



Emotional Calibration and Efficacy Evaluation of AIGC-Enabled Cultural Translation in Micro-Short Dramas

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Abstract. Background: Breakthrough advances in Artificial Intelligence Generated Content (AIGC) technology are reshaping the paradigm of audiovisual content production. Micro-short drama, as an emerging audiovisual form, has witnessed exponential market growth during the 2025-2026 period. However, while AIGC enhances production efficiency, it also engenders structural tensions between technological rationality and artistic sensibility, as well as between efficiency prioritization and cultural depth. Problem: Existing research has predominantly focused on the technical empowerment dimension of AIGC, leaving a systematic theoretical response to the issues of "emotional distortion" and "cultural discount" in cross-cultural communication contexts notably absent. Furthermore, the academic community has yet to establish an efficacy evaluation system tailored to the characteristics of AIGC-enabled micro-short dramas. Methodology: This study adopts a Multiple Case Study approach combined with Theory Building, situating the research within China's AI micro-short drama industry during 2025-2026. Drawing upon Affective Communication Theory, cross-cultural communication theory, and the classical Cognition-Affect-Conation (C-A-C) pathway, this study constructs an "emotional calibration" optimization mechanism and a three-dimensional efficacy evaluation framework encompassing Cultural Translation Validity, Emotional Resonance, and Market Performance. Key Findings: AIGC-enabled cultural translation in micro-short dramas confronts three structural contradictions: the tension between technological rationality and artistic sensibility, the paradox between efficiency prioritization and cultural depth, and the conflict between data bias and equitable representation. "Emotional calibration" serves as a critical moderating mechanism, effectively resolving the aforementioned tensions through three dimensions combined with human-AI collaboration strategies. Contributions: This study proposes the concept of "emotional calibration," filling the emotional dimension gap in AIGC cultural translation research, and constructs a multi-dimensional efficacy evaluation system tailored to AIGC micro-short dramas.

Keywords: AIGC; micro-short drama; cultural translation; emotional calibration; efficacy evaluation; Starry Index

1 Introduction

Breakthrough advances in Artificial Intelligence Generated Content (AIGC) technology are permeating the field of audiovisual content creation with unprecedented depth and breadth. AIGC toolchains, represented by Large Language Models (LLMs), Diffusion Models, and multimodal generation technologies, have demonstrated significant technical advantages in text generation, image synthesis, and video creation [1, 2]. Concurrently, micro-short drama has become a critical growth pole in global digital content consumption, characterized by episode durations of 1-5 minutes and high-density narrative pacing.

From an industrial data perspective, China's AI micro-short drama market exceeded 20 billion RMB in 2025, with over 60,000 works released throughout the year. Nevertheless, the hit rate among new productions was merely 0.117%, indicating that while AIGC technology has lowered creative barriers, it has failed to resolve the core proposition of "how to effectively transmit cultural meaning."

In the cultural communication dimension, AIGC-enabled micro-short dramas face deeper structural challenges. The dominance of technological rationality may erode the ambiguity and polysemy inherent in cultural expression; the industry logic of efficiency prioritization may lead to cultural depth being subordinated to batch-reproducible symbol combinations.

1.1 Research Questions

Based on the aforementioned research background, this paper focuses on the following core Research Questions (RQs):

- RQ1: What structural characteristics define the technical pathways of AIGC-enabled cultural translation in micro-short dramas?
- RQ2: What is the theoretical basis for "emotional calibration" as an optimization mechanism?
- RQ3: How can a scientific efficacy evaluation system be constructed to measure the cultural translation effectiveness?

1.2 Research Contributions

The academic contributions of this study can be summarized at three levels:

Theoretical Contribution: This study proposes the concept of "emotional calibration" and operationalizes it into three identifiable calibration dimensions, introducing an emotional dimension theoretical perspective into AIGC cultural translation research.

Methodological Contribution: Drawing upon the evaluation philosophy of the "Starry Index" and integrating the classical C-A-C pathway, this study constructs a three-dimensional evaluation model of "Cultural Translation Validity-Emotional Resonance-Market Performance."

Practical Contribution: Through in-depth analysis of representative AIGC micro-short drama cases from 2025-2026, this study distills human-AI collaboration strategies for the industrial transformation from "capacity explosion" to "premium competition."

2 Literature Review

2.1 AIGC Content Generation: From Instrumental Rationality to the Cultural Expression Gap

The technical evolution of AIGC has traversed three stages: rule-driven, data-driven, and generative intelligence. Current AIGC systems built upon Transformer architectures and Diffusion Models demonstrate capabilities approaching human professional levels in text generation [1], image synthesis [2], and video generation [18]. In audio-visual content production, AIGC technology covers the entire chain including script-writing, storyboard generation, visual synthesis, and dubbing.

However, Crawford [3] points out that machine learning models are essentially fits to training data distributions, and their outputs inevitably carry inherent cultural biases. Generative models excel at capturing surface-level cultural features but struggle to grasp deep cultural meanings rooted in specific historical contexts [4]. Furthermore, the "black box" nature of AIGC systems renders the explainability and controllability of cultural content a focal concern [5].

2.2 Micro-Short Drama Research: Media Characteristics and Cultural Communication Efficacy

Micro-short drama research has proceeded along three dimensions: media characteristics, industrial ecology, and cross-cultural communication. At the media characteristics level, micro-short dramas are typified by episode durations of 1-5 minutes and high-density information output, constituting a narrative grammar distinct from traditional long-form dramas. At the industrial ecology level, China's micro-short drama market exceeded 50 billion RMB in 2025 with a user base exceeding 600 million [6].

In cross-cultural communication, micro-short dramas possess potential advantages for "cultural going global" due to their lightweight form. However, the compressed narrative structure may lead to the loss of cultural depth, providing the theoretical entry point for this study's focus on "emotional calibration" .

2.3 Cultural Translation Theory: From Linguistic Translation to Cross-Cultural Migration

The concept of cultural translation originates from the postcolonial turn in translation studies. Through Bhabha's [7] "Third Space" theory and Wolf's cultural manipulation school, it has become a core concept in cross-cultural communication research. Un-

like traditional linguistic translation, cultural translation emphasizes creative transformation in cross-contextual migration rather than simple semantic equivalence.

Hall's [8] cross-cultural communication theory points out that high-context cultures and low-context cultures exhibit fundamental differences in information encoding. As a typical high-context culture, Chinese emotional expression is highly dependent on "subtext" and "reading between the lines," posing particular challenges to AIGC systems.

2.4 Affective Computing and Embodied Cognition: The Theoretical Boundaries of Technological Emotional Simulation

Since Picard's [9] foundational work, affective computing has advanced in emotion recognition, generation, and interaction. However, Embodied Cognition Theory posits that emotion is not an isolated psychological state but a product of interactive dynamics among the body, context, and cognitive system [10]. This implies that AI-generated emotional expressions may fall into the "uncanny valley" effect if detached from specific contextual logic [11].

The above literature review reveals a critical gap: existing literature focuses on AIGC technical capabilities, micro-short drama media characteristics, or cultural translation theory separately, yet research integrating all three to investigate "how AIGC empowers micro-short dramas to achieve effective cultural translation" remains scarce.

3 Theoretical Framework

3.1 The Theoretical Foundation of the Cognition-Affect-Conation Pathway

The three-dimensional efficacy evaluation model is grounded in the classical Cognition-Affect-Conation (C-A-C) pathway from advertising psychology [12]. The C-A-C pathway posits that audience responses follow a progressive sequence: cognitive judgments, affective responses, and conative behavioral intentions [15].

In the cultural communication context of AIGC micro-short dramas, this pathway is operationalized as:

- Cognition Layer: Audience recognition of core cultural symbols, corresponding to "Cultural Translation Validity";
- Affect Layer: Emotional resonance during viewing, corresponding to "Emotional Resonance";
- Conation Layer: Subsequent behavioral manifestations such as completion rate and sharing, corresponding to "Market Performance".

The three layers constitute a recursive relationship: precise cultural translation provides the cognitive foundation for emotional resonance, while emotional resonance directly influences market performance.

3.2 Conceptual Delimitation of Emotional Calibration

This study defines "emotional calibration" as: in the AIGC-assisted content production process, the adjustment of content's emotional orientation and intensity through technical or narrative means to align with the emotional expectations of the target cultural context, thereby ensuring cultural precision while retaining AIGC efficiency advantages.

Emotional calibration is not "standardized production" of emotion but rather "adaptive adjustment" grounded in cultural understanding. Its core lies in establishing the dominant position of "human" in the creative workflow: AI systems can generate images, yet only creators can imbue images with cultural meaning.

4 Research Methodology

4.1 Research Design

This study employs a Multiple Case Study method combined with Theory Building [17]. The case study method is well-suited for exploring mechanisms through which complex phenomena operate in real-world contexts [13], aligning with this study's objective of achieving an in-depth understanding of AIGC micro-short drama cultural translation.

4.2 Data Sources and Case Selection

The data sources encompass three levels: industrial data from DataEye Research Institute and 36Kr; case texts including *New World Loading*, *The Unlikely Hero*, and *Daji: I, the Fox, Defy the Heavens*; and expert discourse from industry practitioners and cultural domain experts.

4.3 Analytical Framework

The analysis unfolds along: (a) mapping technical pathways and identifying structural contradictions; (b) proposing "emotional calibration" as an optimization mechanism; (c) constructing a three-dimensional evaluation model; (d) distilling research findings.

4.4 Research Limitations

This study has limitations: case data are primarily from publicly available reports without first-hand interview materials; the evaluation model is at theoretical construction stage without large-scale empirical testing; the research focuses on China's AIGC micro-short drama industry with limited generalizability.

5 Research Findings

5.1 Technical Pathways and Structural Contradictions

Three Technical Pathways.

Through analysis of representative cases from 2025-2026, three technical pathways are identified:

Pathway One: Intelligent Adaptation of Narrative Logic. AIGC technology achieves dynamic adaptation of narrative pacing and genre elements. LLM-driven script engines generate multi-branch narrative structures, producing multiple script versions for target markets.

Pathway Two: Cultural Translation of Visual Symbols. Text-to-image and video generation models transform abstract cultural concepts into concrete visual imagery through prompt engineering and multimodal generation technology.

Pathway Three: Efficiency Restructuring of Production Workflows. AI video tools shorten production cycles by nearly 50% with comprehensive costs reduced by approximately 70%.

As shown in Table 1.

Table 1. Comparison of Production Efficiency

Indicator	Traditional Live-Action	AI Animated Drama	AI Simulated Live-Action
Production Cycle	3-6 months	5-15 days	20-30 days
Team Size	20-50 people	2-5 people	5-15 people
Cost per Episode (2min)	10,000-30,000 RMB	1,000-2,500 RMB	3,000-8,000 RMB
Total Cost (60 Episodes)	600K-1.8M RMB	60K-150K RMB	180K-480K RMB

Structural Contradictions.

Three structural contradictions facing AIGC-enabled cultural translation:

Contradiction One: Tension Between Technological Rationality and Artistic Sensibility. AIGC excels at processing quantifiable elements but struggles with tacit cultural knowledge. Standardized data processing may eradicate the ambiguity and polysemy inherent in cultural expression.

Contradiction Two: Paradox Between Efficiency Prioritization and Cultural Depth. Under extreme production models, cultural translation tends to remain at surface-level symbol substitution, struggling to reach the spiritual core of culture.

Contradiction Three: Conflict Between Data Bias and Equitable Representation. Training data carry power structures that may lead to systematic amplification of "cultural discount" in cross-cultural communication contexts.

5.2 Emotional Calibration: Optimization Mechanism

Theoretical Basis and Dimensional Division.

The core theoretical basis is Affective Communication Theory, positing that emotion is a moderating variable of communication effects [14]. Emotional calibration is decomposed into three operational levels:

Dimension One: Narrative Emotional Arc Calibration. Ensuring AI-assisted plot twists align with emotional expectations of target cultural audiences. Chinese culture as a high-context culture requires handling "subtext" and "reading between the lines."

Dimension Two: Character Emotional Expression Calibration. Generation technology finely adjusts micro-expressions, body language, and vocal intonation according to contextual logic [14], ensuring emotional expression conforms to the "emotional grammar" of specific cultures.

Dimension Three: Audio-Visual Aesthetic Calibration. AI generation systems calibrate overall aesthetic style according to different cultural preferences for color symbolism and musical tonality, ensuring audio-visual language serves as an effective vehicle for emotional transmission.

Human-AI Collaboration Strategies.

Four collaboration strategies for emotional calibration:

Strategy One: Emotional Embedding in Prompt Engineering. Creators specify emotional tone, character relationship tension, and culture-specific emotional concepts in prompts, externalizing implicit emotional knowledge.

Strategy Two: Iterative Feedback from Experts and Audiences. A closed-loop feedback mechanism of "AI generation-expert evaluation-parameter adjustment" progressively approximates the intersection of cultural precision and emotional resonance.

Strategy Three: Construction of Cultural-Emotional Knowledge Bases. Datasets incorporating culture-specific emotional rules serve as calibration reference systems, enabling models to learn cultural specificity during training.

Strategy Four: Creative Ethics of Human-AI Co-creation. AI systems should be regarded as narrative collaborators rather than replacements, leveraging AI efficiency while preserving human cultural judgment.

5.3 Efficacy Evaluation: Three-Dimensional Evaluation System

Establishment of Evaluation Dimensions.

Drawing upon the "Starry Index" evaluation philosophy and integrating the C-A-C pathway, a three-dimensional framework is constructed:

Dimension One: Cultural Translation Validity assesses whether AIGC transforms source culture into audiovisual language comprehensible to target audiences. Indicators include Core Cultural Symbol Recognition Rate (expert evaluation) and Cultural Image Misinterpretation Rate (audience surveys).

Dimension Two: Emotional Resonance measures whether audio-visual language transcends cultural barriers. Measurement methods include physiological methods

(eye-tracking, galvanic skin response) and textual sentiment analysis of bullet comments and reviews.

Dimension Three: Market Performance includes conventional indicators (viewership, completion rate) plus Cross-cultural User Retention Rate and Spillover Effect (derivative creation volume).

Integration of Evaluation Methods.

The theoretical foundation traces to the C-A-C pathway: precise cultural translation facilitates emotional resonance, which directly influences market performance. Key correlations include [16]: Cultural Translation Validity and Emotional Resonance are positively correlated; Emotional Resonance and Market Performance are positively correlated; Cultural Translation Validity's influence on Market Performance may be partially mediated by Emotional Resonance.

As shown in Table 2.

Table 2. Efficacy Evaluation Indicator System

First-Level Dimension	Second-Level Indicator	Measurement Method	Data Source
Cultural Translation Validity	Core Cultural Symbol Recognition Rate	Expert Evaluation	Expert scores
	Cultural Image Misinterpretation Rate	Audience Survey	Comprehension tests
Emotional Resonance	Physiological Emotional Response	Eye-tracking, GSR	Lab data
	Textual Sentiment Analysis	Vocabulary mining	Bullet comments
Market Performance	Viewership/Completion Rate	Platform analysis	Platform data
	Cross-cultural Retention	User tracking	Multi-regional data
	Derivative Creation Volume	Topic heat analysis	Social media

6 Discussion

6.1 Technological Evolution: From "Random Generation" to "Director-Level Shot Control"

During 2025-2026, AI video generation underwent critical iteration. ByteDance's Seedance 2.0 achieved over 90% video generation usability with enhanced shot scheduling. Imaginarium launched "Zhenzan" platform achieving precise control of cinematographic language. This enables AI systems to shift from random generation to controllable execution, providing a technical foundation for emotional calibration.

6.2 Ecological Construction: Industry-Academia-Research-Application Full-Chain Closed Loop

In March 2026, Anhui Province's first industry-academia-research collaboration platform for AIGC micro-short dramas was established with 30 universities. Yuewen Group launched the "Spark Plan" with over 100 million RMB investment. These developments signal transition from wild growth to standardized ecological co-construction.

6.3 Premium Turn: From "Quantity Expansion" to "Quality Enhancement"

With hit rates below 0.2%, industry consensus coalesces around content quality as core competitiveness. As technical barriers approach zero, cultural understanding depth and emotional expression mastery become the key differentiators, corroborating the necessity of the "emotional calibration" mechanism.

7 Conclusion and Implications

7.1 Principal Research Findings

This study systematically analyzed the technical pathways and structural contradictions of AIGC-enabled cultural translation, proposed "emotional calibration" as the core optimization mechanism, and constructed a trinity efficacy evaluation system.

Finding One: AIGC demonstrates advantages in production efficiency while presenting three structural tensions that constitute the root sources of cultural translation predicament.

Finding Two: Emotional calibration is the key moderating mechanism, resolving tensions through three dimensions combined with four human-AI collaboration strategies.

Finding Three: Scientific efficacy evaluation requires integrating cognitive, affective, and conative levels through the three-dimensional indicator system.

7.2 Theoretical Implications

First, technological empowerment must be grounded in cultural consciousness, avoiding reduction of content to symbol pastiche. Second, efficiency prioritization must be balanced by emotional calibration embedded throughout the production workflow. Third, data-driven approaches must be oriented toward pluralistic representation, promoting equitable representation for different cultural groups.

7.3 Research Limitations and Future Directions

Limitations include reliance on publicly available data, theoretical-stage evaluation model, and China-focused scope. Future directions include: (a) experimental designs

to verify causal effects of emotional calibration; (b) constructing large-scale cultural-emotional knowledge bases; (c) cross-national comparative studies.

In summary, the key to AIGC-enabled cultural translation lies in the dynamic equilibrium between "speed" and "depth," with emotional calibration as the nexus for achieving the organic unity of technological empowerment and cultural value.

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