The Analysis of Tesla's Competitive Strategy for the Chinese Market

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Abstract: As the second-largest market, China brings huge economic profits to Tesla every year. However, as the increasing competition in the Chinese electric vehicle market, Tesla is facing a strong challenge from its rivals. Using a combination of theoretical models and questionnaires, the competitive strategies of Tesla in Chinese market have been investigated widely. The results show that, due to incomplete market understanding and a lack of brand awareness, Tesla is losing its competitive edge in China. Therefore, in order to improve the competitiveness, it is necessary for Tesla to adopt scientific pricing strategies that seeking help from Game Theory.

1. Introduction

Tesla, an electric vehicle brand originated from the United States in 2003, has become the most recognizable electric vehicle brand in the world. The rise of the electric vehicle market was spearheaded by Tesla for its good environmental performance and low fuel consumption. Tesla is changing the market in China too. In 2018, Tesla officially stepped into Chinese market by building factory in Shanghai, and widely occupied the Chinese market. According to Yu Guojun, compared with other electric vehicle brands in China, Tesla's market share is between 0.2% and 0.5% (2019). However, in recent years, Tesla is facing considerable challenge in China. A bevy of foreign and local vehicles car makers such as Audi and BMW, is also targeting at the electric vehicle market and actively producing electric cars, which pose a huge threat to the development of Tesla in the Chinese market.

A number of studies about competition pattern, market status, dilemmas and problems of electric vehicle brands have been conducted regarding the current development of Tesla in Chinese market. For example, Yu Guojun (2019) studied the benefits of Tesla's development in China and concluded that the development of Tesla in the Chinese market has created further economic and social benefits for the brand, which has important value to guide the development of Tesla. Ren Pengfei (2018) pointed out that in order to continuously strengthen Tesla's market position in the Chinese market, Tesla must actively adopt diversified competition strategies, such as price competition and talent competition. Yao Zhenyu (2016) analyzed Tesla's marketing strategy in the Chinese market, and proposed that only by actively mastering the local culture and fully analyzing the market development environment of new energy electric vehicles can Tesla be able to launch better business strategies. However, most of the studies are mainly qualitative, while quantitative researches through data collection are inadequate. Therefore, to address those problems, this paper summarizes the current competition pattern of the electric vehicle market and elaborates on the various competition issues that Tesla faces in its development in the Chinese market. Moreover, this paper analyzes Tesla's market competition strategy from the perspectives of price war, economies of scale, predatory pricing, and preventing other brands from entering, in order to provide certain guidance for Tesla's competition in the Chinese market. Furthermore, by collecting questionnaires from Tesla vehicle owner, this paper also proposes specific countermeasures from aspects such as changing business philosophy and optimizing competition strategies.

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2. Competitive Landscape of China's Electric Vehicle Market

2.1 Tesla's Main Competitors

Among all the products from Tesla's competitors, Jaguar I-pace, Audi E-tron, and Audi E-tron SUV have been seen a major challenge for Tesla and they all have strong performances. I-PACE has Jaguar's strongest intelligent all-aluminum body structure: the front and rear axles are equipped with high-density and energy-efficient coaxial permanent magnet dual motors, which accelerate for 4.8 seconds in 100 kilometers. Audi E-tron SUV can accelerate for 5.5 seconds per 100 kilometers with maximum speed of 200Km / h. Although it differs from the 4.3S and 250Km / h of the Model S P100D, Audi said it will launch a more powerful GT version. The Audi E-tron SUV's system output can reach 300kW (408PS) with peak torque of 664N • m and cruising range of 400Km, and it can accelerate to100 km/h within 5.7 seconds. Tesla differs from these electric vehicles in many ways. In terms of appearance, Tesla's design is more elegant, versatile, high-quality, and environmental friendly. In terms of market positioning, most electric car companies adopt an online + offline sales mode. Although Tesla is not the only company that offers online purchasing for customers, it is more attractive for the reasons that all models are purchased online and custom built. Tesla also targets at a different group of people with other brands too. Most tesla's competitors target at younger groups, while Tesla's target customers are middle-aged groups. Furthermore, the brand effects of cars such as Audi and BMW pose some threats to Tesla's marketing. For years, traditional European automobile companies such as Audi and BMW have dominated the Chinese luxury car market, and they are favored by Chinese people as a symbol of wealth and social status. However, Tesla just entered the Chinese market in 2008 and it has a long way to catch up.

2.2 Tesla Customer Satisfaction

To investigate the current customer satisfaction of Tesla in the Chinese market, a questionnaire survey was conducted during the study. The questionnaire consists of ten questions regarding the basic information of the respondents, the purchase experience of Tesla, and the satisfaction of the respondents with Tesla. The questionnaire was distributed on the questionnaire website (here is the URL), and 206 valid questionnaires were collected.

Table 1 Analysis of The Basic Situation of the Respondents

Social statistical variables		People	percentage(%)
gender	male	108	52.43
	female	98	47.57
age	<20 years old	39	18.93
	20-30 years old	106	51.46
	30-40 years old	53	25.73
	40-50 years old	8	3.88
	>50 years old	0	0.00
Education	primary school	65	31.55
	middle school	137	61.50
	college	4	1.94
	Bachelor and above	0	0.00
Purchase experience	has	100	53.4
	not	106	46.6

From Figure 1, 33% of the respondents expressed different degrees of satisfaction with Tesla's after-sales service, of which 12.5% respondents are "strongly satisfied" and 20.5% are "satisfied". The proportion of dissatisfaction with after-sales service was 20.8%, and the percent of "very dissatisfied" was 9.00%. Among 20-30 year-old respondents, more than half of them were not satisfied with Tesla's after-sales service. According to the results of the questionnaire survey, it can be concluded that many customers are not very satisfied with Tesla's after-sales service and Tesla still has a lot to improve.

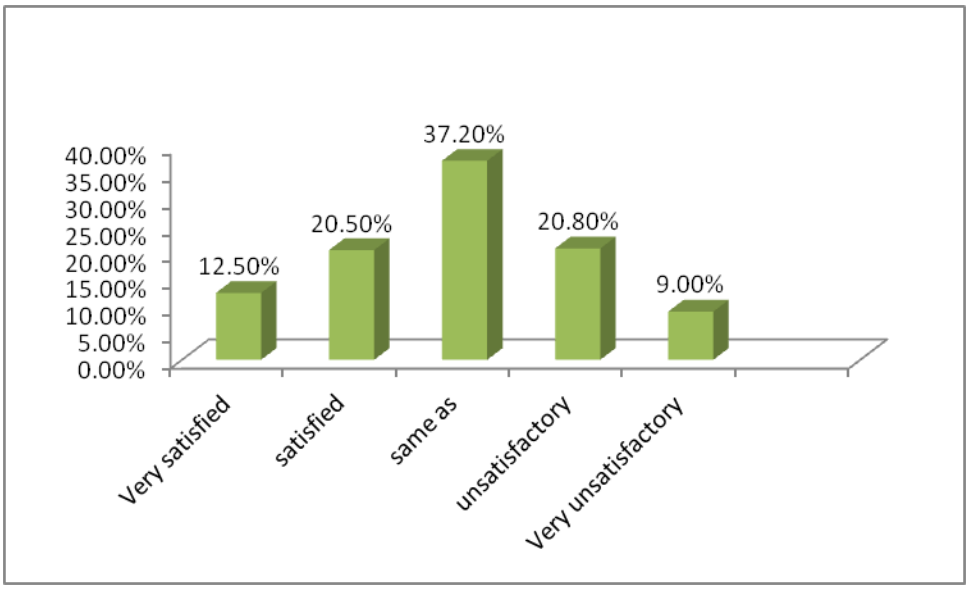

Fig.1 Consumer Satisfaction with Tesla's after Sales Service

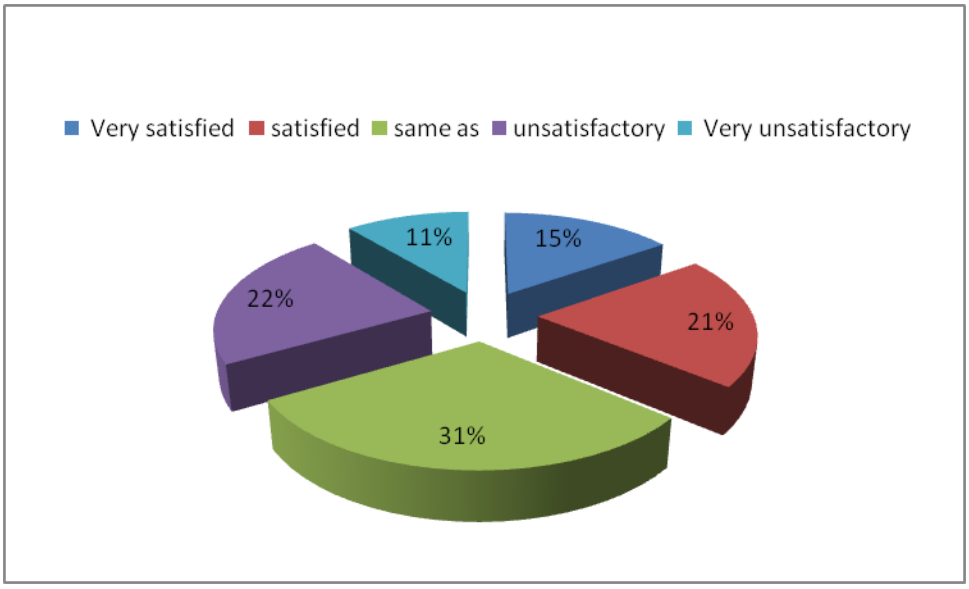

Fig.2 Survey of Tesla's Quality Satisfaction

Figure 2 shows the degree of satisfaction with Tesla's car quality. From the data collected, over 34% of respondents expressed dissatisfaction with the quality of Tesla products. And according to Bloomberg's research, 101 issues out of 100 cars sold were reported in February 2019 with most issues in the car's exterior. So the quality of Tesla products needs to be further improved.

Finally, an analysis about the price of Tesla was also proceeded in this research. The relevant statistics is shown below:

According to Figure 3, more than 20% of consumers are less satisfied with the price of Tesla, and Tesla definitely need to adopt different price strategies to attract more customer.

An analysis of Tesla's after-sales service satisfaction, products, and prices through random surveys shows that there are many more common problems. In particular, after-sales service, products, and prices need to be further improved.

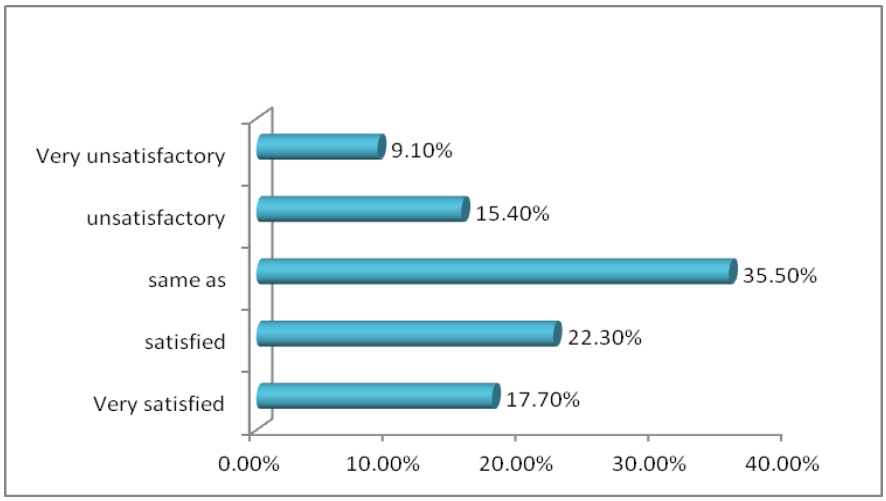

Fig.3 Survey of Tesla's Price Satisfaction

2.3 Development Status of China's New Energy Vehicle Market

Reducing the sales of gasoline-powered vehicles has gradually become a global trend. In China, the traditional energy cars has been issued the policy of environment positive and negative points since April 1st, 2018, while new energy vehicles onwards accounted for the positive and negative points since January 1st, 2019. The implementation of the double-point policy and the subsidy policy have stimulated the rapid development of new energy vehicles, making it an unavoidable hot trend in recent years.

In China, the yields and sales of new energy vehicles in 2018 were 1.27 million and 1.256 million respectively, of which pure electric vehicle production and sales still dominated the market, and plug-in hybrid vehicles and fuel cell vehicles have seen rapid growth (China Industry Research Institute, 2019) . With the continuous development of the new energy electric vehicle market, more companies have joined the competition and want to split the market for profit. With the gradual decrease of the subsidy of new energy vehicles, technology is forced to be upgraded in order to help auto companies improve their product competitiveness. The electric vehicle industry, which was completely driven by policies in the past, will gradually be driven by the market (Yu Guojun, Shen Yijia, 2019). Driven by subsidies, new energy vehicle sales have been very largely increased, from 0.36 million in 2015 to 126 million in 2018. And for 2019, the sales is about 160 to 170 million. Moreover, by 2020, the new energy vehicle sales will hit 200 million, which indicates that the industry's compound annual growth rate is about 40% (China Industry Research Institute, 2019).

As Figure 4 shown, Chinese new energy vehicle production has suffered a certain decline since 2018, and at January in 2019 reaching its peak production, and then declining again.

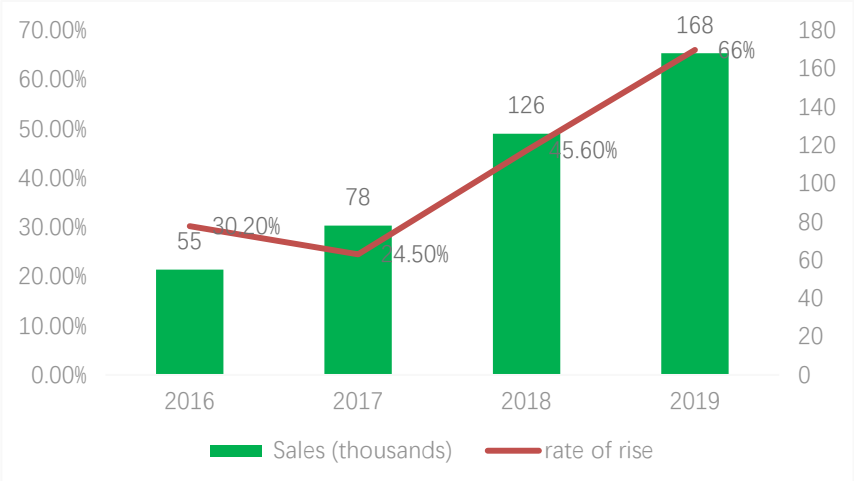

Fig.4 China's New Energy Vehicle Production and Growth Trend from June 2018 to June 2019

At present, from the perspective of production capacity, the output of China's new energy electric vehicles has clearly exceeded the sales volume. The current output of new energy electric vehicles such as Audi, BMW, Volkswagen, and Pentium is greater than sales. For example, in 2018 , the sales of new energy electric vehicles such as Audi, BMW, Volkswagen, and Pentium exceeded 200,000 in China . The output of new energy electric vehicles was 215,000 . Not good for the development of new energy electric vehicle industry.

At present, the number of companies in the Chinese new energy electric vehicle market is increasing. In addition to Tesla, Weilai, Xiaopeng and other new energy vehicle companies, Audi, BMW, Volkswagen, Pentium and other traditional automobile companies have also begun to produce new energy electric vehicles. 2018 Audi's new energy electric vehicle sales exceeded 5 million units, market share of more than 3 %.

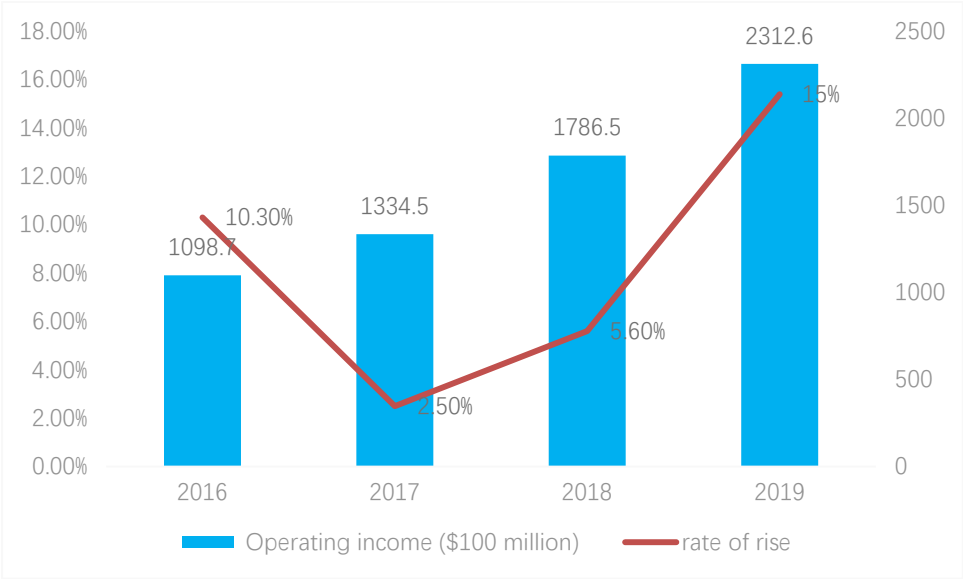

Fig.5 Income Situation of 37 Listed Companies in the New Energy Vehicle Industry Chain in the Second Quarter of 2019.

From Figure 5, it can be seen that in the quarter, China's new energy auto market is relatively favorable developments, and in the second quarter of 2019, the 37 listed companies' revenue situation optimism.

At present, the competition of the new energy electric vehicle market is relatively fierce. Since entering 2018 , the market development of China's new energy electric vehicles has begun to enter the oligopoly era, and a large numbers of market monopolies have occurred.

3. Entry and Blocking

3.1 Tesla's Experience in Successfully Entering the Chinese Market

Although under the background of modernization, Tesla's popularity and influence in the Chinese market are not great. But Tesla's ability to enter the Chinese market quickly has a close relationship with Tesla's market management experience. Tesla's main experience in choosing to enter the Chinese market is the dynamic observation of new energy vehicle policies in the Chinese market. It can closely integrate the changes in the policy of the new energy vehicle industry in China to change its management philosophy, and only grasp the goodness of the new energy policy. Time to enter the Chinese market.

3.2 How Tesla Prevents Potential Competitors from Entering the Industry

In applying the game strategy to prevent competitors, Tesla adopted excess production capacity, excess research and development technology, and predatory pricing. These methods are in line with the content of the game model. However, the application of these measures may cause Tesla's losses to increase and the board of directors to be dissatisfied, so it needs to be handled appropriately and

scientifically considered.

Tesla's success in entering the Chinese market is due to Tesla's scientific grasp of the Chinese new energy electric vehicle market and its analysis of new policies. Tesla has adopted some price strategies and product strategies to prevent potential competitors from entering the industry. Tesla operators are also good at applying game models, but in specific reality, there are still some differences between Tesla's current situation and model background assumptions. Therefore, according to the excess production capacity, excess R & D technology and predatory pricing methods adopted by Tesla, this paper conducts related research and analyzes the impact of these methods on Tesla. In the short term, these methods will not bring losses to Tesla or make the board unsatisfactory.

Although Tesla has many bad problems and defects in the development of the Chinese market, Tesla's good quality performance has caused it to generate a large number of consumer groups in the Chinese market. Therefore, in terms of the current development of new energy electric vehicles in China, most new energy electric vehicle brands cannot completely prevent Tesla from entering the Chinese market (Ren Pengfei, 2018).

4. The Main Problems Facing Tesla

Tesla has seen an increase in turnover in the development of the Chinese market, but the problem of insufficient market competitiveness remains widespread. In comparison, Tesla's competitive advantage in the US market is more prominent [3]. For example, in 2018, Tesla's turnover in the US market was 9,249 million US dollars, which is far more than the turnover in China. However, in the development of the Chinese market, Tesla still has many outstanding problems.

4.1 Market Share Needs to Be Improved

The background of overall electric vehicle overcapacity has had many adverse effects on the development of Tesla in the Chinese market. With the continuous support of the national new energy policy, many automakers and manufacturers are actively producing new energy electric vehicles. Tesla faces many competitors in the development of the Chinese market. Tesla needs strong market competitiveness to cope with the fierce market competition. Judging from the market share of 0.2 % -0.5 % , Tesla's development in the Chinese market is not optimistic, especially under the current fierce new energy electric vehicle market competition model, Tesla's market competitiveness is still relatively weak. Combining the following illustrations shows that the market structure of China's new energy electric vehicles is relatively scattered, and Tesla's market share is not high.

In 2018, Tesla's turnover showed a decreasing characteristic, and it also showed a negative year-on-year growth trend. In 2019, its sales have increased slightly. Therefore, it can be seen that Tesla's brand position in the Chinese market is not very strong, its turnover in the Chinese market is relatively volatile, and it has not yet formed a distinctive high-quality brand.

Table 2 Tesla's Turnover In China in Recent Years

years	2017	2018	2019
Turnover (US $ billion)	20.27	17.57	20.34
Year-on-year growth rate (%)	5.76 %	-15.4 %	11.3 %

4.2 Lack of Understanding of the Chinese Market

Under the background of increasing competition in the modern Chinese new energy electric vehicle industry, the important problem of overcapacity has emerged in the development of the new energy electric vehicle industry in China, and the problem of overcapacity is difficult to be solved scientifically for a while. However, Tesla has not yet closely analyzed the industry characteristics and competition of China's new energy electric vehicles in its development, and lacks a comprehensive and full understanding of the Chinese electric vehicle market. This directly affects Tesla's competitive advantage and is not conducive to its development in the Chinese electric

vehicle market. In terms of product strategy marketing, Tesla's new energy electric vehicle has a relatively poor grasp of Chinese local culture, and its understanding of Chinese mass consumer products is not very comprehensive and profound. It has not combined the different life cycles of the product to carry out diversified sales activity. For example, in the sales of the Chinese market, Tesla did not actively conduct various market research activities, resulting in a failure to fully understand the situation of new energy electric vehicles in the Chinese market. Insufficient understanding of target customers and customer group needs in Chinese marketing.

4.3 Current Price War Trends in China's New Energy Vehicle Market

In order to fully alleviate the problem of overcapacity of new energy electric vehicles, many new energy electric vehicles in China have begun to adopt price warfare strategies and want to attract consumers through price competition to increase their own sales. The price war can not only effectively alleviate the problem of overcapacity of new energy electric vehicles in the short term, but also promote the awareness and brand image of new energy electric vehicles. However, considering the market development characteristics of China's new energy electric vehicles, the price war is fiercely competitive. More and more new energy electric vehicle brands have joined the price competition. Companies such as Audi and BMW have also embarked on the price competition path. In order to promote the increase of new energy electric vehicle sales, Audi has adopted a low-cost sales strategy. In this case, many new energy electric vehicle brands may adopt a low-price competition strategy, which will affect the profit of new energy electric vehicles to a certain extent, and is not conducive to promoting the sustainable development of the new energy electric vehicle market. With the continuous development of China's new energy electric vehicle oligopoly layout, more and more oligopoly companies have adopted a price competition strategy, the purpose of which is to comprehensively monopolize the current new energy electric vehicle market.

4.4 Coping Strategies

Under the further advancement of competition strategy, Tesla also observed some phenomena and problems in China's new energy electric vehicle industry. Tesla has also begun to adopt a price competition strategy during its development. With the implementation of regional pricing-oriented, demand-oriented, cost-oriented pricing and other combined pricing strategies, Tesla has adopted a method of lowering prices in response to China's new energy electric vehicle market (Yan Yan, 2015). On January 3, 2020, the price of the domestic version of the Tesla Model 3 has reduced from 355, 800 to 323, 800 yuan. And after considering the subsidies, a car buyer can enjoy a price at 299,000 yuan. CITIC Securities (2019) believes that Tesla's product pricing system benchmarks BBA Mercedes-Benz, BMW, and Audi. With reference to Tesla's sales performance in North America and Europe, CITIC Securities in 2018 predicts that steady sales of Model 3 in China will More than 300,000 vehicles. The adjustment of new energy electric vehicle prices has become a core problem that more and more electric vehicle companies are facing in their development. Under such circumstances, how Tesla fully analyzed the market development of China's new energy electric vehicles to specify a good competitive strategy has also become an important challenge in the development of the Stella brand. In an environment where more and more electric vehicle companies have adopted a low-price competition strategy, Tesla has also actively adopted a low-price competition method in the development of the Chinese electric vehicle market to attract consumers by appropriately reducing the price of products. However, from the perspective of Tesla's reduced price range, it does not show very large changes in characteristics, and is still based on a cost-oriented basis.

5. Suggestions on Tesla's Market Competition Strategy

5.1 Suggest a Price of 250,000 Rmb for Model 3

From the perspective of demand curve elasticity, average cost, annual sales volume, and strategic pricing (price war) , Tesla's average cost is 132,000 yuan, and annual sales volume exceeds 250,000

vehicles. In the background, Chinese consumers have a greater demand for Tesla cars, so pricing at 250,000 yuan can ensure profit margins on the basis of enhancing price competitiveness. In order to meet the challenge of overcapacity and fully meet the market demand of Chinese consumers, Tesla can adopt a combination pricing strategy in its development. For example, the price positioning of Tesla's electric vehicles can start from demand-oriented pricing strategies and cost-oriented pricing strategies, and make price adjustments based on a full analysis of its own electric vehicle brand costs and the needs of the Chinese market. It is recommended that Model 3 be priced at 250,000 yuan, and actively observe the price positioning of other competitors in the same industry, which can give Tesla a good competitive advantage in the Chinese electric vehicle market. Under the background of the excess capacity of modern new energy electric vehicles, Tesla electric vehicles need to clearly define their own development direction and establish scientific price positioning plans and schemes [4].

5.2 Increasing Sales Guidance and Auto Finance

In the situation of overcapacity, in order to further promote the development of Tesla's electric vehicle development level, it is necessary to actively adopt auto finance sales strategies. By increasing the intensity of auto finance, more people can recognize Tesla, an important auto brand. Against the background of overcapacity, many new energy electric vehicle companies have experienced stagnant sales, and the sales of new energy electric vehicles have not been effectively increased. Tesla electric car in development to actively increase the auto finance sales efforts . For example, in the sales process, through financial preferential policies and strengthened guidance methods to give customers more purchasing space, ease customer purchase pressure and worries, and allow the application of financial preferential policies to open up a wider market for Tesla. (Yan Yan, 2015).

5.3 Regional Differential Pricing Will Be Launched after the Market Size Reaches 50%

Regional price discrimination can enhance Tesla's market competitiveness and allow Tesla to develop rapidly in different regional environments. At the current stage of Tesla's sales in China, its sales in Beijing, Shanghai, Shenzhen and other regions, that is, the sales market in coastal cities is relatively broad, while the sales in some other small and medium-sized cities lack a broad market. Even in the development of many central regions such as Wuhan and Zhengzhou, Tesla has not established a perfect sales market system [5]. For this situation, Tesla needs to appropriately change the Chinese sales market in the context of overcapacity and actively develop some immature markets. You can learn about the development of new energy electric vehicles through market research in some central regions, and then formulate a scientific market competition strategy. The application of regional differential pricing can promote the increase of sales in various regions, adopt low-price competition strategies in areas with weak economic levels, and appropriately increase prices in areas with good economic conditions while supporting financial preferential policies.

5.4 Dynamically Measuring the Elasticity of Market Demand and Applying Game Strategies for Market Planning

With the increasing competition in the Chinese new energy electric vehicle market, many requirements have been put forward for the decision of new energy electric vehicle companies. In order to continuously improve Tesla's competitiveness in the Chinese market, it is possible to conduct comprehensive market planning through the application of game strategies. For example, in the process of applying game strategies, the basic situation of competitors in the new energy electric vehicle market can be fully analyzed. Opponents analyzing and summarizing the advanced experience and ideas of other new energy electric vehicles can provide scientific ideas and reference for Tesla's competitive decision in the Chinese market, which will help to fully promote the development of the new energy electric vehicle market in China.

5.5 Simultaneously Adopt Three Major Strategies to Prevent Other Enterprises from Entering

Due to a growing number of competitors and challengers in China, Tesla's development in the Chinese market needs to raise the threshold for market access. Some common game and competition strategies can be adopted to prevent new enterprises from entering. For example, excess production capacity, excessive investment in research and development, and predatory pricing can better prevent new enterprises from entering. In the process of applying the predatory pricing strategy, Tesla can actively adopt a low-price competition strategy to attract consumers through very low prices, so that other companies cannot profit and exit, and eventually become a market monopoly. Although the exclusive profit is not very high in a short period of time, it will help promote the healthy development of Tesla from the perspective of long-term development.

6. Conclusion

In summary, as Tesla expanding its brand to overseas, especially to China, the challenges it faces have also increased. With the continuous development of China's new energy electric vehicle industry, the problem of overcapacity in the industry is gradually emerging. Tesla's sales also face many difficulties, especially many new energy electric vehicle companies have adopted low-price competition strategies, which has brought certain challenges for Tesla. In order to better comply with the market development trend of China's new energy electric vehicles, it was suggested that the price of Model 3 should not be over 250,000 yuan. Moreover, some strategies that based one game theory, such as sales guidance, auto finance, dynamic prediction of market demand and regional differential pricing should also be considered. These will be useful for the competition. Our research show that there is still a long way for Tesla to go in China.

References

[1] Yu Guojun, Shen Yunjia. Enlightenment from “Tesla to China” and “Amazon Retreat” [J]. Zhejiang Economy, 2019 (17): 60.

[2] Ren Pengfei. Research on Tesla's Development Strategy in China [D]. Shenzhen University, 2018.

[3] Yao Zhenyu. Research on Tesla Automobile Marketing Strategy [D]. Guangdong University of Finance and Economics, 2016.

[4] Huang Xuming. Research on the marketing strategy of Tesla Motors in China [D]. Changchun University of Science and Technology, 2016.

[5] Yan Yan. Research on the business model of new energy automobile enterprises in China [D]. Renmin University of China, 2015.

[6] Jaryna Eder,Pavol Szomolanyi, Martina Schmid-Schwap, Margit Bristela, Astrid Skolka, Elisabeth Pittschieler, Eva Piehslinger, Siegfried Trattnig. Early diagnosis of degenerative changes in the articular/fibrocartilaginous disc of the temporomandibular joint in patients with temporomandibular disorders using delayed gadolinium-enhanced MRI at 3 Tesla – preliminary results [J]. Magnetic Resonance Imaging, 2020,67.

[7] Jonas Bause,Jonathan R. Polimeni,Johannes Stelzer,Myung-Ho In,Philipp Ehses,Pablo Kraemer-Fernandez,Ali Aghaeifar,Eric Lacosse,Rolf Pohmann,Klaus Scheffler. Impact of prospective motion correction, distortion correction methods and large vein bias on the spatial accuracy of cortical laminar fMRI at 9.4 Tesla[J]. NeuroImage,2020,208.