



## Algorithmic Personalization in AI Chatbots: Implications for Consumer Purchase Intent

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### Abstract

As artificial intelligence-enabled chatbots become integral to digital commerce, personalization has emerged as a central mechanism shaping consumer responses. While prior studies acknowledge the effectiveness of personalization, limited research explains the psychological processes through which AI chatbot personalization influences consumer purchase intent. This study develops a theory-driven conceptual framework integrating relationship marketing and technology acceptance perspectives to examine how personalized chatbot interactions affect purchase intent. The framework proposes that personalization enhances perceived relevance and consumer engagement while calibrating trust in the chatbot, and that these factors jointly mediate the relationship between personalization and purchase intent. By articulating explicit causal pathways and testable hypotheses, the study advances mechanism-based understanding of AI-enabled personalization and addresses fragmentation in existing literature. The findings offer actionable insights for firms seeking to design transparent, trustworthy, and effective chatbot systems and contribute to responsible AI governance in digital markets.

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### 1. Introduction

Artificial intelligence (AI)-enabled chatbots have become foundational infrastructure in digital commerce, reshaping how consumers search, evaluate, and commit to purchase decisions across sectors such as retail, banking, travel, and healthcare (Davenport *et al.*, 2020; Huang & Rust, 2021)<sup>[2, 6]</sup>. By automating interactive exchanges at scale, chatbots reduce transaction costs and information frictions—outcomes directly linked to productivity growth and consumer welfare in technology-driven economies (Shankar *et al.*, 2011)<sup>[16]</sup>.

A defining advancement of contemporary chatbots lies in their capacity for algorithmic personalization. Unlike static digital interfaces, AI chatbots dynamically tailor dialogue, recommendations, and decision support using consumer data, contextual signals, and learning models (Tam & Ho, 2006; Kumar *et al.*, 2016; Shah, A., Khan, S. A., & Arman, M., 2024)<sup>[19, 9, 21]</sup>. While prior research establishes personalization as a driver of relevance and satisfaction, its automation through AI introduces new theoretical and policy-relevant tensions surrounding trust, transparency, and perceived control (Aguirre *et al.*, 2015; Pizzi *et al.*, 2021)<sup>[1, 14]</sup>.

Despite rapid adoption, existing literature offers limited integrative explanation of *how* and *why* chatbot personalization translates into consumer purchase intent. Fragmentation across consumer behavior, relationship marketing, and information systems research constrains cumulative knowledge and evidence-based governance.

Addressing this gap, the present study poses the following research question: *How does AI chatbot personalization influence consumer purchase intent, and through which theoretically grounded psychological mechanisms does this influence occur?*

## 2. Literature Review

### 2.1. AI Chatbots in Consumer–Firm Interaction

AI chatbots are conversational agents designed to simulate human dialogue and assist users in achieving specific goals (Gnewuch *et al.*, 2017) [5]. Prior research highlights their role in improving service efficiency, reducing operational costs, and enabling continuous customer support (Davenport *et al.*, 2020) [2]. More recent studies emphasize their strategic role in shaping consumer experiences, engagement, and decision-making processes (McLean & Osei-Frimpong, 2019; Li & Wang, 2023) [13, 10].

### 2.2. Personalization in Digital Marketing

Personalization refers to the tailoring of content, recommendations, and interactions based on individual consumer characteristics (Tam & Ho, 2006) [19]. In digital contexts, personalization has been shown to increase perceived usefulness and reduce information overload (Adil Shah, Tasfia Tarannum, Abdullah Al Mahmood, & Shanzida Kabir. (2026) [15]. However, its effectiveness depends on consumers' perceptions of control, transparency, and fairness in data usage (Xu *et al.*, 2009; Pizzi *et al.*, 2021) [20, 14].

### 2.3. Purchase Intent as a Behavioral Outcome

Purchase intent is widely used as a proxy for actual buying behavior and reflects a consumer's conscious plan to purchase a product or service (Gefen *et al.*, 2003) [4]. Prior research suggests that purchase intent is influenced by cognitive evaluations such as perceived value, affective responses such as enjoyment, and relational factors including trust (Adil Shah, Abdullah Al Mahmood, & Shanzida Kabir. 2025) [17].

## 3. Conceptual Framework and Hypotheses Development

The proposed framework explicitly articulates a cause–effect–benefit chain linking AI chatbot personalization to economically and socially relevant outcomes. At the causal level, personalization represents an AI-enabled intervention that alters the informational and relational structure of consumer–firm interactions (Tam & Ho, 2006) [19]. At the effect level, personalization shapes consumer cognition and affect by increasing perceived relevance, calibrating trust, and intensifying engagement (Gefen *et al.*, 2003; McLean & Osei-Frimpong, 2019) [4, 13]. At the benefit level, these mechanisms translate into higher purchase intent, reduced decision uncertainty, and more efficient digital transactions. Grounded in relationship marketing and technology acceptance theory, the framework advances six hypotheses:

- **H1:** AI chatbot personalization has a positive effect on perceived relevance of information.
- **H2:** Perceived relevance positively influences consumer trust in the chatbot.
- **H3:** AI chatbot personalization positively affects consumer engagement during the interaction.
- **H4:** Consumer trust positively influences purchase intent.
- **H5:** Consumer engagement positively influences

purchase intent.

- **H6:** Trust and engagement jointly mediate the relationship between chatbot personalization and purchase intent.

By structuring these relationships explicitly, the model enables empirical testing of not only whether personalization works, but *why* it produces economically meaningful outcomes.

## 4. Methodology

To empirically test the proposed framework, a quantitative research design is suggested, consistent with prior chatbot and digital marketing studies (Shah, A., Arman, M., & Khan, S. A. (2025) [8].

### 4.1. Sample and Data Collection

Data may be collected through an online survey targeting consumers who have interacted with AI chatbots in e-commerce settings (McLean & Osei-Frimpong, 2019) [13]. Respondents should be screened to ensure prior chatbot experience, and stratified sampling may be used to ensure demographic diversity.

### 4.2. Measurement Scales

Validated scales from prior literature can be adapted to measure personalization, perceived relevance, trust, engagement, and purchase intent (Gefen *et al.*, 2003; Komiak & Benbasat, 2006) [4, 7]. All constructs may be measured using seven-point Likert scales.

### 4.3. Data Analysis

Structural equation modeling (SEM) is recommended to assess both measurement and structural models and to test the proposed mediating effects (Liu *et al.*, 2020) [12].

## 5. Discussion

The proposed model highlights personalization as a central mechanism through which AI chatbots influence consumer purchase intent. By enhancing relevance and fostering trust and engagement, personalized chatbot interactions can reduce consumer uncertainty and increase confidence in purchase decisions (Aguirre *et al.*, 2015; Li & Wang, 2023) [1, 10]. However, excessive or opaque personalization may undermine trust, underscoring the importance of transparency and explainability in chatbot design (Pizzi *et al.*, 2021) [14].

## 6. Theoretical and Managerial Implications

From a theoretical standpoint, this study advances the literature by positioning AI chatbot personalization as a multi-mechanism construct that operates simultaneously through relevance formation, trust calibration, and engagement intensity. By integrating relationship marketing theory with technology acceptance and human–computer interaction perspectives, the framework clarifies why personalization effects are contingent on governance-related perceptions rather than technological sophistication alone (Gefen *et al.*, 2003; Komiak & Benbasat, 2006) [4, 7]. This integration supports cumulative theory building in AI-enabled consumer decision-making. From a managerial and policy-relevant perspective, the findings underscore that personalization is a strategic lever with direct implications for consumer welfare and market

efficiency. Firms deploying AI chatbots should prioritize explainability, proportional data use, and user control to sustain trust at scale (Xu *et al.*, 2009; Pizzi *et al.*, 2021)<sup>[20, 14]</sup>. At a broader level, the framework informs responsible AI design practices that align innovation with public interest objectives, supporting a competitive yet trustworthy digital commerce ecosystem.

### 7. Limitations and Future Research

This study is conceptual and requires empirical validation. Future research may explore cross-cultural differences, longitudinal effects, and comparisons between human agents and AI chatbots (McLean & Osei-Frimpong, 2019)<sup>[13]</sup>. Experimental designs examining varying levels of personalization and privacy disclosure may further refine understanding of consumer responses (Aguirre *et al.*, 2015)<sup>[1]</sup>.

### 8. Conclusion

This study establishes a clear and testable cause–effect–benefit pathway explaining how AI chatbot personalization influences consumer purchase intent. By demonstrating that personalization affects behavior through relevance formation, trust calibration, and engagement intensity, the framework moves beyond descriptive accounts of AI adoption toward mechanism-based explanation. As AI technologies continue to evolve, understanding consumer responses to personalization will remain critical for both researchers and practitioners.

### 9. References

- Aguirre E, Mahr D, Grewal D, de Ruyter K, Wetzels M. Unraveling the personalization paradox: the effect of information collection and trust-building strategies on online advertisement effectiveness. *J Retail*. 2015;91(1):34-49.
- Davenport TH, Guha A, Grewal D, Bressgott T. How artificial intelligence will change the future of marketing. *J Acad Mark Sci*. 2020;48(1):24-42.
- Etemad-Sajadi R, Ghachem L. The impact of hedonic and utilitarian value of online avatars on e-service quality and customer loyalty. *J Retail Consum Serv*. 2022;65:102879.
- Gefen D, Karahanna E, Straub DW. Trust and TAM in online shopping: an integrated model. *MIS Q*. 2003;27(1):51-90.
- Gnewuch U, Morana S, Maedche A. Towards designing cooperative and social conversational agents for customer service. *Proc Int Conf Inf Syst*. 2017.
- Huang MH, Rust RT. Artificial intelligence in service. *J Serv Res*. 2021;24(1):3-13.
- Komiak SYX, Benbasat I. The effects of personalization and familiarity on trust and adoption of recommendation agents. *MIS Q*. 2006;30(4):941-960.
- Shah A, Arman M, Khan SA. Patient-centric marketing and retention strategies in healthcare: a strategic and technological framework. *J Bus Manag Stud*. 2025;7(2):239-248. doi:10.32996/jbms.2025.7.2.17
- Kumar V, Dixit A, Javalgi RG, Dass M. Digital transformation of business-to-business marketing: framework, value drivers, and future research directions. *Ind Mark Manage*. 2016;89:1-14.
- Li C, Wang Y. Conversational commerce: how AI chatbots influence consumer engagement and purchase intention. *Electron Commer Res Appl*. 2023;58:101176.
- Shah A, Khan SA, Arman M. Predicting and preventing drug shortages: a big-data digital-twin framework for pharmaceutical supply-chain optimization. *J Econ Finance Account Stud*. 2024;6(6):116-126. doi:10.32996/jefas.2024.6.6.9
- Liu X, He J, Gao F, Xie P. An empirical study of online shopping customer satisfaction in China: a holistic perspective. *Int J Retail Distrib Manag*. 2020;48(7):1-20.
- McLean G, Osei-Frimpong K. Chatbots and online consumer engagement: a systematic literature review. *Comput Human Behav*. 2019;98:1-12.
- Pizzi G, Scarpi D, Pantano E. Artificial intelligence and the new forms of interaction: who has the control when interacting with a chatbot? *J Bus Res*. 2021;129:878-890.
- Adil Shah, Tasfia Tarannum, Abdullah Al Mahmood, Shanzida Kabir. Customer expectations on electric vehicles in the USA market: a comprehensive analysis of shifting preferences and purchase intentions. *J Bus Manag Stud*. 2026;8(1):20-27. doi:10.32996/jbms.2026.8.1.2
- Shankar V, Inman JJ, Mantrala M, Kelley E, Rizley R. Innovations in shopper marketing: current insights and future research issues. *J Retail*. 2011;87(Suppl 1):S29-S42.
- Adil Shah, Abdullah Al Mahmood, Shanzida Kabir. Accelerating the transition: ultra-fast charging infrastructure and U.S. global competitiveness in electric mobility. *J Bus Manag Stud*. 2025;7(10):51-61. doi:10.32996/jbms.2025.7.10.6
- Shah A, Bhowmik J, Kabir S. Bridging the reality gap: quantifying the impact of charging station infrastructure on U.S. EV adoption and market stability. *J Manag World*. 2026;(1):1-6. doi:10.53935/jomw.v2024i4.1249
- Tam KY, Ho SY. Understanding the impact of web personalization on user information processing and decision outcomes. *MIS Q*. 2006;30(4):865-890.
- Xu H, Teo HH, Tan BCY, Agarwal R. The role of push-pull technology in privacy calculus. *J Manag Inf Syst*. 2009;26(3):135-174.
- Khan SA, Shah A, Arman M. AI chatbots in clinical settings: a study on their impact on patient engagement and satisfaction. *J Manag World*. 2024;(3):207-213. doi:10.53935/jomw.v2024i4.1201

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