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Strategic Industrial Analysis of Mahindra & Mahindra Ltd. in the Indian Electric Vehicle Sector

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ABSTRACT:

This research paper examines the strategic response of Mahindra & Mahindra Ltd. (M&M) to India's rapidly evolving electric vehicle (EV) industry. Against the backdrop of national climate commitments and rising consumer interest in clean mobility, M&M's EV roadmap is analyzed using both secondary data and a third-party consumer survey. The study identifies key drivers and barriers to EV adoption, such as range anxiety, cost, infrastructure gaps, and consumer trust. Through a mixed-method research design, the paper finds that while M&M is strategically positioned through partnerships (e.g., with Volkswagen) and product innovation (e.g., INGLO platform and Born Electric SUV series), challenges remain in pricing strategy, infrastructure readiness, and consumer perception. The findings offer strategic recommendations for management and highlight areas for future research.

Keywords: Electric vehicles, Mahindra & Mahindra, EV adoption, strategy, sustainability, INGLO platform, India, consumer perception.

Introduction:

The Indian automobile industry is undergoing a transformational shift toward electrification, driven by national sustainability goals and economic incentives. India has committed to net-zero emissions by 2070 and aims for 30% of new vehicle sales to be electric by 2030. Mahindra & Mahindra Ltd. (M&M), a key player in India's automotive and farm equipment industries, has emerged as a front-runner in the electric vehicle space with the introduction of the XUV400, Treo, and the upcoming Born Electric series. However, barriers such as range anxiety, high initial cost, and underdeveloped charging infrastructure persist.

This study aims to evaluate M&M's strategic approach to EV adoption and understand how Indian consumers perceive electric mobility. The analysis integrates secondary data on industry trends and policy initiatives with primary insights derived from a third-party survey of 121 respondents conducted by IRJET (2021).

Methodology:

The key objectives of this research are:

- To assess the current market position and EV strategy of Mahindra & Mahindra Ltd.
- To examine consumer attitudes toward EV adoption in India.
- To identify major challenges facing EV expansion from both demand and supply sides.
- To provide strategic recommendations for M&M's EV growth roadmap.

This study uses a mixed-method research design. Descriptive and exploratory research methodologies were adopted. Data sources include Mahindra's annual reports, industry white papers (IEA, SIAM), and the IRJET survey. The survey data offer insights into consumer preferences, perceived barriers, and brand trust, making it useful for linking academic theory with real-world application.

Industry Overview and Company Profile

India's EV market is still nascent but growing rapidly. In FY2024-25, total EV registrations in India crossed 1.97 million units, with electric two-wheelers accounting for over 58% of total EVs sold. Despite this growth, four-wheeler EV penetration remains below 3%, indicating significant untapped potential. Government schemes like FAME II and the Production-Linked Incentive (PLI) program are designed to incentivize both manufacturing and adoption.

Mahindra & Mahindra operates across automotive, farm equipment, and IT services. It was an early entrant into EVs through the acquisition of Reva Electric in 2010. In recent years, M&M has unveiled its INGLO platform, announced seven new EV models by 2030, and formed a strategic alliance with Volkswagen for electric components. The XUV400, currently its flagship EV SUV, targets middle-income consumers in the ₹15–25 lakh range.

Strategic Analysis

M&M's strengths in the EV space include:

- Established manufacturing base and distribution network.
- Commitment to innovation through its Born Electric architecture and use of LFP batteries.
- Early-mover advantage in electric three-wheelers and commercial vehicles.

However, challenges remain:

- Tata Motors currently dominates the EV car segment.
- Charging infrastructure is still insufficient in most Indian cities.
- M&M's consumer marketing for EVs lags behind newer players.

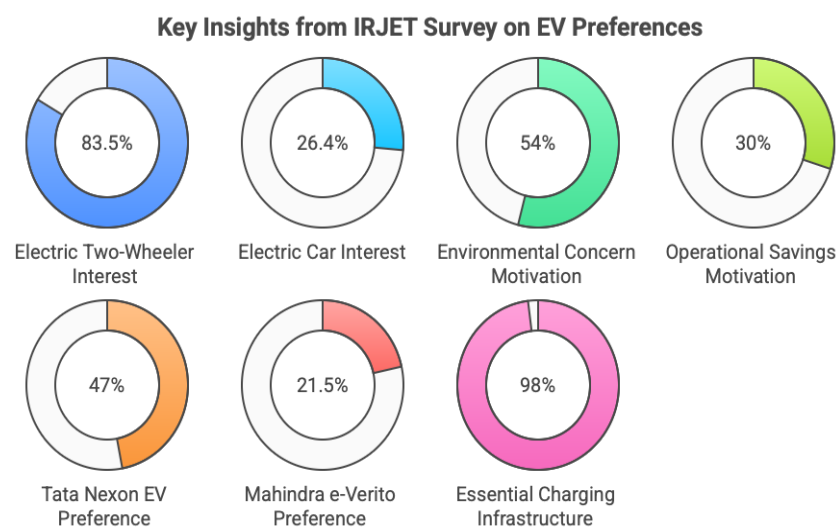
To counter these, Mahindra's investment of ₹10,000+ crore over the next few years in its EV business is a step in the right direction. Its upcoming models (XUV.e8, BE.05, BE.07) are expected to offer longer ranges and faster charging—features highly desired by Indian consumers.

Results

The IRJET survey provided several key insights relevant to M&M's EV strategy:

- 83.5% of respondents owned or intended to buy an electric two-wheeler, while only 26.4% planned to purchase an electric car, with most citing range anxiety and cost concerns.
- Approximately 54% cited environmental concern as their main motivation for considering EVs, while 30% highlighted operational savings.
- When asked about preferred four-wheeler EV brands, 47% chose Tata Nexon EV, while only 21.5% chose Mahindra's e-Verito, reflecting brand gap and awareness challenges.
- 98% of respondents believed public investment in charging infrastructure is essential.
- Most respondents were willing to pay ₹70k–₹1 lakh for a two-wheeler EV and ₹15–25 lakh for a car, aligning with Mahindra's current pricing range.

These results affirm that M&M's EV strategy must focus on affordability, longer range, and stronger brand communication to gain market share.



Made with Napkin

Fig 1 Pie Diagram

Table Assets and Liability in %

Common Size P&L MAHINDRA & MAHINDRA LTD										
Rs Cr	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar-24
Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Raw Material Cost	59.6%	60.1%	60.5%	58.0%	59.1%	49.9%	51.5%	58.4%	62.7%	61.2%
Change in Inventory	-0.4%	0.6%	0.0%	-0.1%	1.7%	-1.1%	-0.2%	1.0%	1.7%	1.0%
Power and Fuel	1.1%	0.8%	0.8%	0.8%	0.8%	0.7%	0.6%	0.6%	0.7%	0.5%
Other Mfr. Exp	3.6%	3.5%	3.9%	3.9%	4.1%	4.3%	3.4%	3.5%	3.2%	2.7%
Employee Cost	10.1%	10.1%	10.6%	10.9%	10.7%	10.9%	10.5%	9.3%	8.0%	7.6%
Selling and Admin Cost	8.4%	7.6%	7.5%	8.2%	9.2%	8.4%	6.2%	6.6%	6.3%	7.1%
Other Expenses	4.6%	5.2%	4.0%	3.7%	3.2%	11.2%	12.1%	6.3%	4.1%	4.0%
Operating Profit	13.1%	12.1%	12.8%	14.5%	11.2%	15.7%	15.8%	14.4%	13.4%	15.8%
Other Income	1.1%	1.8%	2.5%	4.7%	2.6%	1.2%	1.6%	3.6%	3.3%	2.4%
Depreciation	3.0%	3.2%	3.4%	3.6%	3.8%	4.5%	4.5%	3.9%	3.6%	3.4%
Interest	4.4%	4.4%	4.4%	4.3%	4.8%	8.0%	8.2%	5.6%	4.8%	5.4%
Profit Before Tax	6.0%	7.5%	7.6%	11.2%	8.5%	2.2%	4.3%	10.4%	11.6%	11.5%
Tax	2.4%	2.8%	2.7%	2.6%	2.7%	2.6%	2.2%	2.3%	2.2%	2.7%
Net Profit	4.4%	4.2%	4.4%	8.2%	5.1%	0.2%	2.4%	7.3%	8.5%	8.1%
Dividend Amount	1.0%	0.9%	1.0%	0.9%	0.9%	0.3%	1.3%	1.4%	1.5%	1.7%

Common Size Balance Sheet MAHINDRA & MAHINDRA LTD										
Rs Cr	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar-24
Equity Share Capital	0.3%	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%
Reserves	27.1%	26.3%	25.9%	26.6%	24.4%	23.8%	24.9%	27.0%	27.3%	28.0%
Borrowings	40.2%	41.6%	42.8%	41.0%	43.8%	49.5%	48.9%	45.0%	45.2%	46.3%
Other Liabilities	32.4%	31.9%	31.0%	32.0%	31.5%	26.3%	25.9%	27.6%	27.3%	25.5%
Net Block	20.2%	20.6%	18.4%	19.2%	17.9%	17.9%	13.0%	15.1%	13.3%	12.0%
Capital Work in Progress	3.2%	2.4%	3.8%	3.1%	2.9%	4.1%	4.8%	3.9%	1.9%	3.4%
Investments	10.6%	11.6%	12.9%	11.7%	11.3%	11.6%	17.4%	17.4%	17.3%	15.0%
Other Assets	66.0%	65.4%	64.9%	65.9%	67.9%	66.4%	64.8%	63.6%	67.5%	69.6%
Receivables	5.8%	5.8%	6.3%	6.2%	5.4%	4.2%	3.6%	3.7%	3.4%	3.2%
Inventory	9.0%	9.1%	7.8%	6.8%	7.5%	6.7%	5.8%	6.7%	8.3%	7.9%
Cash & Bank	5.2%	4.5%	4.1%	4.8%	5.4%	4.8%	7.8%	6.4%	5.5%	5.1%

Conclusion

Mahindra & Mahindra has made substantial progress in aligning its corporate strategy with India's green mobility goals. The survey results reinforce the importance of range, affordability, and public infrastructure in driving consumer adoption. M&M is well-positioned, but must invest aggressively in branding, distribution, and after-sales EV service infrastructure.

The key conclusions include:

- Range anxiety and cost remain the biggest obstacles to mass adoption.
- Mahindra must strengthen its EV brand recall and market communication.
- Strategic partnerships (e.g., Volkswagen) should be expanded to enhance technical competitiveness.
- Government incentives and infrastructure collaboration will play a vital role in future success.

Recommendations

- Launch targeted marketing campaigns focused on EV benefits, including maintenance cost savings and environmental impact.
- Provide attractive financing schemes through Mahindra Finance to make EVs more accessible.
- Collaborate with public and private players to expand fast-charging networks across urban and semi-urban areas.
- Monitor user data post-sale to improve vehicle range, performance, and customer satisfaction through software updates.

Suggestions for Future Research

Future studies can include:

- Comparative analysis of Mahindra's EV strategy with global automakers like Tesla and BYD.
- Regional studies on EV adoption patterns across Tier 1 vs. Tier 2/3 cities.
- Dealer and service center readiness for EV maintenance and repair.
- Real-world performance analysis of M&M's EVs across different climatic and traffic conditions.

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List all the material used from various sources for making this project proposal

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