CHAPTER2

LITERATURE REVIEW

2.1   Introduction

Tariff policy is one of the important means for government to regulate trade. For the country, it can protect industry and employment, adjust trade balance, and have an important impact on the public's price, employment, consumption choice and other aspects. This chapter provides a brief introduction to the content of Trump's 2025 tariffs on China and the impact of previous tariffs on China, as well as the application of sentiment analysis in social media, which provides a foundation for understanding the following chapters.

2.2   Content and impact of tariff policies on China

The tariff war between China and the US weakened the global trading system as early as the first term of the Trump administration. They cause huge economic losses in every country. Chinese imports fell 4.9 % and U.S. imports fell 4.5 %. Bilateral trade patterns are severely distorted (Zheng et al., 2023). Meanwhile, tariff announcements lead to negative (cumulative) average abnormal stock returns. (Wengerek et al., 2025), the uncertainty caused by trade tensions has a greater impact on the market than expected, and investor sentiment and information are also deeply affected by high uncertainty(Selmi et al., 2020). During this period, US tariffs on Chinese imports depressed Chinese demand for foreign inputs, adversely affecting third countries and causing an average GDP loss of 0.05% for the countries involved (Son, 2022).

In gey-Consumer Intelligence statistics show a spike in social media posts

mentioning "tariffs" between January 1, 2024 and April 7, 2025. That's because the Trump administration has enacted a series of tariffs since February 2025. In particular, since April, President Trump has announced the implementation of the so-called "reciprocal tariff" measures against US trading partners, announcing that the US would impose a 125% tariff on Chinese products, plus a 20% "fentanyl tax", bringing the total tariff to 145%. In response to the US move, China quickly and decisively announced a series of countermeasures - raising tariffs on imports from the US from 84 per cent to 125 per cent. It was the first country in the world to reject "reciprocal tariffs". Trump's "reciprocal tariff" policy has triggered turmoil in global stock markets, hit Sino-US economic and trade relations, and caused rising prices and signs of economic recession in the United States. On May 12, China-US relations turned a corner. The two sides issued a joint statement on the Geneva economic and trade talks, and the two sides mutually reduced tariffs: the comprehensive tariff rate of the US on Chinese goods was reduced from 145% to about 30%, the tariff rate of 24% was suspended (the base rate of 10% was maintained), and specific tariffs imposed in early April were cancelled. At the same time, China will take reciprocal measures to reduce its tariffs on the United States from 140 percent to 10-45 percent. Since tariff measures are closely related to the lives and investments of the public, the public usually communicates the discussion of tariff policies through social media. "X" is a platform for users around the world to discuss hot issues in real time, and the user group is wide, so it has triggered heated discussions again.

2.3   Emotional analysis

Sentiment analysis is an important application field of natural language processing (NLP), which aims at automatically identifying the subjective emotional tendency in the text and judging whether the sentence is positive, negative or neutral. It can help companies, institutions or researchers understand the trend of public attitudes and opinions. Emotional analysis has three main technical methods:

Dictionary-based: It is simple and easy to understand, but its generalization ability is poor.

Machine learning: Training models on labeled data to extract features for classification requires manual feature engineering and depends on data quality.

Deep learning; Using neural network to automatically learn semantic features, end-to-end processing, but the calculation cost is high.

2.4   Application of existing technology

Existing model framework research covers various social media sentiment analysis applications, including elections, general datasets, public health topics, COVID-19 vaccine tweets, as well as improving analysis accuracy and interpretability. The performance of the model was evaluated by accuracy and other indicators using the methods of VADER, decision tree, KNN, Naive Bayes, SVM, LSTM, Bert, SentiWordNet, LIWC-22, ChatGPT 4.0 and word cloud visualization technology.

The following table provides an overview of the research on different sentiment analysis models in social media applications：

methods and models	application	Advantages	Disadvantages	Reference
VADER + Decision tree /KNN/Naive Bayes	Sentiment analysis of the US election, using supervised classification to test the correctness of the model	Easy to use, suitable for short text; The accuracy of Naive Bayes is 60.69%	The method is preliminary and the accuracy is low；	Zangmo et al. (2024)
BERT、 LSTM、 SVM	Multiple models are used for sentiment analysis on	BERT achieves the best performance with 86%	It requires a large amount of computational resources and	Elmassry et al. (2024)

	structured and unstructured data	accuracy and a high F1 score. Applicable to various data distributions	has a high complexity	
VADER, LIWC-22, TEXT2DATA, ChatGPT 4.0	Compare the effectiveness of various automatic tools in negative review recognition, especially for long texts To compare the effectiveness of various automatic tools in negative review identification, especially for long texts	LIWC-22 is more suitable for imbalanced data and VADER is suitable for long annotations. The overall agreement with manual annotation is good	ChatGPT 4.0 performed the worst on this task	Gandy et al. (2025)
SAVSA （SentiWordNet + VADER）	It improves the sentiment recognition accuracy of COVID-19 vaccine tweets and is suitable for imbalanced data	Multi-stage combination model to improve accuracy; Applicable to imbalanced data in social media	These methods are complex and depend on preprocessing and dictionary quality	Chockalingam & Thambusamy (2024)
VADER + Word Cloud Visualization	It is used to improve explainability and user understanding, and contributes to an intuitive understanding of text features	Enhanced visualization for easy presentation of user intuition	It does not improve the performance of the algorithm itself, but only increases interpretability	Chavan et al. (2024)

Table 2.1 Application model

The VADER model was chosen for this project because it is not only suitable for analyzing short texts in social media such as Twitter, but also stable in imbalanced datasets dominated by negative comments and easy to integrate with visualization tools such as Word Cloud and DAX. Easy to generate intuitive reports (Gandy et al., 2025; Chavan et al., 2024)

2.5 Research Gap

Previous studies have discussed the impact of Trump's tweets on the market and public sentiment, especially tweets about China, which directly affect the stock market and increase its volatility and trading volume. Positive sentiment on microfairs leads to increased excess returns in China's manufacturing sector (Guo et al., 2021) The consumer goods industry also showed negative returns when Trump's tweets were negative about the pandemic (Pham et al., 2022), but there is no literature specifically analyzing the changes in public sentiment triggered by his 2025 tariffs. At present, there is a lack of comparative analysis of public opinion changes before and after the policy release based on X platform data. Existing sentiment analysis models, such as "VADER", have not been applied or validated in the context of this particular event. English tweets related to "Trump's new tariff policy on China in 2025" on the "X" platform were collected through the API. It focuses on the analysis of public sentiment before and after the April 10 tariff measures against China and after the May 12 reciprocal tariff reductions. "As such, this study will fill the gap in the existing quantitative analysis of social media sentiment swings in the context of specific political events.

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