

Manufactured Intimacy: A Dialectical Framework of Humanoid AI Streamers in Chinese Live Commerce Platform

Dr. Gan Weixiang¹, Prof. Dr. Shashi Kant Gupta^{2}*

Lincoln University College, Petaling Jaya, Selangor Darul Ehsan-47301, Malaysia

Email: 1. pdf.weixiang@lincoln.edu.my; 2. shashigupta@lincoln.edu.my

Abstract: With the integration of generative AI, digital-human technologies, and live commerce, humanoid AI streamers are moving from technical demonstrations into consumer-facing media that combine sales, companionship, interaction, and brand communication. Drawing on literature about live commerce, virtual influencers, human-computer interaction, and consumer behavior, this review examines how humanoid AI streamers shape consumer emotions and purchase responses. It proposes a framework running from humanoid cues to emotional arousal, trust calibration, and consumer response. The review argues that appearance, voice, expression, movement, responsiveness, and professional explanation can activate social presence, pleasure, novelty, and companionship, but these effects are not uniformly positive. Excessive realism, authenticity gaps, emotional manipulation, and unclear responsibility may trigger uncanny-valley reactions, trust mismatch, and ethical risk. Humanoid AI streamer design should dynamically configure warmth and competence according to product category, price level, information complexity, and consumption risk.

Keywords: humanoid AI streamer; live commerce; emotional arousal; trust calibration; consumer response

Introduction

Chinese live commerce compresses watching, interaction, trust, and ordering into a single real-time scene filled with emotion. Streamer expression, tempo, comments, countdowns, viewer counts, and platform pushes create an atmosphere in which consumers feel that something is happening now. Within this environment, humanoid AI streamers are virtual sales agents with anthropomorphic appearance, voice, movement, expression, and interaction scripts. They include human-driven virtual streamers and automated digital humans powered by generative AI and large models.

The central question is not whether AI streamers can sell, but how they change consumer emotion: pleasure, immersion, closeness, and trust, alongside discomfort, suspicion, perceived manipulation, and regret. Existing studies show that responsiveness, cuteness, professionalism, and anthropomorphism may affect purchase intention through social presence, trust, flow, perceived novelty, and perceived value [2], [4]-[6], [8], [10]. Yet the same humanoid design may also intensify unease or blame when interaction quality, disclosure, or responsibility is unclear [7], [9].

This topic is particularly important in China because live commerce is no longer a marginal marketing channel. It is embedded in short video, platform recommendation, online shopping, local services, and real-time entertainment [1]. Compared with conventional virtual influencers used mainly for brand image, humanoid AI streamers in Chinese live commerce usually operate in strongly promotional scenes. Their emotional influence is therefore connected not only with attractiveness, but also with price pressure, product claims, after-sales commitment, and platform responsibility.

Related Work

The stimulus-organism-response model remains a useful entry point. In live commerce, streamer characteristics, discounts, comments, and platform affordances act as stimuli; pleasure, arousal, trust, flow, and perceived risk are organismic states; purchase intention, impulse buying, and continued viewing are responses [3], [10]. For humanoid AI streamers, appearance, voice, movement, response speed, and emotional expression become additional stimuli.

Social-presence and anthropomorphism theories explain why a digital sales agent can be felt as a social other. Gao et al. show that cuteness, animacy, and responsiveness enhance social presence and telepresence

[2]. Liu and Zhang show that virtual streamer anthropomorphism influences purchase intention through social presence [6]. Liu et al. further show that interaction type matters: social interaction fits hedonic products, while product-focused interaction fits utilitarian products [5].

The negative side appears when human resemblance exceeds interaction credibility. Studies of the uncanny valley show that mismatch among appearance, movement, gaze, and emotion may produce eeriness and avoidance [9]. Virtual influencer research also suggests that virtual agents do not simply replicate human influencers in persuasion or audience evaluation [7]. Consumers may accept fiction, but they resist manipulation disguised as human authenticity.

The literature therefore suggests a dual mechanism. On one side, humanoid cues reduce psychological distance and support attention, presence, and trust. On the other side, the same cues raise interpersonal expectations: consumers expect better understanding, more reliable answers, and clearer responsibility. When the system fails these expectations, disappointment can be stronger than with a visibly non-human tool. This duality is the reason the paper treats emotional influence as trust calibration rather than simple persuasion.

Key Contribution

This paper contributes an integrated framework for understanding humanoid AI streamers as sales agents, brand communicators, and intelligent service agents. Their influence is dynamic: humanoid cues first create emotional arousal, emotional arousal then calibrates trust, and calibrated trust shapes viewing, interaction, purchase intention, impulse buying, and post-purchase evaluation.

The framework has four layers. The sensory layer concerns novelty, pleasure, or strangeness from appearance, voice, and movement. The interaction layer concerns presence or mechanicalness from response speed, Q&A quality, and personalization. The relational layer concerns closeness, dependence, or estrangement from repeated viewing and parasocial interaction. The institutional layer concerns trust or risk from identity disclosure, responsibility, after-sales protection, and algorithmic transparency.

Table 1. Emotional mechanism and trust-calibration framework

Layer	Mechanism	Design and governance implication
Sensory cues	Appearance, voice, movement, and expression create novelty, pleasure, or strangeness.	Avoid maximum realism; match humanlike cues with stable movement and product context.
Interaction cues	Responsiveness, Q&A quality, personalization, and product explanation create presence or mechanicalness.	Use social interaction for hedonic goods and product-focused interaction for utilitarian or high-risk goods.
Relational cues	Repeated viewing and scripted intimacy generate closeness, companionship, dependence, or estrangement.	Keep emotional scripts bounded and disclose AI identity clearly.
Institutional cues	Responsibility, after-sales protection, and algorithmic transparency calibrate trust and perceived risk.	Assign accountable subjects for claims, recommendations, and consumer protection.

The contribution of this framework is that it separates emotional arousal from trust judgment. A consumer may enjoy a digital human's appearance and voice but still doubt its product claim; another consumer may find the digital body artificial but trust the explanation if the recommendation is clear and accountable. This distinction helps explain why positive affect, social presence, and purchase intention do not always move together.

Method, Review Synthesis and Results

This article uses a compact integrative review method. The original literature map was reorganized according to the conference page limit, and the retained sources were selected for direct relevance to

humanoid AI streamers, live commerce, social presence, anthropomorphism, uncanny-valley risk, and the Chinese platform context. The synthesis produces three main results.

The review prioritizes studies that directly connect technological features with consumer emotion or purchase response. Because the conference format limits references, broad background works were removed unless they were necessary for the argument. The remaining studies cover three evidence blocks: Chinese live-commerce scale and platform context [1], positive social-presence and purchase-intention mechanisms [2], [4]-[6], [8], [10], and boundary conditions concerning authenticity and uncanny-valley response [7], [9].

First, positive emotions arise from three cue types. Appearance and voice cues shape visual pleasure and novelty; interaction cues create the sense of being seen; competence cues reduce uncertainty and shift emotion from excitement toward reassurance. Evidence from virtual streamer and AI streamer studies indicates that cuteness, animacy, responsiveness, realism, and professional explanation can enhance social presence, perceived novelty, perceived value, and purchase intention [2], [4]-[6], [8].

Second, positive emotion is conditional rather than automatic. Humanoid AI streamers are not better simply because they look more human. Cuteness and social interaction fit low-risk hedonic products, while professionalism and product-focused interaction better fit utilitarian or high-risk products [5]. The design problem is therefore not maximum anthropomorphism, but proportional configuration of warmth and competence according to product category, price level, consumer expectation, and consumption risk.

Third, negative emotions arise from mismatch. A humanlike face with stiff movement, a warm voice with mechanical answers, or intimate expression with scripted persuasion may create discomfort. The authenticity gap is especially important: consumers distinguish acceptable virtual performance from manipulation disguised as reality [7], [9]. When AI streamers make incorrect claims or over-promise products, stronger anthropomorphism may increase perceived responsibility and disappointment.

These results imply that emotional conversion and responsible design should be evaluated together. For merchants, the commercial value of humanoid AI streamers lies in stable availability, controllable persona design, and scalable interaction. For consumers, value appears only when the digital streamer reduces uncertainty, explains product information, and respects psychological boundaries. For platforms, the central task is to prevent scalable emotional persuasion from becoming scalable emotional manipulation.

Discussions

The Chinese context has distinctive features. Live commerce is highly platformized and connected with short video, e-commerce, local services, traffic allocation, supply chains, influencer economies, and mature consumer habits [1]. This scale gives humanoid AI streamers an important experimental field, but it also makes consumers more sensitive to low-quality scripts, exaggerated claims, and unclear responsibility.

Regulation and disclosure directly shape emotional trust. Clear AI disclosure positions the streamer as a shopping-assistance tool; blurred identity makes humanoid appearance look like deceptive packaging. Consumers also differ: innovative and technology-accepting users may enjoy novelty, while consumers who value real interpersonal trust may prefer human streamers. Platform governance should therefore connect design, disclosure, recommendation transparency, and after-sales responsibility.

The main theoretical implication is that emotional influence should not be treated only as a conversion instrument. Pleasure, arousal, and flow may increase impulse buying [3], [10], but long-term trust depends on whether the interaction remains credible, bounded, and accountable. Future research should compare human streamers, human-driven virtual streamers, AI-driven virtual streamers, and hybrid digital humans with real platform data and experiments.

Practically, the framework suggests three design principles. First, anthropomorphic appearance should be matched with response capability; otherwise realism intensifies mechanicalness. Second, emotional scripts

should be matched with product risk. Strong intimacy may be acceptable for low-risk entertainment goods, but high-price or health-related products require professional explanation and responsibility endorsement. Third, AI identity, recommendation logic, and after-sales responsibility should be visible enough for consumers to understand who is speaking, why a product is recommended, and who is accountable for the promise.

The framework also changes how effectiveness should be measured. Purchase intention alone is insufficient because it captures the immediate response but not emotional cost. Future studies should measure viewing duration, interaction quality, trust change, post-purchase satisfaction, regret, and continued platform trust. Combining experiments with platform data, comment sentiment, clickstream patterns, and follow-up interviews can reveal whether humanoid AI streamers create sustainable assistance or only short-term stimulation.

Conclusions

Problem statement addressed: humanoid AI streamers are an emotional and governance issue, not merely a technical sales tool.

Method used: a compact integrative review was used to synthesize live-commerce, virtual-streamer, anthropomorphism, and consumer-response studies.

Key findings: humanoid cues can create pleasure, presence, novelty, reassurance, trust, and purchase intention, but excessive realism, weak disclosure, scripted intimacy, and unclear responsibility may generate unease and resistance.

Application: platform operators and merchants should match anthropomorphic design with product risk, interaction capability, transparent disclosure, and accountable after-sales responsibility.

Limitations and future work: this conceptual review should be extended through platform data, experiments, eye tracking, sentiment analysis, and post-purchase follow-up to measure dynamic emotional processes.

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