The Impact of Tesla's Brake Failure on the Company's Stock Price

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Abstract. The research is based on the current social issue, "Tesla brake failure scandal". The stock price of Tesla has long been a subject that has attracted researchers from a diverse range of fields including mechanism, economy and finance. In this work, theoretical insights of situational crisis communication theory is synthesised in the context of economy principles, based on which a conceptual framework is analysed. In this article, the future price of Tesla stock is predicted through 5 aspects, including: situational crisis communication theory, investor sentiment, investor behavior, market status and economy policies. It is found that the stock price will fall in a short term and rise back in the future. The findings also provide guidelines for Tesla investors in investing and also provide similar example for investors' investment when facing sudden negative incident. Therefore, the essay is a pioneer in combing the theories and finance market practice, while accurate data could be analyzed in the future.

Keywords: Stock price analysis; investor behavior; investor sentiment.

1. Introduction

Nowadays, Tesla's has become the top sales car in the Chinese luxury car market with the month sales over 70 thousand [1]. Over the past two decades, the stock price of Tesla has grown by leaps and bounds. From the anonymity to a thousand fold stock, Tesla's success is now a model for millions of entrepreneurs who seize the chance to follow Tesla's steps. However, the perfect corporation Tesla was involved in the "Brake Failure Scandal" that aroused social anxiety. The public opinion fermentation started on April 19th, 2021, at the Tesla booth at Shanghai exhibition, a woman, in a T-shirt with Tesla's logo, climbed on the car roof and hysterically shouted "Tesla brake failure". Her actions attracted many onlookers who filmed and posted the video on social websites. In the afternoon, the company declared a statement blaming the woman for disagreeing with vehicle inspection fee and the unreasonable request she put forward. The Zhengzhou Municipal Supervision Bureau, who is in charge of the investigation, claimed that the raw data was not offered and the car was not third-party authenticated. The two parties could not reach an agreement [2]. When the Tesla's protestor crisis boost out in China, Tesla declared an announcement on weibo, blaming the protestors. Nevertheless, the brake matter was not an exception. A famous singer Lin suffered from a car accident in 2022 and the root cause was the brake[3]. The celebrity was severely injured and aroused social concern. As a consequence, the reputation of Tesla has polarized after the car brake failure. No formal studies on impact of stock price due to certain incidents. The particular significance of this study lies on the prediction of Tesla's stock price after the crisis of trust. The article will focus on public opinion impact on the stock market. In this study, the price of Tesla is analyzed by several principles of economy, investor sentiment and investor behavior. The findings of this study will help improve the public relation response under scandal in a way that balances consumer aggressive attitude and corporation interest. In addition to this, the finding will help investors make quick decision after muckraker, which will highly affect investment returns. Emergencies and the impact after it has always been a hot issue in both scholar and social fields. The suddenness and trickiness has made the problem hard to predict. Tesla, however, is a mature company that owns the ability to handle such thorny problems. On the other hand, the market cap of Tesla has shrunk drastically after the brake failure leading to the doubt that whether the conflict between scandal and reputation can counteract. This article will use Tesla as a model, by analyzing the influence of brake failure on its stock price,

to map the impinge of negative issue to corporation financials. Current essays often focused on the economy theory and ignored practical practice, which is relatively hard for investor beginners to start with. In order to fill the blank to example and improve understanding, the research uses past stock price data of Tesla to evaluate the impact of corruption scandal on Tesla corporation. To further help with investment on polarized-reputation stocks, the article combines scientific theory with Tesla's practice to make the investment operable. The essay will discuss several theory and economy principles with the data of Tesla analyzed in the stage. Practical cases and theories are combined to analyze the future trend of Tesla's stock price. Then, the article will focus on investor behavior and investor sentiment. Through investor aspects, the research hope to find out whether brake failure is a cause to stock price fall and will it affect the market further.

2. Situational Crisis Communication Theory

The situational crisis communication theory was introduced in 1995 by Coombs. Crisis communication refers to the behavior and process of using communication as a means to resolve and avoid crises for the purpose of solving crises. Coombs, who believes, the reputation of an organization depends on the perception of stakeholders and the public, which is their attribution of the event and their judgement of responsibility for the event [4]. Coombs then put forward 13 crisis type (Basis for responsibility judgement in situational crisis), including: Rumors, natural disaster, malice and product damage, workplace violence, challenges, accidents caused by technical failure, product recalls caused by human error, product recalls caused by human errors, organize errors that did not cause harm, organizational management errors, organizational errors that cause injury [5]. From Tesla's case, a fact can be noticed, when facing crisis situation, Tesla first adopt a cold approach, which is replying nothing to the crowd. This crisis solving method is not effective until the woman climb on the car roof and safeguard legitimate rights and interests. The second step Tesla respond to the scandal is nonexistence strategies, claiming the crisis is not related to the organization and the organization is not responsible for crisis events. There is four following strategies in this situation: denial, clarification, attack and threat. Tesla, uses attack after the consensus. By publishing official position documents, they conceal their own vehicle defects and in turn accuse the consumer of not providing third-party verification. Direct retaliation, denial of reports and proactive statements can change public perception [6].

Tesla's attitude will somehow reflect in its stock price. To start with, in short term, market will behave in stock price. The public is likely to have aggressive mood towards Tesla corporation and there are two main reasons. The cold approach, the safety concern towards the product. After the collective boycott, the number of people who buy it will decrease, the company's profit will decrease, the supply will exceed demand, investors will lose confidence, part of them will withdrawal capital, which will lead to the decline of its share price, as for the decline, it depends on the number of points it touches and the degree of resistance, the stronger the market value of course, the more evaporation, if the company does not take remedial measures in time, it may fall again and again. Tesla, however, is a mega company with the market cap over 100 billion [7]. While the coping strategy, attacking consumer, stir up public anger, share prices are bound to fall in short term Second, the random-walk theory can be applied in Tesla's case. The theory, as in the coin-tossing experiment, is the sequence of values of random variable during past and present tells one nothing about the result of the next period. To simplify the idea, it is opposed to the 'trendists' who believe by observing the past and present stock price, the future can be predicted [8]. Take the brake failure of Tesla as an instance, Tesla is a potential stock, whose stock price increased drastically in a few decades. However, current negative incident may lead to a decline in the stock price while many investors are in a hurry to sell stocks. In the future, the brake failure may not even be a spot in Tesla's glorious history for its strong social influence and the high reputation in environmentally friendly car industry. In Xie's article, he divided the network public opinion into five stages: Rise stage, explosion stage, climax stage, extinction stage, silence stage. The outbreak of public anger can be considered as the climax

stage [9], when consumers solicit indemnity and investors sell stocks. With the passage of time and the advancement of the event handling process, the number of netizens participating in discussions decreases, and the network tends to be calm. Reduced report views in Tesla's brake failure will result in the oblivion of the incident. When investors find the relatively low stock price of the corporation, they buy in and that is why the stock price of Tesla will rise back in the near future.

3. Investor Sentiment

Investor sentiment refers to the changes in asset returns, price fluctuations and stock market liquidity when the trading behavior of the market cannot be fully explained by the company's characteristic factors and economic factors. It is not an measurable concept that is abstract and relatively complex and unstable. Investor sentiment can be a crucial aspect in the stock market. Although the efficient market hypothesis theorizes that investors can make rational investment decisions and stock market transactions, and that incompletely rational investors do not have an impact on financial market transactions or other traders, the market can detect and eliminate its interference. However, in the real economic market, the rationality of the investors involved in the transaction is limited, they do not have access to all the information, and their expectations and behaviors may be contrary to the intention of the original information, which is one of the reasons why the construction of investor sentiment cannot be completely constructed by subjective indicators or objective indicators. In Tesla's case, though many essays and data has proved its brake failure is a small coincident, the negative public relations response has aroused consumer anger. It is an unavoidable factor in Tesla's case, to protect the technology, Tesla has to choose to hide the driving data. On the other hand, the hidden data implicates the investors Tesla has suspicious behavior and is no longer trustworthy. The distrust between investor and company resulted in the sales of Tesla's stocks in 2022, and the stock price fall sharply from 1300 billion dollars to 400 billion dollars.

Investor sentiment has overreaction, overconfidence, loss aversion and other characteristics will determine its trading behavior to a certain extent. Investors are affected by insufficient information and experience emotional fluctuations in their expectations of future stock returns. Information transparency and investors' grasp and perception of information are key factors affecting trading behavior, which can have an impact on stock prices [10]. In the practical application of the internet financial market, due to the fast dissemination of information, regardless of whether the information is correct or not, investors are easily misled by mainstream media when receiving internet information. If investors value behaviors such as posting, the cognitive bias generated is easily lead to irrational investment, that is, blindly following incorrect information. When seeing the woman climbing on the car roof for legal right, many investors easily believe the brake failure of Tesla does exist. It leaves no room for the official clarification later and the information bias leads to investors stock selling causing prices to fall.

4. Investor Behavior

Investment behavior refers to a kind of financial activity in which investors invest funds in the form of economic value in the financial market and expect to obtain value returns. In financial market practice, individual investors often make decisions based on the opinions of the media or other investors. When most investors in the market have a certain consensus that those rational investors are likely to have a certain degree of vacillation of their original ideas, affected by others and changed, forming a "herd effect", due to its irrational behavior to stock pricing deviation, and eventually make stock liquidity change. The herd behavior is often used in a very competitive industry, and there is a leader in this industry who occupies the main attention, then the entire flock will continue to imitate the leader's every move. From an economic point of view, the herd effect is caused by the asymmetry of market information and irrational behavior. In the stock market, due to information asymmetry, it is difficult for individuals to accurately analyze market information, so they tend to follow the

decisions of others in the hope of obtaining higher returns. In addition, irrational behavior can also contribute to the herd effect. When there is a certain level of volatility in the stock market, many individuals feel panic and anxiety, and they will take actions that follow the majority to avoid risk. Tesla, exposed its lack of crisis public relations ability and the design flaws of the car, became the target of public criticism after the scandal. Consequently, the herd easily sold out their stocks, and the stock price of Tesla decreased.

Bounded rationality, refers to the rationality between perfect rationality and imperfect rationality under certain limitations. Bounded rationality is a rational behavior under the condition that the decision variables are simplified to grasp the essence of the problem. Disposition effect is an important phenomenon in the study of behavioral finance theory, which describes the tendency of investors to sell profitable stocks earlier and hold losing stocks for a longer time in the stock market. This paper examines the disposition effect of Chinese investors under the background of stock market decline by studying the trading behavior of nearly ten thousand accounts in a securities sales department. When stocks rise, investors hold more profitable stocks in the portfolio, so they tend to sell more profitable stocks; When the stock market falls, investors hold more losing stocks in their portfolio and tend to sell more losing stocks[11]. Coval and Shuwmay find out investors who are losing money in the morning stock market tends to earn back in the afternoon stock market, so they are willing to choose to face higher risks in the hope of making up for the morning losses[12]. In order to quickly close transactions, impatient investors will choose to place orders at the market price more than at the limit price, causing market volatility and causing investors to pay price costs for quick transactions. For Tesla investors, sudden incident will result in short-time stock price decline. Many of them will choose to sell out their shares, according to the disposal effect, investors who hold more stocks, sell more. Subsequently, they will try to earn back the loss through other stocks and pay no attention to the current stock price. Negative news may affect the company's brand image and reputation, which in turn affects the company's position and competitiveness in the market. A company's customers, partners, and suppliers may reduce their trust in the company due to negative news, thus doing less business with the company or even transferring business to competitors. Tesla, is known for its bright image and has a good reputation. Investors may not choose to sell all the stocks because of the trust in the company and believe in the rise in the future.

5. Economy Policy

Macroeconomic policies have a significant impact on the stock market. The adjustment of macroeconomic policies such as monetary policy and fiscal policy will directly affect the profitability and investment activities of enterprises, which will be reflected in the stock market. In addition, the market's expectations of the policy, the stability and continuity of the policy will also have an important impact on the stock market. The impact of macroeconomic policies on the stock market can be seen from the perspective of macroeconomic environment. For example, monetary policy is an important part of macroeconomic policy. Central banks influence economic activity by adjusting the money supply, interest rate levels and other means. When central banks implement looser monetary policies, corporate borrowing costs fall and investment activities increase, which will help boost corporate profitability and stock market performance. On the contrary, if the central bank tightens monetary policy, corporate financing costs will rise and investment activities will be limited, which may put pressure on the stock market. Fiscal policy also has an impact on the stock market. Fiscal policy influences economic activity by adjusting tax policy and government spending. For example, tax cuts help improve corporate profitability and increase corporate investment, which has a positive impact on the stock market. In addition, increased government spending may also stimulate the development of related industries, which in turn boosts the share price performance of related companies in the stock market. The impact of macroeconomic policies on the stock market is also reflected in the market expectations. Market participants' expectations of macroeconomic policies affect the movement of the stock market. If the market expects that the government will introduce

policies conducive to economic growth and corporate development, investors will be more inclined to buy stocks, driving the stock market higher. On the other hand, if the market expects that the policy is not conducive to the economic operation, investors may choose to sell stocks, resulting in a decline in the stock market.

The Tesla brake failure happens in the COVID-19 pandemic period, while the market situation depression. Governments introduced a series of fiscal policies, increased the deficit and special debt, and increased government funding to increase government spending, support enterprises in resuming work and production and stabilize employment. At the same time, small and micro enterprises will also be exempted from taxes, reduce the cost of electricity and logistics for enterprises, reduce the burden for enterprises, and promote the resumption of production. They lowered the required reserve ratio and interest rates, and provided more measures to support market liquidity to stabilize financial markets and provide adequate liquidity support. Tesla has enjoyed the dividends of economic recovery demand during the pandemic. With the support of fiscal, tax and monetary policies of various governments, their funds can be transferred faster, making the impact of stock declines on the company less. In the long run, unexpected events can stimulate Tesla's development and boost the stock.

6. Conclusion

The main goal of the current study was to determine the future stock price trend of Tesla corporation and to provide evidence for future stock investors investment. For the information given, Tesla's stock price is affected by many aspects, including: situational crisis communication theory, investor sentiment, investor behavior, market status and economy policies. The study provides additional evidence with respect to the short-term fall of stock price after the "Tesla Brake Failure" scandal and a long-term rise of stocks after Tesla's official statement for clarification and the oblivion in the fast speed media generation. Taken together, the investor sentiment theory and investor behavior theory both point to the sell out of stocks according to the 'herd effect', the disposal effect and the information bias. On the other hand, the stock price will rise in the long term for the insistence on earning back the profit and the economy polices during the COVID-19 period help Tesla recover from the sudden stock price fall. As for the situational crisis communication theory, the cold approach at first will lead to public anger and distrust which further lead to the diffident in the future direction of Tesla's stocks. And yet, after the official clarification, the attacking attitude towards the audience shows Tesla has nothing to hide and the brake failure was totally a rumor. It re-contributes the trust and confidence of Tesla investors and will reflect in a long-term rise back of the stocks. This paper has given an account of and the reasons for why Tesla's stocks will fall and rise. The current study was unable to analyse these variables through a real model. This research has thrown up many questions in need of further investigation, including the time period of both rise and falls, the volatility of Tesla's stock and the prediction of its market cap evacuation. In general, therefor, the article provides reference for Tesla investors while the practice needs further analysis.

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