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Applying AI in Personalizing Customers Experience and Forming Brand Love

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Abstract **Original Research Article**

In the era of digital transformation, Artificial Intelligence (AI) has emerged as a powerful tool for enhancing marketing effectiveness and creating emotionally resonant customer relationships. This study investigates the role of AI in personalizing customer experiences and its subsequent impact on forming brand love. Drawing on the theoretical foundations of the SERVQUAL model (A. P. Parasuraman et al., 1988) and Brand Love Theory (Carroll & Ahuvia, 2006), the research explores how AI-driven personalization—through predictive analytics, recommendation systems, and conversational agents—can optimize service quality dimensions such as reliability, responsiveness, and empathy. A mixed-method approach was employed, combining quantitative surveys of 200 consumers with qualitative interviews to examine the mediating role of customer satisfaction between AI-based personalization and brand love. The results reveal that AI-powered personalization significantly enhances perceived service quality and emotional attachment, thereby fostering brand loyalty and advocacy. Moreover, the findings emphasize that emotional engagement, not mere convenience, is the key mechanism through which AI transforms transactional interactions into meaningful brand relationships. This research contributes to the growing body of literature on AI in marketing by providing empirical evidence of how technological intelligence can nurture affective brand bonds. Managerial implications and future research directions are also discussed.

Keywords: Artificial Intelligence, Personalization, Customer Experience, Brand Love, Service Quality.

1. Introduction

Over the last ten years, Artificial Intelligence (AI) has significantly reshaped the field of marketing and customer relationship management. Technologies driven by AI such as chatbots, recommendation algorithms, and predictive analytics allow companies to provide customers with services that are more personalized, relevant, and delivered in real time. By leveraging automation and data-based insights, AI empowers brands to anticipate customer preferences, tailor communication, and create highly individualized experiences at a scale that was previously unattainable (Liu-Thompkins et al., 2022). However, as AI increasingly replaces or augments human contact, a critical question arises: Can AI deliver not only efficient but also emotionally fulfilling experiences that foster deep emotional attachment to brands - what scholars call “Brand Love”?

Customer Experience (CE) has been recognized as a multidimensional construct encompassing both functional (e.g., reliability, responsiveness,

competence) and emotional (e.g., empathy, warmth, and human connection) dimensions. Traditional marketing research has predominantly concentrated on functional features, however recent studies emphasize that emotional experiences significantly influence, if not surpass, customers' views (W. Kim & Hur, 2023). In particular, the emotional quality of interactions—how customers feel when engaging with a brand determines satisfaction, loyalty, and long-term relationship outcomes.

In AI-mediated interactions, however, achieving this emotional quality is particularly challenging. While AI systems can process extensive behavioral data, their interactions frequently lack a "human touch." Numerous consumers characterize them as efficient yet "cold" or "mechanical" (Liu-Thompkins et al., 2022).

To fill this research gap, recent studies have begun examining the concept of artificial empathy - the capacity of AI systems to imitate human understanding and emotional responsiveness as a means of narrowing the emotional distance between humans and intelligent machines. In their seminal work "Artificial Empathy in Marketing Interactions,"(Liu-Thompkins et al., 2022) argued that artificial empathy represents a crucial capability for enabling meaningful emotional and social exchanges with consumers, thereby strengthening their sense of trust and acceptance toward AI-based services.

Similarly, (W. Kim & Hur, 2023) examined the psychological underpinnings underlying consumers' empathy for AI. Their study found that perceptions of warmth and competence significantly enhance users' empathetic responses and acceptance intentions. This notion is consistent with the Stereotype Content Model, which posits that individuals assess both human and nonhuman entities based on two key dimensions: warmth and competence. When AI technologies convey attributes such as friendliness, authenticity, and empathy, they tend to evoke favorable emotional responses and become more readily accepted within consumers' relational and social perception frameworks.

Brand love has increasingly been recognized as a key emotional construct that captures the depth and longevity of consumer–brand relationships. It can be described as the intense emotional connection and affection that a satisfied customer feels toward a particular brand, reflecting both passion and long-term attachment (Carroll & Ahuvia, 2006), Brand love has been found to be a strong predictor of essential consumer behaviors, including brand loyalty, favorable word-of-mouth communication, and resistance to negative publicity. A substantial body of empirical evidence indicates that customer satisfaction and positive brand experiences serve as the primary antecedents leading to the development of brand love (Y. Kim et al., 2021).

For example, Y. Kim et al., (2021), in their study titled "Experiential Value, Satisfaction, Brand Love, and Brand Loyalty toward Robot Barista Coffee Shop," found that even within highly automated service settings, experiential value and customer satisfaction play a crucial role in fostering brand love, which in turn strengthens customer loyalty. A recent 2023 study featured in Frontiers in Psychology reported that brand experience exerts a strong positive effect on both brand trust and brand affection, ultimately strengthening brand loyalty among Chinese smartphone consumers (Na et al., 2023). The results indicate that, across various industries, Brand Love serves as the emotional outcome of consumers' positive and individualized interactions with a brand.

Nevertheless, despite the expanding literature, several research gaps persist. Specifically, limited studies have explored AI-driven personalization that simultaneously encompasses both functional and emotional dimensions as precursors to Brand Love. Existing research often isolates service quality or satisfaction but overlooks emotional and social dimensions such as empathy, perceived humanness, and warmth. Second, while constructs like service quality, responsiveness, and reliability are well-established in traditional service models, their application in AI-mediated contexts is less clear. How do these perceptions translate when the "service provider" is an algorithm rather than a person? Third, there is limited empirical evidence on the mediating

roles of Customer Experience and Customer Satisfaction in linking AI characteristics to emotional brand outcomes such as Brand Love.

To bridge these research gaps, the present study introduces an integrated conceptual framework that investigates how both functional aspects including service quality, responsiveness, and reliability and emotional facets such as empathy, perceived warmth, communication, and human-like understanding of AI-based personalization influence Customer Experience and Customer Satisfaction, ultimately leading to the development of Brand Love. The proposed conceptual framework aims to offer a comprehensive understanding of how Artificial Intelligence can be humanized not merely to enhance operational efficiency, but also to cultivate emotional connection and enduring consumer attachment.

This research makes three key contributions. First is Theoretical Contribution**.** It extends existing models of customer experience and brand relationships by integrating emotional constructs such as empathy and perceived humanness into the AI context. By doing so, it advances understanding of how consumers form emotional bonds with nonhuman agents and brands mediated by AI technologies. Secondly, Empirical Contribution**,** it empirically tests the mediating roles of customer experience and satisfaction between AI-enabled personalization attributes and Brand Love, offering new insights into the mechanisms through which AI influences emotional brand outcomes. Finally, in terms of managerial implications, the results of this study are anticipated to assist marketers and system designers in creating AI applications that go beyond technical proficiency to embody emotional intelligence—systems capable of expressing warmth, showing empathy, and building genuine, lasting relationships with customers. Such humanized AI experiences can help brands transition from transactional efficiency to affective engagement, thereby strengthening Brand Love and long-term loyalty.

In conclusion, this research seeks to advance the understanding of AI-driven personalization within the realms of customer experience and emotional branding. By empirically examining both the functional and emotional facets of AI-mediated interactions, the study highlights how these factors shape consumers' emotional attachment to brands. As Artificial Intelligence continues to develop, gaining insight into its capacity to elicit not just satisfaction but authentic affection toward brands will be increasingly vital for the future of relationship marketing.

2. Literature Review

2.1 Theories Foudation

2.1.1 Experiential Marketing Theory

Experiential Marketing Theory, introduced by Schmitt (1999), argues that customer decisions are not purely rational but are significantly influenced by affective, sensory, and symbolic experiences. This theory posits that a brand's value extends beyond its functional attributes, encompassing the ability to deliver meaningful and emotionally resonant experiences that captivate consumers' senses, evoke feelings, and spark imagination. Schmitt (1999) proposed that customer experience is shaped through five strategic experiential modules—sense, feel, think, act, and relate—which together construct a comprehensive and multidimensional understanding of how consumers engage with brands. Hsu (2023) highlights that AI personalization increases customers' involvement by tailoring interactions to their preferences, which enhances their affective and cognitive engagement. Furthermore, gamified and interactive AI systems trigger emotional arousal, leading to higher satisfaction and stronger attachment (Pabla & Soch, 2023). This notion aligns with the AI-based service environment, where repeated personalized interactions can continuously reinforce positive emotions and deepen emotional connections. Therefore, experiential marketing theory helps explain how AI-enhanced personalization fosters rich, multisensory, and emotionally meaningful experiences that ultimately contribute to the development of brand love.

2.1.2 Attachment Theory

Attachment theory, first introduced by Bowlby (1973) describes the formation of emotional connections that arise from stable and rewarding interactions,

fostering feelings of safety, trust, and emotional closeness. In consumer research, this theory has been applied to describe how customers develop emotional attachment toward brands that fulfill psychological needs such as comfort, reliability, and self-expression (Batra et al., 2012; Carroll & Ahuvia, 2006). When customers repeatedly experience satisfaction and trust in their interactions with a brand, emotional attachment gradually evolves into what is referred to as brand love. When customers perceive AI systems as reliable, responsive, and emotionally attuned, they experience feelings of safety and trust similar to human relationships (Wu et al., 2023). Over time, this perceived reliability and emotional support can lead to affection and loyalty that parallel interpersonal attachment. Therefore, attachment theory provides the psychological rationale for understanding the path from satisfaction to brand love, suggesting that emotionally fulfilling and consistent AI interactions can foster long-term affective bonds between customers and brands.

2.1.3 CASA Theory (Computers Are Social Actors)

The Computers Are Social Actors (CASA) theory, introduced by Reeves & Nass (1996), suggests that individuals naturally perceive computers and AI technologies as social counterparts when these systems display human-like qualities such as empathy, warmth, or conversational engagement. This framework proposes that users tend to project human social norms and expectations onto machines, especially when interacting with systems that utilize natural language, expressive signals, or emotional feedback. Within AI-driven service contexts, incorporating anthropomorphic features—where AI imitates human emotions, expressions, or behaviors—can enhance users' perceptions of social presence and emotional warmth (Rehman et al., 2025; Wu et al., 2023). These perceptions evoke trust, reduce uncertainty, and create a sense of intimacy, thereby increasing satisfaction and emotional connection with the brand. CASA theory, therefore, supports the inclusion of variables such as understanding humanness and perceived warmth, which capture the social and emotional dimensions of AI-enabled customer interactions. Moreover, the theory suggests that the degree of human-likeness in AI influences the emotional outcomes of the interaction. When AI demonstrates a high capacity to "understand" users—through tone, emotion, and personalized communication—it activates empathy-based responses and promotes brand attachment.

2.2 Brand Love

Brand love refers to the profound emotional connection, affection, and passion that consumers develop toward a brand—surpassing mere satisfaction or loyalty (Carroll & Ahuvia, 2006). Batra et al. (2012) further described it as a multidimensional concept that integrates elements such as affection, trust, commitment, and self–brand congruence. This construct embodies both the emotional attachment and the symbolic significance a brand represents in consumers' personal identities. In today's digital environment, brand love has gained prominence within technology-mediated settings, where interactions between consumers and brands increasingly occur through AI-driven or virtual interfaces. According to Wu et al. (2023), AI systems capable of authentic, emotional, and human-like communication can strengthen consumers' sense of attachment to the brand. Similarly, Hsu (2023) found that gamified mobile applications generate enjoyment and engagement that translate into brand love, while Rehman et al. (2025) demonstrated that AI-powered virtual influencers foster brand love through anthropomorphism and perceived warmth. These findings indicate that brand love can emerge even without physical human contact, as long as the customer experiences emotional fulfillment, satisfaction, and authenticity. Across various sectors—such as hospitality, retail, and digital services—brand love is recognized as the pinnacle of emotional outcomes that emerge from favorable customer experiences, high satisfaction levels, and established trust. Therefore, in this study, brand love is positioned as the final dependent variable, capturing how AI-driven personalization and emotionally intelligent interactions nurture affective bonds between customers and brands

2.3 Related Variables

Responsiveness denotes the degree to which a service provider is prompt and proactive in offering

assistance to customers (A. P. Parasuraman et al., 1988). In AI contexts, it indicates how quickly and accurately AI systems respond to user queries. Quick and effective responses foster convenience, satisfaction, and perceived care (Anbumathi et al., 2023). Therefore, responsiveness directly enhances customer experience in AI-based services.

Service quality represents customers' overall perception of excellence in service delivery. In AI-driven personalization, it reflects system reliability, consistency, and empathy (Wu et al., 2023). Enhanced service quality contributes to more favorable customer experiences and greater satisfaction, which in turn strengthen emotional attachment and foster brand loyalty.

Reliability is the ability of AI systems to consistently deliver accurate and dependable information. Reliable AI fosters user trust and satisfaction (Anbumathi et al., 2023). Studies show that customers value AI that minimizes errors and provides predictable performance, reinforcing emotional trust in the brand (Wu et al., 2023).

Empathy involves understanding and addressing customers' feelings and expectations. In AI services, empathetic design can be expressed through natural language, tone, and personalized suggestions (Guan et al., 2025). Empathic responses strengthen emotional comfort and perceived warmth, contributing to higher satisfaction (Rehman et al., 2025).

Understanding humanness describes the degree to which AI displays human-like attributes—emotion, tone, or behavior. Anthropomorphic AI agents create familiarity and emotional connection, enhancing user trust (Wu et al., 2023). When AI feels "human," customers experience warmth, which foster brand love (Rehman et al., 2025).

Customer experience is the overall impression formed through cognitive, emotional, and sensory interactions with a brand (Schmitt, 1999). In AI-personalized services, immersive and adaptive experiences increase satisfaction and brand attachment (Hsu, 2023). Therefore, customer experience serves as a crucial mediating factor linking AI-driven service quality to customers' emotional responses and attachments.

Perceived warmth reflects the degree of friendliness, empathy, and care consumers feel in interactions with AI. Warmth perceptions evoke positive emotions, trust, and connection (Rehman et al., 2025). A heightened perception of warmth fosters greater customer satisfaction and emotional connection, ultimately nurturing the development of brand love (Wu et al., 2023).

Customer satisfaction refers to the positive evaluation of service performance relative to expectations (Dietz, 1997). Personalized AI experiences enhance satisfaction by addressing users' unique needs efficiently (Anbumathi et al., 2023). Satisfaction also serves as a bridge between functional experiences and emotional outcomes such as brand love (Pabla & Soch, 2023).

Communication quality includes clarity, accuracy, and emotional tone in AI interactions. Consistent and understandable communication improves trust and satisfaction (Wu et al., 2023). When AI uses natural and engaging language, customers perceive the interaction as authentic, increasing emotional affinity toward the brand (Rehman et al., 2025).

3. Hypothesis Development

3.1 Service Quality Affects Customer Experience

Service quality is a key factor that affects how customers feel about the whole experience. Customer experience is how a person feels and thinks about their encounters with different service partners and touchpoints along the customer journey. It includes emotional, cognitive, physical, relational, sensory, and symbolic aspects (Gahler et al., 2023). Parasuraman et al. (1988) put out the SERVQUAL model, which lists five important aspects of service quality: reliability, responsiveness, assurance, empathy, and tangibles. All of these factors together shape how clients see the overall quality of a service interaction. Specifically, consistent and dependable service delivery fosters a sense of trust and security, while empathetic and prompt responses generate positive emotional connections across the customer journey. As customer experience represents the cumulative outcome of interactions and emotions throughout the relationship with a brand, the perceived quality of each encounter contributes to

shaping the overall experience. In the context of this study, Artificial Intelligence (AI) is very important for strengthening these areas by making responses automatic, making them more reliable, and making them seem more empathetic by using human-like communication patterns. According to the Technology Factors in Brand Love, service quality, personality traits, and social impact factors exhibit comparatively diminished effects on the formation of brand image (Anbumathi et al., 2023). When AI effectively optimizes service quality dimensions, it elevates the overall customer experience to a higher level of personalization and emotional resonance. This enhanced experience, in turn, reinforces the brand–customer relationship, fostering greater satisfaction and serving as a foundation for the development of enduring Brand Love.Therefore, we hypothesize:

H1: Service Quality has a positive impact on Customer Experience

3.2 Responsiveness affects Customer Experience

Responsiveness is a key factor in Customer Quality and plays a direct role in shaping the positivity of the Customer Experience. Responsiveness means being able and willing to quickly provide services or solve problems and meet client needs (A. Parasuraman et al., 1985). In the modern business environment, where customer expectations for engagement are increasing, the speed and effectiveness of responses can be the deciding factor between a memorable experience and a disappointment. When a brand demonstrates a quick response, customers feel respected and cared for, which in turn strengthens their trust and satisfaction. Conversely, delays or lack of response not only reduce the quality of service but also create a sense of abandonment, leading to a negative experience. AI not only responds quickly, but it also responds accurately and personalized based on interaction history and customer data. This converts generic feedback into a personalized act of care, deepening the positive experience. The combination of speed and personalized accuracy, driven by AI, makes the Customer Experience more efficient and emotional, directly contributing to satisfaction and ultimately forming Brand Love. Therefore, we propose the hypothesis:

H2: Responsiveness has a positive effect on Customer Experience.

3.3 Reliabilities Affecting Customer Experience

Reliability is at the core of Service Quality and is essential to building a positive and sustainable Customer Experience. Reliability means being able to consistently and accurately provide a promised service from the start (A. Parasuraman et al., 1985). For customers, reliability is not just about the product working well, it's also about the certainty that the brand will always keep its promises and handle transactions consistently, without errors. In the customer experience cycle, a lack of trust will immediately break trust, cause frustration and force customers to spend more time and effort to fix. In contrast, a reliable service will create a sense of safety and comfort, minimize perceived risk, and enhance overall satisfaction. By using AI to provide services accurately, timely, and consistently, the brand not only meets but also exceeds customer expectations for reliability. This strongly strengthens the Customer Experience, lays a solid foundation for Customer Satisfaction and, on a higher emotional level, forms Brand Love. Therefore, we propose the hypothesis:

H3: The reliability of a service positively influences customer experience.

3.4 Empathy affects Customer Experience

Empathy is the ability to understand and share the feelings of other people. It is said to be the most significant emotional part of the customer experience. In service, empathy is shown when the employee or system gives the client personal and attentive attention that is in the client's best interest (A. Parasuraman et al., 1985). It transforms a mere transaction into a human relationship, helping customers feel heard, understood, and appreciated. When a customer faces a problem or needs assistance, empathy helps to calm negative emotions and create a healing service touchpoint. This good experience builds trust and loyalty, which in turn builds the emotional connection with the brand. Adding AI-

assisted empathy to service interactions will make the Customer Experience more emotive and create memorable and meaningful experiences. This not only makes customers happy, but it also builds brand love. Empathy and customer experience are two ideas that are related to each other. Empathy is an important part of having good experiences in service settings (Lehnert & Kuehnl, 2025).Therefore, we hypothesize:

H4: Empathy positively influences customer experience.

3.5 Understanding Humaness Affects Perceived Warmth

To understand what it is to be human, you need to be able to see, appreciate, and respond to people's needs, wants, and emotional sensitivity when you work with them. This skill is what makes Perceived Warmth happen. The warmth dimension, which covers attributes like morality, trustworthiness, sincerity, kindness, and friendliness, looks at how people think others are acting in a social setting (Cuddy et al., 2008). Customers experience tolerance, non-mechanical attentiveness, and a kind attitude when they think the brand really gets the problems, defects, or surprises in their lives (in other words, they comprehend the humanity). This makes them feel really warm. By using AI to shift from "serving effectively" to "serving humanely", brands can create Perceived Warmth, which is an important emotional factor that reinforces satisfaction and enhances the likelihood of forming Brand Love. Therefore, we hypothesize:

H5: Understanding Humanness has a positive effect on Perceived Warmth.

3.6 Perceived Warmth Affects Customer Satisfasion

Accepted Warmth is a crucial emotional factor since it reveals how the client thinks about the brand's friendliness, good intentions, and real concern (Kervyn et al., 2012). Perceived Warmth creates a trusted and safe communication environment where customers feel welcome and valued. This factor has a strong effect on customer satisfaction because satisfaction is not only the result of meeting functional needs but also the satisfaction of emotional needs. When a brand is perceived as warm, small flaws in service are easily ignored or forgiven by customers. More importantly, warmth creates a positive emotional connection, making customers feel the experience is more personalized and meaningful. This emotional satisfaction is often the distinguishing factor that determines a customer's final level of satisfaction. In a nutshell, Perceived Warmth is an emotional catalyst that helps transform a good service experience into a deeply satisfying one. The feeling of being understood and cared for, enhanced by AI's personalization capabilities, will drive customer satisfaction to the highest level. Therefore, we hypothesize:

H6: Perceived Warmth has a positive effect on Customer Satisfaction.

3.7 Customer Experience Affects Customer Satisfaction

Customer Experience is the most complete and powerful way to anticipate Customer Satisfaction. Customer experience isn't just about one sale; it's about all the times, places, and emotions that customers have with a firm along the route (Gahler et al., 2023). While Service Quality focuses on the specific attributes of service delivery (e.g., Reliabilities, Responsiveness), Customer Experience is an overall assessment of the customer's feelings about that relationship.

The positivity, seamlessness, and personalization of the Customer Experience will determine the ultimate level of satisfaction. An excellent experience will exceed customer expectations, creating both functional satisfaction (product/service performs well) and emotionally (feeling valued and understood). Conversely, discrete, inconsistent experiences will lead to frustration and decreased satisfaction. Customer Experience optimization through AI, where every interaction is personalized and delivered efficiently, directly enhances customer satisfaction. Therefore, we believe that a high-quality Customer Experience is a prerequisite for achieving sustainable satisfaction.

H7: The customer experience positively influences customer satisfaction.

3.8 Communication affects Customer Satisfaction

Communication is an essential bridge that creates transparency, clarity and trust between brands and customers, thereby directly affecting Customer Satisfaction. Consistent and understandable communication improves trust and satisfaction (Wu et al., 2023). Effective communication involves conveying information in a timely, accurate, and contextual manner. When customers receive complete information about products, services, policy changes, or problem-solving progress, they feel in control and respected, which increases feelings of satisfaction. Conversely, poor communication—including ambiguity, delays, or inconsistencies—will lead to misunderstandings, frustration, and a severe drop in satisfaction. Satisfaction is not only measured by meeting product needs, but also satisfaction with the process of interacting with the brand. The use of AI to create accurate, consistent, and personalized communication channels helps eliminate ambiguity and build trust. This makes customers feel served intelligently and attentively, directly reinforcing Customer Satisfaction. Therefore, we propose the hypothesis:

H8: Communication has a positive effect on Customer Satisfaction

3.9 Customer Satisfaction Affects Brand Love

Customer Satisfaction is considered as a required, but not sufficient, prerequisite to reach a greater level of emotional attachment than Brand Love. Customer satisfaction is when a customer objectively assesses if a product or service has met or surpassed their expectations (Oliver, 1980). It gives clients quick satisfaction and a reason to come back. Brand Love is a strong emotional state that encompasses passion, a strong connection to the brand, and good feelings about it (Batra et al., 2012). Although satisfaction is not directly synonymous with love, it acts as a powerful intermediary factor. When a customer continuously experiences satisfaction through interactions—from quality of service, trustworthiness, to empathy—they begin to form a sense of trust and security about the brand. This consistency in providing value and positive experiences is the catalyst for transforming rational gratification into emotional attachment. In short, satisfaction produces functional and rational satisfaction, while this continuous and personalized satisfaction, amplified by AI, will pave the way for the development of a strong and passionate emotional relationship, which is Brand Love. Therefore, we propose the hypothesis:

H9: Customer Satisfaction has a positive effect on Brand Love.

3.10 Research Model

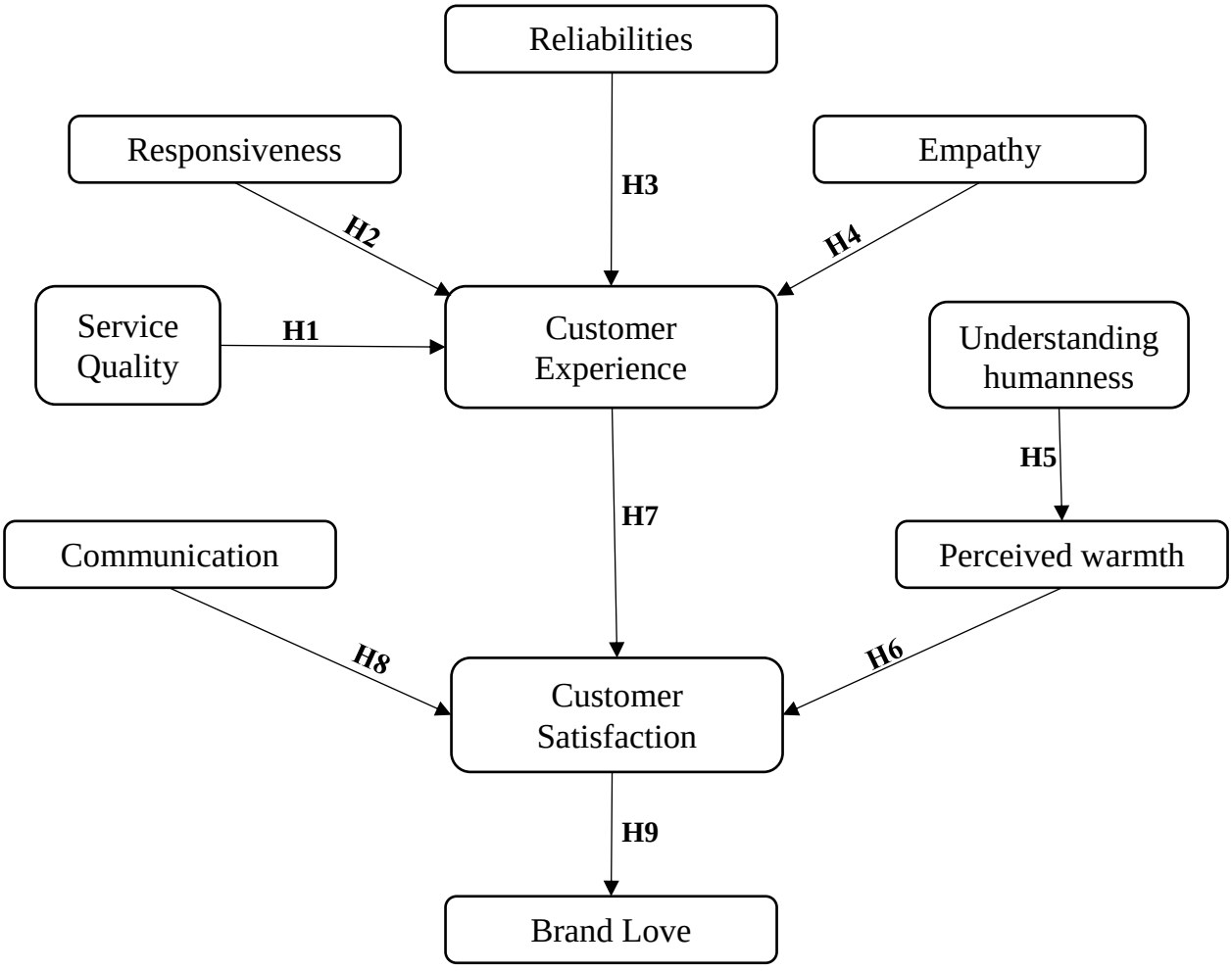

Figure 1 Research Model

4. Methodology

4.1 Research design

This study utilized a descriptive research approach to examine the gathered data from a methodological perspective. This method stresses the organized gathering, analysis, and display of data to show how variables are related and what patterns they follow. A descriptive design enables the researcher to create a theory-driven framework and attain a more profound comprehension of the fundamental causes and mechanisms of the phenomena under investigation. It also makes the research results clearer and more important to other people.

To meet the study goals, a quantitative research method was used since it lets you apply statistical analysis to find useful information in numbers. Quantitative methods are very useful for business studies where data-driven proof helps managers make decisions. This method lets researchers look at how different variables are related in an objective way and draw generalizable conclusions from quantifiable results.

In this study, primary data served as the main source of information. According to Kothari (2004), primary data is material that was gathered directly for a specific research goal. Using primary data makes sure that the information collected is directly related to the study's goals and context. In this example, the

data were gathered via a structured online questionnaire that was made just for looking into AI-based personalization and the user experience when shopping online. Online surveys were chosen because they are easy to use, flexible, and quick ways to contact a large number of people.

There are several common methods for collecting research data, such as experimental, observational, and survey techniques. Among these, the questionnaire method is one of the most effective tools for gathering primary data (Kumar, 2018). It enables researchers to obtain information from a large number of respondents efficiently and cost-effectively, compared to one-on-one interviews. As highlighted by Kelley 2003), questionnaires are both practical and reliable instruments for examining attitudes and behavioral patterns. Therefore, this study employed the survey method to collect the required quantitative data for analyzing the relationships among the study's variables.

4.2 Sample size

Among various sampling estimation tools, G*Power 3 has been recognized as one of the most reliable programs for calculating appropriate sample sizes in quantitative research (Erdfelder et al., 1996). This software was utilized in the present study to determine the minimum number of respondents required for statistical adequacy.

The computation in G*Power 3 used a few different things: the effect size ($f^2 = 0.15$) for a medium effect, a significance threshold ($\alpha = 0.05$), a statistical power of 0.80, and seven predictors that were part of the model. The research, which used these inputs and the F-test for Linear Multiple Regression, showed that at least 103 individuals would be needed to be sure the results were valid.

However, to enhance the reliability and generalizability of the findings, the study collected data from a total of 200 respondents, which exceeds the minimum sample size recommended by G*Power. This larger sample strengthens the statistical power of the analysis and minimizes potential sampling error, ensuring that the results derived from SmartPLS-SEM are both robust and credible.

4.3 Sampling and data collection

The research utilized a quantitative survey methodology, focusing on those familiar with online shopping platforms that frequently employ AI-driven personalization features, such as product recommendations, chatbot support, or customized marketing content. A non-probability convenience sampling method was utilized to gather responses from participants who were easily accessible and eager to engage in the study. This method is good for exploratory research in digital marketing, when finding users with relevant experience is very important.

During the survey period, an online questionnaire was sent out over social media and email to collect data. This strategy made it easy to collect data from a wide and varied group of people while keeping their identities secret and making it easy for them to participate. There were 200 valid responses that were used for analysis.

There were two primary parts to the questionnaire. The first part asked for personal information such age, gender, education level, job, income, how often they shop online, and what kinds of things they buy online most often. The second part had questions that measured the study's constructs, which were: Service Quality, Responsiveness, Reliability, Empathy, Understanding Humanness, Perceived Warmth, Customer Experience, Communication, Customer Satisfaction, and Brand Love.

We used Likert-scale items that had been modified from validated instruments in previous studies to assess all of the components. We made any changes that were needed to meet the research environment. A seven-point scale was used to score each issue, with 1 being "Strongly Disagree" and 7 being "Strongly Agree." Using an online survey not only made guarantee that a lot of people took part, but it also helped collect data that was correct and on time, which SmartPLS-SEM software could then use for statistical analysis.

5. Result and discussion

5.1 Demographics

Demographic characteristic		*Frequency*	*Percentage*
Gender	Female	113	56.5%
	Male	87	43.5%
Age	18-29 years old	87	43.5%
	30-39 years old	76	38%
	40-49 years old	25	12.5%
	Over 50 years old	12	6%
Education	Universities/Colleges	197	98.5%
	Postgraduate (Master's/PhD)	3	1.5%
Profession	Students	64	32%
	Office Worker	117	58.5%
	Self-employed	19	9.5%
Online shopping frequency	Daily	23	11.5%
	Weekly	56	28%
	Several times 1 month	95	47.5%
	Less than 2 times a month	26	13%
Smart devices are often used for online shopping	Smart phone	88	44%
	Laptop	84	42%
	Tablets	51	14%
Monthly income	Less than 5 million VND	57	28.5%
	From 5-10 million VND	111	55.5%
	Less than 20 million VND	32	16%
Types of products/services that are frequently purchased online	Fashion	68	34%
	Food/Beverage	45	22.5%
	Electronics	57	28.5%
	Cosmetic	58	29%
	Book	24	12%
	Stationery	63	31.5%
	Home Appliances	42	21%
	Accessory	45	22.5%

Table 1 Demographic

This study had 200 people take part. The sample was made up of 56.5% females (n = 113) and 43.5% males (n = 87), which shows that the gender distribution was fairly even, with a slight majority of females.

The majority of participants were between the ages of 18- 29 (38%), followed by those between the ages of 30-39 (38%), 40-49 (12.5%), and over 50 (6%). This indicates that most of the people who answered are in the younger and middle-aged consumer categories, who are usually more engaged in purchasing online and using digital tools.

In terms of education level, nearly all respondents (98.5%) had obtained a university or college degree, while only 1.5% held a postgraduate qualification. This indicates that the sample was highly educated, reflecting the population segment most likely to use AI-driven online platforms.

Concerning occupation, office workers made up the majority (58.5%), followed by students (32%) and self-employed individuals (9.5%). This occupational composition highlights a consumer base that is both professionally and academically active, and thus likely to engage with personalized online experiences.

Regarding online shopping frequency, nearly half of the respondents (47.5%) reported shopping online several times per month, while 28% did so weekly and 13% less than twice a month. Only 11.5% shopped online daily, suggesting that regular but not excessive online shopping is the norm.

When asked about the devices used for online shopping, smartphones were the most common (44%), followed closely by laptops (42%) and tablets (14%). This confirms the dominant role of mobile commerce (m-commerce) in shaping digital shopping behavior.

In terms of monthly income, 55.5% of participants earned between 5–10 million VND, 28.5% earned less than 5 million VND, and 16% earned less than 20 million VND per month. These figures suggest that most respondents belong to the lower-middle income group, which is a key demographic in Vietnam's e-commerce market.

Finally, the most frequently purchased product categories included fashion (34%), stationery (31.5%), food and beverages (22.5%), accessories (22.5%), cosmetics (29%), electronics (28.5%), home appliances (21%), and books (12%). This diversity reflects a broad range of consumer interests, with fashion and everyday lifestyle products leading online purchases.

Overall, the demographic results reveal that the respondents are predominantly young, educated, and digitally active consumers who frequently engage in online shopping through smartphones and laptops — characteristics that make them highly relevant for studying AI-based personalization and brand love formation.

5.2 Measurement model evaluation

Analysis of the outer loadings largely shows structures that reach the ≥0.70 threshold, confirming the scale's good representation in the context of personalized AI. Specifically, the blocks reflecting the quality of service provided by AI including Service Quality (0.815–0.897), Responsiveness (0.843–0.875), and Reliability (0.809–0.864) are all at a high level. Value-emotional-behavioral structures such as Perceived Warmth (0.813–0.875), Empathy (0.784–0.876), Customer Exerience (0.825–0.877), Customer Satisfaction (0.686–0.820), and Understanding Humanness (0.853–0.871) are also satisfactory, allowing for the definitive testing of hypotheses that follow up to Brand Love (0.755–0.812).

In contrast, Communication appears many low load indicators (especially CO1 = 0.286; CO9 = 0.557; CO7 = 0.612), which reflects the gap between expectations and the actual experience provided by AI. This is a red flag that can weaken the CO to Satisfaction impact line and indirectly affect Brand Love. In terms of management implications, the results confirm that the SQ–REL–RES axis is the foundation for raising Perceived Warmth and Empathy, thereby promoting Customer Experience, Customer Satisfaction and Understanding Humanness, and ultimately forming Brand Love. Businesses should make the scope of personalization transparent, provide a concise explanation of the reason for the suggestion, and enhance contextual data, in order to raise confirmation—which is currently weak—to amplify the full effect of AI on brand love.

	BL	CE	CO	CS	EM	PW	REL	RES	SQ	UH
BL1	0.810									
BL2	0.812									
BL3	0.755									
CE1		0.825								
CE2		0.882								
CE3		0.857								
CE4		0.877								
CO1			0.286							
CO10			0.669							
CO2			0.726							
CO3			0.477							
CO4			0.673							
CO5			0.669							
CO6			0.769							
CO7			0.612							
CO8			0.740							
CO9			0.557							
CS1				0.765						
CS2				0.820						
CS3				0.686						
CS4				0.790						
CS5				0.747						
EM1					0.784					
EM2					0.861					
EM3					0.857					
EM4					0.876					
PW1						0.813				
PW2						0.866				
PW3						0.858				
PW4						0.875				
REL1							0.809			
REL2							0.859			
REL3							0.864			
REL4							0.844			
RES1								0.843		
RES2								0.884		
RES3								0.872		
RES4								0.875		
SQ1									0.815	
SQ2									0.897	
SQ3									0.865	
SQ4									0.860	
UH1										0.857
UH2										0.871
UH3										0.853
UH4										0.869

Table 2 Outer Loading

The reliability and validity tests show that most structures are satisfactory: Cronbach's alpha and Composite Reliability both exceed the threshold of ≥0.70, while the AVE of the rest of the structure's ranges from 0.582–0.754. This shows the affirmation of the scales of service quality by AI (SQ, REL, RES), perceived warmth (PW), empathy (EM), customer experience (CE), customer satisfaction

(CS), undersatnding humanness (UH) and brand love (BL) with high consistency and good convergence. However, Communication (CO) alone has AVE = 0.401 that does not meet the standard, indicating that the indicators of expectation confirmation do not fully reflect the actual experiences brought by personalized AI to consumers. This is the reason why CO to CS impact lines are potentially risky.

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
BL	0.703	0.704	0.835	0.628
CE	0.884	0.886	0.92	0.741
CO	0.823	0.848	0.864	0.401
CS	0.82	0.828	0.874	0.582
EM	0.866	0.873	0.909	0.714
PW	0.875	0.878	0.915	0.728
REL	0.866	0.866	0.909	0.713
RES	0.891	0.892	0.925	0.754
SQ	0.882	0.884	0.919	0.739
UH	0.885	0.885	0.921	0.744

Table 3 Contruct reliability and validity

The cross-loading analysis was used to check the discriminant validity of the measurement model again. Table 4 shows that each indicator had its highest loading on the construct it was meant to measure, and these loadings were far greater than the loadings on other constructs. This shows that each indication is a better representation of its intended latent variable than any other construct, which is a sign of good discriminant validity (Hair et al., 2022). Most indicators showed substantial loadings, usually over the threshold value of 0.70. For instance, the indicators for Customer Experience (CE1–CE4) and Perceived Warmth (PW1–PW4) had loadings between 0.83 and 0.88, whereas the indicators for Brand Love (BL1–BL3) and Reliability (REL1–REL3) had loadings between 0.75 and 0.85. The results indicate that most measuring items successfully captured their respective constructs.

However, a few indicators showed slightly weaker loadings, specifically CO6, CO7, and CO9 (Communication) with values around 0.56–0.61, and CS3 (Customer Satisfaction) with a loading of 0.68. According to Hair et al. (2022), items with loadings ranging from 0.40 to 0.70 may be kept if their elimination does not substantially enhance the construct's Composite Reliability (CR) or Average Variance Extracted (AVE). In this investigation, all affected constructs sustained CR values over 0.70 and AVE values surpassing 0.50, indicating satisfactory levels of reliability and convergent validity. Consequently, these items were preserved to maintain the theoretical integrity and content validity of their corresponding constructs.

Overall, the cross-loading analysis supports the discriminant validity of the model, confirming that each construct - including Service Quality, Responsiveness, Reliability, Empathy, Understanding Humanness, Perceived Warmth, Customer Experience, Communication, Customer Satisfaction, and Brand Love - is empirically distinct and measures a unique aspect of the AI-driven

customer experience and brand relationship framework.

	BL	CE	CO	CS	EM	PW	REL	RES	SQ	UH
BL1	**0.810**	0.136	0.621	0.66	0.196	0.218	0.238	0.169	0.249	0.177
BL2	**0.812**	0.206	0.629	0.583	0.265	0.286	0.280	0.160	0.289	0.211
BL3	**0.755**	0.188	0.597	0.62	0.238	0.212	0.200	0.090	0.304	0.183
CE1	0.220	**0.825**	0.351	0.216	0.746	0.827	0.737	0.730	0.742	0.784
CE2	0.130	**0.882**	0.244	0.115	0.729	0.741	0.693	0.781	0.713	0.788
CE3	0.128	**0.857**	0.241	0.106	0.620	0.682	0.652	0.657	0.618	0.688
CE4	0.275	**0.877**	0.336	0.265	0.735	0.771	0.774	0.676	0.747	0.771
CO1	0.259	0.647	**0.286**	0.141	0.641	0.654	0.630	0.542	0.650	0.688
CO10	0.536	0.282	**0.669**	0.477	0.247	0.326	0.259	0.166	0.284	0.282
CO2	0.597	0.325	**0.726**	0.568	0.314	0.357	0.302	0.238	0.365	0.372
CO3	0.288	-0.076	**0.477**	0.325	-0.085	-0.035	-0.029	-0.084	-0.066	-0.048
CO4	0.523	0.253	**0.673**	0.643	0.196	0.276	0.276	0.246	0.238	0.249
CO5	0.506	0.191	**0.669**	0.627	0.216	0.274	0.239	0.228	0.225	0.217
CO6	0.611	0.286	**0.769**	0.688	0.276	0.309	0.277	0.215	0.320	0.252
CO7	0.422	0.108	**0.612**	0.425	0.115	0.180	0.093	0.130	0.126	0.110
CO8	0.544	0.219	**0.740**	0.52	0.171	0.264	0.205	0.174	0.241	0.224
CO9	0.483	0.006	**0.557**	0.472	0.021	0.008	0.030	-0.035	0.037	-0.025
CS1	0.605	0.068	0.593	**0.765**	0.079	0.105	0.078	0.155	0.095	0.087
CS2	0.679	0.232	0.721	**0.82**	0.282	0.332	0.316	0.236	0.298	0.282
CS3	0.520	0.107	0.502	**0.686**	0.096	0.128	0.076	0.041	0.144	0.085
CS4	0.588	0.275	0.654	**0.79**	0.317	0.358	0.307	0.269	0.354	0.271
CS5	0.587	0.086	0.573	**0.747**	0.095	0.115	0.057	0.065	0.152	0.063
EM1	0.309	0.599	0.323	0.286	**0.784**	0.665	0.658	0.594	0.683	0.695
EM2	0.269	0.733	0.284	0.171	**0.861**	0.723	0.714	0.696	0.802	0.728
EM3	0.197	0.705	0.221	0.174	**0.857**	0.724	0.669	0.668	0.721	0.750
EM4	0.227	0.744	0.268	0.186	0.876	**0.755**	0.783	0.696	0.762	0.764
PW1	0.236	0.673	0.330	0.209	0.685	**0.813**	0.714	0.661	0.742	0.733
PW2	0.300	0.783	0.343	0.26	0.719	**0.866**	0.769	0.725	0.713	0.766
PW3	0.215	0.764	0.317	0.212	0.690	**0.858**	0.738	0.698	0.696	0.764
PW4	0.272	0.783	0.379	0.279	0.798	**0.875**	0.754	0.697	0.766	0.818
REL1	0.169	0.688	0.217	0.14	0.747	0.741	**0.809**	0.722	0.700	0.737
REL2	0.168	0.716	0.232	0.128	0.684	0.744	**0.859**	0.643	0.668	0.706
REL3	0.362	0.687	0.362	0.287	0.691	0.728	**0.864**	0.613	0.699	0.664
REL4	0.321	0.719	0.360	0.226	0.706	0.731	**0.844**	0.579	0.720	0.710
RES1	0.224	0.688	0.282	0.221	0.682	0.707	0.644	**0.843**	0.634	0.715
RES2	0.160	0.734	0.254	0.183	0.702	0.758	0.688	**0.884**	0.678	0.732
RES3	0.156	0.715	0.209	0.182	0.719	0.675	0.628	**0.872**	0.698	0.720
RES4	0.079	0.738	0.219	0.145	0.633	0.691	0.667	**0.875**	0.644	0.729
SQ1	0.287	0.743	0.335	0.236	0.790	0.749	0.701	0.680	**0.815**	0.738
SQ2	0.268	0.740	0.278	0.169	0.759	0.741	0.724	0.692	**0.897**	0.716
SQ3	0.349	0.664	0.348	0.312	0.692	0.702	0.678	0.618	**0.865**	0.657
SQ4	0.317	0.674	0.327	0.259	0.777	0.742	0.731	0.629	**0.86**	0.740
UH1	0.246	0.718	0.323	0.224	0.740	0.778	0.693	0.697	0.673	**0.857**
UH2	0.186	0.789	0.271	0.144	0.807	0.779	0.745	0.769	0.753	**0.871**
UH3	0.158	0.747	0.259	0.156	0.711	0.761	0.666	0.709	0.703	**0.853**
UH4	0.236	0.791	0.358	0.220	0.738	0.797	0.772	0.700	0.736	**0.869**

Table 4 Discriminant validity- Cross Loadings

The Fornell–Larcker criterion was used to check discriminant validity even more. This method looks at the square root of the Average Variance Extracted (AVE) for each construct and how it relates to other constructs. Fornell & Larcker 1981) say that discriminant validity is shown when the √AVE of any latent variable is higher than its correlations with any other variable in the model.

The findings demonstrated that all constructs satisfied this condition, since the diagonal values (√AVE) exceeded the respective inter-construct correlations within their rows and columns. This indicates that each construct exhibits greater variation with its respective indicators than with other constructs, hence affirming its empirical distinctiveness.

For example, the square root of AVE for Customer Experience and Customer Satisfaction were approximately 0.84 and 0.87, respectively - both higher than their mutual correlation (around 0.65). Similarly, Perceived Warmth showed a √AVE of 0.85, greater than its correlation with Understanding Humanness (0.72). These findings demonstrate that each construct captures a unique concept and that there is no issue of multicollinearity or conceptual overlap among them.

In conclusion, the Fornell–Larcker analysis corroborates that the measurement model demonstrates robust discriminant validity, hence reinforcing the findings from the cross-loading results. Together, these findings indicate that all constructs - including Service Quality, Responsiveness, Reliability, Empathy, Understanding Humanness, Perceived Warmth, Customer Experience, Communication, Customer Satisfaction, and Brand Love — are clearly differentiated and conceptually valid in explaining AI-driven personalized customer experience and brand love formation.

	BL	CE	CO	CS	EM	PW	REL	RES	SQ	UH
BL	**0.793**									
CE	0.222	**0.861**								
CO	0.777	0.343	**0.633**							
CS	0.784	0.208	0.804	**0.763**						
EM	0.293	0.826	0.321	0.237	**0.845**					
PW	0.301	0.881	0.402	0.283	0.849	**0.853**				
REL	0.302	0.833	0.347	0.231	0.837	0.872	**0.844**			
RES	0.177	0.828	0.277	0.210	0.787	0.815	0.757	**0.868**		
SQ	0.354	0.823	0.374	0.281	0.879	0.855	0.825	0.764	**0.860**	
UH	0.240	0.883	0.352	0.216	0.869	0.903	0.834	0.834	0.831	**0.862**

Table 5 Discriminant validity- Fornell -Larker

5.3 Structural model evaluation

After confirming the measurement model, the structural model was assessed to examine the proposed links among the components. The evaluation utilized the bootstrapping technique in SmartPLS, concentrating on path coefficients (β), t-statistics, and p-values to ascertain significance levels. Table 6 shows that out of the nine hypotheses that were suggested, six were backed up and three were not.

The strongest relationship was found between Understanding Humanness and Perceived Warmth (β = 0.903, t = 48.695, p < 0.001), indicating that when users perceive AI systems as more human-like, they also feel greater warmth and emotional connection toward them. Similarly, Responsiveness and Customer Experience (β = 0.353, p = 0.001) and Reliability and Customer Experience (β = 0.298, p = 0.004) were significant, suggesting that timely,

consistent, and dependable AI interactions positively influence user experience.

Customer Experience and Customer Satisfaction (β = 0.208, p = 0.021), Customer Satisfaction and Brand Love (β = 0.452, p < 0.001) were both supported, highlighting the logical progression from positive experience to satisfaction and eventually to emotional brand attachment. Moreover, Communication and Customer Satisfaction (β = 0.410, p = 0.001) demonstrated a strong positive effect, emphasizing the importance of clear and empathetic communication in building satisfaction.

In contrast, Service Quality and Customer Experience (β = 0.197, p = 0.062), Empathy and Customer Experience (β = 0.125, p = 0.280), and Perceived Warmth and Customer Satisfaction (β = 0.008, p = 0.857) were not statistically significant. This suggests that while service quality and empathy remain conceptually important, their direct effects on AI-driven customer experience may be relatively weak or indirect. Likewise, perceived warmth did not directly predict satisfaction, implying that satisfaction may depend more on practical and functional aspects of AI interaction (e.g., responsiveness and reliability) rather than emotional warmth alone.

In general, the results strongly back up the proposed framework. Responsiveness, dependability, and AI human-like qualities were shown to be the most important aspects in creating excellent customer experiences and satisfaction. These, in turn, create brand love, which shows how powerful AI-driven customisation can affect people's emotions.

The insignificant effects of Empathy, Service Quality, and Perceived Warmth suggest that emotional and service-related dimensions may operate indirectly, or their impacts might be absorbed by stronger constructs in the model. This insight provides an opportunity for future research to explore the mediating or moderating roles of satisfaction and experience in AI–customer emotional relationships.

Hypothesis	Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation	T statistics (|O/STDEV|)	P Values	Remarks
H1	SQ->CE	0.197	0.209	0.106	1.865	0.062	Unsupported
H2	RES->CE	0.353	0.362	0.108	3.271	0.001	Supported
H3	REL->CE	0.298	0.293	0.103	2.901	0.004	Supported
H4	EM->CE	0.125	0.109	0.116	1.082	0.280	Unsupported
H5	UH->PW	0.903	0.904	0.019	48.695	0.000	Supported
H6	PW->CS	0.008	0.004	0.045	0.180	0.857	Unsupported
H7	CE->CS	0.208	0.208	0.090	2.301	0.021	Supported
H8	CO->CS	0.410	0.438	0.121	3.396	0.001	Supported
H9	CS->BL	0.452	0.422	0.120	3.766	0.000	Supported

Table 6 Hypothesis testing results

5.4 Discusion

The findings align with prior studies emphasizing the growing role of AI personalization in enhancing user experience and emotional brand connection (Al-Araj et al., 2022; Huang & Rust, 2020). Responsiveness and reliability appear to be the most critical functional attributes, while humanness enhances the perceived authenticity of interactions. These dimensions together build trust and satisfaction, leading to brand love.

The weaker impact of empathy and perceived warmth indicates that although emotional cues in AI interactions matter, customers may still prioritize efficiency and reliability over purely emotional attributes. This reflects a pragmatic orientation in how users evaluate AI-driven service experiences —

valuing effectiveness first, then emotional alignment second.

6. Conclusion and Managerial Implications

6.1 Conclusion

This study aimed to examine the relationships among service quality dimensions, customer experience, customer satisfaction, and brand love within the context of AI-driven customer interaactions. Using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, the findings confirmed that responsiveness, reliability, communication, and understanding humanness play crucial roles in shaping customer experiences and fostering emotional connections with brands.

Specifically, responsiveness and reliability emerged as the strongest predictors of customer experience, indicating that customers value timely responses and dependable AI interactions more than traditional service attributes such as empathy or general service quality. Furthermore, customer experience and communication significantly influenced customer satisfaction, which in turn had a strong positive effect on brand love. This highlights a clear pathway: functional AI service to positive experience to satisfaction to emotional brand attachment.

In contrast, the effects of empathy, service quality, and perceived warmth on customer experience or satisfaction were statistically insignificant. This suggests that while emotional and relational cues remain relevant, customers may perceive AI agents primarily as functional service tools rather than emotional partners. Therefore, emotional dimensions might indirectly contribute to satisfaction through mediating constructs like perceived trust or authenticity — areas that future research should explore.

Overall, the findings contribute to the growing body of literature on AI-based customer relationship management (CRM) by identifying which service attributes are most impactful in driving emotional outcomes such as brand love.

6.2 Theoretical Implications

From a theoretical perspective, this research extends prior studies on service experience and human–AI interaction by integrating technological and emotional dimensions into a single framework. The study supports the notion that functional quality remains the foundation of positive AI experiences, even when emotional cues are present.

However, since perceived warmth did not directly affect satisfaction, the results imply that such social responses may depend on contextual factors (e.g., service type or user expectations).

Thus, the study enriches current theoretical understanding by highlighting a nuanced relationship between AI functionality, emotional perception, and brand-related outcomes.

6.3 Managerial Implications

From a managerial standpoint, the results provide several actionable insights for firms deploying AI-powered customer service systems:

Prioritize responsiveness and reliability. Companies should ensure that AI chatbots and virtual assistants respond promptly and consistently. Fast and accurate responses create positive first impressions and directly enhance customer experience.

Design human-like but dependable AI interactions. While emotional warmth alone does not guarantee satisfaction, incorporating elements of humanness — such as natural conversation flow, empathy-like responses, or contextual understanding — strengthens perceived authenticity and trust.

Invest in effective communication design. Since communication strongly influences satisfaction, firms should focus on clear, context-aware, and polite conversational scripts. The tone and wording of AI interactions should match brand personality to maintain coherence across touchpoints.

Use customer experience as a strategic bridge. The findings highlight that satisfaction and brand love are downstream effects of positive experiences. Managers should view customer experience not as an operational metric but as a strategic driver of emotional loyalty.

Monitor and optimize the emotional–functional balance. Emotional cues should complement, not replace, core service performance. Continuous A/B testing and customer feedback can help determine the right balance between “human warmth” and “technical reliability” in AI design.

By applying these insights, businesses can leverage AI technologies not just to automate service processes but to deepen emotional engagement and brand loyalty in the digital era.

6.4 Limitations and Future Research

Despite its contributions, this study is not without limitations. The data were collected from a single context, which may limit generalizability to other service industries or cultural settings. Additionally, the cross-sectional design restricts the ability to infer causal relationships.

Future research could adopt longitudinal or experimental designs to better capture how customer perceptions of AI evolve over time. Moreover, exploring mediating variables such as perceived trust, authenticity, or enjoyment may help clarify why some emotional constructs (e.g., empathy, warmth) did not show significant direct effects. Finally, comparing AI interactions with human service agents would offer deeper insight into how customers differentiate between technological and human empathy in shaping satisfaction and loyalty.

6.5 Summary

In conclusion, this research underscores the growing strategic role of AI-driven customer experience in cultivating brand love. By combining reliability, responsiveness, and human-like interaction design, firms can not only improve service efficiency but also foster meaningful emotional bonds with their customers — transforming AI from a mere tool into a relationship-building partner.

7. Appendix

	Constructs	Items	References
1	Responsiveness	When searching for a product/service of a brand, AI will provide a quick response to the search results.	(Sao et al., 2025)
		When researching a product/service of a brand, I have access to AI for continuous support at any time.	
		When I have any questions or difficulties, the AI system will handle and give an answer/solution immediately.	
		This AI system is so efficient and agile, nnos will execute requests or answers almost instantly.	
2	Reliabilities	This AI always provides the right answers and works very stably no matter how long you chat with it or how many questions you ask.	
		AI's service is always excellent and stable in equal measure.	
		I trust the AI's capabilities because it not only answers questions accurately but is also very professional	

		Whenever I use AI, the information I receive is always accurate.	
3	Empathy	When I come up with my own problems, the AI system is able to solve them quickly and quickly.	
		The AI system not only follows what is asked, but also picks up my tastes and habits to come up with the most suitable counter or product/service.	
		AI answers questions very informatively and well-thought-out.	
		The AI didn't just respond on duty, but really took my problem seriously and tried to solve it.	
4	Service Quality	I feel comfortable/secure using features and services with AI integration	(Wang et al., 2024)
		What the AI gives is the right information and I can completely trust it to take care of errors.	
		This AI made me feel like I was being given special care by a customer service agent	
		Not only does the AI solve my problem quickly, but it also makes me feel comfortable and stress-free to use.	
5	Perceived warmth	AI is very friendly to interact with	(Hao & Li, 2025)
		AI is very pleasant and not cold when interacting	
		AI is very kind and willing to help when interacting.	
		AI always tells the truth, does not pretend or tries to manipulate when interacting	
6	Understanding humanness	The AI can understand exactly what I mean.	
		This AI is smart in understanding my intentions.	
		The understanding ability of this AI is similar to that of a human being.	
		I consider the AI's comprehending ability to be human like.	
7	Customer Experience	I will feel very satisfied/enjoyed interacting with this AI.	
		During the use of this AI, I felt comfortable and cared for	
		This AI treats me like an important customer.	
		I would have felt comfortable interacting with this AI.	

8	Communication	AI provides quick responses to customer opinions	(Jiang et al., 2022)
		AI service makes an adequate change based on customers' feedback.	
		AI addresses customers' complaints in a timely manner.	
		AI is sensitive to customers' needs at the moment.	
		AI handles problems when I complain with a very good attitude and very good faith	
		AI treats its customers as real communication partners.	
		AI respects customers' perspectives or opinions.	
		AI avoids dominating the conversation with customers.	
		AI invites customers to an open dialogue.	
		AI tries to establish a common ground of understanding with customers.	
9	Customer Satisfaction	I am satisfied with the AI service.	
		I feel fine, have nothing to complain about, and accept the quality of the AI service.	
		The AI service did a good job.	
		The AI did what I expected.	
		I am happy with the AI service	
10	Brand Love	I intend to keep purchasing products/services from this brand.	
		I would strongly recommend others to use products/services from this brand	
		I would expand to using other products/services of the brand.	

Appendix 1: Structures of the questionnaire

8. References

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