

Perceived Customer Satisfaction versus Practical Reality in India's Electric Vehicle Market

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ABSTRACT: The Indian electric vehicle (EV) market is frequently portrayed as a success story driven by government incentives, environmental awareness, and technological progress. However, customer satisfaction in the EV context is often assessed through simplified metrics that overlook lived ownership realities. This conceptual research paper critically examines the gap between perceived customer satisfaction and actual user experience in the Indian EV market. Drawing upon prior empirical studies, policy documents, industry reports, and interpretive insights from consumer narratives, the paper argues that EV satisfaction is not a static outcome but a negotiated construct shaped by cost rationalisation, infrastructural adequacy, environmental beliefs, and future-oriented optimism. The study develops a conceptual framework explaining why high satisfaction levels coexist with persistent concerns such as range anxiety, battery degradation, charging accessibility, and service readiness. The paper contributes to EV literature by reframing customer satisfaction as a dynamic and contextual phenomenon rather than a purely performance-based evaluation.

KEY WORDS: Electric Vehicles, Customer Satisfaction, Consumer Experience, Perceived Value, India

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I. INTRODUCTION AND LITERATURE REVIEW

India's transition toward electric mobility has gained unprecedented momentum over the past decade. Policy initiatives such as the Faster Adoption and Manufacturing of Electric Vehicles (FAME) scheme, production-linked incentives, and state-level subsidies have positioned EVs as a central instrument for reducing carbon emissions and oil dependency. As a result, EV adoption—particularly in two-wheelers and three-wheelers—has increased significantly. This growth is often interpreted as evidence of strong customer satisfaction and market readiness.

However, customer satisfaction in the EV domain differs fundamentally from satisfaction associated with conventional internal combustion engine (ICE) vehicles. EV ownership introduces new dependencies, including charging infrastructure availability, battery performance over time, software reliability, and electricity grid stability. Consequently, satisfaction cannot be evaluated solely through traditional product-performance frameworks.

Existing literature on EV adoption in India highlights mixed consumer attitudes. Studies have identified environmental concern, fuel cost savings, and government incentives as strong motivators for adoption, while high upfront cost, range anxiety, and inadequate charging infrastructure remain persistent barriers. Notably, several studies report relatively high satisfaction levels despite these constraints, suggesting a complex psychological reconciliation process among EV users.

This paradox raises an important research question: **How do EV consumers in India construct satisfaction judgments despite unresolved functional and infrastructural challenges?** Addressing this question requires moving beyond survey-based satisfaction scores toward a conceptual understanding of satisfaction as a socially and economically mediated construct.

Review of Related Studies

Previous studies have examined consumer intention and perception toward EVs in the Indian context, identifying cost savings, environmental benefits, and policy incentives as key drivers of adoption. However, much of this literature adopts a quantitative orientation, treating satisfaction as a dependent variable influenced by discrete attributes such as price, range, or charging speed.

Emerging qualitative insights suggest that EV satisfaction is often aspirational rather than experiential. Consumers tolerate present inconveniences due to optimism about future technological improvements and policy support. This phenomenon aligns with cognitive dissonance theory, where post-purchase justification plays a significant role in shaping satisfaction narratives.

Despite growing research on EV adoption, there remains a conceptual gap in understanding the divergence between *stated satisfaction* and *experienced reality*. This paper addresses that gap by integrating consumer behaviour theory, socio-technical transition perspectives, and interpretive reasoning.

II. RESEARCH OBJECTIVES

The primary objectives of this conceptual study are:

1. To examine customer satisfaction in the Indian EV market beyond conventional performance metrics.
2. To analyse the gap between perceived satisfaction and lived ownership experience.
3. To develop a conceptual framework explaining satisfaction formation in emerging EV markets.

III. RESEARCH METHODOLOGY AND CONCEPTUAL APPROACH

This study adopts a **qualitative conceptual research design**. Rather than collecting primary survey data, the paper synthesises insights from existing empirical studies, policy reports, industry analyses, and documented consumer experiences. Such an approach is appropriate where the research objective is theory-building rather than hypothesis testing.

Conceptual analysis allows the researcher to identify recurring patterns in consumer narratives, institutional structures, and technological constraints. Through interpretive synthesis, the study develops a coherent explanation of how satisfaction judgments are formed and sustained despite practical challenges.

IV. CONCEPTUAL ANALYSIS AND INTERPRETATION

4.1 Customer Satisfaction as Conditional Acceptance

EV users frequently report high satisfaction with driving experience, citing smooth acceleration, silent operation, and reduced maintenance. However, this satisfaction is often conditional upon urban usage patterns where charging access is relatively stable. When usage extends beyond predictable daily routines, concerns related to range, charging downtime, and battery efficiency emerge.

4.2 Infrastructure as a Psychological Determinant

Charging infrastructure influences satisfaction not only through physical availability but also through psychological reassurance. Even EV owners who primarily charge at home express anxiety when public charging networks appear inadequate. This suggests that infrastructure visibility plays a symbolic role in reinforcing consumer confidence.

4.3 Economic Rationalisation and Cost Narratives

Many consumers justify EV ownership through long-term cost savings, even when immediate financial benefits are ambiguous. Battery replacement uncertainty and resale value concerns are often downplayed in favour of fuel savings narratives, indicating post-purchase rationalisation rather than objective cost assessment.

4.4 Environmental Satisfaction and Moral Alignment

Environmental benefits contribute to what may be termed *moral satisfaction*. While some consumers acknowledge that electricity generation still relies on fossil fuels, symbolic alignment with sustainability goals often outweighs technical emissions accounting. This moral dimension helps sustain satisfaction despite environmental contradictions.

V. FINDINGS AND DISCUSSION

The analysis reveals that customer satisfaction in the Indian EV market is best understood as a **negotiated equilibrium** rather than a definitive outcome. Satisfaction is sustained through optimism, tolerance, and symbolic value, even as functional challenges persist. This explains why high satisfaction levels can coexist with infrastructural inadequacies and technological uncertainty.

Importantly, such satisfaction may be fragile. As EV adoption moves beyond early adopters to pragmatic consumers, tolerance levels may decline, exposing latent dissatisfaction if systemic issues remain unresolved.

VI. IMPLICATIONS OF THE STUDY

6.1 Theoretical Implications

The study extends customer satisfaction theory by demonstrating that in emerging technologies, satisfaction may function as a coping mechanism rather than a performance evaluation. This calls for longitudinal and interpretive approaches in future research.

6.2 Managerial and Policy Implications

Manufacturers should prioritise expectation management and transparency regarding battery life and service readiness. Policymakers must align adoption targets with infrastructural capacity to maintain long-term consumer trust.

VII. CONCLUSION

Electric vehicles represent not only a technological shift but also a behavioural and psychological transition for Indian consumers. Customer satisfaction in this market reflects aspiration, compromise, and future-oriented trust rather than seamless experience. Recognising this complexity is essential for ensuring sustainable EV adoption beyond early growth phases.

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