Impact of Price Inflation on Consumer Demand for Electric Two-Wheelers

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OPEN ACCESS

Manuscript ID:
COM-2026-14019814

Volume: 14

Issue: 1

Month: January

Year: 2026

E-ISSN: 2582-6190

Received: 19.11.2025

Accepted: 22.12.2025

Published Online: 01.01.2026

Citation:
Dhilip, R. and K. Singaravelu. "Impact of Price Inflation on Customer Demand for Electric Two-Wheelers." *ComFin Research*, vol. 14, no. 1, 2026, pp. 84–88.

DOI:
https://doi.org/10.34293/commerce.v14i1.9814

Abstract
Price inflation plays a significant role in shaping consumer purchasing behaviour in the electric vehicle market, particularly in the electric two-wheeler segment. Rising prices, driven by increasing battery costs, fluctuations in raw material prices, technological upgrades, and changes in government subsidy policies, directly influence consumer demand and purchasing decisions. Although existing studies have examined consumer attitudes, environmental concerns, perceived usefulness, and charging infrastructure in electric vehicle adoption, limited attention has been given to the impact of price inflation on consumer behaviour. This study aims to analyse how price inflation affects consumer demand for electric two-wheelers by considering economic, behavioural, and infrastructural factors. This study is based on secondary data collected from reputed automobile and business sources, such as The Economic Times and Business Standard, covering the period 2020–2025. Trend and comparative analyses were used to examine changes in electric two-wheeler prices in relation to subsidy revisions and market conditions. The findings indicate that rising prices significantly affect perceptions of affordability and purchase timing, highlighting the importance of stable pricing strategies and consistent policy support to sustain consumer demand for electric two-wheelers.

Keywords: Price Inflation, Consumer Demand, Electric Two-Wheelers, Buyer Behaviour, Subsidy Policies

Introduction

Vehicle price inflation significantly influences customer demand, especially in price-sensitive markets such as two-wheelers. As vehicle prices increase continuously, consumers tend to postpone or reconsider their purchase decisions, leading to a decline in immediate demand. Higher prices reduce affordability and increase the perceived financial burden, particularly among middle- and lower-income groups. In the case of electric two-wheelers, price inflation caused by rising battery costs and reduced subsidies can discourage first-time buyers despite long-term savings on fuel and maintenance. However, customers with strong environmental awareness or those benefiting from government incentives may still exhibit steady demand. Thus, vehicle price inflation directly affects customer demand by influencing affordability, purchase timing, and brand or model selection, making price a crucial factor in consumer decision making. Despite the growing importance of electric two-wheelers, limited empirical attention has been given to understanding how price inflation influences consumer demand in this segment, particularly in the Indian context. This study examines the impact of price inflation on consumer demand for electric two-wheelers, with special emphasis on the economic, behavioural, and policy-related factors influencing purchase decisions.

Literature Reviews

Fishbein and Ajzen (1975) explained that positive consumer attitudes significantly influence purchase intention. They found that beliefs and attitudes are strong predictors of actual buying behaviour in innovative product markets. **Davis (1989)** introduced the Technology Acceptance Model and explained that perceived usefulness and perceived ease of use significantly determine consumer acceptance of new technologies, including electric two-wheelers (e.g. e-bikes). **Ajzen (1991)** proposed the Theory of Planned Behaviour and argued that subjective norms and social pressure significantly influence behavioural intention, particularly in the adoption of innovative products such as electric vehicles. **Aaker (1996)** emphasised that a strong brand image and reliable after-sales service enhance consumer trust and satisfaction. The study noted that brand credibility plays a vital role in high-involvement purchases, such as electric two-wheelers. **Peattie (2010)** explored the role of environmental concern in shaping green consumer behaviour and stated that environmentally responsible attitudes significantly motivate consumers to adopt sustainable products, such as electric vehicles, particularly in urban regions. **Egbue and Long (2012)** investigated barriers to electric vehicle adoption and highlighted that limited charging infrastructure and range anxiety remain major psychological constraints affecting consumer confidence and purchase behaviour.

Axsen and Kurani (2013) examined consumer mobility patterns and observed that electric vehicles are more suitable for short-distance urban travel, making electric two-wheelers an attractive option for commuters. **Rezvani et al (2015)** examined economic determinants of electric vehicle adoption and identified that the total cost of ownership, including fuel savings and maintenance costs, plays a more decisive role than initial purchase price in influencing consumer decisions. **Kotler and Keller (2016)** defined buyer behaviour as the process through which consumers identify needs, search for information, evaluate alternatives, and make purchase decisions. They observed that technological products such as electric of policy incentives and reported that vehicles require higher cognitive evaluation due to cost, performance, and long-term usage considerations. **Hardman et al (2017)** analysed the role subsidies and tax benefits reduce financial risk perception, thereby improving purchase intention among first-time electric vehicle buyers.

Research Gap

Despite extensive theoretical and empirical research on electric vehicle adoption, significant gaps remain in understanding buyer behaviour towards electric two-wheelers at the city level. Most prior studies have focused on electric cars and adopted national or global perspectives, with limited city-specific evidence from Tier-II cities such as Coimbatore. Furthermore, research emphasises purchase intention rather than actual usage experience and post-purchase satisfaction. The roles of brand image, dealer support, and after-sales service in the electric two-wheeler segment have been inadequately examined. Socio-economic differences, awareness levels, and information sources influencing buyer decisions have received limited attention. Although charging infrastructure and policy incentives have been discussed, consumer-level perceptions of charging accessibility and subsidy awareness remain underexplored. Psychological concerns, such as range anxiety and battery reliability, have not been sufficiently analysed in the Indian context. Finally, the absence of a comparative analysis between electric and conventional petrol two-wheelers highlights a clear research gap, which the present study seeks to address in Coimbatore.

Objective

This study examines how price inflation influences consumer demand for electric two-wheelers, addressing gaps in the existing literature on the behavioural, economic, and infrastructural factors affecting buyer decisions.

Methodology

This study adopts a descriptive and analytical research methodology based entirely on secondary data to examine the impact of price inflation on consumer demand for electric two-wheelers in India. Data were compiled from reputed business and automobile sources, such as The Economic

Times and Business Standard, covering the period 2020–2025. Peer-reviewed journal articles were reviewed to identify research gaps and strengthen the study's conceptual foundation. The analysis is guided by price and demand theories, using trend and comparative analyses to assess the influence of price increases and subsidy changes on consumer demand.

Price Inflation

Price inflation refers to a sustained and continuous increase in the general price level of goods and services over an extended period, leading to a reduction in the purchasing power of money. As prices rise, consumers are required to spend more to purchase the same quantity or quality of products and services compared to earlier periods. This affects household budgets, consumption patterns, and overall economic behaviour, influencing decisions related to savings, investments, and demand for goods such as electric two-wheelers (Samuelson & Nordhaus, 2010).

Table-1 Price Inflation of Electric Two-Wheelers (Last 5 Years)

Year	Average Price Range (₹)	Major Price Movement Key Reasons	
2020–21	55,000 – 80,000	Low and stable prices	Early market stage, higher government subsidies, limited features
2021–22	65,000 – 1,00,000	Moderate increase	Entry of new brands, improved battery technology, and rising demand
2022–23	80,000 – 1,30,000	Sharp price rise (10–18%)	Input cost inflation, lithium battery cost increase, and reduced subsidies
2023–24	90,000 – 1,50,000	Continued price hike	FAME-II subsidy reduction, transition to EMPS scheme
2024–25	95,000 – 1,80,000	Mild to moderate increase	Policy uncertainty, feature upgrades, higher production and compliance costs

Source: Compiled from reports published in *The Economic Times*, *Business Standard*, *Livemint*, and *RushLane* on electric two-wheeler price trends and subsidy-related changes (2020–2025).

The table shows that the prices of electric two-wheelers in India have increased steadily over the past five years. During 2020–21, electric two-wheelers were available at relatively lower prices because of higher subsidies and limited market penetration. In 2021–22, prices increased moderately with the entry of new brands and the improvement of battery technology. A sharp rise was observed during 2022–23, mainly due to higher battery input costs and the gradual reduction in government subsidies. The period 2023–24 witnessed continued price escalation following the FAME-II subsidy cut and transition to the EMPS scheme. In 2024–25, prices further increased, albeit at a slower rate, reflecting policy uncertainty and feature upgrades. This trend indicates that inflation, subsidy revisions, and rising production costs have significantly influenced electric two-wheeler prices.

Findings

The findings reveal that electric two-wheeler prices in India remained relatively low and stable during 2020–21 (₹55,000–₹80,000) owing to higher government subsidies and early market conditions. A moderate price increase was observed in 2021–22 (₹65,000–₹1,00,000) following the entry of new brands and improvements in battery technology. A sharp rise in prices occurred in 2022–23 (₹80,000–₹1,30,000), primarily driven by input cost inflation, rising lithium battery prices and reductions in government subsidies. This upward trend continued in 2023–24 (₹90,000–₹1,50,000) owing to the scaling down of FAME-II subsidies and the transition to the EMPS scheme. In 2024–25, prices increased further to ₹95,000–₹1,80,000, reflecting policy uncertainty, feature upgrades, and higher production and compliance costs. The results indicate that rising prices significantly influence consumer affordability perceptions, leading to delayed purchase decisions and a greater emphasis on cost–benefit evaluation. Behavioural and infrastructural factors, such as environmental awareness, brand image, and the availability of charging facilities, also supported consumer demand despite rising prices.

Future Research

Future research may extend the present study by using primary data to examine consumer perceptions and actual purchase behaviour towards electric two-wheelers at the household and city levels. Comparative studies between electric and conventional petrol two-wheelers would provide deeper insights into substitution patterns and demand sensitivity. Further research should explore the role of socioeconomic characteristics, financing options, and insurance coverage in influencing adoption decisions. In addition, region-specific studies focusing on Tier-II and Tier-III cities can capture variations in infrastructure availability and policy awareness. Longitudinal studies assessing the long-term impact of price fluctuations, subsidy stability, and technological advancements on consumer demand would also enhance the understanding of electric two-wheeler adoption dynamics.

Conclusion

The study concluded that price inflation significantly impacts consumer demand for electric two-wheelers. Increasing production costs, battery prices, and reduced subsidies have raised affordability concerns, affecting purchasing behaviours. However, supportive factors such as environmental consciousness, reliable brands, and improved charging infrastructure help sustain the demand. Effective pricing strategies, consistent government incentives, and consumer awareness programs are essential to enhance the adoption of electric two-wheelers in India.

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