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Research Article

Assessing Customer Satisfaction in the Electric Scooter Market: Influence of Price, Advertisement, and Product Durability

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Abstract: The electric scooter market has witnessed significant growth, driven by an increasing demand for eco-friendly transportation solutions and innovations in personal mobility. Understanding the factors that influence customer satisfaction in this market is crucial for companies aiming to maintain a competitive edge. This study examines the influence of three key factors—price, advertisement, and product durability—on consumer satisfaction with electric scooters. By conducting surveys and interviews with a diverse sample of electric scooter users, we assess how each factor impacts customers' overall satisfaction levels and their likelihood of repeat purchase. The research also explores the interrelationships between these factors, identifying whether certain combinations of price, advertisement, and durability enhance or detract from the customer experience. Results suggest that while price and durability are significant predictors of satisfaction, advertisements also play an essential role in shaping consumer perceptions and driving purchasing decisions. The study concludes with actionable insights for electric scooter manufacturers and marketers to improve their offerings and marketing strategies, ultimately fostering higher levels of customer satisfaction and loyalty.

Keywords: eco- friendly transportation, repeat purchase, durability, competitive edge, personal mobility

INTRODUCTION

Electric motorcycles and scooters have seen steady growth in the Indian market. In 2019, 152.0 thousand electric motorbikes and scooters were sold, a 20.6 percent increase over 2014. Retail sales are predicted to reach 1,080.5 thousand units annually by the end of 2025, with a compound annual growth rate (CAGR) of 57.9% from 2020 to 2025. At a compound annual growth rate (CAGR) of 63.9 percent from 2020 to 2025, retail sales are projected to surpass $1.0 billion by that time. About 6% of the world's CO2 emissions come from burning fossil fuels, making India the third-largest carbon emitter in the world. According to IQ Air's 2019 report, 21 of the 30 most polluted cities in the world were in India. Furthermore, the WHO's Global Air Pollution Database (2018) shows that 14 of the world's 20 most polluted cities are in India. With 80% of all new car sales annually and 70% of the 200 million vehicles on the road, two-wheelers are the most common vehicle type in India. They contribute 20% of all CO2 emissions and about 30% of particulate matter (PM) emissions, making them a major source of pollution emissions in urban areas. Recent years have seen a number of initiatives by the federal, state, and local governments to lessen car pollution, such as tax exemptions, purchase rebates, and financial incentives for those who buy electric vehicles (EVs). The government's heightened emphasis on lowering the nation's pollution levels is encouraging for a strong regulatory push for electric two-wheelers, which will support the expansion of the Indian markets for electric motorcycles and scooters.

Benefits of using electric scooter

Economical to Work

Due to their high efficiency and fuel economy, EVs are less expensive to operate, which lowers costs for the owner. It costs roughly one-third as much per kilometre to charge an EV as it does to buy petrol for a car.

Lower Maintenance Costs

Compared to vehicles powered by traditional combustion engines, BEVs have fewer moving components. Because EVs don't require costly equipment like fuel injection and exhaust systems, they require less maintenance. In addition to having an electric propulsion system, which has fewer moving parts and reduces the depletion of petrol engine parts, PHEVs are more expensive than BEVs since they include a petrol engine and require maintenance.

Environment friendly

Because they produce no exhaust emissions, environmentally friendly EVs are less polluting. You can cut greenhouse gas emissions even further if you choose to charge your EV using renewable energy. Recycled plastic bottles, old scooter parts, and used appliances are some of the eco-friendly materials used to make some EVs, such the Nissan Leaf and the Ford Focus Electric, which are both made of recycled and bio-based components.

Health Advantages

Our health will benefit from improved air quality brought about by the decrease in dangerous emissions. Additionally, EVs make a lot less noise than cars powered

by petrol or diesel.

More secure

EVs are less prone to capsize because of their low centre of gravity. They are also less likely to experience explosions or fires. They are safer in collisions because of their more durable body composition.

Objectives of the study

1. **Examine the importance of pricing strategies** on customer satisfaction in the electric scooter market.
2. **Analyze the role of advertisements** in shaping consumer perceptions and satisfaction levels regarding electric scooters.
3. **Investigate how product durability** affects long-term customer satisfaction and loyalty in the electric scooter market.
4. **Provide recommendations** for manufacturers and marketers on how to optimize pricing, advertising strategies, and product quality to enhance customer satisfaction.

REVIEW OF LITERATURE

Ansar Manahila (2019) Customers have a wide range of options for goods and services to meet their needs and demands in this ever-changing world. Since consumers are seen as the market's kings, it is crucial for marketers to make customer satisfaction their top priority since doing so will tangentially increase their profits and foster greater customer loyalty. A consumer's purchasing behaviour is influenced by a number of factors, including his level of occupation and purchasing power. Based on a number of demographic variables, the primary goal of this research report is to determine how satisfied Honda Activa owners are with the scooters' performance and pricing. Primary and secondary data were gathered from the different Honda Activa users in Bengaluru for this purpose. SPSS software has been used to analyse the data. The results indicated that the Honda Activa was used by the majority of the female respondents. Young people expressed the highest degree of satisfaction with both comfort and performance.

In 2019, Dr. V. Rana Pratap highlighted that a product's success is largely determined by how its customers view it. Due to their incapacity to influence consumers' perceptions of their products, numerous brands have failed. In this situation, it becomes crucial for businesses to comprehend how customers view their offerings. Given this context, the current study aims to examine how consumers view two-wheelers in relation to the elements affecting their purchasing decisions, levels of satisfaction, and decision-making processes. The Suzuki Access two-wheeler has been selected for the investigation. Opinions from the respondent are gathered and examined. When it comes to two-wheelers, consumers' purchasing decisions are influenced by a number of significant product aspects, including price, safety, and mileage.

C.B.senthilkumar, G.Rajesh, RohiniBhatt, R.Mayakkannan, E.Kandeepan(2020) It was not anticipated at the time of bike development and commercialisation that women would also be the target market for the bikes. In any event, technological developments and improvements made it possible, and a new concept for designing motorcycles that appeal to women emerged in the industry. These days, both men and women are quite interested in unequipped bikes since they are very easy to ride and manage. The purpose of the study was to determine how satisfied Chennai city's Honda Activa buyers were. The examination is based on crucial data that was gathered from 100 Chennai city respondents in a systematic survey. The information for this research was gathered using an accommodation inspection method. Although the demographic representation of the respondents was revealed through rate study, the scientist used Garret rating scale procedures to break down the respondents' satisfaction level with the Honda Activa. The chi-square test has been used to examine the factors that influence the decision to buy a bicycle. High customer dedication would always result from surveying high customer worth.

Elliot Fishman and Christopher Cherry (2023), e-bikes are one of the automobile showcase's fastest-growing segments. In 2012, over 31 million e-bikes were sold. Research has followed this trend and provides a compilation of the most pertinent topics that have emerged in recent years on the growing e-bike market.

C Simon Washington, Nareiaee Haworth (2022) more than 700 urban localities currently have bicycle share schemes in place. Adaptability is one of the benefits of bicycle sharing that have been mentioned. motion of the body. Fuel consumption and emissions. Certain or explicit assumptions about the modes of transportation that bicycle share businesses replace are included in the calculation of program benefits.

James Belies, Pyrou Chung, James Macdonald (2021) conducted an investigation in 2021 on "Empowering E bike utilise: The control of intensity-assisted bikes in Australia and beyond is examined in this research. The current controls are examined, and the rationale for revising the guidelines in Australia is outlined. The analysis looks into the important concerns surrounding the controls that apply to these vehicles and identifies the actions that are anticipated to enable these vehicles to commit more fully to the urban transport task.

Hatwar, N.; Bisen, A.; Dodke, H.; Junghare, A.; Khanapurkar, M. (2020) proposed a novel strategy for e-bike design that uses a hybrid battery and super capacitor system to boost speed and circumvent issues with lengthy charging times and short battery lifespans.

Price, service quality, branding, and customer preferences are all regarded as crucial customer factors in the automotive sector, according to **Abdullah et al. (2019).** Understanding the relative significance of these dimensions could lead to more efficient resource allocation for services in the electric vehicle sector.

The study by **Nigam et al. (2023)** is predicated on how

satisfied customers are with Okinawa Electric bikes. In summary, the brand name, alarm system, and motor power are the final variables that impact customer happiness. Over 90% of those surveyed are content with the bike's cost, value for money, mileage, and maintenance.

According to **Sangeetha (2023)**, electric motorcycles are gradually but steadily entering the two-wheeler market. The competition in this industry has intensified due to the advent of electric motorcycles. Customers that care about the environment understand that pollution must be reduced. Users of electric bikes have a level of awareness that is considered revolutionary at this time since the traditional system that pollutes the environment needs to be replaced.

According to **Hussain, Ahmed, and Ali's (2022)** analysis, the respondents were "very satisfied" with the price, the ease of booking, and the timely pick-up and drop-off service; they were "satisfied" with the other components, which included convenience, speed, and safety. In summary, the market for Bykea electric bike services is dominated by three important factors: customer happiness, awareness-raising, and client preference. A customer's decision to utilize Bykea electric bike services is influenced by a number of factors, including convenience, brand, price, speed, safety, ease of booking, and alternatives for rapid pick-up and drop-off.

Proposed Hypothesis: To check the satisfaction of customers related with the factors like Price, advertisement and durability, following hypothesis needs to be checked

Hypothesis on Price Satisfaction

- **H_0:** There is no significant association between respondents' satisfaction levels and the price of the electric scooter.
- **H_1:** There is a significant association between respondents' satisfaction levels and the price of the electric scooter.

Hypothesis on Advertisement Influence

- **H_0:** The company's advertisement has no significant impact on respondents' satisfaction.
- **H_1:** The company's advertisement has a significant impact on respondents' satisfaction.

Hypothesis on Durability Satisfaction

- **H_0:** There is no significant difference in respondents' satisfaction levels regarding durability.
- **H_1:** There is a significant difference in respondents' satisfaction levels regarding durability.

RESEARCH METHODOLOGY

Exploratory research is conducted based on primary data collected from **120 respondents** having electric scooters. Both primary & secondary data has been collected for the purpose of data analysis. A well-structured questionnaire was designed to collect the primary data from the respondents and authentic sources were used for the collection of secondary data. The data was obtained from customers having electric scooters. **Judgment sampling** was used to obtain the sample of 120 respondents. For the purpose of data interpretation, **percentage analysis, weighted score ranking and Chi- Square test** were used to check the hypothesis.

Data Analysis & Interpretation

A. Percentage Analysis

Table 1: Consumer's source of influence related to electric scooters?

Sr. No.	Source of awareness	No. of respondents	Percentage
1	Advertisement	60	50
2	Friends	30	25
3	Relative	20	17
4	Others	10	8
	Total	120	100

The above table reveals that, 50% of the respondent's purchasing decision influenced by advertisement, 25% of the respondents purchasing decision influenced by friends, 17% of the respondents purchasing decision influenced by relative, 8% of the respondents purchasing decision influenced by others.

Table 2: Scooter battery preferred by consumers

Sr. No.	Battery Capacity	No. of respondents	Percentage
1	1200 watt motor	24	20
2	1500 watt motor	56	47
3	1800 watt motor	22	18
4	2000 watt motor	18	15
	Total	120	100

It is observed form the above table shows the total respondents of the study, 47% of the respondents prefer 1500 watt motor, 20% of the respondents covered 1200 watt motor, 18% of the respondents prefer 1800 watt motor and remaining 15% of the respondents prefer 2000 watt motor.

Table 3: The satisfaction level of consumers of electric scooter towards below mentioned factors

Sr. No.	Factors	Satisfied		Neutral		Dissatisfied		Total	
		No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)	No. of Respondents	Percentage (%)
1	Price	70	58	z30	25	20	17	120	100
2	Durability	50	42	30	25	40	33	120	100
3	Advertisement	65	54	10	8	45	38	120	100
4	Color	58	48	25	21	37	31	120	100
5	After sales service	53	44	28	23	39	33	120	100
6	Availability of spare parts	53	45	34	28	33	27	120	100
7	Resale value	35	29	75	63	10	8	120	100
8	Others	31	26	65	54	24	20	120	100

Based on the survey results, consumer satisfaction with electric scooters varies across several key factors. In terms of price, a majority of 58% of respondents express satisfaction, while 25% remain neutral and 17% are dissatisfied. Durability sees a lower satisfaction level, with only 42% satisfied, 25% neutral, and a notable 33% dissatisfied. Advertisement efforts are relatively well-received, with 54% satisfaction, 8% neutrality, and 38% dissatisfaction. Color options also score positively, with 48% of users highly satisfied, though 31% express dissatisfaction. After-sales service garners 44% satisfaction, 23% neutrality, and 33% dissatisfaction. Availability of spare parts is another critical area, where 45% are satisfied, 28% are neutral, and 27% are dissatisfied. Resale value, however, shows lower satisfaction levels, with only 29% satisfied, a dominant 63% neutral, and 8% dissatisfied. For other unspecified factors, only 26% report high satisfaction, while a majority of 54% are neutral, and 20% are dissatisfied. These findings suggest that while aspects like price, advertisement, and color receive relatively positive responses, areas such as durability, after-sales service, and resale value still require significant improvement to enhance overall consumer satisfaction in the electric scooter market.

B. Weighted score ranking analysis

Table 4: Important reason for purchasing electric scooter

Sr. No.	Factors	Total Score	Rank
1	Reasonable price	326	II
2	Easy availability	320	III
3	Product information	332	I
4	Eco friendly	318	IV
5	Others	220	V

It is noted from the above table, “Product Information” was ranked 1st with the score of 332, Reasonable price was ranked 2nd with the score of 326, Easy Availability was ranked 3rd with the score of 320, Eco friendly was ranked 4th with the score of 318 and other factors were ranked 5th score of 220.

Table 5: Problems faced while using electric scooter

Sr. No.	Factors	Total Score	Rank
1	High Price	226	II
2	Non-durability	138	IV
3	Poor dealer service	230	I
4	Less resale value	178	III
5	Others	125	V

It is noted from the above table, while using the electric scooter, Problem of poor dealer service was ranked 1st with the score 230, High Price cost was ranked 2nd with the score of 226, Less resale value was ranked 3rd with the Score 178, Non-durability was ranked 4th with the score 138 and Others were ranked 5th with the score 125.

Findings & Interpretation:

A. Percentage analysis

- **50% of respondents** reported being influenced by the company’s advertisements.
- **47% of respondents** prefer an electric scooter with a **1500-watt motor**.
- **50% of respondents** expressed satisfaction with the **price** of the electric scooter.

- **42% of respondents** are content with the **durability** of the electric scooter.
- **54% of respondents** are satisfied with the **advertising efforts** for the electric scooter.
- **48% of respondents** approve of the **color options** available for the electric scooter.
- **44% of respondents** are satisfied with the **after-sales service**.
- **45% of respondents** are pleased with the **availability of spare parts**.
- **63% of respondents** remain **neutral** or uncertain about the **resale value** of the electric scooter.
- **54% of respondents** are **neutral** regarding **other aspects** of the electric scooter.

B. Weighted score ranking analysis

- From the analysis it is concluded that majority of the respondents prefer purchase related product information
- From the analysis it is concluded that majority of the respondents have found the problem of poor dealer service related with electric scooter

Chi-Square Test: The chi- square test formula is as follows

$$\chi 2=\sum(O-E)^2 / E$$

Where, O = Observed Frequency (actual values from the survey)

E = Expected Frequency (calculated based on row and column total)

Factor	Satisfied	Neutral	Dissatisfied	Total
Price	70	30	20	120
Durability	50	30	40	120
Advertisement	65	10	45	120
Color	58	25	37	120
After-Sales Service	53	28	39	120
Spare Parts Availability	54	34	32	120
Resale Value	35	76	9	120
Other Factors	31	65	24	120
Column Totals	416	298	246	960

Chi-Square Statistic (χ^2): 144.97
Degrees of Freedom (df): 14
P-value: 7.26×10^{-24} (very small value)

Chi- Square test interpretation: Since the **p-value is much smaller than 0.05**, we **reject the null hypothesis (H_0)**. This means there is a **statistically significant association between the factors (price, durability, advertisement) and respondents' satisfaction levels**.

This suggests that respondents' satisfaction is **not random** but rather influenced by these factors.

Contribution of this paper to electric mobility & society:

1. Price Factor

- **Affordability**: Mostly, the developing cities have large middle-class population that prioritizes cost-effective transportation. Electric scooters are generally cheaper to operate than petrol-based two-wheelers due to lower fuel and maintenance costs.
- **Government Subsidies**: FAME-II (Faster Adoption and Manufacturing of Electric Vehicles) subsidies help reduce the upfront cost of electric scooters, making them more attractive.
- **Cost Comparison**: When comparing traditional two-wheelers, the long-term cost savings from fuel expenses and tax benefits make electric scooters a feasible option for many commuters.

2. Durability Factor

- **Battery Life & Performance**: The durability of an electric scooter is primarily dependent on battery quality. Companies offering longer battery life (like lithium-ion over lead-acid) gain more trust among consumers.
- **Road Conditions in Tier 2 cities**: Most of the Tier 2 cities have mix of urban and semi-urban roads, scooters with better shock absorbers and sturdy tires are preferred.
- **Maintenance & Lifespan**: Electric scooters require fewer mechanical repairs than petrol scooters, making them a good long-term investment.

3. Advertisement by Companies

- **Influence on Consumer Awareness**: Companies promoting their scooters through digital media, social media campaigns, and dealership promotions increase public interest.
- **Trust & Brand Recognition**: Companies like Ola Electric, Ather, and Hero Electric heavily advertise their durability and cost-effectiveness, influencing purchase decisions.

- **Local Dealership Marketing**: Availability and promotions through local dealerships impact how well the product reaches the target audience in cities.

CONCLUSION:

In conclusion, the electric scooter market is profoundly influenced by the interplay of price, advertisement, and product durability, with each factor significantly affecting customer satisfaction. While price sensitivity remains a strong consideration for customers, the durability of the product emerges as a crucial factor for ensuring long-term satisfaction and repeat purchases. Furthermore, advertisements have a noteworthy impact, not only in increasing consumer awareness but also in shaping perceptions of the product's value. The findings suggest that companies can enhance customer satisfaction by adopting a balanced pricing strategy, creating durable products, and designing targeted advertising campaigns that communicate both the functional and emotional benefits of electric scooters. Manufacturers and marketers should aim to build trust and transparency in their messaging, as customers increasingly seek products that offer both value and longevity. Future research could delve into more granular aspects, such as the role of brand reputation or environmental concerns, to further refine strategies for enhancing satisfaction in this growing market.

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