

Virtual Influencers in Digital Marketing: A Systematic Review of Trust, Authenticity, Engagement, and Consumer Persuasion

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ABSTRACT

This systematic literature review synthesizes evidence on virtual influencers in digital marketing, with particular attention to trust, authenticity, engagement, and consumer persuasion. Drawing on a corpus of 82 bibliographic references including 48 core studies organized across four thematic domains, the review employs thematic synthesis to examine how virtual influencers function as digital persuasive agents, how trust and authenticity mechanisms operate, how engagement and purchase-related outcomes are formed, and how boundary conditions shape effectiveness. The findings indicate that virtual influencer effectiveness is conditional rather than universal: it depends on the alignment between persona design, source credibility, product fit, message appeal, platform context, and consumer expectations. While virtual influencers offer strategic advantages in controllability and consistency, their artificiality generates tensions around deception, uncanniness, and persuasion knowledge activation. The review integrates source credibility, authenticity, match-up, parasocial interaction, and elaboration likelihood perspectives into a coherent framework and identifies directions for future research on longitudinal engagement, disclosure standards, and ethical governance.

Keywords: *virtual influencers; digital marketing; trust; authenticity; consumer persuasion*

1. INTRODUCTION

The influencer marketing landscape has shifted significantly as brand communication has moved from human social media personalities toward AI-generated and CGI-based digital endorsers. Virtual influencers are curated digital personas that combine narrative identity, visual embodiment, platform presence, and brand communication functions. Earlier studies identify virtual influencers as a distinct object of interactive advertising research because they resemble human influencers in their persuasive role while differing in origin, controllability, and perceived humanness (Byun & Ahn, 2023). This shift is reinforced by the growing capacity of artificial intelligence to generate and scale non-human endorsers, thereby challenging the assumption that influencer effectiveness must depend on lived human experience (Sands et al., 2022). The emergence of virtual influencers has been described as a paradigm shift in influencer marketing, particularly among younger consumers (Jhavar et al., 2023).

Virtual influencers are strategically attractive because they offer brand controllability, visual consistency, message customization, and reduced reputational uncertainty. Studies suggest that AI-powered virtual influencers may outperform human influencers under specific conditions because they can be designed to fit brand narratives and consumer expectations with precision (Allal-Chérif et al., 2024). Yet consumers do not evaluate human and virtual endorsers through identical psychological processes; influencer type shapes perceived credibility, authenticity, and persuasion outcomes (Belanche et al., 2024). In high-risk contexts such as tourism, trust and risk perceptions become especially important in determining whether consumers accept virtual influencers as credible sources (Ameen et al., 2024).

The central paradox of virtual influencer marketing lies in the coexistence of innovation and artificiality. Virtual influencers may be perceived as novel and aesthetically appealing, but they can also trigger concerns about deception, uncanniness, and authenticity (Franke et al., 2023). Disclosure of virtual origin and emotional narratives influence parasocial relationships and credibility, indicating that persuasion depends on how artificial identity is framed (Lim & Lee, 2023). Evidence further suggests that maintaining rather than concealing virtuality can increase trust under certain conditions (Qu & Baek, 2024), while disclosure of virtual influencer identity affects brand trust at the brand level (Muniz et al., 2024).

Despite an expanding evidence base, the field remains fragmented across marketing, advertising, tourism, fashion, sustainability, and human-computer interaction. Studies differ in design, theoretical framing, product context, and

outcome measurement. This review therefore addresses six research questions: (1) How has the literature conceptualized virtual influencers in digital marketing? (2) What antecedents shape consumer trust and perceived authenticity? (3) How do virtual influencers influence consumer engagement, brand attitudes, and purchase intentions? (4) Under what conditions do virtual influencers outperform, underperform, or differ from human influencers? (5) What theoretical models explain virtual influencer persuasion? (6) What research gaps remain? The objective is to synthesize empirical and conceptual evidence into a framework that explains the antecedents, mechanisms, outcomes, and boundary conditions of virtual influencer effectiveness.

2. RESEARCH METHODS

2.1. Search Strategy and Eligibility Criteria

The review operationalized three concept blocks: the focal phenomenon (virtual influencer, AI influencer, CGI influencer, synthetic influencer, virtual human), the marketing context (digital marketing, influencer marketing, advertising, branding), and persuasion-related outcomes (trust, authenticity, credibility, consumer engagement, brand attitude, purchase intention). Studies were eligible when they addressed virtual or AI-based endorsers in marketing, advertising, social media, e-commerce, tourism, or sustainability contexts and examined at least one relevant construct. The corpus comprised 82 bibliographic references, with 48 core studies organized across four thematic evidence tables. Empirical, conceptual, review, and mixed-method contributions were included because the field is methodologically diverse (Pushparaj et al., 2025; Lalrengpuui & Pullo, 2026).

2.2. Data Extraction and Synthesis

Data extraction captured author and year, study context, type of virtual influencer, theoretical lens, focal construct, method, and key finding. Evidence was synthesized thematically because the included studies examine heterogeneous outcomes and contexts. This approach allowed the review to integrate conceptual and empirical evidence on how virtual influencers are defined, how trust and authenticity are formed, how engagement and persuasion occur, and how product fit, message appeal, disclosure, and ethical risk condition effectiveness. The synthesis preserved methodological plurality spanning experiments, surveys, NLP, EEG, qualitative interviews, and mixed-method analyses (Byun & Ahn, 2023; Kim & Quan, 2024; Yao et al., 2025).

3. THEORETICAL BACKGROUND

3.1. Virtual Influencers as Digital Persuasive Agents

Virtual influencers can be conceptualized as digital persuasive agents: social media personas that imitate or extend human influencer functions through artificial embodiment. The category of "humanized robots" provides an early conceptual foundation, emphasizing constructed identity, technological origin, and social-media presence (da Silva Oliveira & Chimenti, 2021). Their persuasive capacity emerges from the interaction between anthropomorphism, autonomy, perceived humanness, and emotional expression. Sensory-specific evidence further indicates that consumers process artificial endorsers differently across product and sensory contexts (Zhou et al., 2024).

3.2. Trust, Authenticity, and Credibility

Trust, authenticity, and credibility are central mechanisms because virtual influencers are inherently artificial yet function as persuasive sources. The elaboration likelihood model explains that consumers process virtual influencer messages through central or peripheral routes depending on product involvement (Park et al., 2024). Mind perception is also critical: consumers may attribute agency, warmth, or competence to virtual influencers, influencing influencer–product fit and responsibility judgments (Liu & Lee, 2024). Perceived autonomy adds another dimension, as consumers may respond more positively when a virtual influencer appears to have coherent agency (Zheng et al., 2024).

3.3. Engagement, Parasocial Interaction, and Persuasion

Virtual influencer persuasion involves engagement, parasocial interaction, narrative transportation, and self-related psychological processes. Empathy influences engagement with both human and virtual influencers, suggesting that audiences form affective responses even when they know personas are artificial (Mirowska & Arsenyan, 2023). Netnographic evidence further indicates that user engagement with non-human influencers may not differ substantially from human influencer engagement in platform contexts (Xie-Carson et al., 2023). Virtual influencers may also motivate

self-improvement product preferences, indicating that artificial personas can activate aspirational identity goals (Meng et al., 2024).

4. RESULTS AND DISCUSSION

4.1. Conceptual Evolution and Typologies

The evidence indicates that the field has moved from early categorical attempts to classify "humanized robots" toward more complex accounts of AI-enabled, platform-specific, and anthropomorphic digital persuasive agents. Conti et al. (2022) frame virtual influencers as socio-technical actors combining visual realism and platform visibility. Sands et al. (2022) and Jhawar et al. (2023) position them as part of a structural shift in influencer marketing. Later studies expand the conceptual landscape: Landgrebe (2024) frames virtual influencer marketing as an emerging commercial practice; Wasti et al. (2024) connect anthropomorphism and authenticity to AI fashion influencers; and Lee and Shen (2025) extend the field to AI influencer affordances in short-video platforms. Conceptual evolution is driven by four recurring attributes: artificial origin, human-like embodiment, platform interaction, and brand controllability.

4.2. Trust, Authenticity, and Credibility Mechanisms

Table 1 synthesizes 12 studies focused on trust, authenticity, and credibility mechanisms. Across the evidence, trust appears as a fragile but central mediator between virtual influencer characteristics and consumer persuasion. Franke et al. (2023) show that virtual influencers may be perceived as novel and effective but can also raise concerns about uncanniness and deception, making credibility unstable. Lim and Lee (2023) demonstrate that disclosure and emotional narratives affect parasocial relationships and perceived credibility. Muniz et al. (2024) indicate that virtual identity disclosure influences brand trust, while Qu and Baek (2024) argue that keeping virtual creatures recognizably virtual can support trust under certain conditions. Lee et al. (2025) add that machine heuristic shapes perceived authenticity, and Goel and Garg (2025) show that anthropomorphism can support trust and engagement when human-like cues are perceived as coherent. Sokolova et al. (2026) further demonstrate that credibility is narratively constructed through communication style rather than guaranteed by human-likeness alone. These studies collectively indicate that authenticity in virtual influencer marketing is not equivalent to biological reality; it is constructed through transparency, coherence, aesthetics, narrative, and perceived fit.

Table 1. Essential summary of findings on trust, authenticity, and credibility mechanisms.

Reference	Trust/Authenticity Construct	Main Evidence	Implication
Franke et al. (2023)	Novelty, effectiveness, uncanniness, deception	Virtual influencers may be novel and effective but also uncanny and potentially deceiving, making credibility unstable.	Trust and credibility are fragile mechanisms in virtual influencer persuasion.
Lim & Lee (2023)	Origin disclosure, emotional narrative, credibility	Disclosure of virtual origin and emotional narrative influence parasocial relationships and perceived credibility.	Transparency and storytelling jointly shape trust formation.
Ameen et al. (2024)	Risk and trust (tourism context)	Risk and trust perceptions differ significantly between human and virtual influencers in travel contexts.	Trust is especially critical in high-risk or experience-based services.
Muniz et al. (2024)	Virtual influencer disclosure, brand trust	Disclosure of virtual identity affects consumer trust in the endorsed brand.	Disclosure can operate as both a transparency cue and a persuasion risk.

Reference	Trust/Authenticity Construct	Main Evidence	Implication
Qu & Baek (2024)	Trust in virtual influencers	Keeping virtual influencers recognizably virtual can increase trust under certain conditions.	Authenticity does not always require full human realism.
Lee et al. (2025)	Perceived authenticity, machine heuristic	Machine heuristic moderates perceived authenticity of virtual versus human influencers.	Consumer assumptions about machines shape authenticity judgments.
Goel & Garg (2025)	Anthropomorphism, trust, engagement	Anthropomorphized virtual influencers generate trust and engagement through perceived relational bonds.	Human-like social cues support trust when perceived as coherent.
Kuo & Le (2025)	Physical attractiveness and authenticity	Physical attractiveness can equalize consumer responses to virtual and human influencers.	Aesthetic design can compensate for perceived artificiality.
Pérez-Sánchez et al. (2025)	Hyper-realism and trust	Hyper-realistic virtual influencers raise complex trust concerns in internet users.	High realism increases persuasive potential but also amplifies trust risks.
Rehman et al. (2026)	Credibility, parasocial interaction, purchase intention	Attractiveness and similarity affect credibility, parasocial interaction, and purchase intentions.	Credibility bridges influencer attributes and consumer action.
Sokolova et al. (2026)	Credibility via communication style	Communication styles shape the credibility of a "fake human" through narrative positioning.	Narrative positioning is central to making artificial agents persuasive.
van Berlo & Breves (2025)	Disclosure prominence, product digitality	Disclosure prominence and product digitality jointly shape consumer response to virtual influencers.	Disclosure strategy should be adapted to product and platform context.

4.3. Consumer Engagement, Brand Attitude, and Purchase Intention

The reviewed evidence indicates that virtual influencers can influence purchase intention, brand attitude, follow intention, brand attachment, and advertising effectiveness, but these outcomes are mediated by credibility, emotional expression, language style, and product involvement. Chiu and Ho (2023) show that virtual influencers influence Chinese Generation Z purchase intention alongside celebrity and micro-celebrity endorsers. Ozdemir et al. (2023) show that influencer type shapes brand attitude, while Ham et al. (2023) highlight the role of social cues and technological perceptions in advertising effectiveness. Park et al. (2024) use the elaboration likelihood model to demonstrate that consumer processing route matters for virtual influencer effectiveness. Jiang et al. (2025) show that emotional expression affects brand authenticity, purchase intention, and follow intention, while Yao et al. (2025) provide behavioral and EEG evidence that influencer type affects purchase intention for new products. Overall, engagement should not be treated as identical to persuasion: attention and interaction must translate through credibility, fit, and emotional response before purchase-related outcomes emerge.

4.4. Boundary Conditions, Ethical Risks, and Integrative Discussion

Boundary-condition evidence shows that virtual influencer effectiveness is context-dependent rather than universal. Belanche et al. (2024) provide comparative evidence that human and virtual influencers operate through different psychological processes. Liu and Lee (2024) show that product type and match-up hypothesis are crucial for authenticity judgments, while Deng et al. (2024) demonstrate that advertising recognition shapes endorsement effectiveness. Ethical and well-being concerns are prominent: anthropomorphism can create engagement but may also intensify social comparison and envy (Barari et al., 2025); consumer self-comparison with virtual influencers affects follower well-being (Nasr et al., 2025); and sexualization of virtual influencers raises representation and vulnerability concerns (Fowler & Thomas, 2025). Willemsen et al. (2025) show that persuasion knowledge differs between humanlike virtual and human influencers, confirming that consumers process persuasive intent differently when the influencer is artificial. Positively, virtual influencer marketing may reduce fashion consumer anxiety and unsustainable purchases when responsibly designed (Zhou et al., 2026).

Integrating these findings, an effective virtual influencer strategy requires coherence between digital persona design, source credibility, product category, and consumer expectation. Meta-analytic evidence further indicates that humanness should be treated as a graded condition rather than a binary distinction (Chu et al., 2026), and that the field should move beyond asking whether virtual influencers are better than humans to examining which persuasive mechanisms are activated under particular contexts. Future research should examine longitudinal consumer relationships, cross-cultural variation, disclosure standards, generative AI autonomy, consumer well-being, and ethical governance.

5. CONCLUSION

This systematic literature review examined virtual influencers in digital marketing through four interrelated themes: trust, authenticity, engagement, and consumer persuasion. The review shows that virtual influencers have become important digital persuasive agents, but their effectiveness is conditional rather than universal. They can influence brand attitudes, engagement, follow intention, and purchase intention when their digital identity, visual design, message appeal, product fit, and credibility cues are coherent. However, their artificiality simultaneously generates skepticism, deception concerns, persuasion knowledge activation, appearance anxiety, and consumer resistance. The review contributes theoretically by integrating fragmented evidence across influencer marketing, advertising, consumer psychology, tourism, sustainability, and human–computer interaction into a coherent framework. Practically, virtual influencers should not be adopted solely because they are novel; their use is most defensible when artificial identity, brand positioning, product category, and consumer expectation are strategically and ethically aligned. Virtual influencers are not replacements for human influencers but a distinct category of socio-technical endorsers whose persuasive power depends on contextual design coherence and ethical governance.

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