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FINANCIAL PERFORMANCE ANALYSIS OF SELECT LISTED ELECTRIC VEHICLE MANUFACTURERS IN INDIA

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Abstract

The global automotive industry is experiencing a monumental shift with the widespread adoption of electric vehicles (EVs), particularly evident in emerging markets like India. This research paper conducts a thorough Financial Performance Analysis of Selected Listed Electric Vehicle Manufacturers in India, aiming to offer a comprehensive understanding of their economic viability, market competitiveness, and potential for sustainable growth. Against the backdrop of a swiftly evolving business landscape marked by technological disruptions, shifting consumer preferences, and environmental pre-condition, the electric vehicle sector emerges as a pivotal player shaping the future of commerce. This study employs a rigorous examination of the financial performance of key EV manufacturers listed in India, utilizing a diverse array of financial metrics and analytical tools. Through the scrutiny of indicators such as profitability, liquidity, solvency, and efficiency, the study seeks to unveil insights into the operational efficiency, investment attractiveness, and financial robustness of these companies. Leveraging quantitative analysis techniques including ratio analysis, trend analysis, and comparative benchmarking, the research assesses the relative strengths and weaknesses of each firm within the dynamic Indian market context. The findings of this study not only illuminate the financial resilience and competitive positioning of these EV manufacturers but also furnish actionable insights for stakeholders, investors, policymakers, and industry practitioners. By discerning key performance drivers and potential areas for enhancement, this research facilitates informed decision-making processes, strategic planning endeavours, and investment evaluation frameworks. Moreover, the implications extend beyond financial analysis, encompassing broader socio-economic considerations and imperatives for environmental sustainability.

Keywords: *Financial Analysis, Automobile, Transportation*

INTRODUCTION

The transportation sector plays a vital role in modern society, facilitating economic activities and connecting communities. However, it is also a significant contributor to greenhouse gas emissions, primarily from the combustion of fossil fuels in vehicles. In response to the pressing need to address climate change, there is growing momentum to reduce the carbon footprint of transportation. Electric vehicles (EVs), particularly battery electric vehicles (BEVs), have emerged as a promising solution to this challenge. Unlike hybrid electric vehicles (HEVs) or plug-in hybrid electric vehicles (PHEVs), BEVs operate solely on electric power, eliminating tailpipe emissions and reducing reliance on fossil fuels. India, as one of the world's largest and fastest-growing economies, has become a key player in the global transition towards sustainable mobility. The country's electric vehicle market reflects a convergence of factors, including government initiatives, technological advancements, and evolving consumer preferences. Recognizing the need to curb emissions and address air pollution, the Indian government has set ambitious targets for EV adoption. Policies such as the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme and the National Electric Mobility Mission Plan (NEMMP) provide incentives and support for EV manufacturers, infrastructure development, and research and development in the EV sector. These interventions have spurred investment and innovation, positioning India as a promising market for electric mobility.

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However, despite the significant progress in the EV industry, there is a lack of understanding of the financial performance of EV companies in India. Questions remain regarding the financial viability and competitiveness of EV manufacturers, particularly as the industry evolves and matures. Stakeholders require comprehensive insights into the financial dynamics shaping the Indian EV market.

This research aims to address this gap by conducting a thorough analysis of leading EV firms in India, focusing on their financial performance. By examining key financial metrics and utilizing publicly available data from sources such as stock exchanges, the study seeks to provide a comprehensive understanding of the financial landscape of the Indian EV industry. Through rigorous evaluation of metrics such as revenue, profitability, market share, and investment patterns, the research aims to elucidate the financial strength and competitive positioning of select listed electric vehicle manufacturers in India.

In addition to shedding light on the financial performance of EV companies, this research contributes to broader discussions on the sustainability and competitiveness of India's EV industry. By analysing the financial dimensions of electric vehicle manufacturing and operation, the study informs policy-making, investment decisions, and strategic planning initiatives aimed at promoting sustainable mobility in India. Ultimately, by providing nuanced insights into the financial dynamics of the Indian EV market, this research aims to facilitate informed decision-making and drive the transition towards a cleaner, more sustainable transportation ecosystem in the country. The research paper prioritizes the examination of the financial aspects of companies, particularly within the framework of electric vehicle (EV) adoption in India. It deeply investigates how the adoption of electric vehicles impacts the financial performance of these companies, with a distinct emphasis on utilizing data collected from publicly available sources like stock exchanges. Key financial performance metrics such as revenue, profitability, etc, will undergo rigorous evaluation to ascertain the financial robustness and competitive positioning of EV companies in India.

In essence, this research paper endeavours to enrich comprehension regarding the financial performance of the electric vehicle manufacturers in India being one of the largest emitters of greenhouse gases and another pollutant contributor after the USA and China. By providing insights into the sustainability and competitiveness of India's EV industry, this study aspires to galvanize informed decision-making processes and facilitate the formulation of effective policies and strategies conducive to fostering sustainable mobility in India.

LITERATURE REVIEW

Seetharaman, M., Sampat, M., Kashyap, P., Sagi, P., Agarwal, A., & Modi, V. (2023), authors of the Bain & Company's "India Electric Vehicle Report 2023" (Seetharaman, 2023)serves as a pivotal reference point closely aligned with the theme of our research endeavours titled "Financial Performance Analysis of Select Listed Electric Vehicle Manufacturers in India," slated for presentation at the upcoming national conference. This report offers an exhaustive exploration of India's electric vehicle landscape, shedding light on critical factors crucial for unlocking substantial opportunities within the sector. It dives into key areas such as product development, distribution, business-to-business strategies, software integration, and charging infrastructure, emphasizing the significance of customer-centric approaches, innovative distribution methodologies, and the strategic use of software to differentiate offerings. These insights directly correlate with our research focus on evaluating the financial performance of specific electric vehicle companies. Additionally, the report underscores the importance of sustainable competitive advantages, robust distribution networks, and effective manufacturing strategies, all of which resonate with our emphasis on financial analysis and environmental impact assessment. By drawing upon the insights gleaned from the report's in-depth analysis of potential assets in the electric vehicle market, our research aims to provide valuable contributions to understanding the dynamics and opportunities within India's electric vehicle sector.

24th Annual Global Automotive Executive Survey conducted by KPMG(2023) offer invaluable perspectives into the ongoing transition of the automotive industry towards electric vehicles (EVs), a subject intricately linked to our research paper. The survey illuminates the growing confidence among Chinese auto executives amid economic challenges, stressing the pivotal role of adaptability and innovation in delivering competitive battery electric vehicles (BEVs) that are both high-quality and affordable, crucial factors for success in the market. These findings directly resonate with the core objective of our research, which is to evaluate the financial performance of specific electric vehicle manufacturers in India, necessitating a deep understanding of market dynamics and industry trends. Moreover, the survey delineates strategic priorities for automotive industry leaders, emphasizing the importance of a forward-thinking vision and decisive actions, insights that offer valuable context for understanding the strategies adopted by selected EV manufacturers in India. Additionally, the report's global outlook on power trains, digital consumers, supply chains, and technology provides a comprehensive backdrop for comprehending the challenges and opportunities encountered by EV manufacturers, thereby enriching the relevance of our research within the constantly evolving automotive landscape. In sum, the KPMG survey serves as an essential resource, augmenting our analysis of financial performance and environmental impact within the Indian electric vehicle market.

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Palaniswamy, S., Sandhya Devi, R. S., Saravanan, M., & Anand, M. (2022, June 30). The research article titled "Social, Economic and Environmental Impact of Electric Vehicles in India" furnishes a robust foundation for comprehending the landscape of electric vehicles (EVs) in India, a cornerstone for analysing the financial performance and environmental footprint of specific EV firms. The study illuminates the increasing attractiveness of EVs owing to their cleaner and more efficient attributes, thereby framing the context for assessing how market dynamics impact these companies, which resonates directly with the objectives of our research. Additionally, it identifies challenges such as pricing competitiveness and infrastructure deficiencies, which wield direct influence over the financial viability and operational scope of EV firms, crucial elements for our analysis. The study's emphasis on governmental policies and industry collaborations underscores the regulatory framework and partnerships that Mold the strategies of these companies, providing valuable insights into our examination of financial performance. Furthermore, the discussion on environmental concerns, including the significance of renewable energy, correlates directly with our endeavour to assess the environmental impact of EV firms. Lastly, the study's insights into India's ambitious EV penetration targets and the global applicability of strategies imply broader implications for the financial performance and environmental impact of chosen EV companies, extending beyond India's borders, thereby enriching the context of our research within the literature review section of our research paper for the national conference.

K V, S., Michael, L. K., Handgun, S. S., & Fernandes, M. (2022). Factors influencing adoption of electric vehicles – A case in India. Journal of Sustainable Transportation, presents a thorough analysis of the factors shaping the acceptance of electric vehicles (EVs) in India. Conducted in Bengaluru, the study surveyed 172 respondents through an online questionnaire to identify critical factors such as Financial Barriers, Vehicle Performance Barriers, Lack of charging infrastructure, Environmental Conservation, Societal Influence, and Social Awareness of Electric Vehicles. These findings bear significant implications for policymakers, urging adjustments in EV-related policies in emerging nations like India. The study underscores the need for a robust policy framework to expedite India's transition to an all-electric technology landscape, emphasizing the necessity of overcoming barriers hindering EV adoption and promoting sustainable transportation solutions. These insights are directly aligned with the objectives of our research project titled "Financial Performance Analysis of Select Listed Electric Vehicle Manufacturers in India," which scrutinizes the financial and environmental dimensions of specific electric vehicle companies within the Indian context. By integrating the contextualization of factors influencing EV adoption and the policy implications outlined in the literature, our research aims to offer a comprehensive understanding of the financial performance and environmental impact of EV manufacturers, thereby providing valuable insights for policymakers and industry stakeholders.

Tripathi, M., & Gawade, S. (2021). Financial Analysis of Top 5 Automobile Companies in India presents a thorough analysis of the financial performance of leading automobile firms in India, which closely corresponds with the objectives of our research. Employing ratio analysis as a primary analytical tool, the study meticulously assesses various facts of financial performance such as liquidity, profitability, and leverage, offering valuable insights into the overall financial health of companies within the automobile industry. The paper's emphasis on the crucial role of financial analysis resonates with the core focus of our research, which aims to evaluate the financial performance of specific electric vehicle manufacturers. Additionally, the paper's discussion on the observed volatility in the companies' performance underscores the dynamic nature of the automotive industry, a factor that holds relevance for our analysis of electric vehicle manufacturers' financial stability and resilience. Furthermore, the paper advocates for necessary government measures to mitigate volatility, highlighting the broader implications of financial performance within the automobile sector for the country's economy and employment landscape. This aligns seamlessly with the comprehensive scope of our research project. In summary, the insights provided by the financial analysis of top automobile companies in India offer valuable context and parallels for our examination of the financial performance of select listed electric vehicle manufacturers, thereby enriching the discourse surrounding our research objectives.

RESEARCH METHODOLOGY

Research Gap

The research focuses on the financial performance of listed electric vehicle manufacturing companies in India. The paper tries to find a new aspect of the study of analysing the financial performance which has not yet been undertaken in the research spectrum. Thus, this paper focuses on the above-said aspect.

Research Objectives

- Assess the financial performance metrics of chosen publicly listed electric vehicle manufacturers operating within the Indian market.
- Conduct an in-depth analysis of critical financial indicators, including profitability margins, Liquidity Ratios, Efficiency Ratios, and Solvency Ratios among the identified electric vehicle firms.

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Research Design

The research utilizes quantitative research data to conduct a comparative analysis of the financial performance and environmental impact of Electric Vehicle (EV) companies in India. This approach involves systematically analysing numerical data published by these companies to uncover relationships between different trends and our selected variables.

Data Collection

The data collection for this research paper is completely based on the secondary aspects. The data regarding the relevant companies on whom the study has been conducted has been taken from the data published by the entities at regular intervals. In the study, we have taken the timeline for the data from F.Y. 2018-19 to 2022-23, a period of five years.

Sample Selection

A convenience sampling technique has been employed in the study because of the limited availability of the pure electric vehicle (EV) manufacturing listed Companies in India. Convenience sampling provides an appropriate practical approach because of the constraints of the research context, where access to comprehensive data from a representative sample of pure electric vehicle companies is unavailable. We have taken three prominent automotive manufacturers in the Indian market, two of whom are market leaders when compared to other players in the passenger vehicle segment and one is a fare-sized player in the electric vehicle mobility space used in public transport.

Scope of the Study

This research paper aims to understand the financial performance of selected Electric Vehicle (EV) manufacturers listed in India. The focus will be on evaluating various financial ratios, including solvency, profitability, efficiency, liquidity, and earnings per share (EPS). The study will involve examining these ratios over a specific timeframe. The research endeavours to offer insights into the financial stability, operational effectiveness, and competitive positioning of the chosen EV manufacturers within the Indian market context.

Limitations of the Study

This research focuses on a theoretical analysis of the financial performance of three prominent Electric Vehicle (EV) manufacturers in India. Among these, two, Tata Motors Ltd. and Mahindra and Mahindra Ltd. are leading companies in the traditional vehicle segment. At the same time, the third Olectra Greentech Ltd. is a Joint-Venture entity between BYD and Megha Engineering, exclusively operating in the pure electric vehicle space. The selection of these manufacturers is based on the absence of pure-play electric vehicle companies listed in the Indian market, with many such companies operated as subsidiaries of traditional players. The chosen financial ratios are strategically selected to theoretically represent the comprehensive financial performance analysis of these manufacturers.

DATA ANALYSIS AND INTERPRETATION

This section is dedicated to the analysis and interpretation of the financial performance data of the chosen Electric Vehicle (EV) companies listed in India. The central objective is to extract meaningful insights regarding their financial health and operational efficiency within the EV sector. Through an in-depth exploration of essential financial metrics and ratios, this chapter aims to offer a comprehensive understanding of the performance dynamics and competitive standing of the selected EV manufacturers. We are going to use the Profitability Ratios, Liquidity Ratios, Efficiency Ratios, Solvency Ratios, and Earnings per Share (EPS).

Profitability Ratio

Profitability ratios are financial metrics used to assess a company's ability to generate profit in relation to its revenue, assets, equity, or investments.

Profitability Ratios							
Company Name	Ratios	Mar-23	Mar-22	Mar-21	Mar-20	Mar-19	Standard Deviation
Tata Motors Ltd.	PBT Margin (%)	1.9	-3.47	-7.53	-16.22	3.46	7.10
	Net Profit Margin (%)	4.14	-2.94	-7.93	-16.59	2.91	7.60
	Return on Capital Employed (%)	9.96	1.07	0.37	-7.18	11.57	6.87
	Return on Assets (%)	4.41	-2.17	-3.68	-11.64	3.31	5.75

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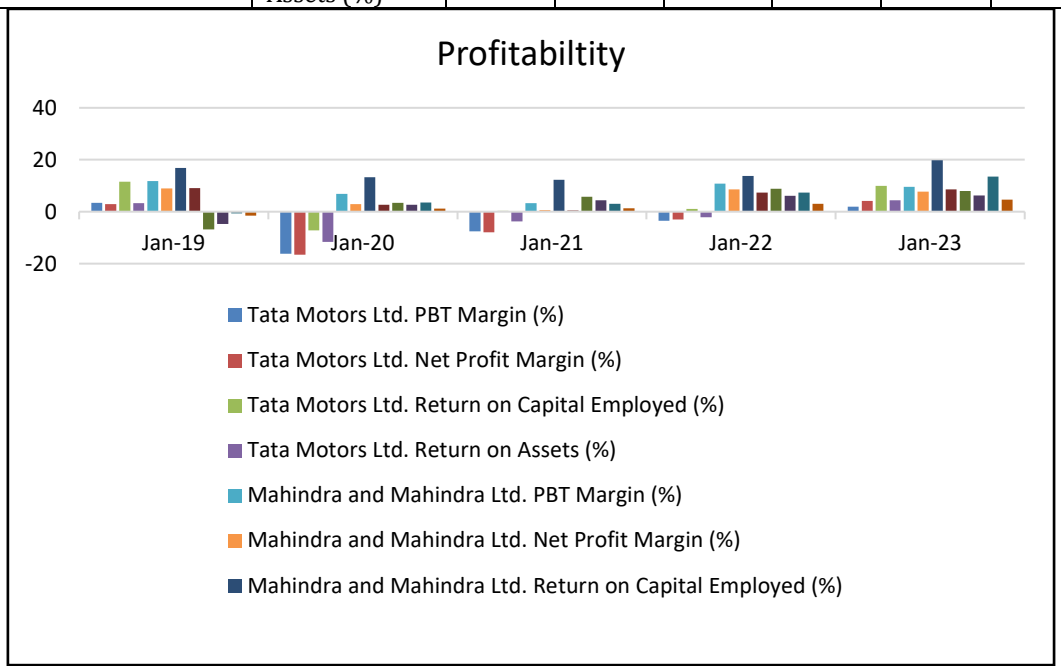
Mahindra and Mahindra Ltd.	PBT Margin (%)	9.57	10.85	3.24	6.85	11.79	3.09
	Net Profit Margin (%)	7.7	8.59	0.59	2.92	8.94	3.37
	Return on Capital Employed (%)	19.76	13.8	12.35	13.26	16.86	2.73
	Return on Assets (%)	8.64	7.35	0.45	2.63	9.1	3.46
Olectra Greentech Ltd.	PBT Margin (%)	8.03	8.89	5.76	3.37	-6.82	5.67
	Net Profit Margin (%)	6.23	6.09	4.4	2.7	-4.67	4.02
	Return on Capital Employed (%)	13.57	7.36	3.07	3.56	-0.68	4.82
	Return on Assets (%)	4.7	3.06	1.34	1.19	-1.56	2.09



Over the past half-decade, Tata Motors Ltd. has displayed varying profitability metrics, witnessing recent enhancements in both Profit Before Tax (PBT) Margin and Net Profit Margin. Notably, Return on Capital Employed (ROCE) and Return on Assets (ROA) rebounded notably following a downturn in FY2020. Conversely, Mahindra and Mahindra Ltd. have upheld relatively stable profitability ratios, consistently surpassing Tata Motors Ltd. in margins and efficiency metrics. Meanwhile, Olectra Greentech Ltd. has exhibited a steady upward trajectory in profitability ratios, marked by significant improvements in recent periods. Overall, Mahindra and Mahindra Ltd. sustain consistent profitability ratios, whereas Olectra Greentech Ltd. demonstrates notable progress, offering valuable insights into the financial performance of these companies within India's Electric Vehicle (EV) industry.

Efficiency Ratio

Efficiency ratios measure how effectively a company utilizes its assets and resources to generate sales and income, indicating operational efficiency and productivity.

Efficiency Ratio							Standard Deviation
Company Name	Ratios	Mar-23	Mar-22	Mar-21	Mar-20	Mar-19	
Tata Motors Ltd.	Asset Turnover Ratio (%)	1.05	0.73	0.47	70.18	113.61	46.72

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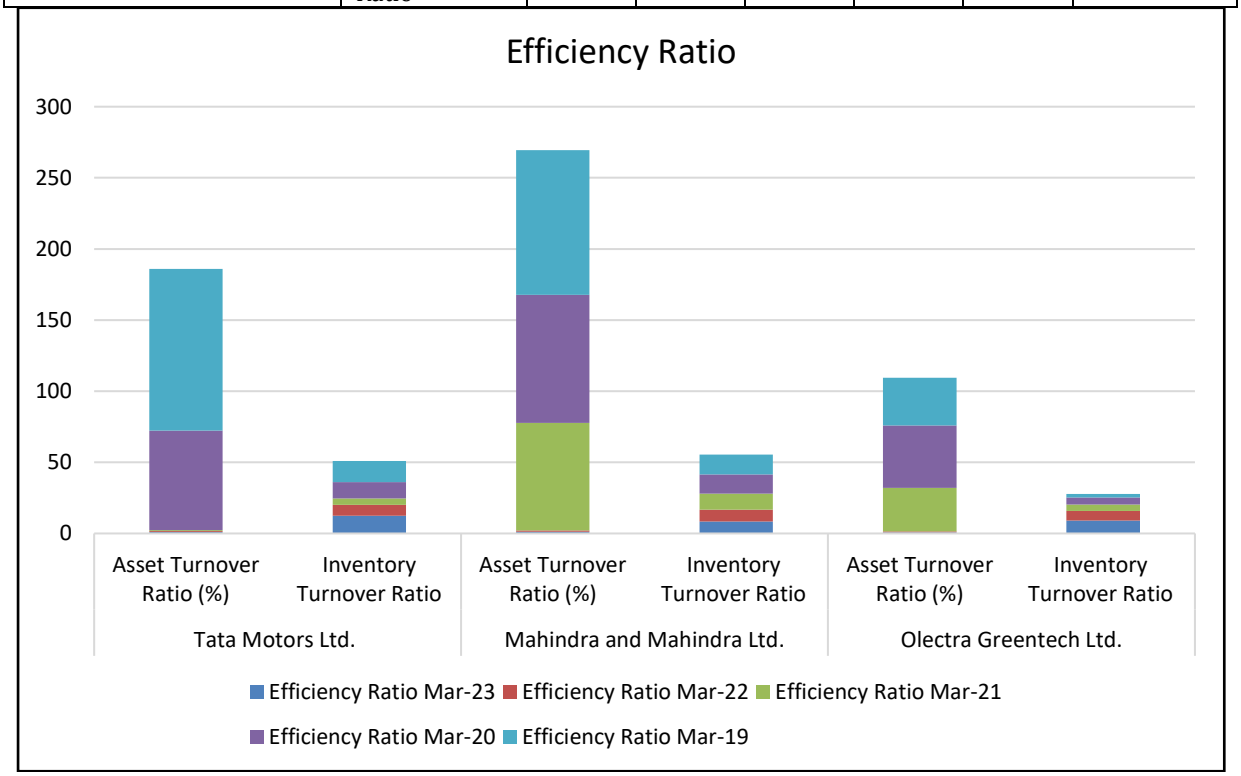
	Inventory Turnover Ratio	12.52	7.66	4.54	11.46	14.84	3.67
Mahindra and Mahindra Ltd.	Asset Turnover Ratio (%)	1.19	0.91	75.58	90.07	101.74	43.94
	Inventory Turnover Ratio	8.43	8.23	11.39	13.38	13.96	2.40
Olectra Greentech Ltd.	Asset Turnover Ratio (%)	0.85	0.57	30.61	43.98	33.49	17.87
	Inventory Turnover Ratio	9.01	6.86	4.45	4.9	2.59	2.19



The efficiency ratios of Tata Motors Ltd., Mahindra and Mahindra Ltd., and Olectra Greentech Ltd. offer insights into their asset utilization and inventory management strategies. Tata Motors Ltd. experiences fluctuations in asset turnover ratios, with a notable decline in FY20 followed by subsequent improvement. Similarly, its inventory turnover ratio fluctuates but remains relatively high. In contrast, Mahindra and Mahindra Ltd. maintain a consistently higher asset turnover ratio with minor fluctuations and stable inventory turnover ratios. Conversely, Olectra Greentech Ltd. demonstrates lower asset turnover ratios with significant fluctuations. Although its inventory turnover ratio improved from FY19 to FY21, it has declined slightly in recent years. Overall, while Tata Motors Ltd. and Mahindra and Mahindra Ltd. exhibit differing asset turnover efficiency, Olectra Greentech Ltd. appears to lag. These variations reflect unique operational strategies within India's Electric Vehicle (EV) industry.

Liquidity Ratio

Liquidity ratios assess a company's ability to meet its short-term financial obligations using its liquid assets, providing insight into its financial health and ability to cover immediate expenses.

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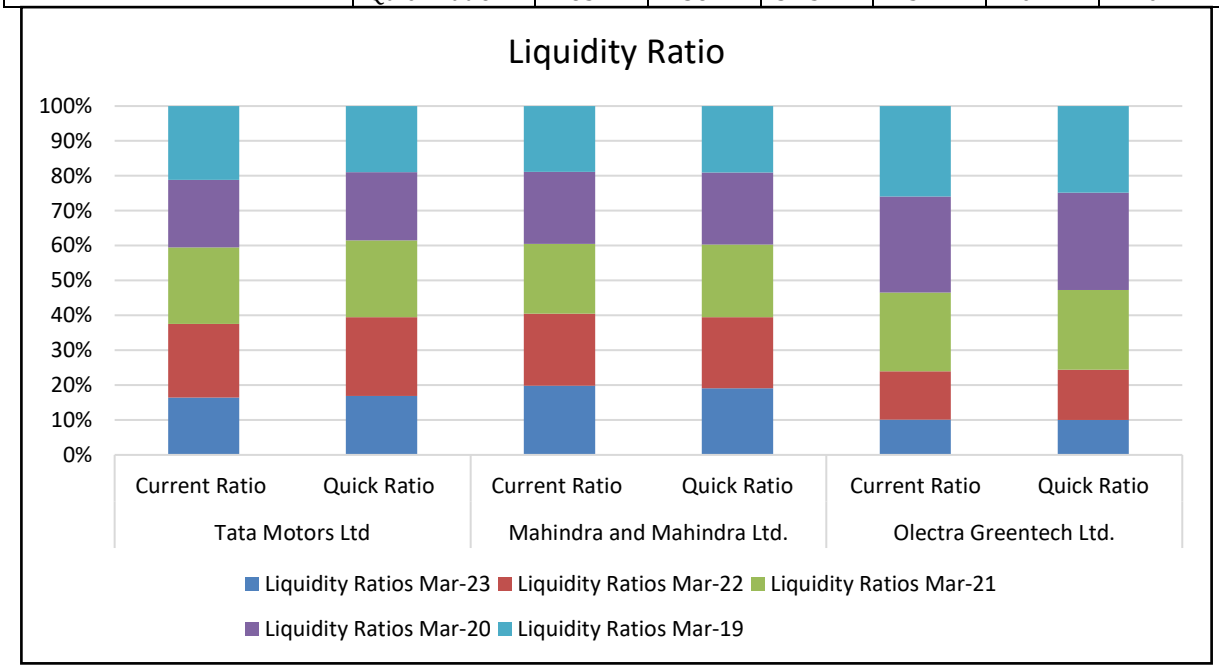
Liquidity Ratios							Standard Deviation
Company Name	Ratios	Mar-23	Mar-22	Mar-21	Mar-20	Mar-19	
Tata Motors Ltd	Current Ratio	0.45	0.58	0.6	0.53	0.58	0.05
	Quick Ratio	0.33	0.44	0.43	0.38	0.37	0.04
Mahindra and Mahindra Ltd.	Current Ratio	1.33	1.38	1.34	1.38	1.26	0.04
	Quick Ratio	0.99	1.06	1.08	1.07	0.99	0.04
Olectra Greentech Ltd.	Current Ratio	1.88	2.56	4.19	5.1	4.8	1.27
	Quick Ratio	1.65	2.36	3.75	4.57	4.07	1.10



The liquidity ratios analysis reveals distinct trends among Tata Motors Ltd, Mahindra and Mahindra Ltd, and Olectra Greentech Ltd over the past five years. Tata Motors has experienced a notable decrease in both current and quick ratios, indicating potential difficulties in meeting immediate financial obligations, contrasting with Mahindra and Mahindra's consistent stability in ratios, reflecting a healthier liquidity position. Olectra Greentech stands out with a consistent upward trajectory in both current and quick ratios, signalling robust short-term solvency and liquidity. This comparison underscores varying levels of liquidity among the companies, with Tata Motors facing challenges, Mahindra and Mahindra maintaining stability, and Olectra Greentech demonstrating strong liquidity and solvency.

Solvency Ratio

Solvency ratios measure a company's ability to meet its long-term financial obligations and remain financially stable over the long term by comparing its debt to its equity or assets.

Solvency Ratios							Standard Deviation
Company Name	Ratios	Mar-23	Mar-22	Mar-21	Mar-20	Mar-19	
Tata Motors Ltd.	Total Debt/Equity	0.84	1.17	1.14	1.14	0.79	0.17
Mahindra and Mahindra Ltd	Total Debt/Equity	0.11	0.17	0.21	0.09	0.07	0.05
Olectra Greentech Ltd.	Total Debt/Equity	0.08	0.08	0.01	0.03	0.03	0.03

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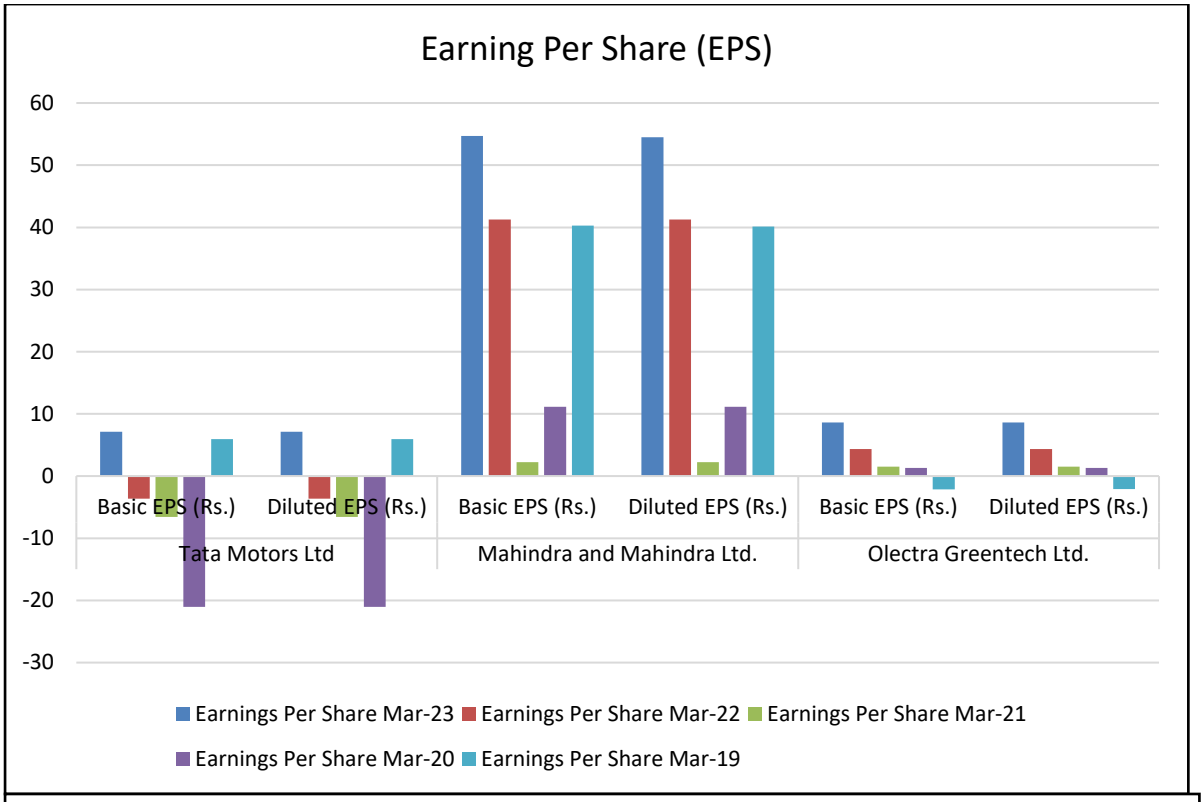

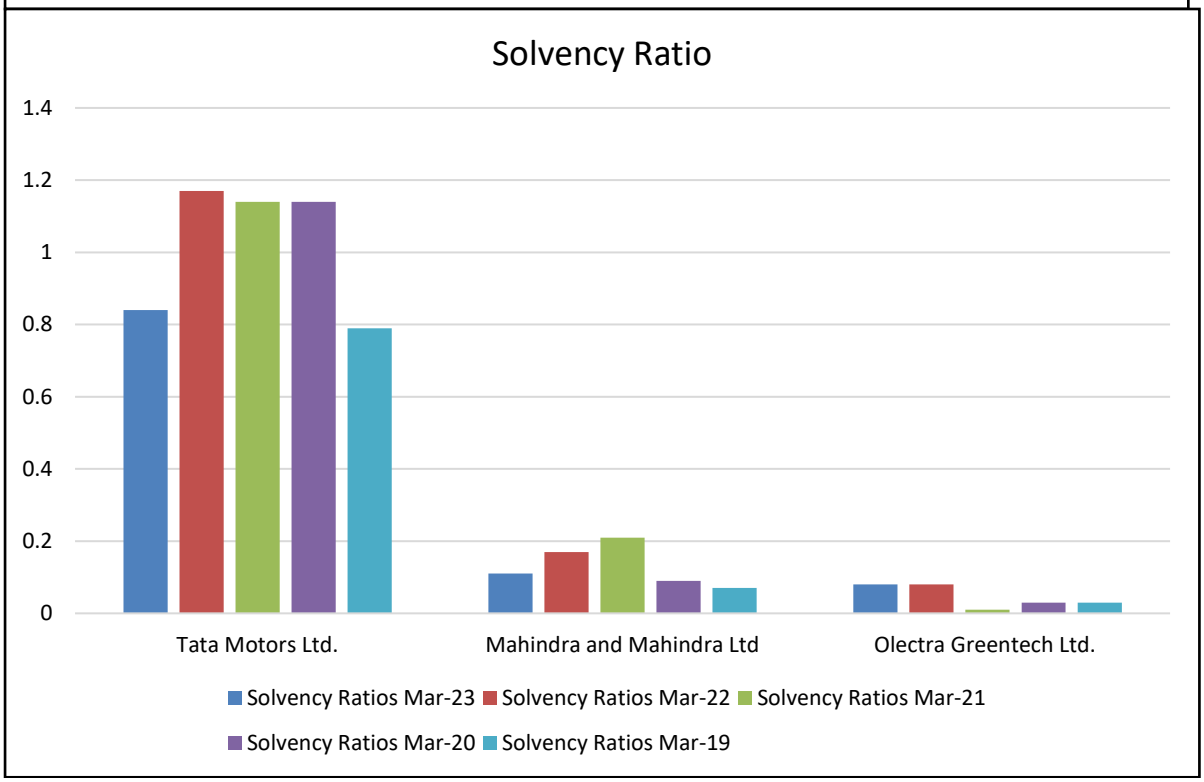

The solvency ratios of Tata Motors Ltd., Mahindra and Mahindra Ltd., and Olectra Greentech Ltd. are assessed through their total debt-to-equity ratios. Tata Motors Ltd. displays fluctuations in its solvency over the five years, peaking in FY22 and FY23, with a lower ratio in FY19. In contrast, Mahindra and Mahindra Ltd. consistently maintain a lower total debt-to-equity ratio, indicating a more robust solvency position throughout. Similarly, Olectra Greentech Ltd. sustains a low total debt-to-equity ratio, implying a favourable solvency position with minimal debt relative to equity across the years

Earnings Per Share (EPS)

Earnings Per Share (EPS) is a financial metric that indicates the portion of a company's profit allocated to each outstanding share of common stock, serving as an indicator of a company's profitability on a per-share basis.

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Earnings Per Share							
Company Name	Ratios	Mar-23	Mar-22	Mar-21	Mar-20	Mar-19	Standard Deviation.
Tata Motors Ltd	Basic EPS (Rs.)	7.11	-3.63	-6.59	-21.06	5.94	10.19
	Diluted EPS (Rs.)	7.11	-3.63	-6.59	-21.06	5.94	10.19
Mahindra and Mahindra Ltd.	Basic EPS (Rs.)	54.7	41.28	2.25	11.16	40.29	19.84
	Diluted EPS (Rs.)	54.49	41.28	2.24	11.12	40.13	19.78
Olectra Greentech Ltd.	Basic EPS (Rs.)	8.61	4.35	1.49	1.3	-2.16	3.60
	Diluted EPS (Rs.)	8.61	4.35	1.49	1.3	-2.07	3.57

The earnings per share (EPS) data for Tata Motors Ltd., Mahindra and Mahindra Ltd., and Olectra Greentech Ltd. offer valuable insights into their profitability per share over the specified periods. Tata Motors Ltd. displays fluctuating EPS values, including negative figures in FY20 but positive values in other years. Mahindra and Mahindra Ltd. demonstrate a generally increasing EPS trend, with significant growth observed in FY23 compared to previous years. Similarly, Olectra Greentech Ltd. also exhibits an upward trajectory in EPS, showing notable improvements over time despite experiencing negative EPS in FY19. These analyses provide investors with valuable information regarding the earnings performance of these companies and their potential appeal as investment opportunities.

CONCLUSION AND FINDINGS

The financial performance analysis of selected Electric Vehicle (EV) manufacturers in India offers a profound understanding of the industry's intricacies and competitive terrain within the country's burgeoning EV market. Through an exhaustive examination of pivotal financial metrics and ratios encompassing profitability, efficiency, liquidity, solvency, and earnings per share (EPS), several pivotal conclusions emerge, illuminating the financial robustness and operational efficacy of these firms within the EV domain. Tata Motors Ltd., a stalwart in the Indian automotive landscape, has witnessed fluctuating profitability metrics over the past half-decade. Despite encountering challenges in preceding fiscal years, Tata Motors has recently demonstrated improvements in both Profit Before Tax (PBT) Margin and Net Profit Margin, indicative of potential recovery and strategic adaptability. Conversely, Mahindra and Mahindra Ltd., another titan in the Indian automotive sector, has maintained a relatively steady course in profitability ratios throughout the scrutinized period. With consistently superior margins and efficiency metrics vis-à-vis Tata Motors, Mahindra and Mahindra exemplifies resilience and adept management within the fiercely competitive EV market. Olectra Greentech Ltd., a burgeoning contender specializing in electric buses and other EV solutions, has charted an impressive upward trajectory in profitability ratios. Marked by substantial strides in recent years, Olectra Greentech's ascent underscores its burgeoning influence and competitiveness within the evolving EV sphere.

Tata Motors Ltd. has encountered oscillations in asset turnover ratios, suggestive of fluctuating efficiency levels in capital deployment. Nevertheless, its relatively robust inventory turnover ratio hints at adept inventory management despite these undulations. Mahindra and Mahindra Ltd. distinguishes itself with consistently elevated asset turnover ratios and steadfast inventory turnover ratios, indicative of efficient resource utilization and adept inventory governance strategies. In contrast, Olectra Greentech Ltd., while making commendable strides in profitability, trails in asset turnover efficiency, signifying scope for enhancing resource optimization and operational efficacy. Tata Motors Ltd. has evidenced a downward trajectory in both current and quick ratios over the assessment period, signalling potential liquidity constraints necessitating mitigation for sustained financial stability. Mahindra and Mahindra Ltd. has upheld relatively stable liquidity ratios, underscoring its capacity to meet near-term obligations and fiscal commitments consistently. Olectra Greentech Ltd. has showcased an ameliorating liquidity stance, characterized by escalating current and quick ratios over time, emblematic of bolstered short-term financial resilience and operational stability.

Tata Motors Ltd. has manifested fluctuations in solvency ratios across the five-year span, punctuated by zeniths and nadirs in its total debt-to-equity ratio. Notwithstanding these undulations, Tata Motors maintains an overall tenable solvency stance. Mahindra and Mahindra Ltd. has steadfastly sustained a lower total debt-to-equity ratio, signalling robust solvency and judicious debt management practices. Olectra Greentech Ltd. has perpetuated a favourable solvency outlook, characterized by nominal debt vis-à-vis equity across the evaluated years, reflective of sound fiscal governance and a salubrious balance sheet composition. Tata Motors Ltd. has exhibited variegated EPS figures over the scrutiny period, including adverse values in FY20 juxtaposed with favourable figures in other fiscal cycles. Despite this variability, recent positive EPS trends augur potential resurgence and growth prospects. Mahindra and Mahindra Ltd. has showcased a predominantly ascending EPS

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trajectory, underscored by remarkable expansion in FY23 vis-à-vis antecedent years, denoting robust earnings performance and shareholder value accretion. Olectra Greentech Ltd. has depicted an upward EPS trajectory, emblematic of noteworthy enhancements notwithstanding initial adversities, auguring a sanguine outlook for investors and stakeholders.

In the end, the financial analysis delineates the multifarious performance nuances and competitive standings of the scrutinized EV manufacturers within India's rapidly evolving EV domain. While Mahindra and Mahindra Ltd. emerges as a paragon of consistency across diverse financial matrices, Tata Motors Ltd. evinces resilience amid adversities, and Olectra Greentech Ltd. portends promising growth horizons. These findings furnish invaluable insights for investors, policymakers, and industry stakeholders, fostering informed decision-making and strategic calibration within the dynamic vessel of the Indian EV Environment.

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