



Research on Trust Mechanisms and Governance Innovations within Digital Platform Ecosystems

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Abstract. Using the authenticity dispute over Guerlain products sold during a celebrity's live-stream as a case study, this paper integrates information asymmetry and platform governance theories to examine prevalent counterfeit disputes and consumer protection challenges in live-stream e-commerce. Analyzing incident details, third-party testing results, and industry contexts, it identifies four core pain points: consumer evidentiary difficulties, unqualified testing institutions, ambiguous supply chain responsibilities, and regulatory underdevelopment. The study proposes a closed-loop governance system encompassing traceability, accountability, consumer safeguards, and oversight mechanisms, offering solutions from technological, regulatory, and collaborative governance perspectives, thereby providing both theoretical insights and practical guidelines for the standardization of live-streaming e-commerce operations and the protection of consumer rights.

Keywords: Live-streaming e-commerce; Counterfeit goods disputes; Consumer rights protection; Liability allocation; Industry governance

1 Introduction

Amid the digital economy boom, live-streaming e-commerce has rapidly become a major consumption driver, leveraging real-time interaction, immersive experiences, and celebrity endorsements. Sales of high-value categories like cosmetics and luxury goods have surged, while anchor profiles have diversified into influencers, celebrities, merchant-hosted, and virtual hosts^{[1][2]}. However, rapid expansion has brought persistent issues such as frequent counterfeit products and cumbersome rights protection procedures, threatening sustainable industry development.

The 2025 authenticity dispute over Guerlain products sold during a celebrity's live-stream exposed multiple vulnerabilities. Consumers questioned product authenticity based on visual discrepancies, sent samples to unlicensed testing agencies, and sparked online debates. Brands refused individual submission authorizations, platform complaint channels proved ineffective, and resolution stalled until authoritative media and national testing institutions intervened. This incident not only infringed on consumer rights but also severely undermined industry trust, highlighting a significant disconnect between existing regulatory frameworks,

accountability mechanisms, and the unique dynamics of live-stream e-commerce. Systematic research and targeted countermeasures are urgently needed.

Current research primarily focuses on front-end aspects like streamer influence and consumer behavior, while systematic discussions on back-end governance—including rights protection mechanisms and responsibility allocation—remain scarce^{[5][6]}. This paper integrates information asymmetry theory, platform governance theory, and symbolic consumption theory to analyze the case: information asymmetry explains consumers' evidentiary challenges; platform governance theory addresses regulatory lag; and symbolic consumption theory examines responsibility gaps in celebrity-driven sales. The study establishes a holistic framework of "problem tracing, theoretical alignment, and mechanism reconstruction," addressing academic gaps and enriching digital commerce regulation theory.

Practically, this study provides clear guidance for market participants. For consumers, it defines criteria for identifying legitimate testing institutions, evidence retention requirements, and official rights protection channels. For industry stakeholders—brands, streamers, MCN agencies, and platforms—it delineates responsibility boundaries, urging a shift from a "traffic-first" mindset. For regulators, it proposes a comprehensive oversight framework and access standards for third-party testing institutions, aiming to establish an ecosystem characterized by traceable origins, accountable responsibilities, and streamlined rights protection.

This article follows a structured framework encompassing case analysis, theoretical examination, solution design, and concluding insights, offering targeted recommendations to various stakeholders.

2 Case Review

On October 16, 2025, consumers purchased Guerlain "Gold Restoration Honey" products totaling over 7,000 yuan (with a single bottle priced at 1,540 yuan) from Guerlain's official flagship store during a celebrity's live stream on TikTok. Upon receipt, they noticed significant differences in packaging, bottle material, and odor compared to counter items, and experienced skin irritation after use, prompting authenticity doubts.

To verify, the consumer sent the product to Youchuangyi E-commerce Technology (Suzhou Co., Ltd.), which concluded it was a "forged product." However, subsequent verification revealed the company lacked CMA or CNAS national testing qualifications and its business scope did not include inspection services; it relied solely on image comparison, rendering its report legally invalid. The consumer submitted five refund requests, all rejected, while platform dispute channels remained blocked. The consumer then released a complaint video, which quickly went viral.

Following escalation, Yaowang Technology (the MCN agency), its studio, and Guerlain's official representatives issued statements confirming all products came from brand direct channels with full traceability. Authoritative media including The Paper and Beijing News conducted simultaneous sampling from the live stream, physical counters, and major e-commerce platforms, sending samples to nationally

certified institutions. Results showed over 95% ingredient consistency across samples, with no abnormalities. Experts explained that skincare products may vary in texture, fragrance, or packaging due to production batches, regions, and storage temperatures, emphasizing that subjective experiences and reports from unqualified institutions cannot reliably identify counterfeits.

This incident ultimately indicated the products were genuine, yet exposed systemic issues: ordinary consumers struggle to obtain inspection authorization from brands, while most accredited national institutions refuse individual samples; numerous unlicensed testing agencies exploit this gap; and with multiple stakeholders involved, disputes often lead to mutual buck-passing, significantly increasing consumer protection costs—a clear reflection of the industry's challenges.

3 Essential Analysis of Counterfeit Disputes and Rights Protection Difficulties

Integrating this case with industry context and drawing on information asymmetry and platform governance theories, we can identify root causes behind frequent counterfeit disputes and consumer rights protection difficulties.

Hierarchical information asymmetry is the fundamental cause of barriers to consumer rights protection. Brands, streamers, and platforms collectively hold an information advantage, possessing comprehensive supply chain knowledge—raw materials, production processes, quality reports, brand authorizations, and logistics traceability. During live marketing, practitioners leverage scripts, immersive scenarios, and emotional guidance to highlight strengths while concealing shortcomings, selectively disclosing information based on transaction contexts, widening the buyer-seller information gap^{[3][4]}.

Consumers face a significant information disadvantage. When ordering during celebrity live streams, fans are drawn not by actual product value but by symbolic significance associated with celebrities^[3]. In live environments, consumers rely only on verbal descriptions and real-time footage, lacking physical experience or access to standardized information. Ordinary consumers lack professional identification skills, while key evidence—live recordings, verbal commitments, interaction logs—are frequently deleted by platforms or hosts. This creates a triple challenge: limited information sources, insufficient verification ability, and difficulty preserving evidence. Consumers often rely solely on subjective usage experiences, unable to provide objective proof.

More critically, this information disadvantage does not remain isolated but amplifies progressively along the industrial chain. Information gaps exist between platforms and brands, and between brands and streamers; these cumulative discrepancies ultimately burden consumers entirely. When disputes arise, all parties leverage their informational advantages to shift responsibility, leaving consumers with no means to provide evidence or seek accountability.

The operational characteristics of live-streaming e-commerce are incompatible with existing governance frameworks, while platform governance systems lag behind

industry development, leading to governance failures. Although live-streaming features real-time interaction, fragmented transactions, and multi-party collaboration, current regulatory models and consumer protection mechanisms still adhere to traditional e-commerce standards, which cannot accommodate this new business paradigm.

Traditional e-commerce relies on static qualification reviews and post-event sampling inspections, which prove inadequate for dynamic live-stream transactions. Live broadcasts often involve impromptu content that can be deleted anytime, making real-time monitoring difficult; violations like false advertising persist despite repeated bans. When disputes arise, post-event accountability is difficult due to complex parties and lost evidence, creating a vicious cycle of frequent irregularities, delayed regulation, and arduous rights protection.

Current consumer protection regulations are also out of sync with industry realities. The "he who asserts must prove" principle heavily burdens consumers. Core evidence is controlled by platforms and streamers, making it difficult for consumers to fully preserve key materials. Moreover, live-stream e-commerce involves multiple stakeholders—platforms, MCN agencies, streamers, brands—with unclear responsibility delineation. When disputes arise, parties shift blame, leaving consumers unable to identify clear liability holders, rendering dispute resolution extremely challenging.

The industry's development orientation further exacerbates governance gaps. Most practitioners prioritize traffic over compliance: platforms relax oversight to maintain high traffic; MCN agencies focus on nurturing streamers but neglect product selection; brands lower quality standards to secure live channels. Resources are directed toward traffic monetization, while compliance frameworks and consumer protection mechanisms have stagnated. From symbolic consumption theory, celebrity streamers leverage personal influence to create unique symbolic value, inducing irrational purchasing behaviors among fans, further exacerbating irregularities^{[3][4]}.

4 Systematic Solutions to Rights Protection Challenges

As outlined, the two primary root causes are evidentiary barriers from information asymmetry and ineffective regulatory oversight due to lagging governance systems. Addressing these requires comprehensive measures across technological, institutional, regulatory, and service dimensions.

To address information asymmetry and evidentiary difficulties, technological solutions should break down information monopolies. For high-risk categories—cosmetics, food, luxury goods—a mandatory blockchain-based "one-item-one-code" traceability system should be implemented, storing all critical information on the blockchain to ensure authenticity. Consumers can scan a QR code for comprehensive product lifecycle information, eliminating information gaps. Meanwhile, regulators must clarify platforms' information retention obligations, requiring all live-streaming platforms to retain replays, scripts, and interaction logs

for at least three years. Entities that deliberately delete content face fines of 10%–30% of sales revenue.

Beyond establishing information channels, evidence rules must be reformed. This paper proposes a tiered reversal of the burden of proof framework. When ordinary consumers file complaints, they need only submit basic evidence—transaction records and product samples—while the burden shifts to platforms and brands to demonstrate compliance. For vulnerable groups (seniors, disabled), a direct reversal applies—regulators uniformly access platform backend data to minimize barriers. To further streamline procedures, authorities could integrate the national 12315 platform with major live-streaming platforms, introducing a one-click evidence preservation feature that automatically generates encrypted digital certificates. The former addresses who bears the burden of proof, while the latter provides consumers with practical tools to obtain admissible evidence—two complementary mechanisms working in tandem.

Following evidence rule refinement, clear responsibility delineation and sustained oversight are essential. Regulators should establish standardized liability lists: platforms failing in merchant verification shall bear 30% of initial compensation liabilities; brands responsible for product defects must provide full compensation plus triple punitive damages; hosts and MCN agencies lacking compliance in product selection shall assume joint liability of 20%–50%. Furthermore, a multi-stakeholder collaborative supervision framework should be established: regulators use AI for real-time monitoring; authoritative third-party testing institutions conduct regular sampling; and an industry credibility alliance implements a red-black list system with market bans on non-compliant entities.

Beyond information asymmetry issues, comprehensive reform of regulatory frameworks is critical. The regulatory framework must shift from static oversight to a dynamic, end-to-end system integrating pre-access approval, real-time monitoring, and post-violation penalties. Tiered qualification reviews based on anchor follower bases and product risk categories should be implemented. During broadcasts, AI-powered millisecond-level monitoring should detect violations and enable immediate traffic restrictions. Additionally, a regulatory sandbox model should be adopted, piloting full-chain blockchain integration before nationwide rollout. Data interoperability among regulators, cyberspace authorities, and consumer associations must be enhanced, with penalty records incorporated into corporate credit registries.

Simultaneously, consumer protection service systems must be enhanced. Major platforms must implement automatic evidence retention mechanisms, generating time-stamped encrypted electronic records. Platforms should establish dedicated green channels for dispute resolution, requiring responses within 48 hours; for transactions under ¥5,000, an online expedited arbitration mechanism should be activated. Platforms must also clearly display responsible parties and available complaint channels, enabling consumers to identify accountability entities and available remedies.

The effective implementation of regulatory frameworks ultimately depends on industry self-regulation. Local governments and industry associations should jointly establish a Compliance Development Incentive Fund, providing tax reductions

and traffic preferences for compliant entities. Concurrently, a multi-stakeholder governance alliance should develop unified industry self-regulatory codes, product quality standards, and promotional guidelines, while regularly publishing violation case studies. Through administrative oversight, industry self-discipline, and public supervision, these collaborative efforts will guide live-streaming e-commerce toward high-quality, sustainable development.

5 Insights

For ordinary consumers, it is essential to enhance product discernment and risk awareness during live shopping. They should rely solely on accredited testing institutions with CMA or CNAS certifications. When purchasing, they must retain critical evidence—unboxing videos, transaction records, live screenshots—and rationally distinguish between normal batch variations and counterfeits. For rights protection, they should use official platform channels or the 12315 hotline.

For professionals across the live-streaming e-commerce sector, upholding ethical business practices and fulfilling primary responsibilities form the foundation for sustainable development. Brand owners must strengthen supply chain management, enhance traceability systems, and proactively address consumers' testing requests. Streamers and MCN agencies should abandon a traffic-centric mindset, rigorously verify product sources, and assume joint liability in disputes. E-commerce platforms need to improve consumer protection mechanisms, implement advance compensation and evidence retention, and publish lists of accredited testing institutions.

For regulatory authorities and industry associations, refining industry rules and strengthening coordinated oversight are central. Regulators should expedite specialized management guidelines for live-stream e-commerce, clarify third-party testing entry standards, define stakeholder responsibilities, and crack down on illegal practices. Industry associations should facilitate connections between consumers and authoritative testing agencies, lower barriers to individual submissions, and regularly promote consumer education. By establishing a regulatory framework centered on government oversight, supplemented by industry self-discipline and supported by public supervision, we can create an industry environment characterized by traceable origins, accountable responsibilities, and convenient rights protection, ensuring the sustainable development of live-streaming e-commerce.

6 Conclusion

The Guerlain authenticity dispute represents a typical consumer conflict during the rapid growth of live-stream e-commerce. Normal sensory variations due to production batches, storage conditions, and sales regions served as the catalyst. Issues such as unqualified testing agencies disrupting market order, blocked individual testing channels, difficulties in preserving transaction evidence, and mutual buck-passing among stakeholders collectively highlight common consumer protection challenges.

From a deeper perspective, this incident highlights multiple systemic contradictions. Hierarchical information asymmetry creates significant evidentiary barriers; traditional governance frameworks fail to accommodate the real-time, multi-stakeholder nature of live-stream commerce; and short-sighted development priorities collectively lead to frequent counterfeit disputes and difficult rights protection. To fundamentally address irregularities, solutions must go beyond individual incidents and require coordinated efforts across technological, institutional, regulatory, and self-regulatory dimensions to establish a comprehensive closed-loop governance system^[7].

References

- [1] Zhang Ruigang, Chen Kaiqiu. Insurance Research Supporting the Development of Live Streaming Commerce [J]. Southwest Finance, 2023, (06):69–81.
- [2] Liu Youzhi, Li Xingqin. Development characteristics and trends of China's live-streaming e-commerce [J]. Media, 2021, (14):26-29.
- [3] Zhang Qilin, Wu Yun. Do consumers prefer professional streamers or celebrity streamers? – A model incorporating the moderating effect of intermediaries [J]. Management Review, 2024,36(11):156–167.
- [4] Liu Fengjun, Meng Lu, Chen Siyun, et al. The Impact of Influencer Live Streaming on Consumer Purchase Intention and Its Mechanisms [J]. Journal of Management, 2020,17(01):94–104.
- [5] Wu Fumei. Frequent failures in live-streaming sales: How to steer the course correctly [N]. Qianjiang Evening News, 2025-01-17(002).
- [6] Li Ying. The "fever subsiding" trend of celebrity live-streaming sales [J]. China Quality Journey, 2023, (11):14-16.
- [7] Guo Yanlu, Luo Gongli, Hou Guisheng, et al. "Product recommendation" and "product failure": A study on product quality issues and governance in influencer live-streaming sales [J]. China Management Science, 2023,31(10):162-174.

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