

Topic 5

Research Report

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Table of Contents

Part 1: Project Background and Objectives	5
1.1 Industry Profile	5
1.2 Company Profile	7
1.2.1 Tesla	7
1.2.2 BMW	8
1.3 Research Objectives	10
1.4 Research Questions	10
1.5 Research Limitations	10
1.6 Justification	11
Part 2: Information Gathering and Accounting/Business Techniques	13
2.1 Sources of Information	13
2.2 Methods Used to Collect Information	13
2.3 Ethical Issues	13
2.4 Explanation of Accounting/Business Techniques	13
2.4.1 Financial Ratio Analysis	13
2.4.2 PEST Analysis	14
2.4.3 Porter's Five Forces	14
Part 3: Financial and Business Analysis	16
3.1 Diversified Sources of Revenue	16
3.1.1 Tesla	16
3.1.2 BMW	16
3.1.3 Comparative Analysis	16
3.2 Financial Analysis	17
3.2.1 Profitability Analysis	17
3.2.1.1 ROCE	17
3.2.1.2 Gross Profit Margin	19
	2

3.2.1.3 Net Profit Margin	20
3.2.1.4 ROA	21
3.2.1.5 ROE	22
3.2.2 Long-term Solvency and Stability Analysis	24
3.2.2.1 Debt Ratio	24
3.2.2.2 Debt-to-Equity Ratio	25
3.2.2.3 Interest Coverage Ratio	26
3.2.2.4 Cash Ratio	28
3.2.3 Short-term Solvency and Liquidity Analysis	29
3.2.3.1 Current Ratio	29
3.2.3.2 Quick Ratio	30
3.2.3.3 Net Working Capital to Total Asset Ratio	31
3.2.4 Efficiency Analysis	33
3.2.4.1 Average Collection Period	33
3.2.4.2 Accounts Receivable Turnover Ratio	34
3.2.4.3 Accounts Payable Turnover Ratio	35
3.2.4.4 Inventory Turnover Ratio	36
3.2.5 Shareholders' Investment Ratios	38
3.2.5.1 EPS	38
3.2.5.2 P/E	39
3.2.5.3 Dividend Cover Ratio	40
3.2.5.4 Dividend Yield Ratio	41
3.3 Business Analysis	43
3.3.1 PEST Analysis	43
3.3.1.1 Political	43
3.3.1.2 Economic	43
3.3.1.3 Society	44

3.3.1.4 Technology	45
3.3.2 Porter's Five Forces	45
3.3.2.1 Rivalry Among the Existing Firms (HIGH)	45
3.3.2.2 Threat of Substitute Products (HIGH)	46
3.3.2.3 Threat of New Entrants (MODERATE)	46
3.3.2.4 Bargaining Power of Suppliers (LOW)	47
3.3.2.5 Bargaining Power of Buyers (HIGH)	47
3.4 Conclusion and Recommendations	47
References	49

Part 1: Project Background and Objectives

1.1 Industry Profile

The manufacturing and retailing of electric cars (EVs) are a fast-expanding subset of the automotive market. Electric vehicles (EVs) are propelled not by an internal combustion engine but by electric motors powered by rechargeable batteries.

A decade of fast expansion culminated in 2020 when the number of electric cars worldwide surpassed 10 million, a 43% increase over 2019 and equivalent to 1% of the market. In 2020, BEVs comprised almost 66% of the electric vehicle stock and 83% of the market for new registrations. Although China has the biggest fleet, with 4.5 million electric vehicles, Europe will have the fastest-growing fleet, with 3.2 million by 2020 (Alliedmarketresearch.com, 2022). The economic fallout of the COVID-19 epidemic had a profound impact on the global auto sector. New vehicle registrations fell by around a third from the same period in 2019. Although the year's second half saw more activity, the total year-over-year decline was 16%. With fewer people buying cars, both traditional and otherwise, the percentage of sales of electric vehicles reached a new high of 4.6% worldwide in 2020 (Iea.org, 2021).

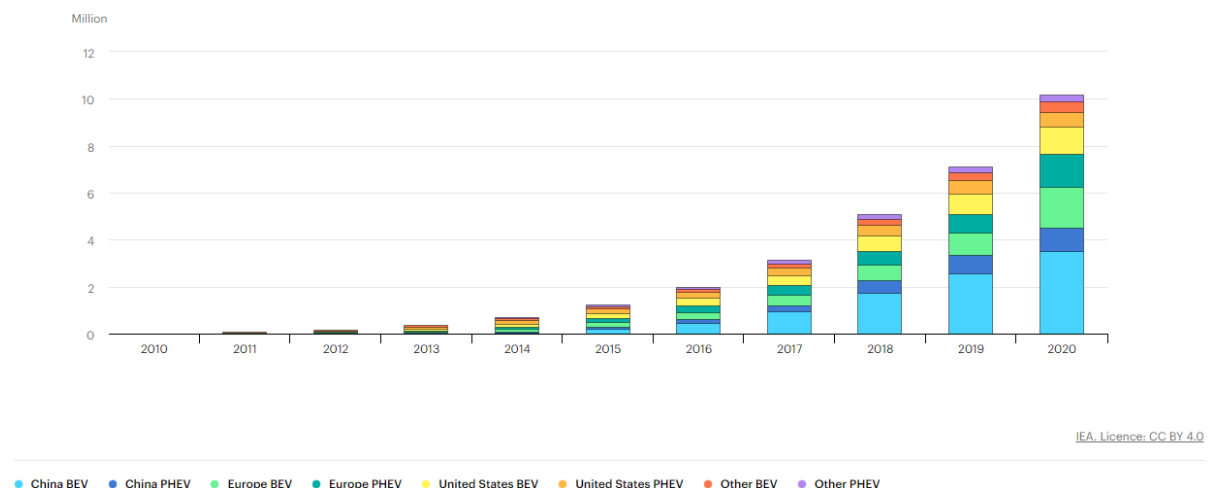


Figure 1: Global Electric Passenger Car

(Source: Iea.org, 2021)

In recent years, improvements in battery technology, government incentives and regulations, and rising customer demand for environmentally friendly vehicles have contributed to the EV industry's meteoric rise. Tesla, General Motors, and Volkswagen are just a few of the major manufacturers that have put significant resources into developing and manufacturing EVs; recent entrants to the market include Rivian, Lucid Motors, and Fisker.

Battery electric cars (BEVs), plug-in hybrid electric vehicles (PHEVs), and hybrid electric vehicles (HEVs) are just a few of the EV varieties available (HEVs) (Iea.org, 2021). Nevertheless, PHEVs and HEVs contain both an electric motor and a conventional gasoline engine, allowing them to seamlessly transition between electricity and gasoline as required, unlike BEVs, which depend only on electricity and must be fueled at charging stations. There is also a developing network of charging stations and battery recycling centres to back the EV market. To encourage the use of EVs and reduce carbon emissions, governments everywhere provide financial incentives for developing such infrastructure (Adhikari *et al.* 2020).

In 2020, consumers spent USD 120 billion on electric vehicles, an increase of 50% over 2019. This translates to a 41% increase in sales and a 6% increase in average costs. There was a greater share of new registrations for electric vehicles in Europe, where costs are generally higher than in Asia, which explains the increase in average pricing (Alliedmarketresearch.com, 2022). In 2020, the average price of a BEV was around \$40,000, while the average price of a PHEV was about \$50,000. A further USD 14 billion was allocated by governments worldwide in the form of direct purchase incentives and tax breaks for electric vehicles in 2020, representing a 25% increase from the previous year. Despite this, government subsidies as a percentage of overall EV expenditure have declined from around 20% in 2015 to 10% in 2020 (Adhikari *et al.* 2020).

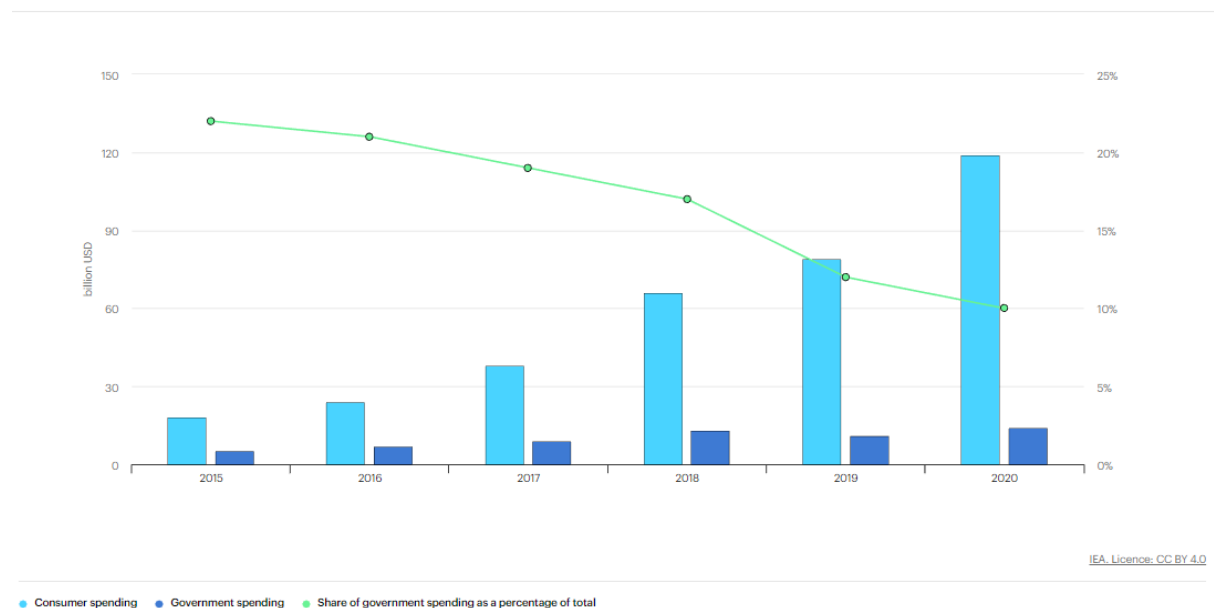


Figure 2: Consumer and Government Spending on EVs

(Source; Iea.org, 2021)

With a CAGR of 18.2% between 2021 and 2030, the worldwide market for electric vehicles is expected to grow from its 2020 valuation of \$163.01 billion to \$823.75 billion (Iea.org, 2021). Despite this progress, the EV sector still faces obstacles, including the high cost of EVs in comparison to regular gasoline cars, the restricted driving range of certain models, and the need for future breakthroughs in battery technology to increase the efficiency and range of EVs (Gu *et al.* 2021). The transportation sector is now experiencing a period of stagnation. However, it will likely play an increasingly vital role as the industry continues to develop and adapt (Adhikari *et al.* 2020).

1.2 Company Profile

1.2.1 Tesla

Tesla, Inc. was originally known as Tesla Motors from 2003 until 2017, famously known for manufacturing electric vehicles, photovoltaic systems, and batteries for transportation and residential use. Tesla, Inc. was established in 2003 by American businessmen Martin Eberhard and Marc Tarpenning and is named after the Serbian-American inventor Nikola Tesla (Schreiber and Gregersen, 2023). It shot to prominence, becoming a household name among automakers overnight. In general, Tesla Inc. (Tesla) is a firm that deals in both automobiles and energy. It is in the business of making and selling electric cars and renewable energy systems and leasing out the latter.

Furthermore, Tesla sells solar power, installs and maintains energy systems, and provides a full range of clean energy options for use at every stage of the process, from production to storage to consumption. Company-owned showrooms and shops are used to promote and sell automobiles to the general public (Investing.com, 2023a). The corporation operates across Asia, the Pacific, and Europe and has production sites in the United States, Germany, and China. The Tesla headquarters is in Austin, Texas (Schreiber and Gregersen, 2023).

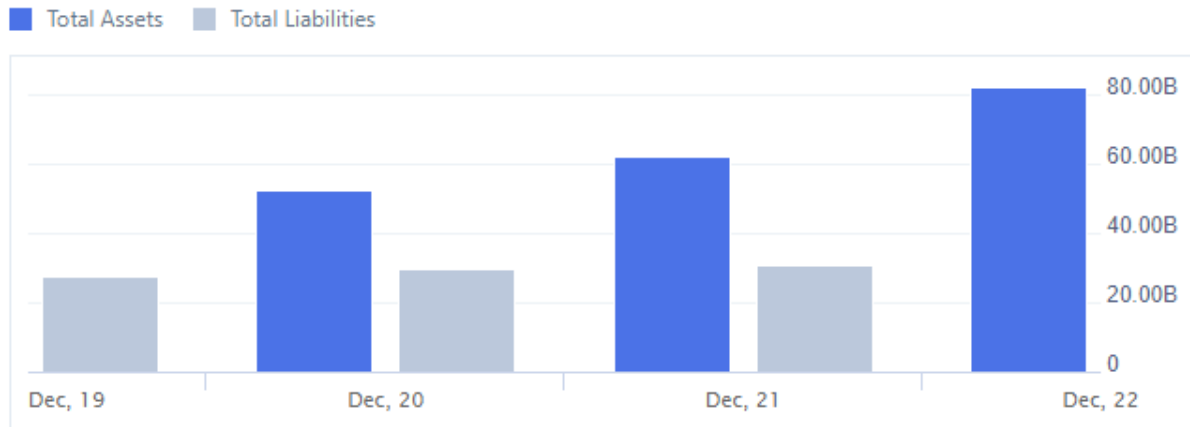


Figure 3: Tesla Net Worth Growth

(Source: Wsj.com, 2023)

The quarterly earnings report for Tesla, Inc. was released on February 1, 2023. The company's reported earnings for the fourth quarter 2022 were \$4090 million, down from the \$5404 million recorded in the same period a year earlier (Investing.com, 2023a). There was an increase in sales to USD 24,318m from USD 17,719m in the previous year. Net income increased to USD 12,587m from USD 5644m last year. USD 1.18 was earned per share from ongoing activities, up from USD 0.76 in the prior year. From continuing operations, diluted profits per share were \$1.07, up from \$0.68 in the prior-year period (Wsj.com, 2023).

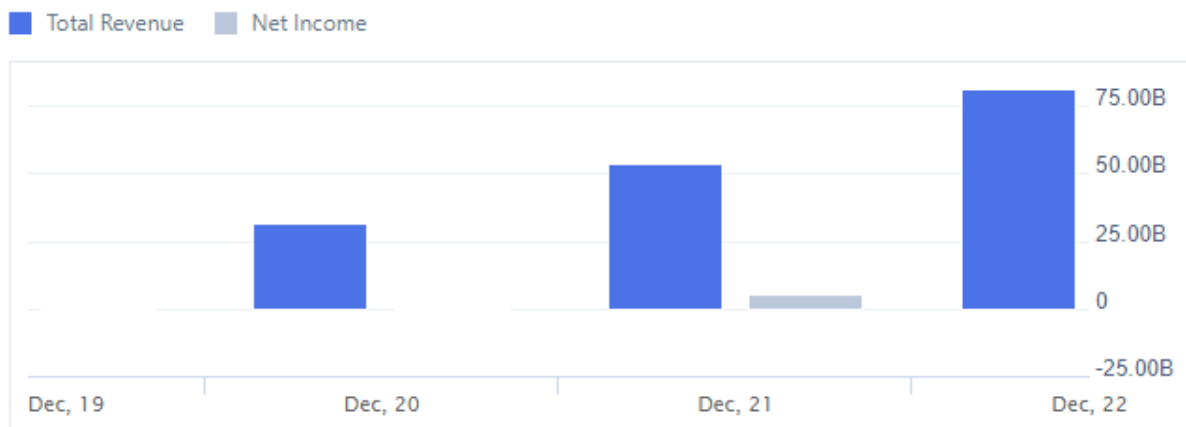


Figure 4: Tesla Revenue Growth

(Source: Wsj.com, 2023)

1.2.2 BMW

On the other hand, Bayerische Motoren Werke AG (BMW) is in the business of making and selling cars and motorbikes. Automobiles, Motorbike, Financial Services, and Other

Businesses are the company's operational divisions (Globaldata.com, 2023b). The Automotive division is responsible for designing, producing, and distributing BMW, MINI, Rolls-Royce, and related automobile and off-road vehicle components and accessories. The section Bikes focuses on high-end bikes (Britannica.com, 2023). Retail consumers may use credit financing, leasing, and other services via the Financial Services division. Holding and group finance operations are included under Other Entities. The company's origin date is March 6, 1916, and its current location is Munich, Germany (Forbes.com, 2023).

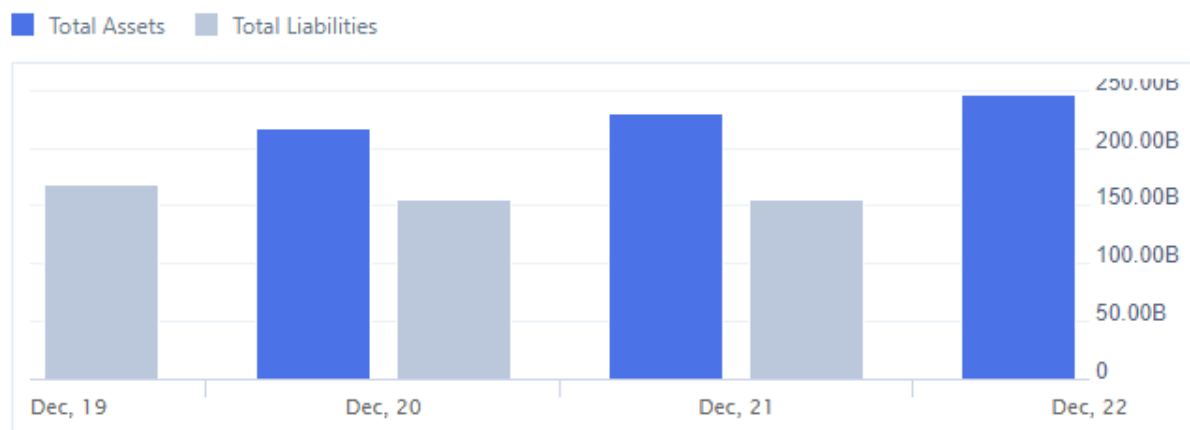


Figure 5: BMW Net Worth Growth

(Source: Investing.com, 2023b)

114.8% of BMW and MINI EVs were sold during the initial 9 months of 2022 compared to the same time in 2021. The company's rapid expansion may be directly attributed to the high demand for its all-electric offerings (Press.bmwgroup.com, 2022). For the period beginning January 1, 2022, and ending September 30, 2022, Bayerische Motoren Werke Aktiengesellschaft announced financial results that the company's sales for the period were EUR 142,610 million, up from EUR 111,239 a year earlier. Net income reached EUR 18,582 million compared to EUR 12,382 million a year prior (Press.bmwgroup.com, 2022).

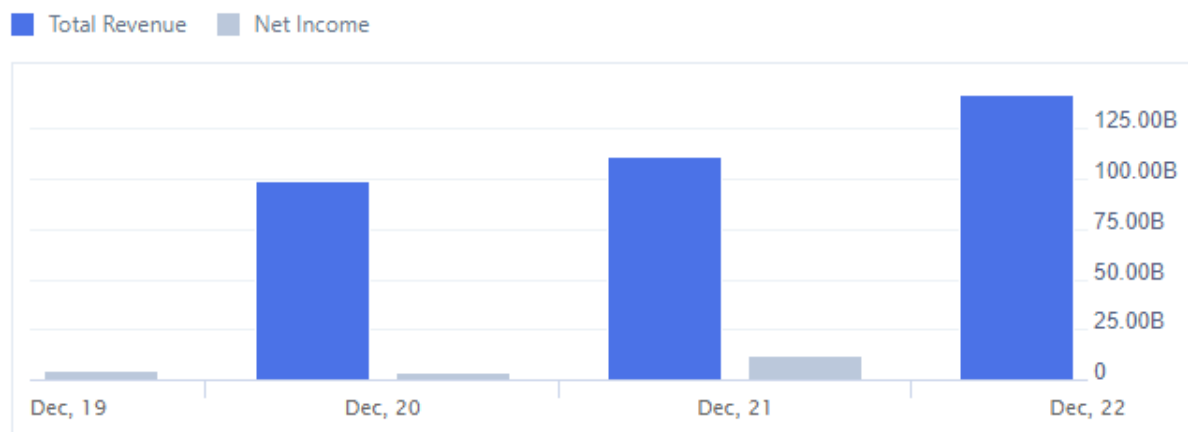


Figure 6: BMW Revenue Growth

(Source: Investing.com, 2023b)

1.3 Research Objectives

- To analyse and evaluate the financial performance of Tesla in comparison to BMW in terms of its profitability, cash flow, revenue sources and capital structure.
- To provide insights into the internal and external factors using PEST and Porter's Five Forces to identify the driving factors for the exceptional performance of Tesla over the last three years.

1.4 Research Questions

- How have Tesla and BMW been profitable and maintained a consistent cash flow in the past 3 FY?
- How has Tesla's revenue diversification strategy contributed to its exceptional financial performance over the past three years, and how does this compare to BMW's revenue diversification strategy and financial performance?

1.5 Research Limitations

The study may face some limitations that could affect the accuracy and reliability of the findings. These include:

- **Data Availability:** The study relies on publicly available data, which may not capture all company performance aspects.

- **Data Quality:** The quality of the data collected may vary, which could affect the accuracy of the analysis.
- **Market Volatility:** The electric vehicle market is relatively new and rapidly evolving, with significant volatility, which could affect the accuracy of the analysis.
- **Bias:** The study may be subject to bias due to the personal opinions or preferences of the researcher.

1.6 Justification

Tesla is the chosen organisation for the project, and BMW is chosen as the comparator. Tesla is chosen for the project for several reasons; the first reason is that Tesla has been one of the fastest-growing companies in recent years, with its stock price rising rapidly due to its successful expansion in the electric vehicle market. It is also known for its innovative products, such as electric vehicles, solar panels, and battery storage systems, which have the potential to transform the energy sector. Moreover, as per the project's requirement, Tesla's performance in the last three years has been exceptional, with the company consistently exceeding expectations and delivering strong financial results. This makes it a relevant and timely topic for analysis. Lastly, Tesla's success has significantly impacted the automotive and energy industries, and its business model has the potential to disrupt other industries as well. Analysing its performance can provide insights into what makes a successful company and how its success can be replicated.

The reason for choosing BMW as a comparator for the project is that Tesla and BMW are automotive companies operating in the same industry. Therefore, BMW can provide a relevant benchmark for Tesla's performance. BMW is a well-established brand in the automotive industry, and its financial performance over the years has been consistent. This makes it a suitable comparator for Tesla, which is a relatively new entrant in the industry. Moreover, BMW primarily focuses on traditional gasoline-powered cars and is gradually shifting to EVs, whereas Tesla is a leader in electric vehicle manufacturing. Comparing these two companies' financial and business performance can provide insights into the potential of the electric vehicle market and the impact of different business models on performance. Lastly, BMW's focus on innovation and sustainability, as well as its financial performance

over the years, makes it a relevant comparator for Tesla, which also strongly emphasises sustainability and innovation.

Part 2: Information Gathering and Accounting/Business Techniques

2.1 Sources of Information

Majority of the information for the financial analysis was obtained from the annual reports of Tesla and BMW. Annual reports of 2019, 2020 and 2021 were used to obtain the financial data. Further information to analyse the financial data were obtained from journal articles, books, and course materials. The information for the business analysis was obtained from news articles, journal articles, company websites and government websites.

2.2 Methods Used to Collect Information

The global automotive industry has witnessed significant changes in recent years, with the rise of electric vehicles (EVs) being one of the most notable trends. In this context, Tesla has emerged as a key player in the EV market with its innovative products, strong brand image, and impressive financial performance. At the same time, established automakers such as BMW have also entered the EV space with varying degrees of success. The report aims to analyse and evaluate the financial performance of Tesla in comparison to BMW, with a focus on key indicators such as profitability, cash flow, revenue sources, and capital structure. In addition, the report will provide insights into the internal and external factors driving the exceptional performance of Tesla over the last three years, using PEST and Porter's Five Forces analysis.

2.3 Ethical Issues

Ensuring the reliability of sources and proper citation and crediting of data are crucial aspects in conducting research. It was imperative to guarantee that the analysis remained impartial and devoid of any potential conflicts of interest. Furthermore, the report duly recognised and tackled any probable prejudices or constraints of the study.

2.4 Explanation of Accounting/Business Techniques

2.4.1 Financial Ratio Analysis

Financial ratio analysis is a widely employed technique in assessing a firm's financial performance. It involves scrutinising the interrelationships between various financial statement items (Bragg, 2012). The process entails the computation and analysis of financial

ratios, which are typically classified into distinct groupings such as profitability ratios, liquidity ratios, solvency ratios, and efficiency ratios. Profitability ratios gauge a corporation's capacity to generate profits, while liquidity ratios evaluate its ability to fulfil short-term obligations (Geyer-Klingenberg *et al.* 2019). Solvency ratios appraise its ability to meet long-term obligations, and efficiency ratios scrutinise the effectiveness of a corporation's resource utilisation (Jihadi *et al.* 2021). The analysis of financial ratios constitutes a crucial element of the research endeavour, as it enables the identification and comprehension of internal factors that have influenced Tesla's financial outcomes relative to those of BMW.

2.4.2 PEST Analysis

The Political, Economic, Social, and Technological (PEST) analysis is a technique used in strategic business planning with the purpose of assessing the external macro environmental elements that may have an impact on the company. It refers to the intersection of politics, economics, society, and technology. Governmental laws and rules are examples of political influences that might have an impact on a company (Ho, 2014). Inflation, currency exchange rates, and economic growth are all examples of economic forces. Cultural and demographic shifts are examples of social elements that might have an impact on a company. Innovations in technology are what are known as "technological factors," and they have the potential to have a significant effect on (Yüksel, 2012).

Applying PEST analysis to Tesla's business analysis can help provide insights into the external factors that can affect the company's performance. For example, political factors such as government regulations on environmental emissions and tariffs on imports and exports of goods can affect Tesla's business operations and profitability (Yüksel, 2012). Economic factors such as changes in interest rates, availability of capital, and consumer purchasing power can also impact Tesla's sales and revenue. Social factors such as consumer preferences for eco-friendly products and the popularity of electric vehicles can also impact Tesla's demand and market share. Lastly, technological factors such as advancements in battery technology and autonomous driving systems can also impact Tesla's product development and competitiveness in the market (Ho, 2014).

2.4.3 Porter's Five Forces

American academic Michael Porter developed the Five Forces of the Porter Five Forces Model in the 1980s. Existing firm rivalry, substitute product/service threats, new entrant

threats, supplier negotiating power, and buyer bargaining power are the five elements that shape industry competitiveness, regardless of whether the business is a service provider or a manufacturer. Corporate decision-making and competitive strategy development are impacted by all five factors (Grundy, 2006).

Part 3: Financial and Business Analysis

3.1 Diversified Sources of Revenue

3.1.1 Tesla

Revenue Sources (\$ million)/Years	2019	2020	2021
Automotive Sales	19952	24604	44125
Automotive Regulatory Credit	-	1580	1465
Automotive Leasing	869	1052	1642
Energy Generation and Storage	1531	1994	2789
Service and other	2226	2306	3802

Table 1: Tesla Source of Revenue

(Source: Author)

3.1.2 BMW

Revenue Sources (€ million)/Years	2019	2020	2021
Automotive	91682	80853	95476
Motorcycles	2368	2284	2748
Financial Services	29598	30044	32867
Other Entities	5	3	5
Eliminations	-19443	-14194	-19857

Table 2: BMW Source of Revenue

(Source: Author)

3.1.3 Comparative Analysis

The tabulated data indicates that Tesla has expanded its revenue streams across five distinct categories, while BMW has allocated its revenue sources among four categories. Automotive sales represent the primary revenue stream for both BMW and Tesla, comprising more than

90% and over 70% of their respective total revenues. It is noteworthy to mention that Tesla has undergone substantial growth in its Automotive sales revenue between 2019 and 2021, with its revenue more than doubling during this timeframe. The revenue growth of Tesla has been significantly augmented by its Automotive regulatory credit revenue, which has escalated from a value of zero in 2019 to \$1.5 billion in 2021. By way of comparison, BMW's revenue generated from its Financial Services division has exhibited consistency over time, representing approximately 20% of its overall revenue.

The revenue generated by Tesla's Energy Generation and Storage has experienced a substantial increase, having tripled from \$1.5 billion in 2019 to \$2.8 billion in 2021. The aforementioned showcases the prospective capacity of Tesla to broaden its revenue streams beyond the automotive sector, thereby facilitating the diversification of its revenue stream and alleviating the risks associated with a singular industry concentration. In contrast, the revenue generated by BMW's Motorcycles and Other Entities is comparatively negligible, accounting for less than 5% of the company's overall revenue. The primary revenue stream of BMW, namely the Automotive sector, underwent a reduction in revenue between 2019 and 2020, followed by a subsequent recovery in 2021.

Therefore it can be stated that Tesla's varied revenue streams have contributed to the company's strong performance by mitigating its reliance on a singular revenue source and facilitating swift revenue growth via the introduction of novel products and services. Tesla's comparative advantage over BMW is attributed to the former's lesser reliance on Automotive sales revenue.

3.2 Financial Analysis

3.2.1 Profitability Analysis

3.2.1.1 ROCE

ROCE = EBIT / (Total Assets - Current Liabilities)			
	Tesla		BMW
2019		-0.028	0.049
2020		0.030	0.036
2021		0.150	0.105

Table 3: ROCE

(Source: Author)

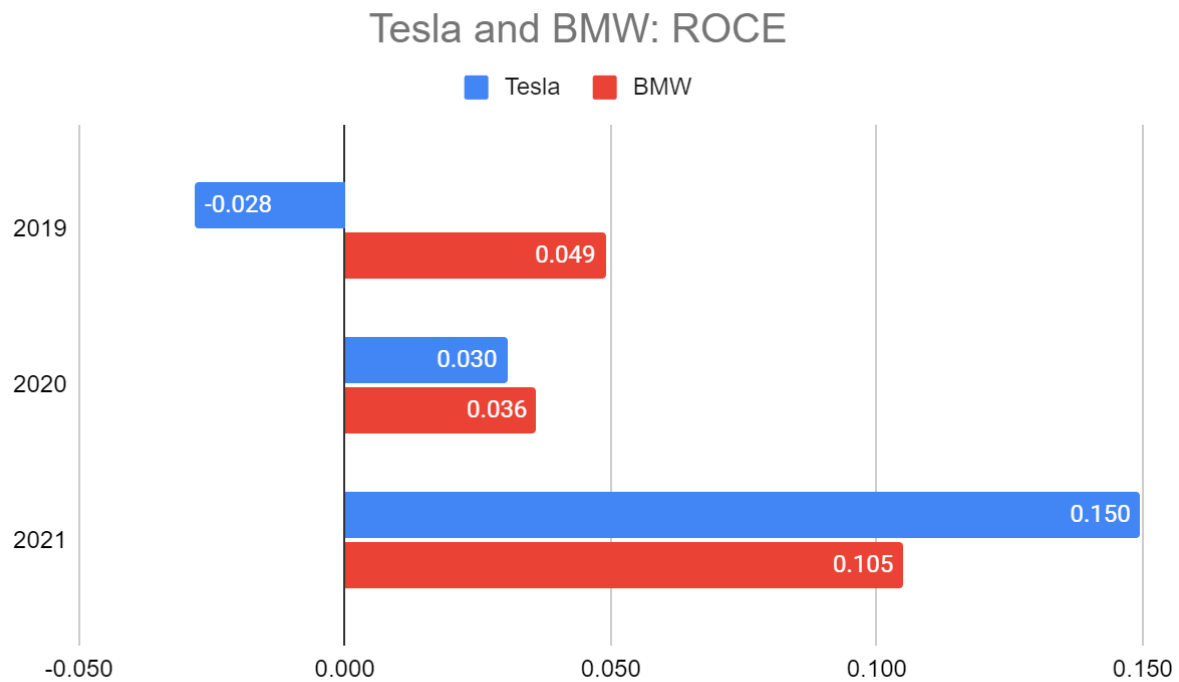


Figure 7: ROCE Comparison Chart

(Source: Author)

Tesla's ROCE has improved significantly from 2019 to 2021, going from a negative ROCE of -0.028 in 2019 to a positive ROCE of 0.150 in 2021 (Sec.gov, 2022). On the other hand, BMW has had a more stable ROCE over the three years, with a slight decrease in 2020 and a moderate increase in 2021 (Bmwgroup.com, 2022). Tesla's significant improvement in ROCE suggests that the company has become more efficient in utilising its capital to generate profits. In contrast, BMW's stable ROCE indicates that the company's capital efficiency has remained relatively unchanged over the three years (Bragg, 2012).

Tesla's increase in ROCE may be attributed to the company's strong revenue growth and cost management and its successful expansion into new markets such as China. Moreover, Tesla has reduced operating expenses, leading to better profitability (Zhou, 2023). On the other hand, BMW's ROCE has been relatively stable over the three years. However, its performance may have been influenced by factors such as declining sales in some markets and increased investment in electrification and autonomous driving technologies (Press.bmwgroup.com, 2022).

3.2.1.2 Gross Profit Margin

Gross Profit Margin = (Gross Profit / Revenue)			
	Tesla		BMW
2019		0.166	0.173
2020		0.210	0.137
2021		0.253	0.198

Table 4: GPM

(Source: Author)

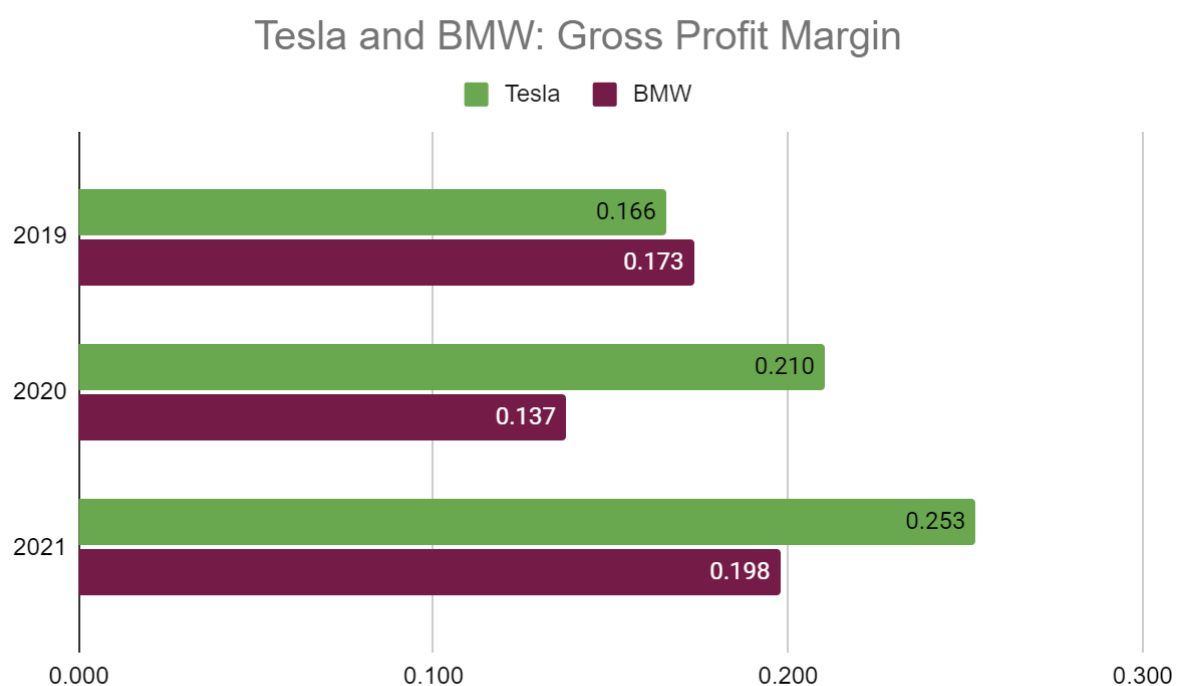


Figure 8: GPM Comparison Chart

(Source: Author)

Tesla and BMW have shown an increasing trend in Gross Profit Margins over the past three years. Tesla's Gross Profit Margin has increased from 0.166 in 2019 to 0.253 in 2021, while BMW's Gross Profit Margin has increased from 0.173 in 2019 to 0.198 in 2021 (Sec.gov, 2020; Bmwgroup.com, 2020; Sec.gov, 2022; Bmwgroup.com, 2022).

In 2019, BMW had a slightly higher Gross Profit Margin compared to Tesla, but Tesla's Gross Profit Margin surpassed BMW's in 2020 and 2021. The increase in Gross Profit Margin for both companies can be attributed to a combination of factors, such as better cost management, higher sales volumes, and a favourable product mix (Das, 2023). Tesla's

significant increase in Gross Profit Margin can be attributed to its strong sales growth and the introduction of new products, such as the Model Y and Cybertruck, which have higher profit margins compared to the Model 3 (Sec.gov, 2022). BMW's increase in Gross Profit Margin can be attributed to cost management and the introduction of new models with higher profit margins (Bmwgroup.com, 2022).

3.2.1.3 Net Profit Margin

Net Profit Margin = (Net Profit / Revenue)			
	Tesla		BMW
2019		-0.032	0.048
2020		0.027	0.039
2021		0.105	0.111

Table 5: NPM

(Source: Author)

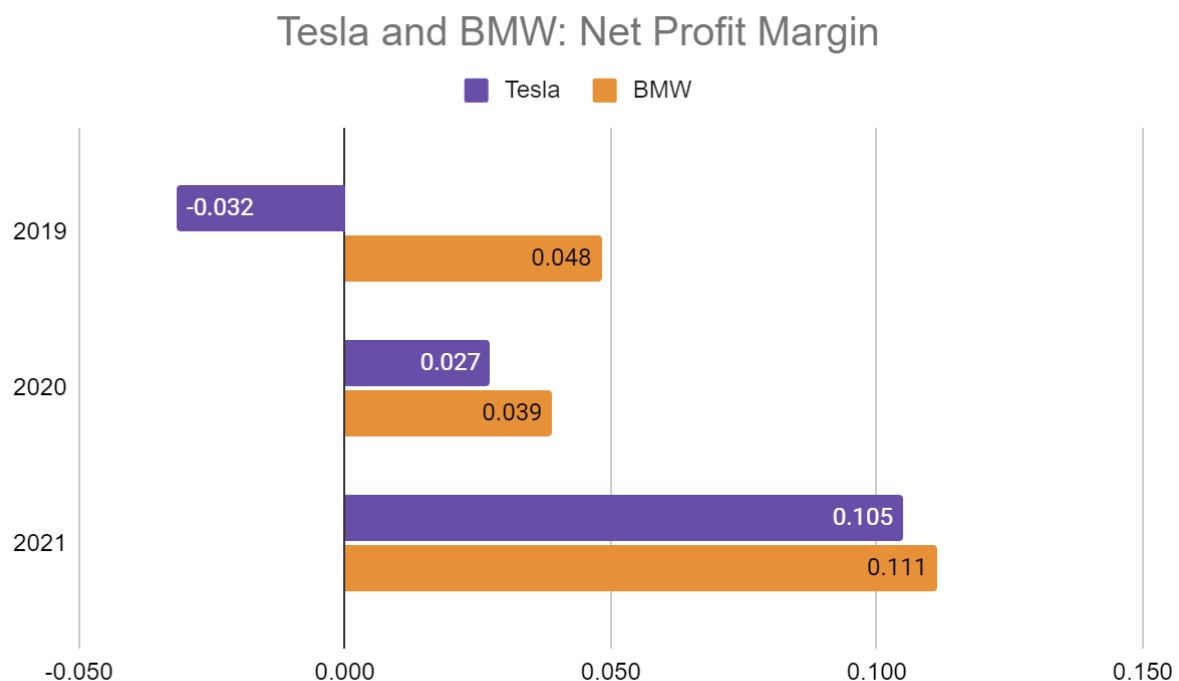


Figure 9: NPM Comparison Chart

(Source: Author)

In 2019, BMW was more profitable than Tesla, with a net profit margin of 0.048 compared to Tesla's -0.032 (Sec.gov, 2020). However, Tesla's profitability improved significantly in 2021,

with a net profit margin of 0.105 compared to BMW's net profit margin of 0.111. This suggests that Tesla has improved its profitability faster than BMW over the past few years. The reason for the fluctuations is that Tesla has been investing heavily in research and development of new electric vehicle technologies, which have contributed to its increase in profitability in 2021 (Sec.gov, 2022). On the other hand, BMW has faced challenges related to the COVID-19 pandemic, which could have impacted its profitability in 2020 (Bmwgroup.com, 2022).

3.2.1.4 ROA

ROA = {Net Profit / Average Total Assets (current year and immediate past year)}			
	Tesla		BMW
2019	-0.024		0.023
2020	0.020		0.017
2021	0.099		0.056

Table 6: ROA

(Source: Author)

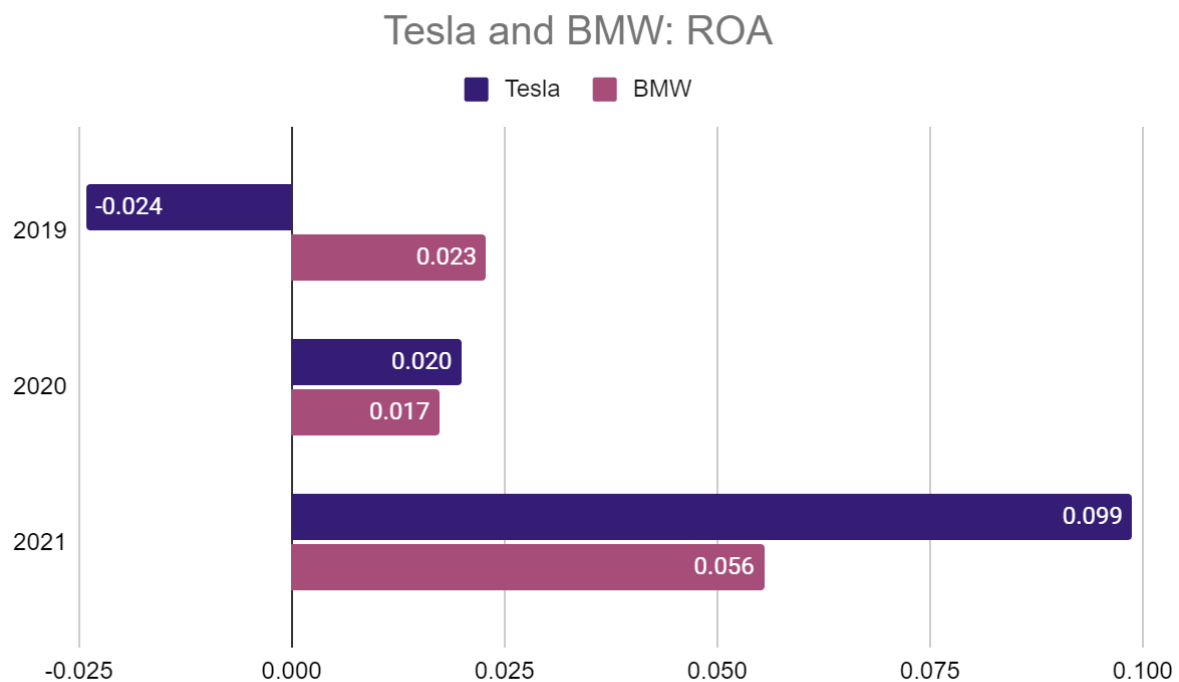


Figure 10: ROA Comparison Chart

(Source: Author)

Tesla's ROA has improved significantly from 2019 to 2021, moving from a negative value in 2019 to a positive ROA of 0.099 in 2021 (Sec.gov, 2022). BMW's ROA has also increased over the three years, but to a lesser extent than Tesla's. In 2019, BMW had a higher ROA than Tesla, but Tesla's ROA surpassed BMW's in 2020 and 2021 (Bmwgroup.com, 2022).

The increase in Tesla's ROA can be attributed to increased revenue and improved asset utilisation (Fridson and Alvarez, 2022). Tesla has been expanding its business and successfully increasing its vehicle production and deliveries, leading to increased revenue (Sec.gov, 2022). Furthermore, Tesla has reduced its operating expenses and improved its asset utilisation, leading to better profitability. On the other hand, BMW's ROA has been increasing over the three years but to a lesser extent than Tesla's, which can be attributed to its focus on cost management and operational efficiency (Geyer-Klingenberg *et al.* 2019).

3.2.1.5 ROE

ROE {Net Profit / Average Equity (current year and immediate past year)}			
	Tesla	BMW	
2019	-0.107		0.085
2020	0.054		0.064
2021	0.204		0.181

Table 7: ROE
(Source: Author)

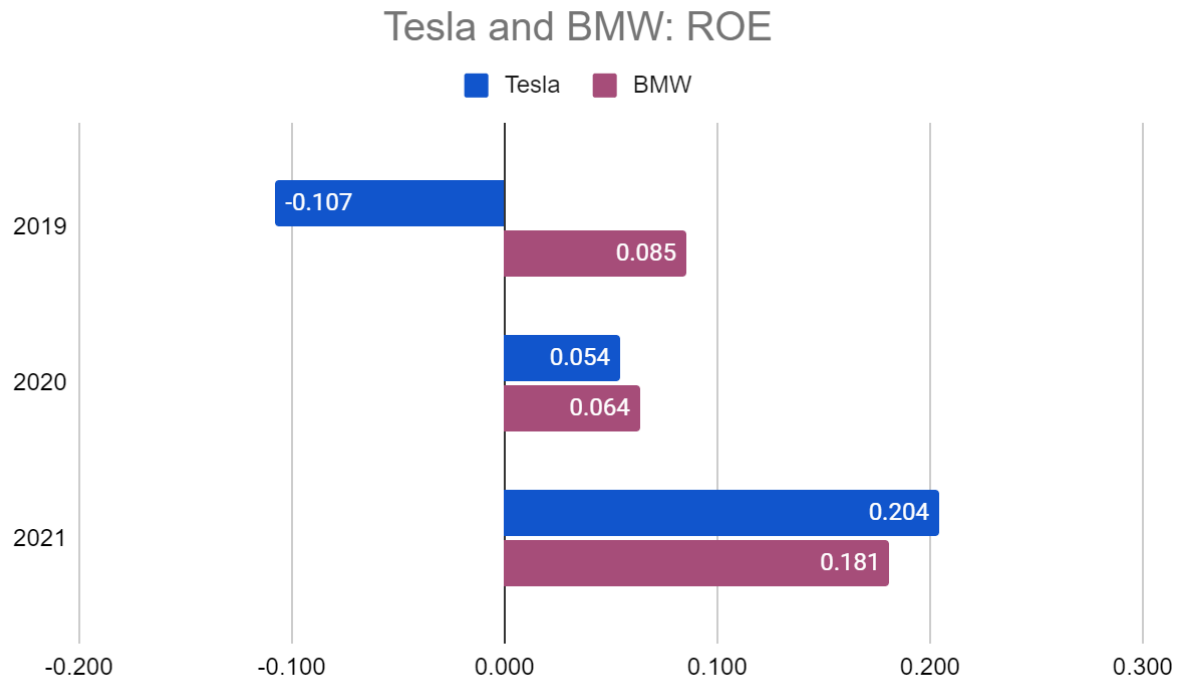


Figure 11: ROE

(Source: Author)

Based on the extracted data, it can be observed that Tesla's ROE has increased from -0.107 in 2019 to 0.204 in 2021, while BMW's ROE has increased from 0.085 in 2019 to 0.181 in 2021. It is important to note that both companies have improved their ROE figures over time, but Tesla's improvement has been more significant (Bmwgroup.com, 2022; Sec.gov, 2022).

Evaluating Tesla's ROE, it can be observed that the company's performance has significantly improved from 2019 to 2021. In 2019, Tesla had a negative ROE, which means that the company was not generating enough profit to cover the equity investment cost (Jihadi *et al.* 2021). However, in 2021, Tesla's ROE has improved to 0.204, which indicates that the company is generating more profit per unit of equity investment (Laitinen, 2018).

BMW's ROE has also improved over the same period, but not as significantly as Tesla's. The increase in BMW's ROE can be attributed to increased sales, cost-cutting measures, and better utilisation of assets (Laitinen, 2018). However, the improvement in BMW's ROE has not been as significant as Tesla's, indicating that Tesla has outperformed BMW in generating profits with shareholder equity.

3.2.2 Long-term Solvency and Stability Analysis

3.2.2.1 Debt Ratio

Debt Ratio = (Total Liabilities / Total Assets)			
	Tesla		BMW
2019		0.764	0.737
2020		0.545	0.716
2021		0.492	0.673

Table 8: Debt Ratio

(Source: Author)

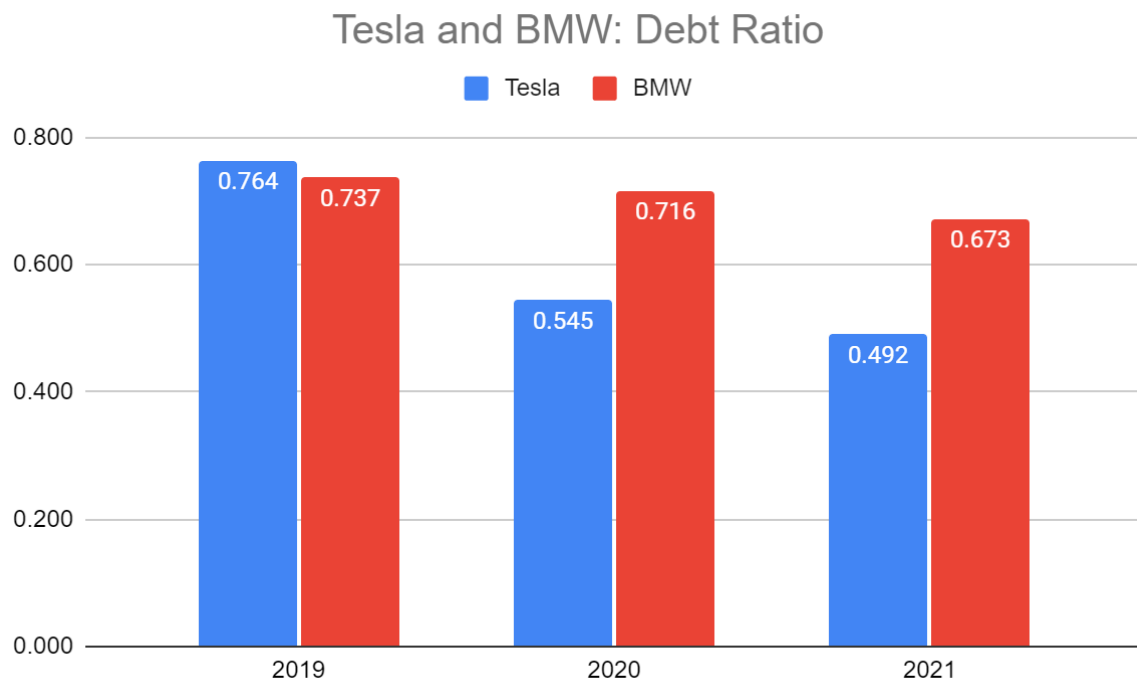


Figure 12: Debt Ratio Comparison Chart

(Source: Author)

Based on the given data, the Debt Ratio for both Tesla and BMW has decreased over the years. In 2019, Tesla had a higher Debt Ratio of 0.764 compared to BMW's 0.737. However, in 2020 and 2021, Tesla's Debt Ratio decreased significantly to 0.545 and 0.492, respectively, while BMW's Debt Ratio decreased to a lesser extent, from 0.737 in 2019 to 0.673 in 2021 (Sec.gov, 2021; Bmwgroup.com, 2021).

Comparing Tesla and BMW, we can see that Tesla had a higher Debt Ratio than BMW in 2019, indicating that Tesla had more liabilities relative to its assets compared to BMW. However, over the following two years, Tesla's Debt Ratio decreased faster than BMW's, indicating that Tesla has been more successful in reducing its liabilities and improving its financial position (Lewellen, 2004).

The decreasing trend in Debt Ratio for both companies is generally a positive sign as it indicates that they have been able to reduce their liabilities concerning their assets. A lower Debt Ratio also indicates that the company has more assets to cover its liabilities, which can be an important factor for investors, lenders, and creditors (Palepu *et al.* 2020).

3.2.2.2 Debt-to-Equity Ratio

Debt-to-Equity Ratio = (Total Liabilities / Net Worth or Equity)			
	Tesla		BMW
2019	3.230		2.806
2020	1.198		2.522
2021	0.967		2.055

Table 9: Debt-to-Equity Ratio

(Source: Author)

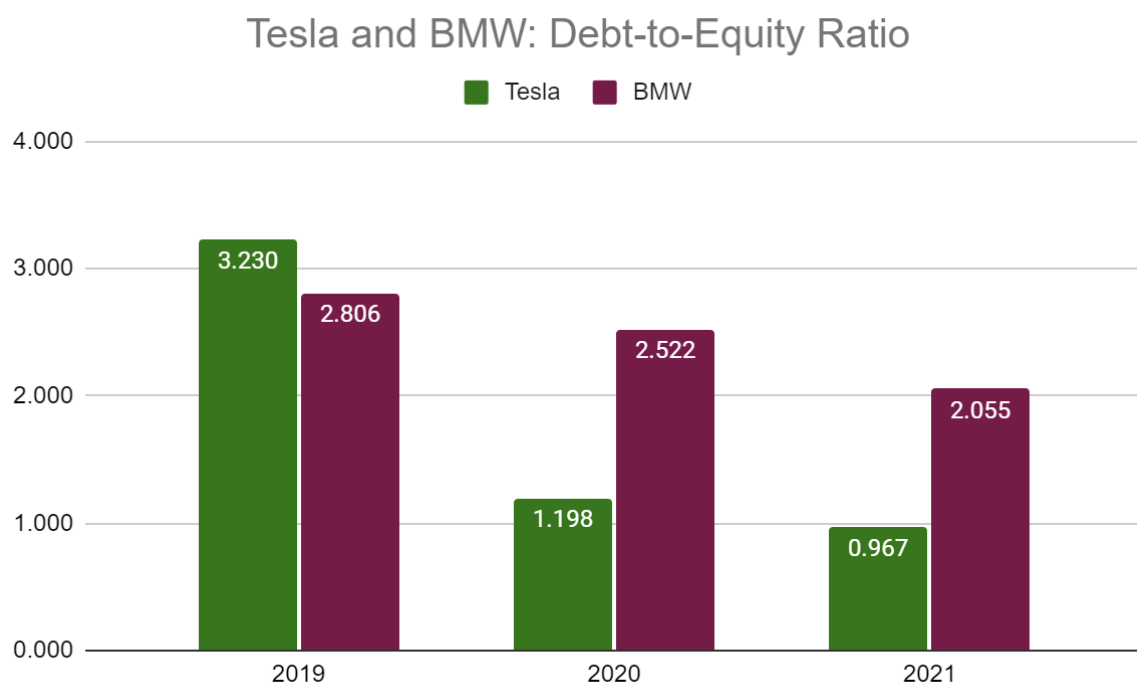


Figure 13: Debt-to-Equity Ratio Comparison Chart

(Source: Author)

The debt-to-equity ratio is a financial metric that measures a company's leverage, indicating its debt relative to its equity. A high debt-to-equity ratio suggests that a company relies heavily on debt financing, which can be risky, while a low ratio suggests the opposite (Palepu *et al.* 2020).

In 2019, Tesla had a debt-to-equity ratio of 3.230, which was higher than BMW's ratio of 2.806. This means that Tesla had a higher amount of debt compared to its equity than BMW did in that year (Bmwgroup.com, 2022; Sec.gov, 2022). However, in 2020, Tesla's debt-to-equity ratio decreased significantly to 1.198, while BMW's ratio decreased only slightly to 2.522. This indicates that Tesla reduced its level of debt relative to its equity more significantly than BMW did. In 2021, both companies continued to decrease their debt-to-equity ratios. Tesla's ratio was 0.967, indicating that it had reduced its debt even further compared to its equity, while BMW's ratio was 2.055 (Pratt, 2000). This means that Tesla had a much lower level of debt compared to its equity than BMW did in 2021.

Overall, the trend shows that Tesla has been reducing its level of debt relative to its equity more aggressively than BMW. This could be a positive sign for Tesla's financial stability and potential growth (Wahlen *et al.* 2022).

3.2.2.3 Interest Coverage Ratio

Interest Coverage Ratio = (EBIT / Interest Expenses)			
	Tesla		BMW
2019	-0.971		14.265
2020	1.543		11.402
2021	17.097		97.333

Table 10: Interest Coverage Ratio

(Source: Author)

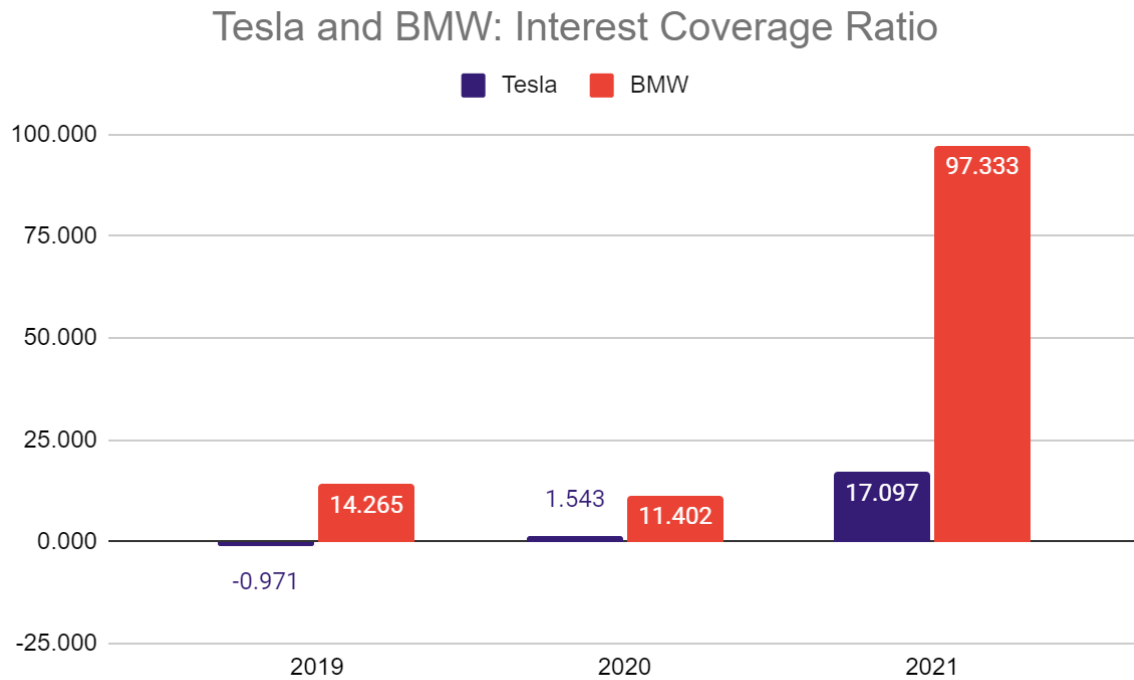


Figure 14: Interest Coverage Ratio Comparison Chart

(Source: Author)

The interest coverage ratio is a financial ratio that measures a company's ability to meet its interest payments on outstanding debt. A higher interest coverage ratio indicates that a company is more capable of meeting its interest payments (Laitinen, 2018).

In 2019, Tesla had a negative interest coverage ratio of -0.971, which means that its earnings before interest and taxes (EBIT) were insufficient to cover its interest expenses. On the other hand, BMW had an interest coverage ratio of 14.265, indicating that its EBIT was more than enough to cover its interest expenses (Bmwgroup.com, 2022; Sec.gov, 2022). In the following year, 2020, Tesla's interest coverage ratio increased to 1.543, which indicates that its EBIT was sufficient to cover its interest expenses. BMW's interest coverage ratio also decreased to 11.402, which was still higher than Tesla's ratio. In 2021, both companies saw significant improvements in their interest coverage ratios. Tesla's ratio increased to 17.097, indicating that its EBIT was much higher than its interest expenses, while BMW's ratio increased to 97.333, which is a very high ratio indicating strong financial health.

The trend shows that Tesla has improved its ability to meet its interest payments over the years, although it started from a much weaker position than BMW. This could be a positive sign for Tesla's financial stability and potential growth (Bragg, 2012).

3.2.2.4 Cash Ratio

Cash Ratio = (Cash and Cash Equivalents) / Current Liabilities			
	Tesla		BMW
2019	0.588		0.146
2020	1.360		0.188
2021	0.892		0.209

Table 11: Cash Ratio

(Source: Author)

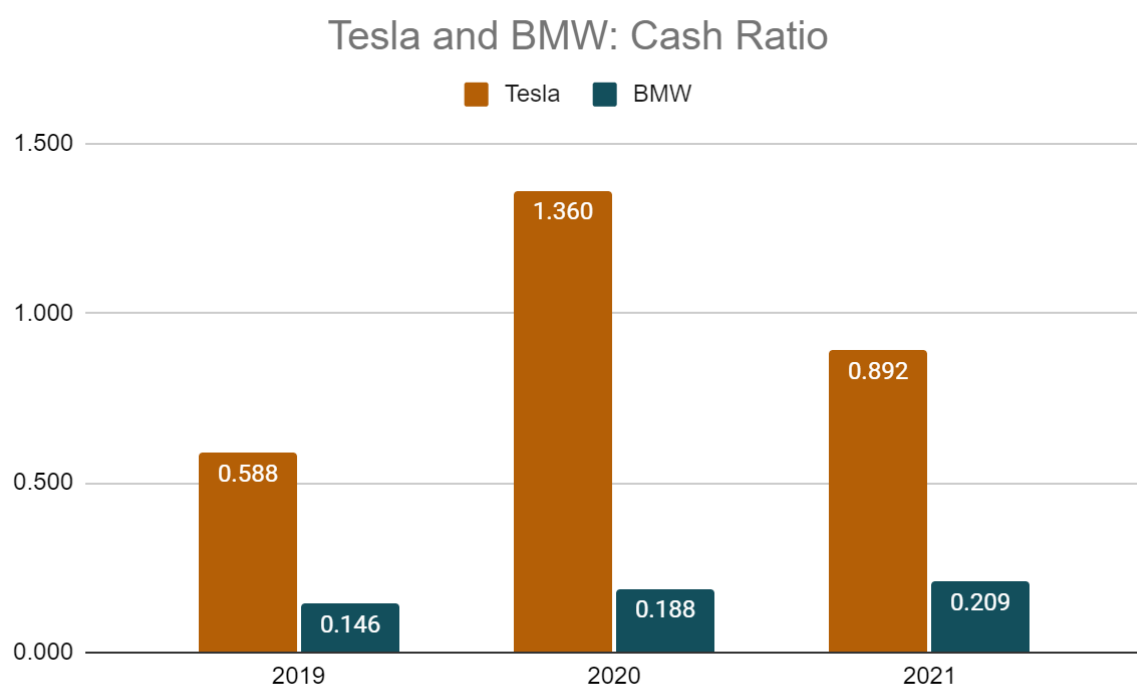


Figure 15: Cash Ratio Comparison Chart

(Source: Author)

The cash ratio is a financial ratio that measures a company's ability to meet its short-term obligations using its cash and cash equivalents. A higher cash ratio indicates that a company has more cash available to meet its short-term liabilities (Das, 2023).

The extracted data shows that in 2019, Tesla had a cash ratio of 0.588, higher than BMW's ratio of 0.146. This means Tesla had more cash and cash equivalents to meet its short-term liabilities than BMW. In 2020, Tesla's cash ratio increased significantly to 1.360, while BMW's ratio increased only slightly to 0.188. This indicates that Tesla had a much higher

amount of cash and cash equivalents available to meet its short-term liabilities than BMW (Bmwgroup.com, 2021; Ir.tesla.com, 2021). In 2021, both companies saw a decrease in their cash ratios. Tesla's ratio decreased to 0.892, while BMW's ratio increased to 0.209 (Bmwgroup.com, 2022; Sec.gov, 2022). However, Tesla's cash ratio was still higher than BMW's ratio. The trend shows that Tesla has had a stronger cash position than BMW in the past three years, as indicated by its consistently higher cash ratio. This could be a positive sign for Tesla's ability to meet its short-term obligations and to invest in future growth opportunities (Fraser *et al.* 2016).

3.2.3 Short-term Solvency and Liquidity Analysis

3.2.3.1 Current Ratio

	Tesla	BMW
2019	1.135	1.097
2020	1.875	1.137
2021	1.375	1.127

Table 12: Current Ratio

(Source: Author)

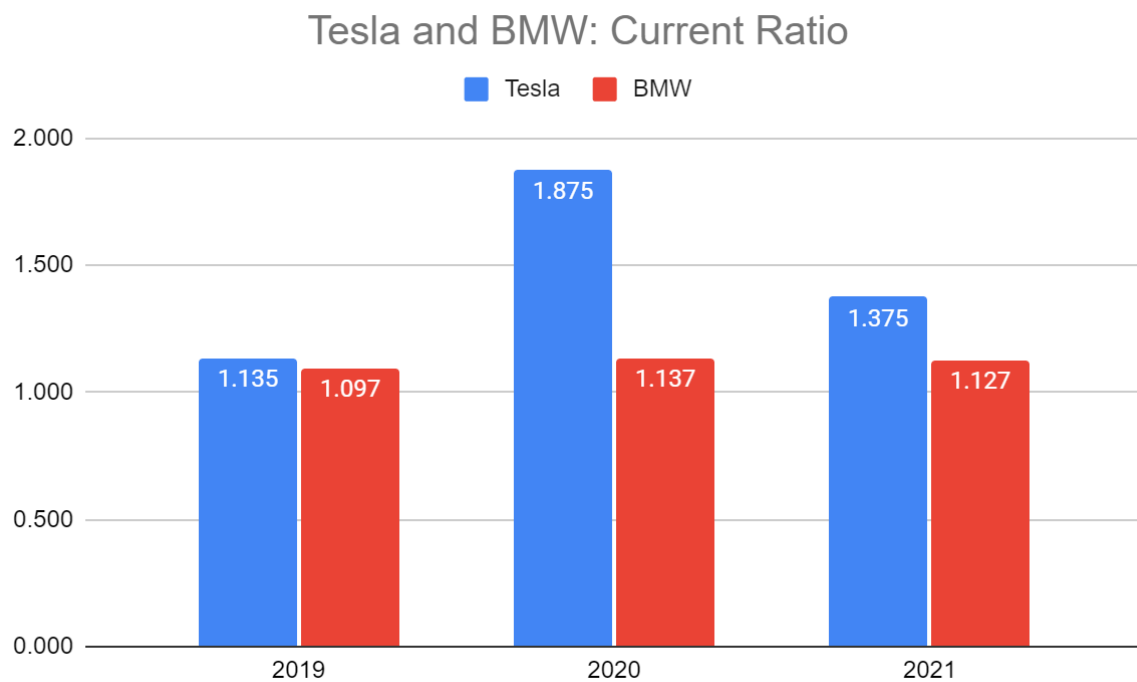


Figure 16: Current Ratio Comparison Chart

(Source: Author)

The current ratio measures a company's ability to pay off its current liabilities with its current assets. A current ratio of 1 or higher is generally considered good, as it indicates that a company has sufficient current assets to cover its current liabilities (Fraser *et al.* 2016).

Observing the data it can be determined that Tesla's current ratio has been consistently higher than BMW's over the three years. In 2019, Tesla's current ratio was 1.135, while BMW's was 1.097. This indicates that Tesla had a slightly better ability to pay off its current liabilities compared to BMW in that year (Geyer-Klingeberg *et al.* 2019). However, in 2020, Tesla's current ratio increased significantly to 1.875, indicating a substantial improvement in its ability to pay off its current liabilities. In contrast, BMW's current ratio only increased slightly to 1.137. This suggests that Tesla's financial position improved significantly in 2020 compared to BMW.

3.2.3.2 Quick Ratio

Quick Ratio = {Cash + Market Securities + Receivables} / Current Liabilities}			
	Tesla		BMW
2019	0.779		0.890
2020	1.587		0.921
2021	1.083		0.899

Table 13: Quick Ratio

(Source: Author)

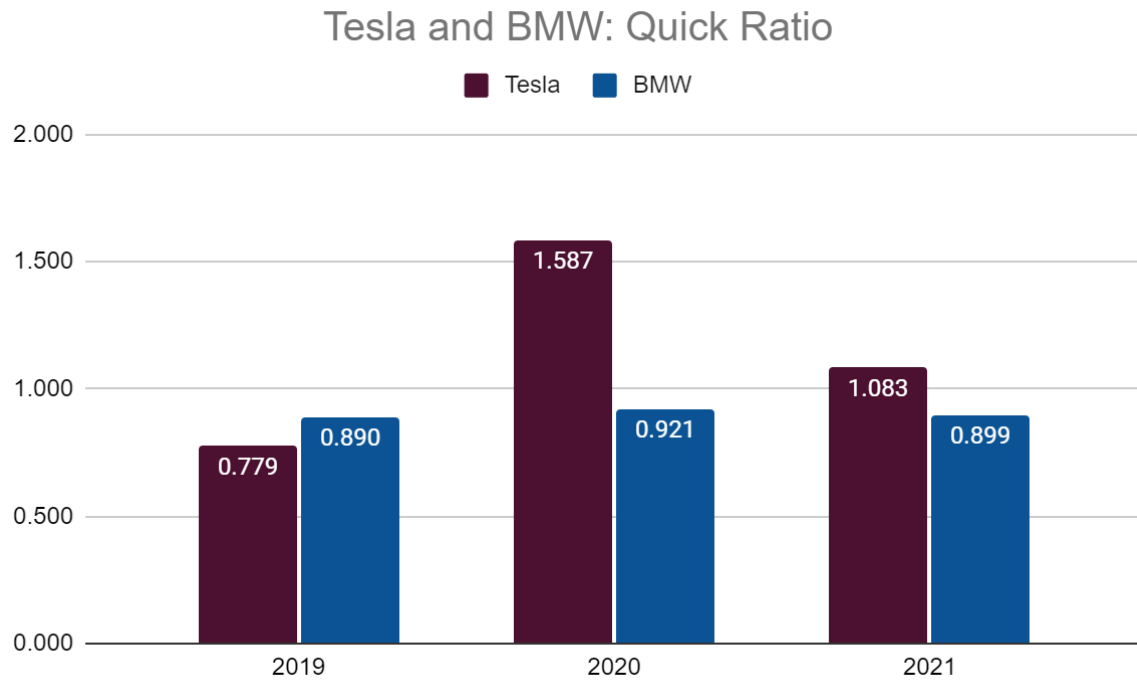


Figure 17: Quick Ratio Comparison Chart

(Source: Author)

The quick ratio assesses a company's capacity to use its liquid assets to pay short-term commitments. According to the statistics, over the last three years, Tesla's quick ratio has consistently outperformed BMW's, with a quick ratio of 0.890 compared to Tesla's 0.779 in 2019. BMW was in a better position to fulfil its short-term commitments at the time. While BMW's quick ratio remained largely stable, ranging from 0.899 to 0.921, Tesla's quick ratio significantly improved in the years that followed, reaching 1.587 in 2020 and 1.083 in 2021.

This suggests that Tesla has been more successful than BMW in growing its liquid assets and strengthening its capacity to satisfy short-term commitments, such as paying down current liabilities. This contributes to Tesla's emphasis on innovation and growth, allowing the business to produce robust cash flows and strengthen its financial position. Overall, the pattern indicates that Tesla is better equipped than BMW to handle immediate financial demands and invest in opportunities for future development.

3.2.3.3 Net Working Capital to Total Asset Ratio

Net Working Capital to Total Asset Ratio = {Net Working Capital / Total Assets}		
	Tesla	BMW

2019	0.0419	0.0351
2020	0.2391	0.0454
2021	0.1190	0.0423

Table: 14: Net Working Capital to Total Asset Ratio

(Source: Author)

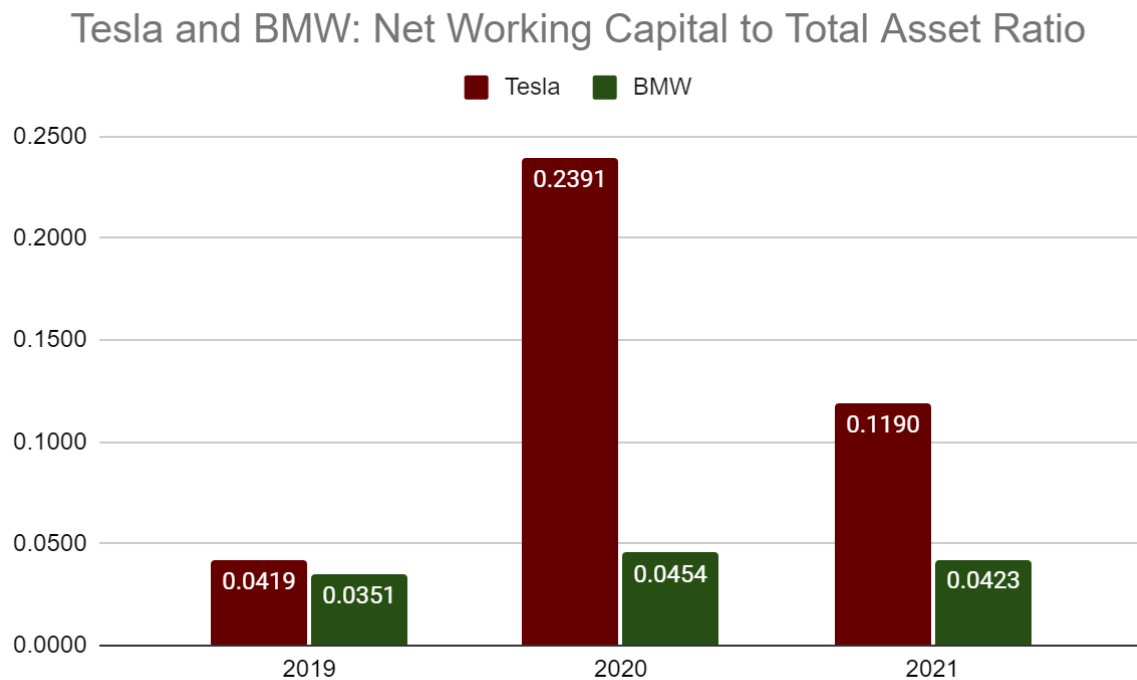


Figure 18: Net Working Capital to Total Asset Ratio Comparison Chart

(Source: Author)

Comparing Tesla and BMW, we can see that in 2019, Tesla had a higher net working capital to total asset ratio than BMW. This indicates that Tesla had a higher proportion of current assets to current liabilities, suggesting a better ability to meet short-term financial obligations. However, this difference was relatively small.

In 2020, Tesla's net working capital to total asset ratio increased significantly, whereas BMW's ratio only increased slightly. Tesla's ratio went from 0.0419 in 2019 to 0.2391 in 2020, indicating a substantial improvement in liquidity. This improvement is likely due to Tesla's strong financial performance during this period, which included increased revenue and profitability. In 2021, both Tesla and BMW experienced a decline in their net working capital to total asset ratio, but Tesla's decline was less severe than BMW's. Tesla's ratio went from 0.2391 in 2020 to 0.1190 in 2021, whereas BMW's ratio went from 0.0454 in 2020 to 0.0423 in 2021.

0.0423 in 2021. This suggests that Tesla still had a stronger liquidity position than BMW in 2021, despite both companies experiencing a decline in their net working capital to total asset ratio.

3.2.4 Efficiency Analysis

3.2.4.1 Average Collection Period

Average Collection Period = (Accounts Receivable / Total Credit Sales or Revenue)*365			
	Tesla		BMW
2019	20		9
2020	22		8
2021	13		7

Table 15: Average Collection Period

(Source: Author)

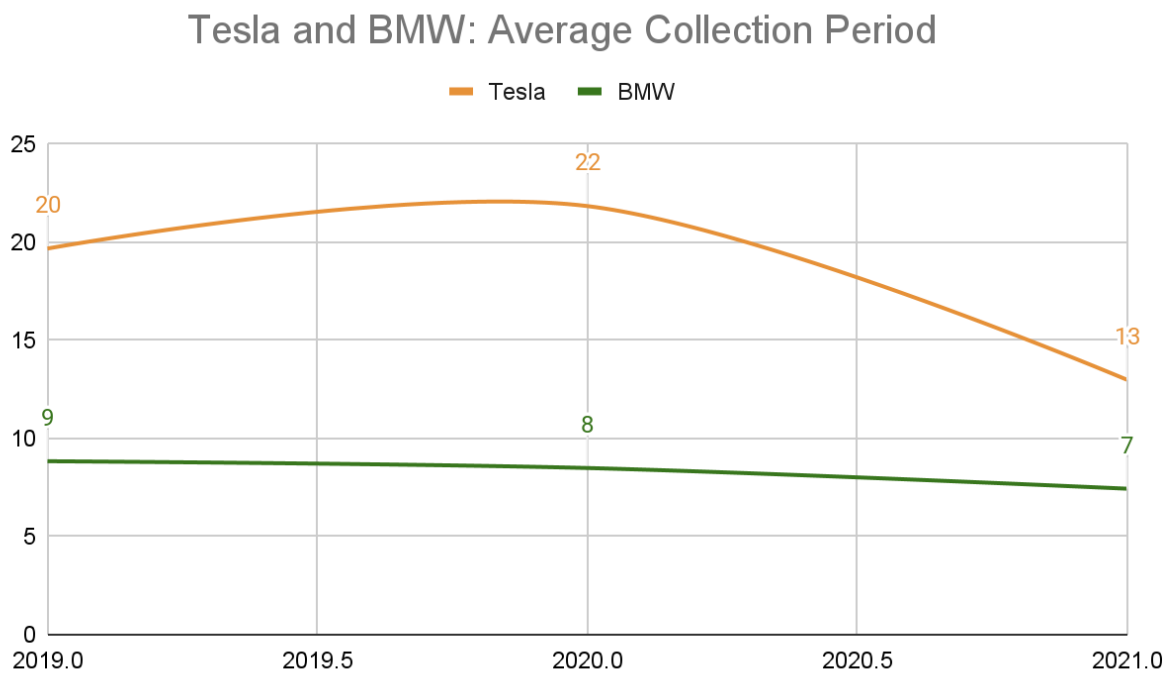


Figure 19: Average Collection Period Comparison Chart

(Source: Author)

The data shows the Average Collection Period (ACP) for Tesla and BMW for 2019, 2020, and 2021. ACP is a financial ratio that measures the days a company takes to collect its accounts receivable from its customers (Jihadi *et al.* 2021).

Observing the data, it can be determined that Tesla's ACP has generally increased from 2019 to 2020, but decreased significantly in 2021 (Ir.tesla.com, 2021). BMW's ACP has also decreased over the three years, but to a lesser extent than Tesla's. The increase in Tesla's ACP from 2019 to 2020 can be attributed to its growth in revenue, which may have led to an increase in accounts receivable (Bmwgroup.com, 2022). However, the significant decrease in ACP in 2021 suggests that Tesla has improved its collection efficiency and collects its receivables faster (Lewellen, 2004). This could be due to improved collection procedures, better customer credit management, or changes in sales mix towards higher-margin products. On the other hand, BMW has reduced its ACP over the three years, indicating an improvement in its collection efficiency (Palepu *et al.* 2020).

3.2.4.2 Accounts Receivable Turnover Ratio

Accounts Receivable Turnover Ratio = (Net Credit Sales or Revenue / Average Accounts Receivable)			
	Tesla		BMW
2019		22	41
2020		20	41
2021		28	49

Table 16: Accounts Receivable Turnover Ratio

(Source: Author)

Tesla and BMW: Accounts Receivable to Revenues

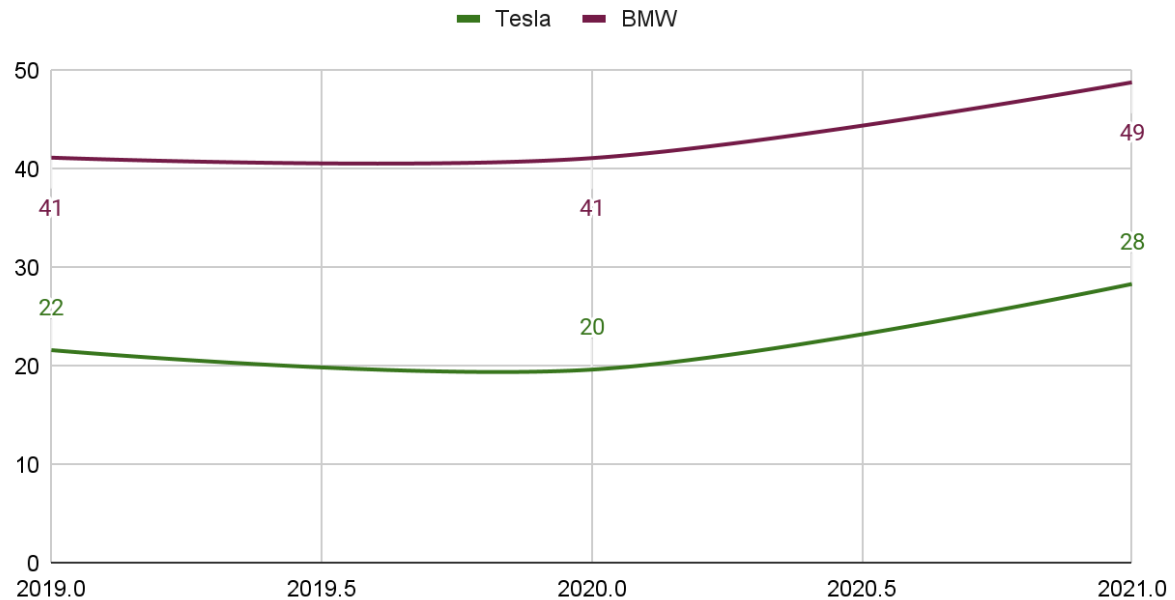


Figure 20: Accounts Receivable Turnover Ratio Comparison Chart

(Source: Author)

Tesla's Accounts Receivable Turnover (ART) Ratio has increased from 2019 to 2021, indicating an improvement in its ability to collect its accounts receivable. BMW's ART has remained relatively stable over the three years (Sec.gov, 2022). In 2019 and 2020, Tesla had a lower ART than BMW, indicating that it took longer to collect its accounts receivable. However, in 2021, Tesla's ART was higher than BMW's, indicating that Tesla could collect its accounts receivable more quickly than BMW. The increase in Tesla's ART from 2019 to 2021 suggests that it has improved its collection efficiency and collects its receivables more quickly (Wahlen *et al.* 2022). The reason for such improvement is the same as ACP.

3.2.4.3 Accounts Payable Turnover Ratio

Accounts Payable Turnover Ratio = (COGS / Average Accounts Payable)			
	Tesla		BMW
2019	6		9
2020	5		11
2021	4		9

Table 17: Accounts Payable Turnover Ratio

(Source: Author)

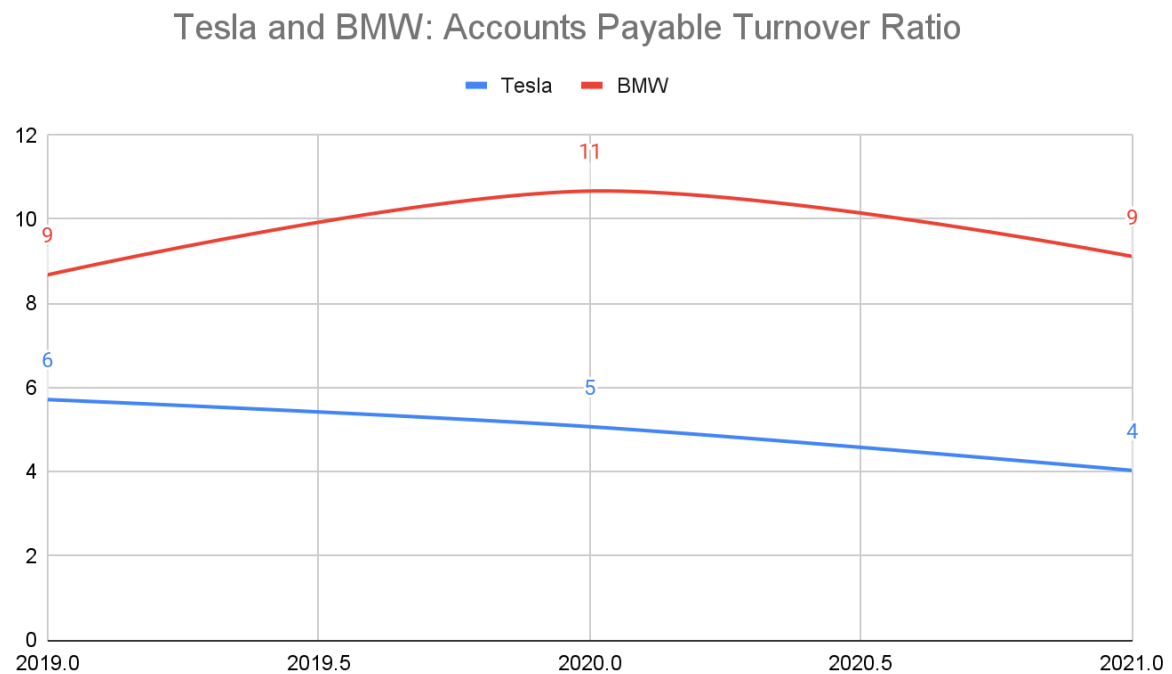


Figure 21: Accounts Payable Turnover Ratio Comparison Chart

(Source: Author)

The Accounts Payable Turnover Ratio (APTR) is a financial ratio that measures how quickly a company can pay its accounts payable to its suppliers. Tesla's APTR has generally decreased from 2019 to 2021, indicating a slowdown in its ability to pay its accounts payable (Sec.gov, 2022). BMW's APTR has remained relatively stable over the three years. In all three years, BMW had a higher APTR than Tesla, indicating that it could pay its accounts payable quicker than Tesla.

The decrease in Tesla's APTR from 2019 to 2021 suggests it has been taking longer to pay its suppliers. This was due to several factors, such as slower sales growth or production delays (Pratt, 2000). On the other hand, BMW's APTR has remained relatively stable over the three years, indicating that it has been able to maintain its payment efficiency.

3.2.4.4 Inventory Turnover Ratio

Inventory Turnover Ratio = (Cost of Goods Sold / Average Inventory)			
	Tesla		BMW
2019		6	6
2020		7	6

2021	8	6
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Table 18: Inventory Turnover Ratio

(Source: Author)

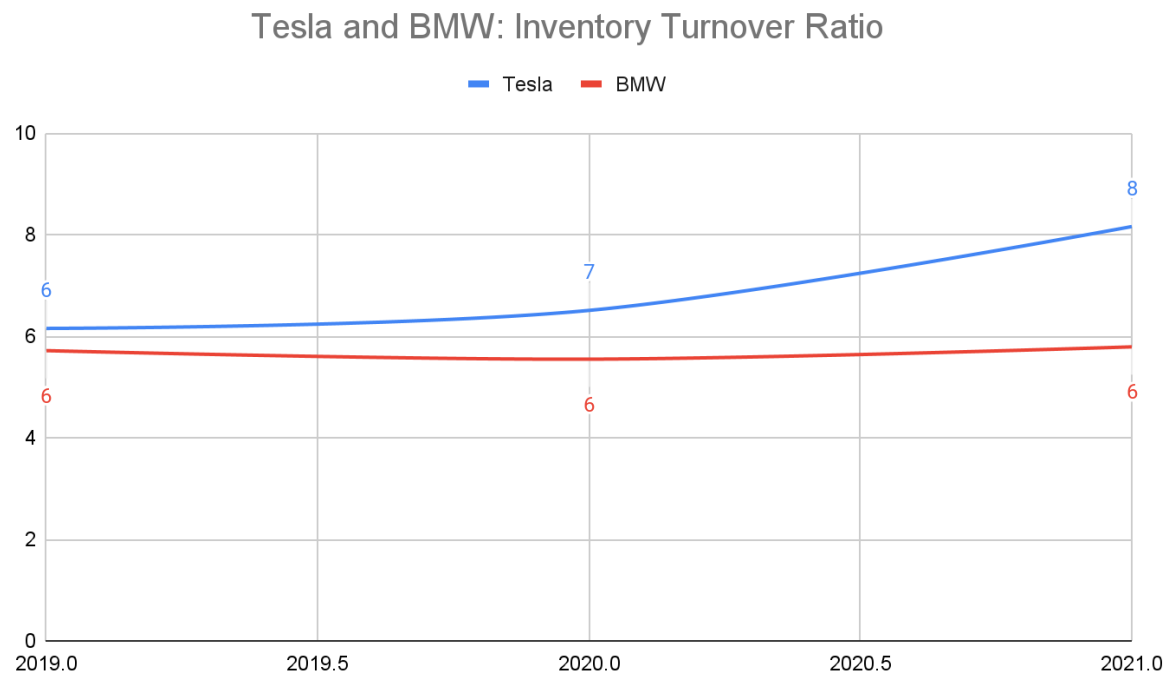


Figure 22: Inventory Turnover Ratio Comparison Chart

(Source: Author)

The Inventory Turnover Ratio (ITR) is a financial ratio that measures how quickly a company can sell its inventory. Tesla's ITR has generally increased from 2019 to 2021, indicating an improvement in its ability to sell its inventory. BMW's ITR has remained relatively stable over the three years. In all three years, Tesla had a higher ITR than BMW, indicating that it could sell its inventory more quickly than BMW.

The increase in Tesla's ITR from 2019 to 2021 suggests that it has been able to sell its inventory more efficiently. This was due to increased demand for Tesla's products or improvements in its supply chain management. On the other hand, BMW's ITR has remained relatively stable over the three years, indicating that it has been able to maintain its inventory efficiency (Geyer-Klingeberg *et al.* 2019).

3.2.5 Shareholders' Investment Ratios

3.2.5.1 EPS

EPS = (Net Income / Average Number of Shares Outstanding)			
	Tesla		BMW
2019		-4.379	8.342
2020		0.924	6.407
2021		5.664	20.703

Table 19: EPS

(Source: Author)

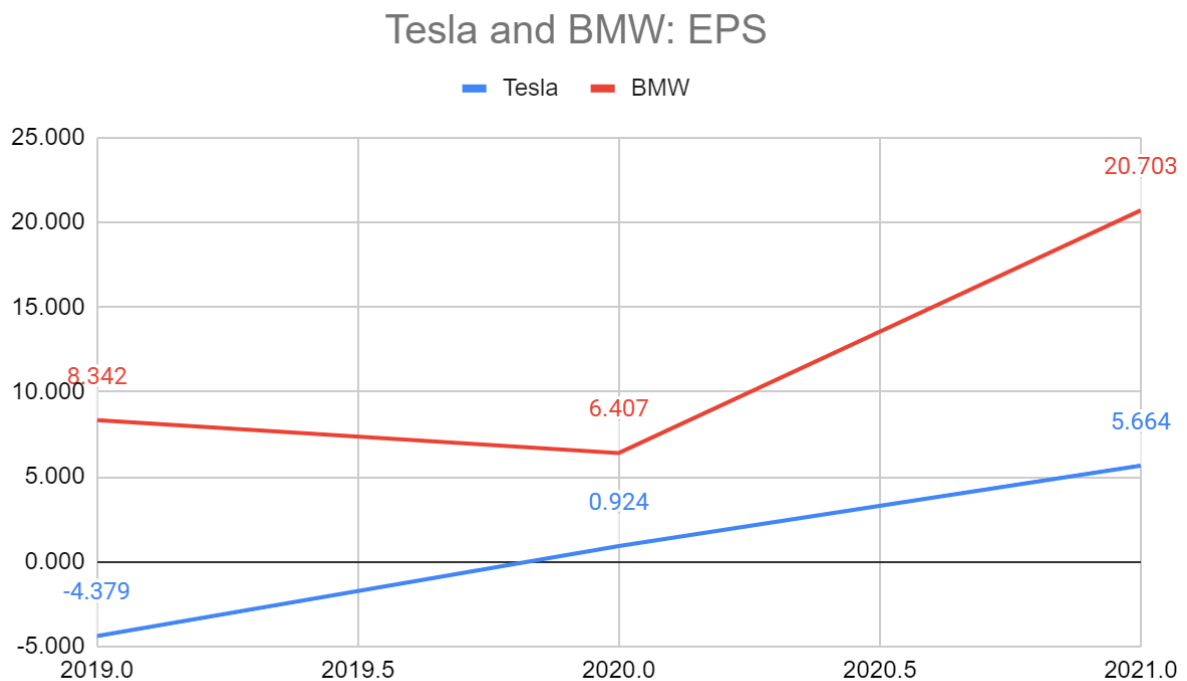


Figure 23: EPS Comparison Chart

(Source: Author)

Higher EPS indicates that the company is generating more earnings per share, which investors generally consider positive. The data shows that Tesla's EPS has improved significantly over the years, going from a negative EPS of -4.379 in 2019 to a positive EPS of 5.664 in 2021 (Finance.yahoo.com, 2023b). This is a significant improvement and indicates that Tesla has generated more profits per share of its outstanding stock. On the other hand, BMW's EPS went from 8.342 in 2019 to 20.703 in 2021 (Finance.yahoo.com, 2023a). This

suggests that BMW has been able to generate more earnings per share but not at the same rate as Tesla.

Overall, the data indicates that Tesla has improved its profitability significantly over the years, which is a positive sign for investors.

3.2.5.2 P/E

P/E = (Market Price per Share / Earnings per Share)			
	Tesla		BMW
2019		-6	7
2020		254	10
2021		62	4

Table 20: P/E

(Source: Author)

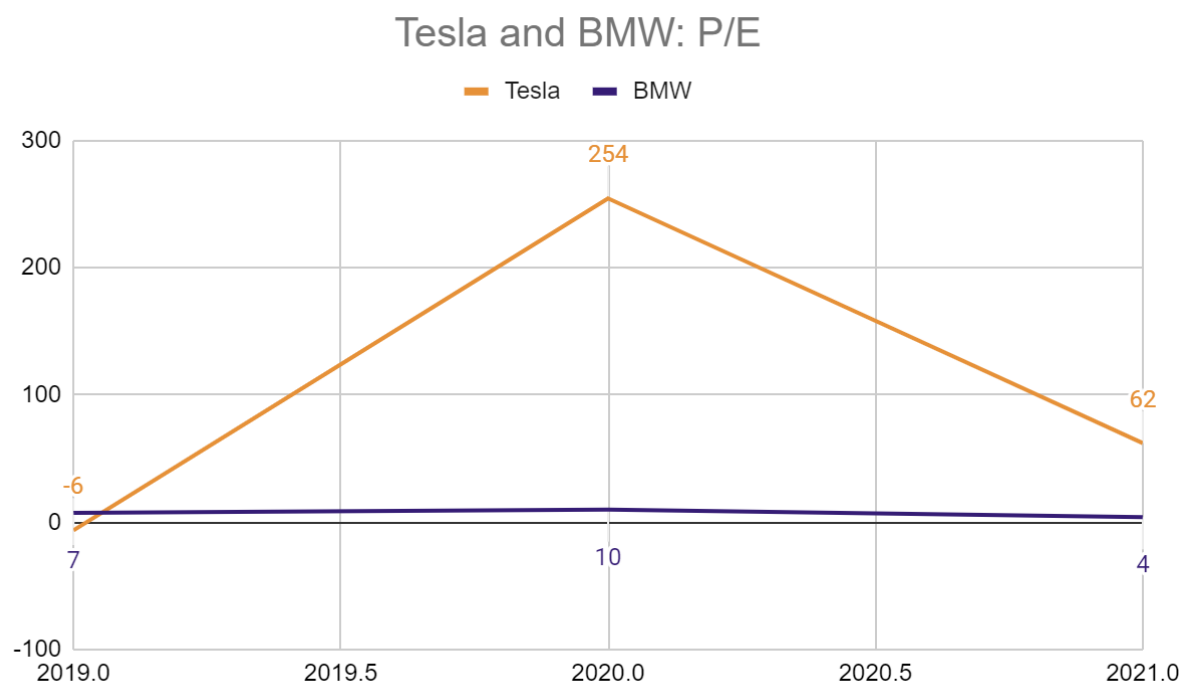


Figure 24: P/E Comparison Chart

(Source: Author)

The P/E ratio measures the price investors are willing to pay for each dollar of earnings the company generates. A higher P/E ratio indicates that investors are willing to pay a higher price for each dollar of earnings (Das, 2023). The data shows that Tesla's P/E ratio has

increased significantly from 2019 to 2021, going from a negative P/E ratio in 2019 to 62 in 2021. This indicates that investors are becoming more confident in Tesla's future earnings prospects and are willing to pay more for each dollar (Fraser *et al.* 2016).

On the other hand, BMW's P/E ratio decreased from 2019 to 2021, going from 7 to 4. This suggests that investors are becoming less willing to pay a high price for BMW's earnings, potentially due to concerns about the company's future growth prospects or increased competition in the industry (Bmwgroup.com, 2022).

3.2.5.3 Dividend Cover Ratio

Dividend Cover Ratio = (Net Income / Dividend Paid)			
	Tesla		BMW
2019	0.00		3.05
2020	0.00		3.08
2021	0.00		3.26

Table 21: Dividend Cover Ratio

(Source: Author)

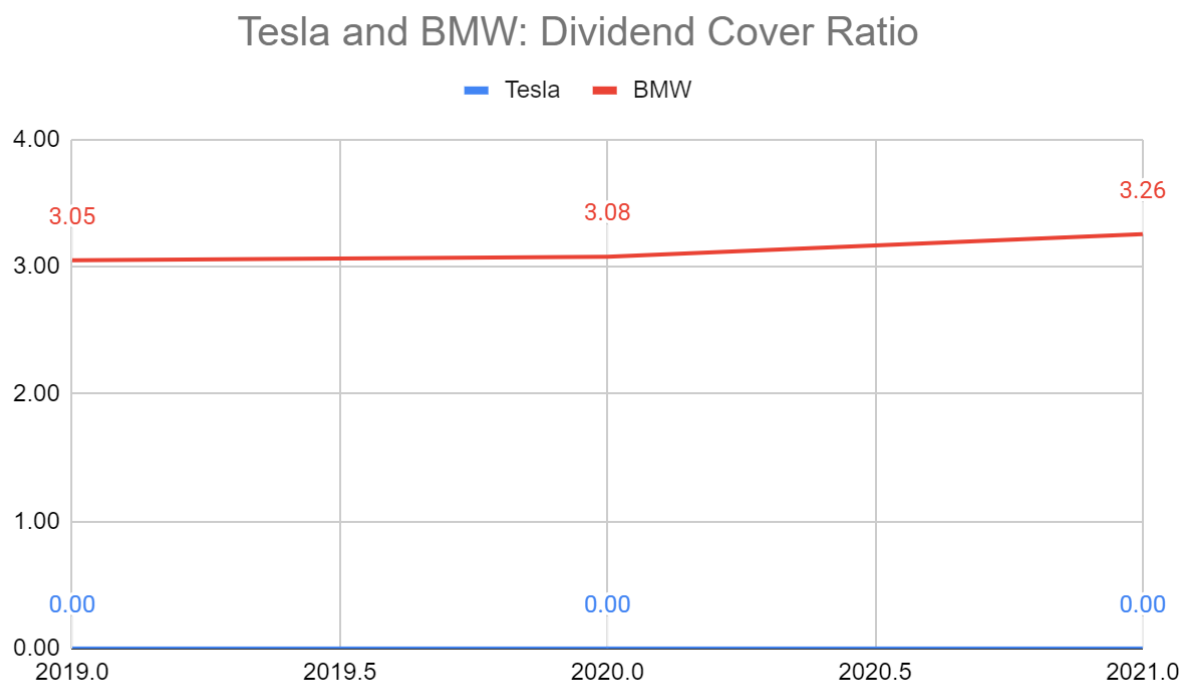


Figure 25: Dividend Cover Ratio Comparison Chart

(Source: Author)

The Dividend Cover Ratio measures a company's ability to pay dividends to its shareholders from its net income. A higher ratio indicates that the company has enough earnings to cover its dividend payments, while a lower ratio suggests that the company may struggle to maintain its dividend payments (Brealey *et al.* 2006). However, in the case of Tesla, the company has specifically mentioned in their annual report that it does not intend to pay dividends to its common shareholders. The reason for such a decision is that Tesla intends to invest money in future R&D and company expansion (Sec.gov, 2020).

On the other hand, BMW has consistently paid dividends to its shareholders. The company has also increased its dividend payouts gradually over the three years (Bmwgroup.com, 2022).

3.2.5.4 Dividend Yield Ratio

Dividend Yield Ratio = (Annual Dividend Per Share / Stock Price Per Share)			
	Tesla	BMW	
2019	0	0.0407	
2020	0	0.0296	
2021	0	0.0705	

Table 22: Dividend Yield Ratio

(Source: Author)

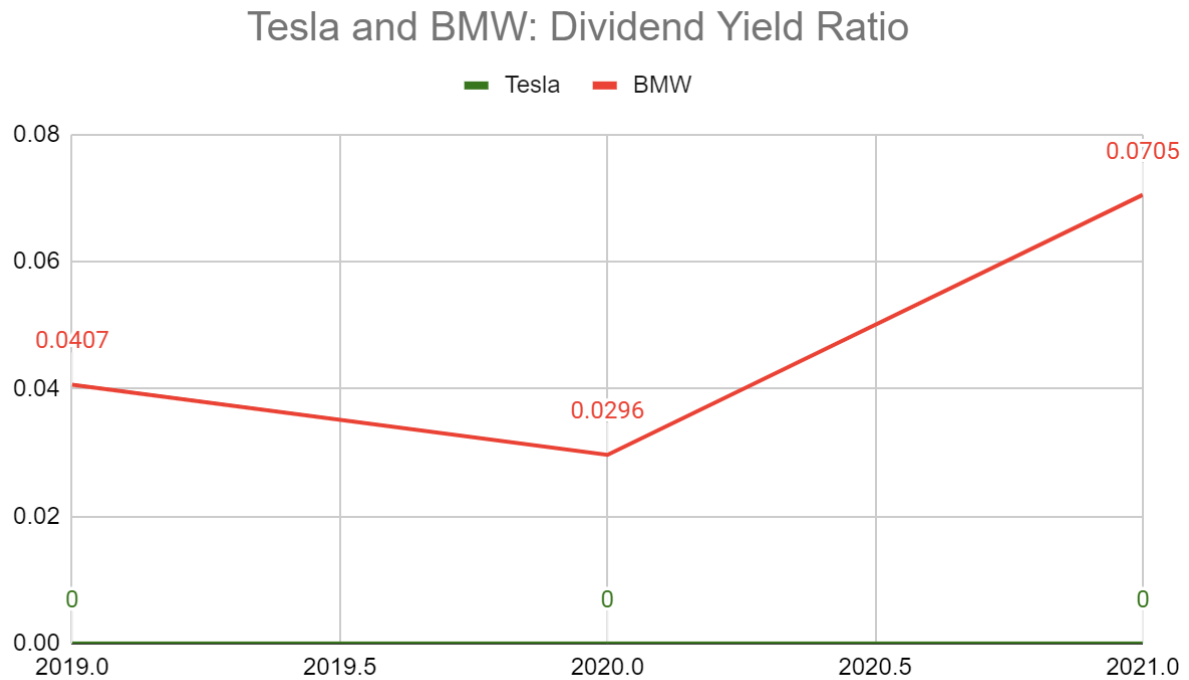


Figure 26: Dividend Yield Ratio Comparison Chart

(Source: Author)

As Tesla has declared that it will not pay dividends to its shareholders, the DY ratio is zero. On the other hand, BMW has a more conservative approach and has traditionally paid dividends to its shareholders. The decrease in BMW's dividend yield ratio in 2020 could be attributed to the COVID-19 pandemic, which affected the company's revenue and profits (Bmwgroup.com, 2021). However, BMW's increase in dividend yield ratio in 2021 suggests that the company has been able to recover from the pandemic and generate more profits, which allowed it to pay higher dividends to its shareholders.

Moreover, the difference in dividend payments between Tesla and BMW can be attributed to the companies' differing strategies (Bragg, 2012). Tesla has historically reinvested its profits back into the company for research and development, expansion, and capital expenditures. This approach has allowed Tesla to grow rapidly but at the expense of not paying dividends to its shareholders.

3.3 Business Analysis

3.3.1 PEST Analysis

3.3.1.1 Political

Several European governments have started implementing stringent carbon emission controls in response to concerns about global warming and environmental deterioration. Germany intends to decrease total GHG emissions by 55% in 2030 compared to 1990, enforcing a 130-billion-euro European recovery plan and increment subsidies for fully EVs with a cost lesser than 40000 euros by 50% to 9000 euros (Liu, 2021). Norway, for its part, seeks to accomplish zero emissions by 2025 and implements the legislation of exemption of purchase tax, import duty, and value-added tax on fully EVs (Wellings *et al.* 2021). The total sales and attractiveness of the electric car sector will expand dramatically against the backdrop that all governments advocate favourable policies for new energy vehicles (Kresnawan *et al.* 2022).

It shows that government policies and regulations help the electric car industry grow, increasing its clout on the world stage. Governments like the United States, China, and parts of Europe have enacted rules and regulations to save the planet. Adoption of EVs is boosted greatly by initiatives like the California Air Resources Board's (CARB) ZEV programme and the Department of Energy's (DOE) Zero Emission Vehicle (ZEV) delivery programme (Kresnawan *et al.* 2022). In general, EVs may enhance air quality and energy supplies by lowering carbon dioxide emissions; therefore, the government backs Tesla since it works closely with its objective to safeguard the environment. Several state governments have subsidised Tesla by providing extra income-tax credits to residents who buy electric vehicles from the company. Subsidies were integral to Tesla's economic strategy, particularly in the early days of the electric vehicle company's marketing campaigns (Liu, 2021). Thus, Tesla's \$12 billion stock valuation is highly correlated with government-granted privilege, suggesting that political preference has been given more weight than the generation of value for customers (Zhou, 2023).

3.3.1.2 Economic

By stoking competition in the EV market, Tesla helps to model the growth of the U.S., China, and Europe economies, all of which benefit from the resulting construction and job prospects. By mass-producing a variety of electric vehicles for sale in 2016, Tesla boosted

competitiveness at home with other automakers and sped up the expansion of the automobile industry trend, creating new openings for economic developers in the renewable energy market (McCain, 2019) HIS Market, a financial services organisation, claims that Tesla has had a significant influence on the US economy, creating \$5.5 billion and 50,000 employments in the state of California alone (Liu, 2021). Meanwhile, Tesla's success in the US market with electric automobiles has sped up technological progress in that country (Huang, 2022).

Moreover, there has been a global energy scarcity in recent years, and the price of internationally refined oil has risen accordingly. International tensions at the start of 2022 led to the opening of hostilities between Russia and Ukraine, and energy shortages throughout Europe further exacerbated the situation (Zhu, 2022). When the price of oil rises worldwide, it also increases in China, a big EV market. Oil and gas costs are expected to rise in the near term, and as a result, customers and the market will show increased interest in electric cars (Wellings *et al.* 2021).

3.3.1.3 Society

Exhaust gas from traditional automobiles generates ecological issues, including pollution, acid rain, and global warming, which represent a tremendous danger to the sustainable growth of human civilization, raising people's concern for the environment. Electric car technology advancements may help reduce the environmental impact of industrialised countries' increasing greenhouse gas emissions (McCain, 2019). Electric vehicles are more efficient energy converters than gas-powered vehicles because they transform more than half of their energy into usable form at the wheels. Because of these reasons, the demand for electric cars is rising. Using entirely electric batteries in Tesla car manufacture seems to claim to have practically 0 tailpipe emissions, despite the continuing emission of GHG from the electricity generation to replenish EVs (Kresnawan *et al.* 2022).

People are becoming more aware of environmental issues, responding more actively to national policies, and opting for greener modes of transportation like public transportation and eco-friendly vacations due to increased publicity and ongoing improvements in national quality in many countries (Liu, 2021). The sharing economy has also developed in the meanwhile. Commitment to the social atmosphere of low-carbon transportation in the context

of environmental concerns has set the ideological underpinning for the development of electric cars (Wellings *et al.* 2021).

3.3.1.4 Technology

As the world's knowledge of alternative energy sources grows, more established automakers are beginning to dabble in the subject. Meanwhile, a flood of patents covering electric vehicles has appeared. Each nation has conducted studies to learn more about the potential for improving electric vehicle technology. As a result, electric cars have evolved to suit better their growing market's aesthetic and functional preferences (Zhou, 2023). In this way, EV growth in the automotive industry has been bolstered by the transition of car manufacturers from creating conventional automobiles to generating EVs.

In the automobile industry, electric vehicles have various benefits over conventional ones. Electrical cars, for instance, may use energy, a renewable resource, to power themselves. However, conventional automobiles rely on the depletion of a finite resource, oil, to generate their propulsion via the burning of gasoline (Huang, 2022). Electricity is also less expensive than natural gas. An electric vehicle's lower operating expenses may be attributed to its use of regenerative braking technology while on the road; compared to a gasoline-powered vehicle, the price of an electric automobile is often reduced by a factor of three (Wellings *et al.* 2021).

3.3.2 Porter's Five Forces

3.3.2.1 Rivalry Among the Existing Firms (HIGH)

New energy vehicles like the XPEV, NIO, and BYD are available in China alongside more conventional makes like Mercedes-Benz, BMW, and Audi. Competition in this industry is projected to increase. Mercedes-Benz also plans to fully electrify all of its new model designs by the year 2025. (Yang, 2022). Several Chinese manufacturers compete with Tesla in the early adopters of electric cars, while established brands fight with Tesla in the luxury sector. BYD is set to become Tesla's major adversary in China as a result of the company's significant agreements with Chinese public transit firms. This year's "out of control" issue has helped boost sales of Tesla's Model 3, while regulations favour XPEV and NIO and the company's technology has advanced (Shu, 2022).

3.3.2.2 Threat of Substitute Products (HIGH)

While new alternatives to electric cars have entered the market, buyers have clearly preferred this emerging category of automobiles. This is a problem for the electric car industry at a crucial time in its growth, not just for Tesla. However, Tesla Inc., as the market leader in the electric vehicle sector, must be the most vulnerable. These alternatives were seriously threatened by Nissan's hydrogen-powered cars (Shu, 2022). However, from the larger picture of vehicle electrification, hydrogen fuel cell development will be considered anytime advancements in lithium batteries are sluggish. When developments in lithium-ion batteries come along unexpectedly quickly, few people take notice. For some individuals, the reliability and affordability of automobiles powered by conventional fuels make them the preferred option (Fang, 2022). Maybe they are too lazy to keep the gas tank full or love the engine's sound. People may rest easy knowing that the novelty of alternative-fuel automobiles is not something to be feared. Hydrogen fuel cells are cutting-edge technology, but they will remain there forever. Lithium battery performance has improved, and prices have dropped more rapidly than anticipated (Li, n.d.). When seen through the lens of the technical requirements for vehicle electrification, hydrogen fuel cell technology is losing its appeal due to several issues that must be addressed immediately (Li, n.d.).

3.3.2.3 Threat of New Entrants (MODERATE)

Although Tesla was an early entrant into the new energy sector, the aggressive global promotion of electric cars presents opportunities for many other firms to follow suit. That's why it's important for Tesla to disregard prospective newcomers to the market if it wants to achieve sustainable growth in the target market over the long run (Liu et al. 2022). It has to pay great attention to the changes in the market. There is a greater need for governmental monitoring and entry obstacles in the transportation business since it affects the livelihoods of so many people. However, with the advent of new energy vehicles, governments greatly stimulate their creation (McCain, 2019). Due to ongoing economic progress and the creation of new technologies and ideas, Tesla will face formidable competition once a new rival with superior expertise, technological prowess, and managerial acumen enters the market (Zhu, 2022).

3.3.2.4 Bargaining Power of Suppliers (LOW)

Considering that most new automobiles have entered the market at cheaper costs, Model 3 sales have been on the decline. Even more encouraging is that Tesla will soon release a more affordable model (Shu, 2022). A major problem for Tesla in the face of intense competition is the company's tendency towards brand uniformity. However, in the United States, Tesla has equipped the Model 3 and Model Y with a fully visible Autopilot feature. To speed up the commercialization process and save production costs, Tesla has decided to remove the millimetre-wave radar from the new model (Fang, 2022). Tesla has mega-factories in various countries, including Germany, China, and the United States. These factories have achieved widespread machine automation and can crank out many products with fewer workers, cutting prices significantly (McCain, 2019). This means Tesla has little to worry about despite its poor negotiating position.

3.3.2.5 Bargaining Power of Buyers (HIGH)

The electric vehicle industry is still young, but it is already well-established in certain areas. Consumers may choose from a wide range of cars, including those powered solely by electricity or by traditional means (Yang, 2022). Many electric vehicle goods from a variety of manufacturers are now available to consumers, and the products' pricing performance is always improving, giving shoppers more flexibility than ever before. Customers have more leverage in discussions with Tesla (Liu *et al.* 2022).

3.4 Conclusion and Recommendations

Tesla's financial and business analysis compared to BMW has provided valuable insight into how Tesla has performed from 2019 to 2021. The research report examines the internal factors responsible for Tesla's exceptional financial performance. For this, the report conducted a thorough financial analysis using various metrics such as profitability ratios, Long-term Solvency and Stability ratios, Short-term Solvency and Liquidity ratios, efficiency ratios and Shareholders' Investment Ratios to determine the internal factors responsible for Tesla's performance. These factors were compared with the closest competitor of Tesla, BMW. BMW's performance gives valuable insight and compares benchmarks for analysing Tesla's performance. The business analysis section of the report focused on the external factors which affected Tesla's performance, either positively or negatively. The research report used the PEST analysis method to identify the factors affecting Tesla. Moreover,

Porter's Five Forces analysis helped better understand to what extent Tesla's operations are affected.

However, the research report could have been made better with minor considerations. Hence the following recommendations are presented:

Data Collection: To address the limitations of data availability and quality, the research report could have been enhanced by incorporating additional data sources. This can include industry reports, market research, and interviews with company executives to obtain more accurate and comprehensive information.

Market Volatility: The research report provides a background for the electric vehicle market; hence, the research report could have been improved by acknowledging and accounting for the volatility of the electric vehicle market. This could have been done by analysing trends and changes in the market and by considering the potential impact of industry disruptors such as regulatory changes, technological advancements, and market competition.

Bias: The research report has certain objectives, but the objectives are biased towards Tesla's performance. To minimise personal biases and preferences, the research report could have been enhanced by adopting a rigorous and objective approach to data analysis. This can include using multiple data sources, employing statistical methods to test hypotheses, and relying on established frameworks such as PEST analysis and Porter's Five Forces.

Comparison of Business Strategies: To provide a more comprehensive analysis, the research report can be improved by comparing the business strategies and models of Tesla and BMW. This can include a deeper analysis of their marketing strategies, production processes, and supply chain management. By doing so, the research report could have presented specific justifications for the factors responsible for Tesla's performance.

Consistent Methodology: To ensure the analysis is reliable and reproducible, the research report should have had a clear and consistent methodology for conducting the business and financial analysis. It should include a description of the data sources used, the financial ratios calculated, and the criteria for selecting and evaluating the internal and external factors using PEST and Porter's Five Forces.

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