iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** X **Month of publication:** October 2026

DOI: https://doi.org/10.22214/ijraset.2026.85369

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue X Oct 2026- Available at www.ijraset.com

Artificial Intelligence in Homestay Tourism: Examining the Role of AI-Enabled Guest Relations in Enhancing Tourist Experience and Loyalty

Bhupesh Thakur
Assistant Professor, APG Shimla University

Abstract: ***Artificial Intelligence (AI) is becoming increasingly relevant in the tourism and hospitality industry, where it is being used for customer communication, personalized recommendations, automated services, and other forms of technology-enabled support. Existing research has largely examined AI applications in hotels and other organized hospitality settings, while giving comparatively less attention to homestay tourism. This is an important area to explore because homestays differ from conventional accommodation in their emphasis on personal interaction, host–guest relationships, local knowledge, and cultural experiences. This study examines how AI-enabled guest relations shape tourists' experiences and loyalty in homestay tourism. It focuses on practical applications of AI, including personalized communication, responsiveness, recommendations, and assistance before, during, and after a stay. The study proposes tourist experience as a link between AI-enabled guest relations and tourist loyalty, while perceived authenticity and trust in AI are considered as additional factors that may influence tourists' responses to AI-supported services. The study adopts a quantitative research approach and proposes the use of a structured questionnaire to collect data from tourists who have experienced AI-enabled services in homestays. The proposed relationships can be examined using Structural Equation Modelling (SEM).***

Keywords: ***Artificial Intelligence, Homestay Tourism, Guest Relations, Tourist Experience, Tourist Loyalty, Personalization, Authenticity, Trust***

I. INTRODUCTION

Technology has changed the way tourists search for information, choose accommodation, communicate with service providers, and plan their trips. Artificial Intelligence (AI) is taking this development further by allowing tourism and hospitality businesses to provide faster communication, personalized recommendations, and automated support. AI is now being studied and used in areas such as chatbots, recommendation systems, customer service, and personalized services (Goel et al., 2022; Pillai & Sivathanu, 2020). However, the role of AI may be different in homestay tourism. Unlike conventional hotels, homestays often depend on direct interaction between the guest and the host. Guests may value personal attention, local knowledge, cultural interaction, and recommendations from the host. Previous research has highlighted the importance of host–guest interaction and social relationships in shaping the homestay experience (Marques & Gondim Matos, 2020; Tussyadiah & Pesonen, 2016).

This makes the use of AI in homestays an interesting area of study. AI can help a host answer common questions, provide personalized recommendations, communicate with guests, and offer information before, during, and after a stay. At the same time, too much reliance on technology may affect the personal nature of the experience. Since authenticity is an important part of many homestay experiences, it is necessary to understand whether technology can support the experience without reducing its human character (Ram et al., 2016). Guest relations are therefore particularly important in this context. They involve communicating with guests, understanding their needs, providing assistance, solving problems, and creating a positive relationship. AI can support some of these activities by improving responsiveness, personalization, and communication, while the host can continue to focus on personal interaction and cultural experiences.

This study therefore focuses on AI-enabled guest relations in homestay tourism. It examines whether AI-supported personalization, communication, responsiveness, and recommendations can influence the tourist experience and, in turn, tourist loyalty. The study also considers perceived authenticity and trust in AI, as tourists may respond differently to AI-supported services depending on whether they continue to perceive the experience as genuine and trustworthy.

The main focus of this study is therefore to understand whether AI can support better guest relations and tourist experiences in homestays while maintaining the personal character that makes homestay tourism different from conventional accommodation.

©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue X Oct 2026- Available at www.ijraset.com

II. UNDERSTANDING AI IN HOMESTAY TOURISM

AI does not necessarily mean robots or highly complicated technology. In a homestay, even relatively simple AI applications can be useful. A host may use an AI-based chatbot to answer common questions, an AI tool to translate messages, or a recommendation system to suggest activities based on a guest's interests.

For example, before arrival, an AI-supported system could provide information about transportation, weather, check-in arrangements and nearby attractions. During the stay, it could suggest restaurants, local experiences or activities. After the guest leaves, it could help the host send a personalized follow-up message or collect feedback.

The important point is that AI should be seen as a support tool. It can take care of routine tasks while the host continues to handle personal conversations, cultural interaction, hospitality and situations that require human understanding.

III. AI-ENABLED GUEST RELATIONS

Guest relations are about more than simply answering questions. They involve understanding what guests need, communicating with them, solving problems, providing personal attention and creating a positive relationship. In a homestay, these activities are closely connected with the host's behaviour and the guest's overall experience.

AI can support guest relations in several ways. It can help hosts respond quickly, remember preferences, provide relevant recommendations, communicate in different languages and send useful information at the right stage of the guest journey. For a small homestay where the host may be handling many responsibilities alone, these tools could be particularly useful.

However, the purpose should not be to remove the host from the experience. Instead, AI can handle repetitive communication and allow the host to spend more time on the interactions that tourists are likely to remember.

IV. HOMESTAY TOURISM AND HOST–GUEST RELATIONSHIPS

The relationship between the host and the tourist is one of the main features that makes homestay tourism different from standard accommodation. Guests may be interested in local food, traditions, stories, lifestyles and places that are not always included in conventional tourist itineraries. A friendly host can make a tourist feel comfortable and connected with the destination. On the other hand, poor communication or a lack of personal attention can negatively affect the experience even when the physical accommodation is good. This means that guest relations can influence satisfaction, memories of the trip and the intention to return or recommend the homestay. AI therefore needs to be studied within this human context. The question is not simply whether tourists like AI. The more useful question is whether AI helps the host provide a better experience without taking away the personal character of the homestay.

V. PROBLEM STATEMENT

Research on AI in tourism has grown rapidly, but much of it has focused on hotels, service robots, online platforms and technology adoption. Homestay tourism has received much less attention in comparison. At the same time, research on homestays has often focused on host–guest relationships, authenticity, satisfaction and tourist experience without bringing AI into the same framework.

As a result, there is a gap in understanding how AI can be used specifically for guest relations in homestays. It is also not clear whether AI-supported communication and personalization improve the tourist experience or whether they may reduce the sense of authenticity that tourists expect from a homestay.

A. Problem Statement

There is a need to understand how AI-enabled guest relations affect tourist experience and loyalty in homestay tourism, and how factors such as authenticity and trust influence this relationship.

VI. RESEARCH GAP

Although research on Artificial Intelligence in tourism and hospitality has increased, several areas remain less explored in the context of homestay tourism. Existing studies have examined AI applications, technology adoption, and AI-enabled services in hospitality, while research on homestays has mainly focused on host–guest relationships, authenticity, satisfaction, and tourist experience. Bringing these areas together can help provide a clearer understanding of the role of AI in homestay guest relations.

The proposed study therefore focuses on the following gaps:

1) Context gap: Much of the existing research on AI in hospitality focuses on hotels and other organized hospitality settings. Comparatively less attention has been given to the specific context of homestays, where personal interaction between hosts and guests is an important part of the experience (Goel et al., 2022; Marques & Gondim Matos, 2020).

©IJRASET: All Rights are Reserved

2) Guest-relations gap: Existing AI research has examined technology adoption and service applications, but there is a need to understand how AI can specifically support guest relations, including communication, personalization, responsiveness, and recommendations.
3) Experience gap: While previous studies have examined AI-enabled services and tourist experiences, more attention is needed on how AI-supported guest interactions influence the overall experience of tourists staying in homestays.
4) Authenticity gap: Personal interaction and local experiences are important characteristics of homestay tourism. Therefore, it is important to examine whether the use of AI supports the homestay experience or affects tourists' perceptions of authenticity (Ram et al., 2016).
5) Loyalty gap: Previous research has linked positive accommodation experiences with tourist satisfaction, recommendations, and future behavioural intentions. However, further research is needed to understand whether AI-enabled guest relations can contribute to tourist loyalty in the specific context of homestay tourism.

Based on these gaps, the proposed study examines the relationship between AI-enabled guest relations, tourist experience, and tourist loyalty, while also considering the roles of perceived authenticity and trust in AI.

VII. RESEARCH OBJECTIVES

The objectives of the proposed study are:

1) To examine the role of AI-enabled guest relations in homestay tourism.
2) To examine the influence of AI-enabled guest relations on tourists' experiences.
3) To examine the relationship between tourist experience and tourist loyalty.
4) To examine whether tourist experience mediates the relationship between AI-enabled guest relations and tourist loyalty.
5) To examine the role of perceived authenticity in tourists' responses to AI-enabled guest relations.
6) To examine the role of trust in AI-enabled guest services.
7) To develop and test a research model explaining the relationships between AI-enabled guest relations, tourist experience, authenticity, trust, and tourist loyalty.

VIII. RESEARCH QUESTIONS

The study seeks to answer the following research questions:

1) How do AI-enabled guest relations influence the experiences of tourists staying in homestays?
2) Which aspects of AI-enabled guest relations are important to tourists?
3) What is the relationship between tourist experience and tourist loyalty?
4) Does tourist experience mediate the relationship between AI-enabled guest relations and tourist loyalty?
5) How does perceived authenticity influence tourists' responses to AI-enabled guest relations?
6) What role does trust play in tourists' use of AI-enabled guest services?

IX. PROPOSED CONCEPTUAL FRAMEWORK

The proposed study brings together five main ideas: AI-enabled guest relations, tourist experience, perceived authenticity, trust in AI and tourist loyalty.

The basic relationship proposed in the study is:

A. *AI-Enabled Guest Relations Tourist Experience Tourist Loyalty*

AI-enabled guest relations can include personalization, communication, responsiveness, recommendation quality and convenience. Tourist experience is treated as the main mediating factor. Perceived authenticity is included because the human and local character of a homestay may influence how tourists react to technology. Trust in AI is included because tourists are unlikely to rely on technology if they do not consider it reliable or appropriate.

X. HYPOTHESES

1) H1: AI-enabled personalization positively influences tourist experience.
2) H2: AI-enabled communication positively influences tourist experience.
3) H3: AI-enabled responsiveness positively influences tourist experience.
4) H4: The quality of AI-generated recommendations positively influences tourist experience.

©IJRASET: All Rights are Reserved

5) H5: A positive tourist experience positively influences tourist loyalty.
6) H6: Tourist experience mediates the relationship between AI-enabled guest relations and tourist loyalty.
7) H7: Perceived authenticity influences the relationship between AI-enabled guest relations and tourist experience.
8) H8: Trust in AI positively influences tourists' responses to AI-enabled guest relations.

XI. RESEARCH METHODOLOGY

A quantitative research approach is proposed for this study. Data can be collected from tourists who have stayed in a homestay and have experienced some form of technology-enabled or AI-supported guest service. Respondents should be able to identify the AI-supported interaction they experienced; otherwise, it would be difficult to measure the proposed variables accurately.

A. *Target Population*

The target population will consist of domestic and international tourists who have stayed in homestays and have experienced AI-enabled guest services or communication.

B. *Sampling*

Purposive sampling can be used initially because the study requires respondents with a specific experience. A sample of around 10 – 20 respondents could be targeted for an SEM-based study, although the final sample size should be confirmed through an appropriate power analysis.

C. *Data Collection*

A structured questionnaire can be distributed through homestay networks, tourism groups, online travel communities and directly through participating homestay operators. Respondents should be informed about the purpose of the research and participation should be voluntary.

XII. PROPOSED QUESTIONNAIRE

A five-point Likert scale can be used for the main constructs: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

A. *AI-Enabled Personalization*

- The homestay provided services that matched my preferences.
- The AI-supported service helped personalize my stay.
- The recommendations I received were relevant to my interests.
- The technology helped the host understand my preferences.

B. *AI-Enabled Communication*

- AI-supported communication made it easier to contact the homestay.
- I received useful information through the AI-supported service.
- The information was easy to understand.
- AI-supported communication made my stay more convenient.

C. *Responsiveness*

- My questions were answered quickly.
- I received information when I needed it.
- The technology reduced waiting time.
- The service was available when I needed assistance.

D. *Recommendation Quality*

- The recommendations were relevant to my interests.
- The recommendations helped me discover local places.
- The recommendations matched my travel needs.
- AI-supported recommendations helped me plan my activities.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

XIII. TOURIST EXPERIENCE

- My homestay provided a memorable experience.
- I enjoyed interacting with the host.
- The homestay gave me an experience different from a conventional hotel.
- I had opportunities to experience local culture.
- I felt emotionally connected to the experience.
- My stay met or exceeded my expectations.
- The experience was personally meaningful.

XIV. PERCEIVED AUTHENTICITY

- The homestay provided a genuine local experience.
- I felt connected to the local culture.
- My interaction with the host felt genuine.
- The experience felt authentic rather than commercial.
- Technology did not stop me from having a personal experience.
- The homestay offered experiences that I could not easily get in a conventional hotel.

XV. TRUST IN AI

- I trust the AI-supported services provided by the homestay.
- I consider the information provided by the system reliable.
- I feel comfortable using AI-supported guest services.
- I believe the AI system provides useful recommendations.
- I believe the homestay uses AI responsibly.

XVI. TOURIST LOYALTY

A. *Revisit Intention*

- I would like to stay at this homestay again.
- I would consider this homestay for a future trip.

B. *Recommendation and Word-of-Mouth*

- I would recommend this homestay to friends or family.
- I would encourage others to stay here.
- I would speak positively about this homestay.
- I would share positive information about this homestay online.

XVII. DATA ANALYSIS

The data can first be examined using descriptive statistics such as frequency, percentage, mean and standard deviation. Reliability testing can be carried out using Cronbach's Alpha and composite reliability. Confirmatory Factor Analysis (CFA) can then be used to check whether the measurement model fits the data.

Structural Equation Modelling (SEM) can be used to test the proposed relationships between AI-enabled guest relations, tourist experience and loyalty. Mediation analysis can be used to examine whether tourist experience explains the relationship between AI and loyalty. Moderation analysis can be used to examine whether perceived authenticity changes the strength of the relationship between AI-enabled guest relations and tourist experience.

XVIII. THEORETICAL FOUNDATION

The study can be supported by the Stimulus–Organism–Response (S-O-R) framework. In simple terms, the AI-enabled service can be treated as the stimulus. The tourist's internal response—such as experience, trust and perception of authenticity—represents the organism. The final behavioural response can be reflected through revisit intention, recommendations and positive word-of-mouth.

AI-enabled guest relations Tourist response and experience Tourist loyalty

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

XIX. EXPECTED CONTRIBUTION

The study can contribute to tourism research by bringing AI and host–guest relationships into the same discussion. Instead of looking at AI only as a technological or operational tool, the study treats it as something that can influence the relationship between the host and the tourist. For homestay operators, the findings could also provide practical guidance about where AI can genuinely help. For example, AI may be useful for routine questions and personalized recommendations, while hosts can continue to focus on cultural interaction, hospitality and relationship building.

XX. PRACTICAL IMPLICATIONS

AI can be used at different stages of the guest journey. Before arrival, it can provide information about transport, check-in, weather and local attractions. During the stay, it can help with recommendations, translation and frequently asked questions. After departure, it can support feedback collection and personalized follow-up. The most useful approach may be a human–AI combination. The technology can deal with repetitive tasks, while the host remains responsible for personal conversations, cultural experiences, emotional support and situations where human judgement is important.

XXI. ETHICAL AND PRACTICAL CONCERNS

The use of AI also raises questions about privacy, data security, accuracy, transparency and the loss of human interaction. These issues may be particularly important in homestays because tourists may choose them specifically for personal and authentic experiences. Homestay operators should therefore be transparent about when AI is being used, avoid collecting unnecessary personal information, provide human assistance when required and regularly check the accuracy of AI-generated information.

XXII. LIMITATIONS

A cross-sectional study will provide information about tourists' perceptions at one point in time and may not fully capture long-term loyalty. Purposive or convenience sampling may also limit how widely the findings can be generalized. In addition, tourists differ in their familiarity with AI, and this may influence their responses. Finally, the level of AI use may vary considerably from one homestay to another.

XXIII. FUTURE RESEARCH

Future studies could compare AI-enabled homestays with conventional homestays, examine rural and urban homestays separately, compare domestic and international tourists, investigate generational differences and study the effect of generative AI on authenticity. Researchers could also examine the host's perspective and investigate whether AI reduces workload, improves communication or changes the way hosts build relationships with tourists.

XXIV. CONCLUSION

AI is changing the way tourism businesses communicate with customers, but homestay tourism requires a slightly different approach. The main attraction of a homestay is often the personal experience: meeting the host, learning about local culture and feeling connected to the destination. Technology should therefore support these experiences rather than replace them.

This paper proposes that AI-enabled guest relations may improve tourist experience through better communication, personalization, responsiveness and recommendations. A better experience may then encourage tourists to revisit and recommend the homestay. At the same time, authenticity and trust are likely to matter because tourists may respond differently to technology depending on whether they still feel that the experience is genuine. The proposed study can therefore help answer an important question for the future of homestay tourism: how can AI be used to make guest relations better while keeping the human side of hospitality at the center?

REFERENCES

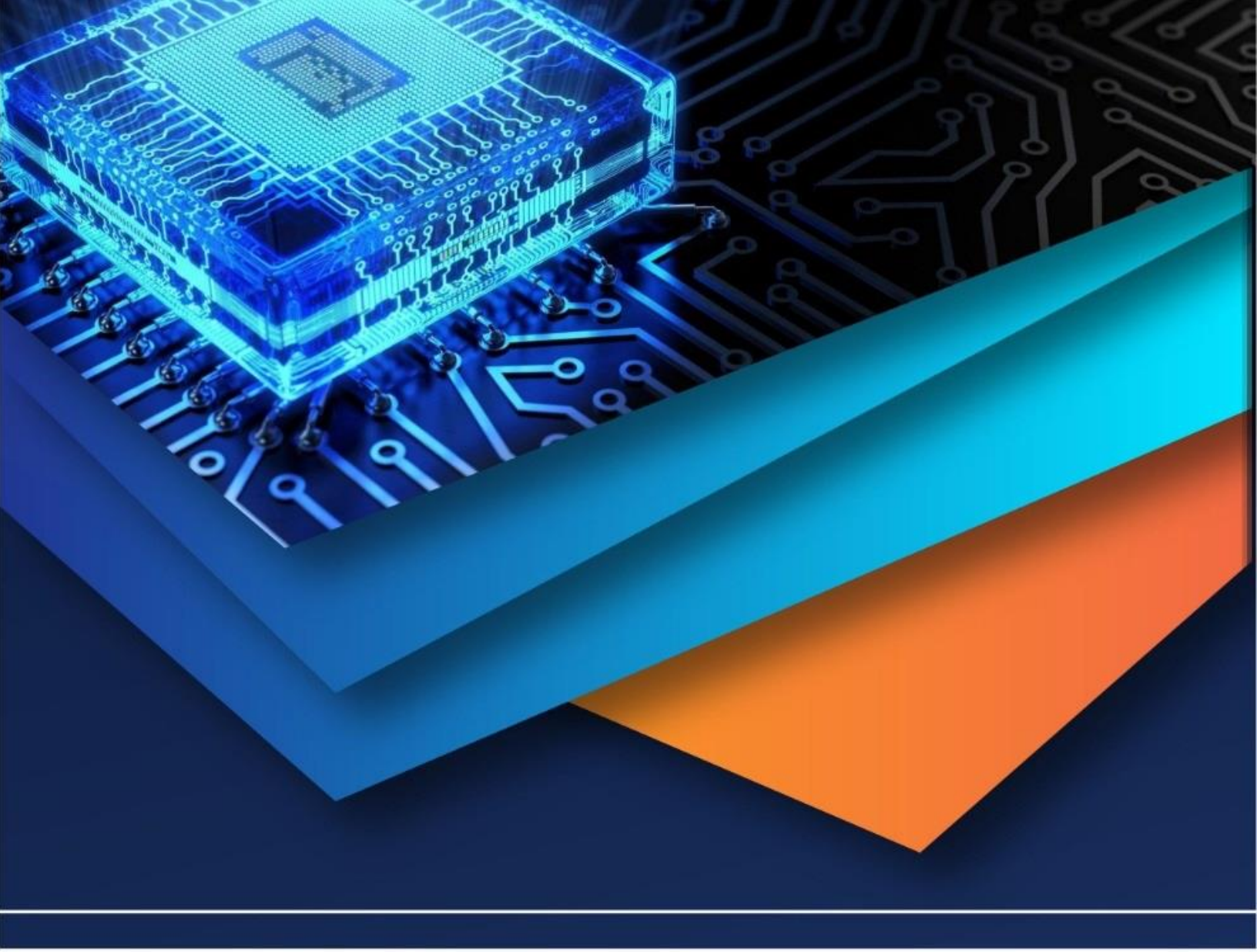
[1] Goel, P., Kaushik, N., Sivathanu, B., Pillai, R., & Vikas, J. (2022). Consumers' adoption of artificial intelligence and robotics in hospitality and tourism sector: Literature review and future research agenda. Tourism Review, 77(4), 1081–1096.

[2] Lam, H. P., Arli, D., Nguyen, T. H., & Nguyen, T. Q. (2025). Homestay experience and eWOM among Generation Z tourists: The role of guest delight, guest satisfaction, and the need for uniqueness. Acta Psychologica, 255, 104980.

[3] Wang, P. Q. (2024). Personalizing guest experience with generative AI in the hotel industry: There's more to it than meets a Kiwi's eye. Current Issues in Tourism, 28(4), 527–544.

[4] Zhang, et al. (2024). Decoding the shared pathways of consumer technology experience in hospitality and tourism: A meta-analysis. International Journal of Hospitality Management, 118, 103685.

[5] Zhou, et al. (2022). A systematic review of AI technology-based service encounters: Implications for hospitality and tourism operations. International Journal of Hospitality Management.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)