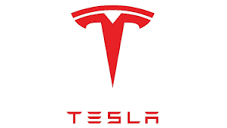
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**Ejikeme Justine Ekwem**

Id: 10261843

“A Project Analysing the Internal strategy of Teslar Motors”.

###### Course work: Tesla motors

###### BM704-International Finance

###### Module Leader: Muhammad Khurram

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**1.0. Introduction**

Tesla Inc., a pioneering car manufacturing company founded in 2003 by visionaries Elon Musk, Marc Tarpenning, and Martin Eberhard, set out with a bold mission to revolutionize the automotive industry by championing electric vehicles (EVs) over traditional internal combustion engine vehicles (Stringham et al., 2015). Headquartered in San Carlos, California, Tesla quickly became synonymous with innovation in the realm of sustainable transportation.

The core of Tesla's operations lies in the design, development, and manufacturing of cutting-edge electric vehicles, setting new benchmarks for performance, range, and sustainability. Beyond its automotive sector, Tesla also ventures into energy storage systems, offering solutions for renewable energy generation and storage. Additionally, the company provides sales and lease services for its electric vehicles, catering to a global market of environmentally conscious consumers.

In the financial realm, Tesla has showcased remarkable growth and fluctuations over recent years. The company's total automobile sales revenue in 2021 surged to an impressive $47,232 million, marking a substantial increase from $27,236 million in the previous year of 2020. However, despite the soaring revenue figures, Tesla reported a total net loss of $5,519 million in 2021, a notable contrast to the $721 million loss reported in 2020, as highlighted in the Tesla annual report for 2021.

The study aims to delve deep into the factors that influenced Tesla's financial performance for the fiscal years ending December 31, 2021, and 2020. By conducting a comprehensive analysis of market trends, technological advancements, regulatory changes, and strategic decisions made by the company, the study seeks to provide insights into the dynamics that shaped Tesla's financial landscape.

Through this in-depth analysis, the study aims to provide stakeholders, investors, and enthusiasts with a nuanced understanding of Tesla's financial performance drivers, challenges faced, and strategic directions taken during the pivotal years of 2021 and 2020. By uncovering the intricacies of Tesla's operations and market positioning, the study seeks to offer valuable insights into one of the most disruptive and innovative companies in the automotive and clean energy sectors using two key factors-covid 19 and digital investment.

###### 1.1. Challenges of Covid-19

The onset of the Covid-19 pandemic in early 2020 brought to the forefront the critical importance of a healthy and sustainable environment. The impact of the pandemic was not only felt in terms of public health but also reverberated across global economies, leading to significant disruptions in various sectors.

One notable effect of the Covid-19 pandemic was the sudden and sharp decline in the labour market of several developed economies, with China being one of the primary examples. Research conducted by Wang et al. (2020) highlighted a substantial drop of 16% in the Chinese labour market compared to the previous year. This decline served as an indicator of the severe economic repercussions of the pandemic, as businesses grappled with lockdowns, supply chain disruptions, and reduced consumer demand.

The data further revealed that the total number of hours worked plummeted by a staggering 30% between December 2019 and February 2020, underscoring the profound impact of the pandemic-induced restrictions on economic activity. Businesses across various sectors were forced to scale back operations, implement remote work arrangements, or even suspend activities altogether in response to lockdown measures and social distancing protocols.

The sharp decline in the labour market and working hours reflected the widespread uncertainty and challenges faced by businesses and workers alike during the initial stages of the pandemic. Industries such as travel, hospitality, retail, and manufacturing experienced particularly severe disruptions, leading to layoffs, furloughs, and reduced work hours for many employees.

Moreover, the economic downturn highlighted the vulnerabilities of existing labour market structures and the need for resilience in the face of unforeseen crises. Governments and organizations were prompted to rethink policies, support mechanisms, and contingency plans to mitigate the impact of future disruptions.

From an environmental perspective, the slowdown in economic activity during the pandemic also had notable effects. Reports indicated significant reductions in air pollution levels and carbon emissions in major cities worldwide as transportation and industrial activities decreased. This unintended consequence offered a glimpse of the potential benefits of transitioning to cleaner and more sustainable modes of operation in the long term.

###### ****1.1.1. Effect of the covid 19 Challenge on Tesla motors****

Certainly, the Covid-19 pandemic had significant effects on Tesla Motors, impacting various aspects of its operations, sales, and financial performance. Two key effects of the pandemic on Tesla Motors are discussed below:

###### Shift in Consumer Behavior and Sales Channels

The Covid-19 pandemic brought about unprecedented disruptions to various industries, and the automotive sector was no exception. One significant impact was the reduction in movement and travel restrictions imposed worldwide, which directly influenced the demand for new cars, including Tesla vehicles.

As people stayed home and travel was restricted, the demand for new cars experienced a noticeable decline. This shift in consumer behaviour resulted in a decrease in car purchase demand across regions, including those served by Tesla. The company faced challenges as orders for new vehicles decreased, leading to a surplus of undelivered cars.

Tesla, in its 2021 report, highlighted the secular decline in demand for its vehicles during the tumultuous year of 2020. The term "secular decline" implies a sustained, long-term decrease rather than a temporary fluctuation. This decline in demand was observed across various markets and regions where Tesla operates, indicating a global trend rather than a localized issue.

The situation posed significant challenges for Tesla, as the company had to adjust its production and delivery schedules to align with the reduced demand. The surplus of undelivered vehicles also affected the company's inventory management and financial performance.

**Supply chain disruption.**

The impact of the Covid-19 pandemic on the automotive industry, including Tesla, was profound and multifaceted. One notable effect was the reduction in movement and economic uncertainty, leading to a significant decline in the demand for new cars. As a result, Tesla, like many other automakers, faced challenges with undelivered vehicles and a decrease in car purchase demand.

The pandemic-induced lockdowns and restrictions across regions had a direct impact on Tesla's operational activities. For example, in China, one of Tesla's key markets, there were disruptions in production and delivery schedules. Research by Kemp and Spearritt (2021) highlighted the challenges faced by Tesla in maintaining its operational efficiency amidst the evolving pandemic situation. The company had to navigate supply chain disruptions, workforce safety protocols, and changes in consumer behaviour as people refrained from making large purchases during uncertain times.

Furthermore, Tesla experienced a notable increase in operating costs as it adapted to the new realities imposed by the pandemic. The need to ensure the safety and well-being of its employees, implement health protocols, and adjust production processes to comply with health guidelines all contributed to the rise in operational expenses. Additionally, the economic uncertainties and market volatility during the pandemic required Tesla to make strategic decisions to ensure its survival and continuity.

Tesla's annual report for 2021 highlighted these challenges, indicating a secular decline in the demand for its vehicles across various regions. The company grappled with the repercussions of reduced consumer spending, delayed deliveries, and fluctuations in market demand. Despite the challenges, Tesla remained resilient, adapting its strategies to navigate the uncertainties of the pandemic era.

###### ****1.1.2. Strategy implemented by Tesla motors during the Covid 19 Era.****

Certainly, Tesla implemented a series of strategies to adapt to the challenges posed by the Covid-19 era. These strategies were aimed at ensuring the safety of its employees, maintaining operational continuity, and sustaining its market position. Some key strategies implemented by Tesla during the pandemic include:

**Online Sales and Contactless Delivery**

To navigate these challenges, Tesla implemented strategic measures such as adjusting production levels, optimizing supply chain operations, and enhancing its online sales and delivery processes (Zhou, Y. 2023). The company also focused on maintaining customer engagement and loyalty through digital channels, offering virtual consultations, and providing flexible financing options (Teslar,2021)

**Health and Safety Protocols and Virtual collaboration**

In response to the operational disruptions and increased costs, Tesla implemented measures to optimize its operations and streamline processes where possible. This included prioritizing safety measures, reevaluating production schedules, and enhancing efficiency in its supply chain management(Teslar,2021).

**Financial Prudence and Cost Optimization**

During the Covid-19 pandemic, Tesla implemented various strategies to maintain financial prudence and optimize costs in response to the economic uncertainties and market challenges. These measures were aimed at ensuring the company's financial stability, preserving liquidity, and mitigating the impact of the pandemic on its operations. Some key aspects of Tesla's financial prudence and cost optimization strategies include Cost Reduction Initiatives, Capital Expenditure Optimization, Debt Management and Financing (Teslar,2021), **(Zhou, Y. 2023).**

###### ****1.2. (Investments in digital transformation and capabilities)****

Tesla's reputation as one of the most innovative companies in the world is deeply rooted in its pioneering approach to the application of artificial intelligence (AI) and the seamless integration of hardware and software in car manufacturing. This innovative culture has set Tesla apart in the automotive industry and beyond, driving advancements in electric vehicles and autonomous driving technology. These include artificial intelligence (AI) integration, energy innovation, hardware and software synergy, continuous research, and development.

###### 1.2.1. The impact of the digital transformation investments on Tesla motors

Tesla's strategic focus on digital investment has had a profound impact on its financial performance, as evidenced by the substantial increase in automobile sales revenue and gross profit from 2020 to 2021. The company's forward-looking approach to technology and digitalization has not only driven revenue growth but has also enhanced operational efficiency and customer engagement. Here are some key points highlighting the impact of Tesla's digital investment:

1. **Revenue Growth**:
   * Tesla's digital initiatives, including online sales platforms and virtual showrooms, have significantly boosted its automobile sales revenue.
   * The company reported a remarkable increase in sales revenue from $27,236 million in 2020 to $47,232 million in 2021, representing a substantial growth of over 73%.
   * The digital platforms enabled customers to browse, configure, and purchase Tesla vehicles online, catering to the evolving preferences for convenient and contactless transactions.
2. **Gross Profit Expansion**:
   * Tesla's digital transformation efforts have also translated into a substantial increase in gross profit, reflecting the efficiency gains and cost optimization achieved through digital channels.
   * The company reported a notable rise in gross profit from $6,630 million in 2020 to $13,606 million in 2021, marking a significant growth of over 105%.
   * By leveraging digital technologies for supply chain optimization, production efficiency, and customer relationship management, Tesla improved its profit margins and operational effectiveness.
3. **Online Sales Platforms**:
   * Tesla's emphasis on online sales platforms, coupled with seamless digital customer experiences, has been a key driver of revenue growth.
   * The company's website and mobile app provide customers with intuitive tools to explore Tesla's product offerings, configure vehicle options, and complete transactions.
   * The convenience of online purchasing, coupled with transparent pricing and detailed product information, has attracted a growing number of customers to choose Tesla vehicles.
4. **Digital Customer Engagement**:
   * Through its digital channels, Tesla has enhanced customer engagement and brand loyalty, fostering a strong community of Tesla enthusiasts.
   * The company actively engages customers through social media, online forums, and digital marketing campaigns, creating a sense of belonging and advocacy among Tesla owners.
   * Digital platforms also enable Tesla to gather valuable customer feedback, insights, and preferences, which inform product development and marketing strategies.
5. **Remote Updates and Enhancements**:
   * Tesla's over-the-air software updates have become a hallmark of its digital innovation, allowing for continuous improvements and feature enhancements for existing vehicles.
   * Customers benefit from regular updates that introduce new functionalities, improve performance, and enhance safety features without the need for physical visits to service centres.
   * This dynamic approach to vehicle software management ensures that Tesla vehicles remain cutting-edge and competitive in the market, driving customer satisfaction and retention.
6. **Market Expansion and Accessibility**:
   * The accessibility of Tesla's digital platforms has enabled the company to expand its market reach beyond traditional automotive sales channels.
   * Tesla's online presence has facilitated market entry into new regions and countries, where customers can engage with the brand and make purchases without the need for physical dealership networks.
   * The digital-first approach has democratized access to Tesla vehicles, making them more accessible to a broader range of consumers globally.

However, the company substantial digital investment has had a mixed impact on its financial performance, as evidenced by the significant increase in operating expenses, leading to a higher net loss in 2021 compared to the previous year. While the company's digitalization efforts have driven revenue growth and operational efficiencies, the corresponding rise in expenses has resulted in a widened net loss. Here are some key points highlighting the impact of Tesla's digital investment on its financial results:

**Rising Operating Expenses**

Tesla's strategic focus on digital transformation and technological innovation has led to a substantial increase in operating expenses.

The company has invested heavily in research and development (R&D) to advance its electric vehicle (EV) technology, autonomous driving capabilities, and energy solutions.

Tesla's efforts to expand its production capacity, develop new vehicle models, and enhance software capabilities have contributed to the rise in operating costs.

The company's ambitious plans for Gigafactories, Supercharger networks, and battery manufacturing facilities have also added to the overall operating expenses.

**Investments in Growth Initiatives**

Tesla's digital investment includes significant spending on growth initiatives aimed at expanding its market reach and product offerings.

The company's entry into new markets, both domestically and internationally, requires substantial investments in infrastructure, sales channels, and regulatory compliance.

Tesla's efforts to establish itself as a leader in the electric vehicle market, renewable energy sector, and energy storage solutions have necessitated substantial capital expenditures.

The company's acquisitions, partnerships, and strategic alliances in areas such as artificial intelligence (AI), battery technology, and software development have also contributed to the rise in expenses.

**Net Loss Impact**

The significant increase in operating expenses, driven by Tesla's digital investment and growth initiatives, has resulted in a higher net loss for the company.

Tesla reported a net loss of $5,519 million in 2021, compared to $721 million in 2020, reflecting the impact of the increased expenses on its bottom line.

While the rise in revenue and gross profit has been substantial, the corresponding rise in operating costs has outweighed these gains, leading to a widened net loss.

**1.2.2 Strategy implemented by Teslar to reduce cost on its operations**

Tesla's strategic approach to reduce high operating costs has been characterized by its implementation of a vertically integrated business model and its **zero-advertising** budget strategy. These initiatives have played a significant role in streamlining operations, improving efficiency, and ultimately contributing to the company's financial performance. Here's a brief expansion on these strategies:

**Vertically Integrated Business Model:**

Tesla's vertically integrated business model involves controlling and owning various stages of the production and supply chain, from manufacturing to sales and distribution.

By vertically integrating its operations, Tesla has reduced dependency on external suppliers and partners, thereby minimizing costs associated with outsourcing.

The company's manufacturing facilities, known as Gigafactories, produce key components such as batteries, drivetrains, and vehicle bodies in-house.

This approach allows Tesla to optimize production processes, ensure quality control, and reduce lead times, resulting in cost savings and improved operational efficiency.

The direct-to-consumer (B2C) sales model eliminates the need for traditional dealerships, reducing distribution costs and enabling Tesla to capture a larger share of the retail price.

**Zero Advertising Budget Strategy**

Tesla's unconventional approach of having zero advertising expenditure has been a hallmark of its marketing strategy.

The company relies heavily on word-of-mouth marketing, social media buzz, and organic brand advocacy to promote its products.

By eschewing traditional advertising channels such as TV commercials, print media, and billboards, Tesla avoids significant marketing expenses.

Instead, Tesla leverages its innovative products, high-profile events, and CEO Elon Musk's public presence to generate media attention and consumer interest.

This strategy not only saves on advertising costs but also aligns with Tesla's brand image of innovation, sustainability, and tech-savvy appeal.

Tesla's products, such as its electric vehicles and energy solutions, often garner widespread media coverage and public interest, further amplifying its brand visibility without the need for paid advertising.

**Cost Efficiency and Operational Streamlining**

The combination of a vertically integrated business model and a **zero-advertising** budget strategy has contributed to Tesla's overall cost efficiency.

By manufacturing critical components internally, Tesla reduces procurement costs, maintains control over quality standards, and avoids markups from suppliers.

The direct sales approach allows Tesla to eliminate intermediary costs associated with traditional dealership networks, resulting in savings that can be passed on to customers.

Additionally, Tesla's focus on operational streamlining, lean manufacturing principles, and continuous process improvements helps in reducing waste, optimizing resource allocation, and enhancing productivity.

The company's investment in automation and robotics in its production facilities further drives efficiency gains and cost reductions over time.

**Competitive Advantage and Market Positioning**

Tesla's cost-effective business model and marketing strategy provide a competitive advantage in the automotive and energy sectors.

The company's ability to offer innovative, high-quality products at competitive prices appeals to a broad range of customers, driving demand and market share.

Tesla's brand image as a disruptor in the industry, coupled with its environmentally conscious ethos, resonates with consumers seeking sustainable and technologically advanced solutions.

This unique positioning in the market, supported by efficient operations and minimal advertising costs, contributes to Tesla's strong brand loyalty and market success.

###### 2.0. Dividend policy

A dividend policy establishes the guidelines for distributing dividends to shareholders. Various types of dividend policies exist, such as stable, regular, residual, progressive, irregular, and zero dividend policies. Tesla Inc., since its inception, has not paid dividends to its shareholders. The company follows a zero-dividend policy, reinvesting all profits into future projects and expansion programs instead of distributing them to shareholders (Abonwara et al., 2021).

The academic theories on dividend policy are divided into two main schools of thought. The dividend irrelevance theorem, as proposed by Modigliani and Miller (1961), argues that a firm's dividend policy is irrelevant to its value. Tesla aligns with this theory, operating under a zero-dividend policy, as it believes in reinvesting profits into future projects and expansion rather than paying dividends to shareholders. In contrast, the dividend relevance theorem by DeAngelo and DeAngelo (2006) contends that organizations should pay dividends to attract new investors. This theory emphasizes the idea that a known dividend is more valuable than potential future gains, as expressed by the slogan "a bird in the hand is worth a million in the bush" associated with the relevance theory school of thought.

###### ****2.2. Sources of finance****

Tesla's sources of finance are categorized into equity and liability. The total shareholder equity funds amounted to $22,225 million in 2020 and increased to $30,189 million in 2021. The company's liabilities include both short-term and long-term debt. The total current liabilities were $14,248 million in 2020, rising to $19,705 million in 2021, as detailed in the company's balance sheet provided in Appendix A of Tesla's annual report for 2021. Additionally, long-term liabilities amounted to $12,170 million in 2020 and decreased to $10,483 million in 2021.

**2.2.1. Equity financing**

In 2020 and 2021, Tesla issued nearly 1 billion units of equity shares. The paid-in capital for 2020 was $27,260 million, which increased to $29,803 million in 2021, as reported in Tesla's annual report for 2021. The balance sheet also includes information on retained earnings and accumulated other comprehensive income, with detailed figures provided in Appendix A of the report.

2.2.2. Debt financing

The balance sheet provided in Appendix A details the breakdown of Tesla's current liabilities and long-term debt/borrowings. Current liabilities are segmented into financial leases, accounts payable, accrued liabilities, deferred revenue customer deposits, and current debt. Long-term debt includes debt, deferred revenue, and other liabilities, as outlined in Tesla's Annual Report for 2021.

2.2.3. Gearing Ratio

The gearing ratio assesses the capacity of the firm to pay its interest on loans from its operating profit (Bragg, 2017). The formula is: non-current liability/ non-current liability + total equity \* 100.

###### 2021

###### 10,843/10,843+30,189 \* 100

###### 10843/41,032 \* 100

###### 26.43%

###### 2020

###### Long term debt/ Long term debt + Total shareholders’ Equity \* 100

###### 14,170/14,170+22,225 \*100

###### 14,170/36,395 \*100

###### 38.93%

###### The gearing ratio for 2021 and 2020 is 26.43% and 38.93% respectively (see table below).

|  |  |  |
| --- | --- | --- |
| GEARING RATIO |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Long term debt | 10843 | 14170 |
| Long term debt | 10843 | 14170 |
| Total shareholders Equity | 30189 | 22225 |
|  | 41,032.00 | 36,395.00 |
|  | 0.26 | 0.39 |
| multiply by 100 | 26.43 | 38.93 |

###### Table 2.2.3. Gearing ratio of Tesla for 2021 and 2020.

Table 2.2.3 provides a snapshot of Tesla's debt and equity ratios, revealing a significant shift in the company's financing strategy over the years. In 2020, Tesla had a debt ratio of 38.93%, indicating a considerable reliance on debt to finance its operations and investments. However, by 2021, this ratio had decreased to 26.43%, showcasing a deliberate move away from debt borrowing as a primary financial strategy.

The decreasing debt ratio suggests that Tesla is prioritizing equity funding to fuel its business growth and expansion. This strategic shift not only reduces the company's dependence on external debt but also helps mitigate the pressure on its income(loss) due to interest payments on borrowed funds.

The table further illustrates Tesla's status as a low geared company in 2021, with a debt ratio of 26.43% and an equity ratio of 73.57%. In comparison, the figures for 2020 show a debt ratio of 38.93% and an equity ratio of 61.07%. This increase in the equity ratio highlights Tesla's strengthened financial position, with a larger portion of its capital being funded by equity rather than debt.

The higher equity ratio is advantageous for Tesla as it can help boost the company's market value. It aligns with the traditional view of capital structure theory, which suggests that maintaining an optimal mix of equity and debt can maximize a firm's market value. By relying more on equity funding, Tesla is positioning itself for long-term financial stability and growth, while also adhering to established principles of capital structure management. This strategic approach to financing can contribute to Tesla's continued success and resilience in the market.

**3.0. Ratios**

Ratio analysis serves as a fundamental financial tool, providing valuable insights into a company's financial health and performance across various aspects. These ratios are crucial for understanding key aspects such as liquidity, profitability, efficiency, investment potential, and gearing position, among others (AlMarzooqi & Nobanee, 2020).

In the case of Tesla, the debt ratio and equity ratio play significant roles in understanding its capital structure and financial strategy. The debt ratio, calculated by dividing total debt by total assets, reflects the proportion of a company's assets financed by debt. A lower debt ratio, as seen in Tesla's improvement from 38.93% in 2020 to 26.43% in 2021, indicates a reduced reliance on debt financing. This strategy suggests that Tesla prefers to fund its operations and investments through equity, which can be seen in the higher equity ratio of 73.57% in 2021 compared to 61.07% in 2020.

The high equity ratio aligns with the traditional view of capital structure theory, which advocates for a balance between debt and equity to maximize the firm's market value. By relying more on equity funding, Tesla aims to reduce the financial risks associated with debt, such as interest payments and repayment obligations. This not only strengthens Tesla's financial position but also enhances its market value, as investors perceive lower financial risk and greater stability.

Furthermore, the shift towards a lower debt ratio and higher equity ratio indicates Tesla's conservative approach to financial management. This strategy may appeal to investors seeking companies with strong financial fundamentals and prudent financial policies. Overall, the ratio analysis underscores Tesla's strategic financial decisions and its commitment to maintaining a solid financial footing for sustainable growth and value creation.

3.1. Profitability ratio

The profitability ratio evaluates the company’s overall efficiency and performance, to generate a reasonable rate of return (Amalia et al., 2020). The **g**ross profit margin and Net profit margin ratio are used to analyze the financial health of the company’s 2021 and 2020 financial years**.**

###### 3.1.1. Gross profit margin

###### The formular is = Gross profit/Revenue \* 100.

###### 2021

###### 13606/53823\*100 =25.28%

###### 2020

###### 6630/31536\*100 =21.02%

###### The gross profit for 2021 and 2020 is 25.28% and 21.02% respectively (see table below)

|  |  |  |
| --- | --- | --- |
| Gross profit Margin |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Gros profit | 13,606.00 | 6,630.00 |
| Revenue | 53,823.00 | 31,536.00 |
| Gross profit Margin | 25.28 | 21.02 |
|  |  |  |

###### Table 3.1.1 shows the Gross profit margin of Tesla for year 2021 and 2020.

**Table 3.1.1 provides a detailed look at Tesla's gross profit margin, a key financial metric that reflects the profitability of the company's core operations. The gross profit margin is calculated by dividing gross profit (revenue minus cost of goods sold) by revenue expressed as a percentage.**

**In the case of Tesla, the table reveals a notable increase in the gross profit margin, rising by 25.28% in 2021 compared to the previous year. This significant growth margin suggests that Tesla's core operations are highly profitable. There are several factors that could contribute to this increase:**

**1. Increased Sales Revenue. One of the primary drivers of a higher gross profit margin is an increase in sales revenue. The table indicates that Tesla experienced a substantial growth in sales revenue in 2021. This could be attributed to various factors such as increased demand for electric vehicles, expansion into new markets, successful product launches, and effective marketing strategies.**

**2. Operational Efficiency. Another factor that could contribute to a higher gross profit margin is improved operational efficiency. Tesla may have streamlined its production processes, reduced manufacturing costs, optimized supply chain management, or implemented cost-saving initiatives.**

**3. Product Mix. Changes in the product mix can also impact on the gross profit margin. If Tesla introduced new, higher-margin products or shifted its focus towards more profitable vehicle models, it could lead to an overall increase in profitability.**

**4. Economies of Scale. As Tesla continues to grow and scale its operations, it can benefit from economies of scale. This means that the average cost of production decreases as the company produces more units, resulting in higher profitability.**

**The increase in the gross profit margin indicates a positive financial performance for Tesla in 2021. It not only reflects the company's ability to generate more profit from its sales but also suggests effective cost management and operational excellence. Investors and stakeholders often view a rising gross profit margin as a positive sign of a company's financial health and potential for future growth.**

###### 3.1.2. Net profit margin

###### The formular is = Net income (loss after tax)/Revenue \* 100.

###### 2021

###### 5519/53823 \*100= 10.25%

###### 2020

###### 721/31536 \*100 =2.29%

###### The Net profit margin for 2021 and 2020 financial year is 10.25% and 2.29% respectively (see Table below)

|  |  |  |
| --- | --- | --- |
| Net profit Margin |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Net income | 5,519.00 | 721.00 |
| Revenue | 53,823.00 | 31,536.00 |
| Net profit Margin | 10.25 | 2.29 |

###### Table 3.1.2 shows the Net profit Margin of Tesla for year 2021 and 2020.

Table 3.1.2 provides insight into Tesla's net profit margin, a key indicator of the company's profitability after all expenses, including operating expenses, interest, and taxes, have been deducted from revenue. A net profit margin is expressed as a percentage of revenue.

The table reveals a significant decrease in Tesla's net profit margin, showing a loss of 10.25% in 2021 compared to a loss of 2.29% in 2020. This decline indicates that the company's expenses, particularly operating expenses, outpaced its revenue growth, leading to a higher percentage loss.

Several factors could have contributed to this decrease in net profit margin:

1. High Operating Expenses**.** The primary reason for the decrease in net profit margin appears to be the substantial increase in operating expenses during the 2021 financial year. Operating expenses include costs such as research and development, marketing, administrative expenses, and other day-to-day operational costs. Tesla may have incurred higher expenses related to the development of new technologies, expansion of production capacity, or increased marketing efforts.

2. Investments in Growth Initiatives. Tesla is known for its ambitious growth plans, including the construction of new manufacturing facilities, expansion into new markets, and the development of new vehicle models and technologies. These growth initiatives require significant investments, which can **impact on** the company's profitability in the short term.

3. Impact of the Pandemic**.** The ongoing COVID-19 pandemic may have also played a role in the increased operating expenses. Companies across industries faced challenges such as supply chain disruptions, increased costs for health and safety measures, and shifts in consumer demand patterns.

4. Legal and Regulatory Costs**.** Tesla has been involved in various legal and regulatory issues, including lawsuits, investigations, and compliance costs. These legal expenses can add to the overall operating expenses and **impact on** the net profit margin.

5. Depreciation and Amortization: As Tesla continues to invest in property, **plants**, and equipment, depreciation and amortization expenses may have increased. These non-cash expenses reduce net income and can **impact on** the net profit margin.

While the decrease in **the net** profit margin is a concern, it is important to note that Tesla remains focused on its long-term growth strategy. The company's investments in research and development, new technologies, and expansion initiatives are aimed at securing its position as a leader in the electric vehicle market.

Investors and analysts will closely monitor Tesla's ability to manage its operating expenses while continuing to drive revenue growth. A key focus for the company will be to strike a balance between investing **in** the future and maintaining profitability in the near term.

3.2. Liquidity ratio.

Liquidity ratios are crucial indicators of a company's ability to meet its short-term financial obligations. They provide insight into a firm's ability to convert its assets into cash quickly to cover liabilities as they come due. Two common liquidity ratios are the current ratio and the quick ratio (also known as the acid-test ratio).

###### 3.2.1. Current ratio

The current ratio is calculated by dividing a company's current assets by its current liabilities. It provides a broad measure of a company's ability to pay off its short-term liabilities with its short-term assets. A higher current ratio generally indicates a stronger liquidity position.

Formula: Current Ratio = Current Assets / Current Liabilities

Interpretation: A current ratio of 1 or higher is generally considered satisfactory, as it means the company has enough current assets to cover its current liabilities.

###### 2021

###### 27100/19705=1.38

###### 2020

###### 26717/14248 =1.88

###### The current ratio for 2021 and 2020 financial year is I.38 and 1.88 respectively (see table below)

|  |  |  |
| --- | --- | --- |
| Current ratio |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Current Asset | 27,100.00 | 26,717.00 |
| Current liability | 19,705.00 | 14,248.00 |
| Current ratio | 1.38 | 1.88 |

###### Table 3.2.1. Current ratio of Tesla for the years 2021 and 2020.

The current ratio is a fundamental measure of a company's liquidity and its ability to cover its short-term liabilities with its short-term assets. In the case of Tesla, Table 3.2.1 indicates a decline in the current ratio from 1.88 to 1.38 over the financial periods under review.

The decrease in Tesla's current ratio from 1.88 to 1.38 suggests a change in its liquidity position. A current ratio above 1 indicates that Tesla has more current assets than current liabilities, which is generally seen as a positive sign. However, a declining current ratio could signify several factors:

1. Increase in Current Liabilities. The primary reason for the decline in the current ratio could be a significant increase in current liabilities. This might include obligations such as accounts payable, short-term loans, or accrued expenses. The rise in these obligations could have outpaced the growth in current assets.

2. Impact of Operating Expenses. Tesla’s operational activities, such as manufacturing, research, and development, may have led to higher current liabilities. Increased costs in these areas could have contributed to the rise in short-term obligations.

3. Investment in Growth. Another factor could be Tesla's strategic decision to invest in growth opportunities. This might involve capital expenditure, acquisitions, or expansion plans, leading to higher current liabilities.

Implications of the Current Ratio Decline:

While the decline in the current ratio may raise concerns, it's essential to consider the broader context and Tesla's financial strategy:

1. Short-Term Liquidity. A current ratio of 1.38 still indicates that Tesla has $1.38 in current assets for every $1 in current liabilities. This suggests that the company can cover its short-term obligations, although the margin has decreased.

2. Comparative Analysis. Tesla’s current ratio, even after the decline, remains above the industry average of 1.0. This indicates that Tesla is in a relatively strong position compared to its industry peers in terms of short-term liquidity.

3. Investor Confidence. Investors and creditors often look at the current ratio to assess a company's ability to meet its financial commitments. While a declining ratio may raise questions, Tesla's position above the industry average could instill confidence.

4. Financial Management. Tesla's management may be actively managing its working capital, balancing the need for liquidity with investments in growth. They may be using short-term financing options strategically to fund operations and expansion.

In conclusion, the decline in Tesla's current ratio from 1.88 to 1.38 indicates a shift in its liquidity position. However, Tesla remains in a strong position to meet its short-term obligations, as the current ratio is still above 1 and exceeds the industry average. This decline could be a result of increased current liabilities due to operating expenses, investments in growth, or other strategic decisions. Investors and stakeholders should view this change in the context of Tesla's overall financial strategy and industry standing.

###### 3.2.2. Quick ratio

The quick ratio, also known as the acid-test ratio, is a measure of a company's liquidity. It's calculated by dividing quick assets by current liabilities. Quick assets are assets that can be quickly converted to cash, such as cash itself, marketable securities, and accounts receivable.

###### The formular is = Current asset- inventories/current liabilities.

###### 2021

###### 27100-5757/19705=1.08

###### 2020

###### 26717-4101/14248=5.51

###### The quick ratio for 2021 and 2020 financial year is 1.08 and 5.51 respectively (see table below)

|  |  |  |
| --- | --- | --- |
| Quick ratio |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Current Asset | 27,100.00 | 26,717.00 |
| Current liability | 19,705.00 | 14,248.00 |
| Inventories | 5,757.00 | 4,101.00 |
| Quick ratio | 1.08 | 5.51 |

###### Table 3.2.2. Quick ratio of Tesla for the years 2021 and 2020.

The table indicates that the quick ratio declined from 5.51 in 2020 to 1.08 in 2021. This is a significant decrease, indicating a change in the company's ability to meet its short-term obligations using its most liquid assets.

1. Reason for Decline:
   * The decline is attributed to a high rise in current liabilities in 2021. Current liabilities are debts or obligations that the company needs to pay within one year.
2. Implication for Liquidity:
   * Despite the decline in the quick ratio, the analysis suggests that the company's liquidity position remains strong.
   * The quick ratio of 1.08 means that for every dollar of current liabilities, the company has $1.08 in quick assets. Generally, a quick ratio of 1 or higher is considered good, as it shows the company can cover its short-term liabilities.
   * The statement mentions that this 1.08 ratio is above the industry average of 1.0, which suggests the company is still in an excellent position to meet its current obligations.

###### 3.3. Efficiency ratio

Efficiency ratios are vital tools in evaluating how effectively a company uses its resources to generate revenue. For Tesla's financial assessment in 2020 and 2021, two specific efficiency ratios are highlighted: the Inventory Turnover Ratio and Receivable Turnover Days.

The Inventory Turnover Ratio indicates how many times a company sells and replaces its inventory within a specific period. A high ratio suggests efficient inventory management, minimizing the risk of obsolete stock.

Receivable Turnover Days, on the other hand, reveals the average number of days it takes for a company to collect payments from its customers. A lower number of days signifies quicker collection, ensuring a healthy cash flow cycle.

By examining these ratios for Tesla in 2020 and 2021, analysts can gain insights into the company's operational efficiency and financial health, offering valuable indicators for investors and stakeholders.

###### 3.3.1. Inventory turnover ratio.

###### The formular is cost sales/inventory= No. of times

###### 2021

###### 40217/5757=0.14 times.

###### To convert to number of days, multiply the number of times by 365.

###### 0.14\* 365 =52 days approximately

###### 2020

###### 24906/4101 = 0.16 times

###### To convert to number of days, multiply the number of times by 365.

###### 0.16 \* 365 = 60 days approximately

###### The inventory turnover for 2021 and 2020 financial year are approximately 52 and 60 days respectively (see table below)

|  |  |  |
| --- | --- | --- |
| Inventory Turnover |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| cost of sales | 40,217.00 | 24,906.00 |
| inventory | 5,757.00 | 4,101.00 |
| Inventory turnover ratio | 0.14 | 0.16 |
| multiply by 365 | 52.25 | 60.10 |
| Inventory Turnover days | 52 days | 60 days |

###### Table 3.3.1. Inventory turnover of Tesla for year 2021 and 2020.

The table indicates that Tesla's Inventory Turnover for 2021 improved to 52 days from 60 days in 2020. This means Tesla can sell its inventory within about two months, showcasing a faster turnover rate compared to the previous year.

A lower number of days for inventory turnover suggests that Tesla is managing its stock efficiently. This efficiency enables the company to generate more sales within the industry's average turnover period, indicating effective inventory control and potentially minimizing the risk of excess or obsolete inventory. This improved efficiency in managing inventory can lead to better cash flow and profitability for Tesla, reflecting positively on its operational performance.

###### 3.3.2. Receivable tturnover period

###### The formular is = Receivables/total revenue \*360

###### 2021

###### 1913/53823 \* 360 =0.04

###### To convert to number of days, multiply the number of times by 365.

###### 0.04\* 365= 13 days approximately

###### 2020

###### 1886/31536=0.06

###### 0.06\*365=22 days approximately

###### The receivable turnover days for 2021 and 2020 financial year are approximately 13 days and 22 days respectively. (see table below)

|  |  |  |
| --- | --- | --- |
| Receivable turnover days |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Receivable | 1,913.00 | 1,886.00 |
| Total revenue | 53,823.00 | 31,536.00 |
| Receivable turnover ratio | 12.97 | 21.83 |
| multiply by 365 |  |  |
| Receivable turnover days | 13 days | 22days |

###### Table 3.3.2. Receivable turnover days of the company for the years 2021 and 2020.

The table reveals that Tesla's Receivable Turnover decreased from 22 days in 2020 to 13 days in 2021. This indicates that Tesla is collecting payments from its customers more quickly in 2021 compared to the previous year.

A lower number of days for Receivable Turnover suggests that Tesla has an efficient debt recovery system in place. This efficiency may stem from the company's strong credit policies and effective management of accounts receivable.

By swiftly converting sales into cash, Tesla can improve its cash flow, reduce the risk of bad debts, and reinvest capital more promptly into operations or growth initiatives. This enhanced receivable turnover reflects positively on Tesla's financial health and operational effectiveness.

###### 3.4. Investment ratio

The Investment Ratio, representing the relationship between the money invested and the resulting profit, is crucial in evaluating a company's performance. For the analysis of Tesla's financial years 2020 and 2021, two key investment ratios are employed: the Price-to-Earnings (P/E) ratio and the Price-to-Sales (P/S) ratio.

The Price-to-Earnings ratio provides insight into how much investors are willing to pay per dollar of earnings. A high P/E ratio might suggest that investors expect strong future growth, while a low P/E ratio could indicate the opposite.

On the other hand, the Price-to-Sales ratio compares a company's market capitalization to its revenue. It helps investors assess how the market values the company's sales figures.

By examining these investment ratios for Tesla in 2020 and 2021, analysts can gauge investor sentiment, market expectations, and the company's overall valuation within the industry. These ratios offer valuable insights into Tesla's financial attractiveness and potential for future growth.

###### 3.4.1. Price-to-Earning ratio.

###### The formular is P/E = share price/Earnings per share.

###### 2021

###### EPS=Net income/no. of shares of common stock

###### 5,519000000/1,033000000 =5.34

###### Therefore, P/E = 907.34/5.34

###### P/E =169.91

###### 2020

###### EPS=EPS=Net income/no. of shares of common stock

###### 721000000/959000000 =0.75

###### Therefore P/E =863.42/0.75

###### P/E =1,149.45

###### The P/E for 2021 and 2020 financial year are 169.91 and 1149.45 while the Earning per share is 5.34 and 0.75 respectively. (see table below)

|  |  |  |
| --- | --- | --- |
| P/E RATIO |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Net income (loss) | 5,519,000,000 | 721,000,000.00 |
| No of shares of common stock | 1,033,507,611 | 959,853,504 |
| EPS | 5.34 | 0.75 |
| Share price | 907.34 | 863.42 |
| P/E RATIO | 169.91 | 1,149.45 |

###### Table 3.4.1. P/E ratio for 2021 and 2020 financial year.

The Price-to-Earnings (P/E) ratio in the table decreased from 1149.45 in 2020 to 169.91 in 2021, signaling a notable shift. This decline suggests that Tesla's stock was relatively overvalued in 2020 compared to 2021.

A lower P/E ratio often indicates that investors are willing to pay less for each dollar of earnings. This adjustment could be due to various factors. In the context of the pandemic, which disrupted global economic activities, Tesla's stock price might have fallen, leading to a decrease in the P/E ratio.

Investors may have reevaluated their expectations for Tesla's future earnings growth amidst the uncertainties brought by the pandemic. As a result, the stock was considered less expensive relative to its earnings, potentially attracting more investors.

The decline in the P/E ratio could also suggest a shift in market sentiment or revised growth projections for Tesla. Overall, it reflects a change in how the market values Tesla's earnings potential, possibly due to the evolving economic landscape during the pandemic.

3.4.2 Price-to-Sales ratio

The formular is = share price/sales share price

**2021**

Sales/share = Revenues/number shares of common stock outstanding

53,823,000,000 / 1,033,507,611 = 52.08

P/S=share price/sales share price

907.34/52.08=17.42(closing price)

**2020**

Sales per share = Revenues / No. shares of common stock outstanding

31536000000 / 959853504= 32.86

P/S=share price/sales share price

863.42/32.86=26.28(closing price)

The P/S for 2021 and 2020 financial year are 17.42 and 26.28 respectively. (see table below)

|  |  |  |
| --- | --- | --- |
| P/S RATIO |  |  |
| Variables | Dec 31,2021 | Dec 31 2020 |
| Revenue | 53,823,000,000 | 31,536,000,000.00 |
| No of shares of common stock | 1,033,507,611 | 959,853,504 |
| Sales share price | 52.08 | 32.86 |
| Share price | 907.34 | 863.42 |
| P/S RATIO | 17.42 | 26.28 |

###### Table 3.4.2. P/S ratio of the company for 2021 and 2020 financial year

###### The Price-to-Sales (P/S) ratio in the table shows a decrease from 26.28 in 2020 to 17.42 in 2021, indicating a shift in valuation. This decline suggests that Tesla's stock was relatively overvalued in 2020 compared to 2021 based on its sales figures.

###### A lower P/S ratio suggests that investors are paying less for each dollar of the company's sales. This could indicate a reassessment of Tesla's market value considering the economic downturn caused by the pandemic.

###### The economic challenges brought about by the pandemic likely influenced investor perceptions and market dynamics. Tesla's decreased P/S ratio could reflect a more conservative outlook on the company's revenue growth or a re-evaluation of its sales performance amidst the pandemic-induced uncertainties.

###### Investors may have adjusted their expectations, leading to a decrease in the stock's perceived valuation relative to its sales figures. This change in the P/S ratio indicates a shift in market sentiment regarding Tesla's revenue potential and its ability to navigate the challenges posed by the pandemic.

###### 4.0. Conclusion

###### Financial ratio analysis plays a crucial role in comprehensively analyzing and understanding a company's financial standing and associated risks. Through the examination of Tesla Motors' financial performance for 2021 and 2020, several key insights emerge.

###### The analysis indicates that Tesla operated at a loss for both the 2021 and 2020 financial years, despite achieving a high gross profit and increased sales revenue in 2021. This suggests that the company is prioritizing growth and market expansion over short-term profitability.

###### However, despite the losses, Tesla shows promising signs, especially in its potential to emerge as a leading manufacturer of electric vehicles. The financial ratios analyzed, coupled with the risk management strategies implemented during the challenges of the COVID-19 pandemic, indicate a solid foundation for future growth.

###### Tesla's focus on innovation and investment in digital technology for manufacturing electric vehicles is a strategic move for long-term success. While the financial returns from these investments may take time to materialize into positive income, the company's commitment to technological advancement positions it well for the future.

###### In conclusion, the financial analysis of Tesla Motors provides valuable insights into its operational efficiency, market valuation, and strategic direction. Despite the losses, Tesla's strong sales revenue and innovative approach suggest a promising outlook for its growth and potential dominance in the electric vehicle market.

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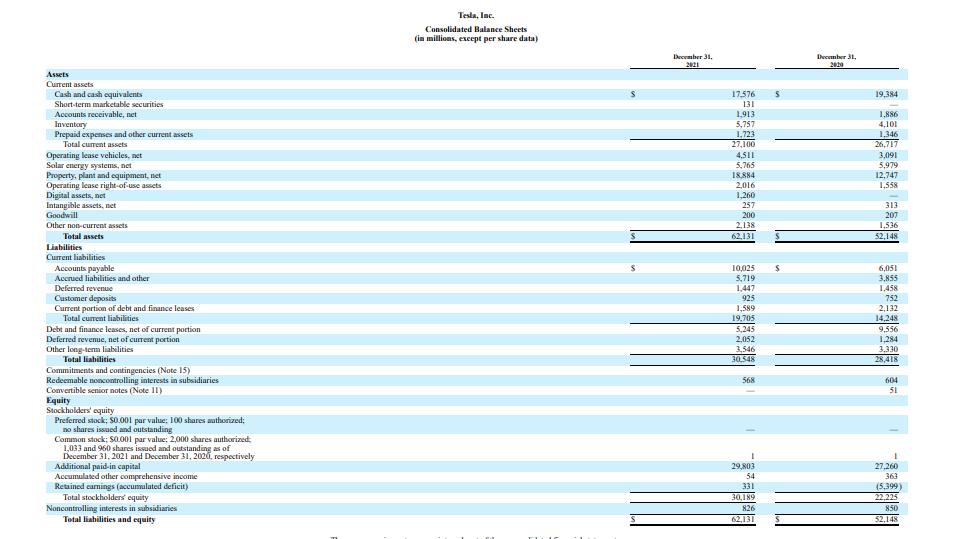
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**6.0 Appendix**

**Appendix A:**

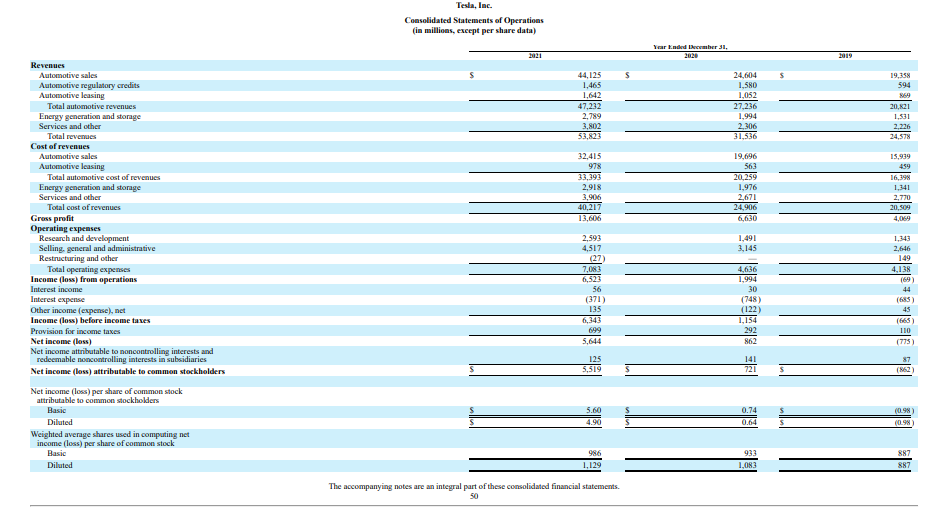
**Tesla Balance sheet for 2021 and 2022 financial year**



Source:Tesla Annual report 2021

**Appendix B:**

**Tesla consolidated statement of operation for 2021 and 2022 financial year**



Source:Tesla Annual report 2021