

Analyzing Public Sentiments: A Study of Weibo Users' Comments on People's Daily Coverage of the Japan Nuclear-Contaminated Water Discharge Incident

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Abstract: Social media have become paramount platforms for information transmission. The extended online communication space enables netizens to express themselves with more freedom and autonomy. As China's official news outlet, *People's Daily* plays a key role in policy dissemination and social affairs reporting. This study examines the public's sentiments based on Japan's nuclear-contaminated water discharge incident on Weibo, utilizing content analysis as the research method. The most popular comments of *People's Daily* relevant coverages were selected by purposive sampling to analyze the masses' emotions. The researcher found that a significant portion of the public expressed negative attitudes towards the incident and the comments are characterized by fragmentation and disorganization. Besides, anonymous on Weibo often results in casual and emotional expressions, which may also be accompanied by offensive remarks. Despite the extensive participation, numerous netizens share similar views, leading to one-sided discussions on Weibo. Alleviating public doubts and preventing the spread of rumors and panic requires government and media efforts. These findings could help them grasp and interpret the situation of public sentiments, better monitoring and guiding public opinions.

Keywords: public sentiment, Weibo, comment

1. Introduction

The Japan nuclear-contaminated water discharge incident can be traced back to the 9.0-magnitude earthquake that struck Japan on March 11, 2011, which triggered a huge tsunami at the same time. Due to the dual impact of the earthquake and tsunami, the Fukushima Daiichi nuclear power plant in Japan suffered severe damage, resulting in a nuclear leakage incident. Tokyo Electric Power Company (TEPCO) injected a large amount of seawater into the damaged reactors to cool down the nuclear fuel. Approximately 100 tons of high-concentration radioactive contaminated water is generated each day.

As the storage capacity of wastewater gradually reached its saturation, the Japanese government found itself unable to manage the disposal. On April 13, 2021, the Japanese government finalized the notification to discharge a large amount of nuclear wastewater accumulated at the Fukushima Daiichi

nuclear power plant into the sea, stating that the nuclear wastewater would be purified and treated to meet international safety standards.

On March 3, 2023, Japanese Prime Minister Fumio Kishida confirmed that more than one million tons of nuclear wastewater would be discharged into the Pacific Ocean this year, and on June 12, TEPCO began test runs of the equipment related to the discharge of contaminated water into the sea.

The report issued by the International Atomic Energy Agency (IAEA) concluded that Japan's plan to discharge nuclear wastewater from Fukushima into the sea complies with international safety standards and allows TEPCO to discharge nuclear-contaminated water into the sea. However, the international community has questioned the accuracy and fairness of the report issued by the IAEA.

On August 22, the Japanese government announced that it would start the discharge from the 24th. On August 24, TEPCO formally began the first phase of discharging nuclear-contaminated water from Fukushima into the ocean. On September 11, the first 7,788 tons of contaminated water was released into the Pacific Ocean.

Neighboring countries such as China and Russia have voiced their protests against the irresponsible behavior of the Japanese authorities and their disregard for international morality. Additionally, experts from various countries have expressed their deep concern about the ecological environment and human health problems that will be caused by this incident, while the public has also condemned the actions of the Japanese government. Opposition voices mainly focused on questioning the irresponsible and unconvincing argument of the Japanese side in hastily stating that the treated nuclear wastewater is safe, clean, and harmless without sufficient scientific proof, as well as the dissatisfaction with Japan's implementation of the discharge plan without discussion in the face of the important issue that concerns to the whole international community.

The incident sparks heated discussion among netizens on Weibo. Weibo, which was launched by Sina Corporation in August 2009, is the largest Chinese social media network for short-form content sharing. By the end of the first quarter of 2023, Weibo's monthly active users reached 593 million. Weibo provides a platform for users to generate real-time communication and interaction. Registered users can produce the content and share information online with other users. User-generated content is the main function of Weibo, which also enables users' expression. Besides, this platform highlights real-time updates. This feature of Weibo makes it a suitable platform for event dissemination and speedy interaction. Besides, there are also hashtags facilitating netizens to notice and capture trending topics. This function plays a crucial role in forming discussion groups online and engaging with users. As a result, due to its powerful functions and design, Weibo is conducive to unfolding public emotions, shaping public opinion, and promoting communication. The penetration and impact of Weibo have extended to politics, business, entertainment, culture, and all aspects of Chinese society and the public's daily lives.

But at the same time, as a core part of information sharing and dissemination in China, Weibo, like any other social network platform, is regulated and censored by the government in order to avoid the emergence of voices that jeopardize social harmony and go against mainstream values. In the new era of the Internet, mainstream social media is relying on Weibo, which has attracted a lot of attention from the public, to set up accounts and play a role in delivering and interpreting government policies, as well as promoting mainstream viewpoints.

Among mainstream media, the *People's Daily* is the official newspaper of the Central Committee of the Communist Party of China. *People's Daily* has a considerably high political status and influence. It is also an important source of information. It conveys the political line and policies of the Communist Party of China and disseminates domestic and international events. Liu et al. found that new communication technologies enable public emergencies to be spread quickly and widely by social media networks, thereby increasing the public's participation in the dissemination of news and the expression of opinions on events [1]. Nowadays, *People's Daily* has been actively developing its

official website and social media accounts, which is conducive to disseminating information more widely and engaging with readers, building more effective two-way interactions with the public.

Weibo is also a significant platform for information dissemination. It enables *People's Daily* to spread news, articles, and other important information to a wider range of audiences, enhancing the spread of policy ideas and the population's awareness of domestic and international events. Furthermore, due to the real-time nature of Weibo, *People's Daily* is able to promptly report and comment on news events and trending topics, which contributes to reflecting essential social and political topics of the day.

2. Literature Review

This study centers on Weibo users' responses to the Japanese nuclear-contaminated water discharge incident as posted on the *People's Daily* Weibo account. It aims to analyze the public's sentiments and comprehend how Weibo serves as a platform that allows individuals to observe and express their views on social events by employing content analysis.

Liu et al. suggested that social network platform like Weibo provides a platform for internet users to share their feelings and engage with fellow users during significant events. Consequently, these public comments play a vital role in monitoring shifts in users' emotional well-being [1]. This study has illuminated the way public opinions about the "Liangshan Fire" incident spread on Weibo. It has been found that gender and geographic location play a significant role in determining people's involvement in these discussions. In terms of the willingness to participate in topic discussions, women surpass men, and residents in China's coastal regions exceed those in the central and western regions [1].

Huang discussed the importance of Weibo in terms of people's emotional expression. As one of the most widely used and typical social media in China, Weibo is the main field of public network discourse practice. Besides, users will form a relatively stable group in their interactions on a certain event. These participants share the same stance and attitude, corroborating and complementing each other towards grouping [2]. Communication in the Internet age transcends conventional constraints of time and space. The internet has emerged as a crucial platform for individuals to convey and release their emotions [3]. Most of the interaction between people has turned to virtual space, which makes the public communication space have been greatly extended. Compared with traditional media, online media excels in applying the functions of sharing, discussion, and debate, rendering the Internet the optimal field for communication and self-expression. In addition, online media also has equality, which is reflected in the equality of identity and discourse rights. To a certain extent, the subjects of network communication can abandon the constraints in real life, obtaining more independence and freedom [4]. However, this kind of empowerment can also lead to the irrational and emotional tendency of netizens to some extent.

Jia and Peng suggested that Weibo is an essential platform for audience reflection, which has generated and gathered quantities of comments. Public sentiments also show various reactions. The voices of netizens on social network platforms contribute to the government's comprehension and interpretation of people's emotions, enabling it to enhance its functions of propaganda, supervision, and guidance [5].

In terms of trending topic discussions on official events, Chinese official state media plays a leading role in setting up topics, followed by the local media. However, they do not participate in the discussion of specific topics, nor do they make any replies or judgments [6]. Through the public sphere theory, another research investigation delved into the intensified discussions about the pandemic on Swiss Twitter and emphasized the identity of the users. This paper underscored the heightened involvement of scientists and specialists on the platform, faced with such professional

health disease issues. Notably, there is a decrease in the variety of subjects discussed on Twitter and the problems that people focus on are more concentrated [7].

Lin et al. suggested that the topic itself affects sentiments. For negative news, most netizens just vent their emotions rather than output content [6]. One study indicated that the expression of negative emotions online is universal. Because of the virtual nature of cyberspace, online identity promotes the expression of negative and passive emotions, which is more irrational and radical than offline emotional expression [8]. The rise of new media empowers internet users, but it also introduces potential problems for disrupting established norms. Some netizens' behaviors are extreme and unguided, adding complexity and difficulty to the management of the online public sphere. Therefore, striking an equilibrium among government, media, and the public is imperative in promoting a robust and steady progression of political engagement and expression [9].

Li and Xie proposed that Weibo's hot search list is a visual and concrete manifestation of public concern. The actions of netizens, such as reposting, liking, and commenting imply their acknowledgment of value and psychological attitudes. Besides, netizens' thinking and public attention become increasingly divergent, with individuals engaging in discussions often expressing opinions based on their personal judgment criteria [10]. Therefore, it is crucial for the mainstream media to explore how to integrate news and reporting in the new media world and how to set agendas in different social network platforms.

People's Daily, which has the highest number of followers among Chinese mainstream media, represents authority and professionalism. Through content analysis, Fan takes the report on the table tennis match of the Tokyo Olympic Games as an example to study the way *People's Daily* sets the agenda on the Weibo platform. *People's Daily* conveys the significance of the issues through the increase in the number of reports. Besides, it utilizes credible information sources to strengthen the authority. Weibo, owing to its high level of openness and socialization properties, has become the main battlefield for the agenda-setting of mass media. The reports of *People's Daily* on Weibo show comprehensiveness and consistency in terms of news tracking and narrative presentation [11].

Although many scholars have studied public attitudes and social media's role in promoting public participation, few articles have focused on one official mainstream media and explored netizens' sentiments reflected in comments, especially discussing an international event with global influence and significance. This study would contribute to the government and media better grasping netizens' emotions and concerns, thus scientifically and effectively acting in propaganda and public opinion guidance.

3. Methodology

This study concentrates on the characteristics of public discourse on Weibo regarding the Japanese nuclear-contaminated water discharge incident. To classify and analyze netizens' sentiments, this research employs content analysis as its research method, which is a text analysis approach employed to examine and interpret information for research purposes. The researcher collected netizens' comments under the *People's Daily* Weibo account, summarizing the traits quantitatively while concurrently investigating variations in user attitudes.

The researcher selected comments from August 24, 2023, which was the day when the news of Japanese nuclear-contaminated water discharge formally started and was reported by *People's Daily*. The relevant topics rapidly became the trending topics of the day and appeared at the top of the hot search list, arousing numerous people's focus.

In this study, the researcher used a purposive sampling approach and selected. On August 24, 2023, the *People's Daily* published 16 relevant posts about the Japanese nuclear-contaminated water discharge incident, including text, pictures, and videos. As a Chinese mainstream media with 150 million followers, the 16 posts published by *People's Daily* have obtained a total of about 75,000

retweets, 60,000 comments, and 710,000 likes. By selecting the 25 most popular comments under each post, the researcher collected a total of 400 comments for further analysis. In addition, to better classify the public's sentiments, the researcher encoded all the picked comments. By scrutinizing the text content, such as language, rhetoric, punctuation, and emojis, the comments were categorized into negative, neutral, and positive groups.

4. Results

Through analyzing the text of the Weibo netizens' comments, the researcher found that the vast majority of the public's emotions are negative. They expressed anger, frustration, and condemnation over the Japanese nuclear-contaminated water discharge incident. Besides, those comments under the posts of the *People's Daily* official account also showed some characteristics.

At first, the overall posts from netizens who express their viewpoints and emotions in terms of Japan's behavior display the traits of disorganization and fragmentation. Those posts tend to be netizens' emotional and subjective expressions. Besides, the public's personal posts are scattered, lacking professionalism, depth, and a comprehensive explanation of this incident, making the text itself have limited contributions for other users to grasp useful information. Instead, the public sentiments unfolded can serve as a direction and guidance for the government's further propaganda towards this incident.

Additionally, the anonymity of identity is an indispensable factor that influences netizens' expression. By analyzing the content, the researcher noted that netizens are highly positive to participate in the discussion of this trending topic. However, because of the anonymity of their identity online, numerous netizens' comments are very casual, and there will be more emotional and radical expressions rather than rational analysis. Faced with the decision of the Japanese government, many people use intense language, rhetoric, punctuation, and emojis to express emotions. Due to the particularity of this topic, some netizens even make considerably offensive remarks. There are even malicious personal attacks and bullying among users.

Furthermore, although many netizens engage with *People's Daily*, most of them have similar views. Few netizens hold different opinions or publicly express the opposite sentiment. The voice on Weibo tends to be one-sided. In terms of the public's discussion, few experts have dispelled netizens' anxieties and doubts about the future impact of nuclear-contaminated water. Plus, the official *People's Daily* account rarely responded to people's comments and participated in the interaction.

5. Discussion

News about Japan's nuclear-contaminated water discharge has attracted widespread public attention. Weibo has become the key battleground for public opinion. Many users leave comments and express emotions under *People's Daily*'s official platform. Several related topics are formed and rushed to the Weibo hot search list. This incident has constantly caught people's attention for days, arousing the public's great focus. The fragmentation and disorganization of people's comments are more determined by the function setting and positioning of the Weibo platform itself. The 140-word limit for comments and the timeliness of the news are conducive to forming mass participation in a speedy and effective way. Netizens' comments provide references for media and the government to grasp the public's sentiments, better arranging the propaganda and public opinion guidance for the following steps, though the content itself without sufficient evidence and suggestions has little contribution to the government's decision-making.

The openness and equality of social media make citizens free from the constraints of realistic factors, and at the same time, it is easier to generate radical expression. People's gaps in social status, age, income, ethnicity, educational background, appearance, and lifestyle have been greatly narrowed

on social network platforms. Anonymity makes everyone a relatively equal subject in online communication. In the past, under the dominance of traditional media, people were passive receivers of information. Nowadays, the prevalence of the Internet and social media has offered users more autonomy. Each subject is in a relatively independent space with fewer restrictions from the social environment. This helps people to express themselves freely but can also lead to some discordant and uncivilized behaviors.

Additionally, the emergence of those offensive and radical voices was also influenced by people's insufficient awareness of the impact of events. At the same time, it is noticeable that the majority of netizens are fearful of nuclear-contaminated water, and there is a lack of interpretive voices regarding the impact of nuclear-contaminated water discharged into the sea on the lives of individuals. In addition to expressing strong dissatisfaction, condemnation, and ridicule of the Japanese government, some netizens have called for a total boycott of Japanese goods and even for stockpiling iodized salt at home. The reason for this phenomenon could be that the government has relatively little interpretation and explanation of the issues that matter to the masses. In the posts published by the *People's Daily*, there are more voices from politicians, but fewer voices from professionals solving netizens' doubts and concerns and offering feasible measures.

Japan would cause an underlying crisis of public opinion, such as the aggravation of panic and anxiety among the public, and even the emergence of mass impulsive behavior. Therefore, the government needs to take action early, subsiding netizens' negative sentiments. The act of discharging nuclear-contaminated water into the sea will inevitably lead to public concern about marine environmental monitoring, and the disclosure and release of marine data should be timelier.

There are some daily life issues that are close to the public's daily lives, such as whether seafood, cosmetics, and other food and daily necessities imported from Japan will be affected by the discharge of the nuclear-contaminated water, and whether the daily contact or consumption of such goods will cause damage to the health, and whether iodized salt needs be stored in advance. For those concerns, the government and the media should play the role of information transmitters and carry out necessary science popularization and expert interpretation to alleviate people's doubts, reducing the spread of rumors and panic.

With strong professionalism and keen insight into news events, mainstream media should make good use of social network platforms like Weibo, which greatly reflects the public's sentiments. By forecasting trending topics and then selecting and setting agendas, *People's Daily* can better enhance communication effects and guide public opinion.

6. Conclusion

Weibo, an indispensable platform for information sharing and dissemination in China, is conducive to promoting public expression. This research discussed netizens' comments on *People's Daily* coverage of the Japanese nuclear-contaminated water discharge incident. Through the content analysis method, the goal of this article is to explore and classify public sentiments and understand how Weibo functions as a platform for medium-audient reflection on societal events. The researcher found that the overwhelming majority of Weibo netizens' comments regarding the Japanese nuclear-contaminated water discharge incident predominantly revealed negative emotions such as anger, frustration, and worry. Furthermore, these comments are emotional, and lack organization, professionalism, and depth. The fragmentation and disorganization of comments are influenced by Weibo's character limit and the real-time nature of news and the platform. As a result, there is limited useful information but those opinions could serve as an indicator for the government and media. Moreover, on social network platforms, the constraints from realistic factors are reduced and netizens can express themselves more equally and freely. The anonymity encourages active participation but also leads to offensive and radical expressions. Some comments include total resistance to Japanese

goods without sufficient evidence and personal attacks. The lack of information could exacerbate public panic and anxiety, potentially leading to mass impulsive behavior. Additionally, the public discussions on Weibo are shown to be one-sided, with the majority holding similar views. Few experts address public concerns about the future impact of nuclear-contaminated water and the official *People's Daily* account rarely engages in response to comments. Comments prominently mirror public sentiments. The interpretation could help the government and mainstream media predict trending topics, grasp the direction of the audience's attitudes, and do a better job of agenda-setting and public opinion guidance.

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