

The Decay Cycle of Public Opinion: A Case Study of the Nongfu Spring Boycott Movement within Douyin's News Framing

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Abstract

With the widespread popularity of short video platforms, short video news has become a key force in shaping public perception and guiding public opinion. Moreover, news frames serve as core variables in shaping the trajectory of the public opinion life cycle. However, research on the cycle of public opinion decay under specific news frames is scarce. Taking the 2024 Nongfu Spring boycott movement as a case study, this research focuses on three dominant news frames on the Douyin platform-namely, the moral judgment frame, the nationalism frame, and the crisis response frame. On the basis of frame theory and the case study method, this research explores the differences in their decay cycles and their dynamic mechanisms. It aims to identify the laws governing public opinion decay on short video platforms, facilitate positive interaction between theory and practice, and contribute to the sustained and healthy development of the short video news industry.

Keywords

news frame, public opinion decay, Douyin platform, Nongfu Spring boycott movement

1. Introduction

Framing theory, proposed by E. Goffman, was initially applied in the field of traditional media, aiming to influence audience cognition through the construction of news frames (Goffman, 1974). Moreover, the application value of framing theory in the field of short video news has become increasingly prominent. Tewksbury D and Scheufele's exploration of the audience's experience of news frames, the psychological processes of constructing accessibility and applicability, and the differences between frame setting and other effects of news exposure provide a reference for us (Tewksbury, 2019). Currently, some public opinions on short video platforms often gradually decay over time after fermentation, and under different news frames, the cycle and speed of public opinion decay vary. Shi Bo, Jiang Shenghong, and others previously studied the formation and dissipation mechanisms of online public opinion, but owing to this era, their research did not involve changes in the short-video era (Shi, 201; Jiang, 2008). Against this background, research on the dynamic relationship between news framing, as a key variable shaping audience cognition, and the public opinion decay cycle has important theoretical and practical significance, providing a key perspective for analysing public opinion on short video platforms.

In recent years, the rise of short video platforms has profoundly reconstructed the mechanisms of information dissemination and public opinion generation. As a leading domestic short-video platform, Douyin

has become a core field in which the public can obtain news and participate in public discussion by virtue of its visual, fragmented, and algorithm-driven communication characteristics. Against this background, research on the dynamic relationship between news framing, as a key variable shaping audience cognition, and the public opinion decay cycle has important theoretical and practical significance, providing a key perspective for analysing public opinion on short video platforms. Currently, existing research systematically reveals the core characteristics of public opinion generation and decay on the Douyin platform: at the news framing level, dominant frames such as moral judgment, nationalism, and crisis response profoundly shape audience cognition and emotional trends. For example, Paruzha Habuhan noted that short video news involves moral judgment frames, nationalist frames, and crisis response frames through scene selection, symbol reinforcement, narrative rhythm, etc., profoundly shaping the public's interpretation mode of events; at the platform mechanism level, algorithm recommendation-driven fragmented communication, circle group aggregation, and a layered opinion atmosphere lead to a shortened public opinion lifecycle and differentiated decay paths (Paruza, 2025). For example, Huang Wei et al., by comparing the evolution paths of the “Luobo Kuaipao” incident on Weibo and Douyin, empirically reported that Weibo public opinion formed a strongly centralised communication structure around technical controversies, with significant emotional polarisation, and this difference stems from platform ecology (Huang, Liu, Zhou, 2025). Yan Qihong suggested that Douyin's algorithm recommendation (such as trending algorithms and collaborative filtering) shapes a layered opinion atmosphere, whereas Douyin's public opinion is driven by visual narratives, showing fragmented diffusion of themes and relatively neutral emotional expression; at the dynamic mechanism level, emotional polarisation, news reversal, and cross-platform interaction constitute key variables affecting the decay rate and form (Yan, 2024). Related governance strategies focus on algorithm optimisation, frame restructuring, and multiparty collaboration, providing important references for public opinion guidance and control. For example, Li Jizhen demonstrated that the emotional perception preferences of events, algorithmically precise emotional content, herd mentality, and circle group emotional resonance jointly drive emotional polarisation in the evolution of public opinion; Yin Yuchen, using the “BMW MINI ice cream incident” as evidence, revealed that corporate public opinion on platforms such as Douyin, Weibo, and Bilibili presents differentiated thematic focuses and emotional polarities (Li, 2025; Yin, 2024). However, there are still significant deficiencies in research on the differential decay cycles of public opinion under specific news frames. First, most of the literature focuses on universal models of public opinion evolution, lacking a fine-grained analysis of how specific frames such as moral judgment and nationalism affect each stage of decay. Second, although some research focuses on the characteristics of Douyin public opinion, it fails to deeply dissect the heterogeneity of decay dynamics caused by different frames. Third, strategy research has focused mostly on macro governance, lacking precise intervention plans based on framing-decay correlations.

This study takes the Nongfu Spring boycott movement as an empirical sample, operationalises “public opinion decay” as the daily increase in the number of related videos and the daily decline rate of the appearance of related entries, and focuses on overcoming the above limitations. First, it quantitatively identifies the dominant moral judgment, nationalist, and crisis response frames on the Douyin platform in this event through content analysis. Second, case tracking and text mining techniques are used to compare and analyse the public opinion heat decay curves, key turning points, and durations under the three types of frames, revealing their differences in decay cycles. The research results are expected to theoretically deepen the understanding of the “framing-decay” causal chain and, in practice, provide strategies based on cycle laws for platform content review, corporate crisis public relations, and government precise guidance, promoting the resilience construction of short video public opinion ecology.

2. Research Design and Methods

This study draws on the framing research approach proposed by Scheufele, D. A., adopts a mixed-methods design with quantitative research as the main approach, systematically analyses the differential impacts of three major news frames (moral judgment, nationalism, and crisis response) on Douyin on the public opinion decay cycle, and ultimately conducts a correlation analysis of the data (Scheufele, 1999).

2.1 Research Method

Content analysis is used as the primary method, with the construction of a three-level coding system: first, on the basis of the frame theory adaptation model proposed by Paruzha Habuhan, the initial categories are

anchored into three types: moral judgment, nationalism, and crisis response; second, the operational definitions of the frames are refined, including visual symbols, narrative logic, and emotional tone; and finally, quantitative indicators are introduced to assess frame strength, such as the density of keywords in titles.

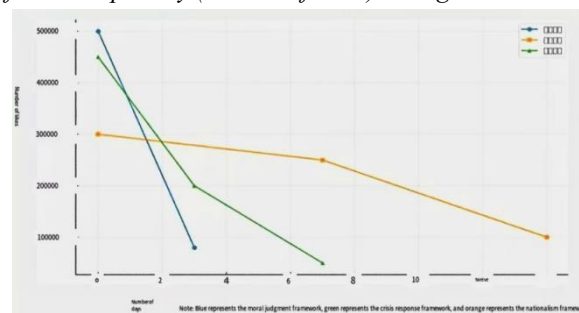
2.2 Data Sources

To ensure the robustness of the research conclusions, data collection covers the entire cycle of the event (March 1, 2024 - March 31, 2024). On the basis of the platform's open API and compliant web crawler tools, original videos related to the event were crawled on Douyin via the keywords “Nongfu Spring”, “boycott movement”, and “domestic product substitution” (after excluding advertisements and duplicate content, 500 valid samples were retained). Meanwhile, 1,000 pieces of structured interaction data were obtained, including 1,000 pieces of video metadata (release time, duration, background music tags), user behavior data (number of likes, comment content, forwarding paths), and communication network data.

3. Data analysis and results

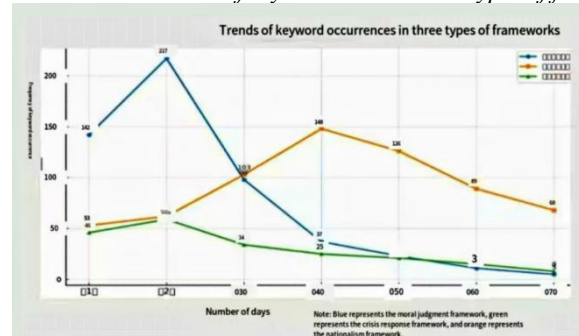
The results of the study on the number of video likes show that approximately three days after the public opinion fermented, the number of likes under the moral judgment frame dropped sharply by 426,343, showing a cliff-like decline in data; the decay rate of public opinion under the nationalism frame was generally slow and accelerated slightly after the 7th day, whereas the number of likes under the crisis response frame declined relatively quickly in the first three days after the public opinion fermented, and the decay rate gradually slowed down from the 3rd day to the 7th day. The moral judgment frame decayed the fastest—for example, a certain boycott video lost 84% of its popularity in 3 days; the nationalism frame decayed the slowest due to relay communication; and the crisis response frame was in the middle with a step-like decline (as shown in Figure 1).

Figure 1: Trend of Video Popularity (Number of Likes) Changes Under Three Types of Frames



There are obvious differences in the keywords appearing in videos under each frame. For example, videos under the moral judgment frame mostly contain words such as “unscrupulous enterprises” and “unethical”; videos under the nationalism frame mostly have tags such as “domestic products” and “Japanese products”; and videos under the crisis response frame mostly include keywords such as “official”. With respect to the occurrence frequency of each keyword under different frames, the moral judgment frame accounted for nearly 60% of all keywords in the outbreak period (reaching 680 items on Day 2) but dropped sharply, by 53%, on Day 3 because of emotional exhaustion; this frame was withdrawn quickly. The nationalism frame surpassed others in the later stage, with its proportion rising to 54% on Day 4 and decaying slowly (still accounting for 84.5% on Day 7), which verifies the “group relay effect” of the “patriotic label” (as shown in figure 2).

Figure 2: Occurrence trends of keywords under three types of frameworks



The correlation analysis of the variables reveals that the moral judgment framework has a very strong positive correlation with the public opinion decay rate ($r = 0.72$, $p < 0.001$), indicating that the greater the proportion of content under this framework is, the faster the decline in public opinion popularity. In contrast, the nationalist framework presents a significant negative correlation with the decay rate ($r = -0.62$, $p < 0.001$), which proves that it can effectively delay the decline in popularity. The crisis response framework has no significant correlation with the decay rate ($r = -0.19$, $p > 0.05$), but its role may manifest in other aspects. Furthermore, the moral judgment framework is highly positively correlated with the frequency of anger-related words ($r = 0.80$, $p < 0.001$), and the frequency of anger-related words, in turn, is significantly positively correlated with a faster decay rate ($r = 0.69$, $p < 0.001$). This preliminarily verifies that the “emotional exhaustion effect” is an important mediating mechanism through which the moral judgment framework accelerates the decay of public opinion.

4. Discussion

From the above research, it can be concluded that the decay cycle is framework dependent, and the type of framework significantly affects the decay rate: public opinion under the moral judgment framework recedes rapidly because of the emotional exhaustion effect, leading to a faster relative decay rate; the relative decay rate is slower under the nationalism framework; the crisis response framework shows a stepwise decline due to the demand for information clarification; and both emotional intensity and official statements influence the decay rate of public opinion.

Therefore, given that the moral judgment framework has a faster decay rate but generates greater public opinion momentum, platforms should impose restrictions on moral judgment-related content and adopt effective algorithms to calm public sentiment, thereby effectively preventing the occurrence of online “flame wars”. Since the nationalist framework has a slower decay rate, enterprises should collaborate with leading media with positive values to launch rational initiatives and issue effective official statements to sustain their own development. The government should establish a cross-platform collaborative decay monitoring system to supervise public opinion and contribute to the sustainable and healthy development of the short video news industry.

5. Conclusion

This study aimed to explore the decay cycle of public opinion on Douyin under specific news frames, with the 2024 Nongfu Spring Boycott Movement as an empirical case. Adopting a mixed-methods design dominated by quantitative research-including content analysis (with a three-level coding system), case tracking, and text mining-it focuses on three dominant news frames (moral judgment, nationalism, and crisis response) to analyse their heterogeneous impacts on public opinion decay and underlying dynamic mechanisms. Key findings revealed that the public opinion decay cycle exhibits significant framework dependence: the moral judgment frame drives the fastest decay due to the “emotional exhaustion effect” (evidenced by its strong positive correlation with both the decay rate [$r = 0.72$, $p < 0.001$] and the anger-related word frequency [$r = 0.80$, $p < 0.001$]); the nationalism frame markedly slows decay, attributed to the “group relay effect” of patriotic labels (maintaining 84.5% of its proportion on Day 7); and the crisis response frame shows a stepwise decline driven by public demand for information clarification. Additionally, the study verified the mediating role of emotional exhaustion in accelerating decay under the moral judgment frame and proposed targeted strategies

for platforms (e.g., restricting moral judgment content), enterprises (e.g., collaborating with positive-value media), and governments (e.g., building cross-platform monitoring systems), bridging theoretical insights with practical governance.

Despite these contributions, the study has notable limitations. First, the sample scope is constrained: only 500 valid videos and 1,000 interaction data points were analysed, which may not fully capture the diversity of public opinion on Douyin. Second, the single-case design (focused solely on the Nongfu Spring Boycott Movement) lacks comparisons with other event types (e.g., public health crises or environmental disputes), limiting the generalizability of conclusions. Third, the one-month data collection period (March 2024) fails to reflect long-term decay trends or variations across social contexts (e.g., policy shifts or holiday seasons). Fourth, the analysis excluded other potentially influential frames (e.g., economic interest or public welfare frames), oversimplifying the framing–decay relationship. Finally, the study was limited to Douyin, omitting cross-platform comparisons (e.g., with Kuaishou or Xiaohongshu) that could reveal how platform-specific ecologies (e.g., algorithm differences) shape decay.

Future research can address these gaps in several ways. First, expanding the sample size and including multiple event types will enhance the generalizability of the conclusions. Second, extending data collection to longer time spans can uncover seasonal or long-term decay patterns. Third, incorporating additional frames (e.g., economic or welfare-focused) will provide a more holistic view of framing effects. Fourth, cross-platform studies can clarify how platform ecologies interact with frames to influence decay. Fifth, deepening emotional mechanism research—for example, integrating subjective surveys or physiological indicators to measure “emotional exhaustion”—will refine the validation of emotional mediation. Finally, adopting experimental designs (e.g., manipulating frame types) can establish causal links between frames and decay, strengthening the theoretical rigor of this field and providing more precise guidance for short video public opinion governance.

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Conflicts of Interest

The authors declare no conflict of interest.

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