



# Study of Consumer Behavior on Electric Two-Wheeler Users in India

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## Abstract

Growing environmental concerns and the move towards sustainable transportation have led to increased adoption of electric vehicles, especially two-wheelers, in India. The objective of this study is to investigate the consumption behaviour of electric two-wheeler users in Dharwad district of Karnataka. By understanding the motivations, challenges and decision-making process of consumers in the region, this study aims to provide insights into the factors driving the adoption of electric two-wheelers. The findings will contribute to policymakers and manufacturers in developing targeted strategies to promote the use of electric vehicles in similar regions.

**Keyword:** Electric two-wheelers, Consumer behavior, Dharwad district, Sustainable transportation, Karnataka

## 1. INTRODUCTION

Electric vehicles (EVs), especially two-wheelers, are receiving more attention in India as a result of the growing need for environmentally friendly transportation options. The switch to electric vehicles is crucial because India, a rising nation, faces serious issues with air pollution, fuel dependence, and urban congestion. The nationwide adoption of electric two-wheelers has been further boosted by the government's drive for electric mobility as well as the implementation of subsidies and incentives.

Electric two wheelers are essentially plug-in electric vehicles. In these vehicles, power is supplied by a rechargeable battery, the lithium battery being the most preferred out of the many battery options available in the market today. Since these vehicles do not involve the burning of fossil fuels, they are considered to be zero emission vehicles.

With its blend of rural and urban areas, Karnataka's Dharwad district offers a special case study for researching how consumers behave when it comes to electric two-wheelers. Gaining insight into the elements affecting consumer choices in this area can help the wider adoption of electric vehicles in comparable situations.

This paper provides a thorough examination of the factors influencing consumer behavior toward electric two-wheelers in Dharwad district, offering actionable insights for stakeholders aiming to promote electric mobility in similar regions.

## 2. LITERATURE REVIEW

Several studies have explored consumer behavior in the context of electric vehicles, highlighting factors such as environmental consciousness, cost-effectiveness, and the availability of charging infrastructure as key drivers of adoption. However, most research has focused on urban centers or specific

consumer segments, leaving a gap in understanding the behavior of consumers in semi-urban or rural areas like Dharwad

This study builds on the existing literature by focusing on a semi-urban district, examining how local factors, such as income levels, awareness, and infrastructure availability, influence consumer behavior toward electric two-wheelers.

### 3. OBJECTIVES

The main purpose of this research is as follows.

1. Identify important factors that affect two -wheeled electric vehicles among consumers in the Dharwad region.
2. Analyze the demographic and socio-economic profile of electric two-wheeler users in the region.
3. Understand the challenges and obstacles consumers face in switching to electric two-wheelers.
4. Provide recommendations to policymakers and manufacturers to increase the use of electric two-wheelers in similar areas.

### 4. RESEARCH METHODOLOGY

#### 4.1 Research Design

This study used a descriptive research design to analyze consumer behavior towards electric two-wheelers in Dharwad district.

#### 4.2 Data Collection

- Data for this study was collected using a mixed-method approach incorporating both quantitative and qualitative methods.
- Primary Data: A structured questionnaire was distributed to a sample of 150 electric two-wheeler users from different areas of Dharwad district.
- A deep interview with the selected respondents was organized to get the detailed ideas of their motivation and questions.

### 5. RESULTS AND DISCUSSION

Major manufacturers are announcing plans to introduce electric versions of their best-selling models and significantly boost production in response to the growing demand for affordable electric two-wheelers. For example:

Ola asserts that their facility in India is the biggest two-wheeler factory in the world. Powered by more than 3000 AI-driven robots,

Okinawa Auto tech claims to be the most advanced two-wheeler manufacturing facility in the world, the Ola Future factory. With its mission to protect the environment, Okinawa Auto tech believes in progressing without abandoning Mother Nature by fostering a lifestyle that isn't just affluent on the outside. Hero just revealed that it intends to boost its production capacity to 5 million units.

**Whether or not respondents are willing to switch to electric vehicles and why**

**Table 1 Purchase EV**

S. No.	Purchase EV	Frequency	Percentage (%)
1	I shall definitely purchase one	50	50%
2	likely to buy one	25	25%
3	Definitely won't buy one	12.5	12.5%
4	I Don't Know	12.5	12.5%
	total	100	

-Showing Demographics of Respondents

Employee (25%)

25

Professional (25%)

25

Student (50%)

50

**5.1.** Respondents' Demographic Profile According to the report, young professionals between the ages of 25 and 35 make up the bulk of electric two-wheeler riders in the Dharwad district, and a sizable part of them are college students. The majority of consumers are middle-class, and when they decide to buy an electric two-wheeler, affordability is a major factor.

**5.2.** Elements That Affect Adoption According to the report, the key drivers behind the region's adoption of electric two-wheelers are environmental concerns, which are followed by fuel and maintenance cost reductions. Another important factor in increasing the appeal of electric two-wheelers to buyers is government subsidies and incentives.

**5.3. Difficulties Consumers Face Despite the advantages,** Dharwad consumers still encounter a number of obstacles while embracing electric two-wheelers.

## 6. CONCLUSION

The Dharwad district of Karnataka's customer behaviour with regard to electric two-wheelers has been thoroughly examined by this study. The results show that although interest in electric vehicles is rising, there are still major obstacles that must be removed to guarantee broader adoption. Policymakers and manufacturers may both play a significant role in supporting sustainable mobility options in comparable regions by concentrating on infrastructure development, awareness, and incentives.

The electric bike market in India faces several obstacles, but there is also a lot of room for expansion in this industry. In India, the demand for high-end, high-performance electric two-wheelers is rapidly increasing.

India is one of the leading countries in the adoption of 2W electric vehicles after China.

India is expected to sell 7.27 lakh 2W power units in FY23 and easily surpass that figure this year. Some of the companies have spread wide across the country.

Expanding at such scale and only then achieving a high penetration is a problem very unique to India and we are

solving for it at a brisk pace. The benefits of electric vehicles need to be considered in the long term, given that most manufacturers are investing now. For established businesses, the investment will be smaller as they leverage their existing scale, but for startups, the investment will be new and significant.

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