Techno-Nationalism: Examining the Impact of Chinese State Social Media Framing on Public

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Abstract. The rise of China is energizing the global community, as seen by the political phrase adopted by the Chinese party-state, 'Great Rejuvenation of the Chinese Nation'. The massive technological and scientific investments and innovations reveal China's ideology of techno-nationalism. Techno-nationalism refers to the inclination of national technology and innovation policy to reduce or prevent dependence on foreign technologies. While there have been numerous studies analyzing Chinese techno-nationalism. However, there are insufficient focus on the media frames of techno-nationalism. This raises the question of how the Chinese state narrates techno-nationalism and how this ideological concept influence the public opinion. Author employs a quantitative design as the primary method to analyze the media narratives that depict techno-nationalism.

Keywords: Techno-Nationalism, Chinese technological development, Social media, Public opinion.

1   Introduction

The rise of China is energizing the global community, as seen by the political phrase adopted by the Chinese party-state, 'Great Rejuvenation of the Chinese Nation'. This term highlights China's significant focus on domestic technical modernization [1]. Lewis argued that unlike the territorial and resource wars of previous centuries, the current rivalry is intense in the realm of digital transformation [2]. Countries that possess new technologies will have a favorable position in this era of transformation [3]. China's objective is to achieve global leadership in 5G international standards, technology, and industry by the conclusion of 2025, as outlined in the technical area plan of 'Made in China 2025'[3]. During the last National People's Congress, Beijing declared its intention to allocate a substantial amount of US$1.4 trillion towards the development of digital infrastructure, alongside the existing investment in 5G infrastructure [4]. These massive technological and scientific investments and innovations reveal China's ideology of techno-nationalism.

Techno-nationalism refers to the inclination of national technology and innovation policy to reduce or prevent dependence on foreign technologies. Nevertheless, several academics contend that techno-nationalism extends beyond its emphasis on 'military or

dual-use applications' and serves as a more comprehensive approach to enhancing a nation's strength [4]. In the context of international relations and political communication, states or governments have utilized the concept of 'national security' to foster unity inside their nation. This phenomenon, referred to as the 'rallying around the flag effect' by Ma and Weiss [5], involves using national security as a means of uniting people together. While there have been numerous studies analyzing Chinese techno-nationalism. However, there are insufficient focus on the media frames of techno-nationalism. This raises the question of how the Chinese state narrates techno-nationalism and how this ideological concept influence the public opinion.

In addressing aforementioned question, the author aims to contribute nuanced insights and knowledge to Chinese communication studies. This will be achieved by employing a quantitative design as the primary method to analyze the media narratives that depict techno-nationalism. Additionally, the author will assess the potential effects of these narratives on Chinese citizens. In relation to the data sample, author analyzed the articles, posts, images, and other communication tactics of official *Yangshi News* on the popular Chinese social media platform, Weibo.

2   Technological Advancement and the Role of the State

The primary goal of the 'Made in China 2025' initiative is to position China as a global frontrunner in technology and scientific benchmarks. Despite the transnational nature of innovation and technology adoption, rather than being limited to a single country. Technological advancement typically arises from the collective endeavors and continuous enhancements made by different participants over time and in different locations [6]. However, A renowned historian of technology, argues that the writing of technology history frequently exhibits a nationalist inclination. One issue arises: why does the Chinese party-state prioritize highlighting the nation's participation in this progress?

The notion of 'social-technology imaginaries' provides crucial insights into this inquiry. As stated by Jasanoff and Kim [7], social-technology imaginaries refer to shared visions of future scenarios that are considered desirable. These visions are collectively held, institutionally stabilized, and publicly demonstrated. They are driven by common understandings of the desired forms of social life and social order, which can be achieved through advancements in science and technology. Taylor suggests that social imaginaries highlight the tendency of individuals to not comprehend their social environments in detached, academic terms. Instead, individuals understand their connections with others and objects, relying on their own encounters, imaginative faculties, and emotional responses [8]. For instance, people have been led to learn and visualize the nation's technological achievements through the framing of the media, and to generate supportive emotions for the nation; people understand 'development' or 'developing countries' not in terms of theories, but rather the material conditions of their lives. This notion examines the relationship between technology initiatives at a national level and the perception of national identity among the general population. The media has played a crucial role in fostering a feeling of national identity that is deeply

ingrained in people's notions of personal achievement, self-worth, and aspirations for the future [6]. Generally, discussions on social-technology imaginaries emphasize the significance of fostering techno-nationalism on two distinct levels. Primarily, individuals' perceptions are influenced by their personal experiences and narratives rather than abstract theories. Thus, when the state prioritizes the country's technological prowess, citizens would view it as such, thereby reinforcing their sense of identity and loyalty to the party-state. A typical example, the meaning of techno-nationalism has been constructed and deliberately driven by 'the elite around the rhetoric of the abstract national interest rather than workers' interests' [9].

3   National Humiliation and Techno-Nationalism

In China, the official techno-nationalist discourse places a strong emphasis on technology and utilizes scientific and technological accomplishments to cultivate feelings of patriotism and national pride [10]. This emphasis has its historical reason in the belief that China's century of humiliation was rooted in its technological disadvantage to the West [3]. This evoked the idea of 'Chinese national humiliation', which is officially documented as the 'Century of Humiliation' [10].

The concept of 'The Century of Humiliation' is portrayed as a prolonged struggle for national survival and independence from Western and Japanese imperialism. This framework provides officials, intellectuals, media, and other individuals with numerous opportunities to draw broad historical principles that may be applicable to the current context [11]. Chinese nationalism is closely linked to national security concerns on the perceived threat presented by external entities. Regarding this anxiety, researchers have examined a political phrase promoted by state media, 'the backward will be beaten', in connection with the concept of the 'century of humiliation'. As stated by Wang [11], this slogan ascribes China's national humiliation to its inferiority in terms of economic, military, and scientific advancements compared to international powers. The text indicates a particular view of global politics: if a state is backward, it will be oppressed, victimized or even economically and militarily invaded. In order to prevent being conquered, a state must make efforts to become highly developed and influential, which is the fundamental concept of techno-nationalism. Therefore, it is essential to explore how the party-state integrates the framework of techno-nationalism and national humiliation, and how this affects the public, which raises the first research question of this article:

Research Question : How is techno-nationalism portrayed by Chinese state media to domestic audiences?

Hypothesis: In terms of rallying public opinion, the techno-nationalism is likely to have a greater impact. This potentially results in the number of comments, reposts, and likes.

4   Methodology

4.1   Data

To best achieve the objectives of this study, the author collected data, which observed from official *Yangshi News'* social media account's articles on Weibo. The content was clustered into three sets based on different dates and cases: On 23 February 2023, Launch of Zhongxing 26 satellite; On 16 April 2023, Launch of Fengyun 07; On 3 September 2023, Huawei's self-developed 5G microchip sparked discussions. The second set of data collected the comments, and numbers of comments, reposts and likes on state social media articles from Weibo users other than *Yangshi News*. The first type of data serve as the independent variable, while the last type of data acts as the dependent variable.

4.2   Analysis and Measurements

The analysis process used a three-stage study design with different measurements. Firstly, the discourse-narrative analysis of state social media's articles regard to the three cases. The analysis procedure follows an inductive approach. The second stage involves quantification and classification. At this stage, the author calculates the numbers of other users' comments, likes, and reposts, as the indicators. Additionally, to better understand the public's opinion or emotions, the author demonstrates the co-occurrence diagrams regarding different three cases. The final stage is to calculate the result using the regression method. The coefficient reflects the effect of the treatment, while the p-value represents statistical significance ($p < 0.05$).

4.3   Results

4.3.1 Inducting Narrative Tactics.
Zhongxing 26 case. In terms of this case, the content of *Yangshi News*

[Congratulations! #Successful Launch of Zhongxing No. 26 Satellite#] Today, China successfully launched the Zhongxing No. 26 satellite from the Xichang Satellite Launch Centre using the Long March 3B carrier rocket. The satellite smoothly entered its scheduled orbit, making the launch mission a complete success. Its primary purpose is to provide high-speed broadband access services for fixed terminals, as well as vehicle, ship, and airborne terminals.

In this article, *Yangshi News* express that the success belongs to China, rather than attributing it solely to the researchers and Chinese scientists. This is labeled as the state-techno-nationalism narrative.

Fengyun 07 case. In terms of this case, the content of *Yangshi News*

[Congratulations! #FengYun3-07 was successfully launched#] Today, China launched Fengyun3-07 from the Jiuquan Satellite Launch Centre using a Long March 4B carrier rocket. The satellite entered the intended orbit smoothly, making the launch mission a success. The satellite mainly provides better services in the fields of mete-

orological forecasting and prediction, disaster prevention and mitigation, climate change response and ecological civilisation construction. Praise for China's space!

Article describe the success of the Chinese aerospace sector without any additional narration. Therefore, they can be labeled as state-techno-nationalism narratives.

Huawei's Zhongguo Xin-Zhengqi Ji case. These 'homophones draw on the playful use of sound-alike terms in Chinese internet culture, particularly humorous memes' (Wong et al., 2021 p.6). A direct reading of each article, the content of *Yangshi F&E*'s story is

[Butterfly in a cocoon! Here comes the #Zhongguo Xin-Zhengqi Ji#] From the sudden appearance to the urgent delivery, no conference support, but by the fire snapped up. Huawei's new mobile phone release has been described as a silent spring breeze, with the dream of creating a 'Xin' 'Zhengqi Ji'.Is China's 'Xin' 5G mobile phone really coming? Has China made a key breakthrough with its own high-end chip? How significant will this mobile phone be in the history of China's autonomous technological innovation? How many battles has the China Chip Contender won? CCTV host Zhou Yun, along with three technology bloggers, dismantled the machine to prove its capabilities.

The author therefore referred to the narrative of this article as a techno-nationalistic narrative.

4.3.2 Descriptive Results.

Zhongxing 26 case. Yangshi News' article has 826 comments. The majority of comments express a positive sentiment towards the autonomous development of the nation's aerospace industry. *Yangshi News*' article has 922 reposts. *Yangshi News* has 3,029 likes.

Fengyun 07 case. Yangshi News' article has 922 comments. The majority of comments express a positive sentiment towards the autonomous development of the nation's aerospace industry. *Yangshi News*' article has 1,380 reposts. *Yangshi News* has 5,349 likes.

C919 case. Yangshi News' article has 890 comments. Majority comments expressing a positive sentiment towards the nation's autonomous development. *Yangshi News*' article has 1,263 reposts. *Yangshi News* has 8,438 likes.

4.3.3 Estimation.

In terms of this estimation, author also applies the OLS method. The findings from Table 1 reveal that the techno-nationalist narrative has significant impacts on public opinion for all three indicators, that is, comments, reposts, and likes.

Table 1. Techno-nationalist narrative's impact on public opinion

	Techno-nationalist narrative's impact on public opinion
Comments	815.33*
	(79.82)
Reposts	947.3*
	(385.57)

Likes	2,704.5*
	(221.99)

Robust standard errors are in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5 Conclusion

This article analyzes the representation of technology and science in China through official social media, with a specific emphasis on the phenomenon of techno-nationalism. The author begins by conducting a comprehensive analysis of the three specific data sets, and relevant literature. From this examination, the author identifies a narratives: techno-nationalism, which highlights Chinese techno-nationalism as a consequence of state achievements. In addition, the author employs a quantitative research design for evaluating the effects on the general population, utilizing natural language processing techniques and the regression approach. The findings confirms hypothesis, which states that techno-nationalistic narratives can have a significant influence on individuals.

The quantitative figures have theoretical and empirical implications for understanding the impacts of Chinese political communication on social media platform. Firstly, numerous scholars have traced the evolution of Chinese guidance policy, which is 'rallying the public around the flag' [5]. In terms of narrative tactics, cuteness or fandom nationalism leading to a game-like online participation [12]. Additionally, techno-nationalism can also be used by media to engage with the public, which strengthens the 'rallying around the flag' effect. On the other hand, in this research, the author uses the number of comments, reposts and likes as the indicators of the impact of state narratives in social media. However, it may be worthwhile to consider alternative measurement methods. The approach of this paper requires a natural experiment, which differs from experimental studies that include surveys, questionnaires, and interviews. This sheds light on communication research, showing that conventional statistical models and observational data can also provide effective insights.

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