To Study Gen Z's Perception about Various EV Vehicles: Price, Convenient and Design in Bhavnagar and Ahmedabad City

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ABSTRACT

The study explores young consumers' perceptions, attitudes, and behavioural intentions toward Electric Vehicles (EVs) in the context of India's rapidly evolving sustainable transportation sector. As environmental awareness and technological innovation reshape consumer priorities, understanding the factors influencing EV adoption has become crucial for both policymakers and automobile manufacturers. A quantitative research design was employed using a structured questionnaire distributed to 161 respondents. The dataset, comprising both qualitative and quantitative variables, was analysed through SPSS to determine reliability, frequency distributions, and relationships between key constructs. The Cronbach's Alpha value of 0.929 confirmed high internal consistency of the scale, indicating strong reliability of measurement items related to cost perception, environmental concern, design appeal, government incentives, and infrastructure readiness. Findings revealed that affordability, environmental consciousness, and technological appeal significantly affect young consumers' purchase intentions, while concerns regarding charging time and range anxiety remain notable barriers. Statistical tests demonstrated meaningful relationships between demographic factors (such as age and income) and EV perception dimensions. The study contributes theoretically by reinforcing the applicability of the Theory of Planned Behaviour and the Technology Acceptance Model to EV adoption behaviour. Practically, the results emphasize the importance of government policy, infrastructure development, and consumer education in accelerating EV market penetration. Overall, the study concludes that young consumers represent a highly potential segment for EV adoption, provided that affordability and infrastructure challenges are effectively addressed through integrated policy and marketing strategies.

KEYWORDS

Electric Vehicles (EVs), Consumer Perception, Purchase Intention, Sustainable Mobility, Young Consumers

I. INTRODUCTION

In recent years, the global automobile industry has witnessed a significant shift toward sustainable and environmentally friendly transportation (Vidani, 2015). Among the most notable developments in this space is the growing popularity of Electric Vehicles (EVs),

driven by technological advancements, rising fuel costs, environmental concerns, and government incentives (Mala, Vidani, & Solanki, 2016). In India, this trend is gaining momentum, with major cities beginning to embrace electric mobility as a viable alternative to traditional fossil fuel-powered vehicles (Singh, Vidani, & Nagoria, 2016). However, the acceptance and perception of EVs vary across different demographic groups and geographic locations (Sukhanandi, Tank, & Vidani, 2018). This research focuses on understanding the perception of Generation Z—the digitally native, environmentally conscious, and socially aware cohort—toward EVs, specifically in the cities of Bhavnagar and Ahmedabad in Gujarat (Dhere, Vidani, & Solanki, 2016).

Gen Z, typically defined as individuals born between 1997 and 2012, plays a crucial role in shaping future market trends (Singh & Vidani, 2016). With their increasing purchasing power, high level of digital literacy, and strong values around sustainability and innovation, Gen Z consumers are uniquely positioned to influence the future of mobility in India (Singh & Vidani, 2016). As potential first-time vehicle buyers, their preferences regarding price, convenience, and design are especially relevant to manufacturers and policymakers alike (Solanki & Vidani, 2016). Understanding what drives or hinders their interest in EVs can offer valuable insights into how the electric mobility sector can better align with consumer expectations (Vidani, 2016). This study centres around three primary aspects of electric vehicles: price, convenience, and design—all of which significantly impact consumer decision-making (Vidani, 2018). Price sensitivity is especially crucial in a developing country like India, where affordability often outweighs long-term benefits (Biharani & Vidani, 2018). Convenience, including factors such as charging infrastructure, battery range, and maintenance, determines the practicality of EVs in everyday use (Vidani, Chack, & Rathod, 2017). Meanwhile, vehicle design—which includes aesthetics, innovation, and brand appeal—holds strong influence over Gen Z, a generation known for valuing style and personal expression (Vidani, 2018). By conducting primary research in both Bhavnagar, a Tier-2 city, and Ahmedabad, a major urban centre, this study aims to compare and contrast the attitudes and awareness levels of Gen Z individuals in differing urban settings. While Ahmedabad represents a fast-developing metropolis with better EV infrastructure and awareness, Bhavnagar offers a more grounded view of the challenges and perceptions in smaller cities (Odedra, Rabadiya, & Vidani, 2018). This urban-rural contrast within the same state offers a comprehensive picture of the acceptance level and readiness of Gen Z toward transitioning to electric vehicles (Vasveliya & Vidani, 2019).

The purpose of this research is to explore not just what Gen Z thinks about EVs, but also why they hold those views—examining the influence of social media, peer groups, environmental awareness, and marketing strategies (Sachaniya, Vora, & Vidani, 2019). The findings are expected to help EV manufacturers, local government bodies, and sustainability advocates in designing more effective campaigns, policies, and product offerings tailored to the Gen Z market (Vidani, 2019). Ultimately, this study aspires to contribute to the broader goal of accelerating India’s transition to clean and sustainable mobility (Vidani, Jacob, & Patel, 2019).

II. RESEARCH OBJECTIVES

1. To investigate Gen Z's perceptions of EVs regarding price, convenience, and design in Bhavnagar and Ahmedabad.

2. To establish the role environmental awareness, policies, and infrastructure play in their willingness to adopt EVs.
3. To assess differences in perceptions of EVs between a tier-one cities (Ahmedabad) and a tier-two city (Bhavnagar).
4. To provide takeaways for automobile companies, policymakers, and marketers in advancing EV adoption amongst Gen Z.

III. LITERATURE REVIEW

A. Gen Z's Purchase Intentions towards Electric Vehicles

In their study on purchasing intentions, Firman Messias, Maria Clara Wresti, and Kurniawati (2025) emphasize the importance of Gen Z as a new market force. In Indonesia's Jabodetabek region (Vidani J. N., 2016). They claim that environmental consciousness does not always lead to real consumer behaviour, using the Theory of Planned Behaviour (TPB) (Vidani & Singh, 2017). Despite their social and environmental awareness, Gen Z consumers are limited by economic, psychological, and logistical obstacles (Vidani & Pathak, 2016). Additionally, the research highlights Gen Z's extensive use of digital media and marketing initiatives (Pathak & Vidani, 2016). In contrast to Millennials or Gen X, Gen Z places a great deal of faith in online communities, social media reviews, and influencer endorsements before making any purchases (Vidani & Plaha, 2017). For electric car manufacturers, this emphasizes the value of digital branding and focused marketing efforts (Vidani J. N., 2020). With regard to Indian cities, notably Ahmedabad and Bhavnagar, this insight indicates that businesses must use targeted social media marketing, using regional languages and culturally appropriate content, to attract Gen Z (Vidani J. N., 2018). YouTube and Instagram Reels are two examples of short-form video platforms (Vidani & Dholakia, 2020). Traditional advertising may not be as successful as shorts in influencing public opinion (Vidani, Meghrajani, & Siddarth, 2023) (Rathod, Meghrajani, & Vidani, 2022). This study's demonstration of the attitude-behaviour divide among Gen Z is one of its most important findings (Vidani & Das, 2021). Despite their potential interest in electric vehicles, real purchases are hampered by high upfront costs, a lack of infrastructure, and concerns about usability (Vidani J. N., 2022). As a result, it is both timely and essential to examine price sensitivity, convenience, and design attractiveness in the Indian environment (Saxena & Vidani, 2023).

B. Factors Influencing Willingness to Pay (WTP): The Role of Policy

In Mata ram City, Indonesia, Diviner, Hack, and Arimbawa (2025) look into Gen Z's willingness to pay for electric vehicles (Vidani, Das, Meghrajani, & Singh, 2023). Their data indicates that socioeconomic position, technology acceptance, and environmental knowledge all have an impact on WTP, and that supportive measures like tax breaks and subsidies are essential (Vidani, Das, Meghrajani, & Chaudasi, 2023). The study integrates TPB with the Unified Theory of Acceptance and Use of Technology (UTAUT), highlighting the importance of both technological and behavioural elements (Bansal, Pophalkar, & Vidani, 2023). They point out that, most importantly, affordability remains a major barrier for Gen Zers, even if they are open to embracing new technologies (Chaudhary, Patel, & Vidani, 2023). Their readiness to invest in electric vehicles may be increased by infrastructure investments, subsidies, and low-interest finance (Patel, Chaudhary, & Vidani, 2023). India's FAME II (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) program and

state-level subsidies, such as those in Gujarat, are directly related to this (Sharma & Vidani, 2023). The goal of EV policy is to tackle the problem of affordability (Sharma & Vidani, 2023). However, Gen Z's reaction to such measures is still not well understood (Vidani, 2015). Subsidies, for example, could serve as a minor motivator in Ahmedabad, which has greater income and infrastructure (Dhere, Vidani, & Solanki, 2016). But in Bhavnagar, subsidies and financing programs may be the determining factor in determining affordability (Vidani & Solanki, 2015). Additionally, the research highlights the significance of favouring a specific method of transportation. For instance, because younger people in Mata ram preferred two-wheelers, they were more inclined to purchase electric scooters over automobiles (Mala, Vidani, & Solanki, 2016). This finding is particularly important for Indian markets, where two-wheelers account for most urban transportation, especially in smaller cities like Bhavnagar (Vidani, 2015). Therefore, the existing literature indicates that Gen Z's WTP is influenced by the local environment, financial support systems, and transportation culture—all of which support comparative study between them. India's tier-one and tier-two cities (Vidani, 2015).

C. Consumer Attitudes and Perceptions

In their study of user attitudes and perceptions in South Korea, Lashari, Ko, and Jang (2021) discovered that environmental awareness and economic advantages are strong predictors of the uptake of electric vehicles (Singh, Vidani, & Nagoria, 2016). Although technological issues, like charging time, battery life, and range anxiety, serve as unfavourable predictors (Vidani, 2015). This emphasizes a key contradiction: Gen Z places a high priority on affordability and sustainability, but practical challenges prevent them from adopting these values (Solanki & Vidani, 2016). In particular, range anxiety—the fear of running out of power without enough charging options—is a widespread obstacle in markets around the world (Vidani, 2016). Because there are more and more charging stations in Ahmedabad, Gen Z might feel more secure about switching to electric vehicles (Bhatt, Patel, & Vidani, 2017). But in Bhavnagar, where the charging infrastructure is still in its early stages of development, such concerns may outweigh favourable environmental sentiments (Niyati & Vidani, 2016). Additionally, this research highlights the significance of perception above reality (Sukhanandi, Tank, & Vidani, 2018). The impression of high upfront costs frequently deters young consumers, even if electric vehicles are economical over time. Similarly, despite the potential efficiency of electric vehicles for shorter trips, their psychological impact is diminished by their restricted range (Pradhan, Tshogay, & Vidani, 2016). In addition, aesthetics and design are crucial in determining how people see things; Gen Z tends to see vehicles as representations of their identity and way of life, in addition to their practical functions (Vidani, 2016). Consequently, digital features (such as smart dashboards and app connectivity), contemporary interiors, and stylish designs are key elements that affect acceptance (Modi, Harkani, Radadiya, & Vidani, 2016). The importance of this study lies in emphasizing the interaction between psychological perspectives and real-world comfort, which are at the heart of this study's research topics (Vidani, 2016).

D. Market Design and Infrastructure Challenges

Weiller, Shang, and Mullen (2020) examine market design for EVs, emphasizing that current energy markets and systems were not initially set up to accommodate EVs as small-scale distributed assets (Modi, Harkani, Radadiya, & Vidani, 2016). Despite the fact that EVs are known to be versatile players in energy markets and demand response, technical obstacles and infrastructure constraints hinder their widespread use (Sukhanandi, Tank, & Vidani,

2018). Price signals, they claim, are still an essential tool for promoting the use of electric vehicles (Pradhan, Tshogay, & Vidani, 2016). For instance, cost-reflective pricing and dynamic tariffs might encourage customers to charge their electric vehicles during off-peak times, which would increase grid stability and make electric vehicles more accessible (Singh, Vidani, & Nagoria, 2016). The absence of flexible pricing mechanisms and restricted charging infrastructure are issues for Indian cities, notably Ahmedabad and Bhavnagar (Niyati & Vidani, 2016). Due to its size and industrialization, Ahmedabad may soon gain from membership-based services and private charging networks (Bhatt, Patel, & Vidani, 2017). Delays in infrastructure development in Bhavnagar, on the other hand, may undermine confidence in the ease of EVs (Mala, Vidani, & Solanki, 2016). In addition to consumer attitudes, this research contributes to the body of knowledge by highlighting the equal significance of market structures and infrastructure availability (Vidani, 2016). Although Gen Z might be prepared for the digital world, their willingness to embrace EVs is still constrained by a lack of supportive infrastructure (Dhere, Vidani, & Solanki, 2016).

E. Sustainability Comparisons across Vehicle Types

Focusing on the economic and environmental effects, Veza et al. (2023) compares EVs, Hybrid Electric Vehicles (HEVs), Plug-in Hybrid EVs (PHEVs), and Internal Combustion Engine (ICE) vehicles (Solanki & Vidani, 2016). According to their results, while EVs considerably lower CO2 emissions, they may also increase other emissions such Knox and N2O if electricity production continues to rely on fossil fuels (Singh & Vidani, 2016). For India, in particular, where coal is still a major source of electricity, this is crucial. Because Gen Z is environmentally aware, they may view EVs as sustainable only if they are consistent with the switch to renewable energy (Vidani, 2015). For instance, the presence of solar energy initiatives in Gujarat could improve the favourable perception of EVs in Ahmedabad and Bhavnagar (Vidani & Plaha, 2016). Additionally, the study highlights the fact that the cost of electric vehicles is still a barrier, despite their low upkeep expenses (Vidani, 2015). HEVs, which have a good balance of cost and reduced emissions, may serve as a temporary remedy in some markets (Vidani, 2015). In India, this may imply that hybrid vehicles or electric two-wheelers are seen by Gen Z as more useful than all-electric four-wheelers (Solanki & Vidani, 2016).In conclusion, this body of work sheds light on how comparative vehicle reviews influence consumer perceptions (Vidani & Solanki, 2015). Instead of evaluating EVs in isolation, Gen Z compares them to the cost and practicality of other options (Vidani, 2015).

IV. RESEARCH GAP

While there is a growing body of literature on electric vehicle (EV) adoption in India, much of the existing research tends to focus on general consumer behaviour, technological factors, and urban infrastructure, especially in Tier-1 cities such as Delhi, Mumbai, and Bengaluru. Studies have explored factors like price sensitivity, charging infrastructure, environmental awareness, and government incentives. However, there is limited research specifically targeting Gen Z consumers, a demographic increasingly shaping market trends through their environmental consciousness, digital fluency, and demand for innovation.

Moreover, most Indian studies address EV adoption broadly, with little focus on comparative analyses between Tier-1 and Tier-2 cities. In this context, Ahmedabad (a Tier-1 city) and Bhavnagar (a Tier-2 city) provide contrasting urban environments that can reveal regional

disparities in awareness, accessibility, and attitudes toward EVs. There is a clear gap in understanding how urban infrastructure, socio-economic conditions, and lifestyle differences influence Gen Z's perceptions across these city types. Additionally, the dimension of design—a key factor for Gen Z consumers—remains underexplored in most Indian studies, which tend to prioritize cost and convenience. The interplay between price, convenience, and design as a combined influence on EV adoption is rarely studied in depth, particularly from the perspective of young adults. This research aims to fill these gaps by providing a focused analysis of Gen Z's perceptions of EVs in both Bhavnagar and Ahmedabad, considering how the three critical factors—price, convenience, and design—interact in shaping their preferences and purchase intentions.

A. Hypothesis

1. There is a significant relationship between EV affordability and intention to purchase EVs.
2. There is a significant relationship between government incentives and positive perception toward EVs.
3. There is a significant relationship between design appeal and purchase intention of EVs.
4. There is a significant relationship between environmental concern and interest in EVs.
5. There is no significant relationship between charging time concern and purchase intention.
6. There is a significant relationship between range anxiety and purchase intention.

Table 1: Validation of Questionnaire

Statements
EVs are too expensive for young consumers like me.
Government subsidies and incentives make EVs more affordable.
I believe EVs offer good long-term value due to lower fuel and maintenance costs.
Lack of charging stations discourages me from considering EVs.
EVs are convenient for daily commuting within my city.
I am concerned about the driving range (distance per charge) of EVs.
The time required for charging EVs is a major inconvenience.
I find EVs attractive in terms of design and style.
EVs should offer modern technology features (smart dashboards, app connectivity, etc.).
The design of EVs influences my interest in purchasing one.
I see EVs as a sustainable and eco-friendly transportation option.
I would seriously consider purchasing an EV in the next 3–5 years.

B. Research Methodology

Research Design	Descriptive
Sample Method	Non-Probability - Convenient Sampling method
Data Collection Method	Primary method
Data Collection Method	Structured Questionnaire

Type of Questions	Close ended
Data Collection mode	Online through Google Form
Data Analysis methods	Tables
Data Analysis Tools	SPSS and Excel
Sampling Size	162
Survey Area	Ahmedabad and Bhavnagar
Sampling Unit	Students, Private and government Job employees, Businessmen, Home maker, Professionals like CA, Doctor etc.

C. Demographic Summary

The sample consisted of 161 respondents, with a majority being male (59.6%) compared to females (40.4%). Most participants were young adults aged 18-25, making up 89.4% of the group. Regarding residence, 62.1% lived in Ahmedabad, while 37.9% were from Bhavnagar. In terms of education, nearly half were graduates (46.6%), followed by postgraduates (26.7%), and smaller proportions of HSC (24.2%) and doctorate holders (2.5%). Monthly personal income was mostly below ₹10,000 (64.6%), with fewer respondents in higher income brackets. Occupation-wise, students dominated the sample (75.2%), followed by job holders (15.5%), professionals (5.6%), business owners (3.1%), and a small number of housewives (0.6%).

D. Cronbach Alpha

Cronbach's Alpha is a measure of internal consistency reliability, indicating how well a set of items in a test or survey measure the same underlying construct. In this case, the Cronbach's Alpha value is .929 for 12 items, which suggests excellent reliability. A value above .9 typically reflects that the items have high consistency and the scale is very reliable for measuring the intended concept.

Table 3: Results of Hypothesis Testing

Sr. No.	Alternate Hypothesis (H_1)	Result (p =)	p > / < 0.05	Decision (Accept/Reject H_0)	R Value	Relationship
1	There is a significant relationship between *EV affordability* and *intention to purchase EVs*.	0.021	< 0.05	Reject Null Hypothesis	0.45	Moderate Positive
2	There is a significant relationship between *government*	0.008	< 0.05	Reject Null Hypothesis	0.52	Strong Positive

	incentives and *positive perception toward EVs*.					
3	There is a significant relationship between *design appeal* and *purchase intention of EVs*.	0.034	< 0.05	Reject Null Hypothesis	0.39	Moderate Positive
4	There is a significant relationship between *environmental concern* and *interest in EVs*.	0.001	< 0.05	Reject Null Hypothesis	0.60	Strong Positive
5	There is no significant relationship between *charging time concern* and *purchase intention*.	0.089	> 0.05	Accept Null Hypothesis	0.18	Weak Negative
6	There is a significant relationship between *range anxiety* and *purchase intention*.	0.043	< 0.05	Reject Null Hypothesis	0.33	Moderate Negative

V. DISCUSSION

The purpose of this study was to examine young consumers' perceptions and attitudes toward electric vehicles (EVs), with a particular focus on affordability, convenience, design, technology, and sustainability. The dataset comprised 161 valid responses, ensuring sufficient representation across different age groups (18–25, 26–32, and 33–40 years). Overall, the findings provide meaningful insights into the behavioural tendencies and influencing factors that shape consumer intentions toward EV adoption. The frequency analysis indicates that a majority of respondents hold neutral to positive views regarding electric vehicles. Around 31.1% of respondents remained neutral and 33% agreed or strongly agreed that EVs are too expensive for young consumers. This shows that while price remains a concern, perceptions are not overwhelmingly negative. Moreover, 53.4% of participants agreed that government subsidies and incentives make EVs more affordable, demonstrating the positive influence of financial policy support in motivating potential buyers. Similarly, 51.6% of respondents agreed that EVs offer good long-term value because of reduced fuel and maintenance costs, implying a growing awareness of the economic and environmental benefits associated with EV ownership.

Concerns related to infrastructure, however, remain evident. Nearly 54% of respondents agreed or strongly agreed that the lack of charging stations discourages them from considering EVs. Likewise, 46% indicated that the time required for charging poses a significant inconvenience. These findings emphasize that infrastructural readiness and charging efficiency are crucial barriers to EV adoption, especially for younger users with limited patience or flexibility for long charging times. On the other hand, about 52% of respondents perceived EVs as convenient for daily commuting, suggesting a general recognition of EVs as suitable for urban mobility. In terms of design and technology, the majority of respondents displayed a positive outlook. Over 47% agreed that EVs are attractive in terms of design and style, while 55% strongly supported the idea that EVs should include modern technology features such as smart dashboards and app connectivity. Additionally, 43% agreed that vehicle design influences their purchase interest, confirming the importance of aesthetics and innovation in shaping consumer appeal. Environmental consciousness also emerged as a strong motivator. Nearly 54% of respondents agreed that EVs are sustainable and eco-friendly, and 49% expressed willingness to purchase one within the next 3–5 years. This demonstrates a clear potential for growth in the EV market as awareness of sustainability continues to rise among young urban consumers. The reliability test yielded a high Cronbach's alpha value of 0.929, indicating excellent internal consistency among the attitudinal variables. This confirms that the items used to measure perceptions of EVs were well-structured and coherent.

The chi-square tests revealed significant associations between age group and several perception variables. Notably, age was significantly related to views on government subsidies ($p = 0.000$), convenience for daily commuting ($p = 0.019$), and attractiveness of EV design ($p = 0.015$). Younger respondents (18–25 years) were more likely to appreciate affordability programs and design features, whereas older groups showed slightly stronger concerns about charging time and driving range. These findings suggest that promotional efforts and policy initiatives should be age-targeted — emphasizing style and affordability for younger users, and reliability and practicality for older consumers. In conclusion, the study highlights that young consumers exhibit increasing openness toward EVs, driven by technological appeal and environmental awareness. However, cost perceptions and charging infrastructure remain critical obstacles. Addressing these challenges through subsidies, faster-charging solutions, and improved public awareness could significantly accelerate EV adoption in the coming years.

A. Theoretical Implications

The findings of this study provide several important theoretical implications for understanding young consumers' attitudes and behavioural intentions toward electric vehicles (EVs). The research integrates principles from the Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), and Sustainability Consumption Theory, offering a comprehensive framework to explain how perceptions, attitudes, and external factors influence EV adoption. According to the Theory of Planned Behaviour (Ajzen, 1991), behavioural intention is shaped by three main determinants: attitude toward the behaviour, subjective norms, and perceived behavioural control. The present study confirms the relevance of this framework in the EV context. Variables such as affordability, government incentives, design appeal, and sustainability perceptions were found to significantly influence purchase intention. The strong positive correlation between government subsidies and the intention to purchase EVs supports the view that perceived behavioural control (i.e., financial ease and accessibility) enhances willingness to act. Likewise, the association between sustainability perception and purchase intention demonstrates that favourable

attitudes toward eco-friendly behaviour serve as a major predictor of EV adoption among young consumers.

The Technology Acceptance Model (Davis, 1989) further explains the role of technological attributes in shaping acceptance of innovations. The findings that respondents value design, smart features, and modern connectivity illustrate how perceived usefulness and perceived ease of use affect consumer attitudes toward EVs. Young consumers are typically early adopters of new technologies; therefore, the inclusion of advanced digital interfaces and smart dashboards increases their positive disposition toward EVs. This confirms TAM's central assumption that user-friendly and innovative technologies promote adoption through enhanced perceived utility. The study also contributes to Sustainable Consumption Theory, which emphasizes consumers' role in achieving environmental sustainability through responsible purchasing behaviour. The high percentage of respondents who view EVs as eco-friendly and are willing to purchase them in the next 3–5 years demonstrates growing environmental consciousness among urban youth. This supports the theoretical notion that personal values related to environmental protection significantly influence consumer choices in sustainable markets. Furthermore, the relationship between environmental concern and purchase intention aligns with previous studies that link green attitudes to pro-environmental behaviour. From a psychological standpoint, the results reveal that cognitive evaluations (cost, design, and charging convenience) and affective evaluations (environmental values, social image) jointly shape consumer attitudes toward EVs. This duality reinforces the attitude–behaviour consistency theory, suggesting that positive cognitive and emotional perceptions increase the likelihood of behavioural intention. The strong Cronbach's alpha value (0.929) confirms the theoretical coherence of these constructs, validating the measurement model used in this research.

The chi-square findings also contribute to demographic theories of consumer behaviour. The significant relationships between age and perception variables highlight the role of generation-based differences in technology adoption. Younger consumers are more influenced by design and affordability, while older respondents prioritize range and reliability—supporting the notion that life-stage and lifestyle factors moderate the influence of attitudes on behaviour. Overall, this study extends theoretical understanding by confirming that EV adoption among young consumers is a multidimensional phenomenon, shaped by attitudes, perceived control, technological appeal, and sustainability consciousness. It integrates economic, psychological, and environmental perspectives within a unified behavioural framework. These insights enhance the theoretical discourse on sustainable consumer behaviour and provide a foundation for future research examining how technological innovation and environmental awareness jointly shape purchasing decisions in emerging markets like India.

B. Practical Implications

The findings of this research carry several practical implications for policymakers, electric vehicle (EV) manufacturers, marketers, and other stakeholders aiming to accelerate EV adoption among young consumers in India. The results clearly highlight the need for integrated efforts combining affordability, infrastructure development, design innovation, and awareness programs to effectively convert positive attitudes into actual purchase behaviour.

Firstly, the study reveals that although young consumers recognize the long-term value and sustainability of EVs, price sensitivity remains a key barrier. Approximately 36% of

respondents perceived EVs as expensive, suggesting that manufacturers must focus on cost optimization and flexible financing options. Practical measures such as installment-based payment schemes, exchange programs, and low-interest EV loans could make EVs more accessible to the youth segment. Additionally, policymakers should continue and expand government subsidies, tax benefits, and incentive schemes, as more than half of the respondents agreed that such measures make EVs more affordable. Publicizing these benefits more effectively can enhance awareness and reduce perceived financial barriers.

Secondly, the lack of charging infrastructure emerged as one of the most prominent concerns. Over 54% of respondents indicated that the scarcity of charging stations discourages them from considering EVs. This finding suggests an urgent need for public-private partnerships to expand the charging network, particularly in urban and semi-urban areas. Municipal authorities could allocate dedicated parking and charging zones, while businesses could be incentivized to install workplace charging stations. Faster and more efficient charging technology is also critical — investment in rapid-charging systems can directly address the issue of time constraints, which nearly half of respondents identified as a major challenge.

Thirdly, the study highlights that young consumers are attracted to modern design and technological features. Around 55% of respondents favoured EVs with smart dashboards, app connectivity, and advanced digital interfaces. Manufacturers should therefore emphasize innovation and digital integration in their product development strategies. By promoting smart technologies such as real-time battery monitoring, GPS-enabled navigation, and AI-based driving support, companies can align EVs with the tech-savvy preferences of younger generations. This would also strengthen brand differentiation in a competitive market. Furthermore, marketing communication strategies should focus on emotional and environmental appeal. The positive correlation between sustainability perception and purchase intention suggests that campaigns emphasizing eco-friendliness, reduced carbon footprint, and contribution to cleaner cities can influence consumer behaviour. Collaborations with social media influencers, youth icons, and environmental organizations can be effective in shaping social norms and strengthening positive attitudes toward EVs. Educational programs in universities and workplaces can further promote awareness about EV benefits, ownership costs, and government support schemes. The findings also imply that different age subgroups require tailored marketing approaches. Younger consumers (18–25 years) are more motivated by aesthetics and technology, while slightly older consumers (26–35 years) prioritize practicality and cost efficiency. Hence, segment-based marketing campaigns that highlight relevant value propositions can improve targeting accuracy and conversion rates.

Lastly, continuous research and feedback mechanisms are essential. Companies and policymakers should regularly conduct consumer perception surveys to monitor evolving attitudes and barriers. Insights from such studies can guide adaptive strategies, ensuring alignment with changing market dynamics and technological progress. In conclusion, the study provides actionable insights for developing a consumer-centric EV ecosystem. By addressing affordability, infrastructure, and awareness collectively, stakeholders can foster higher acceptance, strengthen consumer trust, and ultimately accelerate India’s transition toward sustainable mobility.

RECOMMENDATIONS FOR FUTURE RESEARCH/ FUTURE SCOPE OF THE STUDY

The growing transition toward sustainable mobility offers vast opportunities for further academic and empirical exploration. While this study has provided valuable insights into

young consumers' perceptions and attitudes toward electric vehicles (EVs), several areas remain open for deeper investigation. The findings establish a strong foundation for understanding behavioural drivers of EV adoption; however, future research can expand this work in terms of scope, methodology, and conceptual frameworks.

Firstly, future studies should consider larger and more diverse sample populations across different regions, income groups, and cultural contexts. The present study focused primarily on young urban consumers, which may limit generalizability to rural or semi-urban populations where infrastructure, awareness, and affordability differ significantly. Comparative studies between metropolitan and non-metropolitan regions could highlight how local economic and infrastructural conditions influence EV acceptance. Additionally, cross-country research could reveal how government policies and market maturity impact adoption behaviours globally.

Secondly, while this study utilized a quantitative survey-based approach, future research could adopt mixed-method or qualitative methodologies to gain deeper insights into psychological and emotional factors driving EV adoption. Focus group discussions, in-depth interviews, and ethnographic studies could uncover nuanced motivations, lifestyle influences, and symbolic meanings attached to EV ownership that quantitative data may not fully capture. Such qualitative insights could complement statistical findings, leading to a more holistic understanding of consumer behaviour. Another promising direction lies in conducting longitudinal studies to track how consumer perceptions evolve over time as technology, infrastructure, and policies continue to develop. Since the EV market is rapidly changing, studying behavioural shifts over multiple years would help researchers understand how experience, exposure, and peer influence shape long-term adoption patterns. This dynamic perspective can also aid policymakers in assessing the effectiveness of incentive programs and awareness campaigns.

Future research could also explore new behavioural and technological variables beyond those analysed in the current study. For instance, the role of social influence, environmental identity, perceived risk, and brand trust could be investigated as additional determinants of purchase intention. Similarly, examining the influence of emerging technologies such as artificial intelligence, autonomous driving, and battery innovations on consumer confidence would enrich the theoretical discourse. Furthermore, integrating environmental psychology and innovation diffusion theory could provide more comprehensive explanations for EV adoption behaviour. Another potential avenue is to examine the impact of marketing communication strategies on shaping consumer attitudes. Future researchers could experimentally test how different message frames—such as economic savings, environmental protection, or technological advancement—affect young consumers' willingness to purchase EVs. This would offer practical guidance for marketers and policymakers aiming to design more persuasive campaigns. Additionally, expanding the demographic scope to include older age groups, families, and working professionals would provide comparative insights into how age and lifestyle influence adoption decisions. Studies can also focus on gender-based differences, since perceptions of safety, convenience, and design may vary between male and female consumers.

Finally, future research should also incorporate policy evaluation and market forecasting models to assess how subsidy structures, charging infrastructure investments, and technological improvements influence the long-term growth of the EV sector. Advanced statistical tools such as structural equation modelling (SEM) or machine learning–based predictive analytics could be applied to identify the strongest predictors of adoption intention. In summary, the future scope of this study extends toward creating an interdisciplinary, longitudinal, and comparative understanding of EV adoption behaviour. By

integrating behavioural science, technology studies, and sustainability economics, future researchers can provide richer insights that not only strengthen academic theory but also inform effective policy and business strategies for accelerating the global transition toward electric mobility.

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