

***AN EXPLORATORY STUDY OF CUSTOMER PERCEPTIONS OF USAGE
OF CHATBOTS IN THE INDIAN HOSPITALITY INDUSTRY***

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Abstract

The rapid advancement of artificial intelligence has accelerated the adoption of chatbot technology across service industries, including hospitality. In India, hotels, restaurants, and online travel platforms are increasingly deploying chatbots to manage customer interactions, enhance service efficiency, and reduce operational costs. This exploratory study examines customer perceptions of chatbot usage in the Indian hospitality industry, with a specific focus on awareness, perceived usefulness, ease of use, satisfaction, and the challenges users encounter. Primary data was collected from 150 respondents with prior chatbot experience in hotels, restaurants, or online travel platforms, using a structured questionnaire built around a five-point Likert scale. Descriptive statistical techniques, including frequency distribution, percentages, and mean scores, were applied to identify emerging perceptual patterns. The findings suggest that customers regard chatbots as convenient and time-saving for routine service interactions, such as bookings, inquiries, and order tracking, largely due to their round-the-clock availability. However, satisfaction diminishes when chatbots are expected to demonstrate personalization, emotional understanding, or complex problem resolution, and language limitations remain a recurring concern. The study concludes that chatbot adoption in Indian hospitality is contingent on seamless integration with human support and culturally adaptive, multilingual design. By situating these findings within the Technology Acceptance Model, the paper extends the limited Indian literature on hospitality automation and offers managerial guidance for effective chatbot deployment.

Keywords: Chatbots; Artificial Intelligence; Hospitality Industry; Customer Perception; Technology Acceptance Model; India; Service Automation

Introduction

The hospitality industry is inherently service-oriented, relying heavily on effective communication, personalised attention, and timely responses to customer needs. Over the

past decade, the integration of digital technologies has fundamentally transformed service delivery models across the globe, and India has been no exception. The rapid growth of online travel platforms, mobile applications, and digital payment systems has accelerated the adoption of artificial intelligence (AI)-driven tools within the sector. Among these innovations, chatbots have emerged as one of the most visible and widely adopted interfaces for customer interaction.

Chatbots are AI-powered conversational agents designed to simulate human-like interaction through text- or voice-based communication. Within the hospitality sector, they are typically deployed to handle reservations, respond to frequently asked questions, provide recommendations, and collect customer feedback. Their appeal lies in the promise of round-the-clock availability, instantaneous response times, and reduced dependence on human staff for repetitive service tasks. For a market as vast and demographically diverse as India, however, the effectiveness of chatbot technology depends heavily on customer acceptance, trust, and perceived service quality, factors that vary considerably across regions, age groups, and levels of digital literacy.

Despite the growing deployment of chatbots across Indian hotels, restaurants, and online travel platforms, empirical research examining customer perceptions of this technology remains limited. Much of the existing literature on service automation and conversational AI originates from Western or East Asian markets, where cultural expectations of service, language homogeneity, and technology infrastructure differ markedly from the Indian context. Understanding how Indian customers actually perceive and experience chatbot interactions is therefore essential for hospitality organisations seeking to balance technological efficiency with the personalised, high-touch service traditionally associated with the industry.

This study addresses this gap by exploring customer perceptions of chatbot usage in the Indian hospitality industry, with particular attention to awareness levels, perceived usefulness and ease of use, the factors shaping customer acceptance, and the concerns that persist despite growing familiarity with the technology. In doing so, the study contributes empirical, India-specific evidence to a research area that remains largely theoretical or descriptive, and offers practical guidance for hospitality managers navigating the transition toward AI-enabled customer service.

Review of Literature

The application of artificial intelligence in service industries has attracted considerable scholarly attention over the past decade, as organisations increasingly seek to balance operational efficiency with customer experience. Chatbots, as conversational AI tools, have been widely examined for their role in enhancing customer engagement, streamlining operations, and improving perceived service quality. In hospitality specifically, where service encounters strongly influence overall customer satisfaction, chatbots are increasingly regarded as strategic service enablers rather than mere cost-saving devices.

Technological innovation has reshaped service delivery in hospitality, with AI and automation altering the nature of customer experience itself. Grewal, Hulland, Kopalle, and Karahanna (2020) argued that AI-based service tools enhance operational efficiency and enable real-time customer engagement, positioning technology as a core driver of marketing strategy rather than a peripheral support function. Chatbots, as one manifestation of conversational AI, provide instantaneous responses and reduce dependency on human staff for routine, transactional tasks.

Ivanov and Webster (2019) observed that service automation in tourism and hospitality can improve productivity but may undermine customer satisfaction when implementation is poorly designed or misaligned with customer expectations. Building on this, several studies suggest that while customers value chatbots for their speed and constant availability, they remain sceptical of the technology's ability to interpret emotional cues and resolve complex, non-routine issues, a limitation with particular relevance for a high-contact industry such as hospitality.

A broader empirical picture emerges from the tourism-specific chatbot literature. Melián-González, Gutiérrez-Taño, and Bulchand-Gidumal (2021) modelled chatbot usage intention among vacation travellers and found that expected performance, habitual use, hedonic enjoyment, predisposition toward self-service technologies, social influence, and human-like chatbot behaviour were the strongest positive predictors, while communication difficulties exerted a negative effect. Extending this line of enquiry, a systematic review by Xu and Chen (2025) of customer-intention studies in tourism and hospitality concluded that conventional models such as TAM often struggle to fully capture customer intention toward increasingly sophisticated AI-driven chatbots, pointing to the need for richer, context-sensitive frameworks that combine functional, social, and psychological antecedents.

In hospitality-specific contexts, Tussyadiah and Miller (2019) found that travellers appreciate chatbots for the convenience and real-time assistance they provide, particularly

during booking and travel-planning stages. However, their study also identified persistent customer concerns regarding data privacy, information security, and the erosion of the human touch that many travellers associate with quality hospitality service. Relatedly, Prentice, Dominique-Ferreira, and Wang (2020) reported that emotional intelligence and personalisation remain central challenges for AI-driven service agents, suggesting that the gap between customer expectations and chatbot capability is as much emotional as it is functional.

Within the Indian context specifically, digital technology adoption is shaped by factors such as perceived ease of use, trust, language compatibility, and levels of digital literacy, which vary considerably across the country's diverse population. Broader research on self-service technologies in India indicates that customers display a positive attitude toward digital tools when these are perceived as user-friendly, reliable, and responsive to local needs. One notable exception to the general scarcity of Indian evidence is Rafiq, Dogra, Adil, and Wu (2022), who examined AI-chatbot adoption intention among Indian travellers using a Stimulus-Organism-Response framework and found that perceived usability, interactivity, perceived intelligence, and anthropomorphism significantly shaped travellers' cognitive and affective attitudes toward chatbots. However, their study relied on intercept sampling at a single airport and centred on travel-planning intention generally, rather than on service perceptions across hotels, restaurants, and online travel platforms specifically. Research examining chatbot usage across Indian hospitality services more broadly, therefore, remains sparse, and much of what exists beyond this study is conceptual rather than empirical. This scarcity of India-specific, primary-data-driven research on hospitality settings constitutes the central gap that the present exploratory study addresses, situating its findings within the well-established Technology Acceptance Model (TAM) to enable comparison with the broader international literature.

Objectives of the Study

The objectives of the present study are:

1. To assess customer awareness of chatbot services in the Indian hospitality industry.
2. To examine customer perceptions regarding the usefulness and ease of use of chatbots.
3. To identify factors influencing customer acceptance of chatbots in hospitality services.
4. To analyse customer satisfaction and concerns related to chatbot interactions.

5. To provide managerial implications for effective chatbot implementation.

Conceptual Framework and Hypotheses

Conceptual Framework

The conceptual framework of the study draws on the Technology Acceptance Model (TAM) together with prior studies on service automation in hospitality. The framework proposes that Perceived Usefulness and Perceived Ease of Use of chatbots influence Customer Attitude toward Chatbots, which in turn affects Customer Satisfaction and Intention to Use Chatbots in the hospitality industry. Additionally, Trust in Technology and Perceived Service Quality are considered important determinants within the Indian hospitality context, where service is traditionally delivered through high levels of personal, human contact.

In the proposed framework, perceived usefulness refers to the extent to which customers believe that chatbots enhance service efficiency and convenience. Perceived ease of use reflects the degree to which customers find chatbot interaction simple and user-friendly. Trust in technology represents customer confidence in the chatbot's reliability, accuracy, and data security. Customer attitude functions as a mediating variable that links these perceptions to satisfaction and continued usage intention, consistent with the broader TAM literature applied to service-sector technologies.

Hypotheses Development

Based on the conceptual framework and review of literature, the following hypotheses are proposed:

H1: Perceived usefulness of chatbots has a significant positive impact on customer attitude toward chatbot usage in the hospitality industry.

H2: Perceived ease of use of chatbots has a significant positive impact on customer attitude toward chatbot usage in the hospitality industry.

H3: Trust in chatbot technology has a significant positive impact on customer attitude toward chatbot usage in the hospitality industry.

H4: Customer satisfaction has a significant positive impact on customers' intention to use chatbots in the future.

This framework provides a structured basis for the descriptive analysis presented in this paper and for future empirical testing using quantitative, inferential techniques such as structural equation modelling.

Research Methodology

Research Design

An exploratory research design was adopted to gain preliminary insights into customer perceptions of chatbot usage in the Indian hospitality industry. This design is appropriate given the evolving nature of chatbot technology and the limited body of prior research available in the Indian context; exploratory designs are widely recommended in the literature as a first step toward building testable, theory-driven models in under-researched areas.

Sample Design

The study was based on primary data collected from 150 respondents who had prior experience using chatbots in hotels, restaurants, or online travel platforms. A non-probability convenience sampling technique was employed, as it enabled efficient access to respondents with the specific prior-experience criterion required for this study. Respondents were drawn primarily from urban and semi-urban areas across different age groups, providing an initial, indicative cross-section of chatbot users rather than a statistically representative national sample.

Data Collection Instrument

A structured questionnaire was designed based on insights from existing literature and the conceptual framework outlined above. The questionnaire consisted of three sections: demographic profile, awareness and usage of chatbots, and perception-related statements measured on a five-point Likert scale ranging from strongly disagree to strongly agree. Items were adapted from constructs established in prior TAM-based service technology research to support content validity, and the instrument was reviewed before administration to ensure clarity and relevance to the Indian hospitality context.

Data Analysis Techniques

Descriptive statistical tools, namely frequency distribution, percentages, and mean scores, were used to analyse the data. The analysis focused on identifying trends and patterns in customer perceptions rather than testing causal relationships, consistent with the exploratory objectives of the study. As such, the hypotheses proposed in Section 4.2 are offered as a structured lens for interpreting the descriptive findings and as a foundation for future confirmatory research, rather than as statistically tested claims within the present study.

Results and Discussion

The analysis revealed that a significant proportion of respondents were aware of chatbot services and had interacted with them at least once. The most common uses included booking confirmations, room availability inquiries, and order tracking. Customers perceived chatbots as highly convenient and accessible, particularly owing to their 24/7 availability, a finding consistent with the efficiency-driven benefits emphasised by Grewal et al. (2020) and Ivanov and Webster (2019).

Mean scores for perceived usefulness and perceived ease of use were relatively high, indicating general acceptance of chatbot technology among respondents and lending preliminary, descriptive support to the positive relationships proposed in H1 and H2. However, satisfaction levels declined when respondents evaluated personalisation, emotional understanding, and problem-resolution effectiveness. Language limitations and occasional misinterpretation of queries were highlighted as major concerns, echoing the emotional-intelligence gap identified by Prentice et al. (2020) and the privacy- and human-touch-related concerns raised by Tussyadiah and Miller (2019).

These patterns suggest that trust in chatbot technology (H3) is closely tied to the system's perceived reliability in handling non-routine queries; where trust was lower, respondents indicated a stronger preference for human intervention. Likewise, the observed relationship between satisfaction and continued usage intention (H4) appeared strongest among respondents whose interactions were limited to simple, transactional tasks, and weaker among those who had experienced unresolved or misunderstood queries.

Taken together, the findings align with prior international studies suggesting that customers prefer chatbots for routine interactions but rely on human staff for complex service needs. In the Indian hospitality context specifically, multilingual capability and cultural sensitivity emerged as critical factors influencing customer satisfaction, reinforcing the view that technology acceptance in India cannot be separated from the country's linguistic and cultural diversity. These findings extend the TAM literature by highlighting trust and cultural adaptability as context-specific antecedents of customer attitude that may warrant greater emphasis in emerging-market applications of the model.

Managerial Implications

The findings of this study offer several practical insights for hospitality managers and technology developers. First, hospitality organisations should prioritise deploying chatbots that support multiple Indian languages and allow seamless, low-friction transition to human

agents when a query exceeds the system's capability. Second, continuous training of chatbot systems using historical customer interaction data can improve accuracy and enable a greater degree of personalisation over time.

Third, organisations should invest in customer education, guiding users toward effective chatbot usage in ways that build trust and encourage adoption, particularly among segments with lower digital literacy. Fourth, rather than positioning chatbots as replacements for human staff, hospitality organisations should frame them as complementary tools that handle routine, high-volume tasks, thereby freeing human employees to focus on complex, high-touch service encounters where empathy and judgement remain essential.

Finally, given the sensitivity of customers to data privacy and security, hospitality organisations should ensure transparent communication about how chatbot interaction data is collected, stored, and used, as trust in these safeguards appears to underpin broader trust in the technology itself.

Conclusion

This exploratory study examined customer perceptions of chatbot usage in the Indian hospitality industry. The results indicate that while customers appreciate the efficiency and convenience offered by chatbots, particularly for routine, transactional interactions, their broader acceptance depends on factors such as reliability, personalisation, trust, and integration with human support. Situating these findings within the Technology Acceptance Model highlights those factors that most strongly shape customer attitude and satisfaction, while also pointing to trust and cultural adaptability as constructs that merit closer attention in the Indian hospitality setting.

The study contributes to the limited body of Indian research on hospitality automation by offering empirical, India-specific evidence at a stage when much of the existing literature remains conceptual. It also provides a structured conceptual and methodological foundation, including a set of testable hypotheses, for future empirical investigations that move beyond descriptive analysis toward confirmatory, inferential testing of the relationships proposed here.

Limitations and Scope for Future Research

As an exploratory study based on convenience sampling and a predominantly urban and semi-urban respondent base, the findings should be interpreted as indicative rather than generalisable, and the study's descriptive analytical approach does not permit causal inference

regarding the hypothesised relationships. These limitations point to three priorities for future research. First, subsequent studies should employ probability-based sampling across a wider geographic footprint, including Tier-II and Tier-III cities. Second, longitudinal and comparative research designs would help capture how perceptions evolve as chatbot technology matures, and how acceptance varies across hospitality segments such as luxury and budget hotels, resorts, and online travel platforms. Third, future work should incorporate psychological and cultural constructs, such as perceived risk, technology anxiety, and language diversity, alongside employee and management perspectives, to build a more complete picture of chatbot adoption in Indian hospitality.

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