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Modeling Consumer Trust and Satisfaction with ChatGPT for Travel: An Integrative Framework of AI Perception Dimensions

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ABSTRACT

Drawing on the theory of stimulus–organism–response, this study explores the theoretical understanding of satisfaction of the tourists who practice ChatGPT to get travel recommendations. This study investigates a distinct set of stimulus (perceived intelligence, perceived warmth, and perceived credibility) to create a state of being within the organism tourist's experience while trust in ChatGPT and how this increases the satisfaction as response. In this research. data gathered from 429 respondents, and all responses were deemed valid for analysis. The dataset was examined using SPSS Amos 24.0 and SPSS 23.0 through structural equation modeling.The predictors perceived intelligence, perceived warmth, and perceived credibility significantly influenced tourists' experience and trust in ChatGPT. Furthermore, trust and experience mediate the relationship between perceived intelligence, warmth, credibility, and visitor's satisfaction. These results offer three practical implications. First, travel service providers must prioritize building

customer trust in ChatGPT to enhance overall service experiences. Second, travel agencies can enhance their customer experience by highlighting ChatGPT's perceived intelligence, perceived warmth, and perceived credibility. Finally, service providers should invest in design features that convey perceived intelligence, perceived warmth, and perceived credibility. The application of ChatGPT in the tourism research has largely centered on technology adoption, with comparatively little emphasis on user satisfaction. This research fills the theoretical gap as how tourists' experiences and trust influence their satisfaction with ChatGPT. The findings corroborate the theory of stimulus–organism–response.

Keywords: Hospitality, tourism, ChatGPT, perceived intelligence, perceived warmth, perceived credibility, trust, experience, satisfaction

INTRODUCTION

ChatGPT, a chatbot basing upon GPT-3.5, have emerged an outcome of the ongoing advancement of natural language processing (NLP) tools (Hadi et al., 2024). Modern NLP models, i.e., ChatGPT, can comprehend and produce language resembling that of a human by performing a variety of tasks, including but not limited to automatic summarization, answering queries, translating into a desired language, and machine translation (Bansal et al., 2024; Nazir and Wang, 2023). ChatGPT originated from the study of NLP, an area of AI that aims to make machines capable of comprehending and producing human language (Javaid et al., 2023; Ma et al., 2025). The main objective behind the creation of ChatGPT was to develop an advanced NLP model capable of producing text, translating different languages, and analyzing data (Song and He, 2023; Shin and Kang, 2023). In the meantime, ChatGPT has transformed the approach in artificial intelligence to human-machine interaction (Charlesworth, 2024).

An expanding body of research indicates that, among various industries, the tourism and hospitality sector has been significantly affected by AI technologies, particularly ChatGPT (Dwivedi et al., 2024). ChatGPT is based on a machine learning advanced interface that can provide multiple responses and rapidly adapt to diverse contexts (Bansal et al., 2024). Previously, conventional chatbots held a critical position in the travel industry, but ChatGPT has made a major advancement in the field (Gursoy and Song, 2023). Moreover, traditional chatbots lack flexibility, whereas preset rules specific to a particular domain are required to perform a function (Gunnam, 2024). Furthermore, ChatGPT provides a cutting-edge technology that is flexible on a multitude of subjects (Javaid et al., 2023). Researchers have found that this AI technology develops consumer engagement by simulating human-like interfaces (Hollebeek et al., 2024). In the meantime, ChatGPT's ability to learn and adapt continuously guarantees that its answers remain current, which eliminates the need for regular human updates that are typical of traditional chatbots (Bansal et al., 2024).

Multiple travel platforms, including Kayak, Expedia, and TripAdvisor, have incorporated ChatGPT through in-app plugins to enhance the quality of their customer service (Goktas and Dirsehan, 2023**).** Online search for travel plans can be time-consuming while ChatGPT can recommend the best travel plans, itineraries, sightseeing programs, quotations, and can be a value-adding tool to enhance experience during or after the trip (Ali et al., 2023). Tourists have to browse many web pages and install several apps to find the travel plans that suit them. Meanwhile, AI Chatbots are based on sophisticated logical reasoning skills and respond like human (Pham et al., 2024). AI chatbots such as chatGPT can swiftly recommend accurate travel plans to tourists (Ali et al., 2023).

Increasingly, travelers are using ChatGPT extensively for planning their trips, reflecting a shift in how people interact with technology in this sector (Wong et al., 2023). One account of the unique features of the service-dominant economy, the hospitality and tourism sector has always embraced emerging technology developments with prudence (Park et al., 2023). However, to enhance customer care interactions and delivery, businesses in the travel and hospitality sector have started experimenting with chatbots for complete care (Khan et al., 2025). Within this perspective, ChatGPT offers specialized applications in the travel and hotel industry that optimize customer interactions (Dwivedi, et al., 2024). The exclusive quality of ChatGPT is its ability to deliver prompt, accurate answers and proficiently handle common queries (Lee et al., 2024). Its application in hospitality and tourism service offerings would help rapidly deliver visitor questions, improving the overall satisfaction of visitors (Kar et al., 2023). Moreover, ChatGPT is able to provide assistance consumers make knowledgeable decisions pertaining to a particular sight to consider (Wong et al., 2023).

Given that interactions in the tourism industry are inherently social and experiential, these traits play a critical role. Adopting an anthropomorphic (intelligence, credibility, and warmth) perspective allows for a deeper understanding of how travelers engage with ChatGPT in ways that align with the emotional and social dimensions of the journey (Li and Lee, 2025). Moreover, exploring anthropomorphism provides insight into how trust and positive user experiences are developed, ultimately shaping consumers' satisfaction with ChatGPT in the setting of travel services (Xu et al., 2024). Trust with positive user experiences with AI systems are among the key factors that have been associated with anthropomorphism (Chen and Park, 2021).

By exploring a connection between anthropomorphic characteristics and visitor satisfaction, we can gain deeper insight into how trust and positive experiences of ChatGPT are formed and sustained within AI-powered travel services (Rather, 2025). Unlike other technology adoption theories, the SOR model offers a comprehensive framework for understanding the factors that drive user satisfaction with innovative technologies (Merabian-Russell 1974; Vafaei-Zadeh et al., 2025). Researchers often prefer this model for studying technology adoption due to its built-in cause-and-effect framework (Al-Nuaimi et al., 2023). Scholars have

explained that external stimuli function as a catalyst for a person's internal emotional situations and accommodate the more sprawling idea of both internal and external environments (Liu et al., 2024). In the meantime, in a particular setting, an organism labels an individual's inner consciousness instantaneously preceding their actual response, succeeding to their perception of both internal and external stimuli (Duong et al., 2025; Merabian-Russell 1974). Finally, the response component of the SOR model represents an individual's automatic reaction to the external stimuli in their surroundings.

This study utilizes a stimulus-organism-response (S-O-R) framework to examine the impacts of perceived intelligence, perceived credibility, and perceived warmth as external factors influencing user satisfaction (response). On the other hand, trust and user experience (internal organism) are proposed as mediating factors. Thus, this paper aims to influence tourists' satisfaction with ChatGPT by combining anthropomorphism elements with the SOR framework (Xu et al., 2024). In real-world terms, the outcomes of this research may assist marketers and industry professionals in harnessing ChatGPT's potential in the hospitality and tourism fields to enhance visitors' trust, experiences, and finally satisfaction with the platform.

Theory, Literature, and hypotheses development

Rooted in stimulus–response theory, the SOR model was formulated by Mehrabian and Russell (1974) in the context of environmental psychology. The SOR model suggests that certain environmental stimuli shape individuals' emotional and cognitive states, which in turn lead to behavioral responses (Maleknia and Enescu, 2025). It is also referred to as the "classical conditioning" model, which is extensively used in psychology and marketing research (Gabelaia and Tracy, 2025). As per the theory of SOR, individual behavior, actions, feelings, and thoughts are influenced by external environmental stimuli (Wang et al., 2024). The way external and internal stimuli affect a person's feelings and cognitive emotions, which in turn outline their responses, is the crucial mechanism of the relations between constructs of the theory of SOR (Zhang et al., 2021).

The SOR model consists of three elements, with the organism functioning as the mediating factor between stimulus and response (Qiu et al., 2023). Meanwhile, the link between stimulus and response follows a linear pattern. The first element of the SOR model is the organism, which reflects internal emotional and cognitive processes (Hao et al., 2024) while the stimulus constitutes the second component of the SOR model, which illustrates that an environmental element can influence an organism (Erensoy 2024). Finally, the third component is the response, which is an outcome of behavioral and psychological reactions (Dimberg, 1987). The SOR framework has seen extensive use in both marketing and tourism studies. Previous studies have examined virtual reality tourism, focusing on aspects of cognition and emotion (Song and Lu, 2024). Additionally, the SOR model is employed in the context of honeymoon tourism (Aguilar-Rivero, 2025). Scholars in the field of marketing have widely applied the SOR paradigm to explain tourists' attitudes and behaviors towards human-AI interactions (Hameed et al., 2025). Similarly, human-

machine interfaces in hospitality and tourism research are analyzed by researchers utilizing the SOR model (Xiong et al., 2023).

In this study, the theory of SOR was set up using perceived intelligence, perceived credibility, and perceived warmth as stimuli. Moreover, the organism is an inner state of the user's emotions that is in between the stimuli and response (Vieira, 2013). The study shows organisms are visitor's trust, and experience that connect stimuli (perceived intelligence, perceived credibility, and perceived warmth) to the response (satisfaction). The constructs of perceived intelligence, perceived credibility, and perceived warmth stimulate users' organism trust, experience, and satisfaction when using ChatGPT for travel services. According to Chen et al. (2022), the organism serves as an emotional and cognitive intermediary between stimulus and response.

Perceived Intelligence

The comprehensive definition of intelligence is the cognitive processes of linguistics, responsiveness, memory, and planning (Shabur, 2024). Intelligence is the capacity to acquire knowledge from surroundings, personal interactions, and acclimate to the environment (Charlesworth, 2024). It is a typical cognitive ability for understanding tasks with logical reasoning and problem-solving (Zhai et al., 2025). Perceived intelligence can be inferred from the speech, outlook, and voice of a person or an object such as ChatGPT (Jo, 2025; Wang et al., 2025). In marketing research, a significant correlation has been identified between consumer trust and ChatGPT's manner of responding to user queries (Choudhury and Shamszare, 2023). In the post-pandemic period, the perceived intelligence of AI-driven chatbots plays a key role in shaping customer experience, trust, and satisfaction (Agarwal et al., 2024). Consumer research indicates that the perceived intelligence of chatbots plays a major role in shaping users' trust in them (Cheng et al., 2022).

Consumers tend to trust chatbots more when they perceive them as intelligent, especially when the chatbot can provide personalized recommendations (Cheng & Jiang, 2022). To enhance consumer trust, chatbots need to showcase their intelligence through the quality of their replies and the relevance of their suggestions (Wang et al., 2023). Scholars have described that perceived intelligence of a Chatbot is considered to be effectiveness, efficiency, and capability to provide the desired output (Chen et al., 2021). Similarly, it has the ability to provide solutions to queries in a limited interface (Hari and Sharma, 2024). The intelligence of ChatGPT is proof that while it can provide personalized information that builds positive experience and trust in customers (Hassan and Magdy, 2025). In the tourism industry, ChatGPT serves as a personal agent to facilitate customers in preparing travel itineraries, booking hotels, flights, and restaurants (Remountakis et al., 2023). When customers perceive a chatbot as intelligent, their trust increases because it can offer effective solutions for travel planning, including personalized itineraries (Shi et al., 2021). Therefore, in this study, it is hypothesized that tourist trust and experience using ChatGPT are stimulated by perceived intelligence.

H1: Consumers' experience with ChatGPT for travel services is positively and

significantly influenced by its perceived intelligence.

H2: Consumers' trust in ChatGPT for travel services is strongly and positively impacted by its perceived intelligence.

Perceived Credibility

Credibility can be defined as a source of information that possesses the quality of believability (Almeida et al., 2023). The degree of believability is another definition of credibility (Mulcahy et al., 2024). Reputable information is information that can be believed (Yones and Muthaiyah, 2023). Similarly, the source of credibility is considered trustworthy (Pooja and Upadhyaya, 2024). The concept of perceived credibility refers to a consumer's trust that the AI chatbot has the capacity to positively impact them by recommending items they have searched for, comparable to interactions between humans (Khan and Mishra, 2024). Furthermore, in the context of artificial intelligence, consumers' perceived credibility reflects the extent to which they consider an AI chatbot to be trustworthy, intelligent, knowledgeable, effective, and capable (Chakraborty and Biswal 2024). Researchers have shown that how credible users perceive ChatGPT to be strongly influences their trust in the chatbot and their willingness to follow its recommendations (Huschens et al., 2023).

AI chatbots tend to be viewed as highly credible when they demonstrate strong honesty in predicting users' needs and consistently perform well in providing assistance to consumers (Mishra et al., 2025). In light of this, developing customized travel plans that are credible and realistic is becoming a significant challenge for travel agencies seeking to utilize ChatGPT (Zhang et al., 2024). Although many individuals and organizations have begun using ChatGPT, it is still in its prime stage for consumers and providers (George and George, 2023). Both researchers and industry professionals highlight that ChatGPT's credibility is largely determined by the quality and effectiveness of the recommendations it provides (AlZaabi et al., 2023).

Consumers may trust that their questions will be recognized and that they will be recommended valuable information, and experience a pleasant engagement with the chatbot (Tsai, 2021). When engaging with AI chatbots, consumers expect their questions to be recognized and answered with accurate, meaningful information that enhances their overall experience (Le, 2023). AI chatbots are seen as credible when they demonstrate strong problem-solving expertise and an ability to deliver personalized solutions (Xu, 2020). Scholars have emphasized the significance of perceived credibility in fostering positive experience, attitudes, and trust in chatbots (Maar et al., 2023). Therefore, in this study, it is hypothesized that tourist trust and experience using ChatGPT are stimulated by perceived credibility.

H3: Consumers' experience with ChatGPT for travel services is positively and significantly shaped by its perceived credibility.

H4: ChatGPT's perceived credibility exerts a strong and positive influence on consumers' trust in its travel-related services.

Perceived Warmth

Perceived warmth is when an individual sends positive vibes to others, and others believe that the person has positive intentions towards them (Chua et al., 2024). The judgment of warmth can be resultant from the unselfish motives of others, showing that they are acting upon our best interests rather than their own (Stephenson, 2025). When others show a high level of warmth, such as kindness, care, and support establish trust and a positive experience (Kim and Park, 2025; Pham et al., 2024). In human-AI interaction, perceived warmth is important for a positive experience and trust in the Chatbot (Kim and Hur, 2024). During travel-related interactions, perceived warmth can strengthen users' sense of social connection with ChatGPT, which plays an important role in developing trust in the chatbot (Hameed et al., 2025). Perceived warmth reflects the chatbot's ability to care about and understand consumers' interests, emotions, and feelings, as well as to recognize their needs (Deng and Yan 2025).

Warmth is linked to understanding the emotions of consumers, instead of being associated with their cognitive efforts, which boosts trust and positive experience with consumers when seeking advice related to tourist planning (Deng and Yan 2025; Li et al., 2024). When seeking advice from an object like ChatGPT, a warm response from ChatGPT brings out a positive experience and trust. A server should have the capability to portray warmth when a highly important task need to be completed (Hernandez and Chekili 2024). Responding with warmth to consumers' emotions is essential, especially when completing a task (Bentsen et al., 2025). When a server satisfies the needs of consumer queries by completing the task warmly, it increases the positive experience and trust level of consumers (Liu et al., 2025). Despite the existence of several advanced AI systems capable of transforming consumer trust and enhancing their experiences, ChatGPT remains the standout option today (Hassan and Magdy, 2025). Therefore, in this study, it is hypothesized that tourist trust and experience using ChatGPT are stimulated by perceived warmth.

H5: Consumers' experience with ChatGPT for travel services is positively and significantly influenced by its perceived warmth.

H6: ChatGPT's perceived warmth has a strong and positive impact on consumers' trust in its travel services.

User's Satisfaction with ChatGPT

Customer satisfaction reflects the gap between what customers expect and the service or product's actual performance (Hidayat and Idrus 2023). Additionally, customer satisfaction results from a customer's experience with a product or brand (Yunpeng and Khan, 2023). Customers spend financial resources to gain positive experiences of a brand (Uzir et al., 2021). They spend money to get the pleasure and benefits of using that system or a brand while after having a positive experience of using that product, customer satisfaction arises (Hidayat and Idrus, 2023). Better performance of a system i.e., ChatGPT psychologically affects customer experience and reliability (Kim et al., 2023). Likewise, when customers perceive an AI system as credible, warm, and intelligent, it contributes to their overall satisfaction (Al-Oraini

2025). Warmth represents a strong emotional connection of the customers with a brand, which affects the degree of satisfaction with a brand (Pham et al., 2024). A user's perception of warmth for using a product or brand may increase positive experience, building trust, and finally achieved satisfaction (Pham et al., 2024).

Because ChatGPT is trained on extensive datasets covering numerous scenarios, it can provide consumers with high-quality information quickly (George and George 2023). When using ChatGPT, users enter particular requests that reflect their preferences since ChatGPT can quickly produce tailored information counting on the consumer's prompts (Bansal 2024). The studies have shown that providing comprehensive information can give users the impression that recommendation agents are looking out for their best interests, ultimately increasing their trustworthiness in the eyes of the user (Ge et al., 2024). Users' satisfaction may increase when they have a positive experience with a system (Pham et al., 2024). Users' trust and pleasant experience for using innovative artificial intelligence Chatbots that suit the customer needs results in their satisfaction (Rane et al., 2024). Based on the discussion above, the following hypothesis is proposed:

H7: A user's experience with ChatGPT has a strong and positive effect on their satisfaction.

H8: A user's trust in ChatGPT significantly and positively influences their satisfaction.

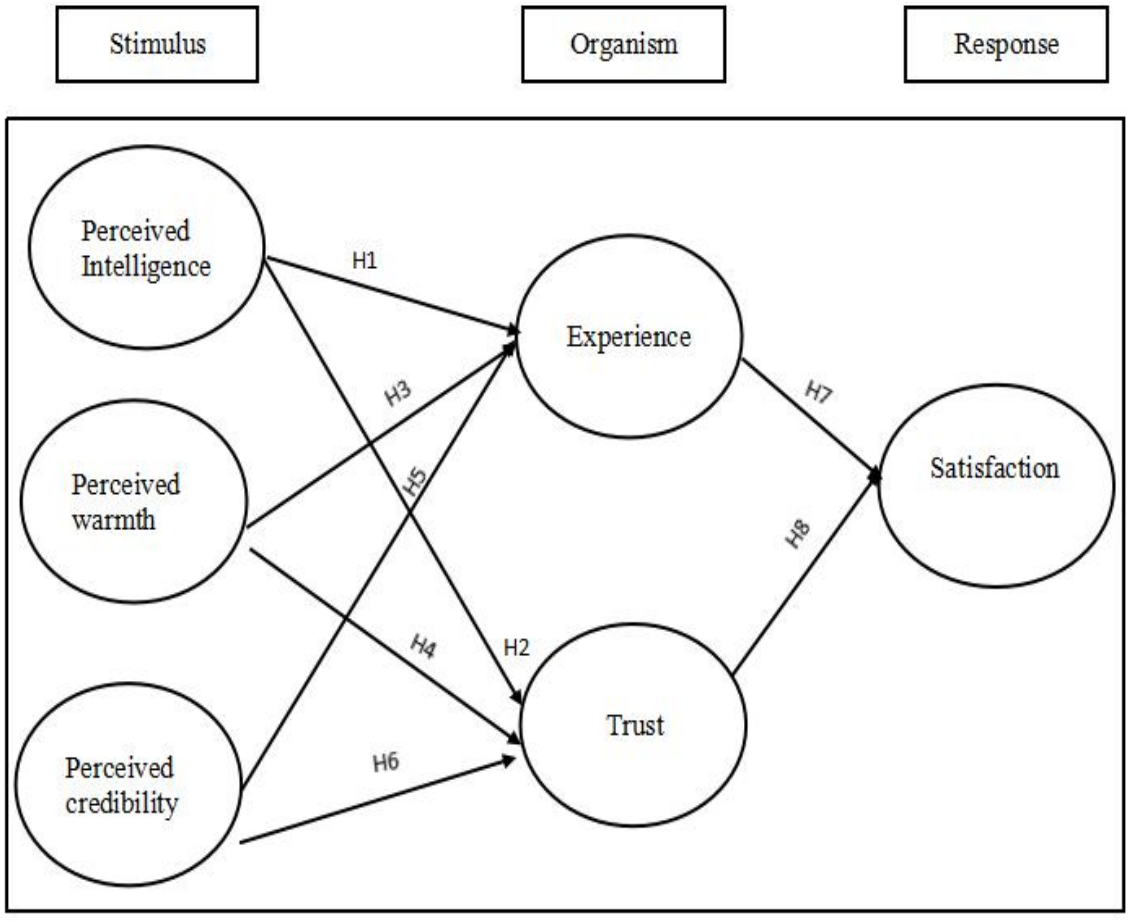

Figure 1. Conceptual framework of the proposed research.

RESEARCH METHODOLOGY

Measurements

This study incorporated six constructs in the proposed research model. The questionnaire was developed using multi-item Likert scales adapted from prior studies. The constructs included perceived intelligence (Pillai & Sivathanu, 2020), perceived warmth (Pham et al., 2024), perceived credibility (Tiwari et al., 2024), satisfaction (Pham et al., 2024), experience (Uzir et al., 2021), and trust (Ali et al., 2023). All items were assessed using a 7-point Likert scale.

Sampling Method and Data Collection Process

For this study, an online survey was created using Google Forms and shared across social media platforms, including Facebook and several WhatsApp groups in Pakistan. For more responses we also distributed printed form of the questionnaire and distributed in the public places including libraries. For better model fit any response which does not satisfied the model and failed the attention-check questions were removed to minimize random response bias. The final sample after deleting incomplete forms consisted on 429 usable questionnaires.

Data Analysis

Participants' Demographic Information

Table 1 presents the demographic details of the survey participants. The majority of respondents were aged between 21 and 30 years (44.29%). Among respondents, 47.56% were female and 52.44% were male. Respondents with bachelor's degrees were representing 41.72% of the total participants. In the occupation section, professional represent 24.48% of participants.

Table 1 Demographical Characteristics of Participants (n = 429)

Demographic information	Response Count	Response Percentage
Respondent Gender		
Male Participants	225	52.44%
Female Participants	204	47.56%
Age (years)		
Less than 20	38	08.85%
21-30	190	44.29%
31-40	160	37.30%
Above 40	41	09.56%
Education		
< High school	65	15.15%
Associate degree/Certificate	78	18.18%
Bachelor	179	41.72%
Master	107	24.94%
Occupation		
Professional	105	24.48%
Managerial	68	15.85%

Other	63	14.69%
Corporate	79	18.41%
Educational	97	22.61%
Households	17	03.96%

Measurement Model

This study employed confirmatory factor analysis (CFA) and structural equation modeling (SEM) following Anderson and Gerbing's (1988) two-step approach, using IBM AMOS 24. The measurement model demonstrated satisfactory goodness-of-fit statistics, with all indices meeting their recommended thresholds: χ 2 (260) = 619.44, χ 2 /df = 2.38, TLI = 0.95, CFI = 0.98, PNFI = 0.74, PCFI = 0.76, PGFI = 0.66, IFI = 0.98, NFI = 0.94, RFI = 0.92, AGFI = 0.92, GFI = 0.94, and RMSEA = 0.06 (Hu & Bentler, 1999). Composite reliability values ranged from 0.85 to 0.95 (Table 2), exceeding the recommended minimum of 0.70 (Hair, Ringle, & Sarstedt, 2011). Cronbach's alpha values were also strong, ranging from 0.90 to 0.97, confirming internal consistency. Convergent validity was supported, as factor loadings ranged between 0.73 and 0.97, surpassing the 0.70 threshold, and AVE values exceeded the acceptable cut-off of 0.50. Discriminant validity was confirmed using the Fornell-Larcker criterion, with the square root of each AVE being greater than the corresponding inter-construct correlations (Fornell & Larcker, 1981) (Table 3). HTMT values (not reported) were below the recommended limit of 0.90 (Hair et al., 2011; Henseler et al., 2015), further supporting discriminant validity. Overall, the results indicate that the measurement model demonstrates a strong and acceptable fit.

Table 2 Item Loadings, Reliability Coefficients, AVE, and CR

Construct	Items	Items loading	Cronbach's α	CR	AVE
Perceived intelligence (Pillai and Sivathanu, 2020).	PI1	0.88	0.90	0.87	0.63
	PI2	0.83			
	PI3	0.90			
Perceived warmth (Pham et al., 2024).	PW1	0.87	0.90	0.88	0.62
	PW2	0.84			
	PW3	0.91			
Perceived credibility (Tiwari et al., 2024).	PC1	0.97	0.92	0.89	0.58
	PC2	0.95			
	PC3	0.95			
Experience (Uzir et al., 2021).	EXP1	0.73	0.94	0.94	0.87
	EXP2	0.77			
	EXP3	0.90			
Trust (Ali et al., 2023).	TR1	0.83	0.97	0.95	0.76
	TR2	0.84			
	TR3	0.86			
Satisfaction (Pham et al.,	SAT1	0.76	0.90	0.83	0.52

2024).	SAT2	0.83			
	SAT3	0.87			

Table 3 Assessment of Discriminant Validity Based on the Fornell-Larcker Criterion

Variables	Perceived intelligence	Perceived warmth	Perceived credibility	Experience	Trust	Satisfaction
Perceived intelligence	**0.79**					
Perceived warmth	0.375***	**0.78**				
Perceived credibility	0.636***	0.125*	**0.76**			
Experience	0.269***	0.682***	0.422***	**0.71**		
Trust	0.216***	0.473***	0.229***	0.410***	**0.93**	
Satisfaction	0.256***	0.174***	0.324***	0.231***	0.411***	**0.87**

Evaluation of the Structural model

Structural equation modeling (SEM) was performed using IBM SPSS AMOS 24 to test the research hypotheses. The structural model demonstrated a good fit, with all indices meeting recommended thresholds χ^2 (260) = 619.44, χ^2 /df = 2.38, TLI = 0.95, CFI = 0.96, RMSEA = 0.069, and other fit indices within acceptable ranges), indicating that the model adequately represents the data (Hu & Bentler, 1999).

Hypothesis testing

Hypothesis testing results, shown in Figure 2 and Table 4, indicate that perceived intelligence, warmth, and credibility significantly enhance both experience and trust. In turn, experience and trust positively influence customer satisfaction, with trust showing a stronger effect. All proposed hypotheses were statistically supported.

Table 4 SEM results for the structural model.

Independent variables	Dependent variables	Regression Weights	t-value	p-value
Perceived intelligence	Experience	0.202	6.141	***
Perceived intelligence	Trust	0.271	6.128	***
Perceived warmth	Experience	0.330	2.351	***
Perceived warmth	Trust	0.390	3.786	***
Perceived credibility	Experience	0.170	3.168	***

Perceived credibility	Trust	0.320	3.179	***
Experience	Satisfaction	0.108	3.208	***
Trust	Satisfaction	0.446	7.433	***

Notes: *p <0.05, ***p <0.001.

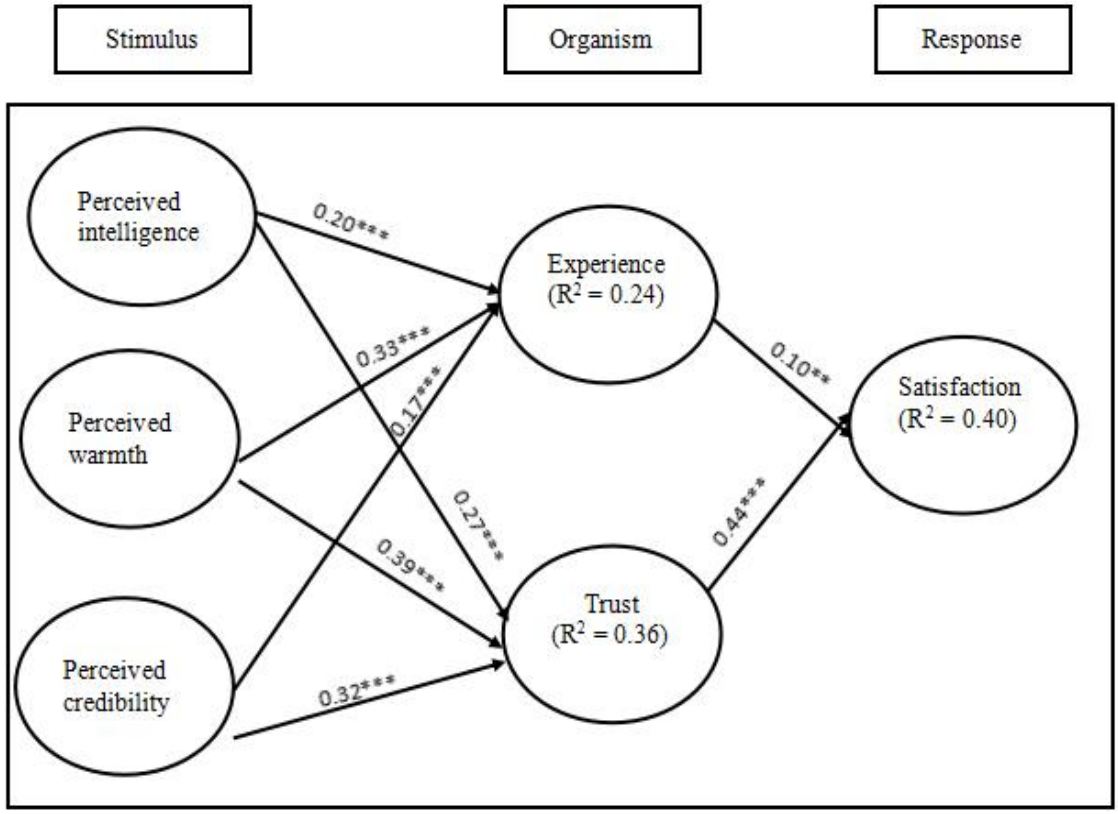

Figure 2. SEM Model with Standardized Path Coefficients and R^2 Estimates

DISCUSSION AND CONCLUSION

Emerging technologies are transforming the tourism industry, particularly through the development of AI-driven human–machine interactions (Samala et al., 2022). This has changed consumers' preferences, lifestyles, and daily consumption habits (Sharma and Sharma, 2024). Generative artificial intelligence plays a crucial role among emerging technologies, exerting a significant impact on the hospitality and tourism sector (Dogru et al., 2025). Researchers have discovered that ChatGPT stands out in transforming consumers' way of interaction with the new technologies (Bansal et al., 2024). In just two months, it set a new record by attracting one hundred million users worldwide. Recently, travel giant Expedia announced the integration of ChatGPT to provide recommendations for travel plans, time of stay, cost, and hotel activities (Ali et al., 2023). The AI Chatbot can substantially reduce the search time.

The hospitality sector is rapidly integrating AI-powered chatbots to enhance

both the quality and efficiency of customer service (Ali et al., 2023). In addition, AI-driven travel recommendation systems are rapidly transforming the hospitality industry (Ashfaq et al., 2020). AI-based chatbots are software programs that leverage artificial intelligence algorithms to simulate human communication and deliver travel recommendations tailored to users' preferences (Babu Reddy et al., 2024). Several studies have described the Chatbots can provide 24/7 support (Hildebrand and Bergner, 2021), low cost customer service (Wong et al., 2023), personalized travel recommendation (Pillai and Sivathanu, 2020), and quick response to consumer inquiries (Wong et al., 2023). Moreover, based on consumer preferences, AI-based Chatbots can suggest low cost travel, lodging, itineraries, cuisines, hotels, air tickets, and personalized tour programs (Soni, 2025). Therefore, AI-based Chatbots can satisfy their customer and build customer loyalty (Shit et al., 2020). Chatbots can respond efficiently, and effectively to customer's queries (Carvalho and Ivanov (2023).

Scholars have found that many organizations have developed AI-based travel recommendation systems for travelers (Song and He, 2023). Their findings suggest that AI models significantly impact employee skillsets by enhancing their ability to offer travel recommendations, interpret languages, and boost overall productivity. Additionally, ChatGPT contributes to greater efficiency and effectiveness in customer interactions, ultimately resulting in improved guest experiences and fostering trust. Han et al. (2025) explored the key factors influencing consumer behavior toward using ChatGPT for travel-related services. They identified motivation, perceived risk, and innovation as the primary elements shaping tourists' decisions to adopt the tool. These factors were found to significantly affect travelers' willingness to use an AI chatbot for travel advice, especially when opting to bypass human assistance.

Goktas and Dirsehan (2023) investigated how platforms like Expedia and Kayak have integrated ChatGPT to enhance customer engagement and improve service delivery within the travel industry. To improve customer experience, they found that incorporating ChatGPT plugins into their app systems as trip planners significantly increased customer engagement. These in-app AI plugins have delivered advanced customer service in multiple languages, enhanced operational efficiency, and fostered trust and positive user experiences — all contributing to increased customer loyalty. From a strategic customer service perspective, Kayak and Expedia implemented chatbots both before and after the introduction of ChatGPT, ultimately recognizing its potential to position customer service as a competitive strategic advantage. AI tools have been used by travel agencies like TripAdvisor to generate marketing content designed to align with the quality and tone of human-created material. AI plugins help enhance the presentation of travel packages, but they still fall short in consistently securing sales of those offerings.

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