Research on Opportunity Analysis and Competitive Strategy of Tesla in Exploring China's New Energy Vehicle Market: Based on PEST and SWOT models

Liangrui Ma[1, *], Jiayuan Meng[2]

[1]Department of management, Sheffield University, South Yorkshire, UK

[2]School of Coventry, Coventry University, Coventry City, UK

*Corresponding author: Lma23@sheffield.ac.uk

Abstract. New energy vehicles are one of the hottest topics today. As the international energy supply continues to be tight, the price of crude oil continues to rise and the global call for environmental protection grows louder, more and more attention is being paid to the technological development and industrialization of new energy vehicles. The rapid development of new energy vehicles has brought about significant changes to the world's transportation landscape. Over the past period, Tesla has adopted the right strategy and the global market and the Chinese market have both shown good development. This paper takes Tesla as an example and analyses its opportunities and competitive strategies for developing the new energy vehicle market in China. Secondly, the PEST and SWOT model data are analyzed. The results find that Tesla has both strengths and weaknesses in the Chinese market and that improvements are needed in some specific areas to complement its strengths and weaknesses.

Keywords: SWOT; PESTEL; New energy vehicles

1. Introduction

Tesla has successfully become the world's largest new energy vehicle brand as the car brand with the largest proportion of China's new energy vehicle sector. The development of new energy vehicles, particularly electric cars, is a national plan and a strategic pillar for the automotive industry's transformation, upgrading, and development. The capacity to innovate independently is at the heart of industrial policy. Tesla's initiative provides a major strategic opportunity for China's electric car sector to attain self-sufficiency. On the one hand, China's electric car market must completely consume and absorb the worldwide sophisticated technology given by Tesla's open source. However, it is also an excellent chance to aggressively promote the open-source mechanism.

China's new energy vehicle industry started late, but has developed rapidly under the leadership and supervision of national policy and is now the world's largest new energy vehicle market. According to figures provided by the China Association of Automobile Manufacturers (CAAM), the annual sales volume of new energy vehicles in China in 2011 was only 0.82%. According to figures released by the China Association of Automobile Manufacturers, China's overall vehicle sales in 2011 were 1,850.51 million units, while sales of new energy vehicles were only 0.82 million units. According to figures provided by the China Association of Automobile Manufacturers, China's overall vehicle sales in 2011 were 1,850.51 million units, while sales of new energy vehicles were only 82 million units. In the last decade, China's new energy vehicle sector has gradually grown, ushering in an explosive period of development, with new energy vehicle sales set to reach 120 million units by 2019. Sales of new energy vehicles were 1.206 million units. By 2019, sales of new energy vehicles have reached 1.206 million units. China's new energy vehicle market has a lot of room for growth. However, consumers have many questions regarding the choice of Tesla and new energy vehicle cars in China. This study analyses the achievements and impact of Tesla in the Chinese market based on PEST and SWOT survey data, attempting to place consumer buying trends and Tesla's social hotspots under the scrutiny of objective data. This study refines the generalized data analysis and case studies, internal causes, and external causes to examine the methodological details.

2. Literature Review

Tesla has set three market goals. The first market target is China. As the world's largest market, Tesla needs to expand its market share in China. With the rapid development of China's economy, environmental protection has become increasingly prominent and important. New energy can play an important role in environmental protection. The government supports the development of a new energy industry, which makes the development of the lithium-ion battery industry in China mature gradually. These provide policy and technical space for Tesla to expand its market in China. Second, Tesla needs to maintain its independence in the industry because China requires foreign automakers to establish joint ventures with Chinese manufacturers. When foreign brands enter foreign markets to compete with local enterprises, local governments often obstruct and restrict foreign enterprises to protect domestic enterprises.

Third, Tesla needs to protect the intellectual property of its electric vehicles. New energy vehicles belong to the high-tech industry and involve a lot of technology applications. Tesla, as a company relying on high-tech development, attaches great importance to the protection of intellectual property rights. Tesla officially entered the Chinese market at the end of 2013. Over the past nine years, Tesla has continuously expanded its investment in China and its products have entered thousands of households. The development of Tesla in China has become an excellent example of China's opening up to the outside world. Tesla is committed to accelerating the sustainable development of talent. Over 99.9% of the employees at Tesla's Shanghai factory are Chinese. Tesla has currently developed a talent pool spanning the whole industrial chain from frontline operators to cutting-edge technical skills and managerial talent in the new energy business. Tesla's rapid development in China cannot be achieved without a favorable business environment The expansion of high-level openness, the optimization of the business environment, and the improvement of industrial supporting infrastructure also become indispensable parts of attracting foreign investment. China is the first country outside the US where Tesla has set up a Superfactory. The Shanghai Superfactory is Tesla's global export center, serving as our most important capacity backstop with unparalleled efficiency. At the same time, the strong consumer demand for high-quality electric vehicles in China has made the country one of Tesla's most promising target markets for growth. The Shanghai R&D and Innovation Center is Tesla's first automotive research and development research-based R&D center outside of the US, including software, hardware, electronics, materials, power, and energy engineering teams. It represents our commitment to further localization and the recognition and emphasis on China's talent resources. At present, China has implemented a slew of rules to spur the growth of the new energy vehicle sector. In terms of charging infrastructure, the government continues to encourage the industry's growth. In particular, the Ministry of Transport recently announced the acceleration of the construction of charging infrastructure along highways, which will have a positive effect on the rapid development of the industry.

3. Case description

Martin Eberhard and Mark Tapenning founded Tesla in July 2003. Elon Musk led Tesla's Series A funding round in 2004 and became the company's chairman. Tesla has become the world's leading electric car company after 16 years of development since Musk led the company today. Currently, Tesla's primary business is the production, manufacturing, and sales of high-performance pure electric vehicles, solar power generation, and energy storage products. There are three stages to Tesla's development [1].

The first phase was to begin construction. From 2003 to 2011, Musk built a high-end, niche model and released the first Roadster sports car in 2008, but it cost $120,000, therefore Musk raised the price from $100,000 to 110 during the launch. 000 dollars. To keep costs down, Musk started looking for investments and secured strategic investments from Daimler and Toyota. In 2009, it received a $465 million loan from the U.S. Department of Energy. And buyers can get a tax credit with the help of the state of California. Tesla successfully went public on Nasdaq in June 2010.

The second phase is the growth phase of Tesla. Model S accessories include four-wheel drive, luxury models with dual motor engines and autopilot, and OTA systems. Tesla started selling the Model S in 2012. Tesla's sales soared as a result of the car's successful delivery, and the business was able to generate a profit in the first quarter of 2013. Tesla established a "Gigafactory" in Nevada and partnered strategically with Panasonic, with the Nevada facility producing the powertrains and Panasonic contributing battery technology. In September 2015, Tesla began taking delivery of the Model X, an SUV model designed to enter the SUV market, with pricing still held at the sales price of a luxury model. offer clean energy solutions like the Powerwall and solar roofs, Tesla bought Solar City, a US provider of solar power systems, in 2016. The only vertically integrated energy company in the world will suffer as a result of turning around Tesla.

The third phase is Tesla's development phase, which is mainly reflected in Tesla entering the Chinese market to expand its market share. Tesla began delivering the Model 3 in 2017 and it proved to be a success due to its cost-benefit advantages, but production difficulties led Tesla to temporarily build a different production line. With the mass production and closing of Model 3, Tesla's revenue has grown by leaps and bounds, and its net profit loss has been greatly reduced, reaching $21.461 billion in revenue in 2018. Tesla entered the Chinese market in May 2018 and will set up a plant in Shanghai in 2019. The Model 3, which began production in China in 2020, was officially launched in China and Musk announced the production of the new Model Y that year. In 2022, Tesla produced delivered more than 930,000 vehicles, an increase of more than 400,000 vehicles each [2].

Tesla sold 83,135 vehicles in September 2022, up 8.02 percent month-over-month and 48.44 percent year-over-year, breaking the previous record set in June. The Tesla plant was forced to shut down for 22 days in April 2022 due to Covid-19 before resuming full production in June 2022. Expected delivery times for the Model 3 and Model Y were cut by six weeks after a capacity at Tesla's Shanghai factory in July 2022.

4. Industry

4.1 Pestel Analysis

4.1.1 Political Environment

Politically, China's current economic policy is focused on environmental protection. In this context, many local governments have issued favorable policies for electric vehicles. Most importantly, the Chinese government subsidizes consumers when they buy new energy vehicles. But as a foreign car brand, Tesla buyers can't enjoy the preferential policies, because of this, the political factors for Tesla motors, rather than benefit, on the contrary, will due to the policy of tilt of the domestic electric car brand market share of Tesla motors caused by direct [3]. A good political environment has a positive impact on the development of the company

4.1.2 Economic Environment

In the macro environment, the market economy has a certain impact on the development of electric vehicles, which is mainly reflected in the income level and consumption level. As a luxury electric vehicle brand, Tesla has strict requirements for the consumption level of buyers. That imposes higher monetary costs on consumers [3]

4.1.3 Social Environment

From a social perspective, Tesla motors are unique. Because of Tesla’s precise market positioning, the concept of luxury electric vehicles has gained popularity among Chinese consumers. Tesla’s correct judgment on Chinese consumption and social culture has made it realize profit maximization. At present, people pay more and more attention to environmental protection. Tesla’s unique new energy technology is also in line with the concept of sustainable development by Chinese consumers. This has played a positive role in Tesla's development [4].

4.1.4 Technological Environment

Now Tesla's production technology is very mature, which gives it a great advantage in the competition with local Chinese enterprises. The primary factor in Tesla's success against other local enterprises is its advanced technology. In addition, Tesla's production technology is also constantly improving, which is one of the important factors for it to occupy a large market share [3,4].

4.1.5 Ecological Environment

In terms of ecology, the current attitude of the Chinese auto market towards ecological factors is very favorable to Tesla. Tesla has achieved great success in ecological factors because it supported expanding environmental plans and its attitude toward controlling the use of resources [5].

4.1.6 Legal Environment

According to the survey, Tesla has nearly 700 patents, most of which focus on the core technology of electric vehicles. As the electric vehicle industry leader, Tesla has been in the leading position in technology for a long time. However, Tesla voluntarily opened up patents related to electric vehicles, which has played a huge role in the development of the electric vehicle industry. It also means that Chinese electric car brands can also produce cars to compete with Tesla through the company's published patents. That's not good for Tesla cars in China [6].

4.2 SWOT Analysis

4.2.1 Strength

Tesla has many advantages in the Chinese market. First, Tesla mainly promotes luxury electric cars. Tesla's brand value makes many people follow suit to buy. Due to Tesla's early innovation, meeting customers' demands, and continuously highlighting its characteristics, Tesla has occupied a huge share of China's electric vehicle market for a long time and exerted a monopoly influence on the Chinese market. Second, Tesla as the biggest market share brand of electric cars, in a near-monopoly position, has natural advantages in competition with other brands because of its precise positioning in the market, it avoids Nissan, Toyota, and Honda, such as cheap electric car brand competition, making the Tesla after entering the Chinese market has been monopoly high-end electric car market, In the fourth quarter of 2020, Tesla delivered 180,570 electric vehicles and produced 179,757 vehicles, up from the third quarter. Third, as a high-tech enterprise, Tesla's attitude towards talent training and employment is quite different from other enterprises. Tesla's generous treatment of employees enables employees to feel a strong sense of belongings in the company. As a high-tech company that constantly innovates, Tesla encourages employees to have a forward-thinking spirit. This can improve employee retention. Fourthly, Tesla reduces costs by selling cars directly to customers. With the direct distribution mode, Tesla does not need to pay fees to dealers.[15]

4.2.2 Weakness

The downside of Tesla is that it doesn't have enough internal components to meet customer demand. Tesla has far fewer production centers than larger manufacturers, limiting its quantities of production. In 2020, Tesla delivered 499,550 vehicles, but its stated goal is 500,000 vehicles (NBC) Second, Tesla's battery supply channel is single, resulting in the lack of batteries in Tesla's production process, which affects productivity. Second, the level of Tesla's customer service is lower than the industry standards. Since consumers pay a lot of attention to the purchase process when buying a car, Tesla is unable to provide a positive consumer experience. Third, Tesla is too dependent on its founder, Elon Musk. Buyers and potential buyers often subconsciously associate Tesla with Musk, making Tesla, in some sense, synonymous with Musk. Fourth, as a luxury carmaker, Tesla has positioned itself in a niche, limited consumer group. In the Chinese market, most consumers who buy electric cars mainly buy them to save on commuting costs, which means their high price prevents many from buying them.

4.2.3 Opportunities

In terms of opportunities, first, Tesla has only one manufacturing project to produce cars, severely limiting its productivity. Therefore, Tesla is investing in a new concept called the Superfactory, which will help it meet the growing market demand and increase market penetration. Second, Tesla's success in China allows it to eventually expand throughout Asia, where there are billions of prospective buyers. Tesla has unique advantages to strengthen its position in the Asian market. Third, Tesla can expand its sales range by lowering the price or producing products, and enter more markets.

4.2.4 Threat

Tesla is facing challenges from a large number of local auto companies in China, such as NIO and Huawei. These local enterprises not only have the advantage of cultural background but also have more favorable policy support. Also, the quality of Tesla auto parts has always been a top concern for consumers. Due to the quality problems, a large number of accidents occurred, resulting in a lot of negative news about Tesla in China's auto market, which reduced the consumption desire of buyers.

5. Suggestions and Discussions

Substantial delivery volume to protect the lower limit of revenue, cost reduction, and cost control efforts, bringing the company's profit side exceeded expectations, financial perspective quarter by quarter to verify the logic of the company's double rise in volume and profit, the excellent company is to have the characteristics of sustained beyond the optimistic expectations of the market.

Unique consumer group. As a premium pure electric car, Tesla's original target group is a specific group of people who focus on things other than money, such as the experience of the vehicle and fascination with new technology. There is little substitutability. The value of the future electric car is not only in the performance of the vehicle but also in the software that accompanies it. Tesla's core competence lies in its excessive use of digital and internet technology, which has kept it at the forefront of technology in the industry. Tesla's lack of production capacity. Tesla has always suffered from a lack of supply, and even though Tesla has established a super factory in Shanghai, its production is still far from meeting consumer demand compared to other brands of new energy vehicles, which is a direct result of the usually low bargaining power of consumers willing to buy the brand. Impact of direct sales channels. Tesla uses a direct sales model. This allows the product to be sold with fewer intermediate channels and the absence of distributors allows prices to remain stable and consumers are unable to bargain, resulting in less bargaining power. Tesla, therefore, has strong bargaining power vis-à-vis the purchaser. Due to the specificity of the Chinese market, Tesla will not only face competition with emerging domestic new energy vehicle brands in China but also from traditional car brands. The pressure Tesla faces is mainly manifested in those aspects.1. Increased competition for corporate resources in the industry. Because of the current industrial policy and market environment, and the concept of environmental protection, major automotive companies will continue to increase their investment in the field of new energy vehicles in the future, constantly increasing their production capacity and improving their scale.2. Increased competition in the market may lead to the opening of corresponding price wars. As more and more new energy vehicles come to market, competition in the domestic new energy vehicle market has intensified. When Tesla launches its mid- to low-end product, the Model 3 series in China, other domestic brands may start to reduce the selling price of their products because they feel competitive pressure. According to the case study, Tesla firstly needs to improve the technological innovation of its batteries, as the capacity of the batteries is the guarantee of the range of the electric car. Secondly, Tesla cannot only focus on the high-end market but also develop the middle and low-end market, which is more conducive to gaining an advantage in the competition with local Chinese companies. Thirdly, Tesla built a super factory in 2021, which greatly satisfies Tesla's production needs. In the future, Tesla should continue to expand its production line to meet the market demand for its products. Fifth, due to the frequent safety accidents of Tesla cars in recent years, Tesla needs to continue to innovate its technology and

protection measures, as only safer security can attract more consumers to buy. Finally, Tesla should continue to protect its product patents. While the disclosure of all patents has a great positive effect on the development of the automotive industry, keeping profits up is still an important factor in the long-term development of a company. Opening up patents to the public would make Tesla less competitive and allow more electric car brands to compete with it.

6. Conclusion

The focus of this article is to analyze the marketing model of new energy vehicles adopted by Tesla Motors, through the analysis of its products, prices, channels, and promotion strategies. The development of new energy vehicles has been driven by the times and the market environment, and in the context of the objective needs of the environment and the development of the times, new energy has become the focus of future energy transformation. However, although new energy vehicles have emerged early, they have not made any breakthroughs in the early technological development process and lack deep R&D accumulation and technological experience. Based on SWOT and PESTEL analysis, this paper finds that Tesla has both strengths and weaknesses in the Chinese market, and needs to make improvements in some specific areas to compensate for its strengths and weaknesses. Due to the unique policy environment and consumer habits of the Chinese car market, Tesla cars have not been able to achieve the expected results so far, and sales have even been in a quagmire for a while. Models that cater to the interests of Chinese consumers will need to be created first to succeed in this market. In addition, Tesla will likely continue to build factories in China to enhance local manufacturing and serve consumers of all consumption levels while increasing production efficiency. Secondly, as Chinese consumers are accustomed to buying online, Tesla may partner with regional online retailers such as Jingdong and Alibaba. These online shopping sites could broaden Tesla's market and adapt to customers' payment preferences. Third, Tesla must make the price of its cars clear so that customers can more easily understand the pricing strategy and accept the price. Therefore, Tesla needs to achieve these subjective factors and complement its strengths to be more sustainable in the Chinese new energy vehicle market.

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