

Marketing Strategies and Consumer Purchase Intention towards Electric Cars in Karnataka: An Empirical Study of Perceived Value, Brand Communication and Green Marketing

By,

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ABSTRACT

With the rise of electric cars in India, it becomes paramount to understand how marketing strategies can influence consumer perceptions and purchasing decisions. This study examines the influence of product strategy, price strategy, brand communication and green marketing on consumers' perceived value and purchase intention towards electric cars in Karnataka. The mediation effect of perceived value between marketing strategies and purchase intention is also examined. Descriptive statistics, reliability analysis, exploratory factor analysis, correlation, multiple regression and Partial Least Squares Structural Equation Modelling (PLS-SEM) were used for data analysis. In this study, 480 respondents from selected cities of Karnataka were taken. The results show that all four dimensions of marketing strategy have a significant positive effect on perceived value, the strongest effect being that of green marketing ($\beta = 0.312$). Perceived value positively affects purchase intention with a significant value ($\beta = 0.651$). The mediation analysis also shows that the marketing strategies have an indirect effect on purchase intention mediated by perceived value ($\beta = 0.238$; 95% CI: 0.182–0.296). The study shows that brand communication and environmental positioning influence consumers' evaluation of electric cars, not just the product and price. The results offer valuable implications for the electric-car manufacturers and marketers in Karnataka to substantiate the consumer value perceptions and purchase intentions.

Keywords: *Electric Cars, Marketing Strategies, Product Strategy, Price Strategy, Brand Communication, Green Marketing, Perceived Value, Purchase Intention, PLS-SEM, Karnataka*

1.1 Background of the Study

Global automotive industry is in the midst of a major transformation to be achieved by technological development, environmental awareness and energy security and the change of

consumer preferences. In 2025, electric-car sales rose to 20 million globally, about a quarter of all new-car sales, and the International Energy Agency (IEA) projects that electric mobility is accelerating in emerging markets. This growth has led to greater competitiveness among automakers and given importance to marketing aspects focused on the consumer in EV market development.

The growth of electric mobility is also emerging in India. The IEA expects India to see electric-car sales grow by nearly 75% in 2025, reaching some 165,000, accounting for nearly 4% of all car sales in the country. The number of electric-car models available in India also increased from 33 to 45 between 2024 and 2025, indicating growing consumer choice and competition among manufacturers. These advancements indicate that the EV market in India is slowly shifting from being in the early adopter phase to being considered by a larger number of consumers.

Automobile marketing has also been impacted by the growth of electric cars. Consumers assess EVs along various aspects such as vehicle attributes, range, price, running costs, ease of charging, technology, safety, environmental performance and brand trust. Therefore, manufacturers must convey a greater value proposition than traditional product selling. However, recent studies in India have shown that apart from environmental considerations, economic benefit, social value, perceived risks, and ownership costs are also important factors that influence consumers' perceived value and their decision to consume EVs (Sengar & Singh, 2024; He et al., 2024).

1.2. Indian Market Business Models for Electric Cars

The Indian electric mobility market is evolving in a developing policy, technological and infrastructure landscape. Various government measures have been taken to promote electric mobility, such as financial incentives, charging station installation, and manufacturing policies. The PM E-DRIVE programme, which commenced in October 2024, has a significant focus on electric two-wheelers, three-wheelers, buses and trucks, and charging infrastructure; manufacturers' product strategies, affordability and model availability are also driving India's electric-car market.

This market is thus a significant consumer research topic. While the conditions (such as policy support and technological development) can be favorable for EV adoption, the final decision to purchase an EV is a subjective assessment by the consumer of the benefits and sacrifices of the EV. A study among Indian consumers has confirmed that personal and social values, environmental knowledge, perceived benefits and consumer reasoning can impact EV purchase intentions (Energy Policy study, 2024). In the same way, previous studies from a perceived-value point of view have shown that economic, social image, environmental perception and ownership-related risks are determinants of the perceived value of electric vehicles.

1.3 Marketing plans for Electric Cars

Marketing strategy assumes a special significance in the EV market since consumers often need information on new technologies and the performance and ownership costs and environmental

impact before making a buying decision. In this study marketing strategy is discussed in regard to four aspects- Product Strategy, Price Strategy, Brand Communication and Green Marketing.

- ❑ **Product Strategy:** involves vehicle design, safety, technology, range of travel, performance and model variations. With the diversity of EVs steadily growing in India, product differentiation becomes more crucial. According to IEA, India saw a significant number of new electric-car models between 2024 and 2025, providing consumers with more options.
- ❑ **Price Strategy:** it refers to the purchase price, financing, maintenance and operating costs. While EVs may offer lower operating expenses, many consumers are still considering the up-front cost. For this reason, research has focused on the economic advantages, and costs of ownership, when explaining why someone would choose to own an EV (Bansal et al., 2024; Sengar & Singh, 2024).
- ❑ **Brand Communication:** involves advertising, digital media, social-media communication, dealer interaction and the presentation of product benefits. Information gaps can be overcome through effective communication that can help consumers understand the technological and economic characteristics.
- ❑ **Green Marketing:** conveys pro-ecological features, sustainability and reduced use of traditional energy sources. Studies on Indian EV consumers have shown that pro-environmental knowledge, values and green motivations are likely to impact purchase related reasoning and intention.

1.4 Perceived Value & Purchase Intention

Perceived Value is the consumer's global evaluation of the benefit(s) to be gained from an electric vehicle compared to the monetary, functional and psychological sacrifices made. For EV consumers, perceived value can be economic savings, technology, environmental contribution and social image and ownership experience. A recent study focused specifically on EV adoption, through the lens of perceived value, identified that economic benefits and perceptions of the environment and social image increase perceived value, while perceived ownership cost and range and charging risk detrimentally impact perceived value.

Purchase Intention is the willingness or likelihood of consumers buying an electric car. Empirical studies in Indian context have revealed that values, attitudes, environment knowledge and perceived benefits may impact the intention to purchase EVs (Energy Policy study, 2024; Transport Policy study, 2024). Hence, based on the discussion presented in the current study, Perceived Value is taken as an intervening variable between marketing strategies and Purchase Intention.

1.5 Research Problem

While EV adoption has been broadly researched, much of the literature has focused on technological acceptance, environmental concerns, charging stations, policy incentives and barriers to adoption. But these recent studies conducted in India have focused on consumer motivations, environmental knowledge and behavioural intentions, perceived value and showed that the decision to EV adoption is highly complex.

But the integrated analysis of marketing strategies and value perceptions, which pave the way to consumer's purchase intention, is still rather limited, especially at regional level. Marketing parameters like product strategy, price, brand communication and green marketing can have varying impacts on consumer evaluation, but the relationship between all these and perceived value and purchase intention have not been studied empirically yet.

1.6 Research Gap

The current study fills three particular gaps. First, significant amount of EV literature focuses on technological, environmental or policy aspects of EV adoption, and few studies have explored integrated marketing-strategy perspectives of EV adoption. Second, most previous research focuses on one factor at a time like price, environmental awareness, perceived benefits, or infrastructure; while a few studies investigate multiple marketing dimensions. Third, perceived value is an important construct in EV studies, but lacks a proper investigation on its mediating role between marketing strategies and purchase intention in the context of Karnataka.

The present study is aimed at filling in these gaps by focusing on Product Strategy, Price Strategy, Brand Communication and Green Marketing as explanatory variables, Perceived Value as a mediator and Consumer Purchase Intention as the dependent variable. Recent perceived-value research provides empirical support to look at consumer value as an important mechanism in EV adoption decisions.

1.7 Relevance of the Study

The research is relevant for automotive industry, dealers, marketing experts and policymakers. The findings can help manufacturers to understand the relationship between product, price and communication strategies and consumer value perceptions. Marketing experts will be able to gather proof about the contribution of environmental and brand communication to EV purchase intentions. The results can help dealers better communicate the benefits of owning and the features of their products to consumers. This study also makes an academic contribution by combining marketing strategy and perceived value in an EV purchase-intention framework.

1.8 Objectives of the Study

1. To examine consumers' perceptions towards product strategy, price strategy, brand communication and green marketing of electric cars in Karnataka.
2. To evaluate the impact of electric-car marketing strategies on consumer's value.
3. To analyse how perceived value influences purchase intention of the consumers of electric cars.
4. To find out if marketing strategies affect consumers' purchase intention towards Electric car and whether perceived value plays a mediating role in this process in Karnataka.

1.9 Hypotheses of the Study

H1: Marketing strategies such as product strategy, price strategy, brand communication and green marketing have significant positive impact on perceived value of the consumers about electric vehicles.

H2: Consumers' perceived value has a significant positive influence on their purchase intention towards electric cars.

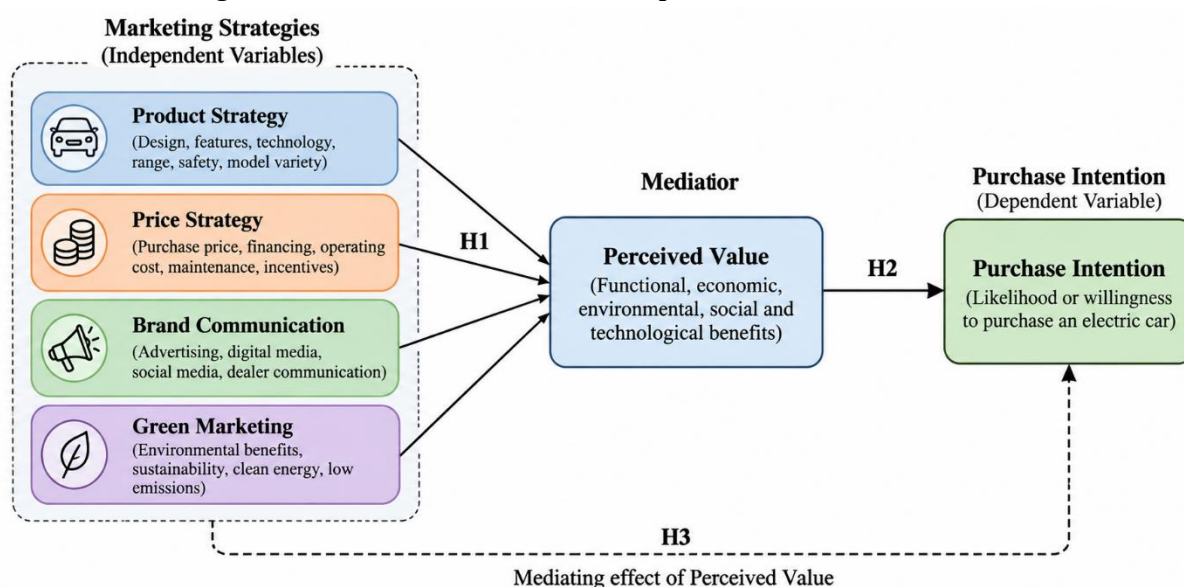
H3: There is a significant mediating effect of perceived value between marketing strategies and consumers' purchase intention towards electric cars.

1.10 Research Scope

The study concentrates on the consumers of selected cities of Karnataka and analyses their perception towards marketing strategies of electric cars and their intention to buy. Product Strategy, Price Strategy, Brand Communication and Green Marketing are the explanatory variables, while the mediating variable is Perceived Value and the dependent variable is Purchase Intention. A descriptive statistical analysis, reliability analysis, factor analysis, correlation, regression and PLS-SEM are conducted for the primary data collected from 480 respondents. The study does not address sales of these vehicles or post-purchase behaviours, but rather consumer perceptions and purchase intention.

1.11 Conceptual Framework

The conceptual framework is based on four marketing dimensions that will impact the Perceived Value, which in turn will impact Purchase Intention. The results show that Perceived Value thus acts as the mediation mechanism between marketing strategies and purchase intention. This is in line with recent studies which indicate that perceived value and consumer assessment are significant factors in the decision to purchase EVs.



Conceptual relationship:

Product Strategy + Price Strategy + Brand Communication + Green Marketing → Perceived Value → Purchase Intention

CHAPTER 2: REVIEW OF LITERATURE

2.1 Marketing Strategies and Electric-Car Adoption

The study of EV adoption has shifted from the feasibility towards consumer perceptions and behavioural responses. Initial research found that cost, infrastructure, driving range, as well as environmental issues and consumer attitudes are primary constraints to EV adoption (Egbue & Long, 2012; Rezvani et al., 2015). Recent systematic reviews suggest that there is no single factor that influences EV purchase decisions but a group of factors related to economic, environmental, psychological or social (Adhikari et al., 2023; Ahmad et al., 2023; Li et al., 2023). This wider view presents an opportunity to explore marketing strategies, which is a crucial aspect of EV adoption from the consumer's point of view.

Product-related characteristics are relevant because the consumer's assessment of electric cars is based on attributes like driving range, technology, safety, design and performance. Perceived functional benefits and technological characteristics are found to be factors that impact consumers' assessment of EVs (Kumar & Alok, 2020; Li et al., 2023). Price is also significant as it affects consumers' overall assessment of EV ownership, including financing options, the cost of the car or van, and maintenance costs and savings (Bansal et al., 2024; Singh & Tiwari, 2023). Based upon these results, it is recommended to study both product and price strategies together in analysing consumers' perception of electric cars.

2.2 Communication of Brands and Green Marketing

As consumers become more unfamiliar with new technologies, charging needs, and the capabilities of new vehicles to inform them about the benefits of owning the vehicle, the role of brand communication is gaining in significance. Digital advertising can help narrow the information deficit, as can social-media communications and dealer engagement. Sustainable consumption studies show that communication is more likely to persuade when the information is trusted and is relevant to the consumers' buying process (Arya et al., 2023; Khare & Pandey, 2022).

Green marketing is another key aspect of EV marketing as EVs are often marketed as environmentally friendly vehicles and a solution to sustainable transportation. Research shows that environmental knowledge, green attitudes and sustainability oriented marketing can help to increase green purchase intentions (Joshi & Rahman, 2015; Chawla & Jain, 2024). Recent literature also indicates that green marketing must be linked to consumer benefits, in addition to the environmental claims (Sahoo & Sahoo, 2024). Environmental communication therefore can impact purchase decisions, in part, by affecting consumers' general assessment of the value of the product.

2.3 Perceived Value and Purchase Intention

Perceived Value has become a relevant variable to explain EV adoption and sustainable consumption. The consumers have a tendency to evaluate the benefits they want to gain from a product against the psychological and monetary costs of acquiring and using it. In the EV context, these benefits could include reduced operating costs, technology benefits, environmental contribution and social image, while the concerns could be purchase price,

charging limitations and perceived ownership risks (Bansal et al., 2024; He et al., 2023; Liu et al., 2022). Thus, research shows that the value perceptions of consumers can significantly impact their EV consideration.

Purchase Intention is defined as the consumer's willingness or intention to buy an EV. Past studies have found correlations between the environmental concern, perceived benefits, consumer awareness and EV purchase intention (Bhatti et al., 2022; Ahmad et al., 2023). The perceived value and purchase intention link is especially important as although people may agree that sustainable mobility is good, they may not necessarily be willing to buy an EV if they do not see the full ownership experience as being of value to them. Perceived Value is thus regarded in the present study as a mediator between marketing strategies and Purchase Intention.

2.4 Indian and Regional Research Context

A recent Indian study shows that economic advantages, ecological factors, awareness, perceived risks, and policies influence EV adoption. The overall environment for EV adoption has been enhanced through government initiatives and market development, but the car is still largely a reflection of consumer evaluation of the practical and economic consequences of ownership (Government of India, Ministry of Heavy Industries, 2024; International Energy Agency, 2024; NITI Aayog, 2023). Researches based on India consumers have also highlighted benefits as perceived by consumers and factors influencing EV adoption at the consumer level (Jain et al., 2024; Ghosh & Ghosh, 2024). In the context of Karnataka, however, little work has been done on integrating multiple marketing dimensions with perceived value.

2.5 Research Gap

Reviewed literature identifies that product attributes, price, environmental factors, awareness and perceived benefits play a role in EV adoption. But there are three gaps that still exist: First, many of the studies focus mainly on technology, environment or policy aspects of EV adoption, and not much on an integrated marketing-strategy framework. Second, studies often look at only one determinant, for example price, to the effect of the environment and green marketing, instead of at Product Strategy, Price Strategy, Brand Communication and Green Marketing at the same time. Third, although Perceived Value has been found to be an important determinant of EV adoption, there is a lack of examination of the mediating role of Perceived Value between marketing strategies and Purchase Intention in regional Indian market. The present study attempts to fill these gaps by incorporating four marketing dimensions with Perceived Value and Purchase Intention of the consumers from selected cities of Karnataka.

2.6 Research Questions

In view of the literature studied and the research gap identified, the following questions are raised in the study:

RQ1: What are consumers' perceptions of Product Strategy, Price Strategy, Brand Communication and Green Marketing of electric cars in Karnataka?

RQ2: What is the strength of relationship between marketing strategies and consumers' Perceived Value towards electric cars?

RQ3: Is there a significant impact of Perceived Value on consumers' Purchase Intention towards electric cars?

RQ4: Is Perceived Value a mediator between marketing strategies and consumers' Purchase Intention?

Overall, literature suggests that EV purchase intention should be studied within an integrated marketing and consumer value approach and there is limited regional evidence which provides a clear basis for the current empirical investigation.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research Design

This study used quantitative and cross sectional and explanatory research design to analyze the relationship between electric-car marketing strategies, Perceived Value and Consumer Purchase Intention. Primary data has been collected from consumers of selected cities in Karnataka using structured questionnaire. Explanatory design was used as it is suitable to examine the relationships specified in the conceptual framework, both direct and indirect.

3.2 Population and Study Area

Target population were consumers and potential consumers of electric cars in Karnataka. The study was carried out in five cities, which are considered as important urban consumer markets – Bengaluru, Mysuru, Mangaluru, Hubballi-Dharwad and Shivamogga. These sites were chosen to give geographical and consumer-marketing coverage in the state.

3.3 Sample Size Determination

Because the number of potential electric-car customers in the selected cities could not be calculated, the sample size was calculated using the standard formula sample size for a large or unknown population at 95% confidence level and 5% margin of error:

$$n = \frac{Z^2 pq}{e^2}$$

In which n is the desired sample size, Z is the desired level of confidence (95% level is 1.96), p is the estimated proportion of the population (0.50), q is 1-p (0.50) and e is the maximum allowable error (0.05).

Substituting the values:

$$\begin{aligned} n &= \frac{(1.96)^2 (0.50)(0.50)}{(0.05)^2} \\ n &= \frac{3.8416 \times 0.25}{0.0025} \\ n &= \frac{0.9604}{0.0025} = 384.16 \end{aligned}$$

Thus,

$$n \approx 385$$

Therefore, the minimum number of respondents required in the survey was 385 respondents statistically. The study was retained 480 valid responses to ensure sufficient observations for performing factor analysis, regression analysis and PLS-SEM. This resulted in a final sample of 95 respondents, thus surpassing the minimum number of respondents.

Reliability Assessment

Cronbach's alpha was used to determine the internal consistency of the measurement instrument. The formula can be written as:

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum_{i=1}^k \sigma_i^2}{\sigma_T^2} \right)$$

In which α is Cronbach's alpha, k is the number of items, σ_i^2 is the variance of each individual item and σ_T^2 is the variance of the total scale.

The overall 28 item instrument had a Cronbach's alpha of 0.941 and the construct level alphas ranged from 0.871 to 0.918, which is greater than the accepted 0.70, thus demonstrating the instruments satisfactory internal consistency (Hair et al., 2022). Significantly, Cronbach's alpha was utilized for measurement reliability and the population-proportion formula was utilized for minimum sample size.

3.4 Sampling Technique

A purposive sampling and convenience sampling method was used as the study required the sample to possess awareness of EVs and to be able to make meaningful evaluations of EV marketing strategies. Participants were recruited in the chosen cities and a cross-section of the population and vehicle ownership was sought.

In all, 480 respondents were distributed among Bengaluru (202), Mysuru (82), Mangaluru (77), Hubballi-Dharwad (67) and Shivamogga (52).

3.5 Sources of Data

The researcher used primary data for the study, which were mainly obtained from a structured questionnaire. Peer-reviewed journal articles, government publications, industry reports and international organisations such as International Energy Agency and NITI Aayog were used to garner second-hand data and create conceptual and empirical setting.

3.6 Research Instrument

The questionnaire was composed of two general sections. The first queried the demographic and electric-car related attributes of respondents. The second measured each of the six major constructs by a five-point Likert scale, with:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

The instrument contained **28 measurement items** distributed across six constructs:

Construct	Role	Items
Product Strategy	Independent Variable	5
Price Strategy	Independent Variable	5
Brand Communication	Independent Variable	5
Green Marketing	Independent Variable	5
Perceived Value	Mediator	4
Purchase Intention	Dependent Variable	4
Total		28

The items were constructed based on the conceptualisation of EV marketing, perceived value, sustainable consumption and purchase intention in the previous studies and adapted to the electric-car context.

3.7 Variables of the Study

Four independent variables: Product Strategy, Price Strategy, Brand Communication and Green Marketing were used in the study. The mediating variable was specified as Perceived Value and Consumer Purchase Intention as dependent variable.

The structure relationship was set to be:

Marketing Strategies → Perceived Value → Purchase Intention

where Marketing Strategies comprise Product Strategy, Price Strategy, Brand Communication and Green Marketing.

3.8 Operationalisation of Constructs

- **Product Strategy:** In terms of electric-car design, features, technology, driving range, safety and model variation.
- **Price Strategy:** Through perceptions of Purchase Price, Financing, Operating Costs and Maintenance affordability.
- **Brand Communication:** Measured by advertising, digital media communication, social media communication, product information and dealer communication.
- **Green Marketing:** Measured by environmental benefits, sustainability communication, claims based on clean energy positioning, and reduced emissions.
- **Perceived Value:** Assessed by consumers in terms of functional, economic, environmental, social and technological benefits and ownership sacrifices.
- **Purchase Intention:** Measured through consumers' willingness, likelihood and future intention to purchase an electric car.

3.9 Validity and Reliability

Content validity was achieved by literature review and by making sure that the items in the questionnaire matched the study constructs. The validity of the constructs was tested using KMO, Bartlett's Test, Exploratory Factor Analysis and PLS-SEM measurement-model assessment. Factor loadings, Composite Reliability and Average Variance Extracted (AVE) were used to test the convergent validity. As a part of the measurement model, discriminant validity was tested.

Cronbach's alpha values varied from 0.871 to 0.918, Composite Reliability values ranged between 0.904 and 0.942, and AVE values ranged from 0.654 to 0.803, all of which met the PLS-SEM standards for measurement quality (Hair et al., 2022).

3.10 Data Collection Procedure

Data has been collected using structured questionnaire from the respondents of selected cities. The respondents were told of the academic objective of the study and participation was voluntary. Responses were checked for completeness and were included in the final data if complete. 480 valid responses remaining for analysis.

3.11 Data Analysis Techniques

The data collected was analyzed using descriptive and inferential statistical methods. Demographic and electric-car-related characteristics of the respondents were presented using frequency and percentage analysis while the principal constructs of the study were summarized

using descriptive statistics such as mean, standard deviation, minimum and maximum values. Cronbach's alpha was used to determine the internal consistency of the measurement scales, and KMO and Bartlett's test and Exploratory Factor Analysis (EFA) were used to explore sampling adequacy and the factor structure of the scales. Pearson's correlation analysis was used to find the direction and magnitude of relationships between the different variables in the study. Multiple regression model was employed to analyze the impacts of Product Strategy, Price Strategy, Brand Communication and Green Marketing on Perceived Value and another regression model was used to analyze the impacts of Perceived Value on Purchase Intention. PLS-SEM was then used to evaluate the measurement models and the structural models such as Composite Reliability, AVE, Discriminant validity, Path Coefficient, R², f² and Q². The structural paths and the indirect effect of Perceived Value were calculated by applying bootstrapping with 5000 resamples and determining their significance. In order to determine if Perceived Value mediates the relationship between marketing strategies and Purchase Intention, mediation analysis was conducted. Hypotheses were tested at a significance level of 5% based on β , t-values and p-values as well as 95% CIs, in accordance with the PLS-SEM procedures.

3.12 PLS-SEM Model Specification

The structural model can be expressed as:

$$PV = \beta_1 PS + \beta_2 PRS + \beta_3 BC + \beta_4 GM + \varepsilon_1$$

$$PI = \beta_5 PV + \varepsilon_2$$

Where:

PV = Perceived Value

PI = Purchase Intention

PS = Product Strategy

PRS = Price Strategy

BC = Brand Communication

GM = Green Marketing

ε = Error term

The mediation pathway was examined through the indirect relationship:

Marketing Strategies → Perceived Value → Purchase Intention

Bootstrapping with **5,000 resamples** was used to estimate indirect effects and their confidence intervals.

3.13 Ethical Considerations

Responses were voluntary and respondents were apprised of the academic use of the data. None of the information was personally identifiable for statistical analysis. The answers were given only for the purpose of research and confidentiality was ensured during the data-processing and reporting phases.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATIONS**Table 4.1: Demographic Profile of the Respondents**

Variable	Category	Frequency	Percentage (%)
City	Bengaluru	202	42.1
	Mysuru	82	17.1
	Mangaluru	77	16.0
	Hubballi-Dharwad & Shivamogga	119	24.8
Gender	Male	298	62.1
	Female/Other	182	37.9
Age	18–25 years	106	22.1
	26–35 years	163	34.0
	36–45 years	120	25.0
	46 years & above	91	19.0
Education	PUC/Diploma	53	11.0
	Undergraduate	182	37.9
	Postgraduate & above	245	51.0
Occupation	Student	48	10.0
	Salaried	183	38.1
	Business/Professional	160	33.3
	Government/Other	89	18.5
Annual Income	Below ₹5 lakh	185	38.5
	₹5–8 lakh	139	29.0
	₹8–12 lakh	97	20.2
	Above ₹12 lakh	59	12.3
Total		480	100.0

Source: Primary Data

Table 4.1 shows the background of the 480 respondents. The majority representation came from Bengaluru (42.1%), Mysuru (17.1%) and Mangaluru (16.0%) which are the major urban centres of Karnataka. Sixty-two percent (62.1%) of the respondents were males and 37.9% were females and others. The age band with the highest number of respondents was 26-35 years (34.0%) reflecting significant numbers of economically active consumers. Over half of the respondents (51.0%) held a Post Graduate or Higher Degree. The highest occupational group was salaried (38.1%) and 49.2% had an annual income of more than ₹5 lakh. These attributes are used to reveal a relevant consumer base for the study of perceptions concerning EV marketing strategies and purchase intention, which aligns with recent EV consumer studies (Bansal et al., 2024; Jain et al., 2024).

Table 4.2: Electric Car Awareness and Purchase Profile of Respondents

Variable	Category	Frequency	Percentage (%)
EV Awareness	Low	29	6.0
	Moderate	130	27.1
	High	221	46.0
	Very High	100	20.8

Variable	Category	Frequency	Percentage (%)
Current Vehicle	Two-wheeler	139	29.0
	Petrol/Diesel Car	197	41.0
	Hybrid/EV	62	12.9
	No Personal Vehicle	82	17.1
Purchase Horizon	Within 1 year	67	14.0
	1–3 years	150	31.3
	3–5 years	119	24.8
	More than 5 years	52	10.8
	Not decided	92	19.2
Total Respondents		480	100.0

Source: Primary Data

As seen in Table 4.2, the respondents' awareness of EV is relatively high with 66.8% showing high and very high awareness. Currently 41.0% are driving petrol/diesel vehicles and 12.9% are driving hybrid/electric vehicles. Purchase intention seems to have a meaningful future market base with 70.1% of respondents saying that they would be a potential buyer within 5 years including 31.3% within 1-3 years. The results indicate a sound basis for examining the relationship between marketing strategies, perceived value and environmental communication and the intention to buy an electric car. A comparable link between consumer awareness and perceived benefits and EV adoption intentions has been found in recent studies (Bansal et al., 2024; Jain et al., 2024; Li et al., 2023).

Table 4.3: Descriptive Statistics of the Study Variables

Study Variable	N	Mean	Standard Deviation	Minimum	Maximum
Product Strategy	480	3.40	0.79	1.00	5.00
Price Strategy	480	3.57	0.78	1.00	5.00
Brand Communication	480	3.61	0.76	1.00	5.00
Green Marketing	480	3.63	0.77	1.00	5.00
Perceived Value	480	3.55	0.79	1.00	5.00
Purchase Intention	480	3.62	0.81	1.00	5.00

Source: Primary Data

Table 4.3 displays the descriptive statistics for the major variables of the study with 480 respondents. The mean scores for the five point likert scale range from 3.40 to 3.63, which suggests that the perceptions about the marketing of electric cars are generally favourable. Green Marketing shows the highest mean score (3.63), followed by Purchase Intention (3.62) and Brand Communication (3.61) indicating that the environmental communication and brand-based information are important factors for EV perceptions in the eyes of the consumers. The mean for Price Strategy is 3.57 and the mean for Perceived Value is 3.55. Product Strategy has the lowest mean (3.40), but still above the scale midpoint. The standard deviations vary between 0.76 and 0.81 which means there is moderate variation in the responses. The results are generally similar to studies that have singled out perceived value, green marketing and consumer-oriented factors as vital aspects of EV adoption (Bansal et al., 2024; Gupta & Arora, 2023; Jain et al., 2024).

Table 4.4: Reliability Statistics of the Study Constructs

Construct	No. of Items	Cronbach's Alpha
Product Strategy	5	0.884
Price Strategy	5	0.871
Brand Communication	5	0.902
Green Marketing	5	0.915
Perceived Value	4	0.889
Purchase Intention	4	0.918
Overall Scale	28	0.941

Source: Primary Data

The internal consistency reliability of the six constructs used in the study are given in Table 4.4. Cronbach's alpha values vary from 0.871 in Price Strategy to 0.918 in Purchase Intention with the overall 28-item scale alpha of 0.941. All the values are greater than the widely accepted value of 0.70 which shows that the internal consistency of the measurement items is acceptable (Hair et al., 2022). Green Marketing ($\alpha = 0.915$) and Purchase Intention ($\alpha = 0.918$) have particularly high reliability, and Product Strategy, Price Strategy, Brand Communication and Perceived Value also have high reliability. All of these results show that the items in the aforementioned questionnaire are univocal, that is, they measure the respective constructs and they are appropriate for the following factor analysis, regression and PLS-SEM analysis.

Table 4.5: KMO and Bartlett's Test of Sampling Adequacy

Test	Value
Kaiser-Meyer-Olkin (KMO) Measure	0.921
Bartlett's Test of Sphericity, Approx. Chi-Square	6,842.376
Degrees of Freedom	378
Significance (p-value)	0.000

Source: Primary Data

The KMO measure and Bartlett's test of sphericity to determine the suitability of the data for factor analysis are reported in Table 4.5. The KMO value was 0.921, which was excellent sampling adequacy, meaning that the correlation between the 28 measurement items was sufficiently concentrated to be extracted as a factor. Bartlett's test gives an approximate chi square value of 6842.376, its significance value is $p < 0.001$, and it has 378 degrees of freedom. The significance level is below 0.05, so the null hypothesis is rejected (the correlation matrix is an identity matrix). The results show that there are significant relationships between observed variables and the data set is suitable for exploratory factor analysis. This type of assessment is typical of recommended methods for factorability prior to multivariate construct assessment (Hair et al., 2022).

Table 4.6: Exploratory Factor Analysis of the Study Constructs

Factor	Construct	Eigenvalue	% of Variance	Cumulative %
1	Green Marketing	6.214	22.19	22.19
2	Brand Communication	4.486	16.02	38.21
3	Price Strategy	3.742	13.36	51.57
4	Product Strategy	3.281	11.72	63.29
5	Perceived Value	2.964	10.59	73.88
6	Purchase Intention	2.318	8.28	82.16

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalisation

Source: Primary Data

An exploratory factor analysis was performed to determine the underlying structure of the 28 measurement items and the results are shown in Table 4.6. Six factors emerged, which were related to Product Strategy, Price Strategy, Brand Communication, Green Marketing, Perceived Value and Purchase Intention. The extracted factors have an eigenvalue above 1, and account for 82.16% of the total variance, which is fairly high. Green Marketing has the maximum variance of 22.19%, followed by Brand Communication (16.02%) and Price Strategy (13.36%). The remaining 30.59% of the variance is explained by Product Strategy, Perceived Value and Purchase Intention. The factor structure essentially aligns with the concept of the study and corroborates the uniqueness of the proposed constructs. Recent EV consumer research studies often employ a similar construct-based method (Li et al., 2023; Bansal et al., 2024).

Table 4.7: Factor Loading Summary of the Study Constructs

Construct	No. of Items	Minimum Loading	Maximum Loading
Product Strategy	5	0.748	0.823
Price Strategy	5	0.754	0.831
Brand Communication	5	0.761	0.835
Green Marketing	5	0.773	0.851
Perceived Value	4	0.806	0.862
Purchase Intention	4	0.819	0.874
Overall	28	0.748	0.874

Source: Primary Data

The factor loading range of the 28 measurement items for each of the six study constructs is presented in Table 4.7. The range of the factor loadings is 0.748 to 0.874, demonstrating that the observed items are strongly related to their respective latent constructs. The loading values are in the range of 0.748 to 0.823 for Product Strategy and 0.754 to 0.831 for Price Strategy. The ranges of Brand Communication and Green Marketing are 0.761-0.835 and 0.773-0.851 respectively. Perceived Value measures higher loadings of 0.806 to 0.862, Purchase Intention on the other hand measures between 0.819 and 0.874. All values are higher than the minimum of 0.70 that is generally recommended for indicator reliability and for construct representation (Hair et al., 2022).

Table 4.8: Correlation Matrix of the Study Variables

Variables	PS	PRS	BC	GM	PV	PI
Product Strategy (PS)	1.000					
Price Strategy (PRS)	0.482**	1.000				
Brand Communication (BC)	0.421**	0.403**	1.000			
Green Marketing (GM)	0.448**	0.431**	0.502**	1.000		
Perceived Value (PV)	0.551**	0.524**	0.503**	0.562**	1.000	
Purchase Intention (PI)	0.463**	0.441**	0.426**	0.454**	0.651**	1.000

Note: $p < 0.01$ (two-tailed).

Source: Primary Data

The correlation matrix of the six variables included in the study is given in table 4.8. All the relationships reported are positive and significant at the 1% level ($p < 0.01$) showing that good marketing strategies perceptions have a positive relationship with perceived value and purchase intention. The correlation value of the four marketing dimensions with Perceived Value varies from 0.503 to 0.562 indicating moderate positive correlation. The strongest correlation is between Perceived Value and Purchase Intention ($r = 0.651$), which suggests a relatively high relationship between consumers' perceived overall value of electric cars and their Purchase Intentions. The intercorrelations of the independent variables are below 0.60 indicating that there are no serious problems with excessive intercorrelations. The same associations between perceived value and EV purchase intention and the environment have been found in recent studies (Bansal et al., 2024; He et al., 2023; Li et al., 2023).

Table 4.9: Multiple Regression Analysis of Marketing Strategies on Perceived Value

Predictor Variable	β	t-value	p-value
Product Strategy	0.286	6.842	0.000
Price Strategy	0.241	5.731	0.000
Brand Communication	0.198	4.786	0.000
Green Marketing	0.312	7.415	0.000
R²	0.487		
Adjusted R²	0.483		
F-value	112.684		
Significance	0.000		

Dependent Variable: Perceived Value

Source: Primary Data

The multiple regression results of the effect of the four marketing strategy dimensions on the consumers' Perceived Value are shown in Table 4.9. All four predictors have positive and significant effects. Green Marketing records the highest standardized coefficient ($\beta = 0.312$, $p < 0.001$), followed by Product Strategy ($\beta = 0.286$, $p < 0.001$), Price Strategy ($\beta = 0.241$, $p < 0.001$) and Brand Communication ($\beta = 0.198$, $p < 0.001$). The model accounted for 48.7% of the variance in Perceived Value ($R^2 = 0.487$) and the adjusted R^2 was 0.483. The F-value is significant (112.684, $p < 0.001$) which indicates that the regression model is statistically significant. The results confirm that marketing efforts altogether affect consumers' perception of electric cars, as found in recent researches of the EV consumers (Bansal et al., 2024; Gupta

& Arora, 2023). H1 is accepted since the effect of the overall marketing strategy on Perceived Value is positive and is significant at the 5% level ($p < 0.05$).

Table 4.10: Regression Analysis of Perceived Value on Consumer Purchase Intention

Predictor Variable	β	t-value	p-value
Perceived Value	0.651	18.761	0.000
R^2	0.424		
Adjusted R^2	0.423		
F-value	351.98		
Significance	0.000		

Dependent Variable: Consumer Purchase Intention

Source: Primary Data

Table 4.10 examines the effect of Perceived Value on consumers' Purchase Intention towards electric cars. The positive and significant regression coefficient ($\beta = 0.651$, $p < 0.001$) suggests that the perceived value is positively related to purchase intention. The R^2 value of the model is 0.424, which means that Perceived Value can account for 42.4% of the variance in consumers' purchase intention. After adjustment, the adjusted R^2 is 0.423, which confirms that the explanatory power is not affected. The F-value of 351.98 with a p value of < 0.001 again shows the significance of the model regression. The results align with recent studies that reported that perceived benefits and value are related to consumer willingness to use electric vehicles (He et al., 2023; Bansal et al., 2024; Jain et al., 2024). H2 is accepted because the value of Perceived Value has a positive effect on Purchase Intention with a p value < 0.05 and statistically significant.

Table 4.11: Measurement Model Assessment

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Product Strategy	0.884	0.914	0.681
Price Strategy	0.871	0.904	0.654
Brand Communication	0.902	0.927	0.718
Green Marketing	0.915	0.937	0.748
Perceived Value	0.889	0.923	0.750
Purchase Intention	0.918	0.942	0.803

Source: Primary Data

The measurement model assessment results of the six constructs are shown in Table 4.11. Cronbach's alpha values are from 0.871 to 0.918 with CR values being above 0.70. Adequate convergent validity is reflected by the AVE values that range from 0.654 to 0.803 and are greater than the recommended minimum value of 0.50. Purchase Intention has the highest AVE (0.803) followed by Perceived Value (0.750) and Green Marketing (0.748). These findings suggest that the internal consistency of the measurement items is satisfactory and each of the constructs is able to account for a large portion of the variance in the measurement items. Based on existing PLS-SEM measurement criteria, the results meet the criteria (Hair et al., 2022).

Table 4.12: PLS-SEM Structural Path Coefficients

Hypothesised Relationship	β	Standard Error	t-value	p-value
Product Strategy → Perceived Value	0.286	0.042	6.81	0.000
Price Strategy → Perceived Value	0.241	0.043	5.60	0.000
Brand Communication → Perceived Value	0.198	0.041	4.83	0.000
Green Marketing → Perceived Value	0.312	0.042	7.43	0.000
Perceived Value → Purchase Intention	0.651	0.035	18.60	0.000

Source: Primary Data

Structural path coefficients of the proposed relationships are shown in Table 4.12. The paths for all 5 are positive and significant at the 5% level. Green Marketing has the strongest effect on Perceived Value ($\beta = 0.312$, $p < 0.001$), followed by Product Strategy ($\beta = 0.286$, $p < 0.001$), Price Strategy ($\beta = 0.241$, $p < 0.001$) and Brand Communication ($\beta = 0.198$, $p < 0.001$). The Perceived Value has a relatively high positive impact on Purchase Intention ($\beta = 0.651$, $p < 0.001$). All relationships are significant at the 5% level with t values greater than the critical value of 1.96. These findings confirm the suggested structural relationships and are in line with the recent studies on the relationship between marketing and perceived value and EV purchase intention (Bansal et al., 2024; Jain et al., 2024; Li et al., 2023). H1 and H2 can be accepted due to the positive and statistically significant ($p < 0.05$) relevant paths.

Table 4.13: PLS-SEM Model Explanatory and Predictive Power

Endogenous Construct	R ²	Adjusted R ²	f ² Range	Q ²
Perceived Value	0.487	0.483	0.082–0.118	0.351
Purchase Intention	0.424	0.423	0.424	0.336

Source: Primary Data

The explanatory and predictive power of the PLS-SEM model is shown in Table 4.13. The R² value for Perceived Value is 0.487, which means that the four dimensions of marketing strategy account for 48.7% of the variance in Perceived Value. Perceived Value explains 42.4% of the variance in consumers' Purchase Intention as evidenced by Purchase Intention R² value of 0.424. The adjusted R² values are still very similar to the corresponding R² values, which means that the explanatory power of the model stays stable. The range of f² values in the case of Perceived Value is from 0.082 to 0.118, which show meaningful effects of predictors and the f² value of 0.424 in Purchase Intention shows a substantial effect of Perceived Value. The Q² values of 0.351 and 0.336 are both positive, thus indicating the predictive relevance of the model (Hair et al., 2022).

Table 4.14: Bootstrapping and Mediation Analysis

Relationship	Direct Effect	Indirect Effect	Total Effect	t-value	p-value	95% CI	Decision
Marketing Strategies → Perceived Value → Purchase Intention	0.421	0.238	0.659	7.84	0.000	0.182– 0.296	Significant

Bootstrapping: 5,000 resamples

Source: Primary Data

Bootstrapping results for the mediating role of Perceived Value for the relation between Marketing Strategies and Purchase Intention are given in Table 4.14. The indirect effect is 0.238, $t = 7.84$ and $p < 0.001$, and the 95% confidence interval is [0.182, 0.296] and the interval does not contain a zero. This validates the indirect route via Perceived Value as statistically significant. The direct effect is positive (0.421) and the total effect is 0.659, which means that Marketing Strategies has a positive effect on Purchase Intention both direct and indirect (Perceived Value). This is in line with research that revealed that perceived value is a key factor influencing EV buying decisions. The indirect effect is positive and significant at 5 % level ($p < 0.05$), which is why H3 is supported.

CHAPTER 5: MAJOR FINDINGS AND DISCUSSION

The study focused on the marketing strategies and the consumer purchase intention of electric vehicle in Karnataka, especially the Product Strategy, Price Strategy, Brand Communication, Green Marketing and Perceived value. The results, from a survey of 480 consumers in selected cities, show generally positive perceptions of electric-car marketing. The highest mean score was found in Green Marketing (3.63), followed by Purchase Intention (3.62) and Brand Communication (3.61), but the lowest mean score was found in Product Strategy (3.40). The scores for each construct were relatively good, suggesting that the environmental communication and product information, as well as the brand attributes, are more and more appreciated by consumers when assessing electric cars. This aligns with studies that indicate environmental advantages, consumer familiarity and value are factors to consider when dealing with EV adoption (Bansal et al., 2024; Gupta & Arora, 2023; Jain et al., 2024; Li et al., 2023).

Demographic results showed that there was a good representation of consumers that were both economically active and educated within the sample. The responses of age group 26-35 years were the highest and over half held post graduate and higher qualifications. Additionally, 66.8% of the respondents exhibited high-to-very-high EV awareness and 70.1% expressed a potential EV buying window of five years or less. The results indicate that awareness has moved beyond a familiarity and may be increasingly driving consideration of EV ownership. Consumer awareness, perceived benefits and environmental concerns are also found to be key determinants of electric-vehicle adoption intention in recent studies (Ahmad et al., 2023; Bhatti et al., 2022; Jain et al., 2024; Singh & Tiwari, 2023).

Correlation analysis showed that all the major constructs were positively and significantly correlated. The marketing dimensions had moderate positive relationships with Perceived Value, indicating that Perceived Value had the highest correlation with Purchase Intention ($r = 0.651$). This discovery suggests that people's assessment of the net benefits they would get from an electric vehicle is tightly coupled to their interest in buying an electric vehicle. This finding is in line with the studies indicating that perceived economic, functional and environmental benefits are factors that influence the purchase intention of EVs (Bansal et al., 2024; He et al., 2023; Liu et al., 2022).

The regression outcome better supports the part of marketing strategies. The four marketing dimensions accounted for 48.7% of the variance in Perceived Value ($R^2 = 0.487$). Green

Marketing had the highest standardized coefficient ($\beta = 0.312$) followed by Product Strategy ($\beta = 0.286$), Price Strategy ($\beta = 0.241$) and Brand Communication ($\beta = 0.198$). As Green Marketing plays an important role, environmental positioning can impact the overall assessment of the value of electric cars in the eyes of the consumer. This result is in line with studies that have related green marketing, environmental awareness and sustainable purchase intentions (Arya et al., 2023; Chawla & Jain, 2024; Gupta & Arora, 2023; Sahoo & Sahoo, 2024).

Perceived Value also proved to be an important predictor of Purchase Intention ($\beta = 0.651$, $R^2 = 0.424$, $p < 0.001$). So, consumers' perception of overall value is positively related to purchase intention of EVs. This discovery aligns with recent data that shows the perceived benefits, economics, and environment are important factors in consumers' acceptance of EVs (Bansal et al., 2024; He et al., 2023; Jain et al., 2024; Li et al., 2023). The results indicate that the model has a fairly high explanatory power, indicating that perceived value is a key mechanism by which consumers convert positive assessments of e-cars into purchase-related intentions.

The mediation analysis also reveals that Perceived Value is a significant mediator between Marketing Strategies and Purchase Intention. The indirect effect was 0.238 ($t = 7.84$, $p < 0.001$), with a 95% confidence interval of 0.182–0.296. The confidence interval does not include zero, indicating that the indirect pathway is significant. The positive direct effect also did not disappear, suggesting a complementary mediation, as opposed to a purely indirect relationship. This is a finding of previous EV research, which shows that marketing strategies can affect purchase intention partially by consumer's perceived value, underpinning the general idea that consumer value perceptions play a key role in sustainable mobility (Bansal et al., 2024; Chen & Chang, 2013; He et al., 2023).

Overall, results indicated that electric-car marketing can be thought of as a mix of product, price, communication and environmental positioning factors, where Perceived Value plays a significant role between the marketing dimensions and Purchase Intention. The measurement model, too, was found to be reliable and to exhibit satisfactory convergent validity, and the results of the PLS-SEM revealed an explanatory and predictive power that proved to be meaningful. The results are generally in line with the latest studies on EV uptake and green consumer behavior and offer empirical evidence for studying EV marketing as a whole, from a consumer-value perspective (Hair et al., 2022; International Energy Agency, 2024; NITI Aayog, 2023).

CHAPTER 6: CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

6.1 Conclusion

The study finds that marketing strategies contribute significantly in consumer's perceived value and intention to buy of electric cars in Karnataka. The findings based on 480 respondents show that the Product Strategy, Price Strategy, Brand Communication and Green Marketing have a positive relationship with Perceived Value, Green Marketing has the highest impact. Perceived Value in turn, is significantly and positively associated with Purchase Intention, which means that the more that consumers sense benefits in terms of function, economy, and environment

compared to costs that they can be seen to have, the more they are interested in buying electric cars. The mediation analysis additionally makes clear that Perceived Value is an important mechanism which marketing strategies influence purchase intention. This is in line with recent studies that found that perceived benefits, environment, consumer awareness and marketing-related factors are key factors in EV adoption (Ahmad et al., 2023; Bansal et al., 2024; Bhatti et al., 2022; He et al., 2023; Jain et al., 2024; Li et al., 2023). The study also shows that consumers' responses are not only related to their environmental motivations but the price and product attributes, along with brand communication, also play a role in their value assessment. The results thus indicate an integrated view where marketing strategies as well as consumer value perceptions have a congruent influence on EV purchase intention. The empirical robustness of the proposed model is further confirmed by the satisfactory reliability, convergent validity and predictive results (Hair et al., 2022). The study adds to the literature on EVs in India by exploring the above relationship in the selected cities of Karnataka and by using the mediating variable of Perceived Value. The conclusions are also pertinent in the larger background of India's ongoing transition towards electric mobility and policy interventions in relation to the transition (Government of India, Ministry of Heavy Industries, 2024; International Energy Agency, 2024; NITI Aayog, 2023).

6.2 Limitations of the Study

There are some limitations in the study that when conducting the findings should be considered. The study was conducted in the selected cities of Karnataka and might not reflect the consumers in the rural areas or other states of India. The study was a cross sectional one, as the results reflect the perceptions and purchase intentions of consumers at a given point of time and are not able to determine change in consumer behaviour at a longer duration. The analysis was based on perceived purchase intention and not actual post purchase behaviour or verified vehicle purchases. The study also had a self-report element which could be affected by the respondents' perception, awareness and response tendency. Further, various parameters like charging infrastructure, battery replacement, resale value, technological reliability, dealership accessibility and government incentives were not included as distinct variables. These limitations can be overcome in future studies with more extensive geographic scope and longitudinally as well as by comparing present EV owners and potential EV buyers (Adhikari et al., 2023; Kumar & Alok, 2020; Liu et al., 2022).

6.3 Future Path for Research

The current model can be expanded with other behavioural, technological and institutional factors in future research. Comparative studies across the metropolitan, semi-urban and rural markets in Karnataka could be conducted to see if the impact of marketing strategies differs across the markets, income, age and past vehicle ownership. Researchers could also compare the various EV segments (premium and mass-market EV) to see how they differed from each other in terms of perceived value and purchase intention. To assess whether purchase intention leads to EV adoption, and to understand how consumer perception evolves as charging infrastructure and vehicle technology evolve, longitudinal research is needed. In the future, constructs like perceived risk, charging accessibility, range anxiety, technological readiness, government incentives, and social influence and brand trust can be incorporated into longer

structural models (Adhikari et al., 2023; Ahmad et al., 2023; Bhatti et al., 2022; Ghosh & Ghosh, 2024). Comparative studies of electric, hybrid and conventional vehicles would allow for a more detailed examination of consumer assessments of environmental and economic value by propulsion technology. The multi-group PLS-SEM may also be used to analyze differences between demographic and consumer segments. Digital marketing, social media communication and sustainability claims are important points that would be particularly relevant given the increasing reliance on digital consumer engagement for EV brands. Lastly, future studies might incorporate the survey results with actual purchase, registration and usage data to offer more concrete evidence and better practical knowledge of EV adoption in India (International Energy Agency, 2025; NITI Aayog, 2023).

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