Developing an AI-Powered Chatbot for Customer Service in the Hospitality Industry: A Case Study of Kawin Home Using ManyChat

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Abstract

This study explores the implementation of an AI-driven chatbot to enhance customer service for a small homestay in Thailand. The objective is to address delays in online communication and assess how chatbot automation improves customer experience and booking conversion. An AI-chatbot was developed using the ManyChat platform and integrated with Facebook Messenger. The chatbot was designed through a user-centered process, using actual customer inquiries as training data. The evaluation focused on three key performance indicators: (1) Guest Conversion Rate, (2) Customer Satisfaction Rate, and (3) Human Intervention Rate. Results showed that the chatbot achieved a 73.68% conversion rate (target: 50%), a 67.14% satisfaction rate (target: 90%), and a 25% human intervention rate (target: below 20%). While the system successfully improved booking rates and reduced communication delays, challenges remained in handling follow-up questions and personalized requests. Feedback highlighted usability issues and suggested improvements in visual design and natural flow. The study concludes that well-structured chatbots can reduce staff workload while supporting customer engagement in small hospitality operations with limited resources.

***Keywords*:** AI customer service, Chatbot, Hospitality, Homestay, ManyChat

I. INTRODUCTION

Artificial Intelligence (AI) has swiftly evolved from a conceptual idea into a cornerstone of modern innovation, fundamentally transforming industries across the globe. Initially aimed at replicating human intelligence, AI has become an indispensable tool in domains such as education, healthcare, manufacturing, and business. Today's AI systems can analyze massive datasets, learn patterns, and adapt with impressive speed and accuracy. This ability empowers organizations to optimize workflows, make informed decisions, and respond to market shifts with agility. The integration of AI into strategic operations has redefined traditional business models and expanded the potential for predictive insights and efficiency (Rashid & Kausik, 2024). Its applications extend across sectors such as education, where AI-powered adaptive learning systems tailor content to individual needs, and healthcare, where predictive analytics have transformed patient care (Soliman, Ahmed, Darwish, & Hassanien, 2024). In business, AI enhances customer engagement, automates service, and improves operational performance (Alneyadi & Wardat, 2023).

With advancements in deep learning, neural networks, and natural language processing (NLP), AI now replicates cognitive functions enabling intelligent systems to understand language, recognize images, and make autonomous decisions. This has had a particularly transformative impact on customer service, allowing organizations to deliver personalized real-time support through AI-powered tools. In the hospitality industry, Svendsen (2024) points out that guest expectations now extend beyond fast responses. They seek seamless digital experiences, real-time personalization, and transparency. Hospitality providers must adapt by integrating smart tools that enhance convenience while maintaining human warmth. Delays in communication or lack of customization can reduce satisfaction and lead to lost loyalty. Nwokedi and Nwafor (2024) add that chatbots supported by machine learning offer scalable, intelligent communication that learns from prior interactions, meeting rising expectations through 24/7 responsiveness.

AI has already enabled personalized service in hospitality via chatbots, facial recognition, and smart recommendations. (Ameen, Tarhini, Reppel, & Anand, 2021) highlight how AI enhances customer experience (CX) by minimizing friction, supporting real-time conversations, and tailoring services ultimately reinforcing loyalty. Bağıran Özşeker, Aktaş, and Kurgun (2022) further explain that AI can now handle bookings, interpret guest intent, and process transactions with high accuracy, drastically improving service quality and responsiveness. Predictive analytics even allow businesses to anticipate guest preferences and adjust resource allocation in real time (Tussyadiah & Park, 2018). Yet, the challenge lies in maintaining a balance between automation and the human touch. While AI boosts efficiency, guests still value personal connection. Thus, a hybrid service model where AI complements staff is critical to success (Bağıran Özşeker et al., 2022). With chatbot implementation, hotels can offer 24/7 assistance without overstretching limited staff resources, especially for small operations. A global survey cited by Big Data Agency (2017) revealed that by 2020, 80% of executives across major firms planned to adopt chatbots, with cost reductions of up to 30% in customer service operations. In hospitality, chatbots assist in airline check-ins, restaurant orders, tourism recommendations, and hotel bookings (Chi & Nam, 2022; Ivanov & Webster, 2020; Kumawat, Datta, Prentice, & Leung, 2025). These applications make them especially valuable for service-heavy sectors with high inquiry volumes and time-sensitive communication needs.

While existing literature addresses chatbot use in large hospitality operations, there is limited research on AI adoption in small homestay businesses in Southeast

Asia. Industry surveys indicate that hospitality professionals already recognize the benefits of AI, with 45% citing increased productivity, 42% reporting reduced workload, and 39% noting better customer service as key advantages (The Access Group, 2025). Notably, the most popular application use in hospitality is AI-ChatGPT, with three-quarters reporting that it helps lower stress levels, although 42% expressed concerns that such tools could replace human roles (The Access Group, 2025). In other words, in an era where travelers expect instant responses, businesses without automated reply systems are at a competitive disadvantage.

The reason why the researcher chose the hospitality category as a case study is because the hospitality industry, and particularly small homestays, relies heavily on real-time communication, personalized service, and continuous engagement across the guest journey from inquiry and booking to post-stay feedback. This demand is heightened by guest expectations for responsive digital service and can be challenging during staffing shortages or with limited resources (Darios, 2022) Furthermore, user-friendly and cost-effective AI tools are particularly suited for small hospitality operations lacking full-time staff or advanced booking systems (Lighthouse, 2025)

This study focuses on Kawin Home, a small homestay in Thailand facing clear limitations in managing customer inquiries via Facebook. Without a booking engine or full-time staff, the business struggles to respond promptly, often taking up to two hours to reply leading to lost customer interest. Dick (2018) reports that 82% of consumers expect “immediate” responses in marketing or sales, and 90% deem fast replies crucial for service inquiries. More than half expect a reply within 10 minutes, a benchmark that Kawin Home’s current system cannot meet. This communication gap directly impacts booking conversions and overall customer satisfaction.

To address this, the researcher proposes implementing a chatbot via ManyChat which is a Martech tool capable of delivering immediate, automated, and personalized responses on Facebook Messenger. The objective of the study is to test whether this chatbot can reduce delays, enhance guest experience, and increase bookings. The study employs three KPIs: (1) Conversion Rate measuring successful bookings after interaction, (2) Customer Satisfaction Rate assessing user ratings of their experience with the chatbot, and (3) Human Intervention Rate tracking how often staff must assist the chatbot. This metric framework provides a comprehensive evaluation of chatbot effectiveness from both customer and operational perspectives.

Kawin Home was selected as a case study due to its relevance, practicality, and real-time access to communication data. The researcher was able to monitor message flows, booking behavior, and chatbot performance directly. This setting reflects the challenges faced by many Thai homestays, providing valuable insights that other small hospitality businesses can replicate. The study contributes to academic and practical understandings of AI-driven tools in digital marketing and service automation. It aims to demonstrate how small businesses, even with limited resources, can leverage AI chatbots to meet modern consumer demands and remain competitive in an increasingly digital hospitality environment. This research is particularly beneficial for small business owners seeking to reduce workload and increase competitiveness with minimal cost.

II. LITERATURE REVIEW

To understand how chatbot implementation can influence customer decision-making in the hospitality industry, it is essential to examine several interrelated concepts. These include chatbot and AI foundations, the marketing funnel that maps customer journey stages, and service-centric factors such as customer experience, customer satisfaction, key qualities, and user experience.

Together, these theories provide a comprehensive framework for evaluating chatbot effectiveness in improving guest engagement and conversion.

A. Artificial Intelligence, Chatbots, and Automation

In the fast-evolving digital landscape, artificial intelligence (AI) and chatbots are revolutionizing business-consumer interactions. AI, which includes various technologies, enables computers to perform tasks that typically require human intelligence. Chatbots, a prominent application of AI, provide automated yet personalized customer interactions, significantly enhancing user experiences.

Automation refers to the use of technology to carry out tasks with minimal human involvement. It simplifies processes, improves efficiency, and minimizes human error. By automating routine or complex tasks, businesses can boost productivity and allow human workers to focus on strategic and creative efforts (Kanade, 2024). This shift in work dynamics represents a significant transformation in how businesses operate.

Artificial intelligence involves systems capable of performing tasks traditionally associated with human cognition, such as prediction, recognition, and language processing. These systems rely on massive data analysis to learn patterns and inform decisions (Glover, 2024). Historically, AI traces its roots to Alan Turing's pioneering work in the 1950s, particularly the Turing Test, which assessed a machine's ability to imitate human intelligence. Over time, AI has grown into a vital tool across disciplines, including education and customer service (Khairunisa & Suyatmini, 2024).

Among the most common applications of AI is the chatbot. The term "chatbot" merges "chat" and "robot," referring to systems designed to simulate human conversation. Powered by natural language processing (NLP) and artificial neural networks, modern chatbots analyze and interpret user input to deliver appropriate responses (Azam et al., 2024; Misischia, Poecze, & Strauss, 2022). These chatbots can handle various customer service functions, answering inquiries, offering recommendations, and escalating to human agents when necessary (Shweta, 2022). They are designed to interact in multiple languages, further enhancing their usability and accessibility (Mostafa & Kasamani, 2022). As chatbots improve usability and deliver personalized experiences, they become increasingly integral to customer engagement strategies across industries (Gupta, 2020).

B. Type of Chatbot

MindTitan (n.d.) categorized chatbots into six types depending on business context and user needs:

1. Rule-based Chatbots: These bots operate on predefined scripts and decision trees. They are ideal for routine tasks such as answering FAQs, handling bookings, or navigating delivery options. Their popularity surged after the Facebook Messenger platform enabled chatbot integration. (Haugeland, Følstad, Taylor, & Bjørkli, 2022) added that these bots identify user intent using keyword libraries and guide users toward their goal through decision trees. Their quick response time and update flexibility make them highly suitable for small businesses.

2. Keyword Recognition-based Chatbots: These bots focus on identifying key phrases within user input. This makes them reliable for delivering precise responses to tasks such as password resets or troubleshooting specific problems.

3. Menu-based Chatbots: These resemble phone menus, offering structured options for users to navigate. They are commonly used in services that benefit from step-by-step flows like online shopping or service inquiries.

4. Contextual Chatbots: These bots remember past interactions and use that memory to tailor responses. A good example is a banking chatbot recommending products based on a user's prior activity and profile.

5. Hybrid Chatbots: These bots combine rule-based logic with AI adaptability. They can manage both

straightforward tasks and complex scenarios, making them suitable for businesses needing both quick answers and personalized support.

6. Voice Chatbots: These bots use speech recognition and text-to-speech (TTS) technology to enable natural, hands-free communication. They are useful for smart device control or verbal info access. (Castagna, Kökciyan, Sassoon, Parsons, & Sklar, 2024) also classified chatbots into two technical types:

7. *Retrieval-based Chatbots*: These bots rely on stored responses and use NLP and intent classification to match user input with the most appropriate reply.

8. *Generative Chatbots*: These bots use deep learning to create new responses. While flexible, they require more training and may sometimes produce irrelevant or confusing answers.

Based on this understanding, this study selected a rule-based chatbot due to its suitability for handling routine inquiries and providing quick, structured responses that enhance guest experience in a homestay setting.

C. Customer Service Chatbot

Customer service remains the most impactful application of chatbots. According to Codina, Ufarte Ruiz, and Borden (2024), AI has reshaped communication in all media sectors and customer service bots are goal-oriented, often designed for high efficiency. While topic-led conversations delve into or elaborate on a subject of interest. (Haugeland et al., 2022). Thorat and Jadhav (2020) highlight that chatbots now mimic human conversation and are used across industries to reduce manual labor. (Wang, Lin, & Shao, 2022) add that chatbot data helps marketing and product teams improve offerings and timing. Vanichvasin (2021) lists key benefits: low cost, fast replies, and 24/7 availability. Kaushik (2024) and Roy and Naidoo (2021) emphasize that chatbots not only enhance support but also serve branding purposes. (Zhang, Følstad, & Bjørkli, 2021) mention that “no-code” tools have simplified deployment and that human handover remains essential for complex issues.

D. Platform for Creating Chatbot

Hingrajia (2025) reviewed widely-used chatbot development platforms as in the table 1.

Table 1: Platform for chatbot development

Platform	Description
WotNot	No-code, drag-and-drop builder
Intercom	Focuses on personalized sales and support
Drift	meetings, enhances lead engagement
Landbot.io	Supports both rule-based and AI chatbots
LivePerson	Real-time intent detection with analytics
Bold360	Uses NLP and agent handoff
Octane AI	Shopify integration via Messenger
Flow XO	No-code with multichannel support
Aspect CXP	Multichannel customer service
ManyChat	Facebook Messenger-based, strong for marketing

This research utilized ManyChat due to its user-friendliness, effective marketing tools, and smooth Facebook Messenger integration (Peña-Cáceres, Tavara-Ramos, Correa-Calle, and More-More, (2024).

E. Marketing Funnel

The marketing model known as the "awareness, consideration, conversion" funnel, also called the buyer's journey, illustrates the stages potential customers experience as they transition to becoming actual buyers. It is visualized as a funnel because the number of prospective customers typically reduces as they progress through each stage (Ott, 2024). There are three primary stages:

1. Awareness: At the funnel's top, potential customers first encounter the brand or product. They may not be ready to purchase but should become aware of the brand and develop an interest.

2. Consideration: In the funnel's middle, these now-aware potential customers evaluate whether the product or service suits their needs. They look at different options and scrutinize features. At this point, the business should furnish compelling information that demonstrates why its offering is superior.

3. Conversion: At the funnel's bottom, the potential customers are poised to buy. Here, they decide to proceed with a purchase. The goal is to streamline the buying process and make it appeal enough to finalize the sale.

Based on the researcher's analysis, chatbots are potentially effective in managing the consideration stage of the funnel by providing instant responses and detailed information that assist potential customers in their decision-making process. Additionally, they excel in the conversion stage by enabling seamless transactions, such as directly completing bookings through the chat interface, thus enhancing overall efficiency.

F. Customer Experience and AI-driven Experience

According to Keiningham et al. (2017), customer experience covers all interactions and perceptions of customers based on their dealings with and thoughts about a retailer. It serves as a competitive marketing approach focused on delivering superior products and services. To effectively implement this, a company needs a comprehensive understanding of customer experience, including product interaction, reactions, satisfaction levels, and the overall experience.

Franky and Yanuar Rahmat Syah (2023) emphasized that marketing components like satisfaction, loyalty, and word-of-mouth are critical in shaping customer behavior and achieving long-term goals. In the digital age, customer experience (CX) has become vital for brands to remain competitive. CX involves every interaction between a customer and a brand across various touchpoints. With the rise of digital technologies and social media, customers expect personalized and seamless experiences.

AI is instrumental in enhancing CX by enabling businesses to deliver highly personalized content, predict customer needs, and offer proactive assistance. Through tools like recommendation engines, chatbots, and predictive analytics, marketers can strengthen customer loyalty and drive long-term success (Reddy, 2022). In the hospitality context, "customer experience" is interchangeable with "guest experience," encompassing the entire guest interaction, from decision-making to post-stay perceptions (Elphick, 2024).

Becker and Jaakkola (2020); Bağıran Özşeker et al, Aktas, and Kurgun (2022) define customer experience as a series of natural and unplanned responses and reactions from customers to stimuli related to the offering throughout their journey. While companies cannot fully control the customer experience, they can influence the triggers that shape customer reactions. They also note that AI technologies such as machine learning, NLP, and predictive analytics allow hotels to offer more personalized and efficient customer interactions. These tools automate repetitive tasks and provide immediate responses to inquiries, enhancing the guest journey. Ivanov and Webster (2020) explained that AI's predictive capabilities allow for pre-emptive service offerings, such as personalized room upgrades or package deals.

Kuo, Chen, and Tseng, (2017) highlight how AI systems improve operational efficiency while preserving human interaction for emotional connection. Tools like sentiment analysis and AI-powered feedback platforms help businesses identify areas for improvement and tailor services accordingly (Carl, 2024).

AI also supports sustainability by optimizing resources, contributing to the hospitality industry's future growth (García-Madurga & Grilló-Méndez, 2023). Companies like Marriott and IHG have adopted AI travel planners to

create personalized itineraries. These examples reflect the importance of AI in ensuring smooth experiences from booking to checkout.

G. Customer Satisfaction

Customer satisfaction is a key metric that managers must prioritize (Dam & Dam, 2021). It indicates how well a product or service meets or exceeds customer expectations and influences loyalty, trust, and long-term success (Edward, 2023). Satisfaction arises when the actual experience aligns with or surpasses expectations, and dissatisfaction emerges when performance falls short.

Pandiangan, Lumbanraja, Lumbanraja, Gultom, and LC (2024) explain that customer satisfaction or dissatisfaction occurs when customers evaluate the difference between prior expectations and their actual experience. Satisfaction also serves as a link between various stages in the buyer's journey, playing a role in repeat purchases.

One pivotal factor in customer satisfaction is response time. HelpDeskStar (n.d.) asserts that faster response times enhance satisfaction and loyalty. Chi and Nam (2022) found that a chatbot's problem-solving ability is critical to communication quality, particularly in hotel settings during the COVID-19 era. Timely responses enhance psychological perceptions of care and attentiveness, while delays reduce satisfaction.

Halika and Kharisma (2024) argue that product quality, emotional connection, convenience, and service quality all influence satisfaction. Although chatbot interaction is largely digital, elements like reliability and helpfulness contribute to emotional satisfaction. According to Taufik et al. (2021), perceived quality and brand trust are significant factors in sustainable brand decisions, underscoring how consistent chatbot performance contributes to satisfaction.

H. Key Quality Features of an Effective Chatbot

According to Meerschman and Verkeyn (2019) chatbot quality can be assessed through a set of attributes categorized into dimensions such as functionality, trustworthiness, privacy protection, efficiency, graphical, appearance, humanity, empathy, and responsiveness.

1. Functionality: refers to a chatbot's ability to accurately understand commands, perform tasks effectively, sustain conversations, and trigger appropriate actions.

2. Trustworthiness: offering reliable information, handling unexpected inputs, and having a broad knowledge base that users can evaluate. Privacy protection covers openness, honesty, and safeguarding users from unauthorized access.

3. Efficiency: is reflected in ease of use, fast response times, and constant availability without requiring complicated access steps.

4. Graphical: relate to user interface design.

5. Appearance: Use of Emojis and images or animated gifs.

6. Humanity: Foster engaging interactions. In other words, the bot should simulate enjoyable conversations.

7. Empathy: Recognize and respond to emotional cues.

8. Responsiveness: how fast the bot responses and how it handles multiple inquiries.

I. User Experience

User experience (UX) plays a critical role in determining how users interact with digital systems. A well-designed interface can enhance satisfaction, while poor design can hinder engagement (Amant, Rukonić, & Kieffer, 2024). UX comprises both direct experiences such as actual interactions with a product and indirect experiences from hearing about others' usage (Jitareerat & Satawedin, 2022). Two key aspects of UX include pragmatic quality, which relates to the usefulness and efficiency of a system,

and hedonic quality, which reflects how enjoyable and emotionally engaging the system is (Haugeland et al., 2022).

Positive UX outcomes can influence a system's success in areas such as usability, satisfaction, and repeat usage (De Paolis, Gatto, Corchia, & De Luca, 2022).

According to De Ternay (2023), the six levels of user experience in system design particularly useful in chatbot development can be explained as follows:

1. Proposition: Refers to the core value the chatbot provides. It defines how the chatbot solves users' problems, such as reducing response time or increasing satisfaction through immediate assistance.

2. User Case: Identifies the key tasks users aim to accomplish when interacting with the chatbot for example, checking room availability, booking a room, or asking about services.

3. User Journey: Maps out the sequence of steps users follow during interaction, helping ensure smooth navigation from the initial question to task completion.

4. Information: Focuses on what specific data the chatbot must provide at each stage. For instance, showing real-time booking data when users inquire about available rooms.

5. Architecture: Involves organizing the chatbot's structure logically, ensuring actions like booking or inquiry are easy to locate and navigate.

6. Visual: Relates to how the chatbot looks and feels. A clean, on-brand, and readable interface enhances engagement and builds trust.

This framework supports the development of intuitive and engaging systems. In chatbot design, these elements ensure the system aligns with user needs and delivers a smooth, branded, and functional experience. Evaluating UX through this lens enables continuous refinement to support both usability and emotional resonance (Syahrozad & Subriadi, 2024).

J. User-Centered Design

User-Centered Design (UCD) emphasizes tailoring systems to meet users' needs and limitations rather than focusing solely on technical capabilities (Montalvo, Thai, Stephens, Hinkle, & Sasser, 2024). It is a human-centered approach that ensures higher engagement, especially for interactive technologies like mobile apps and chatbots. UCD follows an iterative process: understanding users through research, defining their requirements, developing design solutions, conducting usability testing, and refining based on feedback (Okonkwo, 2024; Oti & Pitt, 2021).

According to Ghosh (2021), the User-Centered Design process involves five key phases.

1. Research: Understand the end-user through interviews and observation to uncover their needs, goals, and pain points.

2. Define Requirements: Identifies the key tasks users aim to accomplish when interacting with the chatbot. for example, checking room availability, booking a room, or asking about services.

3. Create Solutions: Maps out the sequence of steps users follow during interaction, helping ensure smooth navigation from the initial question to task completion.

4. Evaluate Designs: Conduct usability testing with real users to ensure the chatbot meets functional and emotional needs.

5. Iteration: Refine the chatbot design based on feedback and insights, continuously improving its performance and user satisfaction.

Applying this approach to chatbot development allows for aligning the tool with both user expectations and business goals. The result will be a more effective, user-friendly chatbot that evolves alongside customer behavior and feedback.

K. Tourism Industry

Tourism refers to travel for leisure, business, or cultural exploration, encompassing experiences across various locations both domestically and internationally. It includes diverse types such as sightseeing, adventure tourism, and eco-tourism. A major driver of the global economy, the tourism industry involves multiple players, including airlines, accommodations, and travel agencies. Hospitality, as a branch of tourism, focuses on offering accommodation, food, and guest services through facilities like hotels, restaurants, and resorts, all designed to ensure customer comfort and satisfaction (Glion Institute of Higher Education, 2023).

A hotel, in this context, is a business providing temporary accommodation for a fee. Hotel services vary widely depending on customer segments and pricing strategies. Some offer basic services while others include a broad range of amenities to attract specific markets. Room rates also vary, sometimes fixed and sometimes offering discounts depending on season or guest profile (Pandiangan et al., 2024)

For small-scale operations, Hollander (2024) introduced "hotel alternatives" like guesthouses and homestays. Guesthouses have modest facilities, often with multiple rooms and breakfast service, while homestays are more personal, commonly located in rural areas, offering meals and interactions with the host family. Homestays typically emphasize authenticity and affordability over amenities (La Maison Boutique Hotel, 2023). Understanding these distinctions helps tailor a chatbot to reflect the identity of a particular accommodation type. For example, a chatbot for a homestay can highlight personalized services, local culture, and direct engagement with hosts.

To enhance guest experience, FAQs serve as a vital component in customer communication. Sábio (2024) recommended structuring FAQs around key topics like reservations, check-in/check-out, amenities, and fees. When integrated into a chatbot, these FAQs help address common inquiries instantly, improving customer satisfaction and reducing staff workload. Questions such as "How do I reserve a room?", "What amenities are included?", and "Are pets allowed?" represent the baseline information customers seek. Designing a chatbot around these patterns ensures efficiency in communication and aligns with industry service standards.

III. RESEARCH METHODOLOGY

A. Research Design

This study employs an applied quantitative research methodology to evaluate the effectiveness of an AI-based chatbot in enhancing customer service responsiveness and booking efficiency. The chatbot was developed using ManyChat, a no-code chatbot platform, and integrated with the ChatGPT API to enhance language understanding and response generation. Both tools used in this study were licensed and compliant with commercial usage policies. ManyChat was operated under a paid plan suitable for Facebook Messenger deployment, while ChatGPT API access was acquired under OpenAI's licensing framework, ensuring ethical and legal compliance throughout the development and deployment process. Additionally, this paper does not provide step-by-step guides for using ManyChat or integrating external APIs such as ChatGPT, as these resources can be accessed through online instructional platforms.

The researcher began by designing a Google Form survey to explore key questions related to chatbot implementation. The survey was designed based on User-Centered Design principles and service quality attributes outlined by Meerschman and Verkeyn (2019). Homestay staff assisted in identifying the target audience, resulting in insights gathered from 45 respondents consisting of customers and residents living near the homestay who were willing to provide feedback and

share insights. These findings served as the foundation for the chatbot flow. Which researcher will provide the diagram of research process then followed by survey questions.

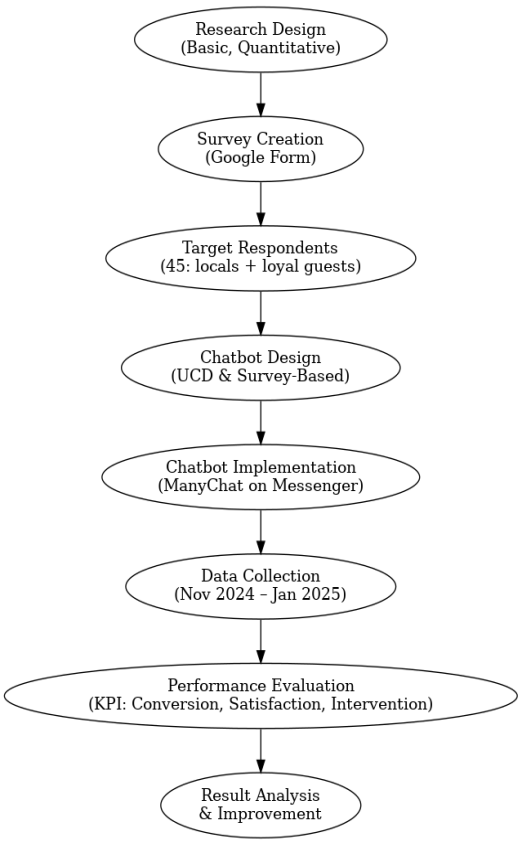

Figure 1: Research process flowchart

Figure 1 is basically primary research process that was used in this research. For below, Researcher's survey questions will be presented.

Table 2 results highlight that users expect a chatbot to be responsive, flexible, and capable of providing real-time support. Most respondents favor formal communication and 24/7 availability, with immediate escalation to staff when necessary. A hybrid design offering both keyword recognition and pre-defined options is preferred to accommodate different user styles. Despite valuing automation, many users still appreciate the clarity and reassurance of human interaction.

Table 2: Survey questions and summary of responses

Survey Question	Majority Responses
Are you interested if Kawin Home offers accommodation booking via chat messenger?	84% of respondents are interested in booking via chat messenger.
What is your opinion if the homestay develops a chatbot that can handle direct accommodation bookings via chat?	88% support the idea, though some suggest ensuring system stability before rollout to maintain trust.
Do you have any concerns about sharing personal information?	40% highly concerned, 37.8% slightly concerned.
Which part of the chatbot booking process is most important	Top priorities: Speed (39 votes), Ease of use (34), and Accuracy (27).
What qualities do you expect a chatbot to have?	Majority prefer a hybrid format – combining keyword input with predefined buttons for flexibility.
Do you prefer booking through a chatbot or speaking with a staff member? Please explain.	70% prefer staff for accuracy and personalization. 30% prefer chatbot for speed.

Key features users expect include real-time room availability, stay policies, nearby attraction info, and visual content. To meet these expectations, chatbot design should balance efficiency with human support, such as incorporating a "Call an Admin" feature.

B. Data Collection

The data collection process is conducted in the following stages.

1. *Chatbot Development:* A rule-based chatbot, supported by AI ChatGPT, is developed using ManyChat. The design is informed by insights gathered from target users and homestay staff. The chatbot is scheduled for deployment at the beginning of September 2024.

2. *Daily Booking Log:* Room occupancy data is recorded daily in an Excel file. This includes customer inquiries processed by the chatbot, conversations escalated to the owner via phone, and confirmed bookings completed through chat.

3. *Data Collection Timeline:* Booking and interaction data will be collected and analyzed over a three-month period, from November 2024 to January 2025.

C. Key Measurement for Chatbot Evaluation

To evaluate the chatbot's overall effectiveness in a practical and measurable way, the researcher collaborated with the homestay staff to establish three key performance indicators (KPIs). These indicators serve as the primary criteria for assessing the chatbot's ability as presented in the table 3

Table 3: Chatbot's key performance indicators

KPI	Target	Description
Guest Conversion Rate	50%	50% of inquiries handled by the chatbot should result in bookings or confirmed guests.
Customer Satisfaction Rate	90%	90% of customers interacting with the chatbot should report being satisfied or very satisfied.
Human Intervention Rate	Below 20%	Only 20% of interactions should require human intervention, indicating effective chatbot management.

The chatbot will be tested over a period of two months. During this phase, the researcher will evaluate performance using the KPIs above, along with customer survey feedback. Adjustments and optimization will be conducted based on the insights gathered to improve chatbot efficiency and user experience.

IV: RESULTS AND DISCUSSION

A. Results Break Down in Each KPIs

1. *Guest Conversion Rate*: The Guest Conversion Rate evaluates the chatbot's ability to convert initial inquiries into confirmed bookings. With a pre-defined KPI benchmark of 50%, the goal was for at least half of the users interacting with the chatbot to proceed with a reservation. During the data collection period between November 2024 and January 2025, the chatbot handled 19 booking-related conversations, out of which 14 led to successful bookings. This resulted in a conversion rate of 73.68%, significantly surpassing the initial target.

This outcome suggests that the chatbot performed effectively in guiding users through the decision-making process and reducing potential drop-offs. The ability to provide immediate and consistent responses likely contributed to guests feeling more confident and informed when finalizing their reservations. The high conversion rate also indicates that a well-designed rule-based chatbot can enhance booking outcomes for small hospitality businesses, particularly when integrated directly into the customer's preferred communication channel such as Facebook Messenger.

2. *Customer Satisfaction Rate*: Customer satisfaction was assessed using a 5-point Likert scale, where responses rated "4" (Satisfied) and "5" (Most Satisfied) were considered positive. The survey covered five key aspects of the chatbot's performance, with the following satisfaction rates: accuracy of information provided (64.29%), response speed (100%), ease of use or convenience (64.29%), effectiveness in addressing customer needs (64.29%), and naturalness of conversation (42.86%).

To calculate the overall satisfaction rate, the average of these five scores was computed using the formula: (64.29 + 100 + 64.29 + 64.29 + 42.86) / 5 = 67.14%

Although this result reflects that most users were generally satisfied, the chatbot still fell short of the 90% satisfaction target. The highest rating in response speed indicates users appreciated quick replies, whereas the lowest rating naturalness of conversation suggests room for improvement in making the interaction feel more human. These insights highlight both strengths and areas where refinement is needed to better meet user expectations.

3. *Human Intervention Rate*: Unlike the previous KPI, which was based on 14 respondents who completed the satisfaction survey, this KPI is calculated from all 24 customer interactions recorded during the study period. The goal was to keep this rate below 20%, ensuring that the chatbot handles at least 80% of interactions independently.

Out of 24 total interactions, 6 required human intervention. The intervention rate is calculated as follows: (6 / 24) × 100 = 25%. This means that the chatbot required human assistance in 25% of cases, which slightly exceeds the target threshold. While this indicates that the chatbot can manage most interactions autonomously, it also suggests room for improvement.

A closer review of these six cases reveals that three instances were due to complex or special requests beyond the capabilities of the ManyChat platform, such as requests that deviated from the standard booking flow or required conditional logic not supported by the current system. One case involved a customer directly requesting to speak to a staff member, while the remaining two occurred when customers became unresponsive after initial chatbot interaction, prompting the staff to follow up manually. Only the three complex request cases are considered relevant for future chatbot refinement, as the remaining instances involved situations where human intervention was either explicitly requested or inherently necessary to maintain service quality. These three cases are worth further discussion and will be explained in detail

B. Three Complex Requests Requiring Chatbot Improvement

1. *First Case*: customers were unaware they needed to click the "Ask Again" button for the chatbot to continue the conversation. In one instance, a customer submitted a follow-up question about booking duration and pricing, but because the chatbot was designed to await a specific input to restart the conversation flow, it failed to respond. This led to the staff stepping in manually to clarify the information. Such situations contributed to the overall human intervention rate exceeding the target threshold of 20%.

To address this issue, the researcher implemented two key improvements. First, the chatbot's AI capabilities were refined to detect follow-up questions more effectively. By enhancing its contextual awareness, the chatbot can now respond to inquiries even when users do not explicitly restart the conversation. Second, clearer user guidance was added at the end of each message, reminding users that they may need to click "Ask Again" if their question goes unanswered. Additionally, if the system detects repeated follow-up messages without a reset, it will now send an automatic prompt to help the user continue the interaction smoothly. These enhancements aim to reduce missed interactions and minimize the need for human intervention in similar scenarios.

2. *Second Case*: when a customer, in the middle of confirming a booking, abruptly shifted the conversation to ask about nearby restaurants. Since the chatbot was operating within a structured booking flow at that moment, it failed to interpret this change of topic and instead repeated the previous booking details. As a result, the chatbot did not respond appropriately, and a staff member had to step in to manually provide accurate information about local dining options.

This scenario illustrates a limitation in the chatbot's flexibility when users unexpectedly shift topics mid-process, the system struggles to adapt. Rather than recognizing and adjusting to the new inquiry, the chatbot continued with the original task, which led to user confusion and disrupted the conversation.

To resolve this issue, the researcher suggested providing clear guidance to customers at the beginning of the booking flow. Users will be informed to either complete the booking process first before asking unrelated questions or to raise any additional inquiries in advance. By setting expectations early, this approach helps reduce unexpected topic changes during structured interactions, minimizing confusion and the likelihood of chatbot failure. This improvement aims to lower the human intervention rate by encouraging smoother, uninterrupted chatbot engagement.

3. *Third Case*: a customer inquired about a discount for booking two rooms which is a request the chatbot was not equipped to handle autonomously. The system lacked a predefined mechanism to recognize and respond to dynamic pricing adjustments for multi-room bookings. As a result, the chatbot remained unresponsive to the discount inquiry, requiring a human staff member to intervene. The staff manually confirmed a 100-baht discount, communicated the adjusted price of 1,300 baht for two rooms, and completed the interaction. This case highlights the chatbot's current limitation in handling price negotiations, as it was designed to provide only fixed pricing responses. Unlike standard room rate inquiries, discount-related questions often require internal policy checks and approval, making them unsuitable for static rule-based automation.

To address this limitation, the researcher proposed implementing Chatgpt prompt for discount rules that enable the chatbot to automatically offer price adjustments under specific conditions. allowing it to calculate and confirm eligible discounts without requiring human oversight. These enhancements aim to reduce dependency on staff while maintaining accurate and customer-friendly pricing communication. Next section the overall improvement of Chatbot implementation will be presented.

C. Overall Improvement

Below are the improvements that impact the business over the course of 3 months

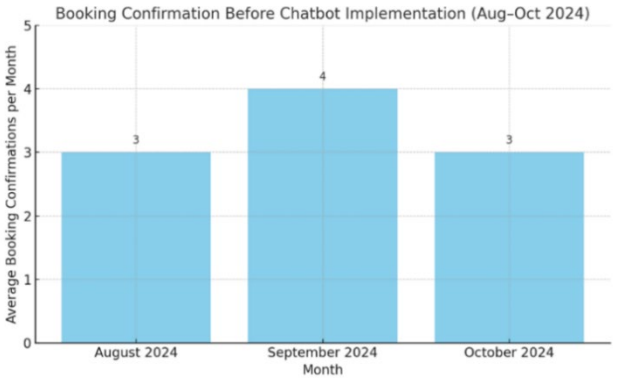

Figure 2: Average monthly booking before chatbot implementation

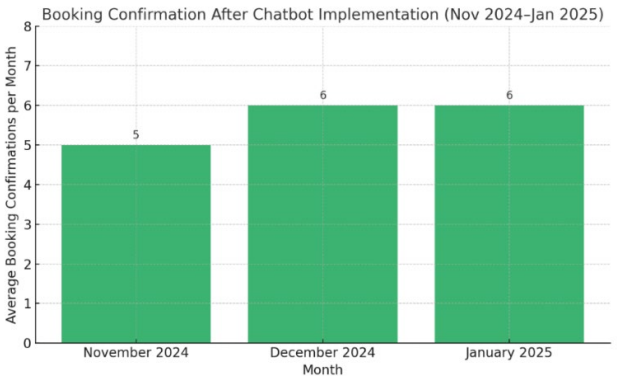

Figure 3: Average monthly booking after chatbot implementation

This improvement suggests in both figure 2 and figure 3 that the chatbot played a significant role in streamlining the booking process, reducing response delays, and providing immediate assistance to potential guests. Its ability to consistently and promptly answer inquiries appears to have encouraged more customers to proceed with their reservations. Although human

intervention remained necessary in some cases, the overall increase in confirmed bookings highlights the chatbot's effectiveness in enhancing customer engagement and delivering measurable business benefits.

D. Discussion

This study tested the effectiveness of a rule-based chatbot and AI-powered ChatGPT chatbot implemented at Kawin Home homestay, using three KPIs which are booking conversion rate, satisfaction rate, and human intervention rate. The results provide meaningful insights that align with and extend previous research. Most importantly, the findings confirm that AI-powered automation can enhance booking performance while also revealing specific limitations that need to be addressed to improve user satisfaction. The researcher will discuss these outcomes in relation to earlier studies, identifying both consistencies and areas of divergence.

1. First Key Insight: The use of a rule-based chatbot and ChatGPT increases booking conversion rates. The chatbot system combining a rule-based flow on the ManyChat platform with AI-generated responses from ChatGPT achieved a 73.68% conversion rate, well above the initial benchmark of 50%. This key finding demonstrates that even without a full booking engine or highly advanced generative AI, a properly structured chatbot can successfully convert inquiries into bookings. Guests who engaged with the chatbot were able to complete reservations more quickly, especially during periods when human staff were unavailable.

These findings are consistent with those of Chi and Nam (2022), who observed that AI chatbots enhance transactional efficiency and reduce customer hesitation through prompt, informative responses. In this study, average monthly bookings increased from 3–4 before implementation to 5–6 afterward. Although external factors could have contributed, the chatbot's instant-response functionality clearly reduced user drop-offs and encouraged booking confirmations.

Another significant factor was the availability of 24/7 support. When human admins were offline, the chatbot maintained communication continuity, capturing booking opportunities that might otherwise have been lost. This aligns with Chi and Nam, (2022) emphasis on convenience and immediacy as influential drivers of customer behavior. The results confirm that when integrated with specific business objectives, chatbot systems can significantly benefit small hospitality operations.

2. *Second Key Insight*: Chatbot satisfaction correlates with how well it handles follow-up queries and supports visual communication. Despite a relatively high conversion rate, the study found an overall satisfaction rate of 67.14%, falling short of the 90% target. User feedback pointed to recurring challenges, particularly with the chatbot's inability to respond fluidly to follow-up queries or display key visuals (e.g., room photos). One of the most prominent issues was that users often failed to realize they needed to click the "Ask Again" button to trigger a new response. This design flaw contributed to the perception that the chatbot lacked intelligence and reduced overall satisfaction.

This supports the view of Chi and Nam (2022), who emphasized that personalization and contextual responsiveness are essential for chatbot engagement. Although the chatbot performed well in isolated one-turn queries, it struggled with sustaining dynamic, human-like conversations, an essential quality for trust-building.

Furthermore, Acharya and Mahapatra (2024) found that while AI improves booking efficiency, it is not the sole determinant of guest satisfaction. In their case studies, hotel guests valued empathetic, human interaction especially for nuanced or emotional concerns,

which Kawin Home's chatbot was not equipped to address autonomously. These gaps were primarily due to structural limitations within the ManyChat platform and its rule-based logic, not a failure of AI reasoning.

Kuo et al., (2017) also noted the importance of aligning automation with human support. This study supports their conclusion: systems must be efficient, yet flexible and empathetic. The researcher observed that guests were most satisfied when the chatbot could guide them clearly through the booking process, and least satisfied when conversations were derailed or reset unexpectedly.

These findings suggest that future improvements should include support for multimodal communication (e.g., photo responses), better contextual continuity, and intuitive fallback prompts. Such enhancements would help the chatbot reduce friction, improve satisfaction, and provide a more natural interaction experience.

3. *Third Key Insight*: The chatbot recorded a 25% human intervention rate, meaning one in four cases required human staff involvement. While some customers requested to speak directly to a staff member, others faced breakdowns due to the chatbot's inability to manage complex or multi-threaded conversations. The most common issues occurred when users asked new or unrelated questions during a structured flow or when price negotiation was required tasks the chatbot could not process.

These results support Ivanov and Webster's (2020) view that service automation must be paired with strategically deployed human resources. Their framework argues that while AI systems effectively handle repetitive queries, humans remain essential for personalized or emotionally sensitive service—a reality reflected in Kawin Home's operational context.

Acharya and Mahapatra (2024) also stressed that AI tools often lack emotional intelligence. Their findings showed that even tech-comfortable users preferred to speak with staff when faced with uncertainty or service complications. This aligns with Kawin Home's data, where users reverted to staff assistance for inquiries about discounts, restaurant recommendations, or special requests.

Kumawat et al., (2025) emphasized that staff perception of AI is pivotal to successful deployment. Their research highlighted how frontline hospitality workers view AI as beneficial for reducing repetitive workloads while still valuing their role in high-touch interactions. Similarly, Kawin Home's chatbot helped reduce staff workload by filtering routine queries yet did not eliminate the need for human involvement in edge cases or context-heavy scenarios.

Although the 20% target was not achieved, the chatbot demonstrated effectiveness as a first-line support tool. It helped streamline the reservation process, filter basic inquiries, and enable staff to focus on more complex interactions. These results reinforce the broader industry consensus: AI should augment, not replace human-centered hospitality especially in environments where trust, empathy, and clarity are crucial.

The most impactful result of this study was the chatbot's booking conversion rate of 73.68%, which demonstrates its practical value in improving business outcomes. Even with limited AI capabilities, the system produced measurable gains for a small-scale homestay. These findings validate existing literature and offer new, context-specific insights into chatbot deployment in the Thai hospitality industry.

V: CONCLUSION

This study set out to design and evaluate an AI-chatbot, developed through the ManyChat platform

and integrated with Facebook Messenger, to improve customer service responsiveness and booking efficiency for a small homestay business. Guided by a conceptual framework focusing on guest engagement, service quality, and booking conversion, the research evaluated the system against three KPIs: booking conversion rate, customer satisfaction rate, and human intervention rate.

The findings demonstrate that the chatbot successfully fulfilled part of its intended objectives. The 73.68% conversion rate exceeded the 50% benchmark, supporting the premise that automated, real-time interaction can positively influence booking decisions. However, the 67.14% satisfaction rate fell short of the 90% target, indicating that limitations in handling follow-up questions and complex requests affected perceived quality. Similarly, the 25% human intervention rate, slightly above the intended ceiling, underscores the need for improved conversational flexibility and hybrid service models.

From an academic perspective, these findings align with the work of Kuo et al. (2017) who examined innovative service models in hospitality that integrate automation technologies to enhance operational efficiency while preserving the essential human element in guest interactions. Like their observation that service robots and AI systems can streamline repetitive tasks yet still require staff intervention for complex or emotionally nuanced situations, the present study's results suggest that while the chatbot effectively managed a substantial portion of customer inquiries and significantly boosted booking conversion rates, it could not fully eliminate the need for human oversight.

Practically, this study suggests that small homestays can leverage chatbots to extend service availability, streamline routine inquiries, and improve booking outcomes without heavy investment in human resources. For optimal impact, chatbot design should incorporate clearer user guidance, improved contextual awareness, and seamless escalation to staff when necessary. Future research could explore integrating advanced AI capabilities or multimodal interaction features to further enhance guest experience and reduce reliance on human intervention.

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REFERENCES

Acharya, P., & Mahapatra, S. S. (2024). Exploring the impact of artificial intelligence integration on guest experience in the hotel industry. *Geojournal of Tourism and Geosites, 54*(2spl), 802–810. doi:10.30892/gtg.542spl04-1255

Alneyadi, S., & Wardat, Y. (2023). ChatGPT: Revolutionizing student achievement in the electronic magnetism unit for eleventh-grade students in Emirates schools. *Contemporary Educational Technology, 15*(4), ep448. doi:10.30935/cedtech/13417

Amant, L., Rukonić, L., & Kieffer, S. (2024). Perceived Value of UX in Organizations: A Systematic Literature review. In *Lecture notes in computer science* (pp. 177–194). doi:10.1007/978-3-031-61356-2_12

Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2021). Customer experiences in the age of artificial intelligence. *Computers in Human Behavior, 114*, 106548. doi:10.1016/j.chb.2020.106548

Azam, N. M., Zafar, N. L., Rafiq, N. T., Zafar, S., Rafiq, U., & Adnan, M. (2024). Enhancing chatbot intelligence through narrative memory structures. *The Asian Bulletin of Big Data Management, 4*(2), 99–118.

Becker, L. C., & Jaakkola, E. (2020). Customer experience: Fundamental premises and implications for research. *Journal of the Academy of Marketing Science, 48*(4), 630–648.

Big Data Agency. (2017, December 1). 3 Questions marketers must answer before starting a chatbot project (in Thai) [Web log post]. Retrieved from https://bit.ly/4m7aQRN

Carl, K. (2024, June 18). Transforming the hospitality industry: AI's evolving impact on customer experience and hotel operations [Web log post]. Retrieved from https://hospitalitytech.com/transforming-hospitality-industry-ais-evolving-impact-customer-experience-and-hotel-operations

Castagna, F., Kökciyan, N., Sassoon, I., Parsons, S., & Sklar, E. (2024). Computational argumentation-based chatbots: A survey. *Journal of Artificial Intelligence Research*, *80*, 1271–1310. doi:10.1613/jair.1.15407

Chi, N. T. K., & Nam, V. H. (2022). The impact of AI chatbot on long-term relationships between customers and hotels. *VNU Journal of Economics and Business, 2*(6), 1–10.

Codina, L., Ufarte-Ruiz, M., & Borden, S. (2024). Introduction. Fanning the flames of artificial intelligence in the media: beyond efficiency and productivity gains. *Communication & Society, 37*(2), 221–225.

Dam, S. M., & Dam, T. C. (2021). Relationships between service quality, brand image, customer satisfaction, and customer loyalty. *The Journal of Asian Finance, Economics and Business, 8*(3), 585–593.

Darios, I. (2022, October 17). Managing hotel guest communications for the modern traveler [Web log post]. Retrieved from https://www.hospitalitynet.org/opinion/4112978.html

De Paolis, L. T., Gatto, C., Corchia, L., & De Luca, V. (2022). Usability, user experience and mental workload in a mobile augmented reality application for digital storytelling in cultural heritage. *Virtual Reality, 27*, 1117–1143. doi:10.1007/s10055-022-00712-9

De Ternay, G. (2023, February 3). 5 user experience frameworks that work GREAT (with examples) [Web log post]. Retrieved from https://guerric.co.uk/user-experience-framework/

Dick, J. (2021, January 19). Live chat exposes a fatal flaw in your go-to-market [Web log post]. Retrieved from https://tinyurl.com/yc64x7f9

Edward, K. (2023, April 3). What is a customer satisfaction? benefits, examples & importance. Retrieved from https://www.brainybe.es/experts-hive/what-is-a-customer-satisfaction-benefits-examples-importance/

Elphick, D. (n.d.). Everything you need to know about guest experience in the hotel industry [Web log post]. Retrieved from https://www.littlehotelier.com/blog/running-your-property/hotel-guest-experience/

Franky, F., & Yanuar Rahmat Syah, T. (2023). The effect of customer experience, customer satisfaction, and customer loyalty on brand power and willingness to pay a price premium. *Quantitative Economics and Management Studies, 4*(3), 437–452.

García-Madurga, M.-Á., & Grilló-Méndez, A.-J. (2023). Artificial intelligence in the tourism industry: An overview of reviews. *Administrative Sciences, 13*(8), 172. doi:10.3390/admsci13080172

Ghosh, D. (2021, June 8). A beginner's guide to user-centered design [Web log post]. Retrieved from https://www.wowmakers.com/blog/beginners-guide-to-user-centered-design/

Glion. (2023, May 22). What is the difference between tourism and hospitality? *GLION*. Retrieved from https://www.glion.edu/magazine/what-tourism-hospitality/

Glover, E. (2025, August 19). Artificial intelligence definition. Retrieved from https://builtin.com/artificial-intelligence

Gupta, A., Hathwar, D., & Vijayakumar, A. (2020). Introduction to AI Chatbots. *International Journal of Engineering Research & Technology, 9*(7), 255–258.

Halika, N., & Kharisma, K. (2024). Study of the effects of service quality variables on customer satisfaction and loyalty. *Journal of Social Science and Business Studies, 2*(2), 186–190.

Haugeland, I. K. F., Følstad, A., Taylor, C., & Bjørkli, C. A. (2022). Understanding the user experience of customer service chatbots: An experimental study of chatbot interaction design. *International Journal of Human-Computer Studies*, *161*, 102788. doi:10.1016/j.ijhcs.2022.102788

HelpDeskStar. (2025). The effect of response speed on customer satisfaction Retrieved from https://helpdeskstar.org/en/news/effect-response-speed-customer-satisfaction

Hingrajia, M. (2025). 14 most powerful platforms to build a chatbot [Web log post]. Retrieved from https://marutitech.com/14-powerful-chatbot-platforms/

Hollander, J. (2024, March 12). 80 different types of hotels explained. Retrieved from https://hoteltechreport.com/news/types-of-hotels

Hoory, L. (2025, August 25). What is a chatbot? Everything you need to know. *Forbes*. Retrieved from https://www.forbes.com/advisor/business/software/what-is-a-chatbot/

Ivanov, S. H., & Webster, C. (2020). *Robots in tourism: A research agenda for tourism economics*. *Tourism Economics, 26*(7), 1065–1085.

Jitareerat, R., & Satawedin, P. (2022). Analysis of the booking.com application design affecting the actual use of the users in Thailand. *Journal of Graduate School, Pitchayatat, Ubon Ratchathani Rajabhat University*, *17*(3), 167–174. Retrieved from https://so02.tci-thaijo.org/index.php/Pitchayatat/article/view/257904

Kanade, V. (2024, February 26). What is automation? Definition, types, benefits, and importance. Retrieved from https://www.spiceworks.com/tech/artificial-intelligence/articles/what-is-automation/

Kaushik, R. (2024, July 3). 7 benefits of using chatbots for customer support [Web log post]. Retrieved from Retrieved from https://www.nimblework.com/blog/chatbots-for-customer-support/

Keiningham, T. L., Ball, J., Benoit, S., Bruce, H., Buoye, A., Dzenkovska, J., ... Zaki, M. (2017). The interplay of customer experience and commitment. *Journal of Services Marketing, 31*(2), 148–160.

Khairunisa, T., & Suyatmini, S. (2024). Implementation of AI chatbot as an interactive learning medium on accounting lessons in SMK. *Ideguru: Jurnal Karya Ilmiah Guru, 9*(3), 1414–1420.

Kumawat, E., Datta, A., Prentice, C., & Leung, R. (2025). Artificial intelligence through the lens of hospitality employees: A systematic review. *International Journal of Hospitality Management, 124*, 103986. doi:10.1016/j.ijhm.2024.103986

Kuo, C.-M., Chen, L.-C., & Tseng, C.-Y. (2017). Investigating an innovative service with hospitality robots. *International Journal of Contemporary Hospitality Management, 29*(5), 1305–1321.

La Maison Boutique Hotel. (2023, May 19). What is the difference between a homestay and a guest house? [Web log post]. Retrieved from https://medium.com/@LaMaisonAccommodationKatoomba/what-is-the-difference-between-a-homestay-and-a-guest-house-f9ea5ea053f

Lighthouse. (2025, January 31). A crash course in leveraging AI tools for small hotels [Web log post]. Retrieved from https://www.mylighthouse.com/resources/blog/ai-tools-for-small-hotels/

Meerschman, H., & Verkeyn, J. (2018). *Towards a better understanding of service quality attributes of a chatbot* (Master's dissertation). Retrieved from https://lib.ugent.be/catalog/rug01:002784375

MindTitan. (n.d.). Types of chatbots: Rule-based chatbots vs AI chatbots. Retrieved from https://mindtitan.com/resources/guides/chatbot/types-of-chatbots/

Misischia, C. V., Poecze, F., & Strauss, C. (2022). Chatbots in customer service: Their relevance and impact on service quality. *Procedia Computer Science*, *201*, 421–428. doi:10.1016/j.procs.2022.03.055

Montalvo, F., Thai, P., Stephens, P., Hinkle, S., & Sasser, J. (2024). User-centered social interaction design in intelligent personal assistants and social robots. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, *68*(1), 1871–1876.

Mostafa, R. B., & Kasamani, T. (2022). Antecedents and consequences of chatbot initial trust. *European Journal of Marketing*, *56*(6), 1748–1771.

Nwokedi, N. C. C., & Nwafor, N. C. A. (2024). Enhancing customer service and user experience through the use of machine learning powered intelligent chatbots. *World Journal of Advanced Research and Reviews*, *23*(2), 181–191.

Okonkwo, C. (2024). Assessment of User Experience (UX) design trends in mobile applications. *Journal of Technology and Systems*, *6*(5), 29–41.

Oti, O., & Pitt, I. (2021). Online mental health interventions designed for students in higher education: A user-centered perspective. *Internet Interventions, 26*, 100468. doi:10.1016/j.invent.2021.100468

Ott, J. (2024, April 18). Awareness, consideration, conversion: A marketing funnel primer [Web log post]. Retrieved from https://www.bol-agency.com/blog/awareness-consideration-conversion-marketing-funnel

Bağıran Özşeker, D., Aktaş, E., & Kurgun, O. A. (2022). Applications and implications of service robots in hospitality sector: a case study. *Journal of Business Research-Turk, 14*(4), 3081–3104.

Pandiangan, S. M. T., Lumbanraja, P. C., Lumbanraja, P. L., Gultom, J. A., & LC, M. A. (2024). Effect of service quality on hotel guest loyalty with hotel guest satisfaction as an intervening variable in five-star hotel. *Journal of Social Responsibility, Tourism and Hospitality, 4*(3), 33–41.

Peña-Cáceres, O., Tavara-Ramos, A., Correa-Calle, T., & More-More, M. (2024). Integral chatbot solution for efficient incident management and emergency or disaster response: Optimizing communication and coordination. *TEM Journal, 13*(1), 50–61.

Rashid, A. B., & Kausik, M. A. K. (2024). AI revolutionizing industries worldwide: A comprehensive overview of its diverse applications. *Hybrid Advances, 7*, 100277. doi:10.1016/j.hybadv.2024.100277

Reddy, S. R. B. (2022). Enhancing customer experience through AI-powered marketing automation: strategies and best practices for industry 4.0. *Journal of Artificial Intelligence Research*, *2*(1), 36–46. Retrieved from https://thescience brigade.com/JAIR/article/view/177

Roy, R., & Naidoo, V. (2021). Enhancing chatbot effectiveness: The role of anthropomorphic conversational styles and time orientation. *Journal of Business Research, 126*, 23–34. doi:10.1016/j.jbusres.2020.12.051

Sábio, D. J. R. (2024, June 10). What are the frequently asked questions in hospitality? [Web log post]. Retrieved from https://www.linkedin.com/pulse/what-frequently-asked-questions-hospitality-delmar-josé-ribeiro-sábio-g22sf

Soliman, M. M., Ahmed, E., Darwish, A., & Hassanien, A. E. (2024). Artificial intelligence powered Metaverse: analysis, challenges and future perspectives. *Artificial Intelligence Review, 57*, doi:10.1007/s10462-023-10641-x

Svendsen, K. (2024, February 15). Addressing rising customer expectations in hospitality. *Forbes*. Retrieved from https://www.forbes.com/councils/forbesbusinesscouncil/2024/02/15/addressing-rising-customer-expectations-in-hospitality/

Syahrozad, N. F., & Subriadi, A. P. (2024). Evaluation of user experience: a systematic literature review. *E3S Web of Conferences*, *501*, 1–7. doi:10.1051/e3sconf/202450102009

Taufik, R., Syafei, R. S., Tobing, F. L., Aditia, S., Febriansyah, Y. I., Purnomo, A., & Sinaga, O. (2021). The effects of perceived quality and brand trust on purchase intention on the Body Shop products. *Review of International Geographical Education, 11*(3), 1416–1422.

The Access Group. (2025, March 26). Hospitality sector shows appetite for AI, research shows. Retrieved from https://www.hospitalitynet.org/news/4126405.html

Thorat, S. A., & Jadhav, V. D. (2020). *A review on implementation issues of rule-based chatbot systems*. Retrieved from https://dx.doi.org/10.2139/ssrn.356704

Tussyadiah, I. P., & Park, S. (2018). Consumer evaluation of hotel service robots. In B. Stangl, & J. Pesonen (Eds.), *Information and Communication Technologies in Tourism 2018* (pp. 308–320), Cham, Switzerland: Springer. doi:10.1007/978-3-319-72923-7_24

Vanichvasin, P. (2021). Chatbot development as a digital learning tool to increase students' research knowledge. *International Education Studies, 14*(2), 44–53.

Wang, X., Lin, X., & Shao, B. (2022). How does artificial intelligence create business agility? Evidence from chatbots. *International Journal of Information Management, 66*, 102535. doi:10.1016/j.ijinfomgt.2022.102535

Zhang, J. J. Y., Følstad, A., & Bjørkli, C. A. (2023). Organizational factors affecting successful implementation of chatbots for customer service. *Journal of Internet Commerce, 22*(1), 122–156.