



Analysis of Company's Financial Situation: Taking Tesla Company as an Example

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Abstract. This study, set against the backdrop of the rapid expansion and intensifying competition in the global electric vehicle industry, analyses Tesla's financial performance (2018–2024) to assess its economic health, inventory management, and profitability amid rapid EV industry growth and competition. Findings reveal Tesla's total assets quadrupled to 122 billion by 2024, fueled by global expansion and technological innovation. Due to price wars, delayed product refreshes, and market saturation, net profits in 2024 dropped by 53 % to 7.15 billion. Inventory management followed an "expand- next- optimize" design, rising to 12.84 billion in 2022 from Gigafactory developments and supply chain disruptions, before declining 11.8 % in 2024 via AI-driven need modelling, giga casting adoption, and strategic price cuts. Despite operating changes, Tesla's inventory turnover ratio decreased to 8.05x in 2024, surpassing BYD's 12.4x, reflecting over-reliance on raw materials and geopolitical risks. According to the analysis, Tesla must balance creativity and cost effectiveness. Recommendations include expanding cheap models, optimizing AI-based generation scheduling to minimize inventory, and enhancing partnerships in important areas like China (36.7 % of global EV sales). Reducing mechanical margins by expanding revenue through the energy and solutions segments is crucial. This study provides stakeholders insight into Tesla's attractiveness in an evolving market. It emphasizes the necessity of aligning economic tactics with market dynamics in the capital-intensive EV business.

Keywords: Tesla, Financial Statement Analysis, Inventory Management, Profitability, Electric Vehicle Industry.

1 Introduction

The electric vehicle market is a rapidly growing business that is crucial for generating economic transformation and achieving energy conservation and emission reduction targets in the United States [1]. An electric vehicle provides great performance and meets the need for lower pollution [2-3]. As a result, many people are switching from standard to electric cars. Under this environment, the automotive industry has ushered in long-lost innovation, overturning gasoline-powered cars' prior hegemony and putting a lot of pressure on classic car manufacturers [4]. Over one million EVs were sold in the nation for the first time in 2023, a substantial increase of over 56 % over revenue

from 2022, according to Statista's information. This surge in EV deployment significantly improves environmental pollution and the country's energy mix [5].

Tesla, a world leader in the EV economy, has had great success worldwide thanks to its cutting-edge systems, creative business model, and appealing company. Tesla's rise has led to the development of EV technology and the automotive industry's transformation[6]. Based on a three-year ratio analysis of the company's financial position in 2020, Tesla has been ranked as the best plug-in marketing company in the world, with a 16 % market share and a 23 % battery-electric segment.

While experiencing rapid growth, tesla has faced difficulties in recent years, including increased market competition, shifting profitability, and production bottlenecks, despite experiencing rapid growth. This review aims to better understand its financial condition and operating performance by analysing Tesla's new financial statements, which reveal issues with the company's growth process and make related recommendations. In order to help owners, managers, and other stakeholders better understand Tesla's investment value and potential growth prospects, the significance of this study lies in providing decision-making recommendations.

2 Company Introduction

Tesla, Inc. (NASDAQ: TSLA), founded in 2003 and headquartered in Austin, Texas, has emerged as a global leader in electric vehicles, energy storage systems, and renewable energy solutions. Under the perception of CEO Elon Musk to "accelerate the nation's transition to sustainable energy", the firm has ultimately reshaped the automotive industry through technological innovation and vertical integration.

Its main competitive advantages are Tesla's custom EV infrastructure, battery technology, and autonomous driving systems. The company pioneered the creation of lithium-ion power packs with industry-leading power mass, as demonstrated by its 4680 architectural battery cells, which increase thermal control while lowering production costs by 56 %. It also challenges the conventional profit-making system, which relies entirely on front-end income. Tesla reduces equipment costs and concentrates on technology revenue and service subscriptions by bringing Autopilot, battery technology, and vehicle production together [7]. Normal Autopilot activities can be completed by Tesla's self-designed FSD processor with no impact on battery life, and its dual-core FSD3.0 has 72 TOPS*2 of arithmetic power, greatly surpassing NVIDIA's XAVIER [8].

3 Analysis of Financial Statements

3.1 Assets

The total assets of Tesla increased significantly over these seven years, rising from 29.7 billion in 2018 to 122 billion in 2024. This growth stems from increased revenue, new funding, jobs, or company mergers and acquisitions. Additionally, current assets are on the rise, rising from 8.3 billion in 2018 to 58.3 billion in 2023. Due to income growth,

inventory expansion, or accounts payable formation, there is a growing need for working capital to help with everyday activities.

Non-current goods experienced significant growth, rising from 21.4 billion in 2018 to 63.7 billion in 2024. This suggests that Tesla invested in developing intangible assets like inventions and kindness, increasing production capacity, and investing in more real estate and products.

Over the past seven years, Tesla's business has grown significantly, boosting its resource base substantially. The total debt burden is still manageable, despite additional responsibilities. However, the company's badly retained earnings suggest that Tesla is in a high-investment growth cycle or is suffering some profitability stress. To evaluate the company's financial health and potential for long-term growth, investors and collectors should closely check Tesla's profitability, income stream, and loan repayment ability (See Fig. 1).

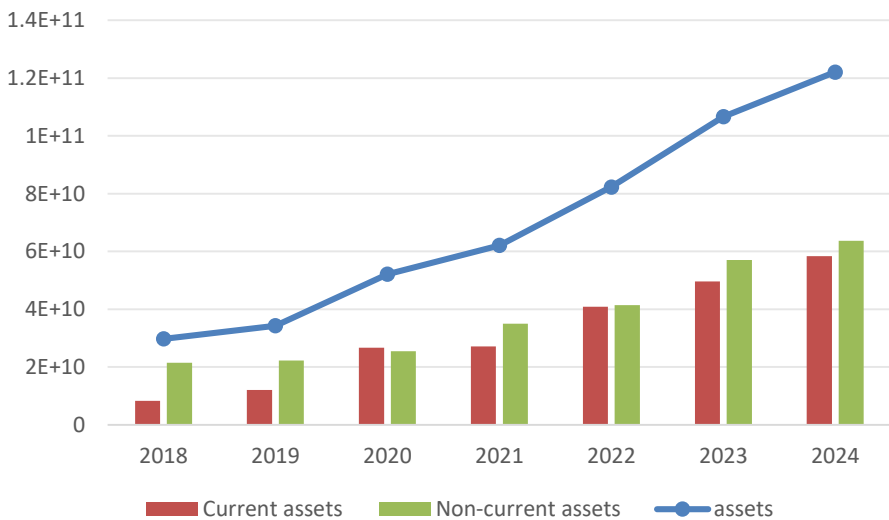


Fig.1. Tesla's asset change trend

3.2 Inventory

The mechanical production sector needs inventory management to reflect market demand, supply chain resilience, and efficiency. For Tesla, Inc., a pioneer in electric cars, inventory trends offer insight into its creation from a speciality entrepreneur to a global market leader. Generally speaking, Tesla's inventory levels have increased over its development, with stabilisation reflected in tactical changes and physical environmental problems.

Tesla's inventory experienced rapid growth, improving by 313 % from 3,128.4 billion to 11 billion and 12 billion in 2022. This surge was directly correlated with Tesla's global capacity expansion, as the construction of Gigafactory Shanghai (commissioned in 2019) and Gigafactories Berlin and Texas (both commissioned in 2022) led to a sig-

nificant increase in raw materials and work-in-progress (WIP) inventory. Active collecting was necessary due to silicon shortages and operational issues in 2020 and 2022. Supply growth was offset by inventory growth, which suggests an intentional inventory oversupply to lessen possible bottlenecks. Tesla's significant investments in battery technology growth, including preparation for producing 4680 batteries, have also increased potassium stock, which will double between 2021 and 2022.

Following 2023, inventory development decelerated, and in 2024, inventory levels declined by 11.8 % season-over-season, indicating a strategic plan adjustment by the company. Tesla's regular distribution pattern was cut from 15 to 7 times in 2023, resulting in a lower finished car inventory thanks to more accurate demand forecasting. Inventory decreased to 2.017 billion in 2024, which is still higher than before the crisis. Additionally, Tesla implemented numerous price reductions in the Chinese market (with cumulative reductions on the Model 3 reaching 24 %) to reduce inventory turnover, but at the expense of per-vehicle profit margins, to counteract the pressures from BYD's 161 % sales growth in 2023. Tesla also implemented technological streamlining, with some components adopting Giga casting technology (such as the Model Y's single-piece rear underbody), which reduced the work-in-progress inventory by about 30 %. In contrast, power production was more dependent on external partners due to vertical integration.

Despite having a manageable general inventory, some issues warrant investigation. Generally, there's a reduction in inventory turnover, with Tesla's inventory turnover ratio shrinking from 10.2x in 2021 to 8.05x in 2024, trailing behind BYD's 12.4x in 2023. This reflects issues like Tesla's excessive emphasis on raw materials and political boundaries (See Fig. 2).

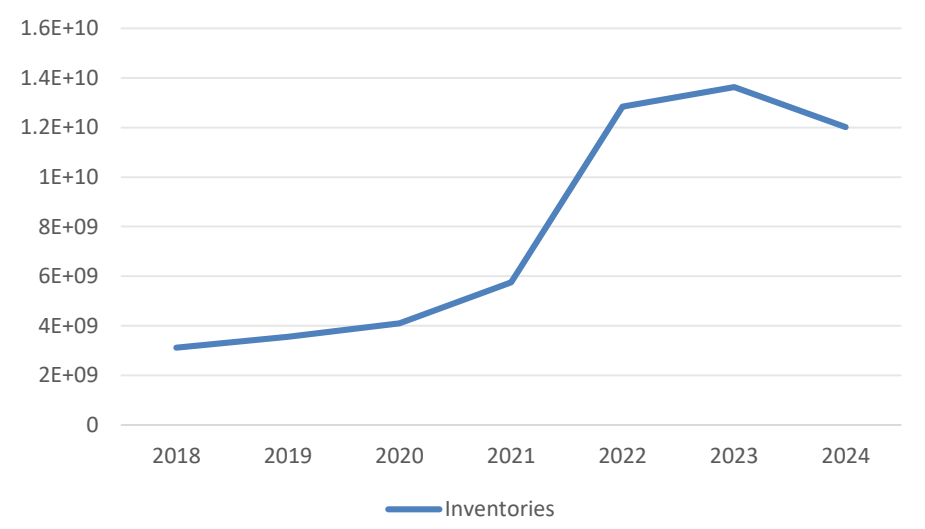


Fig. 2. Tesla's inventories change trend

3.3 Net Profit

A key sign of corporate profitability is net profit. Tesla's fluctuations reflect the electric vehicle (EV) industry's competitive and technological dynamics and operational strategies. Tesla's revenue growth trend has changed from rapid growth to considerable deceleration. During 2018–2020, Tesla achieved accelerated revenue growth following the mass production of the Model 3, with annual revenue increasing from approximately 21.46 billion in 2018 to 31.5 billion in 2020, achieving a compound annual growth rate (CAGR) of 38.7 %. Tesla's first-mover benefits in the electric vehicle market and increased production capacity largely contributed to this cycle. Tesla experienced hypergrowth between 2021 and 2022, with revenue increasing by a whopping 71 % year-over-year to 53.8 billion in 2021 and increasing by 81.4 billion in 2022 (51 % YoY growth). The rapid expansion of Gigafactory output, the success of Model Y, and the explosion of global need for EVs contributed to this achievement. However, Tesla's revenue growth significantly slowed between 2023 and 2024. In 2023, revenue increased by 9 % YoY to 96.7 billion, followed by a marginal 1 % increase to 97.69 billion in 2024. Notably, automotive revenue declined by 6 % in 2024, while energy and services businesses emerged as new growth drivers, posting 67 % and 27 % revenue increases, respectively. From 2018 to 2023, Tesla's net profit increased gradually. The business became successful in 2020 after running at a loss in 2018 and 2019. Online salaries increased to 5.64 billion in 2021, \$12.59 billion in 2022, and 14.97 billion in 2023, respectively. However, a dramatic turnaround occurred in 2024, with a 53 % decrease in net profit to 7.15 billion. Increased market competition, weak type updates, and intensifying price wars contributed to this decrease (See Fig. 3).

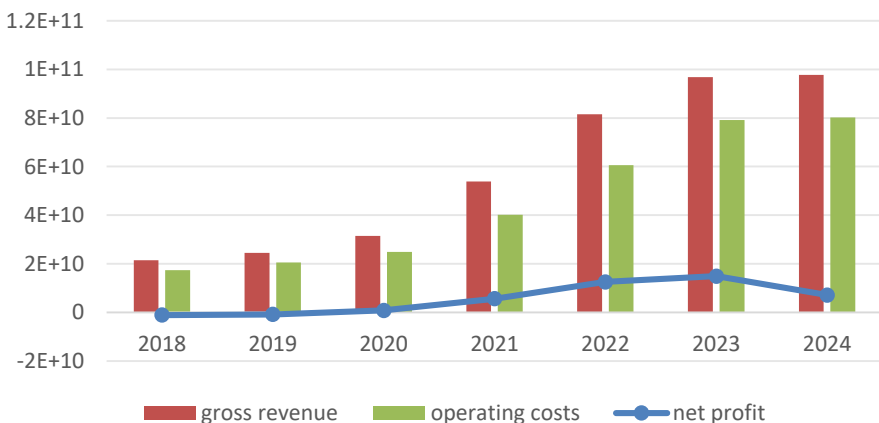


Fig. 3. Tesla's revenue change trend

4 Suggestions for Tesla

Tesla faces intensifying competition, particularly from Chinese automakers like BYD and Xiaomi, which are rapidly closing the technology gap while offering lower-priced

models. Because there are so many competitors of similar sizes, they must compete on price and develop unique advantages to attract customers [9]. To regain momentum, Tesla must launch affordable models. Expedite the release of the \$25,000 "Model 2" to target mass-market consumers, as delayed product refreshes have eroded its competitive edge. For instance, since its launch in 2020, Model Y hasn't received significant updates, whereas BYD has updated 90 % of its lineup that same year. Tesla needs to diversify its product line, too. Create cheap EVs in emerging businesses and small Vehicles or hybrid models tailored to local tastes, such as those for SUVs and trucks in the US.

Additionally, Tesla's inventory increased to 12.84 billion in 2022 due to wastage and frequent supply chain disruptions, leading to a significant delay of 46,561 unused vehicles just in Q1 2024. To solve this inventory problem, Tesla should think about developing a double technique. First, the business has switched from a "produce initially" solution to a more flexible order-driven design to acquire dynamic production scheduling. This can be accomplished using AI-powered demand forecasting to precisely correlate production output with current income trends. Next, Tesla aggressively increases its giga casting technology, as demonstrated by Model Y's single-piece underbody, to reduce its work-in-progress inventory. This automation of manufacturing can potentially reduce WIP inventory by up to 30% by lowering component difficulty.

Given the increasing complexities of the global landscape, it is crucial for Tesla to proactively navigate geopolitical and regulatory risks to sustain its long-term growth [10]. First, maintaining its dominance in China, which accounted for 36.7% of global battery electric vehicle sales in 2024, should remain a key priority. This can be achieved by further deepening partnerships with local suppliers, building on the existing strong foundation where 95% of components for the Shanghai Gigafactory are already domestically sourced. Second, to foster favorable operating conditions in other key markets, particularly in Europe and the U.S., Tesla must actively engage in policy advocacy. This includes strategically lobbying for policies conducive to EV adoption, such as tariff exemptions for locally produced vehicles and accelerated approvals for Full Self-Driving capabilities.

5 Conclusion

In light of the expanding US electric vehicle business and growing competition, this study examined Tesla's financial performance between 2018 and 2024. Tesla's total assets increased tenfold, reaching 122 billion by 2024, but its net profits significantly decreased by 537.15 billion. In 2022, inventory management experienced an "expand-next-optimise" design, peaking at 12.84 billion before a corresponding 11.8 % reduction due to improved need forecasting and technical advancements. The findings suggest that Tesla needs to concentrate on the proper release of mass-market EVs, use AI for simplified production, and strengthen regional partnerships, particularly in China, a crucial EV market, to overcome profitability and value management issues. Investors, directors, and stakeholders in the capital-intensive green sector gain from the study.

The reliability of the analysis may have been affected by the use of publicly accessible financial statement data and Tesla's internal working data. Additionally, this study primarily relies on financial ratio analysis techniques and omits more in-depth statistical analysis. These should be studied more in the future.

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