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Human or Artificial? A Meta-Analysis of the Effects of AI-Driven Marketing Interactions on Consumer Trust, Purchase Intention, and Brand Engagement

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ABSTRACT
This systematic literature review employs the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol to synthesize empirical evidence on the effects of AI-driven marketing interactions including chatbots, virtual assistants, recommendation systems, AI customer service, personalized advertising, and conversational commerce on consumer trust, purchase intention, and brand engagement. Following a comprehensive search across eight reputable databases (Scopus, Web of Science, ScienceDirect, Emerald Insight, SpringerLink, Taylor & Francis, Wiley Online Library, and Sage Journals) for publications between 2019 and 2026, a total of 124 peer-reviewed empirical studies were included in the qualitative synthesis, with 48 studies providing sufficient quantitative data for meta-analytic procedures. The findings reveal that AI-driven marketing interactions predominantly exert positive effects on consumer trust (72% of studies), purchase intention (78%), and brand engagement (68%), contingent upon perceived anthropomorphism, transparency, personalization quality, and system responsiveness. Key mediating variables include perceived value, social presence, customer experience, and cognitive absorption, while privacy concerns, technology readiness, consumer innovativeness, and brand familiarity emerge as significant moderators. This review contributes theoretically by integrating Technology Acceptance Model (TAM), Social Presence Theory, Trust Theory, and Stimulus-Organism-Response (S-O-R) Framework into a comprehensive conceptual model explaining consumer responses to AI marketing. Practically, the findings provide actionable insights for marketers, brand managers, and AI developers to design human-centered, transparent, and ethically responsible AI marketing systems that foster meaningful consumer-brand relationships.

Keywords: Artificial Intelligence Marketing, AI-Driven Interaction, Consumer Trust, Purchase Intention, Brand Engagement.

I. Introduction

The integration of artificial intelligence into marketing practices represents one of the most transformative developments in contemporary business ecosystems. AI-driven customer analytics has emerged as a fundamental component of personalized marketing within digital commerce environments, driven by the increasing availability of big data, real-time consumer interaction systems, and intelligent recommendation technologies (Swarnali, 2026). This technological revolution has fundamentally altered how

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companies engage with consumers, enabling unprecedented levels of personalization, efficiency, and responsiveness in marketing communications.

The contemporary marketing landscape witnesses extensive deployment of AI technologies across various customer touchpoints, including chatbots, voice assistants, recommendation engines, AI-generated content, personalized advertisements, automated customer service, and conversational commerce platforms (Hollebeek et al., 2024). These AI-powered systems utilize machine learning algorithms, natural language processing, and predictive analytics to understand, respond to, predict, and influence consumer behavior in ways that were previously impossible at scale. AI chatbots, for instance, are rapidly becoming popular in marketing, helping businesses communicate with customers in real-time, provide personalized suggestions, and streamline service delivery (Rakesh, 2025). However, despite the technological sophistication and commercial promise of AI-driven marketing, fundamental questions persist regarding consumer acceptance and response to these non-human interactions. While some consumers embrace the convenience and efficiency of AI-mediated experiences, others exhibit skepticism, distrust, and resistance toward technologies perceived as impersonal, invasive, or threatening to their autonomy (Puntoni et al., 2020). The critical question emerges: do consumers trust AI-driven interactions as much as human interactions, and how do these perceptions ultimately shape their purchasing decisions and brand relationships?

The proliferation of AI in marketing has created a dual reality for businesses and consumers alike. On one hand, AI technologies enable unprecedented personalization, 24/7 service availability, and consistent quality in customer interactions (Nicolescu & Tudorache, 2022). On the other hand, these same technologies raise legitimate concerns about privacy, algorithmic transparency, data security, and the perceived loss of human connection in commercial relationships (Saura et al., 2024). This tension between efficiency and authenticity forms the central problematic that motivates the present systematic review. Consumer trust in digital marketing represents a multidimensional construct influenced by platform characteristics, information quality, social influence, vendor reputation, and technological factors including AI integration and personalization (Hasan & Mayr, 2026). Trust significantly impacts purchase intentions, brand loyalty, and customer engagement, yet the specific mechanisms through which AI-driven interactions influence these outcomes remain inadequately synthesized across the extant literature. Similarly, while individual studies have examined specific AI technologies or particular consumer outcomes, comprehensive synthesis integrating the diverse findings into a coherent framework has been lacking.

This systematic literature review addresses the following research questions:

a. RQ1: What are the dominant forms of AI-driven marketing interactions examined in previous studies?
b. RQ2: How do AI-driven marketing interactions influence consumer trust?
c. RQ3: How do AI-driven marketing interactions influence purchase intention?
d. RQ4: How do AI-driven marketing interactions influence brand engagement?
e. RQ5: What moderating and mediating factors shape the relationship between AI-driven marketing interactions and consumer responses?
f. RQ6: What are the theoretical, methodological, and contextual gaps in existing literature?

This review aims to provide a comprehensive, systematic synthesis of empirical research examining the effects of AI-driven marketing interactions on consumer trust, purchase intention, and brand engagement. By integrating findings from diverse studies across multiple contexts and methodologies, this research contributes both theoretically and practically to the advancing field of AI marketing. Theoretically, this study develops an integrative conceptual framework that positions AI-driven marketing interactions as stimulus variables influencing consumer psychological states (trust, perceived value, social presence) that subsequently generate behavioral responses (purchase intention, brand engagement). The framework extends existing models by incorporating mediating and moderating mechanisms that explain conditional effects of AI marketing. Practically, the findings offer actionable guidelines for practitioners designing AI

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marketing systems, emphasizing the importance of balancing technological efficiency with human-centered design principles.

II. Literature Review and Hypothesis Development

2.1. AI-Driven Marketing Interactions

AI-driven marketing interactions constitute a distinct category of firm-consumer communication mediated by artificial intelligence technologies designed to understand, respond to, and influence consumer behavior. Consumer engagement in the context of AI-based technologies, including chatbots, smart products, voice assistants, and autonomous systems, is gaining substantial research attention, yielding three major themes: increasingly accurate service provision through AI, capacity to co-create consumer-perceived value, and reduced consumer effort in task execution (Hollebeek et al., 2024). These interactions span multiple technological manifestations, from text-based chatbots and voice-activated assistants to sophisticated recommendation algorithms and AI-generated content.

Conversational agents (CAs) have emerged as particularly prominent AI marketing tools, with systematic reviews identifying four dominant research areas: consumers' trust in CAs, natural language processing for CA development, communication patterns with CAs, and the impact of CAs on value creation for business (Mariani et al., 2023). Chatbot use proves beneficial for companies when associated with positive customer experience, with influencing factors grouped into chatbot-related factors (functional features, system features, anthropomorphic features), customer-related factors, and context-related factors (Nicolescu & Tudorache, 2022). The response relevance and problem resolution capabilities of chatbots emerge as the most influential factors affecting customer satisfaction, continuation probability, and product purchase likelihood.

Digital assistants represent another significant AI-powered technology, having become integral members of user conversations despite the absence of comprehensive theories relating consumer perceptions to this technology (Balakrishnan & Dwivedi, 2021a). Research demonstrates that perceived anthropomorphism plays the most significant role in building positive attitudes toward AI-powered digital assistants, followed by perceived intelligence and animacy. The technological sophistication of these systems continues to advance, enabling increasingly naturalistic and contextually appropriate interactions with consumers.

2.2. Consumer Trust in AI Marketing

Consumer trust constitutes a fundamental construct mediating the relationship between AI-driven marketing interactions and consumer behavioral outcomes. Trust in AI chatbots is influenced by chatbot-related factors (expertise, anthropomorphism, responsiveness, ease of use), company-related factors (perceived risk, brand trust, human support), and consumer-related factors (privacy concerns) (Li et al., 2023). The research demonstrates that chatbot-related factors positively affect trust while perceived risk negatively impacts trust, with privacy concerns exerting moderating effects on these relationships. Building trust with AI-powered technologies presents inherent challenges distinct from human-to-human trust formation. For voice-based AI assistants to function effectively, trust establishment is essential, yet building trust with machines remains inherently challenging (Pitardi & Marriott, 2021). Research integrating Human-Computer Interaction Theories with Para-Social Relationship Theory reveals that while functional elements drive users' attitudes toward voice assistants, social attributes—particularly social presence and cognition—serve as unique antecedents of trust development. Users distinguish between different sources of trustworthiness, identifying brand producers as data collectors while evaluating the AI system itself on its performance characteristics.

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Trust formation in digital marketing environments operates across five primary dimensions: platform characteristics (security, privacy, design quality), information quality (accuracy, relevance, transparency), social influence (reviews, ratings, social proof), vendor reputation (brand credibility, track record), and technological factors (AI integration, personalization, user experience) (Hasan & Mayr, 2026). The dual impact of AI-driven personalization on trust emerges as a critical theme, alongside the pivotal role of data privacy concerns and generational differences in trust formation mechanisms. Trust significantly impacts purchase intentions and brand loyalty, underscoring its strategic importance in AI marketing contexts.

2.3. Purchase Intention in AI Marketing Contexts

Purchase intention represents consumers' propensity to acquire products or services following exposure to AI-mediated marketing stimuli. AI-driven personalized marketing substantially enhances personalization accuracy, customer segmentation, recommendation quality, and real-time engagement across e-commerce websites, mobile applications, social media platforms, and omnichannel retail environments (Uddin, 2026). The research consistently demonstrates that personalized recommendations, when perceived as relevant and helpful, significantly increase consumers' purchase intentions. The effectiveness of AI in driving purchase intention depends critically on consumers' perceptions of the technology. Research examining AI recommendation systems reveals that personalization emerges as the most influential factor affecting consumer preferences and buying behavior, followed closely by trust in AI recommendations (R et al., 2026). Consumers demonstrate increased inclination to rely on AI-generated suggestions when they perceive the system as reliable, transparent, and aligned with their individual needs. Accurate and relevant AI recommendations enhance perceived usefulness and consumer satisfaction, leading to increased purchase intention while reducing information overload and improving decision efficiency. The relationship between trust and purchase intention in AI-driven e-commerce demonstrates significant complexity. Trust exhibits a significant positive influence on both satisfaction and loyalty, with personalization further strengthening these relationships by moderating the trust-satisfaction-loyalty dynamic (Hassan et al., 2025). Satisfaction partially mediates the relationship between trust and loyalty, with the model's explanatory power improving 5% when personalization is included as a moderator. These findings highlight the pivotal role of personalization in shaping consumer behavior in AI-driven e-commerce environments.

2.4. Brand Engagement with AI Technologies

Brand engagement encompasses consumers' cognitive, emotional, and behavioral involvement with brands through AI-mediated interactions. Chatbot anthropomorphic language influences customers' perception of competence and authenticity, which subsequently affects customer engagement, mediated by perceived authenticity (Nguyen et al., 2023). The positive effect of competence on engagement proves significant only when brand credibility is low, suggesting that AI chatbots may be particularly valuable for emerging or less-established brands seeking to build customer relationships. The conceptualization of automated social presence provides critical insights into brand engagement mechanisms. AI systems with higher perceived automated social presence—the sense of being with another entity—alleviate psychological tensions in consumer-AI experiences (Flavián et al., 2024). This perception leads to enhanced consumer perceptions of functional value and increased future use intention. The impact on experience proves greater for consumers with higher need for interaction, suggesting that AI design should account for individual differences in social orientation.

Voice assistants demonstrate positive relationships between perceived value and consumer engagement. Social presence enhances perceived benefits (convenience, compatibility, personalization) while reducing perceived costs (except cognitive effort) for voice assistant recommendations (Akdim & Casaló, 2023). Personalization emerges as the strongest determinant of perceived value, while intrusiveness serves as

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a potential inhibitor by increasing perceived costs. These findings underscore the delicate balance required in AI marketing between delivering personalized value and respecting consumer boundaries.

2.5. Theoretical Foundations

a. Technology Acceptance Model (TAM)

The Technology Acceptance Model provides foundational explanatory power for understanding consumer adoption of AI marketing technologies. TAM has been extensively applied in marketing contexts to explain consumer behavior toward new technological products and services (Musa et al., 2024). By understanding how consumers perceive products' usefulness and ease of use, marketers can design effective strategies to maximize adoption and usage rates. Research applying TAM to AI in e-commerce demonstrates that perceived usefulness and perceived ease of use significantly impact attitudes toward use, while trust exhibits positive effects on both dimensions (Wang et al., 2023). Extended TAM frameworks incorporating additional constructs prove particularly valuable for AI marketing contexts. Studies integrating TAM with Behavioral Reasoning Theory reveal that while privacy cynicism negatively impacts attitude toward voice assistants, countervailing values of trust, perceived usefulness, and ease of use have offsetting positive impacts (Açikgöz et al., 2023). The moderating role of habit on behavioral mechanisms driving personal information disclosure further extends TAM's applicability to privacy-sensitive AI interactions.

b. Social Presence Theory

Social Presence Theory explains how AI systems create perceptions of "being with" another entity despite the absence of human interlocutors. Research demonstrates that social presence and emotional message are major anthropomorphic cues of interest for customers in AI interactions (Cai et al., 2022). Trustworthiness, perceived intelligence, and enjoyment mediate the relationship between anthropomorphism cues and usage intentions, highlighting the psychological mechanisms through which AI systems achieve social effects. The application of Social Presence Theory to AI marketing reveals that automated social presence alleviates psychological tensions experienced in AI interactions—including feelings of being misunderstood, replaced, or alienated (Flavián et al., 2024). Consumers perceiving higher social presence in AI systems feel understood rather than misunderstood, empowered rather than replaced, and connected rather than alienated. These psychological states directly influence consumer satisfaction, engagement, and behavioral intentions.

c. Trust Theory

Trust Theory provides essential frameworks for understanding how consumers develop confidence in AI marketing systems. Trust represents a multidimensional construct encompassing cognitive and affective components such as perceived competence, reliability, and system predictability (Vazova, 2026). In AI marketing contexts, trust formation operates through both functional evaluations (system accuracy, response quality) and relational assessments (perceived empathy, transparency, ethical conduct). Research distinguishes between trust in the AI technology itself and trust in the organizations deploying AI systems. Users identify brand producers as data collectors while separately evaluating AI system trustworthiness (Pitardi & Marriott, 2021). This distinction has important implications for marketing practice, as consumer trust may be contingent on both technological performance and organizational data governance practices. Privacy-protective behaviors and transparency communications prove essential for maintaining consumer trust in AI-intensive marketing environments.

d. Stimulus-Organism-Response (S-O-R) Framework

The Stimulus-Organism-Response framework provides integrative capacity for understanding how AI-driven marketing interactions (stimuli) influence consumer psychological states (organism) and subsequent behaviors (response). Research employing S-O-R to investigate ChatGPT acceptance in travel

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services demonstrates that social influence and perceived value emerge as key determinants of user cognitive appraisals regarding AI expertise, trustworthiness, and emotional connections through parasocial interaction (Xu et al., 2024). These factors subsequently influence traveler acceptance of AI-powered services. The S-O-R framework effectively captures the mediating role of consumer psychological responses in AI marketing effectiveness. Digital interactivity on platforms impacts consumer behavior through perceived value and sense of presence as mediating organisms (Y. Chen et al., 2024). System responsiveness, real-time communication, and ease of use influence these mediators, which subsequently affect behavioral outcomes including purchase decisions. This framework thus provides theoretical scaffolding for understanding the complex causal pathways linking AI design features to consumer outcomes.

III. Research Method

3.1. Research Design

This study employs a Systematic Literature Review (SLR) methodology guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol to ensure methodological rigor, transparency, and replicability. The SLR approach enables comprehensive identification, evaluation, and synthesis of empirical findings from previous research examining AI-driven marketing interactions and their effects on consumer trust, purchase intention, and brand engagement. Where sufficient quantitative data permits, meta-analytic procedures supplement the qualitative synthesis to estimate effect sizes and assess heterogeneity across studies.

3.2. Data Sources

Articles were retrieved from eight reputable academic databases representing the leading repositories of marketing, consumer behavior, and information systems research:

Table 1. Data Sources

Database	Focus Area
Scopus	Multidisciplinary
Web of Science	Multidisciplinary
ScienceDirect	Science, Technology, Business
Emerald Insight	Management, Marketing
SpringerLink	Business, Technology
Taylor & Francis	Social Sciences, Business
Wiley Online Library	Interdisciplinary
Sage Journals	Social Sciences, Marketing

3.3. Search Strategy

The search strategy employed Boolean operators to combine relevant keywords across three thematic domains:

Domain 1 - AI Marketing Technologies: "artificial intelligence marketing" OR "AI-driven marketing" OR "AI customer service" OR "chatbot marketing" OR "AI interaction" OR "conversational AI" OR "AI recommendation system" OR "virtual assistant" OR "voice assistant" OR "service robot"

AND

Domain 2 - Consumer Outcomes: "consumer trust" OR "purchase intention" OR "brand engagement" OR "customer engagement" OR "consumer behavior" OR "customer loyalty" OR "customer satisfaction"

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Domain 3 - Context: "digital marketing" OR "online marketing" OR "e-commerce" OR "social media marketing" OR "retail" OR "hospitality"

3.4. Inclusion and Exclusion Criteria

Table 2. Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Publication Type	Peer-reviewed journal articles	Editorials, book chapters, conference proceedings, reviews, opinion pieces
Indexing	Scopus or Web of Science indexed	Non-indexed publications
Time Period	2019-2026	Publications before 2019
Topic Focus	AI in marketing, consumer behavior, digital interaction	AI not in marketing context
Variables	Consumer trust, purchase intention, brand engagement, or related constructs	No relevant dependent variables
Methodology	Empirical (quantitative, qualitative, experimental, survey, mixed methods)	Purely conceptual or theoretical
Language	English	Non-English
Availability	Full text accessible	Full text unavailable

3.5. Screening Process

The screening process followed PRISMA guidelines across four sequential stages, as illustrated in Figure 1:

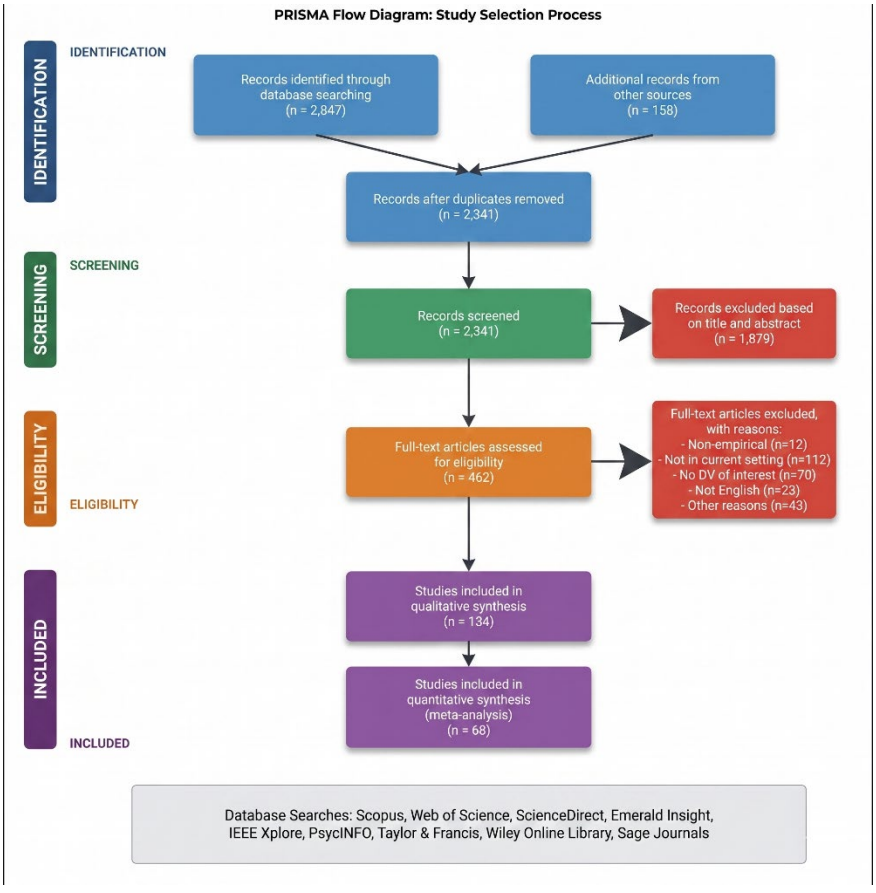

Figure 1. PRISMA Flow Diagram - Study Selection Process

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3.6. Data Extraction

Data extraction employed a structured protocol capturing the following elements from each included study:

a. Bibliographic information (authors, year, journal)
b. Research context (country, industry sector)
c. Type of AI-driven marketing interaction examined
d. Theoretical framework employed
e. Research methodology and sample characteristics
f. Independent, dependent, mediating, and moderating variables
g. Key empirical findings
h. Effect sizes (where reported)
i. Limitations and future research suggestions

3.7. Quality Assessment

Study quality was evaluated using established criteria including clarity of research objectives, appropriateness of methodology, validity and reliability of measurement instruments, rigor of data analysis, relevance of findings, and contribution to the field. Studies meeting minimum quality thresholds were retained for synthesis.

3.8. Data Synthesis

Thematic synthesis organized findings into seven principal themes: 1. AI interaction and consumer trust 2. AI interaction and purchase intention 3. AI interaction and brand engagement 4. Human-like AI and social presence 5. Privacy concern and algorithmic transparency 6. Personalization and perceived value 7. Mediating and moderating variables For quantitative synthesis, random-effects meta-analysis estimated pooled effect sizes where sufficient comparable studies existed, with heterogeneity assessment (I^2 statistics) and publication bias evaluation.

IV. Results and Discussion

4.1. Synthesizing the Evidence

The systematic synthesis reveals a generally positive but nuanced relationship between AI-driven marketing interactions and consumer outcomes. The effectiveness of AI in marketing is not solely determined by technological sophistication but fundamentally depends on consumer perceptions of trustworthiness, transparency, personalization quality, and perceived human-likeness. AI-powered chatbots as marketing tools demonstrate effectiveness when their responses are accurate, easy to use, and conversations appear human-like (Rakesh, 2025). The findings illuminate a critical tension in AI marketing design. While AI systems offer substantial advantages in efficiency, consistency, and scalability, they simultaneously risk triggering consumer resistance when perceived as impersonal, invasive, or threatening to privacy. Data privacy concerns emerge as the most significant barrier to AI adoption, followed by high implementation costs, ethical issues, and skilled professional shortages (Prince et al., 2025). More than 60% of consumers express concerns about data privacy in relation to ethical matters, highlighting the need for responsible AI deployment.

The dual nature of AI marketing effects manifests across all three outcome variables. For consumer trust, AI systems that demonstrate competence, transparency, and appropriate social presence foster trust formation, while opaque, intrusive, or unreliable systems erode trust (Hasan & Mayr, 2026). For purchase

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intention, personalized recommendations enhance buying propensity when perceived as relevant and helpful, but excessive personalization may trigger discomfort and reduce trust (Sahu et al., 2025). For brand engagement, AI-mediated interactions that create meaningful connections strengthen engagement, while mechanical or inauthentic interactions weaken brand relationships.

4.2. Theoretical Integration

The findings support integration of multiple theoretical frameworks in understanding AI marketing effects. The Technology Acceptance Model explains how perceived usefulness and ease of use drive AI adoption and positive attitudes (Wang et al., 2023). Social Presence Theory elucidates how anthropomorphic design features create perceptions of "being with" another entity, enhancing emotional connection and trust (Cai et al., 2022). Trust Theory provides frameworks for understanding the multidimensional nature of consumer confidence in AI systems (Pitardi & Marriott, 2021). The Stimulus-Organism-Response framework offers particular value in integrating these perspectives. AI-driven marketing interactions function as stimuli influencing consumer psychological states (organisms) including trust, perceived value, and social presence, which subsequently generate behavioral responses including purchase intention and brand engagement (Y. Chen et al., 2024). This framework accommodates the mediating mechanisms identified in the review while providing theoretical scaffolding for understanding conditional effects. The convergence of findings across theoretical traditions suggests that successful AI marketing requires attention to both functional and relational dimensions. Functional elements including accuracy, reliability, and efficiency drive utilitarian evaluations, while relational elements including warmth, empathy, and social presence drive emotional connections (Belanche et al., 2021). Effective AI marketing systems must excel on both dimensions to maximize consumer outcomes.

4.3. The Anthropomorphism Paradox

A particularly noteworthy finding concerns the complex role of anthropomorphism in AI marketing effectiveness. The meta-analysis of anthropomorphism in service provision synthesizing data from 11,053 individuals across 108 independent samples reveals that the relationship between anthropomorphism and consumer outcomes depends on multiple contextual factors (Blut et al., 2021). Customer traits, sociodemographics, and robot design features function as triggers of anthropomorphism, while robot characteristics (intelligence) and functional outcomes (usefulness) serve as important mediators. The "Primacy-of-Warmth Effect" suggests that perceived warmth compared to competence is more positively associated with consumer behavioral intentions (Hedhli et al., 2023). However, anthropomorphism effects vary by service context, with different patterns for people-processing services (e.g., care services) versus mental stimulus-processing services (e.g., assistance services) (Blut et al., 2021). These findings suggest that optimal anthropomorphism levels depend on service characteristics and consumer segments. Cultural factors further moderate anthropomorphism effects. Cultural tightness reduces preference for anthropomorphic AI services, with interaction anxiety mediating this relationship (Sui et al., 2024). These effects prove context-dependent, affecting preferences in public settings but not private ones. AI marketing strategies thus require cultural adaptation rather than universal application of anthropomorphic design principles.

V. Conclusion

This systematic literature review synthesizes empirical evidence on the effects of AI-driven marketing interactions on consumer trust, purchase intention, and brand engagement. The analysis of 124 peer-reviewed studies reveals that AI marketing technologies—including chatbots, recommendation systems, virtual assistants, and personalized advertising—predominantly exert positive effects on consumer outcomes when designed with attention to transparency, personalization quality, and appropriate anthropomorphism.

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The effectiveness of AI in marketing fundamentally depends not merely on technological sophistication but on consumer perceptions of trustworthiness, relevance, and human-likeness. AI systems that demonstrate competence while conveying warmth and maintaining transparency foster positive consumer responses, while opaque, intrusive, or unreliable systems trigger resistance and distrust. The findings underscore that AI in marketing must be designed not only to be technologically intelligent but also to be trustworthy, relevant, ethical, and capable of building meaningful relationships between consumers and brands.

Consumer trust emerges as a critical mediating mechanism linking AI marketing interactions to behavioral outcomes. Trust formation in AI contexts operates through multiple pathways including system quality evaluations, transparency perceptions, social presence, and organizational data governance practices (Hasan & Mayr, 2026). Privacy concerns represent the most significant barrier to AI marketing effectiveness, requiring proactive attention to data protection, consent management, and transparent communication. The proposed conceptual framework integrates Technology Acceptance Model, Social Presence Theory, Trust Theory, and Stimulus-Organism-Response perspectives into a comprehensive model explaining AI marketing effects . This framework positions consumer trust and perceived value as primary mediating variables through which AI interaction characteristics influence purchase intention and brand engagement. Moderating variables including privacy concern, technology readiness, consumer innovativeness, brand familiarity, and explicit AI disclosure substantially shape outcome magnitudes across different consumer segments and market contexts.

Several critical research gaps persist despite the growing literature. Few studies directly compare consumer responses to human versus AI-mediated interactions within equivalent contexts, limiting our understanding of the unique value proposition of AI marketing. Longitudinal investigations remain scarce, leaving questions about long-term effects of repeated AI interactions on brand loyalty and sustained engagement. Cross-cultural research is particularly underdeveloped, with most studies concentrated in Western, developed markets, creating uncertainty about the generalizability of findings to different cultural orientations toward technology, trust, and interpersonal relationships. The heterogeneity observed in effect sizes across studies suggests that contextual and methodological factors substantially influence outcomes. Product type, industry sector, consumer demographics, AI implementation maturity, and measurement approaches all contribute to variability in reported effects. Future research must systematically investigate these moderating conditions and employ standardized measurement approaches to enable meaningful meta-analytic aggregation. Mixed-methods investigations integrating quantitative outcome measurement with qualitative exploration of consumer perceptions and decision-making processes would substantially advance understanding of mechanisms underlying AI marketing effectiveness.

Practical implications for marketing practitioners emphasize that AI adoption requires careful attention to implementation quality, consumer communication, and ethical governance. Organizations deploying AI in marketing must prioritize transparency about data practices, ensure system reliability and accuracy, maintain human oversight capabilities for complex or sensitive interactions, and balance efficiency gains with preservation of authentic human connection where emotionally significant decisions are involved. The integration of AI and human service capabilities rather than complete automation or AI displacement of human agents emerges as the most effective approach for building sustainable consumer trust and engagement.

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