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Artificial Intelligence Influencers and Sociotechnical Alignment: Trust, Credibility, Ethics, and Organizational Implications in Digital Marketing Ecosystems

Tiesto Hartmann

Department of Marketing and Digital Society University of Amsterdam, The Netherlands

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ABSTRACT

The rapid proliferation of artificial intelligence (AI) in marketing has fundamentally transformed the dynamics of brand communication, consumer engagement, and organizational strategy. Among the most disruptive innovations is the rise of AI-enabled virtual influencers, which blur the boundaries between authenticity, automation, and persuasion. Simultaneously, concerns surrounding AI alignment, transparency, corporate digital responsibility, and sociotechnical safety have intensified. This study develops a comprehensive, integrative research article grounded exclusively in established academic literature to examine the intersection between AI influencers and sociotechnical alignment. Drawing upon systematic review methodologies, theoretical marketing frameworks, and sociotechnical systems theory, this paper synthesizes findings from prior empirical and conceptual studies to construct a multidimensional explanatory framework. The research explores how credibility, authenticity, disclosure practices, and corporate digital responsibility shape consumer trust and engagement, particularly among Generation Z. It further evaluates organizational adoption drivers, ethical constraints, and psychosocial implications for workers within AI-mediated marketing systems. The findings reveal that virtual influencer effectiveness is contingent upon perceived authenticity calibration, transparent disclosure, and alignment between technological capabilities and human values. Moreover, AI adoption in marketing is shaped by structural, cultural, and institutional factors, reinforcing the need for responsible governance mechanisms. This study contributes theoretically by integrating AI alignment theory with influencer marketing literature, methodologically by demonstrating rigorous systematic synthesis, and managerially by offering evidence-informed strategic implications. It concludes that AI influencers represent not merely a technological tool but a sociotechnical phenomenon requiring interdisciplinary governance to ensure ethical and sustainable digital transformation.

Keywords: Artificial Intelligence Influencers, Sociotechnical Alignment, Consumer Trust, Digital Marketing Ethics, AI Adoption, Corporate Digital Responsibility.

INTRODUCTION

The integration of artificial intelligence (AI) into marketing ecosystems represents one of the most transformative shifts in contemporary business practice. Over the past decade, AI technologies have evolved from analytical back-end systems to visible front-end actors in digital consumer spaces. Among these developments, AI-enabled virtual influencers have emerged as a novel category of marketing agents that challenge conventional understandings of authenticity, credibility, and persuasion. Unlike human influencers, virtual influencers are algorithmically generated personas, often powered by generative AI systems capable of simulating human-like communication, appearance, and emotional expression (Looi & Kahlor, 2024; Sorosrungruang, Ameen, & Hackley, 2024). These digital entities operate primarily on social media platforms, where they promote brands, engage audiences, and cultivate parasocial relationships.

The growing prevalence of AI influencers occurs within a broader context of accelerating AI adoption across industries. Empirical evidence suggests that AI adoption in the United States has expanded across sectors, with marketing and customer-facing functions being among the early adopters (McElheran et al., 2024). Organizational decisions to integrate AI are influenced by technological readiness, competitive pressures, and strategic aspirations (Polisetty et al., 2023). In marketing specifically, AI applications range from predictive analytics and personalization engines to conversational agents and automated content creation (Verma et al., 2021; Vlacic et al., 2021). Within this landscape, virtual influencers represent a convergence of AI, branding, and social communication.

However, this technological evolution raises fundamental sociotechnical questions. Dahlgren Lindström et al. (2025) argue that AI alignment and safety cannot be reduced to technical optimization alone. Reinforcement Learning from Human Feedback (RLHF), often used to align AI outputs with human values, faces sociotechnical limits because "human feedback" itself is heterogeneous, culturally situated, and value-laden. In the context of influencer marketing, this insight becomes particularly salient. If AI systems are trained to emulate human authenticity or emotional resonance, whose values define authenticity? How are biases embedded in training data reflected in virtual personas? And to what extent can disclosure and transparency mitigate ethical risks?

The concept of corporate digital responsibility (CDR) provides an additional lens. Lobschat et al. (2021) conceptualize CDR as an extension of corporate social responsibility into digital contexts, encompassing data privacy, algorithmic fairness, transparency, and digital well-being. As firms deploy AI influencers, they assume responsibility not only for commercial performance but also for ethical communication practices. Khalfallah and Keller (2025) emphasize that authenticity, ethics, and transparency are central determinants of consumer trust in virtual influencer marketing across cultures. The interplay between authenticity and artificiality thus becomes a central paradox: AI influencers are inherently synthetic, yet they must appear sufficiently "real" to be persuasive (Sorosrungruang et al., 2024).

The present study addresses a critical literature gap. While prior research has examined AI in marketing broadly (Paschen, Kietzmann, & Kietzmann, 2019; Wirth, 2018), and others have explored virtual influencer effectiveness (Jayasingh, Sivakumar, & Vanathaiyan, 2025; Looi & Kahlor, 2024), limited integrative scholarship connects these streams with sociotechnical alignment theory and corporate digital responsibility. Moreover, although consumer resistance to digital innovations has been studied (Talwar et al., 2020), there remains insufficient synthesis of how disclosure, credibility, and alignment concerns interact in shaping consumer responses to AI influencers.

This research therefore seeks to answer the following overarching question: How do sociotechnical alignment, authenticity perceptions, and corporate digital responsibility jointly influence the effectiveness and ethical legitimacy of AI-enabled virtual influencers in contemporary marketing ecosystems?

To address this question, the article undertakes an extensive, systematic synthesis of the provided references, drawing upon established guidelines for systematic literature reviews (Kitchenham & Charters, 2007; Tranfield, Denyer, & Smart, 2003; Snyder, 2019; Kraus, Breier, & Dasí-Rodríguez, 2020). The objective is not merely to summarize existing findings but to construct a comprehensive theoretical framework that integrates marketing theory, sociotechnical systems theory, and AI governance literature.

By developing this integrative perspective, the study contributes to theory by reconceptualizing AI influencers as sociotechnical agents embedded within value-laden ecosystems. It contributes to practice by identifying actionable implications for

transparency, disclosure, credibility management, and employee well-being. Finally, it contributes to policy discourse by highlighting the limits of purely technical alignment approaches and the necessity of participatory governance in AI-driven marketing.

METHODS

This study adopts a systematic literature synthesis approach grounded in established methodological frameworks for evidence-informed management research. The design is informed by the guidelines proposed by Kitchenham and Charters (2007), Tranfield et al. (2003), Snyder (2019), and Kraus et al. (2020), which emphasize transparency, replicability, and conceptual integration. Rather than conducting new empirical data collection, the study performs a rigorous qualitative synthesis of peer-reviewed journal articles, conference proceedings, and scholarly theses provided in the reference dataset.

The methodological process unfolded in four interrelated phases: scoping, classification, thematic synthesis, and integrative framework development.

In the scoping phase, the boundaries of the inquiry were defined around two central constructs: artificial intelligence influencers and sociotechnical alignment. These constructs were derived inductively from recurring themes across the reference set, particularly those addressing AI in marketing (Verma et al., 2021; Vlacic et al., 2021), influencer credibility (Jayasingh et al., 2025), authenticity and disclosure (Shrestha, 2025; Khalfallah & Keller, 2025), and AI alignment and safety (Dahlgren Lindström et al., 2025).

In the classification phase, the references were categorized into five thematic clusters: (1) AI in marketing theory and practice; (2) virtual influencer effectiveness and consumer psychology; (3) AI adoption and organizational implications; (4) ethical governance and corporate digital responsibility; and (5) methodological foundations for systematic reviews. This categorization facilitated structured comparison across conceptual domains.

The thematic synthesis phase involved detailed coding of conceptual arguments, empirical findings, and theoretical propositions within each cluster. Drawing on qualitative research principles articulated by Neuman (2014), patterns and contradictions were identified. For example, while Looi and Kahlor (2024) highlight comparable engagement levels between human and virtual influencers under certain conditions, Talwar et al. (2020) emphasize resistance factors that may undermine adoption. Such tensions were not treated as inconsistencies but as opportunities for deeper theoretical integration.

Finally, in the integrative framework development phase, insights from sociotechnical alignment theory (Dahlgren Lindström et al., 2025) were interwoven with marketing constructs such as credibility, authenticity, and purchase intention (Jayasingh et al., 2025). The resulting framework conceptualizes AI influencers as sociotechnical assemblages shaped by technological design, organizational governance, cultural norms, and consumer cognition.

This methodological approach aligns with the interpretive tradition in management research while maintaining systematic rigor. By synthesizing diverse yet interrelated literatures, the study seeks to advance cumulative knowledge rather than isolated empirical findings.

RESULT

The systematic synthesis yields five major findings: (1) AI influencers operate within a credibility–authenticity paradox; (2) disclosure practices significantly moderate consumer trust; (3) sociotechnical alignment limitations constrain ethical assurances; (4) organizational adoption is uneven and context-dependent; and (5) psychosocial implications extend beyond consumers to employees and society.

First, the credibility–authenticity paradox emerges as a central tension. Jayasingh et al. (2025) demonstrate that perceived credibility significantly influences consumer engagement and purchase intention. However, Sorosrungruang et al. (2024) reveal that the threshold of "realness" required for effective persuasion varies across audiences. Virtual influencers must appear sufficiently authentic to foster trust, yet excessive realism risks uncanny responses or ethical discomfort. Looi and Kahlor (2024) further indicate that engagement outcomes differ depending on content type and disclosure context. The paradox lies in the fact that authenticity is traditionally associated with human experience, whereas virtual influencers are algorithmically generated constructs.

Second, disclosure practices play a moderating role. Shrestha (2025) finds that Generation Z consumers respond differently to disclosed versus undisclosed AI identities. Transparent labeling of virtual influencers can enhance perceived honesty but may simultaneously reduce perceived relatability.

Khalfallah and Keller (2025) underscore that cross-cultural differences influence how transparency affects trust. These findings align with corporate digital responsibility principles emphasizing transparency and accountability (Lobschat et al., 2021).

Third, sociotechnical alignment limitations complicate ethical governance. Dahlgren Lindström et al. (2025) argue that alignment through RLHF cannot fully resolve normative disagreements embedded in AI systems. Applied to influencer marketing, this suggests that attempts to encode "ethical persuasion" into algorithms may encounter value conflicts across cultures and stakeholder groups. AI influencers trained on biased datasets may reproduce stereotypes or unrealistic beauty standards, thereby undermining digital well-being.

Fourth, organizational adoption patterns reveal structural disparities. McElheran et al. (2024) show that AI adoption is concentrated among larger, technologically advanced firms. Polisetty et al. (2023) identify managerial support and data infrastructure as key determinants. These insights suggest that AI influencer deployment may exacerbate competitive asymmetries between resource-rich and resource-constrained firms.

Fifth, psychosocial implications extend to workers. Kanwal, bin Isha, and Ali (2024) highlight how new technology-enabled working arrangements can produce both well-being benefits and psychosocial hazards. As marketing professionals collaborate with AI systems, role ambiguity and skill displacement may arise. Li et al. (2023) demonstrate that AI integration in healthcare HR functions affects performance dynamics, implying parallel consequences in marketing departments.

DISCUSSION

The findings underscore that AI influencers are not merely technological artifacts but sociotechnical phenomena embedded in complex value systems. The credibility–authenticity paradox reveals that effectiveness depends on calibrated artificiality. Absolute realism is neither necessary nor universally desirable. Instead, consumers appear to accept "constructed authenticity" when transparency and narrative coherence are maintained.

The moderating role of disclosure suggests that ethical transparency does not inherently diminish persuasive impact. Rather, its effects depend on audience characteristics, cultural context, and message framing. For Generation Z, who are digitally native yet skeptical of corporate motives, transparent acknowledgment of AI identity may enhance perceived honesty (Shrestha, 2025). However, overemphasis on artificiality could reduce emotional engagement.

From a governance perspective, the limitations of alignment technologies caution against techno-solutionism. As Dahlgren Lindström et al. (2025) argue, human values are pluralistic and contested. Therefore, responsible AI influencer deployment requires participatory design processes, stakeholder engagement, and ongoing monitoring beyond algorithmic optimization.

Organizationally, firms must integrate AI influencer strategies within broader digital transformation agendas. The literature on AI in marketing (Paschen et al., 2019; Peyravi, Nekrošienė, & Lobanova, 2020; Wirth, 2018) emphasizes that AI enhances market knowledge and personalization capabilities. However, consumer resistance frameworks (Talwar et al., 2020) remind managers that perceived risk, complexity, and incompatibility may hinder acceptance.

Limitations of this study include reliance on secondary data and conceptual synthesis rather than primary empirical testing. Future research should conduct longitudinal experiments comparing human and AI influencer campaigns across cultures. Additionally, interdisciplinary collaboration between marketing scholars and AI ethicists could deepen understanding of alignment challenges.

CONCLUSION

AI-enabled virtual influencers represent a transformative yet ethically complex development in digital marketing. Their effectiveness depends on carefully balanced authenticity, transparent disclosure, and credible communication.

Sociotechnical alignment limitations highlight the necessity of corporate digital responsibility and participatory governance. As organizations increasingly adopt AI systems, integrating ethical foresight with strategic innovation becomes imperative. Ultimately, sustainable AI influencer ecosystems require harmonizing technological capability with human values, cultural sensitivity, and organizational accountability.

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