

Success and dilemma: Tesla has a long way to go in China

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Abstract:

As a leader in the automotive industry, Tesla's global layout starts early. In addition to its old markets in Europe and the United States, Tesla entered Chinese market in 2014 and underwent a series of success as well as rough patches. After summarizing and listing basic information (the general trend in Chinese electric car industry and Tesla's current sales and popularity in China), the article concludes Tesla's situation in China from both its market competition and government's policy towards it. The study refers to the research of previous scholars, studies the evaluation of Tesla in public sectors like reviews published in academic magazines and comments in social media and analyzes Tesla's recent financial reports and latest trends. Based on the reference collected, it's apparent that Tesla has received preferential treatment from the Chinese government while the strength of its growing domestic competitors should not be underestimated, imposing extra burden on Tesla. Then the article takes a deeper insight into the factors underlying Tesla's current situation and gives out effective suggestions for Tesla to break through the current predicament, including investing more in its FSD system and further construction of Gigafactories.

Keywords: Tesla, dilemma, china, development

1. Introduction

Recent years, due to the volatility in the quantity and price of crude oil imports and the prevailing trend of environmental protection, an increasing number of countries shows great interests in developing the burgeoning electric car industry. As one of the pioneers of electric car industry supporters, Chinese government successfully established a fundamental industry chain of electric cars through heavy subsidies and is seeking for further development. Tesla enters the Chinese market in such a background setting and was

warmly welcomed by the Chinese government.

The passage aims to have a comprehensive understanding of Tesla's development in China in recent years. The research will not stop at giving out facts indicating Tesla's current sale, market share and popularity among customers, instead, factors Tesla depends on to develop and thrust that Tesla can borrow to get out of its current predicament is going to be discussed in detail.

As for the content of research, the passage will focus on Tesla's situation in China, including its initial

success and current dilemma. Tesla won high popularity when first entering the Chinese market thanks to its high global visibility and unprecedented support from the government, such success can be easily noticed based on its continuously increasing sales and endless bills all over the country. However, things all changes in the beginning of 2024, where Tesla's sale in China faces a plummet and the poor global performance forces Tesla to lay off workers. The reasons causing such dramatic change will be pointed out from different perspectives and possible action to end the unfavorable situation will be offered. By analyzing the general trend of Chinese domestic electric car industry and Tesla's performance in Chinese market, the passage can take a deeper insight into the reasons standing behind both Tesla's achievements and challenges. After that, efficient solutions and prospects for future development of Tesla will be provided based on the reasons concluded above. The second section selects several essays related to the topic and the main content in these articles are refined. The third part is the analysis of basic facts, including the current development of China's electric car industry and Tesla's own achievements and challenges in Chinese market. Tesla faces fierce market competition and its powerful competitors will be introduced in detail in section four. After that, further research will focus on the underlying reasons behind Tesla's current situation and methods to break through in the future.

2. Literature review

The recent trend in Chinese electric car market:

In recent years, the trend of electrification, intelligence, networking and sharing in the automotive industry has profoundly changed consumers' car buying behavior. Companies should adjust their product to meet consumers new expectations of how cars perform, cars' function and usage [1].

As the pioneer of electric vehicles in the new energy automobile industry segment, Tesla has entered the Chinese market since 2013. With its subversive innovative technology and marketing model, and the use of growth strategy and localization strategy, it has successfully occupied the high ground of the Chinese market of new energy vehicles, and its market share has been in the forefront for a long time. With the gradual intensification of competition in the new energy vehicle industry, Tesla is also facing new challenges. In order to further develop, Tesla should adopt a differentiated competitive strategy and a total cost leadership strategy in the middle and high-end market and the mass market respectively. In the differentiated competition strategy, we should build a unique value proposition, mainly in the product strength, technological

innovation advantage, business model and so on. In the total cost leading strategy, we should actively carry out strategic cooperation in the industry and rely on technological advantages to help cost control [2].

Reasons behind Chinese governments' support of Tesla:

Electric car industry is regarded as part of layout of economic transformation. Under such background setting, Chinese government introduces Tesla, providing domestic companies with chances to learn from its business scope and management model for sustainable development [3].

Tesla's challenges and solutions:

Tesla is faced with a series of problems such as policy and regulation uncertainty, local competition, consumer trust and after-sales service innovation. Through implementing corresponding marketing strategies including establishing brand image, constructing Gigafactory to expand market coverage and strengthening online sales, etc., Tesla achieved a series of success in the Chinese market, with its sales increased significantly in recent years [4].

Tesla's attempt in autonomous driving:

Tesla plans to launch fully autonomous driving (FSD) in China and Europe in the first quarter of 2025 but faces challenges such as data security, regulatory approvals, and technology adaptation. To address these issues, Tesla is partnering with Baidu Maps, building local data centers, and adjusting its pricing strategy. The success of FSD in China will depend on its actual performance and regulatory approval, which will significantly impact the competitive landscape of the intelligent driving market [5-7].

3. Analysis of basic facts

3.1 The overview of the development of China's electric car industry

Chinese intelligent new energy automobile industry is in a fierce competition. Significant changes are observed in technical parameters, configuration and pricing. Firstly, automobile enterprises lower prices in exchange for higher market share. Such trend starts from tesla in 2023 and is followed by an increasing number of companies, making the price war in 2024 even more intense. According to recent research, the effect of price reduction varies in different price segments. The incentives of price war in lower and middle price segments for consumers is limited and sometimes leads to losses. However, target consumers in price segment above 300,000 tend to respond more positively to price war due to their stronger purchasing power. Secondly, most new models have achieved configuration upgrades [8]. It is noticeable that the average range of electric cars increases from only 100 or 200 kilometers to more than 600, gradually rivalling fuel vehicles. Further-

more, ultra-fast charging architecture, full flat rear floor, spacious internal space, highly intelligent voice assistant make up for their poor performance in terms of driving range, charging speed, space size and vehicle-machine intelligence [9]. These developments, along with the unsatisfied performance of electric cars from traditional foreign brands, improve domestic brands' consumer recognition and make consumers include domestic brands in the initial menu when making purchasing decisions. Thirdly, it is clear that the key of the "second half" of the competition in Chinese electric vehicle market is intelligence, which maintains users' stickiness to the brand. With the in-depth and extensive development of urban-assisted driving technology, as well as the repeated dissemination of relevant leading car companies and owners, preference of high-class intelligent driving will be first established among consumers in first-tier cities and finally become a 'must include' for all consumers, bringing high pressure to car companies making little progress in related fields.

3.2 Current state of Tesla's development

Tesla's sale in China is growing fast and is able to support its global sales. In 2023, its sale greatly improved in China where model 3 started to be produced in the Gigafactory. Also, model Y is manufactured and delivered at the beginning of 2024, with an extremely low price causing a stir in the Chinese market. In 2023, Tesla sold a total of 140,000 electric cars in China, including 137,000 model 3. According to the market prediction, the productive capacity of Gigafactory in China is expected to reach 500,000 to 600,000 in meet the surge in orders of Model Y. Although based on the sales figures, the USA is still the greatest market of Tesla, its rapid increase in China and slowdown in USA improves China's possibility to surpass the USA and become Tesla's largest market worldwide. As an internationally renowned brand, Tesla is highly accepted in China. Known for its innovations in battery technology, autonomous driving and smart connectivity, Tesla successfully established a brand image of high-end technology frontier, attracting a large number of consumers seeking new technologies. In their mind, Tesla provides not only high-performance products, but also represents a lifestyle and value, which are in line with the expectations and needs of middle- and high-income consumers.

4. Description of Tesla's treatment in Chinese market

4.1 Market competition faced by Tesla

With the rapid rise of local electric car makers in China,

Tesla has faced intense pressure from local competitors. These local brands have a natural advantage in understanding the needs of local consumers, which allows them to better seize market opportunities. Meanwhile, some local companies have made remarkable progress in the field of electric vehicle technology. Their achievements, not only include breakthroughs in battery, but also with new developments in areas such as intelligent driving, making them strong competitors of Tesla and force Tesla to seek a right balance of competition and cooperation in its home market. Interestingly, the quick emergences of these brands partly result from Tesla's previous success in Chinese market, which has improved both Chinese consumers' acceptance and demand for electric cars. Tesla's main domestic competitors are BYD, NIO, Xpeng, Li Auto, all of these companies have launched successful models with good market response. BYD's self-developed blade battery has high safety and longer service life and its multi-functional DiLink intelligent networking system enhances user experience.

Also, it occupies 20 percent of Chinese electric vehicle market, which is an absolute advantage; NIO is popular with consumers due to its excellent service and innovative business model such as power change service; Li Auto's major productions are extended-range electric vehicles such as ONE and L9. These models solve the problem of driving range and are highly recognized by the market; Xpeng has advanced autonomous driving technology—XPILOT system equipped with laser radar as well as strong intelligence and networking capabilities, occupying an important position in China's intelligent electric vehicle market. In addition, the great market potential attracts foreign traditional car enterprises to join the scramble. Mercedes-Benz's series of models inherit the technical strength of the brand; E-tron series launched by Audi is competitive in the luxury car market; BMW and Volkswagen's electric cars are able to compete with Tesla in terms of price, performance and brand influence. Based on the above, it's not difficult to conclude that Tesla is facing technical challenges from other competitors—both domestic and international, traditional and new.

4.2 Chinese government's policy towards Tesla

Tesla enjoys unprecedented policy support in China. Since China's fuel vehicles start far behind the US and Japan, Chinese government pins its hope on electric cars and heavily subsidize domestic electric car companies. After about ten years of policy support, a domestic electric car industrial chain is initially formed. Introducing Tesla is to consolidate and expand this advantage. Chinese governments' embrace of Tesla can be significantly seen when

Tesla's Gigafactory is built in Shanghai. According to China's first automobile industrial policy, foreign companies can enter the Chinese market only by establishing joint ventures with foreign ownership less than 50 percent. However, in 2018, such limitation is canceled as part of further opening up policy, allowing Tesla to build the first wholly foreign-owned factory. In addition, after signing contract with the Chinese government, Tesla receives a steady stream of low-interest loans, land concession and vehicle purchase tax reduction, accelerating the completion of the factory and making Tesla more price competitive.

However, the uncertainty of laws and regulations also challenge Tesla. As the government continues to raise standards for electric vehicles, Tesla needs to constantly adapt to new regulatory standards to ensure that its products meet the latest environment requirements. In addition, since Chinese domestic electric car industry is in special stage from reliance on government support to fierce and brutal market competition, the Chinese government actively adjust policies to accommodate and promote this change. For example, the government halt the heavy subsidies for electric cars, the subsidized return policy make enterprises that lack the ability to innovate and cheat government subsidies cannot survive. Other domestic electric vehicle companies are forced to improve their own management and development ability to adapt to the consumer-led market since they have less or no subsidies to rely on. These developing competitors may put pressure on Tesla. The frequently changing policy requires Tesla to establish a flexible operating mechanism to remain competitive in the policy environment.

5 Further discussion

5.1 Reasons underlying Tesla's previous popularity and current delimita

The popularity of Tesla at the beginning and its recent challenges are well documented. Above all, Tesla's initial great success in China is a result of governments' various preferential policies. Government supports Tesla's development in China for two reasons. Firstly, the concept of electric cars responds to the international trend of environmental protection and encourage electric car industry can be seen as Chinese government's efforts to fulfill its commitment made to carbon neutrality and carbon peak at the UN General Assembly. Secondly, although domestic electric car chain is successfully established with governments' long-term subsidizing, there is still huge room for improvement. The government hopes the severe threat of Tesla can urge domestic companies to actively seek for

further development, learning from advanced technology, flexibly adjusting their business model and being more sensitive to market changes to seize the chances. Through these actions, these companies can ensure their survival in the competitive market and position themselves for long-term success and growth. In short, Tesla is supported because of electric cars' eco-friendly nature and its possible impact and incentive on the domestic electric vehicle industry.

However, Tesla's identity as a foreign enterprise started in United States raises Chinese governments' concern about state security, especially data security when comes to data collection of surroundings in FSD. As a result, Tesla faces more regulations from the Chinese government in certain fields, and such government interventions make Tesla's research and development less efficient. Take Tesla's FSD as example, since Tesla is unable to obtain much complete first-hand data in time, its algorithm training and update speed is affected and this probably attributes to greater longer development and production cycles. The negative effect of being a foreign business is not limited to more government restrictions, in fact, comparing to domestic companies, Tesla is less culturally adaptable. Domestic companies are more familiar with local consumers' demand, preferences and purchasing behaviors and can handle market changes more calmly than Tesla based on previous experiences. Comparing to them, Tesla is less sensitive to consumer needs and wants and less flexible when responding to the market changes. Tesla's lack of cultural adaptability also shows up in its public relations. For example, once, when consumers are protesting against its brake problem, without knowing that Chinese consumers expect companies to show a more empathy and respect when it comes to safety issues, Tesla chose to respond toughly, causing dissatisfaction among Chinese consumers. These inappropriate communication strategies has a negative effect in maintaining its brand image among consumers. Also, although Tesla enjoys higher brand recognition globally, it's supply chain is less stable than domestic companies and is thus unable to support a richer industrial chain and is forced to give up certain market segments, leaving them to competitors.

5.2 Future prospect

Since Tesla is currently moving to the 3.0 era, simply pursuing greater volume, market value and brand popularity are no longer only goal to achieve. Instead of chasing a faster development of original business, Tesla should embrace new ideas with higher potential returns, sacrificing the original high certainty of profitability. In addition, according to Tesla's recent financial news, both its sales

and share prices plunged, its revenue suffered a triple drop in the first quarter and recently cut 10 percent of staff. Regarding all these bad news, Tesla needs high potential value of AI narratives to ensure continuously significant capital investment and to maintain its stock price. Tesla needs to push FSD to land in China and the key of this aim is to obtain the regulatory approval from the government. Currently, the obvious standards are vehicle data security, user privacy, computing center localization procedures, pure visual model security, business model, etc. Through steady investment in research and development, Tesla has met several safety inspection requirements and has its driving ban lifted in China in 2024. However, given great trust by consumers, investors and the Chinese government, the landing of FSD in China is repeatedly delayed as the rest requirements are hard to satisfy on its own. For example, FSD needs to collect data of the surrounding, causing Chinese government's concern of data security. As a result, Tesla isn't entitled to map by itself, instead, the task should be delegated to a third party. Also, the USA restricts exports of Nvidia chips, obstructing the landing of FSD.

To solve these problems, Tesla should actively negotiate with companies like Nvidia or searching for substitutes. Also, the FSD still requires to be perfected to adapt to China's more complex and changing traffic condition and path. To manage this, Tesla need to build more data centers in China to manipulate the large number of data collected and exercise and improve algorithms. Time for data accumulation is still required. Tesla is trying its best to advertise their ideas to the public and the recent launch event is hold for this purpose. Many audiences are satisfied with the announcement of specific release timeline of cybercab and the clear plan for the next step of Tesla. According to Musk's speech, cybercab will be on the road before 2027. Before that, to train the algorithm, Tesla will test the existing driverless taxis system with Model Y and Model three in Texas and California, enhancing the techniques while waiting for the volume production of cybercab. However, due to the technical and other challenges we mentioned above, unsupervised-FSD is still unattainable. Combined with the unpredictable waiting time for approval, Musk choose to avoid giving out an exact launch time for driveless taxi, arousing doubts and leading to the fall in share price. Although this recent attempt is not comprehensively perfect, Elon Musk's confidence impresses consumers and investors, possibly contributing to more support and investment from the society.

Also, the idea of Gigafactory still works and worth a second try. The Chinese market is recovering after the epidemic, although people's enthusiasm for spending is partially waned due to the dismal employment situation,

the existing large number of middle and high income groups are still pursuing high-end products with advanced design as a part of their high quality life. The built of second Gigafactory possibly attracts mass social attention and thus reinforces its brand awareness. Tesla's increased popularity strengthens potential consumers preference of Tesla, such preference can be turned into real sales and slow or even ends Tesla's decrease in sales. Also, by localizing production and sourcing parts, Tesla is able to reduce costs of both production and logistics, making it a more cost-effective choice and attracting more bills in the context of consumption downgrade.

6. Conclusion

This paper is divided into three parts, separately focusing on Tesla's current development and treatment in China as well as factors behind these facts. This paper first analyse the current situation of the electric car industry in China and conclude that domestic electric cars is winning more and more trust from the consumer with price reduction and technological development as the most important two competitiveness. Then turning attention back to Tesla's own development. With great initial success resulted from low car price, the increasing sales in Chinese market is likely to replace the USA and be Tesla's major market globally. However, its sale decreases continuously from 2024, forcing it to fire 10 percent of employees. After that, the study focus on the competitors of Tesla in Chinese market. These powerful companies have their own representative car type in market segment and high-end technology developed from independent research. In addition, some traditional foreign companies join the market and launched their own products. All of these competitors imposes pressure on Tesla. Luckily, Tesla receives unprecedented support from the government including allowing Tesla to enter China as a fully oversea-funded enterprise and providing land concessions and mass loans during the construction of Gigafactory. Finally the article discusses the factors underlying the initial success of Tesla and its current dilemma. Two reliable explanations is that government support attributes to its popularity. However, its identity as a foreign company still brings a lot of inconvenience including more government intervention and inculturation. Possible future strategies are investing more in development of AI and building another one or even more Gigafactories to attract bills from potential consumers.

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