

# Research On Influencing Factors and Optimization Countermeasures of Tesla Performance in The Context of Epidemic

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**Abstract:** The arrival of COVID-19 has brought more or less impact on large and small enterprises worldwide, and new energy vehicles, which have attracted much attention in recent years, are no exception. By analyzing industry data before, during, and after COVID-19, this report takes Tesla as an example to analyze the development of the energy vehicle industry at present and in the next few years and its commercial and social value. This report uses literature analysis to sort out the opinions of other scholars and then takes Tesla as an example to analyze it using a case study, Comparative analysis method, and Instrumental analysis to understand its sales situation. Through the research, we find that Tesla's market share has fluctuated, but its profitability has been increasing. On the whole, Tesla is in a leading position. However, its operating income has been negative due to its operational cost overruns. We have conducted a series of analyses on Target market deciding, Product strategy, and Marketing strategy, believing that Tesla should Target consumers with high technical requirements and strong economic capacity and focus on capturing the middle and high-end market. In addition, Tesla can completely avoid the tradeoff between quality and marketing, and it does not need to consider reducing production costs to formulate marketing strategies.

## 1. Introduction

### 1.1 Research background

Energy vehicles are one of the industries attracting great attention in 2021. With the subversive driving methods, innovative technologies, and environmentally friendly ideas, large technology companies and government departments expect and support the industry. This report analyzes the industry's data in the three stages before, during and after the COVID-19 epidemic to analyze the commercial development of the energy vehicle industry at the present stage and in the next five years, as well as the commercial social value it brings.

According to Roth, a senior professional data analyst on IBISWorld, he concludes that energy vehicles generated \$14,214 million in revenue in 2020 and has generated \$17,518 million in 2021 [1]. Moreover, based on his analysis, he also predicts that over the next five years, industry revenue will grow by 10 percent year over year, reaching \$29,615 million in total industry revenue by 2026 [1].

Despite the impact of the pandemic, industry revenues for energy vehicles were slightly lower in 2020 due to supply chain disruptions, such as chip shortages. However, the industry will grow significantly in 2021 as the economy recovers and US factories reopen to address supply chain issues. In the next five years to 2026, with environmental concerns worldwide, especially in the United States, the energy vehicle industry will see significant growth.

### 1.2 Literature review

Wang and Xu found that due to the COVID-19 pandemic, the global economy is downward, leading to a continuous decline in household disposable income. It inevitably leads consumers to reduce

purchases of items with high consumption expenditure as cars [2]. Liu et al. found that Tesla chooses the mode of online direct sales and offline self-operated experience stores to eliminate the conflicts of interest between OEMs and 4S stores [3]. Wu analyzed that by analyzing the results of Tesla published by many companies over the past few years, the brand competition level of Tesla is gradually increasing, which is ultimately beneficial to the development of Tesla [4]. Wang proposed that Tesla owes its success to the external macro-environment: the era background of energy scarcity and global implementation of low-carbon environmental protection and green concept. Moreover, it benefits from its advanced design concept, innovative research and precision, and rational international strategy [5]. Zhu, Ge and Pan found that in the first half of 2020, the production and sales of new energy vehicles in China decreased by 36.5% and 37.4% year-on-year due to the impact of the epidemic, such as restricted travel, reduced income and delayed production of some enterprises in the industrial chain [6].

Most scholars studied the current situation and development of the new energy vehicle industry from a macro perspective by taking Tesla as an example or studied Tesla's advantages and disadvantages as well as its external environment and challenges. Some scholars also studied the impact of the new energy vehicle industry under the COVID-19 pandemic and the government's new policies on consumers' purchase of new energy vehicles. But very little research has been done on the impact of COVID-19 on Tesla.

### **1.3 Research framework**

This report first illustrates the development of the energy vehicle industry in the US market by introducing the revenue data before, during, and after the epidemic. Second, this report uses Tesla, an energy vehicle company that stands out in the industry, as a specific example to analyze its development as an industry leader at the present stage and in the next five years, including its commercial value and social value of creation. Third, this report will compare the energy vehicle industry in China and the United States to analyze the industry's development prospects in different markets and under government regulation. Finally, this report puts forward some bold and constructive suggestions for Tesla by summarizing the problems found in the above research and corresponding solutions.

## **2. Ease of Use**

### **2.1 Literature analysis method**

Literature research methodology is to read through, analyze, and sort literature to identify the essential attribute of materials. Its significant difference from other methods is that it does not directly deal with the object under study but indirectly access information from various kinds of literature, which is generally referred to as the "non-contact method". Literature materials are the crystallization of wisdom, are the ocean of knowledge, have important values for human society, history, culture, and research scholars [7].

Searching the Chinese National Knowledge Infrastructure, IBISWorld, and WanDang data, we get the Tesla's annual report and some related industry data to further research.

### **2.2 Case study**

When researching the marketing strategy of new energy vehicles, a certain Tesla 4S store of new energy vehicles was selected as a practical case through the case study method. Analyze actual cases to enable us to gain better insights into marketing strategies under the COVID-19 pandemic.

### **2.3 Comparative analysis method**

Comparative research, simply put, is the act of comparing two or more things to discover something about one or all of the things being compared. This technique often utilizes multiple disciplines in one study. Through the vertical comparison of Tesla's fiscal year 2020-2021 annual statement with the

fiscal year 2019-2020 annual statement, the impact of the epidemic on Tesla's energy vehicle sales will be concluded.

## 2.4 Instrumental analysis

### (1) PEST analysis method

PEST analysis is an analysis model of the factors affecting the macro-environment of a company, which can analyze the company's macro-environment well. P is Politics, E is Economy, S is Society, and T is Technology. These factors are the external environment in which the company is located and are generally not controlled. These factors are also jokingly called "pests" (harmful substances) [8]. So, to analyze the background of Tesla's business, we use these four factors to analyze the competition and opportunities that Tesla faces.

### (2) Porter's Five Forces Model

Porter's Five Forces is a model that identifies and analyzes five competitive forces that shape every industry and helps determine an industry's weaknesses and strengths. Five Forces analysis is frequently used to identify an industry's structure to determine corporate strategy.

Any corporate activities and projects will involve the content of corporate planning, which is always related to the company's future development. Therefore, we need to use the Porter Five Forces model to scientifically and effectively conduct strategic analysis and make a "winning" decision. Simultaneously, Porter's five forces model can help us analyze changes in Tesla's energy vehicle sales, upstream and downstream, and its competitors before and after the COVID-19 pandemic.



Figure 1. Porter's Five Forces Model(from Baidu)

## 3. Result

### 3.1 Current situation of new energy vehicles

In the post-epidemic era, the development status and trend of the energy vehicle industry are mainly affected by three reasons. First, world crude oil prices are expected to rise in 2021 (Roth, 2021), forming a trend of higher prices, which is a potential opportunity for energy vehicles powered by cheaper electricity. As crude oil prices rise due to the global economic recession caused by the epidemic, energy vehicles will receive more attention and favor in 2021 than in previous years. According to the data from IBISWorld, the industry's revenue in 2021 will increase by 23.24% compared with 2020. This suggests that given rising oil prices and cheap electricity, the industry will win in the future. Second, tax credits for energy efficiency implemented by governments worldwide will also benefit the energy vehicle industry in the post-pandemic era. Although the government and different energy vehicle brands put forward different tax incentive policies, they have actively increased consumers' desire to buy and improve energy vehicles' cost performance to varying degrees. Third, the demand for automobiles in the post-epidemic era has risen sharply compared with that in 2020, directly driving the development of the energy automobile industry. Roth mentions in the report that the global industry demand for energy vehicles will increase by 8.45% in 2021 compared to 2020. These demand increases come as most countries and governments start economic recovery programs.

More factories return to operation and solve supply chain problems that are short of chips for energy vehicles. In addition, with the spread of vaccines, consumers returned to normal social life rather than quarantining at home, leading to increased demand for cars. Combined with the above three factors, energy vehicles will attract new opportunities in the post-epidemic era. Subsidies, low fuel prices, and rising consumer demand are spurring the industry's growth. According to these trends, Roth pointed out that "industry revenue is expected to rise, growing at an annualized rate of 11.1% to \$29.6 billion over the five years to 2026".

However, the energy vehicle industry is also facing resistance at this stage of development. Consumer confidence is one of the potential threats to the industry's revenue decline. Roth points out that consumer sentiment plays a decisive role in industry demand. Because of the epidemic's impact, consumers' overall income is lower than in previous years, leading to lower consumption desire, which is not good for automakers. In addition, Roth predicts that consumer confidence will continue to decline in 2021. Therefore, while the supply chain for energy vehicles is likely to recover in the second half of 2021, consumer confidence may make that recovery futile.

### 3.2 Tesla performance analysis

#### (1) Tesla Company Profile

Tesla is an American company focused on energy and new energy vehicle manufacturing. The company is both a car company and a technology company, selling electric cars and solar panels, solar roof tiles, battery storage, and other related products. Founded in 2003, with the vision of "accelerating the global transformation to sustainable energy", Tesla strives to provide affordable new energy vehicles for ordinary consumers. Until today, Tesla has become the leader in the new energy vehicle industry. It has built and successfully operated the Shanghai Gigafactory and established Giga Berlin and Giga Texas in the past two years.

#### (2) Tesla's performance during the COVID-19 pandemic

The global economic downturn caused by the outbreak in 2020 has more or less affected all industries. The new energy vehicle industry involves many related industries, such as materials, machinery and so on. In the first half of 2020, Tesla's production facilities were suspended due to the epidemic. Meanwhile, residents' travel was restricted, and their disposable income declined. As a result, consumers' willingness to consume high-spending items such as automobiles decreased, making Tesla's profitability more difficult.

The following is an analysis of Tesla's performance under the COVID-19 epidemic based on its financial data in recent years.

The chart below shows Tesla's market share from 2017 to 2021.

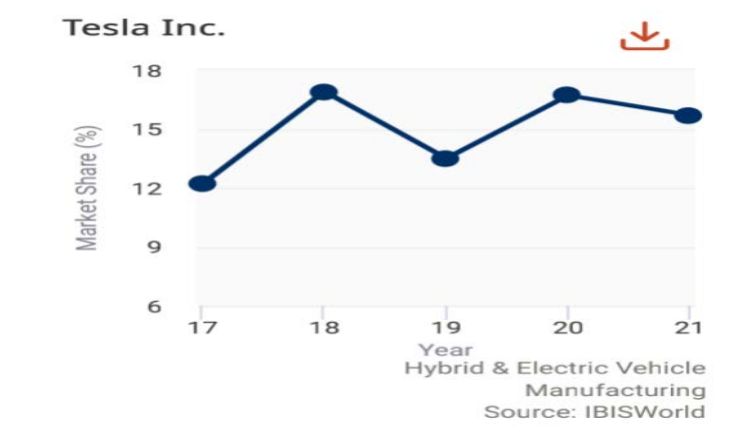


Figure 2. Market share (from IBISWorld)[1]

As Figure 2 shows, Tesla's market share has been fluctuating. In 2021, the market share will reach 15.7%. Compared with the industry, this value is very considerable, indicating that Tesla is in a leading position in new energy vehicles.

The following figure shows the ROA and ROE from 2017 to the second quarter of 2021 as reported in Tesla's financial statements. ROA represents the rate of return on an asset which measures profit per dollar of assets. Net income divided by total assets can calculate it. ROE is the rate of return on equity which measures how shareholders fared during the year. ROE is equal to the net income divided by equity.

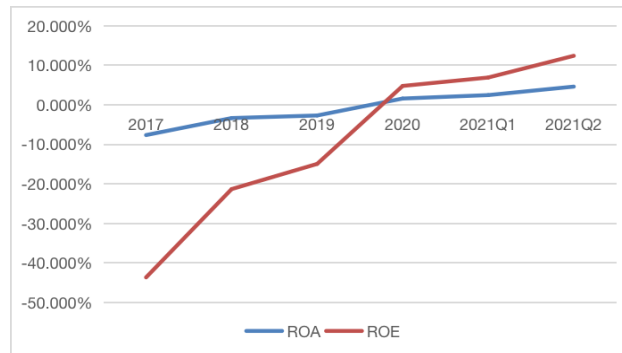


Figure 3. ROA and ROE

The higher the ROA and ROE are, the higher the profitability of the company and the better the business status. From the figure, we can see that both ROA and ROE have been rising since 2017, indicating that Tesla's profitability is improving. By 2020, both ROA and ROE turned negative to positive, reaching 4.610% and 12.41%, respectively, in 2021.

The following table shows the Revenue and Operating Income of Tesla from 2016 to 2021.

Year	Revenue \$m	Growth % change	Operating Income \$m	Growth % change
2016	769.8	N/C	-73.4	N/C
2017	1,168.7	51.8	-162.2	121.0
2018	2,244.2	92.0	-40.6	-75.0
2019	1,892.8	-15.7	-5.3	-86.9
2020	2,288.9	20.9	-28.2	432.1
2021	2,746.2	20.0	-35.4	25.5

Source: IBISWorld  
Note: \*Estimates

Table 4. Financial performance(from IBISWorld)[1]

As can be seen from the table, revenue kept rising from 2016 to 2018, fell in 2019, but rose again in 2020 and 2021 during the epidemic. We can see that the epidemic has not brought a negative impact, but the revenue is higher than before. But Operating income data is not considerable. We can see that the Operating income of Tesla has always been in a loss state. From 2016 to 2018, the loss has been large, and in 2019, although the revenue declined, the loss also decreased a lot. There was another big loss during the pandemic, and while the company has reduced the rate of loss, Tesla will still be in the red in 2021.

From the above analysis, it can be found that Tesla's revenue and profitability are gradually increasing during the epidemic period, and the loss degree is also gradually reversed. However, Tesla will start to suffer large losses from 2020 to 2021, indicating that Tesla's expenses will increase significantly during the epidemic period. As a result, revenue is increasing, but operating income continues to suffer losses.

## 4. Discussion

### 4.1 Target market deciding

According to the Results, Tesla's overspending cost in the marketing process is one of the most prominent problems, so we propose strategies to optimize target markets, which could effectively

mitigate the decline of the performance due to high costs. Overall, considering Tesla's production, price, and performance, it means that new energy vehicle enthusiasts in Europe and the United States are the core target groups of Tesla cars [9]. This may be why Tesla enjoys a high appreciation in the global energy vehicle market. However, due to factors such as import and export, after-tax prices, and network communication span, it is still a "luxury" in the Chinese energy vehicle market. Under the support policy of domestic new energy vehicles, many factors such as subsidies, repair costs, and maintenance services are provided to consumers. So, even if all customers with high consumption levels are the target market, after comparing the above factors, it can be concluded that Tesla's best consumer group should be concentrated on customers with high technological requirements and strong economic capabilities. In that case, we need locate to the target market precisely.

## **4.2 Product strategy**

As the pioneer of pure electric vehicles, Tesla should focus on seizing the mid-to-high-end market when launching the "new energy boom" globally, and provide more detailed and high-quality services to this customer group. This should include the overall quality, comfort, safety, operability, and sense of technology of the product. These should be important factors considered in Tesla's product planning. As far as the technology of pure electric vehicles is concerned, Tesla has made the technological revolutionaries of this era. No matter in terms of the power circulation system, power source, and operating system, they should do their best to research and develop new energy vehicles in various fields of application.

## **4.3 Marketing strategy**

In terms of price strategy, Tesla is inclined to the middle and high class in choosing market target level due to comprehensive factors such as corporate operations and product research and development. Therefore, Tesla's brand, manufacturing costs, technological refinement, raw materials, and technological innovation have caused price differences with many existing emerging manufacturing vehicles. However, what can be improved is that Tesla does not need to pay attention to sales marketing during the development process. Tesla's marketing model pays more attention to strategic development, that is, to further develop new markets and strengthen existing markets on a long-term and stable sales platform and service platform.

During the epidemic, to cope with the continued impact of this situation, Tesla increased its sales channels-opened an online collection platform on the official website. Since then, to maximize consumers' convenience, Tesla did not use offline stores as the only car sales platform. In addition, Tesla's communication model, that is, the communication between Tesla and its customers is to establish a good corporate image and sales method and a value expression, which further consolidates the characteristics. Slug's market. Based on the above two points, Tesla can completely avoid the tradeoff between quality and marketing and does not need to consider reducing production costs to develop marketing strategies.

## **5. Conclusion**

Tesla's rapid rise is gaining market share in energy vehicles. By analyzing Tesla's product advantages and marketing strategies, this report concludes that Tesla's customer groups are consumers with certain economic capacity, such as middle class or high consumer groups. Such precise positioning is conducive to Tesla's rapid adjustment or improvement of strategic management routes in the latter half of the epidemic and the future, such as more accurate segmentation of target customer groups or providing consumers with better quality and appropriate energy vehicles through product differentiation. While the energy vehicle industry is looking good for the next five years to 2026, Tesla still needs to watch consumer confidence in different markets. For some markets with low consumer confidence, Tesla can increase its market share by cooperating with local governments or reducing its profit margin.

This study of Tesla Motors explains why it has made great strides in this industry market. The size of the market today depends on the product's leading position and positioning accuracy. Tesla's core technology is the main factor in automotive products leading other new energy vehicles in the same period. With the rapid development of the new energy market, technological innovation, and product replacement increasingly frequent throughout the industry, the core technology is the main reason to make the automotive brand famous. The ultimate innovation is to make the automotive industry ranked first in the new energy market.

In general, to go deep into the market marketing model route, Tesla's products and services can make it in the market to obtain praise. At the same time, further in-depth product technology research and development, "how to mention reasonable battery life", "how to ensure the use of the case, improve the quality of battery raw materials," and so on.

## References

- [1] Roth, R. (2021, January). Hybrid & electric vehicle manufacturing. IBISWorld. Retrieved from <https://my-ibisworld-com.proxyyau.wrlc.org/us/en/industry-specialized/od4516/industry-performance>.
- [2] Wang Yulu, XU Kai. The impact of COVID-19 policy support on consumers' purchase of new energy vehicles. Journal of Shanghai Institute of Electrical Engineering (2021) Article No. 2095-0020(2021)01-0047-06.
- [3] Liu Xin, WANG Haiyun, DONG Yamin. Research on profit model of independent brand automobile enterprises. Management and Technology of Small and Medium-sized Enterprises (2021) Article NO. 1673-1069 (2021) 08-0142-02.
- [4] Wu XiaoMin. Brand Value Evaluation of New Energy Vehicles Based on Interbrand Model Improved—Taking Tesla as an example (2021.6).
- [5] Wang Danmei. The Study on the internationalization strategy of TELSAs. (2021.6).
- [6] Zhu Liangrong, Ge Dongdong, Pan Luludan. Based on the new energy vehicle industry chain response analysis under the COVID-19 outbreak. Forum of South China. Article ID: 1672-3872(2020)23-0044-02.
- [7] Guijuan Lin. (November 2009). Higher Education Research Methodology-Literature Method.
- [8] Wu Wei. Research on marketing Strategy of CQ New Energy Vehicle 4S Shop in Panyu. Guangxi Normal University (2021).
- [9] Tianlong Tang (December 2019) Application of Tesla Marketing Model in China's New Energy Automobile Market.