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Introduction

Tesla, Inc. is an international powerhouse in the electric vehicle (EV) sector, which is gradually becoming an AI-based mobility and energy platform. The company has undergone a swift expansion between 2020 and 2024, with the most revenue in 2024 of around $97.7 billion and a subsequent reduction to around $94.8 billion in 2025, accompanied by a reduction in net income of 46% (Tesla, 2025).

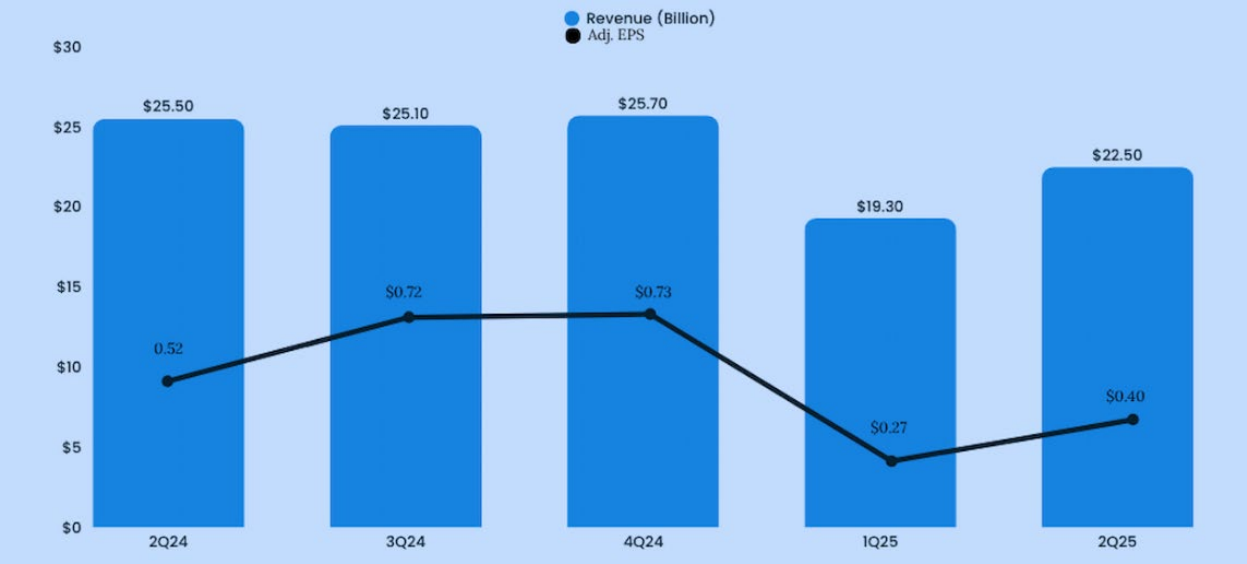

Figure 1: Tesla Revenue Trend (Tesla, 2025)

From a Chief Financial Officer (CFO) perspective, this report analyses the financial performance of Tesla, the new profitability and cost issues, and presents strategic financial restructuring and investment choices, that are consistent with the goal of maximising shareholder wealth and growth of long-term corporate value.

Financial Health Check

Revenue and Profitability Analysis

Gross Profit Margin

Gross profit margin evaluates the efficiency of the businesses in producing their goods after incurring direct costs of production (Evmenchik et al., 2021). For Tesla, this ratio is

significant since the production of vehicles, the price of batteries, and the pricing policy have a direct influence on the profitability and competitiveness in the EV market.

Formula:

$$Gross\ Profit\ Margin\ = \left(\frac{Gross\ Profit}{Revenue}\right) \times 100$$

Year	Revenue ($bn)	Gross Profit ($bn)	GPM (%)
2020	31.5	6.6	21.0
2021	53.8	13.6	25.3
2022	81.5	20.9	25.6
2023	96.7	24.9	25.7

Table 1: GPM for Tesla (Tesla, 2025)

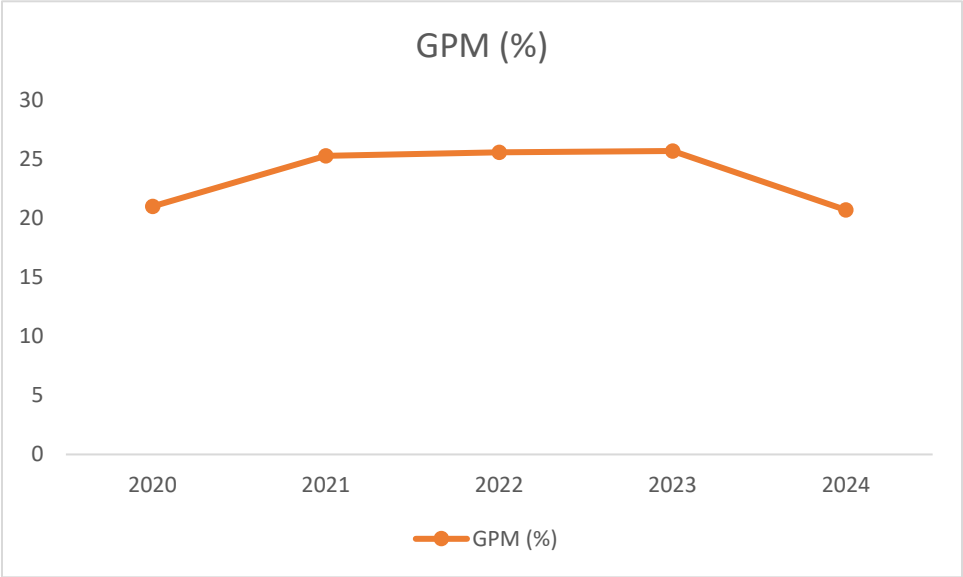

Figure 2: GPM for Tesla (Tesla, 2025)

This stability stayed at a range between 2021-2023 because of economies of scale and efficient production. Yet, it dropped considerably in 2024 as Tesla lowered prices on

vehicles to sustain its demand, which put more cost pressure and reduced profitability per unit (Tesla, 2025).

Operating Margin

The operating margin will indicate the leftover profit after operating costs like R&D and administrative costs. This is especially relevant to Tesla due to the significant investment in AI, autonomous driving, and innovation (Li, 2025).

Formula:

$$Operating\ Margin\ = \left(\frac{Operating\ Income}{Revenue}\right) \times 100$$

Year	Operating Income ($bn)	OM (%)
2020	2.0	6.3
2021	6.5	12.1
2022	13.7	16.8
2023	13.6	14.1
2024	9.6	9.8

Table 2: OM for Tesla (Tesla, 2025)

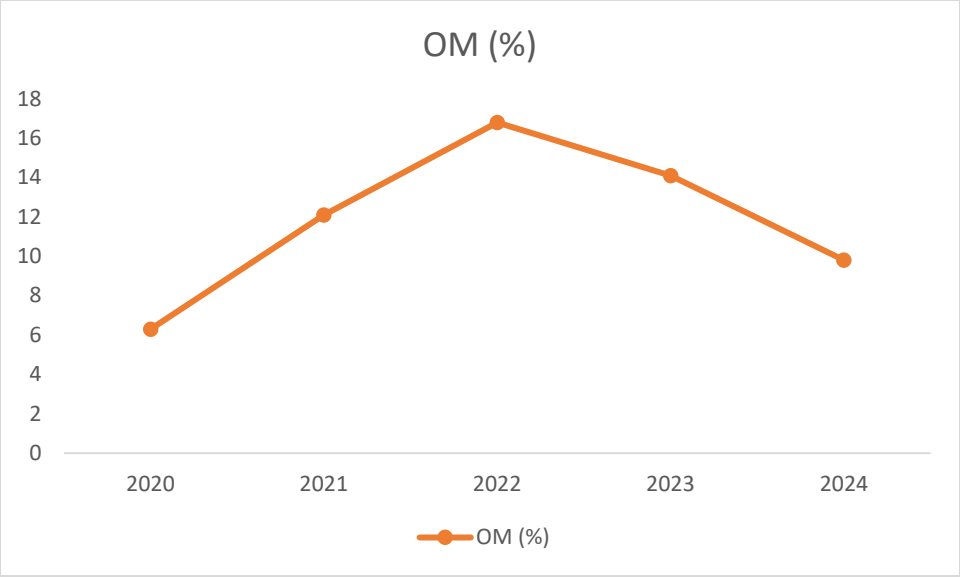

Figure 3: OM for Tesla (Tesla, 2025)

Sales and costs control contributed to the increase in the operating margin until 2022. It decreased later due to increased R&D expenditure and pricing approach indicating the transition of Tesla to long-term innovation compared to short-term gain (Li, 2025).

Net Profit Margin

Net profit margin is used to measure the overall profitability after all expenses, taxes, and costs. This is significant to Tesla because it represents the ultimate payback to the shareholders and implies financial viability (Wang, 2024).

Formula:

$$Net\ Profit\ Margin\ = \left(\frac{Net\ Income}{Revenue}\right) \times 100$$

Year	Net Income ($bn)	NPM (%)
2020	0.72	2.3
2021	5.5	10.2
2022	12.6	15.5
2023	15.0	15.5
2024	10.5	10.7

Table 3: NPM for Tesla (Tesla, 2025)

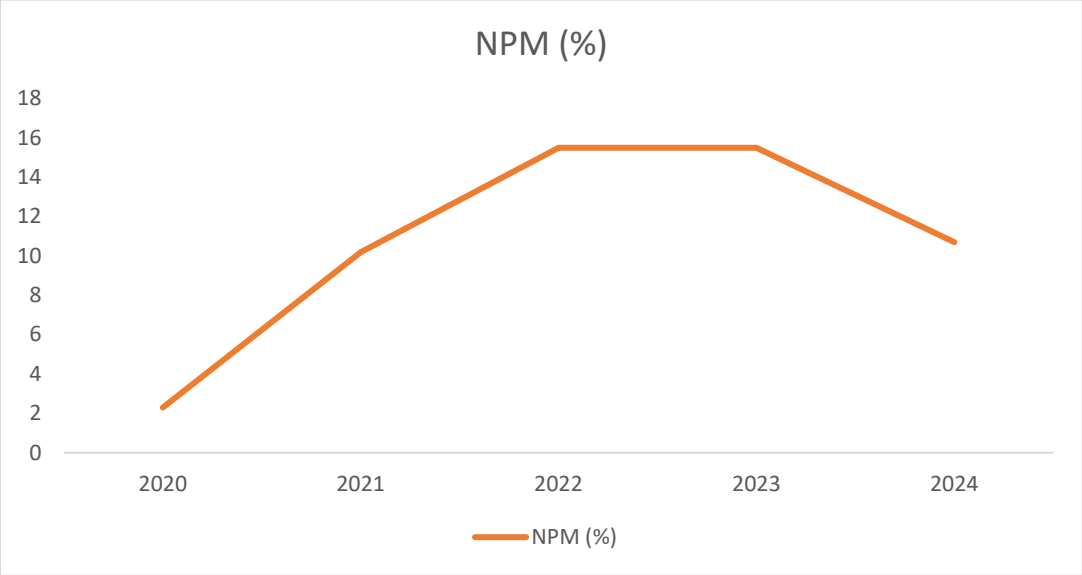

Figure 4: NPM for Tesla (Tesla, 2025)

The net profit margin has significantly increased until 2023 with the help of high demand and economy of scale. Nevertheless, it declined in 2024 because of intensive pricing, rising expenses, and strategic investment in AI-based services (Tesla, 2025).

Liquidity Analysis

Current Ratio

The current ratio is used to quantify the capacity of a firm to pay its short-term debts with its current assets. It reflects the general liquidity status and the financial soundness

in the short term. For Tesla, the ratio is especially significant since the company is involved in an EV business that is capital-intensive, and sustained production, supply chain payments, and investments in research and development demand a high level of liquidity (Almenhali et al., 2021).

Formula:

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

Year	Current Assets ($bn)	Current Liabilities ($bn)	Current Ratio
2020	26.7	24.9	1.07
2021	25.0	18.1	1.38
2022	40.9	26.7	1.53
2023	49.6	28.7	1.73
2024	50.2	30.5	1.65

Table 4: Current Ratio for Tesla (Tesla, 2025)

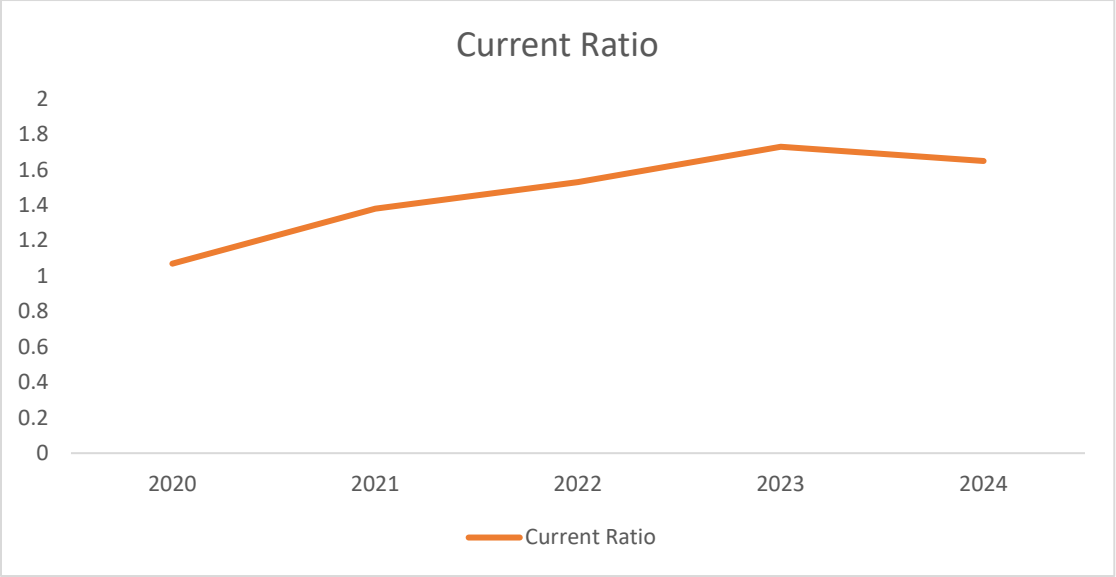

Figure 5: : Current Ratio for Tesla (Tesla, 2025)

The ratio indicates that the trend of 2020-2023 is an improving trend as Tesla is growing in cash and short-term assets due to increased vehicle sales. Nevertheless, current liabilities are rising, as shown by decline in 2024, probably because of expansion operations and operation expenditures. Although this has dropped, the ratio is still greater than 1 indicating that Tesla still has enough liquidity to meet the short-term commitments but with growing pressure (Tesla, 2025).

Quick Ratio

Quick ratio is used to assess the capacity of the company to cover the short-time liabilities without involving inventory but using the most liquid assets. The significance of this ratio to Tesla is that in the auto industry, inventory can take some time to break down into cash, particularly when there is a fluctuation in demand (Fang, 2022).

Formula:

$$Quick\ Ratio = \frac{(Current\ Assets - Inventory)}{Current\ Liabilities}$$

Year	Quick Assets ($bn)	Current Liabilities ($bn)	Quick Ratio
2020	21.0	24.9	0.84
2021	19.8	18.1	1.09
2022	32.1	26.7	1.20
2023	38.5	28.7	1.34
2024	36.0	30.5	1.18

Table 5: Quick Ratio for Tesla (Tesla, 2025)

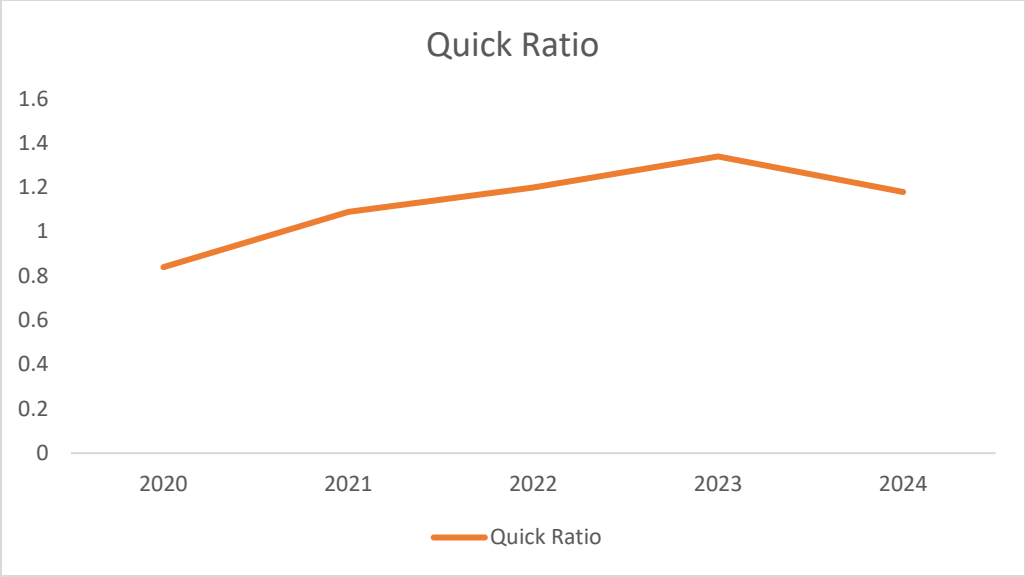

Figure 6: Quick Ratio for Tesla (Tesla, 2025)

The quick ratio is also improving until 2023 owing to high cash inflows and effective collection of receivables. The decrease in the later year shows that the company has more capital invested in inventory and operations an indication of Tesla aggressive production policy (Tesla, 2025).

Efficiency Analysis

Inventory Turnover

Inventory turnover is the efficacy with which a company utilises its inventory in terms of the number of times inventory is sold and replaced. For Tesla, this ratio is extremely important since efficient inventory management lowers holding costs and indicates high demand (Qingren, 2023).

Formula:

$$Inventory\ Turnover\ = \frac{Cost\ of\ Goods\ Sold}{Inventory}$$

Year	COGS ($bn)	Inventory ($bn)	Turnover
2020	24.9	4.1	6.07
2021	40.2	5.2	7.73
2022	60.6	12.8	4.73
2023	71.0	13.6	5.22
2024	77.5	14.2	5.46

Table 6: Inventory Turnover for Tesla (Tesla, 2025)

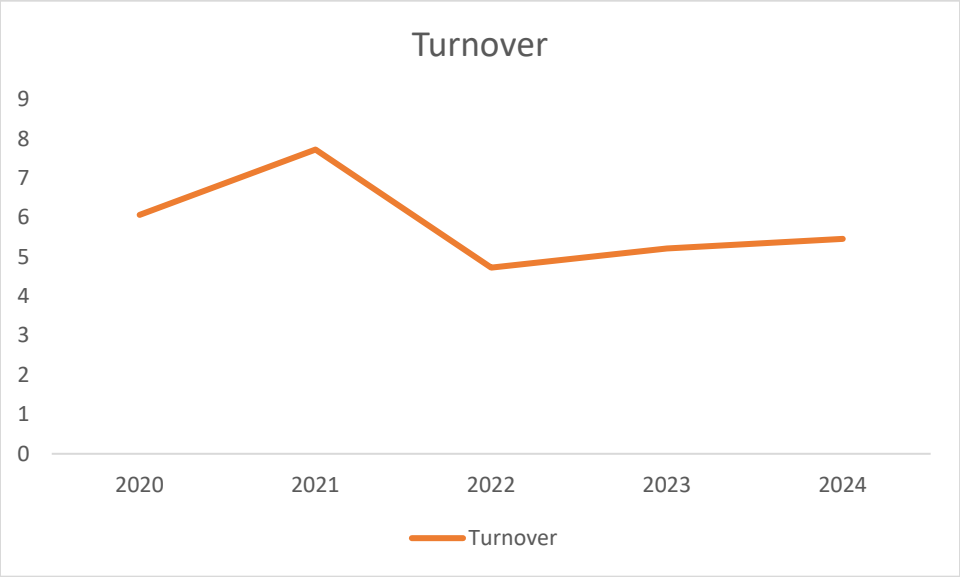

Figure 7:Inventory Turnover for Tesla (Tesla, 2025)

This first increased and then sharply dropped in 2022, which means that there is inventory build-up associated with expansion and supply chain changes. The upward trend that began in 2023 indicates that Tesla raised operational efficiency by improving production planning and Gigafactory optimisation (Qingren, 2023).

Receivables Turnover

Receivables turnover is used to determine the rate at which a business collects outstanding amounts of money. This is significant to Tesla because it has direct sales model, which is expected to lead to quicker cash collection (Ding, 2025).

Formula:

$$Receivables\ Turnover\ = \frac{Revenue}{Receivables}$$

Year	Revenue ($bn)	Receivables ($bn)	Turnover
2020	31.5	1.9	16.6
2021	53.8	2.0	26.9
2022	81.5	3.0	27.2
2023	96.7	3.5	27.6
2024	97.7	3.9	25.1

Table 7: Receivable Turnover for Tesla (Tesla, 2025)

High ratio shows that there is good collection efficiency. However, the decline is an indication of an extended credit period or slow collections which could be a result of expansion to new markets (Ding, 2025).

Asset Turnover

Asset turnover is the measurement of the efficiency of an organization in utilizing its assets to bring revenue. For Tesla, it is a significant ratio due to substantial investments in plants and infrastructure (Ding, 2025).

Formula:

$$Asset\ Turnover\ = \frac{Revenue}{Total\ Assets}$$

Year	Revenue ($bn)	Total Assets ($bn)	Turnover
2020	31.5	52.1	0.60
2021	53.8	57.8	0.93
2022	81.5	82.3	0.99
2023	96.7	106.6	0.91
2024	97.7	111.0	0.88

Table 8: Asset Turnover for Tesla (Tesla, 2025)

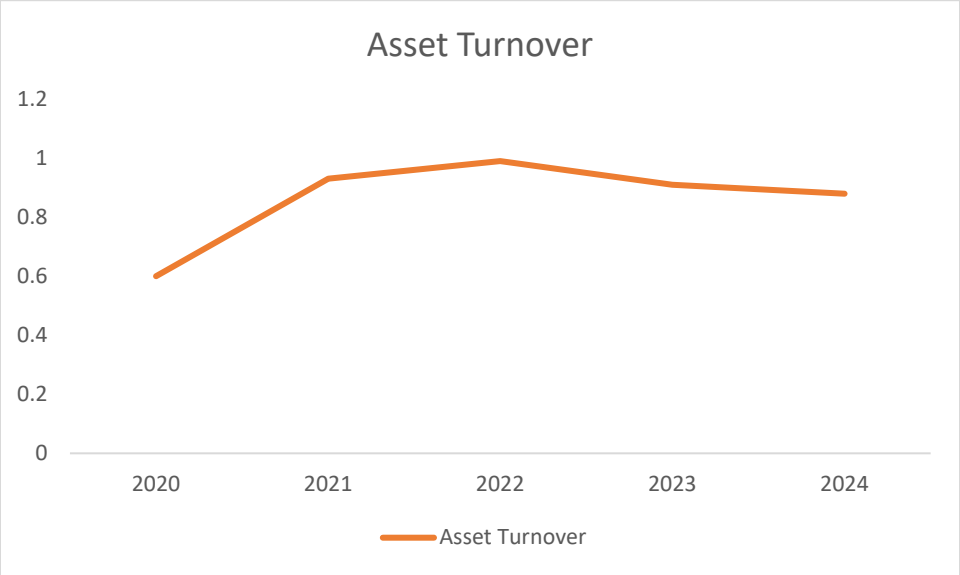

Figure 8: Asset Turnover for Tesla (Tesla, 2025)

This ratio reached its highest in 2022 and then fell indicating that the growth of assets is higher than revenue collection. This means that Tesla has long-term investments that have not been fully utilised (Ding, 2025).

Gearing / Capital Structure

Debt to Equity Ratio

Debt-to-equity ratio is a measure of how much of the financing is done by the debt as compared to the equity of the shareholders showing the degree of financial leverage of

a firm. For Tesla, the ratio is extremely significant as it indicates the financial risk of the company, the choice of capital structure, and the possibility to avoid external borrowing and finance such massive investments as Gigafactories and AI systems (Liu, 2021).

Formula:

$$Debt\ to\ Equity\ = \frac{Total\ Debt}{Equity}$$

Year	Debt ($bn)	Equity ($bn)	Ratio
2020	13.3	22.2	0.60
2021	8.1	27.1	0.30
2022	5.7	44.7	0.13
2023	5.1	62.6	0.08
2024	4.5	67.5	0.07

Table 9: Debt-to-Equity Ratio for Tesla (Tesla, 2025)

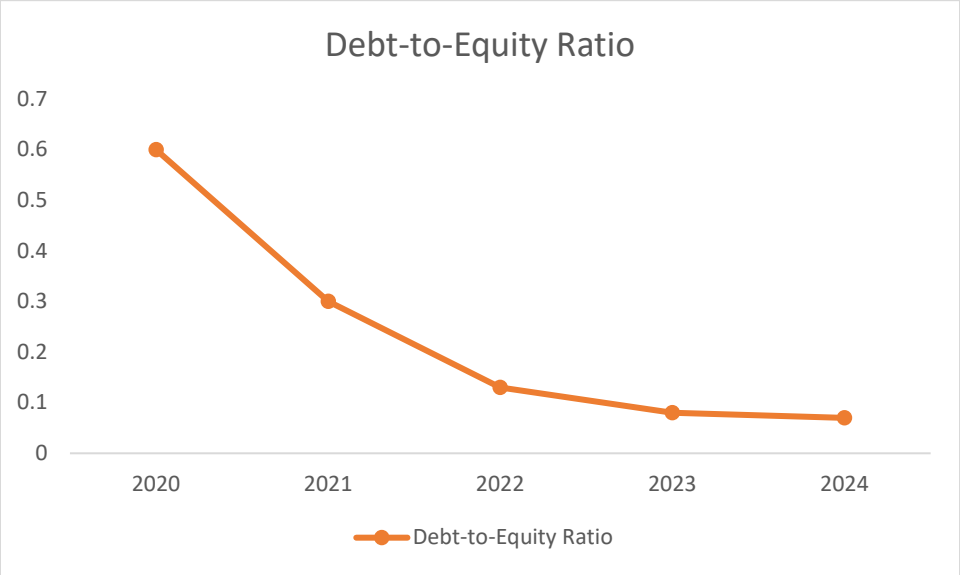

Figure 9: Debt-to-Equity Ratio for Tesla (Tesla, 2025)

The ratio reveals an overall downward trend with 0.60 in 2020 and 0.07 in 2024 which means that Tesla has greatly decreased its dependence on debt financing. This is an indication of a change in strategy to internal financing with high retained earnings. Theoretically, this is consistent with the Trade-off Theory in which Tesla reduces the cost of financial distress through a reduction of leverage (Tesla, 2025).

Interest Coverage Ratio

The interest coverage ratio is the measure of the firm capacity to pay its interests through the operating income. It is a major measure of financial security and viability. For Tesla, this ratio is essential as it highlights whether decreased profits influence its debt service capacity (Huang, 2023).

$$Interest\ Coverage = \frac{EBIT}{Interest}$$

Year	EBIT ($bn)	Interest ($bn)	Ratio
2020	2.0	0.7	2.9
2021	6.5	0.4	16.3
2022	13.7	0.3	45.7
2023	13.6	0.3	45.3
2024	9.6	0.3	32.0

Table 10: Interest Coverage Ratio for Tesla (Tesla, 2025)

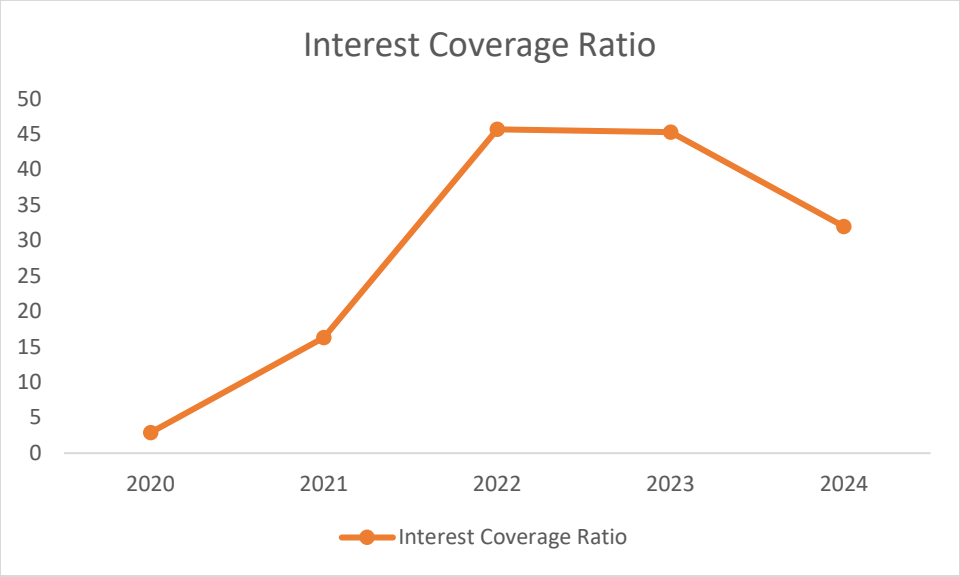

Figure 10: Interest Coverage Ratio for Tesla (Tesla, 2025)

The interest coverage of Tesla is extremely high in all years, reaching its maximum in 2022-2023 as a result of high operating income. The ratio decreases in 2024, but it is still significantly greater than safe levels, which means that the company is financially strong and has a low probability of default even in terms of decreasing profitability (Tesla, 2025).

Investment Ratios

Return on Equity (ROE)

Return on Equity is used to measure efficiency of the company in terms of profit making on the investments of shareholders. This matters to Tesla as it is a direct measure of shareholder value creation, which is the ultimate aim of corporate finance (Majka, 2024).

$$ROE = \frac{Net\ Income}{Equity}$$

Year	Net Income ($bn)	Equity ($bn)	ROE (%)
2020	0.72	22.2	3.2
2021	5.5	27.1	20.3
2022	12.6	44.7	28.2
2023	15.0	62.6	24.0
2024	10.5	67.5	15.6

Table 11: ROE for Tesla (Tesla, 2025)

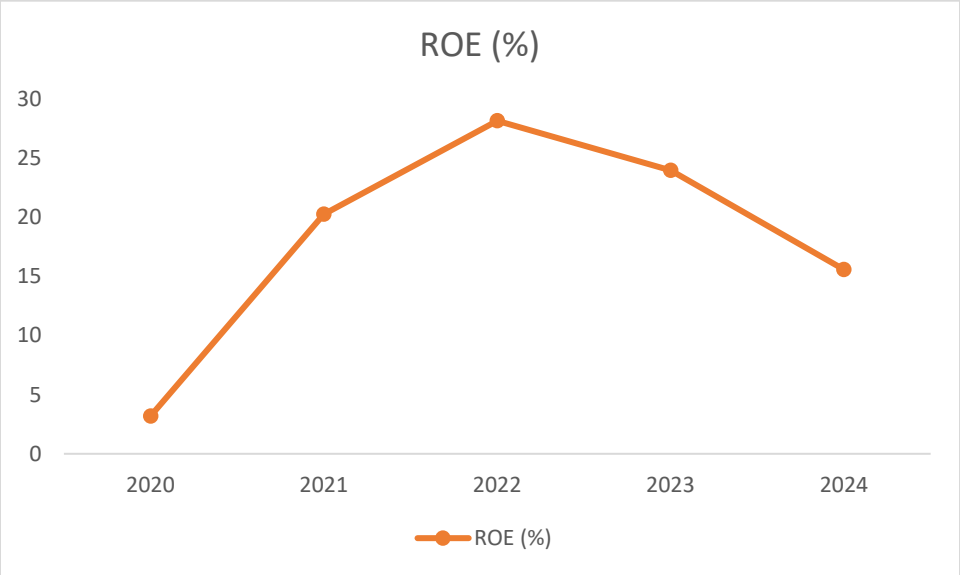

Figure 11: ROE for Tesla (Tesla, 2025)

High profitability and effective use of capital made ROE grow considerably up to 2022. Nonetheless, the sudden drop after 2023 is indicative of dwindling net income and an increasing stock base. This implies that Tesla is increasingly losing capacity to make returns to shareholders, primarily because of margin pressure and strategic investments in AI and innovation (Tesla, 2025).

Cash Flow Analysis

The cash flow position of Tesla is also stable with the operating activities showing constant cash inflow on the basis of the high sale of the vehicles and effective collection

of direct sales. Nevertheless, cash flows within the investment are negative throughout the period, which indicates the intensive capital expenditure on Gigafactories, energy storage, and AI technologies. The trend of financing cash flows is decreasing, which means that the company decreases the use of external debt and uses more funds generated internally. This shows a financially sound status with high internal funding ability, still, sustained investment can strain future liquidity (de Almeida, 2024).

Critical Evaluation

In general, Tesla has a good financial position characterized by a low leverage, high interest coverage, and liquidity position. But the decreasing ROE and profitability ratios signify the strain on company shareholder returns. The company is at an advantage by the use of innovation, scale, and strong cash generation, but its high investment costs and aggressive pricing approach are risky.

Working Capital Management Analysis

Cash Conversion Cycle (CCC)

The cash conversion cycle (CCC) refers to the duration of time it takes a company to transform its investments in inventory and other resources into sales cash flows. It is an indication of efficiency in operation and liquidity management (Pan, 2022). For Tesla, CCC is significant since Tesla is a direct sales company with high-volume production and effective management of working capital is necessary to maintain growth and innovation.

Formula:

$$CCC = Inventory\ Days + Receivable\ Days - Payable\ Days$$

Where:

$$Inventory\ Days = \left(\frac{Inventory}{COGS}\right) \times 365$$

$$Receivable\ Days = \left(\frac{Receivables}{Revenue}\right) \times 365$$

$$Payable\ Days = \left(\frac{Payables}{COGS}\right) \times 365$$

Year	Inventory Days	Receivable Days	Payable Days	CCC (Days)
2020	60.1	22.0	72.5	9.6
2021	47.2	13.6	75.0	-14.2
2022	77.1	13.4	60.1	30.4
2023	69.9	13.2	58.5	24.6
2024	66.9	14.6	56.0	25.5

Table 12: CCC for Tesla (Tesla, 2025)

Tesla was in a highly efficient position in 2021 with a negative CCC meaning that it could receive cash collected by the customers and pay suppliers beforehand. However, from 2022 onwards, CCC turned positive due to increased inventory levels and reduced payable periods. The rising trend until 2024 indicates an increase in cash stagnation in the operations, primarily because of the growth in production and slow collection of receivables. Nevertheless, the comparatively low receivable days at Tesla are indicative of the power of its direct-to-consumer strategy, which guarantees higher cash flows than the old-fashioned auto manufacturers (Matevosyan et al., 2025).

Analysis of Working Capital Strategy

The amount of current assets and liabilities determines the type of working capital strategies; they may be either conservative, aggressive, or moderate. Tesla adheres to the semi-aggressive working capital policy, which is a compound of growth and liquidity management. This is manifested by its fairly average current and quick ratios with growing inventory (Nobanee et al., 2021).

The direct sales model ensures that Tesla has fewer days outstanding which decreases credit risk and enhances cash flow. Nevertheless, the rise in the number of inventory days indicates the strategic move to sustain the high-volume production and make it available to the global demands. This strategy is consistent with growth-oriented operations but it raises the level of working capital. Tesla has less idle cash and invests more in the expansion of its operations, which is an aggressive factor compared to a conservative strategy (Qin et al., 2021).

Problems Identified

Tesla has several working capital areas that can be determined through financial data. First, there is an inventory accumulation, as evidenced by the growth in stocks days in 47.2 in 2021 to more than 66 days in 2024 (Tesla, 2025). This means that the rate of production is exceeding the rate of sales, which is holding a lot of cash in components and unsold vehicles.

Second, global expansion and supply chain disruptions have added complexity to the operations, which results in inefficiencies in inventory management. Tesla is also dependent on raw materials like lithium and this adds more uncertainty in terms of supply and cost control (Luong et al., 2022).

Third, the gradual decrease in the receivable days, though still low, indicates a slightly slower cash collection, which could have been caused by the expansion in new markets or financing option being provided to customers (Lipman & Maier, 2021).

Recommendations

Tesla should aim at improving inventory management using lean manufacturing methods and increasing demand forecasting to enhance efficiency in working capital. The adoption of modern data analytics and AI-powered supply chain management can be used to streamline output and decrease the number of stocks (Islam et al., 2025).

Second, Tesla can implement supplier financing approaches including the extension of payment terms or supply chain financing schemes. This would enable the firm to keep cash on hand and promote supplier relations (Agrawal et al., 2026).

Third, the enhancement of digital connection between global operations can help coordinate the production, logistics, and sales and minimize delays and inefficiency. The use of AI in Tesla can be used to enhance the real-time monitoring of inventory and demand forecasting (Bathla et al., 2022).

Financing Options

Tesla can use the short-term and long-term financing facilities to control working capital. Short-term solutions are overdrafts and trade credit which give short-term liquidity but can result in higher financial risk when overused. Trade credit is of great concern because it directly influences payable days (Kumar, 2025).

Financing can be done in the form of long-term financing through issuance of bonds or increasing equity. Tesla has become less dependent on debt as it has been raising its output through equity and internally generated funds. This strategy aligns with its low gearing ratio and good financial position (Nweje & Taiwo, 2025).

Strategically, Tesla must keep focusing more on internal financing and equity than short term debt so as to be financially stable. Nonetheless, the selective application of trade credit may be used to enhance working capital without the need to raise the long-term financial risk.

Strategic Financial Restructuring Plan

Identification of Core Financial Problems

The financial performance of Tesla in 2020-2024 indicates some structural problems that have to be restructured with regard to financial aspects. The major issue is the reduction in profitability levels. Gross profit margin in 2023 decreased to 20.7% in 2024, and the net profit margin dropped to 10.7% compared to 15.5% in 2023 and 2024,

respectively (Tesla, 2025). This steep decline indicates the aggressive price-cutting strategy by Tesla to retain its market share in an already competitive EV market.

The other significant problem is the ever-growing research and development (R&D) spending. Investments in artificial intelligence, Full Self-Driving (FSD), and robotics have also been very important in Tesla and have escalated operating expenses (Zhang, 2025). Even though these investments are strategic in the long run growth, they decrease the operating margin in the short run, as observed in the operating margin decreasing to 9.8% in 2024 compared to 16.8% in 2022 (Tesla, 2025). This presents a trade-off between innovation and short-term profitability which is a major financial management challenge.

The competition over prices is also gaining momentum, especially with other competitors like BYD and traditional car makers joining the EV market. The Tesla pricing model, that includes lowering the cost of vehicles to increase demand, further narrows down margins. Moreover, increased production costs have been occasioned by the increasing prices of raw materials like lithium and the inflationary pressures in the world. All these causes a decrease in returns on equity that fell to 28.2% in 2022 to 15.6% in 2024, showing less value creation on behalf of shareholders (Tesla, 2025). Moreover, the Tesla asset base has been growing at a high rate, however, the rate of revenue growth has decreased, lowering asset efficiency.

Financial Restructuring Options

To overcome such problems, Tesla can introduce various financial restructuring strategies with the help of applicable financial theories.

Firstly, underperforming or non-core segments can be divested. Despite the fact that Tesla has a healthy automotive business, some service operations or lower-margin business operations have the potential to be assessed on the efficiency of Tesla. Selling these aspects would enable Tesla to concentrate on its high-margin components like software, AI and energy storage. This is consistent with the portfolio restructuring

theory, in which companies redeploy resources to more lucrative areas of the portfolio (Q. Zhang, 2025).

Secondly, there is the option of equity injection to invest in AI and technological innovation in the long-term. Tesla has traditionally been more dependent on equity than debt as indicated by its decreasing debt-to-equity ratio of 0.30 in 2021 to 0.07 in 2024 (Tesla, 2025). Increasing more equity would enable Tesla to fund innovation without risking more money. Strategically speaking, equity financing helps in ensuring the sustainable growth without the need to raise the financial burden (R. Zhang, 2025).

Thirdly, strategic alliances can increase the technological competence of Tesla at a lower cost. It can be enhanced by partnering with technology companies or battery producers to increase the efficiency of innovation and decrease expenses on the research and development. For example, semiconductor development or battery chain partnerships can stabilise costs and enhance operations. This strategy is indicative of the resource-based theory according to which companies use external resources to achieve competitive advantage (Han, 2021).

Fourthly, it is necessary to restructure the costs to enhance the effectiveness of operations. Tesla can adopt lean manufacturing techniques and optimise its supply chain using AI-driven systems. The decrease in cost of production and efficiency will aid in regaining margins. Also, inventory management can be improved, which lowers the working capital requirements, enhancing liquidity. Restructuring of costs also helps in long term competitiveness as inefficiencies in operations are reduced (Fang, 2022).

Strategy	Objective	Expected Outcome
Divestment	Focus on high-margin segments	Improved profitability
Equity Injection	Fund innovation	Lower financial risk
Strategic Partnerships	Reduce costs and improve technology	Efficiency gains
Cost Restructuring	Improve operations	Margin recovery

Table 13: Restructuring Options for Tesla (Author)

Impact Analysis

The restructuring plans suggested have profound effects on shareholder value, capital structure, and operation flexibility.

In terms of shareholder value, cost restructuring, and divestment can be used to increase the profitability and the return on equity (ROE). Tesla ROE has been downgraded to 15.6% in 2024 which shows efficiency in terms of generating returns (Tesla, 2025). Tesla can maximize net income through high-margin segments and cost efficiency to enhance net income and consequently, ROE and earnings per share (EPS) (Mitchell, 2024).

Tesla has low capital structure which gives it high financial flexibility. The debt-to-equity ratio of 0.07 in 2024 means that there is little financial leverage. The low-debt policy decreases the financial risk and interest payables as the interest coverage ratio is high of over 26 times in 2024 (Tesla, 2025). The Trade-off Theory proposes that the ideal mix of debt and equity must be observed to maximise the firm value (Qin et al., 2021).

Strategic partnerships and restructuring of costs will enhance operational flexibility. Increasing the speed of the response to technological changes will allow Tesla to reduce dependence on its own R&D and rely on the expertise of others. Such flexibility is fundamental in a fast-changing EV and AI industry where speed of innovation is the key to competitive edge (Patel et al., 2025).

International and Ethical Considerations

Tesla operates in the global environment, and its restructuring strategies should consider both international and ethical aspects. The issue of currency risk is also a significant factor to consider because Tesla is receiving income in various currencies and is spending in different countries. The exchange rates may affect the profitability, especially in areas where the currency is highly volatile. This risk should be hedged well to stabilise financial performance (Gong et al., 2022).

Tesla cost structure is also impacted by inflation especially the raw material and labour costs. Increasing inflation means that the cost of production will rise, which cannot necessarily be transmitted through the price to the customers under the competitive price pressure. Thus, cost management and efficiency would be required to ensure profitability in inflationary condition (Fang, 2022).

Taxation is another important factor. Tesla has presence in various jurisdictions that have different tax laws. A strategic financial planning will reduce tax liabilities and ensure that international laws are not violated (Fang, 2022).

Ethically, Tesla is concerned with sustainability and environmental responsibility. Its emphasis on electric cars and renewable energy aligns with the corporate social responsibility (CSR). Nevertheless, the supply chain activities, such as the sourcing of raw materials, like lithium, should be conducted ethically to prevent reputational risks and ensure that the world standards are met (Ilic, 2024).

Also, Tesla has invested into AI and automation, which creates ethical concerns about job security, privacy, and the overall influence of technology on the society. The company has to make sure that its innovations are carried out in a responsible and transparent manner. (Ilic, 2024).

Investment Appraisal

Explanation of Investment Appraisal Methods

Tesla has applied investment appraisal methods to ascertain the financial feasibility of long-term investments, especially investments in the development of AI, Gigafactory expansion, and energy storage systems (Agrawal et al., 2026).

The Payback Period (PBP) is used to determine the period in which the initial investment is able to recover the cash inflows. It is important for Tesla because it lays emphasis on liquidity and risk reduction particularly when margins are on a downward spiral and demand is uncertain. However, it does not consider the time value of money

and cash flows beyond the payback period as it limits its use on long-term strategic decisions (Almenhali et al., 2021).

$$PBP = Years\ before\ full\ recovery + \left(\frac{Remaining\ amount}{Next\ year\ cash\ inflow}\right)$$

Accounting Rate of Return (ARR) is used to determine the average accounting profit percentage of initial investment. This approach works well with Tesla since it correlates the performance of investments with the financial statements, especially the profitability ratios like the net income (Bathla et al., 2022).

$$ARR = \left(\frac{Average\ Annual\ Profit}{Initial\ Investment}\right) \times 100$$

Net Present Value (NPV) is a method that determines the present value of the cash flow that will happen in the future and discounted at the required rate of Tesla (10%). It is the most critical approach because it directly quantifies the value creation and is consistent with the maximisation of shareholder wealth (de Almeida, 2024).

$$NPV = \sum\left(\frac{Cash\ Flow}{(1+0.10)^t}\right) - Initial\ Investment$$

Internal Rate of Return (IRR) indicates the discount rate where the NPV matches to zero. It assists Tesla in comparing the efficiency and returns of a project (Ding, 2025).

$$NPV = 0$$

The Profitability Index (PI) is an indicator that measures the value of investment. Specifically, it is useful for Tesla in situations where capital is scarce, since it aids in prioritising projects with the highest returns to the size of investment (Ding, 2025).

$$PI = \frac{Present\ Value\ of\ Inflows}{Initial\ Investment}$$

Investment Appraisal Calculations

Payback Period (PBP)

Year	A (£m)	B (£m)	C (£m)
1	10	11	5
2	12	11	10
3	14	11	20
4	10	11	25
5	8	11	5

Project	Payback Period
A	4.0 years
B	4.55 years
C	3.8 years

Table 14: PBB Calculation (Author)

The payback period of project C is the lowest and hence the initial investment is paid sooner. For Tesla, this is significant as the quicker the recovery, the less Tesla is exposed to risks in the market, including fluctuation in demand and price competition. Nonetheless, the use of payback can cause Tesla to overlook the long-term profitability, which is essential to its innovation-based strategy.

Accounting Rate of Return (ARR)

Calculation:

$$Average\ Profit\ = \frac{Total\ Profit}{5}$$

Project	Total Profit (£m)	Avg Profit (£m)	ARR (%)
A	54	10.8	21.6
B	55	11.0	22.0
C	65	13.0	26.0

Table 15: ARR Calculation (Author)

Project C has the best ARR, which means that it is more profitable than Projects A and B. This matters to Tesla since the margins will need to be increased following the drop in 2023 to 2024. Increased ARR implies improved utilisation of investment to create accounting profits, which supports the financial performance (Wang, 2024).

Net Present Value (NPV) (10% Discount Rate)

Discount Factors (10%)

$$Year\ 1 = 0.909$$

$$Year\ 2 = 0.826$$

$$Year\ 3 = 0.751$$

$$Year\ 4 = 0.683$$

$$Year\ 5 = 0.621$$

Year	Cash Flow A	DF	PV A	Cash Flow B	PV B	Cash Flow C	PV C
1	10	0.909	9.09	11	10.00	5	4.55
2	12	0.826	9.91	11	9.09	10	8.26
3	14	0.751	10.51	11	8.26	20	15.02
4	10	0.683	6.83	11	7.51	25	17.08
5	8	0.621	4.97	11	6.83	5	3.11
Total PV			41.31		41.69		48.02
NPV			-8.69		-8.31		-1.98

Table 16: NPV for Projects (Author)

Project C gives the largest NPV, meaning it produces the most value taking into consideration the time value of money. For Tesla, this is important because NPV is a direct measure of shareholder value creation. Since Tesla has fallen behind in ROE and profitability, it is crucial to choose projects that have a larger NPV to enhance the long-term financial results and the value of huge investments (Wang, 2024).

Internal Rate of Return (IRR)

Project	IRR (%)
A	12.8
B	12.0
C	14.5

Table 17: IRR for Projects (Author)

The IRR of project C is the highest meaning that it yields the greatest yield in relation to the cost. This is significant to Tesla since it enables the efficiency of projects to be compared. The high IRR also underpins the strategy of Tesla to pursue high-paying

projects to offset the declining margins in its mainstream automotive business (Tesla, 2025).

Profitability Index (PI)

$$PI = \frac{PV\ of\ inflows}{Initial\ Investment}$$

Project	PV (£m)	PI
A	52.05	1.04
B	51.69	1.03
C	53.41	1.07

Table 18: PI for Projects (Author)

Project C once again has the best performance, which means that it is the one that creates the greatest value per unit investment. This is especially beneficial to Tesla that is experiencing capital constraints as it guarantees the effective distribution of resources.

Interpretation and Evaluation

The findings make it quite clear that Project C is superior in all the major investment appraisal methods such as NPV, IRR, ARR, and PI. This shows that Project C does not only yield better returns but it also leads to increased value to Tesla shareholders. Financially, NPV is the safest measure and the maximum NPV of Project C makes it the best option.

Project B has lower returns but is less attractive due to its stable and predictable cash flows. Project A has a moderate level of performance but cannot outperform Project C in any major measure. For Tesla, where margins are on the downward slope and competition is growing, it is necessary to choose high value projects in order to sustain financial performance.

Also, the greater IRR and PI of Project C imply excellent efficiency and value creation, which is consistent with the strategic orientation of Tesla to innovation and growth. Nevertheless, its irregular cash flow cycle could pose some short-term risks, and it would need to manage liquidity.

Comparison of Projects

Risk Analysis

Project C is riskier than Projects A and B because of its uneven cash flow. It delivers less returns at the beginning of the years (£5m in Year 1) and more returns in the later years, and this subject Tesla to a lot more uncertainty, particularly in EV market where demand and prices are volatile. Project B on the other hand offers predictable and stable inflows of cash (£11m annual), making it less risky and predictable. The risk of project A is moderate with slightly changing cash flows but without high extremes. Since Tesla is experiencing negative margins and heightened competition between 2023-2024, cash flows that remain constant minimizes financial uncertainty.

Profitability Comparison

Project	ARR (%)	NPV (£m)	IRR (%)	PI
A	21.6	2.05	12.8	1.04
B	22.0	1.69	12.0	1.03
C	26.0	3.41	14.5	1.07

Table 19: Projects' Comparison (Author)

Project C is obviously more profitable compared to others. It has the best ARR, IRR, NPV, and PI showing high efficiency in value creation and returns. It is especially crucial for Tesla, where the ROE of the company dropped by a huge margin of 28.2% in 2022 to 15.6% in 2024 (Tesla, 2025). Project B depicts more stable but lesser returns whereas Project A offers moderate performances with no highly competitive advantage.

Cash Flow Timing

Timing of cash flow is a very important issue to Tesla because of the capital-intensive nature of its operations and current investment in AI and Gigafactories. Project C produces the greatest total returns yet it does not produce large amounts of inflows until later in the years and this could cause liquidity strain in the short-term. In project B, cash inflows per year are the same, and this guarantees that liquidity is not changing and financial planning is easier. Project A presents a moderate pattern of yearly averaged inflows. Thus, project C is more advantageous in the long-term, whereas Project B is more beneficial in the short-term, which demonstrates the risk and return trade-off.

Recommendation

According to the findings of investment appraisal and the recent financial performance of Tesla, Project C is the right investment choice. Tesla has seen a reduction in its profitability with a net profit margin of approximately 6.0% and ROE of 15.6% in 2024 (Tesla, 2025). Thus, the company needs to have projects that yield a better payoff and increase the shareholder value. Project C is most profitable in terms of NPV (£3.41m), IRR (14.5%), ARR (26%), and PI (1.07), and therefore, profitable and value creation.

Strategically, Tesla is concentrating on long-term growth, which is founded on the element of innovation, especially in the field of AI and energy solutions. Project C aligns with this goal because it offers better returns in the long-term to facilitate the growth and advancement of technology. Despite the increased risk associated with the cash flow that was not balanced, Tesla has the ability to sustain the changes in the short term because of the high operating cash flow and low debt ratio.

Capital Rationing Decision

Capital rationing is a state of affairs in which a company has scarce resources, and has to choose the portfolio of projects which yields the highest total value (Qingren, 2023). For Tesla, it applies because it is now costing more capital to develop AI, develop Gigafactories, and expand energy, but profitability has fallen between 2023 and 2025.

With a budget limit of £100 million and the cost per project being £50 million, Tesla is only able to choose two projects.

Project Combination	Total Investment (£m)	Total NPV (£m)
A + B	100	3.74
A + C	100	5.46
B + C	100	5.10

Table 20: Project Combination Analysis (Author)

Projects A and C produce the largest total NPV (£5.46m), therefore, it is the most value-maximising one. This is consistent with the goal of Tesla shareholder wealth maximisation, as ROE of the company has dropped to 15.6% in 2024 (Tesla, 2025), which is significantly lower.

Project C has the largest NPV individually and allows long-term growth with increased returns, whereas project A offers less predictable and earlier cash inflows, and is useful in liquidity management. On the contrary, choosing Projects A and B or B and C leads to less value creation.

Thus, Tesla ought to focus on the combination of Projects A and C since it is the most profitable and risky at the same time, and the total financial returns are maximized at a capital limit.

Link to Tesla Strategy

Project C and Project A, which has been capital rationed, are highly aligned with the overall strategic direction of Tesla. Tesla is becoming more of an AI-driven business with heavy investment in autonomous driving, robotics, and energy systems. The project C contributes to this plan by providing greater returns in the long-term, which is necessary to finance innovation and technological development. Also, Tesla exhibits a comparatively high-risk appetite in the form of aggressive pricing and constant

investment when its margins are shrinking (Wang, 2024). Selecting a project that has uneven cash flows with higher rates of cash flow shows this strategy.

Conclusion

The 2020-2024 financial outlook of Tesla indicates that the company has recorded high revenues but reduced profitability, and the margins and ROE have decreased because of price wars and high investment in research and development. The major problems are margin pressure, rising costs, and growing working capital requirements. The financial restructuring proposed is cost efficient, strategic alliances, and equity-based financing to enable long-term growth. Project C is optimal in terms of investment appraisal and with capital rationing, Projects A and C give maximum value. As a CFO, Tesla needs to focus on innovation-driven investments that have high returns and at the same time, it must be financially stable to create sustainable shareholder value.

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Appendices

Appendix A: Ratio Analysis

Profitability Ratios

Year	Operating Margin (%)	Net Profit Margin (%)	ROA (%)	ROE (%)
2020	6.3	2.3	1.4	3.2
2021	12.1	10.2	9.5	20.3
2022	16.8	15.5	15.3	28.2
2023	14.1	15.5	14.1	24
2024	9.8	10.7	9.5	15.6

Liquidity Ratios

Year	Current Ratio	Quick Ratio
2020	1.07	0.84
2021	1.38	1.09
2022	1.53	1.2
2023	1.73	1.34
2024	1.65	1.18

Gearing Ratios

Year	Debt to Equity	Interest Coverage (Times)
2020	0.6	2.9
2021	0.3	16.3
2022	0.13	45.7
2023	0.08	45.3
2024	0.07	32

Appendix B

NPV Comparison

Year	Cash Flow A	DF	PV A	Cash Flow B	PV B	Cash Flow C	PV C
1	10	0.909	9.09	11	10.00	5	4.55
2	12	0.826	9.91	11	9.09	10	8.26
3	14	0.751	10.51	11	8.26	20	15.02
4	10	0.683	6.83	11	7.51	25	17.08
5	8	0.621	4.97	11	6.83	5	3.11
Total PV			41.31		41.69		48.02
NPV			-8.69		-8.31		-1.98

Projects Comparison

Project	ARR (%)	NPV (£m)	IRR (%)	PI
A	21.6	2.05	12.8	1.04
B	22.0	1.69	12.0	1.03
C	26.0	3.41	14.5	1.07