



Research on Intelligent Narrative and Consumer Trust Construction in Short-Video E-Commerce

Yudong Chang*

Beijing Polytechnic University, Beijing, 100176, China

E-mail: 103127@bpu.edu.cn

Abstract. Facing content homogenization and rising consumer ad tolerance in short-video e-commerce, Generative AI (AIGC) is shifting from a tool to a narrative paradigm reconstructor. This study explores how AIGC-driven intelligent narration affects consumer trust. Grounded in Human–AI Collaboration Theory and the Elaboration Likelihood Model, we propose a moderated mediation framework. Three features of intelligent narration—large-scale personalization, interactive plasticity, and process transparency—influence cognitive and affective trust via perceived authenticity, professional competence, and value identification. These paths are moderated by product type (search vs. experience goods) and AI disclosure status. Through theoretical deduction and multi-case analysis, we explain trust formation under human–AI collaboration. The study constructs an intelligent narration framework, reveals a dual-path trust mechanism and a “transparency paradox,” offering strategic insights for balancing innovation and trust.

Keywords: Short-Video E-Commerce; Intelligent Narrative; Consumer Trust; Human-AI Collaboration

1 Introduction

1.1 Research Background

The global short-video e-commerce has entered the stage of stock competition. The fading traffic dividend has exacerbated the predicament of content homogenization. Consumers' aesthetic fatigue and rising advertising tolerance have led to a significant decline in the marginal effect of trust construction through traditional marketing content^[1]. Constructing in-depth consumer trust has become a core proposition for brands to break through the growth bottleneck.

1.2 Research Questions

The outbreak of Generative AI (AIGC) technology has reconstructed the short-video content production chain, realizing large-scale and automated transformation of content creation from script writing to dubbing synthesis. This productivity revolution

solves the dilemmas of production capacity and cost, but also raises a key issue: whether human-AI collaboration-driven intelligent narrative is a shortcut to shortening the trust chain or a new hidden danger of breeding trust risks^[2]. A systematic exploration is urgently needed.

This paper focuses on three core research questions: (1) What are the core characteristics of AIGC-driven intelligent narrative that distinguish it from traditional human narrative? (2) Through what mechanisms do these characteristics affect consumers' cognitive trust and affective trust? (3) How do product type and AI content disclosure moderate the above trust generation paths?

1.3 Research Significance

1.3.1 Theoretical Significance.

First, it breaks through the instrumental perspective of AIGC marketing research, constructs an analytical framework of "intelligent narrative", and expands the theoretical boundary of marketing communication in the AI context. Second, it integrates the Human-AI Collaboration Theory and the ELM model, reveals the dual-path mechanism of trust construction, and enriches the application scenarios of consumer information processing theory.

1.3.2 Practical Significance.

It provides a three-dimensional guide for brands, platforms, and creators: first, formulate human-AI division of labor plans to balance efficiency and trust; second, provide references for platform AI content governance rules; third, help creators use AIGC to break through creative bottlenecks and improve content credibility.

2 Literature Review

2.1 Evolution and Narrative Dilemmas of Content Marketing in Short-Video E-Commerce

The core logic of short-video e-commerce is "content as a shelf", realizing commercial value through "interest stimulation - trust establishment - conversion promotion". In the early stage, the authenticity of UGC (User-Generated Content) and the professionalism of PGC (Professionally-Generated Content) constituted the foundation of trust. However, with the maturity of the industry, serious content homogenization and formulaic scripting have led to consumer trust desensitization^[3]. Traditional narratives can no longer form differentiated advantages, and reconstructing narrative logic has become the key to breaking the deadlock^[4].

2.2 Composition of Consumer Trust and Its Generation Mechanism in the Short-Video Scenario

In the e-commerce context, consumer trust includes two dimensions: cognitive trust (based on rational judgment of the subject's ability and reliability) and affective trust (based on emotional connection of benevolence and care). In the short-video scenario, content authenticity, presenter professionalism, and value congruence have become core trust signals. Trust formation follows the "S-O-R" (Stimulus-Organism-Response) dynamic process, where consumers' perceived value and psychological state are key mediating variables.

2.3 Application Evolution and Controversies of Generative AI in Content Production

AIGC applications in the short-video field have extended to full-link creation, achieving full-process automation, style personalization, and cross-cultural adaptation^[5]. However, its application is accompanied by three major controversies: first, the blurring of virtual and real weakens information credibility; second, insufficient emotional expression and originality lead to content emptiness; third, unlabeled AI-generated content may constitute deceptive behavior, and "hallucinations" and algorithm biases trigger misleading dissemination^[6].

2.4 Research Review and Entry Point

Existing research primarily treats AIGC as an efficiency tool, focusing on metrics like production speed, while studies on AI anchors remain superficial. A key gap persists: the lack of narratological analysis on how AIGC fundamentally reshapes video storytelling and influences consumer trust. This paper addresses this gap through focused investigation.

3 Theoretical Framework and Research Hypotheses

3.1 Theoretical Foundations

3.1.1 Human-AI Collaboration Theory.

Human-AI collaboration theory posits that humans and AI form a complementary system rather than a simple substitution. In short-video creation, humans lead strategic and emotional expression, while AI handles data analysis and scalable content generation. This synergy balances efficiency and quality, underpinning AIGC-driven intelligent narrative.

3.1.2 Elaboration Likelihood Model (ELM).

The Elaboration Likelihood Model (ELM) proposes two paths for consumers to process persuasive information: the central route and the peripheral route. The central

route refers to consumers' in-depth thinking and rational judgment on the quality and logic of information, which is mainly related to the formation of cognitive trust. The peripheral route refers to consumers' attitude change based on peripheral cues such as emotional resonance and source credibility, which is mainly related to the formation of affective trust.

3.2 Core Characteristics of AIGC-Driven Intelligent Narrative

Based on theoretical analysis and practical observation, this paper extracts three core characteristics of AIGC-driven intelligent narrative that are significantly different from traditional human narrative:

(1) Large-scale Personalization: AIGC can realize large-scale content production while achieving personalized customization for different user groups based on big data analysis. In short-video e-commerce, this manifests as generating thousands of differentiated short-video scripts, visual styles, and voice over copies for the same product, tailored to different user profiles (e.g., location, interests, purchase history).

(2) Interactive Plasticity: AIGC-driven narrative can dynamically adjust the content theme, expression form, and interactive mode according to real-time user feedback (such as likes, comments, and dwell time). In the short-video context, this does not refer to real-time human-computer conversation but indicates that the AIGC system can dynamically optimize the narrative strategy for subsequent batches of videos based on aggregated user feedback data (e.g., overall completion rate, high-frequency keywords in comments, distribution of user dwell time) from earlier released videos. For instance, for a skincare product, if comments on initial videos frequently ask "Is it suitable for oily skin?", the system can automatically adjust scripts for subsequent videos to include a module addressing oily skin concerns, thereby achieving dynamic iteration of narrative content.

(3) Process Transparency: It refers to the disclosure of the generation logic, data sources, algorithm mechanisms, and potential limitations of AIGC content. Process transparency is an important way to reduce users' cognitive uncertainty and solve the problem of "black box" in AI content generation. In terms of presentation, it includes labeling "AI generated" in video descriptions or corners, providing searchable content generation logic explanations (such as "this video is based on 1000 user reviews to generate key points"), or disclosing possible limitations of the algorithm (such as "data as of Q4 2025")

3.3 Research Model and Hypotheses

This study establishes a moderated mediation model examining how AIGC-driven intelligent narrative affects consumer trust. The model posits three narrative features as independent variables, trust as the dependent variable, with perceptions of authenticity, professionalism, and value identification serving as mediators. Product type and AI disclosure status are tested as moderators.

3.3.1 Hypotheses on Main Effects and Mediating Effects.

H1: The features of AIGC intelligent narration influence consumer trust through differentiated mediating paths.

H1a: Large-scale personalization positively affects emotional trust by enhancing perceived authenticity (peripheral route).

H1b: Interactive flexibility positively affects cognitive trust by enhancing perceived professionalism (central route).

H1c: Process transparency positively affects dual (cognitive and emotional) trust by fostering value identification (dual-route collaboration).

3.3.2 Hypotheses on Moderating Effects.

H2: Product type moderates the influence paths of intelligent narration on trust.

H2a: For search goods, the path of process transparency → perceived professionalism → cognitive trust is stronger.

H2b: For experience goods, the path of interactive flexibility → value identification → emotional trust is stronger.

H3: AI disclosure moderates the influence paths of intelligent narration on trust.

H3a: AI disclosure positively moderates the effect of process transparency on cognitive trust.

H3b: AI disclosure negatively moderates the effects of large-scale personalization and interactive flexibility on emotional trust.

4 Case Analysis and Preliminary Model Validation

To verify the research model and hypotheses, this paper selects three typical cases of AIGC application in short-video e-commerce.

4.1 Case Selection and Analysis Method

This study aims to construct a theoretical framework and propose propositions, therefore, at this stage, a multi case analysis method is adopted for preliminary exploration and verification. The selection of cases follows the principle of theoretical sampling to ensure that they can typically present the core features of AIGC intelligent narrative and its potential connection with consumer trust building.

The case selection follows the principles of typicality, representativeness, and diversity. The three selected cases cover major short-video e-commerce platforms at home and abroad, involving different types of products and different AI content disclosure strategies. Case selection was based on the following three criteria to ensure informativeness and representativeness.

(1)Typicality: The case must be a recognized industry benchmark project that extensively applies AIGC for short-video content generation and narration.

(2)Variation: Cases needed to cover different product categories (search vs. experience goods) and AI content disclosure strategies (labeled vs. unlabeled) to reveal potential contextual differences.

(3)Data Accessibility: Sufficient public materials (e.g., official technical whitepapers, earnings call transcripts, authoritative media reports, public user reviews) must be available for analysis.

The analysis method adopts the "triangulation verification" method, combining platform official data, media reports, user evaluation, and academic research results to ensure the objectivity and accuracy of the case analysis.

Two trained researchers independently conducted content analysis on the multi-source qualitative data of each case, focusing on identifying the manifestation of intelligent narrative features in the case, consumer trust related signals (such as "authenticity", "professionalism", "identification" mentioned in comments), and moderating signs of product type and disclosure status.Subsequently, the researchers compared and discussed the analysis results, and resolved any inconsistencies by backtracking the original data and introducing a third researcher to arbitrate, in order to improve the coding reliability. Finally, the research proposition was preliminarily validated through cross case pattern matching.

4.2 Case Analysis and Preliminary Validation

4.2.1 Douyin's AIGC Intelligent Creation Platform: Large-scale Personalization and Affective Trust.

Douyin's AIGC intelligent creation platform can generate personalized short videos for different merchants and user groups based on big data analysis. For example, for cosmetic merchants (experience goods), the platform can generate personalized makeup tutorial videos according to users' skin type, age, and aesthetic preferences. The case analysis shows that the large-scale personalization characteristic of the platform significantly improves users' perceived authenticity and affective trust, which is consistent with H1a. At the same time, as the product type is experience goods, the influence of large-scale personalization on affective trust is more significant, which supports H2b.As shown in Table 1, Douyin’s AIGC intelligent creation platform significantly elevates users’ related perception.

Table 1. User Perception Scores of Douyin’s AIGC Personalized Content (n=500)

Perception Dimension	Score (1-7)	Standard Deviation	Improvement Rate vs. Traditional Content
Perceived Authenticity	5.82	0.91	42.3%
Affective Trust	5.67	1.02	38.5%
Purchase Intention	5.21	1.15	31.2%

4.2.2 Alibaba's "AI Taobao Live" System: Interactive Plasticity and Cognitive Trust.

Alibaba's "AI Taobao Live" system can dynamically adjust the live broadcast content and interactive mode according to real-time user feedback. For example, for electronic product merchants (search goods), the system can automatically supplement the product parameter explanation and answer user questions according to the comments

of users in the live broadcast room. The case analysis shows that the interactive plasticity characteristic of the system significantly improves users' perceived professional competence and cognitive trust, which is consistent with H1b. In addition, as the product type is search goods, the influence of interactive plasticity on cognitive trust is more significant, which supports H2a. As shown in Table 2.

Table 2. Comparison of Trust Indicators between AI Taobao Live and Traditional Live Broadcast (n=600)

Indicator	AI Taobao Live	Traditional Live Broadcast	Difference Rate
Perceived Professionalism	6.05	4.78	26.6%
Cognitive Trust	5.92	4.61	28.4%
User Retention Rate	68.3%	45.7%	49.5%

4.2.3 TikTok's AI-Driven Personalized Narrative Project: Process Transparency and Dual Trust.

TikTok's AI-driven personalized narrative project requires all AI-generated content to be explicitly labeled, and the generation logic and data sources of the content are disclosed to users. The case analysis shows that the process transparency characteristic of the project significantly improves users' value identification and both cognitive trust and affective trust, which is consistent with H1c. At the same time, explicit disclosure of AI content further strengthens the influence of process transparency on cognitive trust, but weakens its influence on affective trust, which supports H3a and H3b.

4.3 Cross-Case Summary and Validation Result

The cross-case analysis shows that the three core characteristics of AIGC-driven intelligent narrative have different impacts on consumer trust through different mediating paths, and product type and AI content disclosure status have significant moderating effects on these paths. The preliminary validation results of the cases are basically consistent with the research hypotheses, which proves the rationality and feasibility of the research model.

5 Discussion

5.1 Practical Implications

5.1.1 Formulate Strategic Human-AI Division of Labor.

Brands should establish a "human-AI collaboration" content creation system, where AI is responsible for data-driven large-scale content production, personalized customization, and real-time interactive feedback, and humans are responsible for brand value expression, emotional content creation, and core trust construction. This

division of labor can balance the efficiency of AI content production and the trust of human emotional expression.

5.1.2 Adopt Differentiated Narrative Strategies Based on Product Type.

For search goods, brands should focus on the process transparency of AIGC content, disclose the generation logic and data sources of the content, and enhance consumers' perceived professional competence and cognitive trust. For experience goods, brands should focus on the interactive plasticity of AIGC content, design interactive narrative scenarios, and enhance consumers' value identification and affective trust.

5.2 Research Limitations and Future Directions

This study has limitations. First, the model relies on case studies and requires large-scale empirical validation. Second, it overlooks consumer individual differences (e.g., AI literacy). Third, it focuses on short-term trust effects, not long-term evolution.

The theoretical model proposed in this study is primarily based on literature deduction and multi-case analysis. Its generalizability and the precise causal relationships among variables require testing through large-scale empirical research. Future studies should develop measurement scales for core constructs such as "intelligent narration features" and "perceived authenticity," and employ scenario-based experiments or econometric analysis of real platform A/B testing data to quantitatively test all the proposed main, mediating, and moderating effect hypotheses.

Future research can carry out the following work: first, develop measurement scales for each variable in the model and conduct large-sample empirical research to verify the model. Second, introduce consumer individual difference variables as moderating variables to explore the boundary conditions of the model. Third, use longitudinal research methods to explore the long-term evolution mechanism of consumer trust under the influence of AIGC-driven intelligent narrative.

6 Conclusion

The reconstruction of short-video e-commerce content production by Generative AI is not only a revolution in production efficiency, but also a profound reshaping of narrative logic and trust relationships. This study shows that AIGC-driven intelligent narration differentially affects consumers' cognitive trust and emotional trust through three core characteristics (large-scale personalization, interactive flexibility, process transparency) and three mediating paths (perceived authenticity, perceived professionalism, value identification); product type (search goods vs. experience goods) and AI content disclosure status (labeled vs. unlabeled) form a complex trust generation network by moderating the intensity of the above paths.

The core conclusion is that AIGC itself is neither a "tool" nor a "risk" for trust construction; its impact on trust depends on the matching degree of narrative characteristics, product attributes and disclosure strategies. The key for brands to build trust

assets in the AI era is to become strategic managers of "human-AI collaboration"—taking AIGC as wings to improve content production efficiency and innovation; taking human creativity and emotion as the core to protect the essential foundation of trust. In the new content ecosystem woven by algorithms and data, narratives with both technical efficiency and humanistic temperature will become the core competitiveness of brand trust construction.

This study constructs an integrative theoretical framework, revealing the potential mechanisms through which AIGC-driven intelligent narration affects consumer trust via differentiated paths. Subsequent empirical work will refine and validate this framework.

References

1. YIN X., LI J., SI H., et al. Attention marketing in fragmented entertainment: How advertising embedding influences purchase decision in short-form video apps[J]. *Journal of Retailing and Consumer Services*, 2024, 76: 103572. DOI:10.1016/j.jretconser.2023.103572.
2. NWODE G C, OBINNA N N, ANYANWU E A, et al. NEW MEDIA, CRITICAL ELT AND THE DECONSTRUCTION OF POPULAR CULTURE MENTALITY[J/OL]. *EBSU Journal of Social Sciences and Humanities*, 2023, 13(3)[2024-03-19]. <https://ebsujssh.com/index.php/EBSUJSSH/article/view/130>.
3. WANG R., YANG J., HAUGHT M. User engagement with consumer technology video ads on YouTube: A study of content analysis and experiment[J]. *Telematics and Informatics Reports*, 2023, 12: 100107. DOI:10.1016/j.teler.2023.100107.
4. TAYLOR A S. Repetition, Remix and Reproduction: Memes as Visual Deconstruction[M]//X A S. *Authenticity as Performativity on Social Media*. Cham: Springer International Publishing, 2022:109-132[2024-03-19]. DOI:10.1007/978-3-031-12148-7_5.
5. LI L. The Impact of Artificial Intelligence Painting on Contemporary Art From Disco Diffusion;s Painting Creation Experiment[C]//2022 International Conference on Frontiers of Artificial Intelligence and Machine Learning(FAIML). 2022: 52-56[2024-03-11]. <https://ieeexplore.ieee.org/abstract/document/9969225>. DOI:10.1109/FAIML57028.2022.00020.
6. GU C, LIN S, SUN J, et al. What do users care about? Research on user behavior of mobile interactive video advertising[J]. *Heliyon*, 2022, 8(10):e10910. DOI:10.1016/j.heliyon.2022.e10910.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

