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AN EMPIRICAL STUDY ON FINANCIAL PERFORMANCE OF THE AUTOMOBILE SECTOR

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ABSTRACT

This study investigates the financial performance of leading Indian automobile companies Maruti Suzuki, Bajaj Auto, Hyundai, Eicher Motors, and TVS Motors using technical and financial analysis tools. It focuses on understanding the sector's dynamics by applying ratio analysis and ANOVA to identify performance patterns, industry competitiveness, and investment prospects. The goal is to support informed decision-making among investors and stakeholders.

KEYWORDS: *Financial Analysis, Automobile Sector, Ratio Analysis, ANOVA, Maruti Suzuki, Bajaj Auto, Hyundai, TVS Motors, Eicher Motors.*

INTRODUCTION

The automobile industry plays a pivotal role in the Indian economy, contributing significantly to GDP and employment. With rapid technological advancement and shifting consumer preferences, financial performance analysis is critical. This study examines financial trends and patterns in top automobile firms, offering a comparative outlook based on empirical data. Automobile industry is one of the largest and a very crucial industries of the world economy because it is very effective in the growth of any area. Being an important sector in manufacturing, employment and technological advancement, the industry has a social-economic significance on the developed as well as the emerging markets. In this way, it has developed the technological progress, competition appearance, changes of laws, and shifts of customers' demands. Measures of financial profitability of firms in this sector do not only speak of efficiency of management in the running of those business organisations, but also paint pictures of the general health of the nation's economy as well as the confidence consumers have in the economy.

REVIEW OF LITERATURE

Kumar and Choudhary (2010) conducted a comparative study on financial performance across major Indian automobile companies and highlighted that Tata Motors consistently performed better in terms of net profit margin, while Mahindra & Mahindra showed strength in asset utilization.

Bansal and Sharma (2012) evaluated the financial health of the automobile sector using ratio analysis and found that liquidity ratios were a concern for two-wheeler manufacturers, whereas four-wheeler companies had stronger solvency metrics.

Rao and Reddy (2014) used the DuPont analysis to assess the financial structure of top car manufacturers in India and concluded that operating efficiency, rather than leverage, was the key driver of ROE in most firms.

Patel and Shah (2015) compared the profitability performance of leading automobile companies and observed that Maruti Suzuki maintained the highest profit margins due to better cost control and strong market presence.

Sinha and Bhattacharya (2016) explored the effect of macroeconomic factors on automobile firms and found that changes in interest rates and fuel prices significantly affected financial performance, especially for small car manufacturers.

Deshmukh and More (2017) applied CAMEL model parameters to selected automobile companies and reported that while capital adequacy and earnings were strong, management efficiency varied widely across firms.

Verma and Kaur (2018) analyzed financial performance pre- and post-GST implementation and found improvement in profitability and working capital management, particularly among commercial vehicle manufacturers.

Rathore and Chauhan (2019) assessed the long-term financial trends in the auto sector and noted a steady decline in debt-equity ratios, suggesting improved financial discipline and a shift toward internal funding sources.

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Mehta and Joshi (2020) studied the impact of COVID-19 on financial statements of automobile companies and found a drastic fall in revenues and profitability in Q1 and Q2 of FY2020-21, though recovery signs were evident by Q4.
Aggarwal and Mishra (2021) used statistical tools like regression and correlation to link R&D spending with financial performance and concluded that investment in innovation had a positive impact on both top-line and bottom-line growth in the long term.

OBJECTIVES OF THE STUDY

This study investigates the financial performance of leading Indian automobile companies Maruti Suzuki, Bajaj Auto, Hyundai, Eicher Motors and TVS Motors

1. To evaluate the financial performance of selected automobile companies in India.
2. To apply ratio analysis for performance benchmarking.
3. To analyze statistical relationships of ratios between selected automobile companies using ANOVA
4. To derive insights for potential investors.

SCOPE OF THE STUDY

This study is limited to five major players in the Indian automobile industry. It focuses on secondary data from annual reports and stock data over a selected time frame of 5 years from 2019-20 to 2023-24. The analysis is quantitative, using ratios and statistical tools to interpret financial outcomes.

RESEARCH METHODOLOGY

Secondary Data of the daily share prices of the last five years of the financial year (from 2019 to 2024) is collected for five auto mobile sectors included in the NIFTY Auto index is considered for the study and their ratio analysis is carried out using various tools and techniques of Ratio analysis. The main data sources are BSE website, various business magazines, company websites and other websites containing information about ratio indicators. There are about 5 auto mobile sectors which are listed in the Nifty auto Index in Bombay Stock Exchange in India. Out of which the following five auto mobile sectors are considered for the study. The selected are:

- Maruti Suzuki India Limited
- Bajaj Auto Limited
- Hyundai Motor India Limited
- Eicher Motors Limited
- TVS Motors

The major Tools and Techniques used in this study are ratio indicators such as

- RATIO ANALYSIS
- ANOVA

Ratio indicators are mathematical formulas that, when applied to security prices clearly flash either buy or sell signals.

TOOLS AND TECHNIQUES USED

- Ratio Analysis (Profitability, Liquidity, Solvency)
- ANOVA (Analysis of Variance)

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DATA ANALYSIS AND INTERPRETATION

RATIO ANALYSIS

Liquidity Ratios								
Company	**2019–20**	**2020–21**	**2021–22**	**2022–23**	**2023–24**	**Mean**	**SD**	**C.V**
Current Ratio								
Maruti Suzuki	0.75	1.15	0.99	0.58	0.77	0.848	0.223	0.263
BAJAJ	1.55	2.51	2.13	1.71	1.19	1.818	0.513	0.282
Hyundai	2.07	1.88	2.16	2.1	1.22	1.886	0.387	0.205
Eicher Motors	3.4	3.6	1.91	1.15	1.15	2.242	1.192	0.532
TVS Motors	0.72	0.75	0.65	0.61	0.64	0.674	0.059	0.087
Quick Ratio								
Maruti Suzuki	0.46	0.96	0.78	0.36	0.6	0.63	0.24	0.38
BAJAJ	1.3	2.25	1.87	1.44	0.99	1.57	0.49	0.32
Hyundai	1.65	1.6	1.85	1.81	0.96	1.57	0.36	0.23
Eicher Motors	3.13	3.29	1.6	0.85	0.84	1.94	1.2	0.62
TVS Motors	0.49	0.5	0.43	0.4	0.43	0.45	0.04	0.1
Cash Ratio								
Maruti Suzuki	0.018	0.19	0.18	0.0019	0.02	0.08	0.09	1.15
BAJAJ	0.07	0.09	0.13	0.05	0.06	0.08	0.03	0.4
Hyundai	1.21	1.25	1.52	1.47	0.68	1.23	0.33	0.27
Eicher Motors	1.57	2.39	0.01	0.26	0.03	0.85	1.07	1.26
TVS Motors	0.09	0.2	0.08	0.04	0.08	0.1	0.06	0.61

Profitability Ratios								
Company	**2019–20**	**2020–21**	**2021–22**	**2022–23**	**2023–24**	**Mean**	**SD**	**C.V**
Gross Profit Ratio (%)								
Maruti Suzuki	51.69	49.98	52.58	58.52	65.95	55.74	6.55	0.12
BAJAJ	33.07	32.52	31.01	32.1	32.84	32.31	0.81	0.03
Hyundai	24.49	23.95	23.62	24	23.78	23.97	0.33	0.01
Eicher Motors	48.26	41.05	42.31	43.69	45.17	44.1	2.79	0.06
TVS Motors	26.37	24.03	23.96	16.67	26.21	23.45	3.96	0.17
Net Profit Ratio (%)								
Maruti Suzuki	7.88	6.35	4.49	7.15	9.79	7.13	1.95	0.27
BAJAJ	17.52	16.79	15.62	15.92	17.16	16.6	0.81	0.05
Hyundai	5.61	4.61	6.2	7.95	8.85	6.64	1.73	0.26
Eicher Motors	21.13	15.51	15.89	18.9	23.7	19.03	3.48	0.18
TVS Motors	3.61	3.65	4.3	5.65	6.61	4.76	1.32	0.28

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Expenses Ratios								
Company	**2019–20**	**2020–21**	**2021–22**	**2022–23**	**2023–24**	**Mean**	**SD**	**C.V**
Selling & Distribution Expenses (%)								
Maruti Suzuki	16.58	16.29	15.13	14.05	13.81	15.17	1.26	0.08
BAJAJ	8.43	7.11	6.88	6.81	6.03	7.05	0.87	0.12
Hyundai	11.08	9.65	9.4	9.79	9.28	9.84	0.72	0.07
Eicher Motors	12.46	10.81	12.73	11.59	11.45	11.81	0.78	0.07
TVS Motors	7.32	5.91	5.44	5.38	10.28	6.87	2.06	0.3
Administrative Expenses (%)								
Maruti Suzuki	4.72	5.11	4.8	4.09	4.06	4.56	0.46	0.1
BAJAJ	4.77	4.74	4.23	4.09	3.53	4.27	0.51	0.12
Hyundai	2.94	3.25	3.19	2.65	2.57	2.92	0.31	0.11
Eicher Motors	8.49	9.38	7.78	6.74	7.25	7.93	1.04	0.13
TVS Motors	4.88	3.94	3.63	3.59	5.07	4.22	0.7	0.17

Efficiency Ratio								
Company	**2019–20**	**2020–21**	**2021–22**	**2022–23**	**2023–24**	**Mean**	**SD**	**C.V**
Inventory Turnover Ratio								
Maruti Suzuki	23.52	23.06	12.07	11.94	10.93	16.3	6.39	0.39
BAJAJ	28.13	14.32	16.28	18.27	18.92	19.18	5.32	0.28
Hyundai	11.91	11.43	12.94	14.12	15.23	13.13	1.57	0.12
Eicher Motors	17.52	11.21	6.91	8.64	8.76	10.61	4.16	0.39
TVS Motors	15.81	11.42	13.67	16.63	17.83	15.07	2.54	0.17

INTERPRETATION

The ratio analysis provides insights into the financial health of leading automobile companies. **Liquidity ratios** show that Eicher Motors has strong short-term solvency, while TVS Motors struggles with low liquidity. **Profitability ratios** indicate Maruti Suzuki's increasing gross profit and net profit, while Bajaj maintains stable profitability. **Expense ratios** highlight Hyundai and Bajaj's cost efficiency, whereas TVS Motors shows volatility. **Operating ratios** suggest Hyundai and Bajaj have high operating costs, but Maruti Suzuki and Eicher Motors maintain strong operating profit margins. **Efficiency ratios** reveal Bajaj and Maruti Suzuki's effective inventory management, while Eicher Motors and TVS Motors show slower turnover.

ANOVA

Anova is used to find out the significant differences in ratios for selected automobile companies for the study.

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
CURRENT RATIO	Between Groups	12.18	4	3.045	6.737	0.001
	Within Groups	9.039	20	0.452		
	Total	21.219	24			
QUICK RATIO	Between Groups	8.534	4	2.134	5.699	0.003
	Within Groups	7.488	20	0.374		
	Total	16.022	24			
CASH RATIO	Between Groups	5.792	4	1.448	5.662	0.003
	Within Groups	5.115	20	0.256		

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	Total	10.907	24			
PROPRIETOR RATIO	Between Groups	0.534	4	0.133	66.507	0
	Within Groups	0.04	20	0.002		
	Total	0.574	24			
GROSS PROFIT RATIO	Between Groups	3856.43	4	964.107	71.831	0
	Within Groups	268.439	20	13.422		
	Total	4124.87	24			
NET PROFIT RATIO	Between Groups	842.422	4	210.606	49.393	0
	Within Groups	85.277	20	4.264		
	Total	927.7	24			
SELLING AND DISTRIBUTION RATIO	Between Groups	242.239	4	60.56	39.159	0
	Within Groups	30.93	20	1.547		
	Total	273.169	24			
ADMINISTRATIVE RATIO	Between Groups	69.946	4	17.486	40.736	0
	Within Groups	8.585	20	0.429		
	Total	78.531	24			
OPEARATING RATIO	Between Groups	5506.6	4	1376.65	51.67	0
	Within Groups	532.857	20	26.643		
	Total	6039.46	24			
OPEARATING PROFIT RATIO	Between Groups	5484.54	4	1371.14	51.736	0
	Within Groups	530.048	20	26.502		
	Total	6014.59	24			
INVENTORY TURNOVER RATIO	Between Groups	209.567	4	52.392	2.747	0.057
	Within Groups	381.38	20	19.069		
	Total	590.947	24			

INTERPRETATION

The ANOVA results show that for most financial ratios — including Current Ratio, Quick Ratio, Cash Ratio, Proprietor Ratio, Profit Ratios, and Operating Ratios — the p-values (Sig.) are less than 0.05, indicating significant differences between the groups analyzed. This suggests that the financial performance varies significantly across different groups for these metrics. The most notable differences are seen in Proprietor Ratio and Gross/Net Profit Ratios, with extremely high F-values and p = 0.000. Only Inventory Turnover Ratio shows no statistically significant difference (p = 0.057), as its p-value exceeds 0.05. Therefore, all other ratios exhibit group-wise financial performance variations that are statistically significant.

CONCLUSION

The financial performance of Indian automobile companies varies significantly. While Maruti and Hyundai dominate in revenue, others like Eicher and Bajaj maintain solid financial health through efficiency and solvency. This analysis can guide investment decisions and strategic planning.

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