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Analysis of Renewable Energy Industry's Management Strategy: Taking Tesla as an Example

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Abstract:

In order to provide some insights into how can renewable energy flourish in the future, data and literature relevant to Tesla's financial performance in the past few years is analyzed by this paper. As an industrial pioneer who leads the path of innovation, Tesla has its unique strength in terms of battery production and clean energy solutions. Instead of adhering to the traditional strategy, the company adopts a special system dealing with battery issues and customer concerns, and utilizes effective systems integration to adapt to the needs of other stakeholders. However, Tesla also falls short in its product price and quality, facing fierce challenge from competitors. Acknowledging these shortcomings, this study provides insights into how to maintain Tesla's competitive edges based on previous literature, suggesting expanding lineup of affordable EV models, diversifying supply chain, and enhancing level of innovation as possible solutions for Tesla's current problems. These strategies are crucial for the firm to boost the confidence of its consumer, enhance its profitability, and maintain its market advantages.

Keywords: Tesla; Product price and quality; Energy industry.

1. Introduction

With the help of technological innovation, the renewable energy industry has grown into a cause that focuses the eyes of the public on green energy solutions to the global issue of climate change. Among the largest contributors of EV industry's market share, Tesla remains the firm that promotes the advancement of the industry most profoundly and exposes its news most frequently, which makes it the entity that attracts the most interest.

Intrigued by deeper information under the company's social media presence, several researches have delved into the impact of media sentiment on Tesla's share price. Čigileičikaitė, L. et al. points out that Tesla is sensitive to media sentiments that leads the market to behave in a different way [1]. In addition, Strauss, N., & Smith, C. H. suggests a positive relationship between Elon Musk's active Twitter and investors' belief about lucrative trading opportunities, which may pose a risk to Tesla's stock performance [2]. According to Lim, Y. X., and Tan, C., it is vali-

dated that as time goes on, pessimistic feedback on social media still has a strong impact on the market's fluctuation. Apart from influencing the firm responsible for the feedback, this also impacts its competitors in the other way round [3].

Based on these studies, this paper investigates problems of Tesla's management reflected by social media and other information sources, and provides some useful suggestions for its future development. Apart from acknowledgement for its past achievement, this study points out some critical issues behind Tesla's success and offers a comprehensive analysis on how to address them. On the solution of these problems, Tesla can rebuild the confidence of its consumers and shareholders, and maintain its leading position in the long run.

2. Case Description

With the ambition to become a vanguard for the adoption of sustainable energy, Tesla introduces its own episode of electric vehicles, promoting the green transformation of the automotive industry [4]. Along with the revolution of battery production, the firm maintains its leading position through strategic acquisitions, which further strengthens its competitive edges. By pursuing technological innovation relentlessly, Tesla contributes remarkably to clean energy solutions, elevating its position to a pioneer of sustainable transportation and energy management. Rather than following the disruptive innovation strategy, the company adopts the commercialization strategies of architectural innovation and the advantages of attackers [5]. Apart from a special system dealing with battery issues and customer concerns, Tesla also utilizes effective systems integration to adapt to what other stakeholders crave for.

Table 1. Change of quantity of Tesla's assets (Financials in millions USD) [6]

	2022	2021	2020	2019
Cash and equivalents	16,253	17,576	19,384	6,268
Cash growth	25.29%	-8.65%	209.25%	61.59%
Receivables	2,952	1,913	1,886	1,324
Inventories	12,839	5,757	4,101	3,552
Other current assets	2,941	1,723	1,346	959
Property, plant and equipment	36,635	31,176	23,375	20,199
Goodwill and intangibles	409	457	520	537
Total long-term assets	41,421	35,031	25,431	22,206
Total assets	82,338	62,131	52,148	34,309

For example, in terms of assets, Tesla's growth outruns its major competitors, which indicates it as the leader of the renewable energy industry. How Tesla's assets changed from 2019 to 2022 is shown in Table 1 [6]. It is notable that Tesla's total assets increased by almost 140% over the four years. Tesla's property, plant and equipment, as well as inventories, were among the most outstanding items, rising by 81.37% and 261.46% respectively. These remarkable changes stem from the constant innovation of Tesla's electric vehicle technology, which led the development of the electric vehicle industry.

Table 2. Change of proportion of Tesla's assets [7]

	2022	2021	2020
Cash and equivalents	19.74%	28.29%	37.17%
Short term investments	7.2%	0.21%	0%
Total receivables, net	3.78%	3.19%	0%
Total inventory	15.59%	9.26%	10.45%
Prepaid expenses	3.02%	2.10%	2.58%
Other current assets, total	0.35%	0.55%	0%
Total current assets	50.39%	43.61%	53.25%
Property, plant and equipment, total, net	44.50%	50.17%	44.82%

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Goodwill, net	0.23%	0.32%	0.39%
Intangibles	0.26%	0.41%	0.60%
Long-term investments	0%	2.03%	0%
Note receivable-long term	0%	0%	0%
Other long-term investments	4.61%	4.68%	2.94%
Non-current assets	49.61%	56.39%	48.75%
Total assets	100%	100%	100%

According to Table 2, Tesla‘s current assets were showing a steady increase in items such as total current assets and total receivables [7]. It is also noticeable that the company‘s inventory grew significantly, which suggests a progress in its production and sales. From table 2, one can figure out that the firm’s total non-current assets increased remarkably from 2020 to 2022, which indicates that the company relied on the operating assets to maintain its business. Besides, the firm’s intangible assets climbed slightly over the three years. One reason accountable for this might be the company’s strategy of sharing patents with others. Overall, it is suggested by these data that Tesla balances its fixed assets’ development and the improvement of its long term investments. In addition, Tesla’s focus on promoting sustainable development is shown by its non-current assets’ change.

Table 3. Tesla’s profitability ratios

	2024	2023	2022	2021	2020
EPS	$2.23	$4.3	$3.62	$1.63	$0.21
Net profit margin	7.32%	15.50%	15.54%	10.26%	2.19%
ROE	9.7%	27.9%	33.6%	21.1%	4.8%

As shown in Table 3, Tesla’s EPS improved dramatically from 2020 to 2023, reaching its historical peak in 2023 [8]. In the meantime, the firm’s EPS growth decreased gradually, and even dropped significantly in 2024 [9]. Turning to net profit margin, the index hiked in the first three years. To be specific, the company’s net profit margin achieved a significant jump from 2020 to 2021, and became increasingly impressive until 2023. Finally, There was a substantial rise in Tesla’s ROE from 2020 to 2022, which came to an end in 2023.

As an industry leader, Tesla’s financial statements indicate many strengths of the company. However, the firm is not without its weaknesses. Regarding several drawbacks, this analysis aims to offer feasible solutions for renewable energy’s future.

3. Problem Analysis

3.1 Forbidding Prices

Studies have mentioned the high price level of Tesla’s EV models, suggesting that with product cost being high and price of EV series being forbidding, the company is not profitable enough. It is stated that Tesla’s manufacturing expenses remain high despite its economies of scale, and comments that the firm’s premium pricing strategy makes its products out of the reach of budget-conscious consumers [10]. In addition, it is suggested that Tesla has an imbalanced expenditure on compensation for sales people, establishing charging stations, and educating the public about the importance of electric vehicles with its profit goals [11]. Finally, it is argued that Tesla’s large client concentration limits its earning potential, and its personalized vehicles targets a consumer group of only half of one of its major competitors, BMW [12].

3.2 Quality Problems

Another persistent issue is about production bottlenecks during the development of new models and factory operations. According to Ma, Z., poor quality control often contributes to these delays, which generally leads to cancellment of orders and negative coverage [10]. Bhardwaj, S. et al. also mentions these concerns, stressing that price of raw material needs to be stabilized and current models have to be supervised [11]. On the grounds of these efforts, vehicles with higher efficiency should be produced on a large scale. The study further contrasts Tesla’s impressive equity value and massive media presence with its remarkably low sales of electric vehicles, emphasizing its little experience in repair, used sales, recycling, scrap and waste. By comparing the company to Ford, the scholars notes the latter firm’s huge sales and service, pointing out that Tesla’s service after sale should be improved in the future. Liu, Y. et al. also contributes to this field of anal-

ysis, which describes Tesla as having minimal expertise creating and scaling vehicle manufacturing lines across factories and countries [12].

3.3 Market Competition

As mentioned by Bhardwaj, S. et al., Tesla is built upon the capital inflow contributed by investors, which depends on their confidence in the company's future development after initial excitement about the firm's innovative capabilities, investors started to doubt whether they should continue to support the firm or not [11]. In order to boost the morale of its supporters, Tesla should keep working on innovation. Furthermore, the federal EV tax credit declines as the company's sales increases, which leads to a coincidence of the arrival of competitive electric vehicles with Tesla's exiting the market. In turn, the new entrants of the market become more attractive to outsiders. Liu, Y. et al. focuses on the competition from traditional vehicle manufacturing firms, holding BMW as an example of launching EV side projects in order to compete with Tesla in the electric vehicle industry [12].

4. Suggestions

4.1 Promoting Competitive Edge

Solutions for the problem of forbidding prices have been suggested by the studies above. To begin with, Tesla should reduce defects and accelerate scalability to improve its manufacturing efficiency and meet the increasing demand of electric vehicles. In addition, the firm needs to expand its lineup of affordable EV models, so that it can broaden its market reach, maintaining its competitive edge in the budget segment. In order to reach the customers by all means, the company should follow a business model that aims to provide better service. To be specific, the corporate has to concentrate on establishing sufficient charging stations and collaborate with governments for making charging facilities available. Apart from these suggestions, Tesla may also focus on environmental friendly strategies so as to boost the growth of EV sales, which rotates around the point of regarding the benefits of its shareholders.

4.2 Diversifying Supply Chain, Boosting Consumer Confidence

In terms of stabilizing raw material prices, Diversification of supply chains is recommended since it can help Tesla to mitigate its risks associated with social unrest and ensure that critical raw materials are constantly within stable access. Bhardwaj, S. et al. approaches this issue from a different degree, emphasizing the importance of customer value [11]. To be specific, the paper stresses the focus on customer value triad, which refers to quality, service and price. Accordingly, provision of benefits corresponding to the price of the product is advocated for, which should be implemented by working along with people, taking their feedback into account, and improving the company's performance in terms of transparency issues, which are crucial for gaining the trust of investors and customers. As a critical example, the EV model S was facing suspension problems, which challenged the confidence of the stakeholders.

4.3 Enhancing Level of Innovation, Maintaining Market Advantages

In order to maintain its competitive edge, continued investment in innovation is suggested for Tesla. In the field of autonomous driving, Full Self-Driving and AI technologies are listed as items essential for the solidification of the company's dominance. In addition, capitalizing on programs of renewable energy and electric vehicles offered by governments is recommended for strengthening the firm's market position. Apart from product innovation, Bhardwaj, S. et al. centers on exploring the global market [11]. To elaborate, forming a huge customer base before the competitors is emphasized, which is critical for exploiting the growth of the renewable energy industry.

5. Conclusion

This paper has provided a brief overview of Tesla's financial performance in recent years, identified several issues behind the company's success, and offered some insights into these problems. Although the company's financial statements indicate many strengths, Tesla experiences competition from other EV corporates in the fields of price and quality. Accordingly, this study recommends an improvement in manufacturing efficiency, supply chain, and technological innovation.

Despite multiple advantages, this research fails to explain how to better the interaction between Tesla's managers and its board. Future studies can further investigate the company's current management strategies and propose some feasible advice.

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