

Financial and Market Analysis of Post-Pandemic Tesla

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Abstract. Tesla is America's biggest Electrical vehicle and technology firm, set up in 2003. Most famous for its Electric vehicle models and lithium battery technology, it has proven its success through its wide market share and grand market cap. The content of this paper includes, conducting a statistical analysis of Tesla during the past years, focusing on their successful market strategy practiced countering the COVID-19 pandemic, and in-depth analysis of past sales, price, and market share of each Tesla model then comparing the other competitors existing in the automotive industry, these results were used to determine the successfulness of Tesla's strategy towards Economic shocks. At the end of this paper, SWOT analyses were used to provide advice for Tesla's future business strategy. The purpose of this paper is to provide similar businesses with possible future market strategies by analyzing successful past strategies performed by Tesla Ltd and suggesting future goals Tesla could work towards.

Keywords: Tesla, Financial analysis, Covid – 19.

1. Introduction

In 2019, an unexpected outbreak of the Coronavirus disease caused a shock in the global economy. As it causes a significant decrease in human labor on market, a delay in all transportation methods, and a fall in aggregate demand and supply causing a great downfall in the global economy in general. Through the years, many large MNCs and public corporations shrank in size, and market cap greatly fell reaching new lows, Various market strategies were performed among businesses depending on their field and industry, having different effects on reducing losses of firms. There are some prominent strategies that made firms stand out in this down falling market, and this paper chose Tesla Ltd as one successful example to analyze. As one of the largest and the most fast-growing technology companies, Tesla not only managed to mostly avoid the negative impact that other competitors in the automotive industry had to suffer, but it also even managed to raise its annual revenue during the pandemic. This is shocking as it stood out during the COVID global recession. Therefore, making it a valuable and necessary topic that is worth analyzing.

Nowadays, data such as market cap, revenue, profitability, EPS, etc. became crucial indicators that determine the financial performance, success, and value of a firm. Hence, to analyze the topic, this paper will reference data directly from Tesla's annual report and data concluded by other third parties. Also considering thoughts and ideas from related research and paper.

This paper will be split into 5 sections. Firstly, the introduction, then a basic description and some background information about Tesla. This is followed by a quantitative analysis of Tesla's annual report and marketing strategy performed in the past. A SWOT analysis would also be included after this to give suggestions for Tesla's future path. Finally, a conclusion will be added. The upcoming section of this paper will focus on introducing the company. Including its history and background, the past model that was launched, new projects that it will work on, its current stage in the market, etc.

2. Corporate Analyse

2.1 Background Description

The corporation this paper will focus on is Tesla, Inc. As a well-known American technology company, it is famous for producing solar panels, batteries for cars and household energy storage, and electric vehicles. The company is headquartered in Austin, Texas. The company was first founded in 2003 to remember the inventor Nichola. Elon Musk contributed about 87.7% million of the

company's series A capital with a sum of 7.5 million USD in February 2004. which made him the chairman and major stakeholder of Tesla [1].

Tesla launched their first model -- the Roadster sports car, in 2009, reaching sales of 2450 during the 4 years of production. 3years later the production of the Model S sedan was launched in 2012, sales passed 250,000 units by the Autumn of 2018. Making Model S the best-selling electric vehicle worldwide in 2015 and 2016, until new records were made by the Model 3. Model X SUV was then put into production in 2015, then the Model 3 sedan in 2017, and became the bestselling electric car in the world when the time reaches June 2021, it was the first ever electric car that passed the 1 million sales line [2]. After 3 years the Model Y crossover went on the market. Finally, the Tesla semi trucks' production began in October 2022, and initial deliveries were made to PepsiCo on December 1, 2022. By the end of Q3 in 2022, Tesla now owns up to 65% of the American total Electric Vehicle market [3].

According to news reports from Tesla, they will be working on a new version of the Model 3 in order to increase sales in 2023 by reducing the cost of production. Additionally, existing projects such as Tesla's 4680 battery cells, it is claimed that In comparison to the current '2170' cells utilized at the Fremont factory, the new '4680' lithium-ion battery cells have the capacity to provide five times the previous energy output, six times the power, and around 16% greater range [4]. Tesla managed to create around 868,000 4680 cells by Christmas 2022 thanks to a threefold increase in output compared to the previous quarter. The Panasonic President and CEO have stated that the mass production of Tesla's 4680 cells will begin in Japan in May 2023. Tesla has now increased its research partnership with their suppliers, such as Panasonic, in order to fulfill the target previously promised.

The Fremont, CA Factory is Tesla's first factory that started production in 2010. By 2022, Tesla built 5 Giga factories worldwide, including the Giga factories in Nevada, New York, Shanghai, Texas, and Berlin-Brandenburg [5]. These Tesla Giga factories are anticipated to be the largest structures ever that run entirely on renewable energy, in order to achieve zero net energy consumption and obtain the potential of producing up to 500,000 different models of vehicles each year. According to Elon Musk, the automated percentage of all their factories reaches 75% or even exceeds, compared to other automotive industries such as Ford Motor with only about 30% automation, Tesla has a much higher automating system hence producing much lower pollution.

2.2 Balance Sheet

During 2018 – 19 the outbreak of Coronavirus created a shock in the world economy, also having a considerable negative impact on the electric vehicle industry. This section of the paper will focus on analyzing Tesla's successful response to the global pandemic and provide references to similar firms. To achieve this, this section will break down the financial statement provided by Tesla's quarterly report and resources gathered by third parties.

Table 1. Past Performance of Tesla [6]

(Unit- million USD)	End of 2021	End of 2020	End of 2019	End of 2018
Revenue	53,823	31,536	24,578	21,461
Cost of goods	40,217	24,906	20,509	17,419
Gross profit	13,606	6,630	4,069	4,042
Research & development expense	2,593	1,419	1,343	1,460
Net Income	5,519	721	-862	-976
EBIT	6,523	1,994	-69	-388
EPS (USD per share)	1.63	0.21	-0.33	-0.38

From Table 1 above, it's shown that both Revenue and Costs of Tesla growing a positive proportional relationship as time progresses. This results in a positive growth in the gross profit of Tesla, increasing by about 236% from the end of 2018 to the end of 2021. There was a clear boost in value during 2021 as gross profit doubled in that one year time. Similarly, in values of other indexes, a clear boost in data could be observed. For example, the research and development expenses of Tesla nearly doubled in 2021; Whereas net income, EBIT, and EPS experienced slight growth in the year 2020, and experienced a great boost in the year 2021. The change in value corresponds with the start and end of the Covid 19 pandemic, with all values after 2019-12-31 then recovering by the time of 2021.

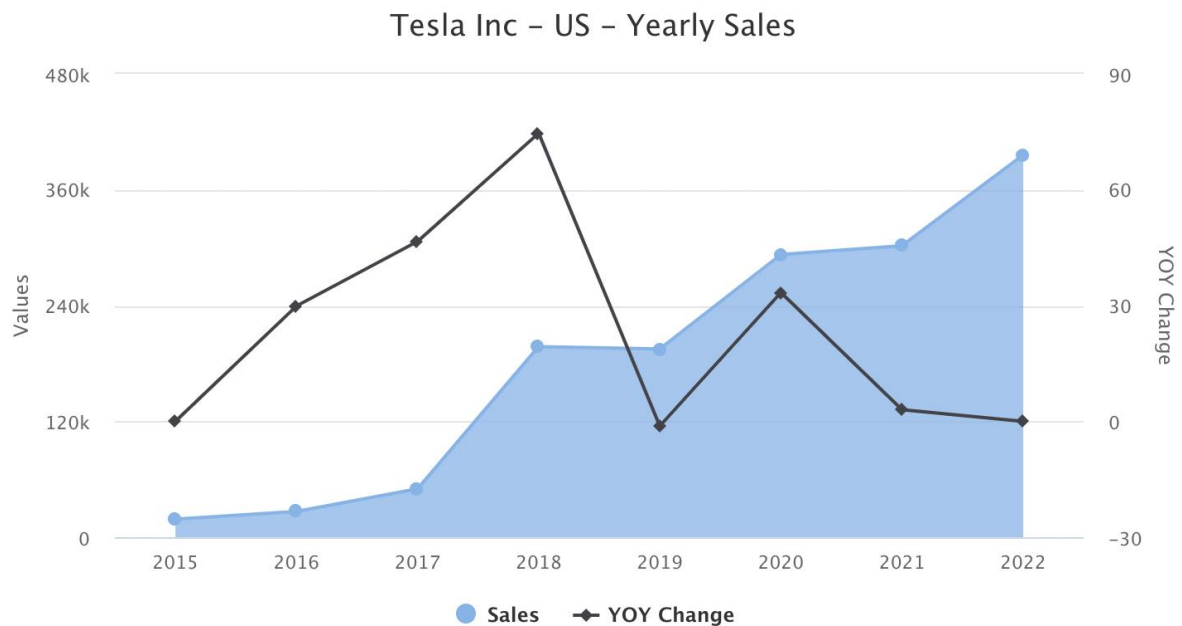


Fig. 1 Tesla Inc-US-Yearly Sales [7]

When Tesla was in its early stage, the primary business strategy for increasing sales is to produce expensive cars in lower volume as buyers are less price-sensitive [8]. This is shown as their early models on market were the Model S sedan, and Model X, currently priced at around 87,400 USD and 105,000 USD. [9] This is also how Tesla was given the impression of a luxurious electric vehicle brand, although this strategy manage to greatly increase the sales of tesla shown in Fig. 1, reaching a growth of over 70% in their sales just in 2017 -2018. However, there are some drawbacks to being related to luxurious brands. As most luxurious products obtain a high elasticity of demand and a high equity beta. This is bad because if the opportunity cost for the consumer fluctuates the sales of Tesla models will be greatly affected for example if the market is in a poor atmosphere like the upcoming pandemic. However, from the chart and graph 1 above the reality is during the pandemic Tesla’s revenue and sales didn’t decline. This is caused by the new model launched in the upcoming year 2018. Although a ditch in sales occurred in 2018, Tesla took a big movement in its product, as it launches its most affordable product the Model 3 to the market with a base price of only 35,000 USD [9] only costing about 40% of its previous model, Model S.

The new Model S obtains a much lower price elasticity, meaning even If the market does poorly, the sales of the model wouldn’t face a crash in its demand but will seem more appealing to consumers compared to other Tesla models and competitor models. This is shown in Fig. 2 as Model 3’s sales nearly doubled between 2020 – 2021. Whereas Model X and S were all low at the stage as it was a lot less affordable. Keeping the overall revenue and sales at a stable stage.

Tesla Vehicle Sales (Quarterly Deliveries)

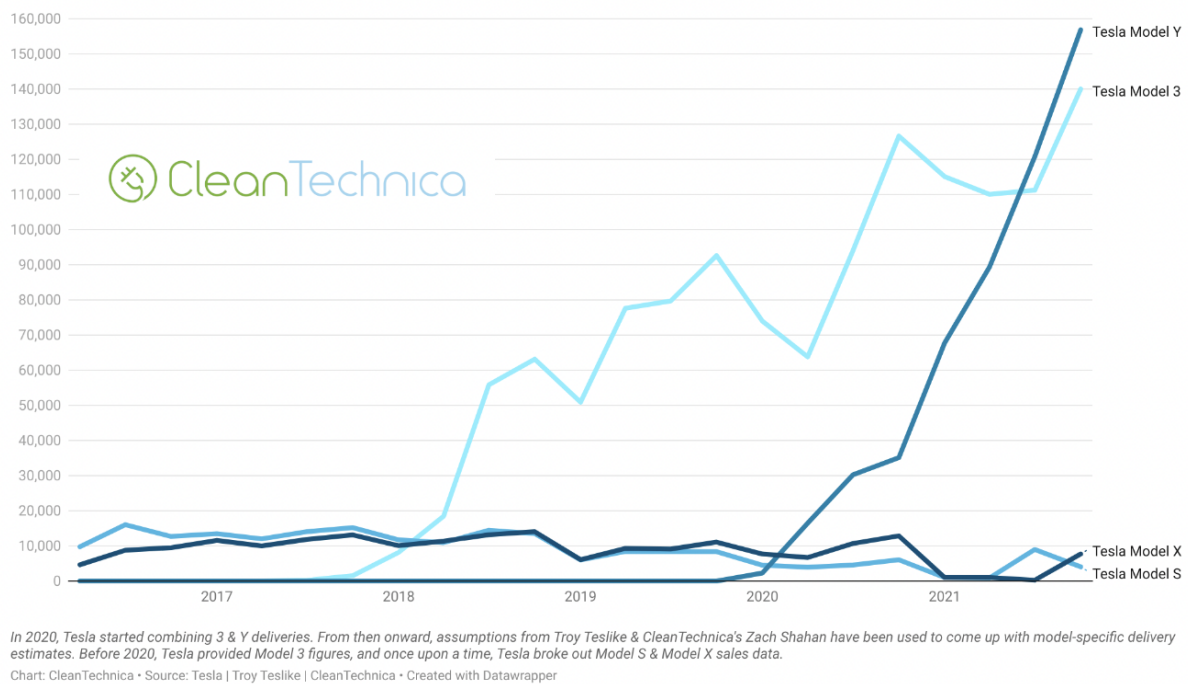


Fig. 2 Tesla Model Sales [10]

3. Marketing

3.1 Market analysis based on competitors

During the pandemic, most car dealerships worldwide were faced with hundreds of unsold cars that drain their pocket via repair fees, maintenance fees, etc. Tesla, on the other hand, has given the consumer a choice of a contactless vehicle purchasing experience, offering a car delivery service. Where consumers will only need to submit the final payment and choose delivery on the Tesla app, then the purchased Tesla model would be delivered to the address provided. This almost package-like car purchasing service gave Tesla a massive advantage compared to its competitor on the market as “contactless” became the key selling point of products during the pandemic due to the concern of the spread of the virus among the crowd. Although the pandemic caused a decrease in demand for automobiles, the market available is still considerable. Therefore, the convenience and safety the service offers stood out to those that still demand a vehicle. This is shown in Fig. 2 in the above section of this paper, all Tesla Model launched increased by the start of the pandemic, with Tesla Model 3 and Model Y having the most significant growth in the sale. Both are more economical models, sold at a base price of 35,000 and 39,000. Making Tesla the market leader for electric vehicles in the US with 71% of the market share in 2020 and observing noticeable growth in 2021, [11] and one of the key factors of this increase was the success of Model S and the release of Model Y during the pandemic.

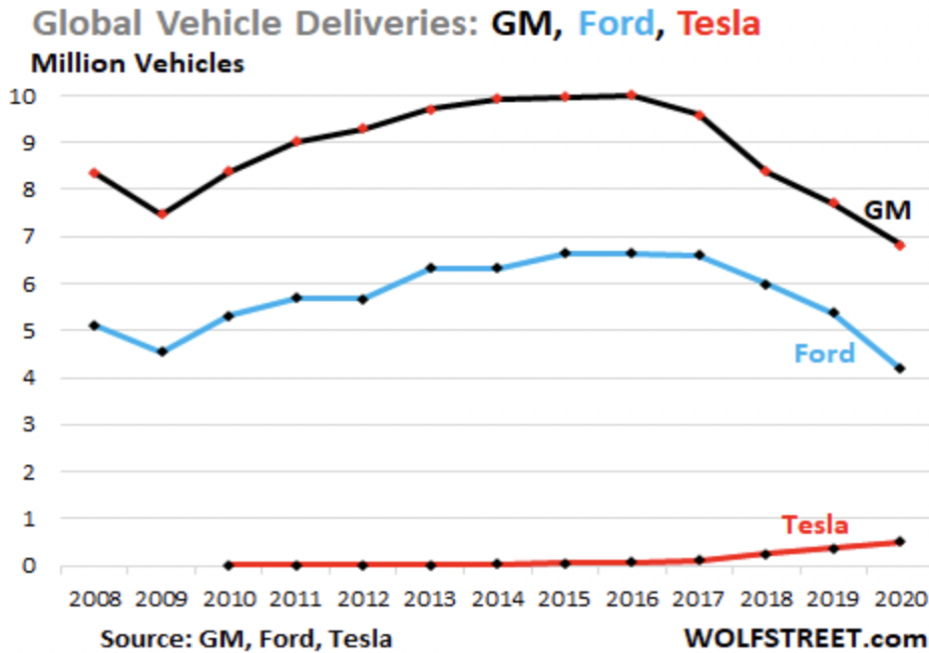


Fig. 3 Global Vehicle Deliveries of Tesla and its competitors [12]

Fig. 3 shows the sales of Tesla models in the US, the pandemic started on 11 March 2020 (Virtual press conference on COVID-19 – 11 March 2020), A steady growth could still be seen in the number of sales. Tesla's 90,650 cars were shipped in the second quarter, a 5 percent decrease from the same period last year. In the first quarter of 2020, when the majority of the business activities were mainly undisturbed by the virus, it sold 88,496 automobiles. [13] news and the graph above, during the start of the pandemic Tesla's sales and production, were largely unaffected although experiencing a slight decline in the growth rate, the overall sales still maintained a small growth but compared to other competitors on market such as General Motors and Ford Motors all decreased more than 30% in their second quarter of 2020 due to the fall in demand and the disturbance on the supply side of the material and gear pieces. A great difference in strategy also caused the opposite outcome under an economical shock. The successful market strategy performed by Tesla manage to double Tesla's revenue and nine folded its market cap by end of 2021, making Tesla one of the 20th most valuable companies in the world, market cap-wise.

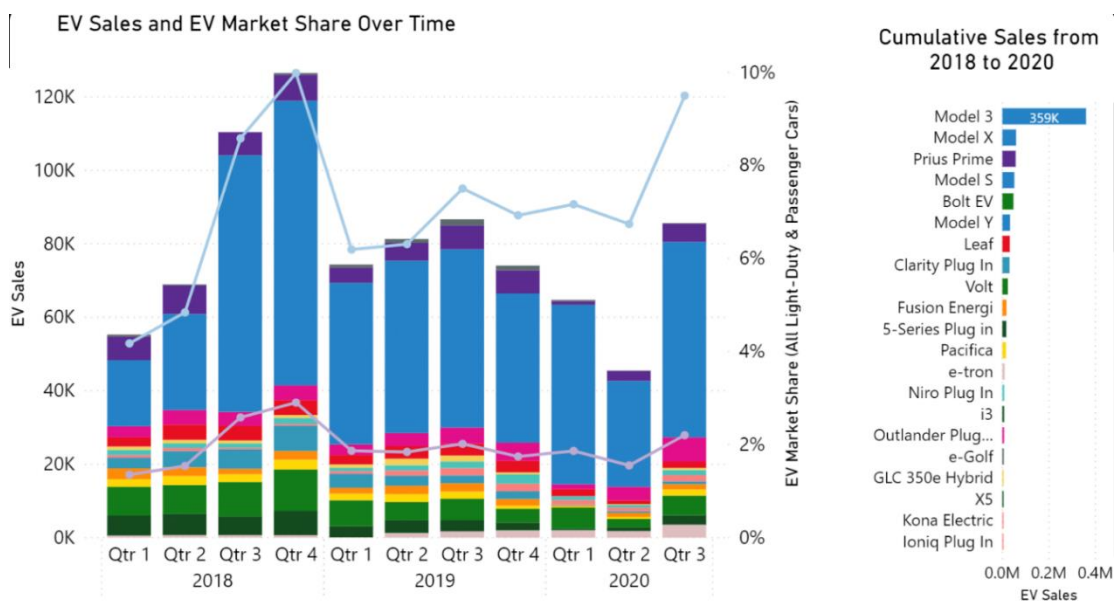


Fig. 4 US Electric Vehicle Share by brand [14]

Fig 4 shows the market share of Tesla in Electric Vehicle, from 2018 to 2020, Tesla manages to achieve a growth of about 2% of share, this is more significant than all other existing firms during the pandemic, nearly tripling the growth of Chevrolet with only a 0.7% growth. This shows the success of Tesla's market strategy whilst most firms in the electric vehicle suffers a decline in market share and market capacity.

3.2 SWOT Analysis

3.2.1 Strength

Brand: Tesla is currently the leader in the field of electric vehicles as it holds the highest market share of around 65%, and is one of the earliest companies to set foot in the field. Since 2009 their first released model, after more than 13 years of operation, Tesla had created a strong brand image, which secures its place in many customers when deciding to purchase electric vehicles.

Technology: According to Table 1, Tesla has always been increasing its spending on its research and development expenses, and from the impact report of 2022. A breakthrough in their battery research in 2022 manage to further increase the efficiency and capacity of their battery making their products more competitive.

Innovation: Tesla is a company that has a very high rate of innovation, as the CEO Elon Musk is an arguably creative entrepreneur that sets foot in energy, space, etc. The new developing models like the world's first semi-truck and the new coming electric sports car had drawn great attention across the world.

3.2.2 Weakness

Production: Although from previous graphs, there is no that its sales had always been increasing even during the pandemic when sales fell for most competitors existing in the market, such as GM and Ford Motor. However the overall number of sales, Tesla is at a great disadvantage as the sales of Ford Motor is 4 times more in 2020. Innovation and new technology increase the difficulty of producing large amounts of models. This lack of high-volume production may cause damage to brand image as new models launching may face delays caused by a lag in production.

Risk: By the End of 2022, Tesla faces an outstanding debt valued at around 5.38 Billion USD. This means the company must generate a large number of cash flows to fill the gap in debt, or it may lead to a cut in investment, and innovation, making the firm less competitive among the competitors on the market.

3.2.3 Opportunity

Target audience: Although Tesla released Model 3, a model that is a lot more affordable than other Tesla products, it is still not as affordable compared to brands such as Economical Toyota. There is still a great opportunity to explore the lower end of electrical vehicles as non-luxurious EVs takes up about 25% of the EV market and currently Ford owns 28% of that non-luxurious market [3].

Battery: Currently, most batteries installed in Tesla products come from Panasonic. Tesla could choose to develop their own battery technology, like Apple with their M series chip. This not only reduces the cost of the battery in the long run but also make the battery more suited to Tesla product further increasing competitiveness.

3.2.4 Threat

Risk in New technology: Many concerns had been raised among society about new technology that Tesla is planning to include in upcoming products. The main debate surrounds the concept of self-driving. Regardless of the safety of this new technology, most people don't feel safe walking around self-driving cars on the street, so launching a new product that supports self-driving may cause societal issues, therefore, affecting the sales of the new models and brand image.

Supply: Raw material that Tesla is demanding in large quantity includes aluminum, steel, copper, lithium, etc. Most of these materials have a volatile price, as their price fluctuates frequently causing

a temporary shortage in supply and delaying production of models hence damaging brand image caused by lags.

4. Suggestion

This part of the paper will give some suggestions as to what Tesla could do to encounter their existing threats and explore possible opportunities in the market. The specific description is as follows:

According to Graph 4, although Tesla still owns the majority of the Electric Vehicle market, the proportion has been decreasing, as new firms rush into this industry. In order to secure its leadership in EVs, Tesla would need to continuously increase investment in developing new models, technology, etc. As the leading firm in this industry, Tesla would have a great advantage over other start-up firms, as it has more cash to use in development and more patents that secure its technology. As long as Tesla is willing to invest in research, it will still be in lead in the EV market. An example of what Tesla could choose to do is produce their own battery, instead of corporating with Panasonic. This not only will decrease the cost of production making new models possibly cheaper and hence affordable to more people opening up new markets, but also increases the adaptability to Tesla products offering a better experience. A successful example of this is Apple with their M1 chip, they manage to make \$11 billion of revenue just from Mac sales after the new chip release, increasing the sales by 25% from the previous year.

As mentioned earlier, Tesla still lacks influence in the lower end of the EV industry. Although continuous investment in new technology does provide Tesla with great competitiveness among other substitute products existing on the market, this also drives the price up. Tesla had decreased the price of models e.g. the Model 3 was a lot more affordable. However, compared to economical brands such as Toyota, Tesla still seems pricy. Tesla's competitor isn't only limited to the EV industry, but the entire automotive industry. There is no doubt that EVs are more environmentally friendly, but this is less likely to be the deciding factor for consumers. Therefore if Tesla intends to increase their market share in EVs or even the Automotive industry, there must be more economical models to open up new markets. A way they could achieve this is while investing in research to produce a more advanced model, cheaper models using less advanced technology could also be a choice for consumers. This not just increases the overall revenue but also allows the technology to be reused decreasing the cost of innovation, as technology would obtain a longer use period.

5. Conclusion

At the end of 2019, the pandemic swept across the global market causing a shock to the economy, this significantly decrease the aggregate demand and supply on the global market, resulting in a global recession. Causing many firms across the world to shrink significantly or even go bankrupt due to the negative impact that came with the pandemic. The purpose of this passage is to provide a suggestion of a strategy that businesses could take to reduce the loss during economic shocks, by analyzing the successful strategy performed by Tesla, and by giving suggestions to Tesla, the paper also hopes to inspire any relevant firms to make a better decision for their future plan. This paper used multiple comparison methods among Tesla and its competitors to determine whether the strategy of Tesla was successful or not, by looking at various indicators, such as sales, revenue, market share percentage, etc. Then a SWOT analysis was included to break down the advantage and problems that Tesla is faced with at the current stage in order to generate some suggestions Tesla could work towards in the future to hold a larger market share in the EV industry and obtain a larger advantage compared to other automotive industries.

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