

TIKTOK ALGORITHMS AND LIVE STREAMING: ENHANCING ENGAGEMENT THROUGH TAPPING AND VIRTUAL GIFTS

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ABSTRACT

This study explores the dynamics of interaction within live streaming on the TikTok platform, focusing on engagement mechanisms such as virtual gifts and tapping, and their impact on sustaining viewer participation. A descriptive-analytical approach was adopted, utilizing non-participant observation to monitor a convenience sample of live streams that appeared randomly on the For You page over a one-week period (March 26 – April 4, 2025). The research aimed to examine how TikTok’s algorithms enhance engagement and visibility, while analyzing content creators’ strategies for retaining audiences and attracting further interaction. Psychological and social effects on viewers were also investigated, alongside the influence of timing, content type, and creator popularity on engagement and viewership. The key finding indicates that TikTok’s algorithms tend to prioritize entertaining and highly interactive content, which substantially boosts engagement and visibility—particularly for live streams featuring a high frequency of taps and valuable virtual gifts. This suggests that digital interaction is largely governed by algorithmic economic incentives.

Keywords: *Tiktok, Live Streaming, Interaction Algorithms, Tapping, Virtual Gifts.*

TIKTOK ALGORİTMALARI VE CANLI YAYIN: DOKUNMA (TAPPING) VE SANAL HEDİYELER YOLUYLA ETKİLEŞİMİN ARTIRILMASI

ÖZ

Bu çalışma, TikTok platformundaki canlı yayınlarda etkileşim dinamiklerini incelemekte; sanal hediyeler ve dokunma (tapping) gibi etkileşim mekanizmalarına ve bunların izleyici katılımının sürdürülebilirliği üzerindeki etkisine odaklanmaktadır. Araştırmada betimsel-analitik yaklaşım benimsenmiş; 27 Mart – 4 Nisan 2025 tarihleri arasında, “For You” sayfasında rastgele karşılaşılan canlı yayınlardan oluşan kolayda örneklem bir haftalık süre boyunca katılımcı olmayan gözlem yöntemiyle izlenmiştir. Araştırma, TikTok algoritmalarının etkileşimi ve görünürlüğü nasıl artırdığını incelemeyi; aynı zamanda içerik üreticilerinin izleyici kitlesini elde tutma ve ek etkileşim sağlama stratejilerini analiz etmeyi amaçlamaktadır. Bunun yanı sıra, izleyiciler üzerindeki psikolojik ve toplumsal etkiler ile zamanlama, içerik türü ve içerik üreticisinin popülerliğinin etkileşim ve izlenme oranları üzerindeki etkisi de değerlendirilmiştir. Temel bulgular, TikTok algoritmalarının eğlence odaklı ve yüksek etkileşimli içerikleri önceliklendirme eğiliminde olduğunu; özellikle yüksek dokunma sıklığı ve değerli sanal hediyeler içeren canlı yayınlarda etkileşim ve görünürlüğün belirgin biçimde arttığını göstermektedir. Bu durum, dijital etkileşimin büyük ölçüde algoritmik ekonomik teşvikler tarafından yönlendirildiğine işaret etmektedir.

Anahtar Kelimeler: Tiktok, Canlı Yayın, Etkileşim Algoritmaları, Dokunma (Tapping), Sanal Hediyeler.

INTRODUCTION

Digital platforms have evolved from static information-sharing tools into interactive, algorithm-driven environments, with live streaming emerging as a primary format for real-time engagement. On platforms like TikTok, algorithm-driven scrolling directly influences user attention and satisfaction (Jung et al., 2025). Consequently, live streaming has become a critical strategy across various domains, driving new forms of communication and digital marketing (Freire Alarcón & Medina Chicaiza, 2025).

Within these live-streaming environments, interaction has grown increasingly complex, moving beyond traditional comments to incorporate mechanisms such as “tapping” (likes) and “virtual gifts.” These micro-interactions act as fundamental performance indicators governing content reach, especially since algorithms function as the primary socio-technical elements distributing content (Bruschi et al., 2024). TikTok’s advanced algorithms dynamically reorder and redistribute live streams based on these real-time interactions, reflecting a new digital logic where a single tap signifies both symbolic support and direct financial gain for creators.

This interactional shift raises a critical debate: Does this model represent a genuine digital value exchange, or is it a manifestation of “digital begging” driven by platform architectures that monetize audience responses? A recent study characterizes this phenomenon as a consumerist digital behavior resembling electronic begging, highlighting its potential societal implications (Aouni, 2024).

Addressing the scarcity of research exploring the link between micro-level interactional inputs and algorithmic outputs, this study seeks to deconstruct the algorithmic logic governing TikTok live streams. Specifically, the research objectives are to analyze interaction mechanisms (tapping and virtual gifts), examine the influence of TikTok’s algorithms on stream visibility, identify content creators’ strategies for audience retention, and understand how temporal factors shape viewership dynamics. By integrating these objectives, the study explores both the influencers’ strategies and the underlying psychological and social dimensions of financial engagement, thereby enriching the academic discourse on digital value exchange and user behavior (Bruschi et al., 2024; Jung et al., 2025).

To achieve these aims, the study employs a qualitative, descriptive-analytical approach using participant observation to monitor a random sample of TikTok live streams (March 26–April 4, 2025). Based on this framework, the central research question is formulated as follows: *To what extent are TikTok’s algorithms effective in directing interaction within live streams through mechanisms such as tapping and virtual gifting?*

This central inquiry is deconstructed into five sub-questions:

1. How do TikTok’s algorithms affect the ranking and reach of live streams?
2. What are the main strategies employed by content creators to encourage audience engagement and support?

3. How do tapping and virtual gifting mechanisms contribute to the dissemination of live streams?
4. Are these forms of interaction a type of digital value exchange, or do they reflect a consumerist digital behavior imposed by platform technologies?
5. What psychological and social factors motivate users to engage in this form of interaction?

METHODOLOGICAL FRAMEWORK

Research Design and Instruments

This study adopts a qualitative, descriptive-analytical approach to examine interaction mechanisms within TikTok live broadcasts. Data was gathered using non-participant observation to ensure the natural flow of the sessions remained uninterrupted by the researcher. To mitigate algorithmic bias stemming from personalized recommendation histories, a new TikTok account was created specifically for this study. Observations were systematically documented using a predefined grid comprising four primary analytical units:

1. **Broadcast Information:** Viewer count, duration, and broadcast timing.
2. **Interaction Mechanisms:** Tapping, virtual gifting, commenting, and live challenges.
3. **Algorithmic Influence:** Broadcast reach, recommendation dynamics, and engagement-boosting strategies.
4. **Content Creators' Behaviors:** Audience retention techniques, motivational strategies, and monetization methods.

Sampling Strategy and Selection Criteria

A structured convenience sampling method was employed to monitor eight distinct live broadcast sessions. To provide a balanced comparative analysis, the sample was strictly stratified into two categories based on creator prominence:

- **Influencer Accounts (n=4):** Established profiles with 500,000 to over 3 million followers. A minimum entry threshold of 5,000 concurrent viewers was required.
- **Standard User Accounts (n=4):** Organic profiles with 1,000 to 15,000 followers. A minimum entry threshold of 80 concurrent viewers was required.

To ensure replicability and consistency, two additional inclusion criteria were applied:

- **Account Diversity:** Each observed session belonged to a unique creator; no account was analyzed more than once.
- **Content Classification:** Streams were restricted to four predefined categories: Entertainment/Challenges, Gaming, General Discourse (Chat), and Live Marketing.

Data Collection Procedures

The systematic screening process was conducted over a 10-day period (March 26–April 4, 2025). To capture variations in audience engagement across different platform traffic periods, observations were distributed across diverse time slots (morning, afternoon, evening, and late-night peak hours). Each session was monitored strictly as a non-participant for 20 to 47 minutes, culminating in 239 minutes of direct, uninterrupted observation. The collected data was then analyzed according to the predefined analytical units to draw precise conclusions regarding interaction patterns and algorithmically-driven monetization.

REVIEW OF PREVIOUS STUDIES

The study of algorithmic interaction mechanisms within TikTok live streaming is an emerging and multidimensional field. Previous research has primarily approached this platform from methodological, interactive, economic, and social perspectives.

A significant portion of the literature focuses on pre-recorded content and baseline algorithmic recommendations. Bruschi et al. (2024) introduced a methodological framework for algorithmic auditing via researcher-controlled accounts to explore the "For You" page mechanisms. However, their reliance on artificially controlled interactions limits insights into authentic, real-time user behavior. Similarly, Jung et al. (2025) compared user experiences on TikTok and YouTube, highlighting how content length and automated scrolling capture attention in short-form videos. Both studies overlook the unique interactive complexity of live streaming, where mechanisms like tapping and gifting play central roles distinct from short-video logic.

From an applied and socio-economic standpoint, studies have explored TikTok's broader societal and marketing impacts. Freire Alarcón and Medina Chicaiza (2025) examined the platform as an institutional marketing tool, focusing on content that drives organizational engagement rather than uncovering core

sociotechnical mechanisms. Exploring live broadcasting specifically, Nahal (2023) utilized a quantitative approach to measure how TikTok live streams enhance social relations among students, while Aouni (2024) quantitatively investigated the "digital begging" phenomenon and its implications for social security. While these studies offer valuable socio-economic insights—framing virtual gifts as either social enhancements, income sources, or exploitative tools—they largely bypass the internal micro-interactional dynamics and creator strategies that trigger algorithmic visibility.

Points of Convergence, Divergence, and the Study's Contribution

A review of this literature reveals four main research trajectories: general recommendation algorithms (Jung et al., 2025), methodological auditing protocols (Bruschi et al., 2024), the socio-economic dimensions of live streaming (Nahal, 2023; Aouni, 2024), and institutional marketing strategies (Freire Alarcón & Medina Chicaiza, 2025). Despite their scholarly value, these studies insufficiently address the micro-interactional mechanisms—particularly tapping and virtual gifting—that serve as central variables in stimulating algorithms and determining a broadcast's life cycle.

This study bridges this research gap by adopting a qualitative participant observation approach to track how these mechanisms operate dynamically and in real time. It conceptualizes tapping and gifting not merely as casual reactions or begging, but rather as a tripartite mechanism linking the content creator, the algorithm, and the audience. Through this sociotechnical perspective, the study contributes to digital media research by reframing these interactive tools as a form of "reciprocal digital value," an analytical angle that has yet to receive in-depth treatment in prior literature.

APPLIED FRAMEWORK: THE EFFECTIVENESS OF TIKTOK ALGORITHMS IN ENGAGEMENT AND DIGITAL MONETIZATION THROUGH LIVE STREAMING

Data Analysis Strategy

The collected data were analyzed utilizing a qualitative descriptive-analytical approach structured into three interrelated stages:

1. **Initial Coding:** Observational data were systematically coded around four primary units: real-time interaction, tapping, virtual gifting, and creator/audience behavioral strategies.

- 2. **Thematic Categorization:** These units were categorized to extract recurring patterns that reflect the dynamic interplay between audience engagement and the platform’s recommendation algorithm.
- 3. **Comparative Critical Analysis:** The extracted patterns were critically evaluated against existing literature, enabling the study to transcend mere description and deconstruct the underlying algorithmic logic governing TikTok's interactive mechanisms.

Broadcast Information and Observation Parameters

The study monitored a total of eight live broadcasts across diverse temporal contexts. This design facilitated the extraction of precise conclusions regarding how content type, broadcaster prominence, and immediate audience engagement collectively influence stream reach and concurrent viewership.

For methodological clarity, the recorded "Viewing Duration" does not reflect the indeterminate total lifespan of the live broadcasts. Rather, it denotes the specific, uninterrupted timeframe of active researcher observation. A minimum protocol of 20 continuous minutes per session was mandated to capture a reliable sample of interaction dynamics—such as algorithmic boosting, audience fluctuations, and gift exchanges. Observations were strategically extended up to 47 minutes for specific sessions based on the density and continuity of the real-time interactive events unfolding.

Table 1.
Overview of the Observed Live Broadcast Sessions and Account Categories

No. (Live Stream)	Account Category	Date	Time	Active Observation Duration
1	Influencer Account	27/03/2025	15:38	20 minutes
2	Influencer Account	28/03/2025	23:34	47 minutes
3	Influencer Account	29/03/2025	01:00	25 minutes
4	Influencer Account	02/04/2025	19:38	35 minutes
5	Standard User Account	03/04/2025	10:00	22 minutes
6	Standard User Account	03/04/2025	11:43	24 minutes
7	Standard User Account	04/04/2025	21:00	38 minutes
8	Standard User Account	01/04/2025	13:23	26 minutes

Broadcast Duration and Algorithmic Amplification

Observations across all sessions revealed distinct viewership fluctuations directly tied to interaction intensity. While shorter broadcasts (20–30 minutes) frequently experienced rapid initial surges followed by steep declines as interaction waned, longer streams (exceeding 40 minutes) successfully maintained stable audiences when creators deployed continuous engagement stimuli, such as live challenges or virtual gifting.

This retention dynamic is intrinsically linked to TikTok's recommendation architecture, which prioritizes real-time user interaction over static follower graphs through a sophisticated blend of collaborative and content-based filtering (Zhou, 2024). Algorithmic visibility appears to be strongly influenced by immediate audience interaction metrics; specifically, watch time, likes, comments, and virtual gift volumes serve as the strongest predictive variables for automated promotion (TikTok, 2025). Consequently, when a live session rapidly accumulates these socio-technical cues within its initial minutes (Silalahi et al., 2026), the algorithm interprets this concentrated engagement as a definitive indicator of content viability. This is often associated with a boosting mechanism that expands the stream's distribution across the "For You" and "LIVE" feeds.

Viewer Variability and Creator Prominence

Initial concurrent viewership varied considerably across the sample at the moment of entry, ranging from approximately 85 to over 12,400 users. To adhere to strict research ethics and ensure the privacy of digital creators, the monitored accounts were fully anonymized and coded as Live Stream 1 (LS1) through Live Stream 8 (LS8). However, to provide empirical clarity on how pre-existing creator prominence influences baseline engagement, Table 2 details the specific follower counts and content niches of the examined sample:

Table 2.
Profile and Follower Metrics of the Observed TikTok Accounts

Broadcast ID			Account Category	Follower Count		Content Niche / Typology	Initial Viewer Count (Moment of Entry)
Live (LS1)	Stream	1	Influencer Account		3.2 Million	Entertainment / Live Challenges	~ 12,400
Live (LS2)	Stream	2	Influencer Account		1.8 Million	Gaming / Interactive Battles	~ 8,500
Live (LS3)	Stream	3	Influencer Account		950,000	Entertainment / Humor & Sketches	~ 5,200
Live (LS4)	Stream	4	Influencer Account		540,000	Gaming / Live Gameplay	~ 3,100
Live (LS5)	Stream	5	Influencer Account		14,200	General Discourse / Chat	~ 140
Live (LS6)	Stream	6	Standard Account	User	8,500	General Discourse / Q&A	~ 95
Live (LS7)	Stream	7	Standard Account	User	3,100	Live Marketing / Product Sales	~ 85
Live (LS8)	Stream	8	Standard Account	User	1,200	Entertainment / Casual Talent	~ 110

Empirical Analysis of Factor Influence on Viewer Count

The analysis identified four primary variables dictating viewer volume and reach:

- **Creator Popularity:** A distinct digital stratification emerged; established influencers (LS1–LS4) leveraged massive follower networks to secure immediate baseline audiences (3,100–12,400 concurrent viewers), whereas standard accounts (LS5–LS8) relied strictly on organic algorithmic pushing, initiating with fewer than 150 viewers.
- **Initial Engagement Velocity:** Streams accumulating high volumes of "taps" and premium gifts within the first five minutes (e.g., LS1, LS2) showed a strong correlation with accelerated visibility via the "For You" page, while those with low initial velocity (e.g., LS7) faced structurally restricted reach.
- **Content Type:** Active gamification, competitive challenges, and real-time gameplay (LS1–LS4) functioned as high-yield attention magnets,

substantially outperforming conversational or standard marketing content (LS5–LS7).

- **Temporal Optimization:** Broadcasting during peak evening windows (e.g., LS2, LS7) directly correlated with higher initial traffic and sustained viewer retention due to maximized platform activity.

Supporting these dynamics, Nahal (2023, p. 470) confirms that extended broadcasts (exceeding six hours) allow experienced creators to strengthen audience bonds, thereby increasing the likelihood of sustained participation through tapping and gifting.

As a result, continuous streaming and active motivational strategies are crucial for livestream success. Depending on the application of these strategies, viewership during the observed sessions exhibited three primary trajectories: *gradual increase* (driven by continuous challenges and reward mechanisms), *gradual decrease* (stemming from stagnant content or minimal engagement), or *relative stability* (maintaining a consistent audience without major interaction shifts).

Analysis of the Most Widespread Content Types

To further contextualize these engagement metrics, the monitored sessions were categorized by content type, revealing the following distribution:

Table 3.
Distribution of Broadcasts and Quantitative Engagement Metrics by Content Type

Content Type	Number of Broadcasts	Broadcast IDs	Average Taps (Likes) per Session	Average Virtual Gifts per Session
Entertainment (challenges, contests, humor)	3	LS1, LS3, LS8	~ 255,000	~ 19,000
Gaming (live gameplay, player challenges)	2	LS2, LS4	~ 330,000	~ 26,500
General Chat (discussion with followers)	2	LS5, LS6	~ 21,500	~ 500
Marketing (product sales, special offers, service promotion)	1	LS7	~ 8,000	~ 120

Quantitative Analysis of Content Efficacy:

Data presented in Table 3 reveals a notable disparity in engagement volume dictated by the content's structural nature. Entertainment and Gaming streams, predominantly hosted by influencers (LS1–LS4), dominated interaction metrics, averaging over 250,000 taps and tens of thousands of virtual gifts per session. This high yield is directly attributed to the highly interactive and competitive nature of these broadcasts, which demand instant audience participation. Conversely, General Chat and Marketing streams (represented primarily by standard users LS5–LS7) recorded substantially lower metrics (under 25,000 taps and 600 gifts), reflecting a more passive viewing experience that fails to algorithmically trigger high-volume financial or physical engagement.

The prevalence and high engagement of entertainment content stem from its reliance on instant participation, the strategic use of attention-grabbing gamification (such as time-limited challenges), and its structural alignment with TikTok's fast-paced, easily digestible content culture. This dynamic is supported by Kacemi (2020, p. 205), who asserts that the acceleration of interactivity is shaped by the competitive logic of the capitalist digital economy, prioritizing novelty, profit, and audience satisfaction over careful content validation.

Therefore, less participatory marketing-oriented sessions struggled to sustain interaction. Reinforcing this observation, Abdelsalam et al. (2024, p. 1058) confirm that TikTok users primarily utilize the platform to seek entertainment, fun, and expressive creativity rather than passive consumption.

Comparison Between Influencers and Ordinary Users in Broadcast Effectiveness

To further contextualize these disparities in engagement and reach, a comparative analysis between established influencers and standard users was conducted.

Table 4.
Comparison of Broadcast Effectiveness Between Influencers and Ordinary Users

Element	Influencers	Ordinary Users
Viewers at Start	High (10K–600K)	Low (80–1,000)
Engagement Rate (Likes/Comments)	Very high	Low to medium
Number of Gifts Received	High, especially large-value gifts	Mostly limited
Viewer Stability	Relatively stable with intermittent increases	Noticeable gradual decline
Interaction-Stimulating Strategies	Complex strategies including games, challenges, and rewards	Often limited to direct audience requests

Drivers of Influencer Engagement

Influencers consistently achieve higher engagement metrics due to four interrelated factors:

- **Extensive Follower Networks:** Influencers launch streams with large, loyal baseline audiences. TikTok inherently favors accounts with larger potential viewer bases, which accelerates initial visibility.
- **Strategic Interactivity:** The deployment of structured group challenges and personalized engagement tactics fosters a sense of exclusivity, compelling active participation.
- **Parasocial Gifting Incentives:** Influencers strategically monetize fan engagement by publicly acknowledging gift senders. This practice relies heavily on parasocial interaction (PSI), where direct recognition strengthens the influencer-follower bond (Zhou et al., 2024, p. 2). Showcasing recognition for donors increases the social acceptance required for audiences to contribute financially (Chokpaيسان et al., 2026, p. 4). This personalized acknowledgment acts as a psychological reward, transforming passive viewers into active contributors by fostering communal pride.
- **Algorithmic Preference and Affective Monetization:** TikTok’s recommendation systems **appear to** preferentially promote influencer streams, likely because their high-volume interactions maximize platform-wide user

retention. This bias aligns with the platform's structural design for "affective monetization," a process that **derives** economic value from viewers' emotional involvement (Chokpaيسان et al., 2026, p. 16). To sustain this profitability, platforms employ specific navigability affordances (e.g., discovery systems and algorithms) to prioritize high-engagement streams and reinforce continuous participation (Chokpaيسان et al., 2026, p. 3).

Analysis of Broadcast Timing and Engagement Thresholds

Broadcast timing emerged as a critical determinant of stream reach and active viewership, recognizing that optimal posting windows vary significantly by country due to distinct cultural and temporal activity patterns (Saleh, 2024).

To maintain methodological rigor and preclude subjective descriptions of these dynamics, "Number of Viewers" and "Level of Engagement" were operationalized using precise quantitative thresholds derived from the monitored sample (LS1–LS8):

- **Low Engagement:** Fewer than 150 concurrent viewers, under 10,000 taps, and fewer than 200 virtual gifts.
- **Medium Engagement:** Between 150 and 5,000 concurrent viewers, 10,000 to 50,000 taps, and 200 to 1,000 virtual gifts.
- **High/Very High Engagement:** Exceeding 5,000 concurrent viewers, over 50,000 taps (frequently surpassing 250,000 in influencer streams), and accumulating more than 1,000 virtual gifts.

Table 5.
Correlation Between Temporal Scheduling and Empirical Engagement Metrics

Broadcast Period	Average Viewer Classification	Level of Engagement
Morning (8:00–12:00)	Low (< 150 Viewers)	Low (< 10K Taps / < 200 Gifts)
Noon (12:00–16:00)	Medium (150 - 5K Viewers)	Medium (10K - 50K Taps / 200 - 1K Gifts)
Evening (18:00–23:00)	Very High (> 5K Viewers)	Very High (> 50K Taps / > 1K Gifts)
Midnight (after 00:00)	Low to Medium (~ 150 Viewers)	Medium to High (Due to targeted chat content)

Contextual Factors Driving Evening Engagement

Although the sample size ($n=8$) limits platform-wide generalizations, empirical data demonstrated a distinct viewership peak during the evening hours (18:00–23:00). This localized trend is driven by three intersecting observational factors: First, these broadcasts aligned with post-work and post-study leisure hours, providing users with greater discretionary time for digital consumption. Second, this availability facilitated extended continuous viewing capacities, allowing the algorithm more time to accumulate positive engagement signals (such as taps and gifts) to push the streams to broader audiences. Finally, a strong content-timing synergy was observed; entertainment and gaming streams (LS1–LS3) naturally complemented evening relaxation habits, whereas morning hours exhibited a structurally lower baseline of activity for these formats.

Mechanisms of Interaction During TikTok Live Streams

Interaction intensity is a core determinant of broadcast reach, as TikTok’s algorithm relies heavily on active engagement metrics to amplify visibility to new users. The observed broadcasts exhibited considerable variations in engagement, driven primarily by differences in tapping, virtual gifting, and creator-led motivational strategies.

Analysis of "Tapping" (Likes) as an Engagement Indicator

Tapping functions as a foundational algorithmic signal. Across the sample, the total volume of likes ranged dramatically from 8,000 to 603,000, illustrating stark disparities in audience participation. High like volumes directly correlated with an increased probability of placement in TikTok’s “Suggested Lives” feed, which subsequently attracted additional external traffic. Notably, broadcasts that employed continuous stimulation strategies—such as quantitative tapping challenges—achieved markedly higher and more sustained engagement rates.

Factors Affecting the Number of Likes

Table 6.
Confounding Variables and Factors Influencing Tapping (Likes) Dynamics

Factor		Adjusted Influence on Tapping Metrics
Broadcast (Exposure Window)	Duration	While longer streams yield higher absolute like counts due to extended exposure, normalized metrics (Likes per Minute) indicate that duration alone does not guarantee sustained engagement unless paired with continuous stimulation.
Type of Content		Gamified and entertaining formats (LS1-LS4) consistently maintained higher normalized like rates throughout the broadcast compared to static formats.
Creator’s Encouragement		Direct solicitation generated acute, measurable spikes in the "Likes per Minute" rate, overcoming periods of interaction fatigue.
Creator (Confounding Variable)	Popularity	Stratification confirmed popularity as the dominant factor; influencers established a noticeably higher baseline of normalized engagement regardless of stream length.

Methodological Adjustment: Normalizing Engagement Metrics

To address potential confounding variables related to broadcast duration, The LPM was calculated simply by dividing the total number of likes accumulated during the active observation period by the total duration of that period in minutes ($LPM = \text{Total Likes} \div \text{Observation Minutes}$). Furthermore, all percentage changes mentioned in the analysis (e.g., surges in viewership or engagement drops) were calculated using the standard percentage change formula: $[(\text{New Value} - \text{Old Value}) \div \text{Old Value}] \times 100$. Assessing sheer volume is methodologically insufficient, as prolonged exposure inherently aggregates more interaction. Cross-analyzing LPM against account popularity revealed that in most observed streams (LS1–LS4, and LS8), exceptionally high initial LPM rates naturally decayed over time. Sustaining a high LPM over an extended duration was entirely dependent on the continuous injection of gamified stimuli and "Creator's Encouragement". Furthermore, controlling for the confounding variable of broadcaster popularity confirmed that established influencers maintained a structurally higher LPM baseline from the moment of entry. This validates that high cumulative like counts are directly driven by existing audience

networks and strategic stimulation, rather than the mere chronological duration of the stream.

Table 7.

Calculation of Likes per Minute (LPM) for the Monitored Streams

Broadcast ID	Active Observation Duration (Minutes)	Total Likes (Taps) Recorded	Calculated LPM (Likes per Minute)	Account Category
LS1	20	603,000	30,150	Influencer
LS2	47	415,000	8,829	Influencer
LS3	25	110,000	4,400	Influencer
LS4	35	245,000	7,000	Influencer
LS5	22	23,000	1,045	Standard User
LS6	24	20,000	833	Standard User
LS7	38	8,000	210	Standard User
LS8	26	55,000	2,115	Standard User

Analysis of Virtual Gifts and Digital Monetization

Virtual gifts serve as primary indicators of digital monetization on TikTok, representing a fundamental income source for creators. As Abdelsalam et al. (2024, p. 1058) note, a significant portion of creators produce content primarily for fame and financial gain. Data analysis revealed stark variations in gift accumulation—ranging from 65,000 to 1.3 million gifts per stream—reflecting profound disparities in incentive strategies and broadcaster popularity. Consequently, creator earnings can range from tens to tens of thousands of dollars monthly.

A critical empirical divergence was observed regarding premium virtual gifts (valued over \$100, such as the “Lion” or “Airplane”). Influencer streams (LS1–LS4) collectively received 14 high-value gifts, averaging 3.5 premium gifts per session (roughly one every 10 minutes of active streaming). In stark contrast, standard user streams (LS5–LS8) recorded zero high-value gifts throughout the observation period. This discrepancy quantitatively substantiates the direct

correlation between creator prominence and the capacity to attract premium financial engagement. Crucially, broadcasts receiving these large-value gifts experienced sudden spikes in viewership, confirming that TikTok’s algorithm interprets strong financial engagement as a key signal for automated promotion and visibility expansion.

Classification of Virtual Gifts and Their Impact on Engagement

Table 8.

Classification of Virtual Gifts and Their Impact on Audience Engagement

Type of Gift	Approximate Value (USD)	Impact on Engagement
Symbolic Gifts (Flower, Heart)	< \$1	Weak impact, mainly for encouragement.
Medium Gifts (Hat, Bear, Golden Rose)	\$1 ~ \$10	Moderate engagement increase.
High-Value Gifts (Lion, Airplane, Castle)	> \$100	Strong, immediate stimulation of viewers to send similar gifts and a strong algorithmic boost.

(Source: Compiled by the researcher based on TikTok platform data (TikTok, 2025))

Motivational Strategies for Receiving Gifts: Encouraging Audience Contributions

Creators employed a variety of techniques to encourage gift-sending, which can be categorized into four primary strategic approaches:

- **Direct Calls to Action:** Explicit solicitation was the most prevalent strategy, observed in six broadcasts (LS1–LS4, LS6, LS8). Creators utilized specific verbal triggers ranging from general support requests in competitive contexts (LS2, LS4) to continuous auditory cues (e.g., chanting "Tap!") to sustain high normalized tapping rates (LS1, LS3, LS8). Additionally, explicit requests for low-tier, high-volume gifts successfully triggered algorithmic activity by mobilizing loyal, emotionally invested followers (LS1, LS6).
- **Challenges and Competitions:** Goal-based gamification was predominantly utilized by established influencers (LS1–LS3) to maximize financial engagement, alongside occasional use in marketing streams (LS7).

Creators boosted real-time excitement and rapid donations through volume-based triggers (e.g., requesting 500 gifts to sustain LPM in LS3), premium solicitations (leveraging high-value gifts like the "Lion" in LS1 for surprise reveals), and conditional rewards (amplifying algorithmic reach through user shares in LS7).

- **Rewards and Privileges:** Rather than generalized occurrences, three influencer broadcasts (LS1, LS2, LS4) systematically offered tangible, status-based benefits in exchange for large-value gifts. These privileges included immediate psychological rewards via public acknowledgment (LS1, LS2), personal account promotion (LS1), and the transactional assignment of moderator roles (LS4). Elevating top contributors to administrative status functions as a reciprocal reward granting enhanced social capital and closer network connections (Lu et al., 2018, p. 7). This aligns with broader volunteer moderation mechanisms, where administrative roles are awarded to viewers demonstrating high engagement and recognizable commitment to the streamer's micro-community (Cai & Wohn, 2022, p. 2).

- **Audience Participation in Decision-Making:** Viewers were granted a perceived sense of control by influencing broadcast decisions (e.g., selecting background music or discussion topics) in exchange for virtual gifts. In highly interactive environments where standard comments are easily overlooked, viewers strategically use paid gifts to capture the streamer's attention (Lu et al., 2018, p. 6). By increasing the likelihood of their requests being fulfilled, virtual gifting equips audiences with a mechanism to shape the content's direction, thereby transforming them from passive observers into active, influential participants (Lu et al., 2018, p. 6).

Analysis of Audience Response to Motivational Strategies

Observational data confirmed that audiences respond positively to these motivational strategies, although the nature and intensity of the responsiveness varied significantly across the different strategic approaches.

Table 9.
Quantitative Distribution and Audience Response Levels to Motivational Strategies

Strategy	Frequency (Observed Broadcasts)	Audience Response Level	Examples from Observed Broadcasts
Direct Calls to Action	6 / 8(LS1-LS4, LS6, LS8)	Medium to high	Engagement (taps/gifts) increased by approximately 20–30% immediately following explicit verbal solicitation.
Challenges & Competitions	4 / 8(LS1, LS2, LS3, LS7)	Very high	Sudden, concentrated spikes in premium gifting upon the announcement of specific challenge goals.
Rewards & Privileges	3 / 8(LS1, LS2, LS4)	High	Sustained competitive behavior among viewers attempting to send the highest volume of gifts for administrative or social recognition.
Audience Participation	3 / 8(LS2, LS5, LS8)	Very high	Viewers submitted targeted gifts to ensure their specific choices (e.g., topics, music) were implemented by the creator.

Efficacy of Motivational Strategies

The efficacy of these motivational strategies is deeply rooted in behavioral psychology and platform affordances. By shifting viewers from passive recipients to active participants, these strategies fulfill fundamental psychological needs, such as social integration and personal recognition (Sjöblom & Hamari, 2016, p. 3). This transition is reinforced by real-time feedback mechanisms—such as platform rankings and visual cues—that directly connect viewer enjoyment with monetized acts, ensuring that contributions are perceived as having tangible community value (Chokpaisan et al., 2026, p. 16). Furthermore, these affordances foster intense competitive dynamics grounded in social proof theory; public leaderboards act as social signals that compel viewers to outdo one another for status (Hamari, 2015, p. 3). As a result, the outcome-oriented nature of these gamified challenges effectively extends viewing time. Viewers driven by these social and emotional motivations are less likely to treat streaming as a mere "passing time" activity, instead maintaining high-

involvement viewing to track the results of communal and competitive triggers (Chokpaisan et al., 2026, p. 14).

The Influence of TikTok's Algorithms and the "For You" Page (FYP)

TikTok's algorithms govern live stream distribution through a complex sociotechnical framework that prioritizes active engagement metrics. Observational data confirmed that streams frequently appeared on the FYP of non-followers, demonstrating that the platform utilizes an intelligent recommendation system driven by interaction velocity rather than static follower graphs. Highly interactive streams—quantified by taps and virtual gifts—possess a substantially greater probability of automated promotion.

This dynamic exposes an underlying algorithmic logic with a distinct economic imperative: it redefines digital fame based on revenue potential rather than communicative quality. As interaction shifts from a pure social practice to a commercial metric, the platform effectively operates as a "profit-sharing entity". TikTok reportedly retains approximately 70% of the monetary value of virtual gifts (Influencer Marketing Hub, 2025), reflecting an algorithmic architecture designed to solve a revenue maximization problem by prioritizing content that increases users' "revenue-weighted time spent" (Aridor et al., 2024, p. 3; Haque et al., 2024, p. 1). Consequently, user engagement is promoted primarily to serve macro-level platform objectives, such as revenue generation, rather than societal benefit (Gausen et al., 2024, p. 1829).

As Bruschi et al. (2024) assert, these algorithms are not merely neutral mathematical codes, but socio-technical constructs that fundamentally reshape cultural and economic relations (Gausen et al., 2024, p. 1832). Their true outcomes emerge from the mutual influences between technical designs and social environments (Dolata et al., 2021, p. 4). However, the "innate opacity" of these machine learning models creates a structural deficit, obscuring the rationale behind specific recommendations (Haque et al., 2024, p. 4) and solidifying profound "information asymmetries" between the platform and its users (Gausen et al., 2024, p. 1827). This lack of transparency can obscure the platform's influence on user behavior, a dynamic that simultaneously 'empowers and constrains persons'. (Dolata et al., 2021, p. 19). Ultimately, this system translates social interactions into data inputs designed to optimize user retention within the attention economy.

Empirical Deductions on Algorithmic Ranking and Dissemination

Given the proprietary "black box" nature of TikTok's architecture, official documentation regarding its live-streaming algorithm remains opaque,

necessitating empirical auditing to infer its distribution mechanisms (Boeker & Urman, 2022, p. 1; Imana et al., 2023, p. 1). Based on the monitored broadcasts (LS1–LS8), stream ranking and dissemination are dynamically governed by several interrelated observational factors.

First, *early engagement velocity* and *growth rate* act as primary catalysts for algorithmic boosting. Streams accumulating high volumes of taps and gifts within their initial minutes (e.g., LS1, LS2) or experiencing rapid, anomalous viewer surges triggered by challenge announcements (LS3) are aggressively pushed to the "For You" page (FYP). This behavior aligns with a "partitioned data buckets" model, where content surpassing initial engagement thresholds is repeatedly escalated to larger audiences for platform-wide distribution (Boeker & Urman, 2022, p. 2).

Second, *watch time and viewer retention* prevent algorithmic decay. Sustained audiences heavily align with the algorithm's "clear optimization goal—maximizing engagement and user retention" (Abbassa, 2026a, p. 805), confirming that the Video View Rate (VVR) strongly dictates algorithmic influence (Boeker & Urman, 2022, p. 6). This retention is reinforced by *user interaction history and collaborative filtering*. Operating on standard recommendation principles, the system establishes feedback loops based on past user engagement (Bouchaud & Ramaciotti, 2024, p. 6). By continuously recommending streams to demographically similar users, the algorithm exploits "social homophily," effectively curating content aligned with specific behavioral patterns and worldviews (Abbassa, 2026a, p. 805).

Finally, the algorithm exhibits a *content classification preference*, relying heavily on video metadata to map descriptive tags to inferred user preferences (Abbassa, 2026a, p. 807). By narrowing the pool of videos before applying ranking criteria (Boeker & Urman, 2022, p. 2), entertainment and gamified challenges (LS1–LS4) consistently secure a higher baseline of algorithmic distribution compared to standard or passive promotional content (LS7).

Fluctuations in Viewer Numbers and Engagement Trajectories

Analysis of the observed streams identified three primary patterns driving viewer fluctuations. A *sustained growth pattern* was documented explicitly in influencer-led broadcasts (LS1–LS3), directly correlating with the strategic deployment of continuous, goal-oriented gifting challenges. When the algorithm detects this concentrated interaction rate (elevated "Likes per Minute" and premium gifting) early in the session, it frequently correlates with a sustained amplification loop on the FYP to maintain a steady influx of viewers.

Conversely, *sharp fluctuations* (rapid rises and falls) occur either due to unstable recommendation testing—where TikTok briefly exposes a stream to a sample audience and reduces distribution if interaction fails—or due to gift-driven follower behavior, where users join during a burst of gifts but exit quickly if the core content lacks intrinsic value.

Finally, a *gradual decline* in viewership typically results from systemic shifts in platform priorities (redirecting traffic to higher-performing streams) or diminished in-stream interaction that drops the recommendation ranking. Crucially, this decline is linked to observed attention attrition. While internal cognitive states cannot be definitively measured without psychometric surveying, streams lacking continuous interactive stimuli or renewed content loops (LS5, LS6, and the latter half of LS8) consistently experienced viewership attrition. This observable fatigue implies that in the absence of active gamification or novelty, audience attention wanes, prompting a gradual exit from the broadcast.

How Interaction (Taps and Gifts) Affects Stream Ranking

Taps serve as a foundational algorithmic indicator and an initial quality signal; higher tap volumes substantially increase the probability of sustained placement on the "For You" page (FYP). Beyond taps, empirical data reveals a strong positive correlation between the volume and monetary value of virtual gifts and subsequent viewer growth, indicating algorithmic prioritization rather than strict direct causality. A comparative analysis highlights a stark quantitative disparity: streams generating high virtual revenue (influencer streams LS1 and LS2) accumulated massive gift volumes (averaging over 19,000 and 26,000 gifts, respectively) and maintained peak concurrent viewerships exceeding 12,400 and 8,500. Conversely, standard streams lacking substantial gifting activity (LS5 and LS7, averaging under 500 gifts) experienced stagnant reach, failing to surpass 150 concurrent viewers.

Furthermore, the strategic deployment of active gamification produced a substantial magnitude of change. For instance, the initiation of a conditional gifting challenge in LS2 triggered an approximate 46.5% surge in concurrent viewers (calculated as $[(8,500 - 5,800) / 5,800] \times 100$) within a 10-minute window. Broadcasters lacking active motivational strategies (LS6 and LS7) exhibited a flat trajectory, with a viewer variance of less than 5% throughout their entire observation periods.

Platform Responses to High Interaction: Notifications and Automatic Boosting

When a stream's interaction velocity crosses a specific algorithmic threshold, TikTok selectively dispatches automated push notifications to users' devices. Within the tracked sample, these system notifications were exclusively triggered during the highest-performing influencer broadcasts. Documented alerts, such as “The most popular live stream right now — join the watch” (observed during LS1's peak viewership and tapping surge) and “[Anonymized Creator]'s live is breaking records — don't miss it” (dispatched during a concentrated gifting challenge in LS2), serve as direct algorithmic mechanisms to funnel external traffic into the stream. The selective application of these notifications suggests the platform actively and rapidly amplifies broadcasts that financially outperform their peers in real-time.

Algorithmic Preference: An Empirical Inference

Given the proprietary opacity of TikTok's recommendation systems, algorithmic preferences must be empirically inferred. Observational tracking of the eight broadcasts reveals three distinct criteria governing distribution: First, the platform exhibits a *baseline prioritization of prominent accounts*; all four monitored influencer streams (100%, LS1–LS4) received immediate and sustained recommendation support upon initiation. This infers that the system structurally relies on established, large-scale networks as reliable user-attracting elements, in stark contrast to standard accounts (LS5–LS8) which struggled to gain initial traction. Second, distribution is demonstrably *driven by financial engagement*; correlational data indicates that the two broadcasts receiving the highest volume of premium virtual gifts (LS1 and LS2) were granted peak distribution priority via platform-wide notifications and viewer surges. Conversely, streams generating low financial engagement remained restricted in reach. Finally, a clear *content niche stratification* emerged; interactive and entertainment-oriented formats (constituting 5 out of the 8 streams: LS1, LS2, LS3, LS4, and LS8) were algorithmically favored in sustaining viewership, whereas content exhibiting low interaction velocity (LS5, LS6, LS7) was systematically de-prioritized, resulting in stagnant or declining viewer counts.

Content Creator and Audience Behaviors in TikTok Live Streams

Live-streaming success on TikTok is fundamentally anchored in the interaction between creators and audiences, driven by strategic behavioral and psychological mechanisms. Theoretical frameworks such as the Stimulus-Organism-Response (S-O-R) model and Uses and Gratifications (U&G) theory are essential for

deconstructing this sustained psychological involvement (Khudaykulova et al., 2026, p. 4). Under the S-O-R model, a streamer's perceived trustworthiness and attractiveness function as environmental stimuli (S) that shape viewers' cognitive-affective states (O), subsequently triggering behavioral responses (R) (Khudaykulova et al., 2026, p. 4). Complementing this, U&G theory posits that audiences consume media to fulfill cognitive, affective, and integrative needs, alongside tension release (Mao, 2022, p. 3). The gratification of these needs dictates the intensity of behavioral support, ranging from effortless continuous watching to highly involved monetary tipping (Mao, 2022, p. 2).

Content Creator Behaviors: Interaction Strategies and Digital Presence

Empirical tracking revealed that seven of the eight monitored creators exhibited calculated, operant reactions upon receiving virtual gifts, structurally designed to reinforce parasocial connections and encourage continuous financial participation. These reactions manifested as immediate psychological rewards, such as direct thanks and name mentions (LS1–LS6, LS8), and exaggerated affective physical or vocal displays, which were exclusively documented among influencers (LS1–LS4) possessing the capacity to attract premium gifts. Additionally, three creators (LS1, LS2, LS4) systematically utilized conditional reward promises, pledging tangible recognition—such as profile promotions or moderator elevation—to generous viewers.

Audience Retention and Algorithmic Dissemination

Creators actively managed live dynamics to maximize audience retention, consistently deploying continuous encouragement and suspense rather than terminating streams during interaction lulls. This retention is intricately linked to psychological patterns bordering on digital dependence, categorized behaviorally as "problematic social media use"—defined as excessive platform engagement leading to negative outcomes (Cao et al., 2026, p. 3). In this context, "livestreaming addiction" is driven by "state boredom," a temporary under-arousal that triggers sensation-seeking behaviors (Zhang & Li, 2022, pp. 1-3). Because live streams fuse novel activities with real-time interaction, they provide physiological arousal and fulfill the psychological need for tension release and escapism from everyday life (Mao, 2022, p. 3; Xu & Ye, 2020, p. 3). To sustain this immersion and satisfy algorithmic preferences for long watch times, creators continuously deployed dynamic attention-grabbing techniques, including re-igniting interaction through vocal cues, abruptly shifting content styles toward games, and setting goal-based transactional targets.

Strategic Psychological and Emotional Triggers

Observational data indicates that six monitored creators (LS1–LS4, LS7, LS8) systematically employed strategic psychological and emotional triggers as natural engagement tactics, transforming passive viewing into active participation driven by sociality and self-expression (Lu et al., 2018, p. 6). These tactics operate through four core cognitive frameworks:

- *Curiosity Induction (Information Gap Theory)* leverages the stream's inherent unpredictability to create anticipatory loops. Creators deliberately withheld information to exploit viewers' psychological engagement with novelty and unexpected results (Lu et al., 2018, pp. 7-8).
- *Competitive Framing (Social Comparison Theory)* monetizes the psychological drive for social dominance and the cultural desire for keeping "face" (Lu et al., 2018, p. 8). Natively facilitated by platform leaderboards that encourage repeated giving, influencers (LS1, LS2) actively pitted viewers against one another to solicit the largest gifts (Lu et al., 2018, p. 6).
- *Emotional Appeals* rely on parasocial leverage and communal ties ("guanxi"). Viewers donate to demonstrate solidarity and mutual social support, a tactic primarily observed in standard streams (LS7, LS8) to drive volume-based contributions (Lu et al., 2018, pp. 6-8).
- *Reward-Based Persuasion (Operant Conditioning)* offers exclusive perks (e.g., VIP shoutouts or moderator status in LS1, LS4) as transactional incentives for viewers deliberately attempting to catch the streamer's attention and unlock privileges (Lu et al., 2018, p. 6).

Audience Behaviors: Nature of Interaction and Response to Creator Stimuli

Based on non-participant observation, viewers exhibited high-frequency interactive behaviors that suggest the formation of parasocial engagement rather than definitive emotional bonds. Audiences actively sought to elevate their visibility and participate in the live experience through three observable mechanisms: First, *parasocial bidding* manifested through repeated comments (e.g., "Say hi to me!") as viewers attempted to elicit direct creator acknowledgment, a behavior predominantly observed in LS1, LS2, and LS5. Second, *affective signaling* occurred via heavy emoji use, functioning as a ubiquitous, low-effort tool for maintaining interaction velocity across all eight streams. Third, *behavioral compliance* was evident through audience participation in creator-led challenges (prominent in gamified streams LS1–LS4), serving as a measurable indicator of active engagement rather than passive consumption.

The Effect of Gifts on Audience Activity: An Observational Impression

In highly monetized streams (LS1–LS4), empirical tracking revealed a consistent pattern: concurrent audience activity—including comments, taps, and shares—surged immediately following the receipt of virtual gifts. This observation-based impression suggests that audiences in these environments are highly responsive to social and psychological stimuli, such as public recognition and status distinction, which catalyze engagement bursts more effectively than the baseline content itself.

This dynamic can be robustly interpreted through Social Identity Theory (Tajfel & Turner, 1979), wherein individuals seek to enhance self-esteem and social standing through in-group affiliation and social comparison. Within TikTok's digital ritual spaces, gifting serves as an observable in-group marker that fosters belonging and generates a temporary shared identity between the creator and the active audience (Samet, 2024, p. 146). The psychological desire for public recognition and competitive intergroup distinction within an open digital arena drives users to elevate their engagement during peak transactional moments. Consequently, increased excitement pushes viewers to send gifts to keep pace, while heightened competition is actively reinforced by creators prompting rivalries over the "biggest gift". Furthermore, a herd effect of social conformity emerges; akin to Solomon Asch's experiments, the likelihood of donation rises when individuals see previous donors, demonstrating collective behavioral principles at play (Saleh, 2020).

The Concept of Digital Exchange Between Creator and Audience

Systematic observations of repeated requests for virtual gifts in exchange for specific actions suggest that live streams have evolved into indirect digital marketplaces. Here, content and personalized interactions are explicitly traded for financial contributions, reflecting the increasing commercialization of TikTok's ecosystem. Documented transactional mechanisms included exchanging gifts for live name mentions (LS1, LS5), trading administrative privileges such as moderator status for donations (LS4), and utilizing conditional engagement triggers, such as withholding a "surprise" until financial targets were met (LS3).

Key Side Observations: Implicit Engagement Strategies

Beyond standard interactions, creators employed implicit techniques that considerably amplified viewership and digital interaction, even if their underlying mechanisms remained obscured to the general audience.

Coin Boxes and the Illusion of Popularity: The deployment of "coin boxes"—time-delayed rewards offered to viewers—creates a quantifiable illusion of popularity, effectively making streams appear more crowded than they are. Actively utilized in five broadcasts (LS1, LS2, LS4, LS6, LS8), this mechanism produces a distinct, data-driven cycle. During the countdown phase, streams experienced a temporary concurrent viewership surge of 60% to 75%. This rapid influx triggers TikTok's recommendation system, temporarily boosting visibility based on high viewer accumulation. However, quantitative tracking confirms that this tactic fails to ensure long-term audience loyalty; an average of 55% to 65% of newly acquired viewers exited the stream within a strictly observed three-minute window immediately following the reward's depletion.

Strategic Affective Elicitation (Leveraging Drama):

Creators frequently captured attention by deploying controversial or dramatic narratives, such as announcing social media withdrawals, discussing personal influencer conflicts, or sharing shocking personal stories. Rather than applying the subjective label of "emotional manipulation," media psychology precisely defines these behaviors as strategic affective elicitation. Creators intentionally deploy performative narratives to evoke high-arousal emotions—such as heightened curiosity, empathy, or manufactured outrage—thereby deepening immediate parasocial attachment. As observed in LS3 and LS8, this emotionally charged content consistently generated intense interaction velocities via rapid comments and financial gifts as viewers expressed solidarity. This tactic closely aligns with the dynamics of provocative marketing, where creators deliberately leverage controversy to stimulate algorithmic visibility. The success of this strategy is heavily dependent on what can be termed 'Algorithmic Ignorance'—a state where users remain unaware that their intense emotional engagement, even if it manifests as criticism or negative interaction toward the drama, is processed by the platform's machine-learning models as positive reinforcement signals. Consequently, users unintentionally amplify the dissemination of the controversial content they are reacting to (Abbassa, 2026b). However, while highly effective for short-term algorithmic amplification, these strategies carry inherent structural risks; audiences may experience a breach of parasocial trust, resulting in a loss of credibility, if the affective display is later perceived as a staged exploitation of viewership metrics.

Challenges and the Multi-Guest Format: A Comparative Observation

Empirical tracking confirmed that all four monitored influencer broadcasts (LS1–LS4) systematically employed structured challenges—such as PK battles, truth-or-dare rounds, or interactive mini-games—as primary audience acquisition

tools. The multi-guest dynamic, utilized exclusively in these high-engagement streams, transformed viewers into active, partisan participants. A comparative observation reveals that this format fosters a dual-layered competitive atmosphere, stimulating rivalry not only between competing creators but hierarchically among the viewers themselves. This dual competition strongly correlated with accelerated, high-volume spending on virtual gifts. In strict contrast, single-host broadcasts lacking this gamified adversarial framing (LS5, LS6, LS8) generated markedly lower virtual revenue and exhibited reduced overall engagement duration. Thus, the structural incorporation of multi-guest challenges observably increases active audience integration, driving both extended watch times and financial contributions.

In-Group Boasting and Rivalry as Motivational Techniques

To further amplify this competitive dynamic, three influencer broadcasts (LS1–LS3) systematically engaged in structured rivalry over audience loyalty, deliberately sparking competition among their respective fan bases. Creators utilized specific rhetorical triggers to foster a collective identity—such as challenging their community to prove its strength (LS1), prompting viewers for hierarchical social distinction by asking who will send the biggest gift (LS2), and mobilizing collective action to break records (LS3). These strategic communications deepen the followers' parasocial connection, directly correlating with increased virtual gift-giving and tapping as viewers visually demonstrated loyalty.

Consequently, an observational hypothesis emerges regarding content versus loyalty: during these highly competitive segments (LS1–LS3), interaction velocity remained at peak levels even during distinct lulls in actual substantive entertainment content. This behavioral pattern suggests that the psychological drive for digital belonging and in-group victory acts as a temporary primary retention mechanism, effectively compensating for periods lacking direct content-based stimulation.

Acoustic Stimulation: Using Upbeat Background Music

Beyond verbal triggers, five broadcasts (LS1–LS4, LS8) systematically incorporated energetic background music, particularly fast-paced electronic tracks or trending platform audio. The deployment of upbeat music leverages the concept of expressive symmetry, where sound and image converge to generate structural meaning and aesthetic harmony (Aissani, 2020, p. 66). Within the framework of Arousal Theory in cognitive psychology, fast-tempo acoustic stimuli elevate physiological arousal and stimulate active cognitive processing,

thereby increasing a subject's propensity for behavioral participation. By integrating familiar, high-tempo tracks, creators deployed auditory stimuli as a calculated catalyst to energize the broadcast atmosphere and accelerate interaction velocities.

Direct Parasocial Interaction and Conditional Request Fulfillment

Quantitative tracking demonstrated that six creators (LS1–LS4, LS5, LS8) exhibited a calculated commitment to reading and directly responding to viewer comments. Because live broadcasting enables real-time interaction—unlike pre-recorded asynchronous content (Bhasurasen, 2023)—creators utilized synchronous acknowledgment to deliver instant viewer validation. Furthermore, executing audience requests explicitly strengthens the sense of personal agency, granting followers tangible influence over the live content.

However, rather than fulfilling requests altruistically, creators frequently applied strict conditional interaction thresholds. For instance, creators in LS2 and LS4 would only execute a requested action (such as a specific shoutout or physical challenge) after crossing a precise quantitative milestone, like accumulating 5,000 virtual coins or receiving a high-tier premium item such as the "TikTok Universe" gift. This strategic gating directly monetizes audience agency, converting standard viewer requests into measurable commercial value.

STUDY RESULTS

Factors Influencing Livestream Reach and Viewer Numbers

- **Observational Correlates of Livestream Reach:** Rather than asserting direct statistical causality, empirical observations of the sample (N=8) identified four main variables that strongly correlated with the reach and concurrent viewer count of livestreams: the content creator's pre-existing prominence, initial engagement velocity during the first few minutes (likes and gifts), the content format (particularly interactive entertainment), and broadcast timing (evening peak hours).
- **The Intertwined Role of Established Prominence:** Both qualitative and quantitative variations were recorded across the sample. Well-known influencers (e.g., LS1–LS4) consistently exhibited a rapid and steady increase in viewers (often exceeding a baseline of 10,000 at initiation), relative audience stability, and a higher rate of virtual gifting compared to standard users. Rather than definitively proving a pure "algorithmic accelerator" effect, these findings suggest that pre-existing popularity and algorithmic recommendation operate

in a mutually reinforcing loop; established follower bases provide the massive initial engagement necessary to trigger wider algorithmic distribution.

- **Impact of Streaming Time:** The evening period (18:00–23:00) proved to be the most effective temporal window, recording the highest interaction and viewer levels, followed by the afternoon (12:00–16:00), which showed moderate engagement.

- **Impact of Content Type:** Entertainment content (such as challenges and competitions, observed in LS1-LS4) was the most engaging, achieving the highest response rates, followed by gaming content, which recorded medium to high engagement levels.

Findings on Interaction Mechanisms (Likes and Virtual Gifts)

- **Likes (Taps) and Cumulative Accumulation:** Across the 8 monitored livestreams, the total volume of observed likes ranged from a minimum baseline of 8,000 (recorded in standard stream LS7) to a peak of 603,000 (recorded in influencer stream LS1). Rather than a strict statistical correlation, observational data indicates a cumulative structural effect: higher total like counts naturally accrued during longer stream durations, but this accumulation was observably expedited by active creator encouragement and the deployment of interactive formats.

- **Disparities in Virtual Gifting:** The observational data revealed sharp quantitative disparities in financial engagement. For instance, the highest recorded volume reached approximately 1.3 million virtual gifts in a highly gamified influencer broadcast (LS1), while a standard user broadcast (LS6) recorded fewer than 100,000. This stark contrast indicates a strong observable trend linking high-volume financial engagement with established creator prominence and gamified formats.

- **The Impact of High-Tier Virtual Gifts:** The deployment of premium, high-cost virtual gifts (such as the “Lion” or “Airplane”) consistently preceded an immediate, observable surge in concurrent viewer numbers and reach. Because these high-tier gifts trigger special platform-wide on-screen notifications visible to external users, they appear to function as a systemic visibility mechanism. While the opacity of TikTok’s system prevents labeling this a definitive “algorithmic trigger,” the empirical data suggests it serves as a highly effective catalyst for inbound traffic.

- **Efficacy of Engagement Strategies:** Observational analysis of creators’ engagement methods indicated that structured “challenges and competitions” and “audience participation in decision-making” were the most effective strategies for stimulating sustained audience involvement, frequently surpassing the efficacy of direct, unprompted requests for gifts.

DISCUSSION

Algorithm-Driven Preferences

The results suggest that streams with high interaction—especially financial engagement through gifts and likes—are prioritized on the “For You” page (FYP). This aligns with the findings of Bruschi et al. (2024), who explored the methodological framework of personalization algorithms on TikTok.

- **Early Engagement and Personalization:** High initial engagement acts as both a “quality indicator” and an algorithmic requisite for accelerated distribution. The immediate promotion of livestreams receiving high-value gifts within the first few minutes indicates that the system operates on an instant personalization logic rather than random distribution (Jung et al., 2025). Given the proprietary opacity of TikTok’s architecture, it is not possible to definitively confirm algorithmic mechanisms; however, this observable pattern of instant boosting strongly suggests a structural bias toward financial metrics, wherein the algorithm effectively prioritizes monetized interaction over passive viewing.

- **Community-Building Strategies and Social Impact:** The findings revealed that the most successful strategies were those involving active audience participation in decision-making and gamified challenges. This implies that the primary psychological motivation for sustaining livestream viewership extends beyond mere content consumption, which can be theoretically interpreted as an appeal to underlying needs for belonging and social integration. As Xu and Ye (2020) demonstrated, social interaction is a primary motivation for live streaming use, and financial tipping is positively associated with fulfilling these social needs (p. 1).

- **Strengthening Social Bonds:** Audience engagement in structured challenges (as observed in LS1–LS4) functions as an “Interactive Ritual Chain,” reinforcing the parasocial bond between viewers and the creator.

- **Digital Herd Behavior and Social Proof:** The strong effect of high-value gifts (like the “Lion”) in attracting new viewers illustrates a phenomenon of behavioral contagion and conformity. Virtual gifting often operates as a “conformity behavior motivated by the group identity” rather than isolated individual intention (Xu & Ye, 2020, p. 10). Furthermore, because platforms design specific visual or audio effects for high-value gifts, these transactions actively “attract attention from streamers and other viewers,” appealing to users who seek hierarchical status and social presence (Xu & Ye, 2020, p. 10). Engagement thus becomes a response to structural social momentum, helping

the recommendation system identify and promote content that triggers rapid, mass audience responses.

The Preference for Entertainment Content and Optimal Timing

The empirical observation confirmed that entertainment-oriented content dominates livestreams and that evening sessions yield the highest interaction velocity.

- **Timing and User Behavior:** The preference for evening hours (18:00–23:00) strictly aligns with TikTok’s structural identity as an entertainment platform, where users seek cognitive decompression after daily obligations (Jung et al., 2025). This evening preference directly aligns with the psychological need to alleviate "state boredom," a temporary experience of under-arousal where individuals utilize live streams for "seeking entertainment and killing time" (Zhang & Li, 2022, p. 3). Extended viewing periods during the evening provide the algorithm with a larger dataset of engagement metrics, recursively improving the stream’s ranking.

- **TikTok’s Entertainment Identity:** The dominance of gamified and competitive content echoes Jung et al. (2025), who noted that TikTok is “primarily used for entertainment.” Within the studied sample, entertainment-oriented streams generated the fastest responsiveness. Livestreaming effectively combines "novel and exciting activities," serving as a tool to achieve physiological arousal and effectively escape boredom (Zhang & Li, 2022, p. 3). This immediate psychological arousal is a critical prerequisite for algorithmic amplification.

- **Digital Value or Electronic Begging?**

- The systemic reliance on virtual gifts and likes as the foundational basis for algorithmic visibility raises critical ethical questions regarding this interactive model.

- **Critical Framework of Electronic Begging:** The phenomenon of "electronic begging" (Aouni, 2024) is not merely a theoretical concept, but is directly substantiated by the empirical observations within this study. The documented emotional appeals in standard streams (e.g., “Support me, brother” in LS7 and LS8) and the engineered competitive pressure in influencer challenges (LS1 and LS2) demonstrate how creators employ tactics that, from a theoretical media psychology perspective, appear to capitalize on viewers’ emotional and social susceptibilities. Influencers engineered competitive pressure to extract gifts, capitalizing on the audience's drive to win "attention and admiration from other viewers" through monetary transactions (Xu & Ye,

2020, p. 3). This demonstrates how creators and platforms can actively stimulate viewers' "sensation seeking" to strategically increase "watching time and shopping amount" (Zhang & Li, 2022, p. 9). Consequently, viewed through a critical theoretical lens, these interactions appear to rely heavily on affective monetization strategies rather than a purely reciprocal exchange of substantive content value.

- **Risks to Digital Resilience and Financial Emotionalism:** The psychological ramifications of this fast-paced, overstimulating environment must be analyzed through the lens of Digital Resilience (Hassoun et al., 2025). The pressure to continuously engage and participate in these monetized affective states contributes to "social media overload," a negative psychological condition resulting from "excessive maintenance of online social relationships and ineffective coping with information exchange technologies" (Cao et al., 2026, p. 3). This dynamic reinforces a livestreaming model predicated on what this study formally conceptualizes as "Financial Emotionalism"—defined here as the monetization of audience affective states (such as urgency or competitive pride) to generate digital revenue. This structural shift inherently promotes "problematic social media use," characterized by "excessive and persistent engagement" that ultimately yields negative behavioral outcomes and exploits the lack of critical information awareness among youth (Cao et al., 2026, p. 3).

CONCLUSION

Based on empirical observations, this study concludes that TikTok's algorithmic architecture strongly correlates with live broadcast dynamics, **tending to favor** streams that generate high, immediate engagement—particularly through "tapping" and "virtual gifts". Consequently, platform success is driven less by audiovisual quality and more by the creator's capacity for strategic affective elicitation, utilizing gamified challenges and dramatization to enhance visibility. Key determinants of algorithmic distribution include established creator prominence, optimal broadcast timing, stream duration, and the influx of high-tier virtual gifts.

These dynamics synthesize into a triadic sociotechnical framework: First, the algorithm functions as an economic filter, prioritizing monetizable interaction. Second, the creator acts as an interaction engineer, deploying psychological and parasocial strategies to maximize reach. Third, the audience engages as active emotional participants; observational data suggests their actions are mediated by desires for social belonging, status recognition, and behavioral contagion, often

overshadowing passive content consumption. Thus, TikTok interactions materialize within a complex nexus of financial metrics, algorithmic logic, and collective audience behavior.

While this study bridges a critical gap by analyzing TikTok's observable interactive architecture, its findings must be contextualized within several methodological limitations:

- **Algorithmic "Black Box":** The proprietary nature of TikTok's algorithms necessitated inferential observation. Causality between engagement inputs and algorithmic visibility was estimated externally rather than proven via internal platform data (Bruschi et al., 2024).
- **Sample and Temporal Scope:** The purposive sample of eight streams (LS1–LS8) over a specific timeframe restricts absolute generalizability, given the inherent volatility of online interaction patterns.
- **Single-Observer Coding:** Relying on a single researcher for non-participant observation introduces potential interpretive bias, as the study lacked a second independent coder to establish statistical inter-rater reliability.
- **Single-Platform Focus:** Focusing exclusively on TikTok limits the ability to determine if phenomena like aggressive virtual gifting are platform-specific or indicative of broader live-streaming ecosystem trends.

Addressing these limitations, future research should encompass comparative cross-platform studies, integrate quantitative psychometric surveys to statistically verify psychosocial motivations, and empirically measure correlations between objective content quality and financial support volumes. Furthermore, investigating the ethical and legal dimensions of digital interaction—particularly "electronic begging"—is crucial for safeguarding vulnerable demographics. Ultimately, this study highlights the urgent need to critically examine the ethics of algorithmic models, emphasizing the necessity of building digital resilience among young users to balance digital participation with psychological and financial self-protection.

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