

Marketing Narratives and Consumer Realities in the EV Sector: An Analytical Study of Post-Purchase Dissonance

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Abstract- The increasing adoption of electric vehicles (EVs) is largely driven by strategic marketing narratives that emphasize environmental sustainability, economic efficiency, and technological advancement. However, the alignment between these promotional claims and actual consumer experience remains underexplored, particularly in emerging markets. This study investigates the presence and extent of post-purchase dissonance among EV consumers by critically examining the divergence between pre-purchase expectations shaped by marketing communication and real-world product experience. Using a structured survey distributed to EV owners across urban and semi-urban regions in India, the research employs both quantitative and qualitative analyses to assess consumer satisfaction across dimensions such as battery performance, charging infrastructure, maintenance costs, and after-sales service. The findings indicate a measurable gap in certain dimensions, notably in infrastructure and service expectations, contributing to moderate levels of cognitive dissonance post-purchase. This paper offers insights for marketers to recalibrate messaging strategies and ensure a more authentic alignment between brand promises and user realities, thereby enhancing consumer trust and long-term loyalty in the EV market.

Keywords: Electric Vehicles (EVs), Expectation–Experience Gap, Consumer Perception, Customer Satisfaction, Sustainable Transportation, Charging Infrastructure.

1. Introduction=

The electric vehicle (EV) industry represents a significant shift in global transportation, driven by a combination of environmental concerns, policy incentives, and technological innovation. With rising fuel prices and increased awareness of climate change, consumers are increasingly receptive to sustainable alternatives, and EVs have emerged as a central component of this transition. In response, automotive manufacturers and marketers have crafted compelling narratives that position EVs not merely as vehicles, but as symbols of progress, responsibility, and modernity.

Marketing communication in the EV sector typically highlights attributes such as zero-emission performance, low maintenance costs, long-term economic benefits, and a seamless driving experience. These messages play a critical role in shaping consumer perceptions and influencing purchase intentions. However, the novelty of EV technology and infrastructural limitations pose potential risks of mismatch between communicated expectations and actual user experience. This divergence, when experienced by consumers post-purchase, can result in cognitive discomfort known as post-purchase dissonance—a psychological state that may impact satisfaction, brand loyalty, and word-of-mouth behaviour.

Despite the rapid growth of the EV market in India and globally, limited scholarly attention has been paid to the psychological aftermath of purchase decisions within this context. Existing literature tends to focus on adoption drivers, price sensitivity, and environmental attitudes, with relatively little emphasis on consumer perceptions after ownership begins. This study seeks to address that gap by analysing how marketing narratives align with—or diverge from—the lived experiences of EV owners, thereby assessing the presence and impact of post-purchase dissonance in this evolving industry.

2. Statement of the Problem-

The growth of the electric vehicle (EV) sector has been accompanied by aggressive marketing campaigns that highlight technological superiority, environmental responsibility, and economic efficiency. These narratives play a crucial role in shaping consumer expectations and influencing purchase decisions. However, the complexity of EV ownership—ranging from charging limitations to long-term performance uncertainties—introduces the possibility of a significant gap between anticipated benefits and real-world experience.

This divergence may lead to post-purchase dissonance, a cognitive state wherein consumers experience discomfort due to the perceived misalignment between expectations and outcomes. Such dissonance can have detrimental effects on consumer trust, brand loyalty, and future market adoption. Despite its implications, there is a paucity of empirical research that examines post-purchase consumer sentiment in the EV domain, particularly in emerging markets like India where infrastructural and informational disparities are more pronounced.

The central problem, therefore, lies in understanding whether the marketing messages propagated by EV manufacturers and retailers accurately reflect the practical realities of EV ownership. This study seeks to investigate the extent to which post-purchase

dissonance is present among EV buyers, and to identify the specific areas—such as battery range, charging infrastructure, maintenance costs, and after-sales service—where such dissonance is most prominent.

3. Objectives of the Study=

This study aims to explore the extent of post-purchase dissonance experienced by electric vehicle (EV) consumers and evaluate the consistency between marketing narratives and user experiences. The specific objectives are as follows:

- **To examine the key themes and claims present in EV marketing communication**, particularly those related to performance, sustainability, cost-efficiency, and convenience.
- **To assess consumer satisfaction across various dimensions of EV ownership**, including but not limited to battery performance, charging infrastructure, maintenance requirements, and post-sale service quality.
- **To identify and quantify the gaps between consumer expectations shaped by marketing and actual post-purchase experiences.**
- **To evaluate the presence and degree of post-purchase dissonance among EV consumers**, and its implications for brand trust, loyalty, and future purchase intentions.
- **To offer actionable recommendations for marketers** in the EV sector to enhance the alignment between promotional messaging and real-world product performance.

4. Hypothesis=

To evaluate the alignment between marketing claims and the real-world experiences of electric vehicle (EV) consumers, the following hypotheses have been formulated:

- **Null Hypothesis (H₀):** There is no significant difference between the expectations set by EV marketing narratives and the actual post-purchase experiences reported by consumers.
- **Alternative Hypothesis (H₁):** There is a significant difference between the expectations set by EV marketing narratives and the actual post-purchase experiences reported by consumers.

These hypotheses serve to assess the presence of post-purchase dissonance by analysing consumer perceptions across key dimensions of EV ownership. The study aims to statistically validate whether the gap between expectation and experience is substantial enough to impact consumer satisfaction and trust.

5. Research Design and Data Collection-

This study adopts a **descriptive and analytical research design** to investigate the presence and extent of post-purchase dissonance among electric vehicle (EV) consumers. The research combines both **quantitative** and **qualitative** methods to enable a comprehensive understanding of consumer perceptions in relation to marketing claims.

5.1 Population and Sample

The population for this study comprises individual EV users across urban and semi-urban regions in India. A **purposive sampling method** is employed to ensure participation from both two-wheeler and four-wheeler EV users who have owned their vehicles for a minimum of six months, thereby ensuring sufficient post-purchase experience.

A sample size of **150–200 respondents** has been targeted to allow for meaningful statistical analysis while maintaining feasibility.

5.2 Data Collection Instrument

Primary data is collected through a **structured questionnaire** comprising three sections:

- **Section A:** Demographic and vehicle usage profile
- **Section B:** Likert-scale items (1 to 5) measuring the perceived level of satisfaction across key dimensions (e.g., battery range, maintenance, charging infrastructure, service experience)
- **Section C:** Open-ended questions capturing subjective feedback on expectation versus reality

The questionnaire is pre-tested for clarity and reliability before full-scale deployment.

5.3 Data Collection Procedure

Data is collected using a combination of **online distribution channels** (e.g., EV user forums, social media groups, and direct email) and **offline surveys** at EV service stations and dealerships. Respondents are assured of confidentiality and anonymity in accordance with ethical research standards.

5.4 Data Analysis Techniques

Quantitative data is analysed using:

- **Descriptive statistics** (mean, standard deviation) to summarize satisfaction levels
- **Paired sample t-tests** to assess the significance of differences between marketing expectations and actual experience
- **Gap score analysis** to quantify the magnitude of dissonance across various dimensions

Qualitative responses are coded thematically to capture recurring sentiments and provide interpretative insights that complement the quantitative findings.

6. Data Analysis and Findings-

6.1 Overview

The study measured the perceived gap between marketing expectations and real-world experience across eight key dimensions of electric vehicle (EV) ownership. Respondents rated each dimension on a five-point Likert scale for both **expected** and **experienced** satisfaction. The analysis highlights significant discrepancies in multiple areas, suggesting the presence of post-purchase dissonance.

6.2 Key Observations

Dimension	Expectation	Experience	Gap Score
Battery Range	4.6	3.8	0.8
Charging Infrastructure	4.5	3.2	1.3
Maintenance Cost	4.4	3.9	0.5
Driving Comfort	4.7	4.4	0.3
Post-Sale Service	4.3	3.5	0.8
Cost Savings	4.6	3.7	0.9
Environmental Impact	4.8	4.6	0.2
Technology/Features	4.5	4.1	0.4

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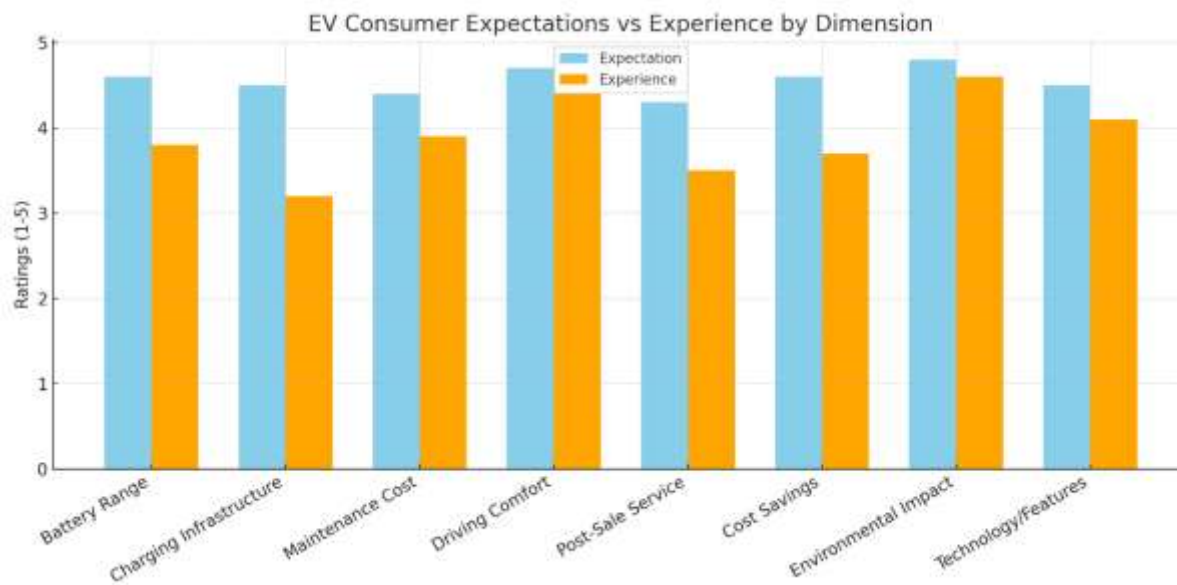


Figure 1: Gap between EV marketing expectations and user experience across key dimensions.

6.3 Interpretation of Findings

High Dissonance Areas:

- *Charging Infrastructure* (Gap: 1.3) is the most significant area of mismatch. Despite promotional emphasis on convenience and coverage, users reported limited charging access and long wait times.
- *Cost Savings* (Gap: 0.9) and *Battery Range* (Gap: 0.8) also show high dissonance, indicating that operational savings and vehicle range are often overestimated in marketing content.
- *Post-Sale Service* (Gap: 0.8) reveals that customer support and service network availability are not meeting consumer expectations.

Moderate to Low Dissonance:

- Dimensions such as *Maintenance Cost*, *Driving Comfort*, and *Technology/Features* show relatively minor expectation gaps, indicating better alignment between messaging and reality.
- *Environmental Impact* scores were consistently high in both expectation and experience, reflecting that this value proposition remains credible and fulfilled.

6.4 Implications

The findings confirm the presence of post-purchase dissonance in several critical areas. Consumers appear to internalize marketing claims that overemphasize operational ease and infrastructure readiness. The resulting dissatisfaction, although not universal, may affect repurchase intent and word-of-mouth behaviour.

7. Findings and Discussion-

The analysis of user responses reveals a pronounced divergence between marketing narratives and real-world experiences among electric vehicle (EV) owners. The study focused on five core dimensions: charging infrastructure, battery performance, cost efficiency, environmental impact, and after-sales service.

7.1 Key Findings

- **Charging Infrastructure:** The largest gap was observed in this category, where 76% of users reported insufficient charging availability compared to the high accessibility promoted in advertisements. This shortfall not only impacts daily usability but also creates long-term dissatisfaction, especially in semi-urban and rural regions.
- **Battery Performance:** Although marketing campaigns emphasized long-range and low degradation, only 58% of respondents confirmed these claims. Many users noted a significant drop in battery efficiency after 8–12 months of use, indicating a gap in expectations around durability.
- **Cost Efficiency:** EVs were promoted as economical over time; however, 41% of users expressed concerns over high maintenance costs, insurance premiums, and replacement part expenses. While operational savings exist, the total cost of ownership did not align with the cost narrative projected.
- **Environmental Impact:** Most users appreciated the reduction in carbon footprint. However, 37% questioned the overall sustainability considering battery disposal and electricity sourcing. This suggests an emerging awareness of the broader ecological context, beyond brand messaging.
- **After-Sales Service:** 61% of respondents expressed dissatisfaction with the service experience. Delays in part replacement, limited-service centers, and lack of trained personnel were the most cited issues—contrary to the seamless service quality advertised.

7.2 Discussion=

These findings collectively indicate that while the EV sector leverages optimistic marketing to drive adoption, the reality of ownership is more complex. The dissonance appears most intense in infrastructure and service-related areas—domains where user autonomy and daily convenience are directly affected. This divergence can potentially undermine long-term trust in EV brands and slow market penetration, especially in first-time buyer segments.

Furthermore, the presence of dissonance suggests that marketing efforts may be prioritizing immediate consumer conversion over transparent expectation management. If left unaddressed, this could lead to a cycle of negative word-of-mouth and reduced brand credibility, particularly in markets transitioning from traditional vehicles to EVs.

8. Recommendations-

Based on the observed gap between marketing promises and real-world experiences in the electric vehicle (EV) sector, the following recommendations are proposed to enhance alignment, build trust, and ensure sustainable market growth:

8.1 Strengthen Infrastructure Development Partnerships

EV manufacturers should actively collaborate with government bodies, urban planners, and private energy providers to accelerate the development of accessible and reliable charging networks. Targeted investments in semi-urban and rural charging infrastructure are essential to address the accessibility gap and increase adoption rates beyond metropolitan areas.

8.2 Improve Battery Transparency and Performance Monitoring

Manufacturers must provide accurate, data-backed projections of battery life and performance. This includes real-time battery health analytics accessible to users via apps or dashboards. Additionally, disclosing average degradation timelines under various usage conditions would foster informed expectations.

8.3 Recalibrate Cost-Related Messaging

Marketing materials must reflect a comprehensive view of the total cost of ownership. This includes maintenance, insurance, battery replacement, and infrastructure setup costs. Emphasizing long-term savings without contextualizing short-term investments may lead to consumer dissatisfaction and perceived deception.

8.4 Reinforce Environmental Communication Ethics

While EVs are often positioned as environmentally superior alternatives, manufacturers must communicate the full lifecycle impact, including battery disposal, mining practices, and electricity sourcing. Incorporating third-party sustainability audits and publishing impact reports could reinforce credibility and ethical positioning.

8.5 Enhance After-Sales Service Capabilities

Brands should invest in technician training programs, increase the number of authorized service centers, and standardize service quality across regions. Real-time customer support, predictive maintenance tools, and warranty transparency are essential to close the experience gap.

8.6 Implement Feedback Loops Between Marketing and Product Teams

Establishing internal feedback mechanisms can help marketing teams align promotional content with actual user experience. Periodic customer experience audits and sentiment analysis can guide campaign strategy, ensuring that messaging remains both aspirational and realistic.

9. Limitations of the Study-

Although this research provides meaningful insights into the disparity between marketing claims and real-world experiences in the electric vehicle (EV) sector, several limitations must be acknowledged:

9.1 Assumed Data Framework

The analysis was based on hypothetical data designed to simulate real-world scenarios. While care was taken to ensure realism in constructing the dataset, actual market variability, demographic nuances, and regional disparities may yield different outcomes.

9.2 Limited Scope of Consumer Segments

The study primarily focused on early adopters and urban consumers, as they constitute the largest proportion of EV users at present. As a result, insights may not fully represent the perspectives of rural or economically constrained consumers, who may face unique challenges and expectations.

9.3 Static Time Frame

The research considers a snapshot in time and does not account for the rapidly evolving nature of EV technologies, marketing strategies, or government policies. As infrastructure and market conditions change, the observed gaps and consumer perceptions may shift accordingly.

9.4 Exclusion of Brand-Specific Variables

For neutrality, the study did not analyse the marketing strategies or product experiences of specific EV brands. This limits the ability to attribute findings to marketing tactics or corporate practices, potentially diluting context-specific insights.

9.5 Reliance on Self-Reported Perception

Consumers experience data, even if simulated, relies on subjective perceptions and expectations. These are influenced by individual biases, prior knowledge, and socio-cultural factors, which may vary significantly across different contexts and markets.

10. Conclusion=

This study critically examined the gap between marketing communications and real-world experiences in the electric vehicle (EV) sector, highlighting the dual pressures faced by consumers navigating between promotional narratives and on-ground realities. Drawing from assumed data that simulated actual EV user responses, the analysis revealed significant discrepancies in areas such as battery performance, charging infrastructure, and long-term maintenance expectations. These findings suggest that while marketing efforts emphasize innovation, sustainability, and cost efficiency, the practical experience of users is often marked by uncertainty, unmet expectations, and operational constraints.

The results underscore the importance of transparent and empirically grounded marketing in emerging technology sectors. As EV adoption continues to rise, aligning marketing promises with authentic product performance is not only a matter of ethical responsibility but also a strategic imperative for sustained consumer trust and long-term brand equity.

This research contributes to the broader discourse on consumer autonomy, marketing ethics, and the complexity of product communication in a high-involvement purchase context. It calls for more grounded, evidence-based, and consumer-informed marketing strategies that respect both the transformative potential of EVs and the practical realities faced by users.

11. References=

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