



Comparative Empirical Study on Instagram Reels: Human Influencers vs AI Influencers

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Abstract

Social media has revolutionized marketing communication, with influencers becoming essential intermediaries between brands and consumers. The emergence of AI-powered virtual influencers has introduced a new dimension to digital promotion, presenting both benefits and limitations. This paper offers a comparative analysis of human and AI influencers on Instagram Reels by examining engagement rates, perceived authenticity, trust, and purchase intention. The results indicate that although AI influencers attract younger audiences through novelty and innovation, human influencers are still considered more trustworthy and emotionally relatable. The study discusses managerial, theoretical, and ethical implications while identifying areas for future empirical research.

Keywords: Human influencers, AI influencers, Instagram Reels, Influencer marketing, Engagement rate, Purchase intention, Consumer behavior, Elaboration Likelihood Model (ELM), Source Credibility Theory, Social Presence Theory, Parasocial interaction, Emotional connection, Perceived value, Novelty appeal, Digital marketing, Generation Z, Audience engagement, Influencer credibility, Virtual influencers, Hybrid influencer models, Authenticity perception, Content strategy, Brand communication, Trustworthiness, Expertise, Attractiveness, Social media strategy, Marketing communication, Ethical marketing, Consumer relatability, Campaign performance, Influencer effectiveness, Digital persuasion, Influencer typology, Social media analytics, AI-driven marketing, Consumer trust, Cultural acceptance.

1. Introduction

Instagram Reels has transformed digital marketing by promoting short, dynamic video content that fosters audience interaction. Both human and AI influencers now play key roles in shaping consumer decisions and brand visibility (Taylor & Francis, 2024).

Human influencers excel through authenticity and storytelling, making them relatable to audiences (Northumbria University, 2024). In contrast, AI influencers—digital avatars created using machine learning—offer content precision, constant availability, and strong visual appeal (ResearchGate, 2024). However, they often struggle with issues of trust and perceived genuineness (ScienceDirect, 2024).

Research Objective

This study compares human and AI influencers on Instagram Reels based on:

- Engagement performance (likes, comments, shares)
- Authenticity and trust perception
- Consumer relatability
- Influence on purchase intention

2. Literature Review

2.1 Human Influencers

Studies reveal that human influencers consistently achieve higher engagement and revenue outcomes because of their authenticity and emotional resonance with audiences. Unmiss (2024) reports that human influencers record approximately 2.7 times greater engagement and significantly higher earnings per campaign compared to AI counterparts.

2.2 AI Influencers

AI influencers attract tech-savvy and younger audiences, particularly Gen Z, due to their innovative designs and consistent messaging (ScienceDirect, 2024). However, their lack of personal experience often reduces perceived trust. Despite their novelty, emotional depth remains a challenge for AI-based personas (Northumbria University, 2024).

2.3 Comparative Insights

Engagement: Human influencers outperform AI influencers across most metrics (Unmiss, 2024).

Authenticity: Humans convey stronger credibility and relatability (Northumbria University, 2024).

Trust: AI influencers are perceived as less sincere (ScienceDirect, 2024).

Product Type: AI influencers perform better for functional products, while humans dominate lifestyle categories (Taylor & Francis, 2024).

Research Gap:

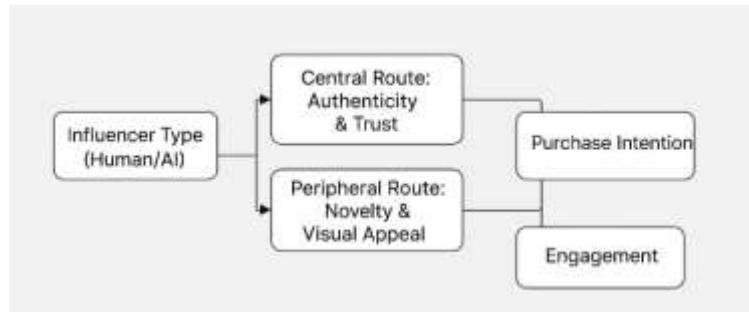
Most studies rely on secondary data and do not specifically analyze Instagram Reels, highlighting the need for empirical research based on primary data (ResearchGate, 2024).

3. Theoretical Framework

3.1 Elaboration Likelihood Model (ELM)

According to ELM, persuasion occurs via two routes: central and peripheral. Human influencers typically appeal through the central route, emphasizing trust and emotional connection, while AI influencers operate more peripherally through design and novelty.

3.1 Elaboration Likelihood Model in Influencer Persuasion

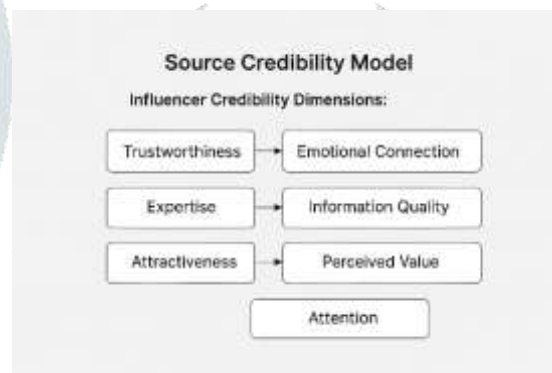


This model illustrates how consumers process influencer content through cognitive (central) or affective (peripheral) pathways, influencing purchase behavior.

3.2 Source Credibility Theory

This theory emphasizes trustworthiness, expertise, and attractiveness as determinants of credibility. Human influencers score higher on sincerity and relatability, whereas AI influencers are valued for their consistency and technical precision.

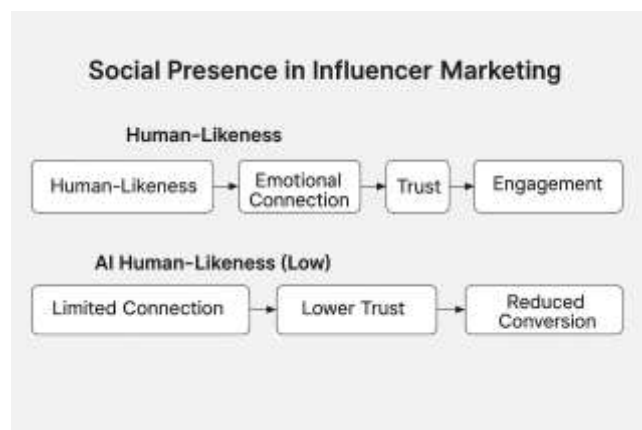
3.2. Source Credibility Model



3.3 Social Presence Theory

This framework explains how perceived human-likeness shapes engagement. AI influencers often lack social presence, which limits parasocial bonds and emotional attachment, explaining their weaker trust outcomes.

3.3 Social Presence in Influencer Marketing



4. Methodology

The study adopts a comparative review design, relying on secondary data from peer-reviewed journals, industry databases, and professional marketing reports.

Sources: ScienceDirect, ResearchGate, Taylor & Francis, MDPI, Unmiss, Northumbria University, NYPost, and Statista (2024).

Selection Criteria: Publications from 2020–2025 focusing on influencer performance on Instagram Reels.

Approach: Quantitative comparison of engagement metrics and qualitative synthesis of trust and authenticity insights.

Limitations: Absence of primary survey data, limited access to demographic variables, and dependency on previously reported statistics.

5. Findings

Metric	Human Influencers	AI Influencers	Observation
Engagement Rate	Higher (≈2.7x)	Moderate	Humans attract stronger audience responses
Authenticity	High	Moderate-Low	Humans perceived as genuine and relatable
Trust	Strong	Limited	AI influencers face credibility challenges
Gen Z Appeal	Moderate	High	Younger audiences prefer AI novelty
Campaign Earns	\$78,777 avg	\$1,694 avg	Humans deliver higher ROI

6. Results Interpretation

The findings reveal that human influencers remain more persuasive in establishing trust and emotional connection, whereas AI influencers excel at generating initial curiosity and scalable exposure. For instance, Lil Miquela (AI influencer) draws significant engagement through futuristic aesthetics, while Alix Earle (human influencer) secures higher conversion due to authenticity and relatability. The contrast illustrates how trust, not novelty alone, drives sustained consumer impact.

7. Discussion

7.1 Strategic and Managerial Implications

Campaign Focus: AI influencers are effective for consistent, data-driven campaigns; human influencers are ideal for relationship-based marketing (Taylor & Francis, 2024).

Audience Segmentation: Gen Z gravitates toward AI personas, while millennials and older audiences prefer human interaction (NYPost, 2024).

Content Match: AI influencers perform better for technology or innovation-based products; human influencers excel in lifestyle and beauty industries (ScienceDirect, 2024).

7.2 Cross-Industry Applications

Fashion and lifestyle brands rely heavily on emotional storytelling, whereas technology and gaming brands experiment with AI avatars to reflect futuristic appeal. A hybrid influencer model integrating both is emerging as a balanced approach.

7.3 Ethical and Cultural Considerations

Transparency in identifying AI influencers is essential for consumer protection. Cultural variations also shape acceptance—Western audiences show higher receptivity to AI personas, while Eastern cultures emphasize authenticity and emotional depth.

8. Limitations and Future Research

The study is limited by secondary data and lacks real-time consumer testing.

Future work could:

Conduct experimental studies measuring emotional and behavioral responses.

Use AI tools for sentiment analysis on user comments.

Examine hybrid AI-human influencer collaborations.

Explore cultural diversity in influencer reception across countries.

9. Conclusion

Human and AI influencers both hold valuable roles in digital marketing ecosystems. Humans lead in emotional resonance and trust, while AI influencers contribute innovation, control, and scalability. Marketers should adopt a balanced approach—leveraging human authenticity alongside AI-driven creativity. Future research involving primary data collection will help refine understanding of influencer effectiveness on emerging social platforms.

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