An Overall Analyses of Tesla

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Abstract. New energy is the general trend of automobile energy in the world at present. The cars produced by Tesla are a good representative of news. I will take some events that have happened in Tesla in recent years as the basis, SWOT analysis is used to analyze its market prospects, advantages and disadvantages and areas for improvement. In addition, I will use NPV and IRR to analyze Tesla's situation in the financial market.

Keywords: Financial analysis; NPV; IRR; SWOT analysis.

1. Introduction

Tesla is an American electric vehicle and energy company headquartered in Palo Alto with a market capitalization of $210 billion. It makes and sells electric vehicles, solar panels and energy storage equipment. It was co-founded on July 1, 2003 by Martin Eberhard and Mark Tapenning, with the founders naming the company "Tesla Motors" in honor of physicist Nikola Tesla. Tesla strives to provide every average consumer with a pure electric vehicle within their consumption range; Tesla's vision is to "accelerate the global shift to sustainable energy."

Tesla's initial fresh-energy vehicle entrepreneurial team, drawn largely from Silicon Valley, built cars using IT concepts rather than the traditional thinking of the auto manufacturers represented by Detroit.In most people's eyes, Tesla doesn't sell cars.Instead, it popularizes AI technology in cars to the public.If you buy a Tesla car, you will find that Tesla's car is not only fast, but also energy saving, and excellent AI driving technology.

In the development process of these years, Tesra's products and services have formed its own unique development strategy. Tesla is committed to becoming a leader in the new energy vehicle industry, providing excellent products and good services to customers all over the world.

Tesla, which has led the market in terms of battery life and range, will offer customers capability-driven solutions at lower prices. While increasing its global market presence and selling price, Tesla will focus on research and development of AI technologies and increase productivity, especially in the development of current projects. Attracts consumers around the world with cutting-edge services and high-cost performance. They will offer convenient and customized financing options for investors who want to invest in Tesla.In November 2021, according to Caijian news, Tesla launched a new financial product on its official website, allowing consumers to purchase vehicles through the financial leasing model with zero down payment [1].

On October 1, 2013, a Tesla collided with a metal object and caught fire on Kent Highway in Washington State. After the fire, its share price fluctuated greatly, In less than an hour the next afternoon, the stock price plummeted to its lowest point, reaching about $168. On April 17, 2021, another Tesla car accident caught fire in Texas, killing two passengers. At present, it is unclear whether the vehicle uses Tesla's customized automatic assisted driving function. On July 15, 2014, 360 said in a report that the Tesla Model S car application process has a design flaw, which can be used to remotely control the vehicle, realize the operation of unlocking, honking, flashing lights, opening the sunroof and so on, and can open the sunroof while the vehicle is moving [2]. In addition, some foreign media said that hackers can use Tesla's 6-digit password to realize remote control of cars.There are many similar incidents, which make Tesla doubt whether the driving system is safe.

This article will use Tesla's public information to evaluate the company. It will present external changes in Tesla's market environment and the risks it faces. In addition, we will provide measures and solutions to help some businesses in the modern energy industry learn from Tesla's experience.

We will state it in four subsections. Section 1 is a guide that focuses on the background, purpose and implications of Tesla's research, as well as basic information about some of the companies. The second part is an in-depth analysis of it, and we will use three models to provide conclusions for this research work. Before that, we will present what SWOT, npv and irr analysis methods do. Then, we look at some of Tesla's strengths and weaknesses and how it will evolve. Swot analysis is used to identify the various factors that influence development. Second, we will use NPV to calculate the market value, profitability, solvency and cash flow of his company. In addition, we will use the IRR to confirm our conclusions. Finally, we will discuss the future trend of Tesla and how it can be developed in combination with the previous information.

In this paragraph, we will introduce what swot analysis is. The so-called SWOT analysis refers to the situation analysis based on the internal and external competitive environment and competitive conditions. It enumerates the major internal strengths and weaknesses, external opportunities and threats closely related to the research object through investigation, and then lists them in the form of a matrix [3]. The reason for using the swot analysis is that we will consider his problem in a comprehensive way, and we can combine the solution of the problem with the study.This can make our logic closer and make others more able to see what we want to say.

In addition, we will also introduce npv and irr. Net Present Value (NPV) is the difference between the discounted value of future cash flows generated by an investment and the investment cost of the project [4]. The formula for NPV is present value of future net cash flows minus present value of original investment. When we use NPV to express the net income of a project, it is extremely intuitive. When we use NPV, we don't have to consider the influence of different project life on economic benefits.

Internal Rate of Return (IRR) is the discount rate when the total present value of capital inflow is equal to the total present value of capital outflow and the net present value is equal to zero [5]. Internal Rate of Return, we commonly use calculators to calculate it. When we are doing calculations, the larger the result, the better earning. In general, this project is promising when the IRRs are larger than the benchmark rate of return.

2. Business Analysis

2.1 Assess the Strategy of Tesla

2.1.1 Occupy the market share of fuel vehicles

The company's short-term goals are to improve product performance, reduce costs and lead the popularization of new-energy vehicles, which are alternative fuel vehicles. To do that, Tesla is pushing ahead with research and development, gradually applying and exploring new business models. When Tesla breaks through a new technological barrier, it will be able to lower costs. And when its cost is lower than that of fuel vehicles, practically everyone's first choice will be new energy vehicles.

2.1.2 Perfect the existing technology

Tesla is perfecting some of its original technology. For example, autonomous driving has been introduced for many years, but there will still be some accidents. At present, Tesla has become the first in the new energy automobile industry, and what he needs to do now is to consolidate his existing position. When autonomous driving technology is fully mature or essentially stable, Tesla's sales and market value will increase substantially.

2.1.3 Get close to customers

Customers are an essential part of Tesla's strategy. As a result, they view customer assessment and market research information input as particularly crucial. Their management also considerably respected the advice of the marketing department. All Tesla employees believe that customers are the most critical part of their careers, and both the marketing and sales departments will put customer

experience first. They will listen to their clients and work hard to deliver the best solutions for their clients. Tesla is highly confident in its products. In order to give customers a satisfactory guarantee, they dissolved the public relations department in 2020 and kept only a minor part of the public relations department in Asia and Europe.

2.2 SWOT Analysis

2.2.1 Strengths

Tesla has 3 advantages over electric vehicles at home and abroad. The first is his first-mover advantage. It entered the new energy vehicle arena in 2003, and its 19 years of development can give it a lot of experience. This gives them a huge experience advantage over other companies in terms of how they refine their products and how they deal with issues in certain products. The second is its size advantage. Tesla is now the world's largest new energy vehicle enterprise. In 2018, Tesla delivered 245,000 electric cars, accounting for 12.3% of the total global sales of electric cars in 2018 [6]. From the data, we can clearly see that his sales volume is considerably higher than that of some new energy traditional car companies. And its sales are increasing year by year.In 2019, its sales growth rate has exceeded 50% [7]. It's also proves that its sales volume has increased rapidly.Finally, there is the technological advantage. Tesla cars are low-cost and high-performance. At the moment, there are two ways to give me a new energy vehicle: hybrid electric and pure electric. Most of the automotive industry suffers from various reasons, such as the cost of capital for business planning, and they tend to use a hybrid route of oil and electricity. But Tesla is different. They are built on native platforms, and the company's own understanding of industrial integration has resulted in the low cost and high performance characteristics of their products. In addition, Tesla has deep attainments in batteries and charging piles, which gives them a technological advantage over their peers.

2.2.2 Weakness

The safety of feature cars is the biggest issue facing him at the moment. Compared with the well-developed traditional auto industry, the new energy industry still seems to have uncontrollable elements in some technologies. We can tell from the data that there were three consecutive fires on Tesla vehicles in November 2013. That led to questions about Tesla's safety, which caused Tesla's market value to evaporate by 28 percent [8]. Even if Tesla's batteries are better than most in the new-energy vehicle industry, they are still far from public standards.

2.2.3 Opportunities

As far as where the world's car market is coming from right now, in my opinion, Tesla's biggest opportunity is to push inexpensive models For now, Tesla's pricing is still on the strong side in terms of revenue levels. Unable to achieve prices that most ordinary people can buy. The third phase of Tesla's project is the construction of a million-scale automation plant. This is a great opportunity to bring down the price of most Tesla models.

2.2.4 Threats

In terms of threats, we think the biggest threat to Tesla is its inability to stand out in a new energy market where a hundred schools of thought are competing. While Tesla has better technology than the traditional new energy industry, additional companies are currently improving their technology. If Tesla fails to develop better services or make some technological breakthroughs, it will be replaced by additional companies. Second, compared with Tesla's pure electric vehicles. Fuel prices for hybrid cars will be slightly lower than Tesla's.

3. Financial Analysis (Optional)

3.1 NPV

Tesla's financial analysis includes financial review and operations. The purpose of this paper is to analyze Tesla's finances. Solvency, cash flow and profitability are the main objects of our analysis. All the following data can be found on the official website of the US Securities and Exchange Commission.

Table 1. Tesla Company profitability analysis1

	2021	Dec 31, 2020	Dec 31, 2019
Gross profit margin	30.6%	25.6%	16.55%
Operating profit margin	14.6%	2.29%	5.4%
Net profit margin	14.17%	2.29%	-3.51%
Return on assets (ROA)	9.08%	1.66%	-2.70%

The percentage of income used by a company to pay and operate expenses is determined by gross profit margin. When we talk about operating profit, we mean the proportion of distribution amount or investment amount， The operating efficiency of an industry can be fully described by it. When we get a very large operating profit, it proves that the operating income is generated by the quantity of goods sold by the company, which also proves that the company has a strong operating ability. We divide net profit by revenue, which is an indicator to measure the overall ability. The profitability of all assets of a company is also called the rate of return assets. When we get a high value, it can prove that the company operates through the effective use of the company's resources, it has a high productivity and a strong sales team. The Gross profit marginal are continuing rise up from 16.55% to 30.6% [9].According to the data, Tesla has grown from 1.66% in 2020 to 9.08% in 2011, which proves that it is gradually rising [10].

4. Conclusions

By summarizing Tesla's service brief background, detailed value strategy analysis and company proportion analysis. Its main business is new energy pure electric vehicles. Based on the current business environment, we use swot analysis to analyze the strengths and weaknesses, opportunities and threats of Tesla. We have come to the conclusion that Tesla is currently the first company in the new energy automobile industry in the world,it has a strong dominance in the new energy automobile industry. Although in the past few years because of novel coronavirus pneumonia and some battery explosion of the negative impact of the company caused the country's losses. Although his stock price is falling at present, its overall revenue and gross profit margin are very high. However, based on various analyses, we believe that Tesla has a very broad prospect and hopes to continue to dominate the field of new energy vehicles in the future.

Although mega-companies have achieved the strongest in the industry, Tesla still needs to develop some sustainable development business and improve the shortcomings of previous business. Take his battery technology and AI driving technology as examples. Every time Tesla has an accident, its share price will plummet, so we think Tesla should improve its business if it wants to keep its share price rising. Another point is that is that Tesla even if there are some technical bottlenecks, which leds to the capital chain breaks.Musk, his boss, will continue to draw out his assets to fill the hole.This is because Musk has not only made great achievements in Tesla's new energy industry, but also has assets in other industries.

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