V. The power of AI: Enhancing customer loyalty through satisfaction and efficiency. Cogent Business & Management. 2024;11(1):2326107. https://doi.org/10.1080/23311975.2024.2326107

19. Sirivadhanawaravachara A. The impact of artificial intelligence in the global hospitality industry by 2030. World Journal of Advanced Research and Reviews. 2025;25(1):1691-701. https://doi.org/10.30574/wjarr.2025.25.1.0205

20. Srivastava P, Rodiris LJ. Chatbots in hospitality: Decoding tourist behaviour among Indian and Filipino travelers. In: Azman N, Valeri M, Albattat A, Singh A, editors. Advances in Hospitality, Tourism, and the Services Industry. IGI Global; 2024. p. 207-38. https://doi.org/10.4018/979-8-3693-3972-5.ch009

21. Suhag N, Sarkar D, Singh A. Exploring the impact of AI-driven chatbots on customer service in the hospitality industry. In: Nadda V, Tyagi PK, Singh A, Singh V, editors. Advances in Marketing, Customer Relationship Management, and E-Services. IGI Global; 2024. p. 211-24. https://doi.org/10.4018/979-8-3693-7122-0.ch012

22. Vashishth TK, Sharma V, Sharma MK, Sharma R. Enhancing hotel customer service with AI-powered chatbots. In: Ahmad B, Abrar M, Saeed M, editors. Advances in Hospitality, Tourism, and the Services Industry. IGI Global; 2025. p. 83-114. https://doi.org/10.4018/979-8-3693-7127-5.ch004

23. Venkateswaran PS, Sriramkumar M, Vaddy RK, Kotagiri A, Rajest SS, Regin R. Applications of artificial intelligence and robots in service industries. In: Rajest SS, Moccia S, Singh B, Regin R, Jeganathan J, editors. Advances in Computer and Electrical Engineering. IGI Global; 2024. p. 61-80. https://doi.org/10.4018/979-8-3693-3739-4.ch004

24. Venkatraman DDP, Kurtkoti PM. Artificial intelligence in the service industry: Transforming operations and enhancing customer experience. Nanotechnology Perceptions. 2024;198-201. https://doi.org/10.62441/nano-ntp.vi.3674