

Mobilization Characteristics of Disinformation vs Anti-Disinformation campaign on TikTok During Taiwan’s 2024 Presidential Elections*

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Abstract. In this research, we applied a novel multi-method analysis to examine and identify the mobilization characteristics of disinformation and anti-disinformation campaigns during Taiwan’s 2024 presidential elections. Leveraging a theoretical framework that encompasses the utilization of Diffusion of Innovations (DOI) theory in the mobilization process, we analyzed a dataset comprising 343 TikTok videos and 46,551 comments. Our investigation delves into both video post and comment level analyses with a particular emphasis on engagement behavior in the online mobilization process. Our findings show that a campaign’s success is not solely dependent on its rapid start or volume of content; rather, engaging the audience with disseminated content is key to a sustainable online mobilization process, even if the volume of the content is low. This comparative analysis signifies the importance of characterizing the mobilization process for a broader understanding of different online information campaigns.

Keywords: Mobilization · Elections · Disinformation · Anti-Disinformation · TikTok

1 Introduction

On January 13, 2024, Taiwan elected a new president. However, false information about the presidential election did not stop once the election was over. On the contrary, rumors claiming that the voting or counting process was rigged began to spread in the days following the election. Conversely, Taiwan’s civil society on social media platforms, and the government, countered the disinformation narrative by successfully defending the transparency of the election process and diffused their information operation within a week [1].

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The role of social media in these elections has become increasingly prominent, with platforms like TikTok and YouTube transforming the landscape of political communication by enabling rapid online mobilization [2]. Online mobilization refers to using digital platforms to organize, coordinate, and engage participants in collective action for information dissemination. Studying online social movement mobilization characteristics through the lens of social science theories is essential. One such theory is the Diffusion of Innovations (DOI) theory, which outlines stages such as initialization, amplification, and sustainment, describing how new ideas or information spread within society. Understanding information flow in these stages can show how an information campaign or social movement gain traction in an online mobilization process [3–5].

The pervasive impact of disinformation campaigns on democratic processes is a global concern, with Taiwan’s elections serving as a prime example of how online actors can manipulate social media to influence public opinion and electoral outcomes. Disinformation campaigns can undermine trust in electoral processes, distort public discourse, and polarize societies [6]. Alternatively, anti-disinformation efforts are vital as they strive to safeguard the integrity of information, promote transparency, and maintain the democratic fabric of society [7]. Taiwan’s presidential elections can serve as a critical barometer. The spread of rumors about vote manipulation in Taiwan’s election and the society’s concerted efforts to prevent these rumors can provide a reference for other countries holding elections this year.

Studying these phenomena is crucial for developing effective strategies to counteract and mitigate the adverse effects of false narratives and ensure the resilience of democratic institutions. Therefore, this study is motivated to examine the characteristics of these campaigns, particularly on TikTok, given its popularity on the island. The aim is to identify key patterns in content dissemination and engagement from both campaigns, which ultimately delineate the mobilization characteristics inherent in these campaigns. Additionally, this investigation seeks to contribute to a broader understanding of digital influence tactics and foster more resilient democratic processes in the face of evolving online challenges.

Research question: What are the key differences in the mobilization characteristics of disinformation and anti-disinformation campaigns on TikTok during Taiwan’s presidential elections?

In the following section, we present a literature review from previous research on disinformation and anti-disinformation campaigns, the diffusion of innovations theory and online mobilization on social media platform. These steps aid in clarifying the methodology adopted in this case study.

2 Literature Review

This section lays out the literature, theoretical framework, and research questions.

2.1 Existing research on disinformation and anti-disinformation campaigns

Studies have shown that disinformation campaigns often leverage sensationalism and emotional appeals to rapidly gain attention and spread misinformation [6]. Their strategic is to use of false information to influence public opinion, disrupt democratic processes, and create social discord. These campaigns can be highly organized, using bots and trolls to amplify messages and reach a broader audience [8].

Whereas anti-disinformation campaigns aim to counteract these efforts by disseminating factual information, debunking myths, and promoting media literacy. Research indicates that successful anti-disinformation campaigns often involve collaboration between governments, social media platforms, and fact-checking organizations [9, 10]. These campaigns utilize various strategies, such as real-time fact-checking, transparency reports, and public awareness campaigns, to mitigate the impact of false information [7].

2.2 Diffusion of Innovations (DOI) theory and its relevance to social media campaigns

The Diffusion of Innovation (DOI) theory, developed by Everett Rogers, explains how new ideas and technologies spread within a society. This theory is particularly relevant to social media campaigns, as it provides a framework for understanding how information is disseminated and adopted by users. According to DOI theory, the adoption process is influenced by factors such as the perceived attributes of the innovation, communication channels, time, and the social system [3]. In the context of disinformation and anti-disinformation campaigns, DOI theory can be used to analyze how information spreads rapidly through social networks and how corrective information can be disseminated effectively. For instance, early adopters of disinformation might play a crucial role in setting the trend, while opinion leaders in anti-disinformation efforts can help in spreading accurate information and counteracting false narratives [11]. Couple of studies examined the role of multimedia (images, video and sidecars) and co-occurring words on DOI stages (Initialization, Amplification and Sustainment) in online social movement campaigns and reveals curves shaped as ‘S’ letter. These curves demonstrate how certain category of content such as sidecars or conative words can influence mobilization process at different DOI stages [4, 5, 12, 13].

2.3 Studies on social media mobilization

Mobilization via social media has shown that digital platforms play a critical role in organizing and amplifying social movement campaigns. Social media facilitates rapid communication, real-time updates, and the ability to reach a large, geographically dispersed audience [14]. Studies have documented the use of social media in various movements, such as the Arab Spring, where platforms like Twitter and Facebook were instrumental in coordinating protests and sharing

information [15]. Additionally, research has highlighted the dual role of social media in both enabling grassroots mobilization and presenting challenges such as misinformation and echo chambers. For example, the Black Lives Matter movement effectively used hashtags and viral content to raise awareness and mobilize support, demonstrating the power of social media in contemporary activism [16]. However, the spread of misinformation through social media remains a significant concern, necessitating ongoing efforts to develop strategies for effective digital mobilization and information verification [17].

3 Methodology

This section presents our research design such as data collection and analytical approaches.

3.1 Data

To empirically test the research question, we collected TikTok data from two distinct social movement campaigns that occurred between January 12, 2024, and January 21, 2024, in Taiwan. These movements emerged during the 2024 Taiwanese presidential elections and are designated as the 'Disinformation' and 'Anti-disinformation' campaigns. The disinformation campaign gained momentum on January 12, 2024, the day before the presidential election, by spreading rumors casting doubt on the election process. From January 13, 2024, the campaign inundated TikTok with edited and misleading videos alleging voter fraud and vote rigging to undermine trust in the election results. In contrast, the anti-disinformation campaign began on the night of the voting, countering the disinformation narrative by sharing videos explaining the vote-counting process and presenting debunked evidence from the 'Taiwan FactCheck Center.' Data for both campaigns were gathered based on Taiwanese key phrases sourced from news articles and the 'Taiwan FactCheck Center,' and we used Apify scraper (<https://apify.com/>) to crawl. The translated key phrases for the disinformation campaign included: 'electoral fraud,' 'manipulation,' 'vote rigging,' 'fraud,' and 'unfair practices.' For the anti-disinformation campaign, the phrases included: "transparent," "fact-check," "verification," "credible elections," and "reject misinformation". After data collection, the data was manually and qualitatively segregated to ensure accurate classification for each campaign, as shown in Table 1.

Table 1. Collected data details.

Campaigns	Time frame	Videos	Total Comments
Disinformation	Jan12, - Jan21,2024	223	23,200 Likes = 133,273 Replies = 7,142
Anti-disinformation	Jan13, - Jan21,2024	120	23,351 Likes = 362,863 Replies = 13,489

3.2 Analytical Process

The process involved two steps: a) post-level analysis and b) comments-level analysis. For the post-level analysis, the steps included: 1) generating the posting frequency of the videos, 2) extracting the distribution of posts by geographic locations, and 3) calculating the average engagement metrics on the video posts collected for both campaigns. For the comments-level analysis, the process involved: 4) applying the S-curve logistic function to map the temporal cumulative frequency into three stages of the Diffusion of Innovations (DOI) model—initialization, amplification, and sustainment—based on the rate of change in the comments over the period for each campaign. This method enabled us to track the adoption of comments and determine whether the adoption of comments was in the initialization stage (when innovators first experiment with new ideas and technologies), the amplification stage (involving early adopters, an early majority, and a late majority who each adopt new ideas at different rates within their social systems), or the saturation stage (when it has reached a critical mass, thereby sustaining the movement and seeing a decrease in new adopters).

The logistic function is defined as:

$$f(t) = \frac{K}{1 + e^{-r(t-t_0)}} \quad (1)$$

where:

- $f(t)$ is the cumulative frequency at time t .
- K is the carrying capacity, representing the maximum value of $f(t)$ as t approaches infinity.
- r is the growth rate, which determines how quickly the adoption spreads.
- t_0 is the inflection point, the time at which the cumulative frequency reaches half of the carrying capacity K .

Lastly, we applied the step 4 to the engagements (likes and replies) on the comments to understand engagement behavior and mobilization patterns.

4 Empirical Analysis and Results

In this section, we answer the research question.

4.1 Post-Level Analysis

In Fig. 1, the disinformation campaign trend shows a higher intensity of posting and burst pattern with high posting on January 13, 2014, peaking around 70 posts per day. This indicates a concentrated effort to spread information rapidly within a short timeframe to influence public perception quickly. In contrast, the anti-disinformation chart suggests a more sustained effort over several

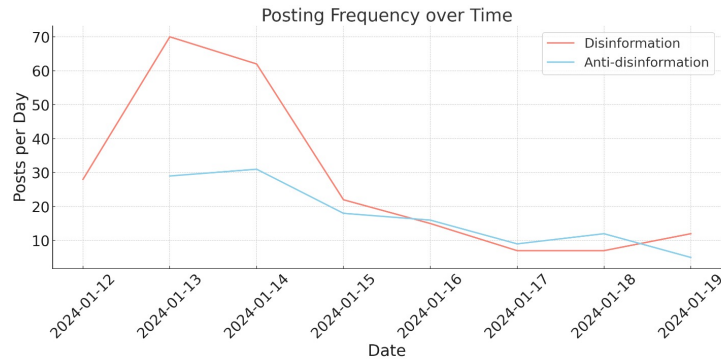


Fig. 1. Video Posting Frequency

days aimed at gradually countering disinformation over time. These characteristics suggest different strategic approaches between the two campaigns. The disinformation campaign relies on a high-impact, short-term strategy to quickly influence public opinion, while the anti-disinformation campaign adopts a more measured, sustained approach aimed at long-term credibility and engagement.

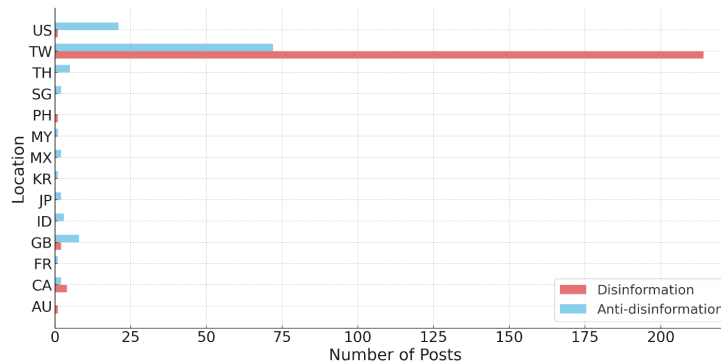


Fig. 2. Distribution of Video Posts by Location

From Fig. 2, the disinformation campaign has a significantly higher number of posts from Taiwan compared to the anti-disinformation campaign. This suggests a more aggressive local strategy aimed at influencing the Taiwanese electorate. In contrast, the anti-disinformation campaign shows a more substantial presence in the United States compared to the disinformation campaign. This could imply a stronger international effort to counter disinformation and support democratic processes in Taiwan from abroad.

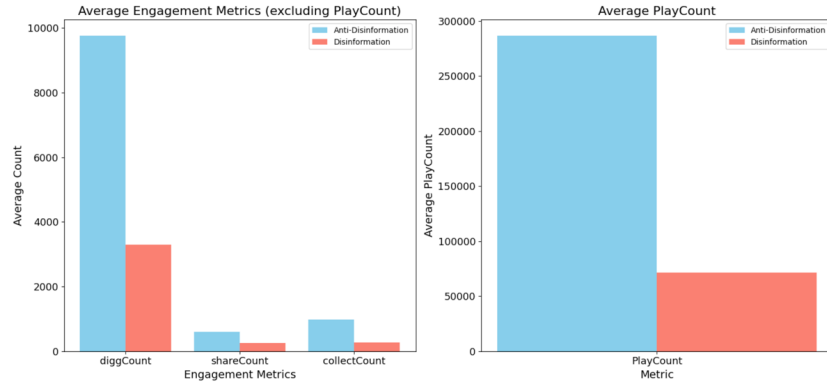


Fig. 3. Average Engagement on Videos

Fig. 3 shows the anti-disinformation campaign posts significantly outperform the disinformation campaign in terms of engagements such as diggCount (Likes), with an average count of nearly 10,000 compared to approximately 2,500 for disinformation. The average PlayCount for anti-disinformation content is significantly higher, with values nearing 300,000 compared to about 70,000 for disinformation content. Although shareCount and collectCount are lower compared to diggCount and PlayCount, the anti-disinformation campaign still leads in shareCount and collectCount, indicating that users shared and saved content related to countering disinformation.

This suggests that videos from the anti-disinformation campaign were positively received and showed strong approval from the audience. It also demonstrates its effectiveness in mobilizing public support and action successfully in countering disinformation. While disinformation content was high in volume, but it did not resonate as positively or actively with viewers compared to anti-disinformation content to achieve widespread and impactful mobilization. Which indicate audience skepticism or resistance to disinformation content. Next analysis presents the phases of mobilization through the lenses of comments and DOI stages.

4.2 Comments-Level Analysis

Fig. 4 shows the adoption of comments in percentages over DOI stages. The disinformation campaign accumulates comments more rapidly initially similar to their posting frequency and surpassing the anti-disinformation campaign in early engagement. However, comments adopted during the amplification phase for both campaigns are almost equal, which indicates more audience participation and discussion. Suggesting that the audience were active during the critical period of the mobilization. So, we expanded our investigation further to analyze the engagement behavior on comments over phases of mobilization.

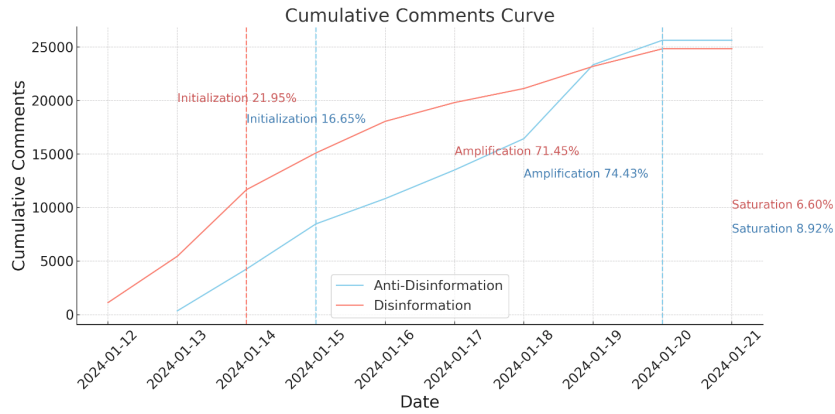


Fig. 4. Cumulative Comments Frequency Over DOI

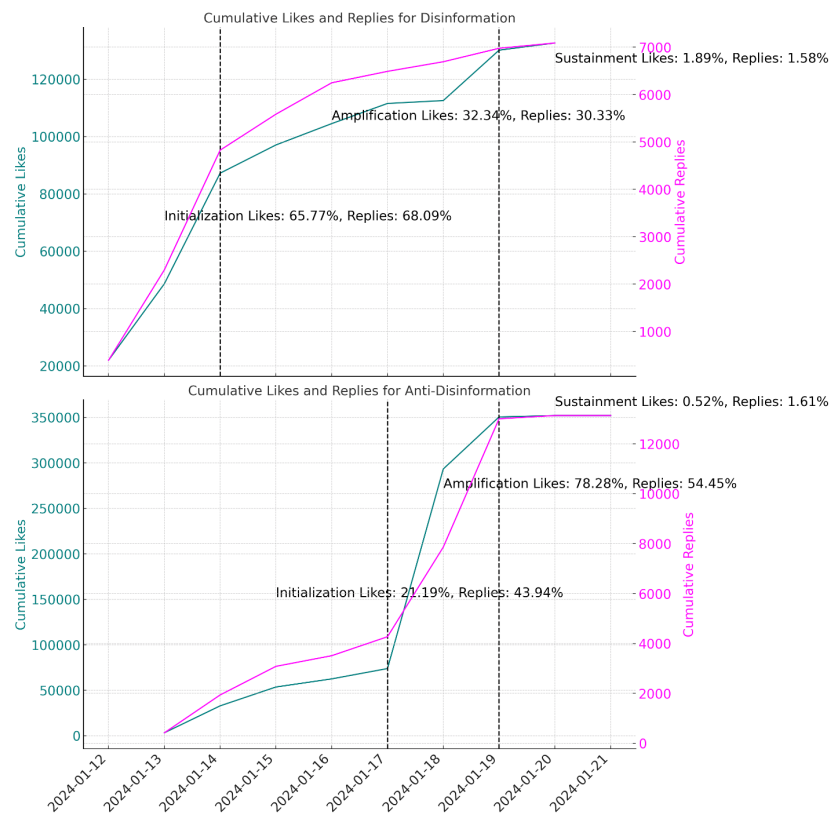


Fig. 5. Cumulative Likes and Replies Frequency over DOI

Fig. 5 shows the adoption of engagement on comments in percentages over DOI stages. The cumulative likes and replies for the anti-disinformation campaign are significantly higher than those for the disinformation campaign. The anti-disinformation campaign reaches over 350,000 cumulative likes and over 12,000 cumulative replies, whereas the disinformation campaign peaks at about 120,000 likes and 7,000 replies. This highlights a more substantial and positive interactive audience response to the anti-disinformation content. The disinformation campaign shows early momentum with high initial engagement, but the anti-disinformation campaign demonstrates sustained growth, particularly during the amplification phase. The overall higher engagement for the anti-disinformation campaign suggests effective counter-mobilization strategies that resonated well with the audience. This might include clear, credible messaging and the use of fact-checking resources, which helped in sustaining engagement and countering the spread of disinformation effectively.

5 Conclusion and Future Directions

The comparative analysis of disinformation and anti-disinformation campaigns related to Taiwan’s 2024 presidential elections on TikTok reveals critical insights into their mobilization characteristics. While disinformation efforts rely on rapid, high-volume bursts of content to create immediate impact, anti-disinformation strategies benefit from sustained, credible engagement that builds trust and fosters long-term interaction with broader international reach. The findings underscore key characteristics that even though a campaign’s start may be an atomic or burst in nature, but its success depends on engaging the audience with disseminated content to a sustainable online mobilization process, even if the content is low. These insights are crucial for developing effective strategies to combat disinformation and enhance the resilience of democratic societies against evolving online challenges. However, despite presenting crucial insights, this study is not immune to limitations, which we plan to address in future work. These include the absence of textual analysis to provide deeper insights into the evolution of narratives and their stance. Understanding user demographics such as age, gender, and political orientation could help identify targeted audiences more effectively. Additionally, network analysis of co-comments and their stance during the mobilization phases could shed light on how information dissemination and opinion alteration occur. Finally, assessing the impact of both campaigns on public opinion is essential. Addressing these limitations in future research will allow for a more nuanced and comprehensive understanding of the mobilization characteristics of these campaigns. Although this study is one-dimensional in characterizing the mobilization aspects of a social movement campaigns, but our novel multi-method analysis significantly contributes to the growing literature that aims to characterize various types of social movements through the lens of mobilization and collective action.

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