

An analytical study of vehicle sales performance based on Dupont analysis

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Abstract

Vehicle deals performance is estimated using the DuPont Analysis frame to understand the crucial factors impacting fiscal performance. The analysis focuses on profitability, asset effectiveness, and fiscal influence as the main motorists of Return on Equity. The results punctuate that strong asset application supports deals growth, while low profit perimeters limit overall returns. Effective cost control and better fiscal operation are important for perfecting profitability and sustainability. The analysis also helps in relating crucial areas where fiscal performance can be strengthened.

Keywords: DuPont Analysis, Vehicle Sales Performance, Profitability

Introduction

The automobile industry continues to be one of the strongest pillars of economic growth, and vehicle sales play a major role in determining business success. At first glance, high sales numbers may seem impressive, but they do not always reflect true profitability. What really matters is how efficiently a company turns its sales into profits and how well it uses its resources. This is where the DuPont Analysis becomes valuable, as it breaks down financial performance into clear and understandable components. By examining profit margin, asset utilization, and return on equity, we can see the complete picture behind the numbers. Applying this approach to vehicle sales helps uncover strengths and areas that need improvement. This study focuses on understanding vehicle sales performance in a practical and meaningful way through the DuPont framework.

Review of literature

The study “Impact of EPS, P/E Ratio, Net & Gross Profit Margin on Stock Price in Pakistan’s Auto Sector” (2025) found that EPS strongly influences stock prices, showing the importance of profitability ratios in financial evaluation.

The study “Comparative Financial Analysis of a Few Motor Vehicle Companies” (2024) revealed that higher sales do not always lead to higher profit margins, highlighting the need to analyse both sales and profitability together.

The study “Profitability in The Automotive and Component Industry” (2021) showed that efficient financial management helped companies sustain profits even during challenging periods.

The study “Analysis of Profit Growth of Manufacturing Companies Listed on the IDX” (2020) concluded that ROE, liquidity, and leverage significantly affect profit growth, which relates closely to DuPont components.

The study “Influence of ROA, ROE, NPM, DER, and CR on Profit Growth of Automotive Companies in Indonesia” (2014) emphasized that proper asset and capital management improves profitability, supporting the relevance of DuPont Analysis in evaluating vehicle sales performance.

Theoretical framework

The theoretical framework of this study is based on the DuPont Analysis model, which explains overall financial

performance by linking profitability, efficiency, and financial leverage. The framework considers Return on Equity (ROE) as the key indicator of vehicle sales performance. According to the DuPont theory, ROE is influenced by factors such as Net Profit Margin, Total Asset Turnover, and Equity Multiplier. Net Profit Margin reflects the company’s ability to convert sales into profit. Total Asset Turnover measures how efficiently assets are used to generate sales revenue. The Equity Multiplier indicates the level of financial leverage used in operations. By combining these elements, the framework helps to identify the main drivers of financial performance. Therefore, the DuPont model provides a structured approach to evaluate vehicle sales performance and profitability.

Conceptual model

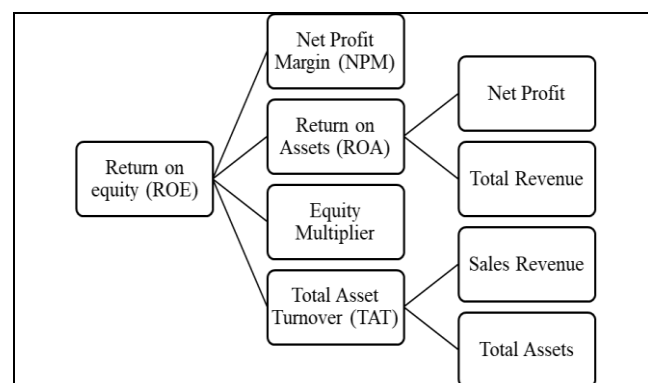


Fig 1: Conceptual Framework

Objectives of the study

- To analyse sales revenue and profit margins over the study period using financial ratio analysis to understand overall performance and profitability.
- To study year-wise trends in sales and profitability to identify growth patterns and fluctuations.
- To calculate and interpret key profitability ratios such as Gross Profit Ratio, Net Profit Ratio, and Operating Ratio in a simple and meaningful way.
- To identify the major factors that influence changes in revenue and profit margins.

Scope of the study

This study focuses on the commercial vehicle operations within a specific regional market, particularly in Southern India. It examines vehicle sales performance, profit margins, and model-wise contributions to understand overall business outcomes. The study also evaluates important cost components such as procurement, operational expenses, marketing efforts, and inventory management practices. In addition, it assesses how after-sales services, financing facilities, and promotional strategies contribute to revenue generation. External influences like government policies, economic conditions, and changing market trends are also considered to gain a complete perspective. Overall, the study aims to offer practical and realistic suggestions to enhance sales performance, profitability, and customer satisfaction.

Limitations of the study

- The study relies mainly on secondary data, which may limit accuracy, completeness, and timely updates of information.
- Detailed financial information may be restricted due to confidentiality, reducing the depth of analysis.
- External factors such as market conditions, economic changes, and government policies are considered but not examined in extensive detail within the scope of this study.

Research methodology

1. Research design

The research design of this study is analytical in nature, focusing on evaluating financial performance using the DuPont Analysis framework. Secondary data collected from financial reports is used for the analysis. The study examines key financial ratios such as Net Profit Margin, Total Asset Turnover, and Equity Multiplier to understand performance trends. These ratios are further used to calculate Return on Equity and interpret the drivers of financial performance. This design helps in providing a clear understanding of profitability, efficiency, and leverage over the study period.

Table 2: Return on Assets

Year	Net Profit Margin	Total Assets Turnover	ROA %
2023-24	0.001867462	2.123133422	0.003964871
2022-23	0.001660653	2.218894018	0.003684813
2021-22	0.001660653	2.229243071	0.003701999
2020-21	0.001932963	1.841709866	0.003559957
2019-20	-0.003927043	1.654177251	-0.006496025
2018-19	0.001691452	2.107946246	0.00356549

ROA remained very low throughout the period and turned negative in 2020 due to losses, indicating that weak profit margins limit returns despite efficient asset utilization.

2.3 Equity Multiplier (EM)

Formula

$$\text{Return on Assets} = \frac{\text{Total Assets}}{\text{Equity}}$$

Data analysis

1. Introduction to DuPont Analysis

DuPont Analysis is an important financial tool used to break down Return on Equity (ROE) into key components such as Net Profit Margin, Asset Turnover, and Equity Multiplier. It helps to understand whether a firm's performance is influenced by profitability, operational efficiency, or financial leverage. This approach is useful in analysing sales revenue and profit margins while showing how effectively assets generate revenue. It also provides a clear view of the strengths and weaknesses in overall financial performance.

2. Ratio Analysis through DuPont Model

2.1 Net Profit Margin (NPM)

Formula

$$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{sales Revenue}}$$

Table 1: Net Profit Margin

Year	Sales Revenue	Net Profit	Net Profit Margin (%)
2023-24	75,134.04	140.31	0.001867462
2022-23	73,477.10	122.02	0.001660653
2021-22	73,477.10	122.02	0.001660653
2020-21	61,682.51	119.23	0.001932963
2019-20	48,619.28	-190.93	-0.003927043
2018-19	63,566.70	107.52	0.001691452

The net profit margin remained extremely low throughout the study period and turned negative in 2020 due to losses, indicating that high costs and expenses are reducing profitability despite strong sales.

2.2 Return on Assets (ROA)

Formula

$$\text{Return on Assets} = \frac{\text{Net Profit}}{\text{Total Assets}}$$

Table 3: Equity Multiplier

Year	Total Assets	Equity	Equity Multiplier
2023-24	35388.28	5,870.17	6.028493212
2022-23	33,114.29	5,729.89	5.779219147
2021-22	32,960.56	3,857.87	8.543719721
2020-21	33,491.98	3,738.64	8.958332442
2019-20	29,391.82	3,929.57	7.47965299
2018-19	30,155.75	3,822.05	7.889941262

The equity multiplier was high until 2022, showing strong reliance on debt financing, but it slightly declined from 2023 due to an improved equity base, reducing financial risk.

2.4 Total Asset Turnover

Formula

$$\text{Return on Assets} = \frac{\text{Sales Revenue}}{\text{Total Assets}}$$

Table 4: Total Asset Turnover

Year	Sales Revenue	Total Assets	Asset Turnover
2023-24	75,134.04	35388.28	2.123133422
2022-23	73,477.10	33,114.29	2.218894018
2021-22	73,477.10	32,960.56	2.229243071
2020-21	61,682.51	33,491.98	1.841709866
2019-20	48,619.28	29,391.82	1.654177251
2018-19	63,566.70	30,155.75	2.107946246

The asset turnover ratio remained consistently high, indicating efficient use of assets in generating sales and making it a strong contributor to overall financial performance.

2.5 Return on Equity (ROE)

Formula: Return on Equity = ROA × Equity Multiplier

Table 5: Return on Equity

Year	ROA	Equity Multiplier	ROE %
2018-19	0.003965	6.028493212	0.023902976
2019-20	0.003685	5.779219147	0.021296423
2020-21	0.003702	8.543719721	0.03162885
2021-22	0.00356	8.958332442	0.031891663
2022-23	-0.0065	7.47965299	-0.048617744
2023-24	0.003565	7.889941262	0.028127641

ROE remained very low and turned negative in 2020 due to losses, indicating that weak profit margins reduce shareholder returns despite strong asset efficiency and leverage.

Managerial implications

- Managers should concentrate on perfecting profit perimeters by controlling functional costs and espousing better pricing strategies to increase overall profitability.
- Effective asset application should be maintained to insure that available coffers induce maximum deals and functional effectiveness.
- The company should manage fiscal influence precisely, reducing inordinate dependence on debt to minimize fiscal threat.
- Operations can strengthen fiscal planning and monitoring by regularly assaying crucial rates to understand performance trends and make informed opinions.
- Improving cost effectiveness and functional operation will help in adding shareholder returns and icing sustainable long- term growth.

Conclusion

The DuPont Analysis over the six-year period provided a clear understanding of financial performance by examining profitability, efficiency, and financial leverage. The findings show that the company effectively utilized its assets to generate sales. However, the net profit margin remained very low, indicating that increased sales did not translate into higher profits. The study also highlighted a higher dependence on financial leverage, which may increase financial risk. Therefore, improving profit margins, controlling operational costs, and managing leverage are essential for achieving stable and sustainable growth.

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