

Communication Strategies of Virtual Streamers on Douyin: A Comparative Analysis of 15 Cases from the Zaomengshe Guild

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Abstract: This study examines communication strategies among virtual streamers on Douyin. From the top 30 streamers in the Zaomengshe Guild's 2025 annual ranking, 15 active accounts were selected through stratified sampling. Recent data on streaming frequency, trending content, fan-generated content, cross-account collaboration, and average likes were analyzed through multi-case comparison and inductive identification of driving factors, drawing on configurational thinking and grounded-theory coding logic. Communication performance is jointly shaped by fan secondary creation, high-frequency streaming, and cross-account collaboration, but their importance varies by tier. Growth-stage streamers rely more on public exposure, mid-tier streamers on fan production, and top-tier streamers on coordinated use of multiple mechanisms. The findings provide a practical framework for virtual-streamer communication on algorithm-driven short-video platforms.

Keywords: Douyin; Virtual streamer; Communication strategy; Driving factors; Multi-case comparison

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1. Introduction

Virtual streamers are content creators who use virtual avatars to conduct live streams, publish videos, and interact with audiences on digital platforms^[1]. Motion-capture and rendering map a human performer's movements and expressions onto an avatar, while comments, virtual gifts, and likes enable real-time interaction. Kizuna AI's emergence in Japan in 2016 marked a major industry milestone. From 2018, the model spread internationally and rapidly entered China; Bilibili and Douyin developed virtual-streamer sectors, followed by strong growth after 2019^[2]. By the end of 2018, YouTube hosted over 8,000 active virtual streamers; by 2021, more than 30,000 had streamed on Bilibili, generating 8.3 billion related views^[3].

Douyin's algorithmic recommendation, strong interaction, rapid trend diffusion, and efficient traffic distribution create a communication environment distinct from Bilibili's stronger subcultural orientation

^[4]. Low-cost Live2D models also lower entry barriers for small guilds and individual creators. Yet rapid expansion has brought unclear strategies, weak traffic conversion, and insufficient fan retention. This study examines Zaomengshe streamers to identify key drivers of communication performance and strategic differences between tiers.

2. Literature review

2.1. Research on virtual streamers

Academic definitions generally describe virtual streamers as creators who use virtual identities for live streaming and short-video production. Their defining feature is a nested structure combining a front-stage avatar with a back-stage human performer ^[5]. Yu and Yang classify virtual idols as content-driven, technology-driven, and industry-driven ^[6]; virtual streamers can be viewed mainly as industry-driven because their development is closely tied to the live-streaming economy. Gao et al. further describe an industry chain covering avatar production, performer selection and management, account operation, and derivative products.

Research on fan interaction emphasizes co-construction. Zhang describes streamer-fan relations as companion-like growth linked to ACG culture and the fan economy ^[7]. Huang et al. show that technologically empowered fans contribute productive capacity and collective intelligence, while Wu finds emotionally centered, bidirectional relationships built through clips, fan art, remixes, and other secondary creation ^[8–9]. Tian argues that virtual streamers can enhance audience intimacy through emotional expression and emotionally oriented communication ^[10]. Pan further shows that emotional resonance between virtual streamers and audiences can strengthen identification with the virtual persona ^[11].

Operational studies stress recognizable identities, content quality, interaction, and systematic account management. Fan and Feng propose an evaluation framework covering IP awareness, fan growth, communication effects, community interaction, and market outcomes. Lin and Li identify likes and completion rates as important indicators of short-video attractiveness, while Feng and Lu highlight distinctive character design, positive fan interaction, and diversified content in the case of the virtual streamer Xing Tong ^[12–13].

Existing Chinese research focuses mainly on Bilibili and often on a single dimension or case. Communication patterns on algorithm-driven platforms such as Douyin and combinations of strategies across accounts remain underexplored. This study addresses that gap through comparison of 15 cases.

3. Research design

3.1. Method

The study combines comparative case analysis with inductive identification of driving factors, borrowing configurational thinking from QCA and the coding logic of grounded theory. It reviewed relevant literature, selected 15 active accounts through stratified sampling, collected five core indicators, and compared configurations across tiers to identify key drivers, synergistic effects, and optimization strategies.

3.2. Theoretical basis

Participatory culture theory explains how audiences become active producers through creation, circulation, and community interaction. Virtual streamers provide characters and content that stimulate clips, memes, fan

art, and remixes; recognition can sustain this production and strengthen streamer-fan ties.

Uses and gratifications theory holds that users select media to satisfy emotional, social, entertainment, and self-expression needs. Stable streaming and timely trend participation can therefore provide companionship and entertainment while increasing algorithmic exposure. The 5W model additionally helps interpret collaboration between communicators and communication channels ^[14].

3.3. Sample selection

The cases were drawn from Zaomengshe, a major MCN organization in Douyin’s virtual live-streaming sector, with several sub-guilds and more than 3,000 incubated virtual streamers. Similar content formats, operating models, and target audiences help reduce external variation.

The sampling frame was the top 30 virtual streamers in Zaomengshe’s 2025 annual ranking, which integrates indicators such as revenue and popularity. Accounts ranked 1–10 were classified as top-tier, 11–20 as mid-tier, and 21–30 as growth-stage. Five accounts were sampled from each tier. Eligible accounts had operated continuously during the previous 30 days, primarily used virtual avatars rather than frequent real-person appearances, and had publicly available, non-anomalous platform data.

3.4. Measures

Five indicators were used. Communication performance, the outcome variable, was measured by the average number of likes on the latest 10 regular videos. The four condition variables were live-streaming frequency in the previous 30 days, the number of trending-topic videos among the latest 10 regular videos, participation volume under each streamer’s dedicated Douyin topic as a proxy for fan secondary creation, and whether the account had engaged in co-created content during the previous 30 days. The variables and their operational definitions are summarized in **Table 1**.

Table 1. Variables and operational definitions

Variable type	Variable	Operational definition
Outcome	Communication performance	Average likes on the latest 10 regular videos
Condition	Live-streaming frequency	Total live streams in the previous 30 days
Condition	Trending content	Videos linked to recent platform trends among the latest 10 videos
Condition	Fan secondary creation	Total participation under the streamer’s dedicated Douyin topic
Condition	Cross-account collaboration	Whether co-created content appeared in the previous 30 days

Average likes provide a visible and comparable measure of audience response. Streaming frequency captures output intensity and real-time interaction; trending-content use reflects sensitivity to Douyin’s fast-moving environment; topic participation indicates fan re-creation and circulation; and collaboration captures practices through which streamers exchange attention and traffic resources.

4. Results and analysis

4.1. Descriptive results

Table 2 presents the raw data for the 15 sampled accounts.

Table 2. Raw data for the 15 sampled virtual streamers

No.	Account	Tier	Followers (10k)	Avg. likes (10k)	Streams/month	Trending videos/10	Fan creations (10k)	Collaboration
1	Kong	1-10	152.1	5.9	27	6	19.5	Yes
2	DL.Yang	1-10	29.7	3.7	28	6	11.0	Yes
3	DL.Ji	1-10	24.9	1.2	22	6	14.5	Yes
4	DL.I9	1-10	19.3	1.8	23	5	10.6	No
5	R.Xueyin	1-10	10.6	0.9	15	7	7.7	No
6	DL.Tiancheng	11-20	20.6	4.2	18	8	9.3	No
7	DL.Ming	11-20	18.2	1.0	27	4	9.0	Yes
8	Xy.Shuixing	11-20	17.1	2.3	19	7	13.5	Yes
9	Xy.Quanquan	11-20	15.6	1.5	19	4	13.3	Yes
10	DL.Xiaoren Haokun	11-20	17.7	1.8	25	5	14.5	No
11	DL.Dache	21-30	16.4	2.4	28	8	7.8	Yes
12	Xy.Kai	21-30	7.9	1.3	18	6	2.7	Yes
13	Xy.Xiaohuangshao	21-30	14.9	2.0	25	6	5.6	No
14	DL.Yi	21-30	5.0	0.5	25	7	3.8	Yes
15	R.Han	21-30	3.4	1.1	27	6	2.2	Yes
Overall median	-	-	17.1	1.8	25	6	9.3	-

To make tier differences clearer, **Table 3** reports median values for the core indicators.

Table 3. Median indicators by ranking tier

Tier	Avg. likes (10k)	Streams/month	Trending videos/10	Fan creations (10k)	Collaboration rate
1–10	1.8	23	6	11.0	60%
11–20	1.8	19	5	13.3	60%
21–30	1.3	25	6	5.6	80%

Top- and mid-tier streamers have the same median average likes, but the top tier shows a more balanced profile without a clear weakness. Mid-tier streamers have lower streaming frequency and fewer trending videos but the highest level of fan secondary creation. Growth-stage streamers show the highest streaming frequency and collaboration rate but the lowest fan-creation volume, indicating greater dependence on public-platform traffic.

4.2. Core driving mechanisms

4.2.1. Fan secondary-creation driven

This pattern combines above-median fan-creation activity, moderate streaming frequency, and relatively high average likes. DL.Tiancheng is a representative case. Fans actively transform the streamer’s persona and live content into clips, memes, and other derivative works. The streamer mainly supplies reusable material, while fans become the principal distributors. This mechanism corresponds to participatory culture by showing how consumers become producers and help stabilize private-community traffic.

4.2.2. High-frequency streamer-driven

This pattern features frequent live streaming, substantial use of trending content, and relatively low fan

secondary creation. Xy.Xiaohuangshao is representative. Here, the streamer is the main content producer and gains exposure through frequent broadcasts and timely trend participation that fit Douyin's preference for active accounts. The pattern is consistent with uses and gratifications theory: repeated content supply meets users' needs for companionship and entertainment while expanding public-platform reach.

4.2.3. Cross-account collaboration driven

This pattern includes co-created videos, joint live streams, or other collaboration during the previous 30 days, together with relatively balanced performance on the other two mechanisms. Kong is representative. Collaboration connects fan groups and extends communication boundaries, while Douyin's support for co-created or interactive content can further increase exposure. This pathway is particularly important for top-tier streamers seeking to break through traffic ceilings and is consistent with the 5W model's emphasis on communicators and channels.

4.3. Synergistic multiplier effect

Combining mechanisms produces stronger outcomes than relying on one alone. Xy.Xiaohuangshao, mainly high-frequency driven, averages 20,000 likes. DL.Tiancheng, combining fan creation with frequent output, averages 42,000 likes, 110% higher. Kong, combining all three mechanisms, averages 59,000 likes, about 40% above the dual-driver case. High-frequency output attracts public traffic, fan creation strengthens retention, and collaboration imports attention from adjacent fan groups, forming a positive feedback loop.

4.4. Summary of findings

Communication performance is jointly driven by fan secondary creation, high-frequency activity, and cross-account collaboration, but the strategic emphasis differs by development stage. Growth-stage streamers depend primarily on public traffic and have limited fan-production capacity. Mid-tier streamers increasingly rely on fan-generated circulation to consolidate existing communities. Top-tier streamers benefit most from a balanced combination of public exposure, community retention, and cross-account expansion.

5. Optimization strategies

5.1. Growth-stage streamers: Create more reusable content

Growth-stage streamers already maintain high streaming frequency, so the priority should shift from quantity to memorable, remixable content. Fixed interactive segments, distinctive verbal routines, or recurring comic moments can provide raw material for fan creation and convert public exposure into community accumulation. DL.Tiancheng illustrates this logic: a rhyming teasing routine and avatar-based memes circulated widely among fans and generated secondary exposure.

5.2. Mid-tier streamers: Build incentives for fan creation

Mid-tier streamers have enough fans for voluntary production, but creations may remain scattered and unstable. Structured incentives can sustain community communication. Kong established a dedicated secondary-creation tag, clarified participation formats, periodically ranked fan works, and rewarded selected creators with merchandise or gifts. Highlighting strong fan works during streams can further provide recognition and motivation.

5.3. Top-tier streamers: Upgrade content and develop brand value

For top-tier streamers, stable routine content may eventually generate audience fatigue. Content upgrading is therefore necessary. Kong has recently increased interactive and narrative videos, including cross-dimensional dialogue with fans and short scenario-based performances. As **Table 4** shows, interactive videos achieve higher average likes than singing or advertising content, suggesting that novelty and stronger narrative design can help maintain attention.

Table 4. Kong's video content, January–March

Video type	Number	Share	Avg. likes (10k)
Singing	4	22%	8.3
Interactive	11	61%	11.7
Advertising	3	17%	3.4

Commercial collaboration provides a second route for top-tier accounts. A-SOUL's themed-store collaboration with Xiaolongkan in 2021 illustrates how virtual-idol IP can generate reciprocal exposure and commercial value ^[15]. Top streamers can similarly cooperate with brands that fit their identities through co-branding, endorsements, and customized promotional content, thereby converting traffic-based influence into more sustainable IP value.

6. Conclusion

Based on 15 Douyin cases, this study identifies three mechanisms centered on fan secondary creation, high-frequency streaming, and cross-account collaboration. Their importance varies by tier, while coordinated use can generate a multiplier effect. Growth-stage accounts should create remixable content, mid-tier accounts should institutionalize fan-creation incentives, and top-tier accounts should combine content innovation, community management, collaboration, and brand development. Future research should use larger samples and longer observation periods as Douyin's virtual-streaming sector and platform mechanisms continue to evolve.

Disclosure statement

The authors declare no conflict of interest.

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