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Marketing strategies and consumer adoption of electric vehicles: A global perspective on driving sustainable mobility transitions

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Abstract
The shift to electric vehicles (EVs) worldwide is pivotal for clean transport, yet in India, their uptake remains uneven due to economic, psychosocial, and infrastructural issues. It explored the dominant determinants of EV adoption, policy responses, and consumer sentiment. Data were collected using mixed-methods research comprising surveys (435) and qualitative interviews (15–20 stakeholders) from urban, semi-urban, and rural areas. Multiple regression, structural equation modelling (SEM), and one-way ANOVA were used to analyse.

Results indicated economic reasons were significant for EV adoption. Affordability had a positive impact on take-up ($\beta = 0.38$, $p < 0.001$), government subsidy ($\beta = 0.52$, $p < 0.001$), and the cost of ownership negatively impacted take-up ($\beta = -0.45$, $p < 0.001$), collectively explaining 62% variance in take-up. Psychological factors, such as range anxiety ($\beta = -0.57$, $p < 0.001$) and perceived inconvenience ($\beta = -0.49$, $p < 0.001$), discouraged adoption, accounting for 58% variance. Effective policy interventions were subsidies ($\beta = 0.48$, $p < 0.001$), tax incentives ($\beta = 0.42$, $p < 0.001$), and investments in charging facilities ($\beta = 0.55$, $p < 0.001$), with satisfactory model fit via SEM (CFI = 0.94, RMSEA = 0.05). Urban regions had more adoption rates ($M = 4.25$) compared to semi-urban ($M = 3.45$) and rural regions ($M = 2.80$), with vast differences ($p < 0.001$). The study deduced that reducing costs, surmounting psychological barriers, and enhancing infrastructure are the major drivers of EV uptake in India. Policymakers must tailor strategies according to regional needs, fostering equity of access and easing the transition to sustainable transport.

Keywords
Electric Vehicles, Consumer Adoption, Policy Interventions, Psychological Barriers, Regional Disparities, India.

Introduction
The global transport sector is evolving on a monumental scale, and electric vehicles (EVs) hold the key to future energy and sustainability issues. Greenhouse gas emissions reduction, climate change abatement, and decreased dependence on fossil fuels are promoted using EVs (Bindhya et al., 2024). But it's not a tech revolution—it's social, because consumer adoption is ahead of EVs with their eyes set on being prepared for sustainability targets (Yadav & Yadav, 2024). Business, government, and buyers all stand to gain from EVs, but mass adoption is being made increasingly hard to make happen everywhere in an individual capacity (Rao et al., 2024).

Consumer uptake drives this shift, with EVs having to overcome psychological, price, and charging point barriers (Lanzini, 2024). Advanced economies like Italy have come a long way in enhancing

consumer sentiment towards EVs, while India is hindered by purchasing price, bad charging points, and counterculture against new technology (Yadav & Yadav, 2024; Rao et al., 2024). These are location-specific answers to consumers' consumption between points (Uddin et al., 2024). EVs help ensure some degree of sustainability in terms of lower polluting emissions and better city air quality (Zhang et al., 2022). EVs bring some fraction to the pure renewable energy, clean power supply (Han et al., 2024). Cost considerations, range anxiety, and site charging must be solved to facilitate acceptance (Krishnan & Sreekumar, 2023; Lashram & Alkabaa, 2024).

Several drivers influence consumer attitudes towards EVs. Environmental issues are a key driver, especially among green activists and young consumers (Msosa, 2023). Cost considerations, including total cost of ownership as well as incentives provided by governments, also contribute considerably to purchase decisions (Gautam & Bolia, 2024). Charging stations and the reliability of EVs also influence consumer trust (Zhang et al., 2022). Government policies are the biggest driving force for EV uptake. Tax credits, infrastructure investments, and subsidies are some of the policies most nations have used to stimulate customers into using EVs (Rao et al., 2024). Public-private collaborations fill infrastructure gaps and give assurance in EV technology (Durmuş Şenyapar & Aksöz, 2024). These interventions are not equally effective across all locations, though, and imply the need for policy based on specific market conditions (Abdullah et al., 2024).

Together, the world's shift to EVs is an imperative move toward environmentally sustainable mobility. Consumer adoption is central to this shift, given that its rate influences the speed at which EVs will become mainstream. Empirical evidence and the bridging of barriers to adoption will be key in releasing EVs' potential for enabling ecological and energy sustainability (Gautam & Bolia, 2024; Msosa, 2023).

1. Literature Review

1.1 Theoretical Frameworks

Adoption of electric vehicles (EVs) is further shaped by varied theories of how technology acceptance as well as customer behavior, is justified. According to the Technology Acceptance Model (TAM), perceived ease of use and perceived usefulness lead to technology adoption (Davis, 1989). For EVs, TAM enables exploration of how drivers like cost savings and the environment shape buying behavior (Msosa, 2023; Zhang et al., 2022). Unified Theory of Acceptance and Use of Technology (UTAUT) extends TAM by adding social influence and infrastructure factors (Venkatesh et al., 2003). UTAUT is found to be extremely effective in emerging economies where local values and facilities present play a crucial role in the adoption of EVs (Jaiswal et al., 2022). Behavioral Reasoning Theory (BRT) explains the reasons and barriers of consumer choice, such as environment and cost savings over range anxiety and high initial cost (Uddin et al., 2024; Krishnan & Sreekumar, 2023). Together, all these theories offer the complete picture of the drivers for EV adoption.

1.2 Global Trends in EV Adoption

EV uptake varies across the globe depending on diverse economic conditions, infrastructure, and policy. Industrialized countries like the U.S. and Italy have higher uptake in terms of robust charging infrastructure, incentives, and eco-awareness (Jones, 2018; Lanzini, 2024). The

developing nations of South Africa and India are confronted with a high cost, inadequate infrastructure, and cultural opposition (Msosa, 2023; Yadav & Yadav, 2024). Rural India, however, is halted in Gujarat due to battery life and charging preparedness uncertainty (Baxi, 2025), although this is mitigated by the lack of government push in South Africa. Southeast Asia, nevertheless, is experiencing development through public-private partnerships along with increasing awareness (Abdullah et al., 2024).

1.3 Consumer Perceptions and Attitudes

Consumer perception about EVs is reliant on environmental, economic, as well as infrastructural factors. Sustainability issues are a point of interest, particularly from younger eco-friendly consumers (Msosa, 2023; Zhang et al., 2022). Cost considerations such as cost of ownership, cost of operation, and government incentives also play a role (Gautam & Bolia, 2024; Rao et al., 2024). But in developing economies, the price tag remains too high (Yadav & Yadav, 2024). Location and placement of the charging station are issues that hamper adoption widely (Zhang et al., 2022; Lashram & Alkabaa, 2024). EVs are too inconvenient for users without consistent charging networks (Krishnan & Sreekumar, 2023), and investment needs to happen at the infrastructure level (Durmuş Şenyapar & Aksöz, 2024).

1.4 Policy and Regulatory Environment

Government policies play an important role in EV adoption. Subsidies and incentives reduce costs and persuade consumers to switch (Rao et al., 2024). Subsidies and tax rebates have increased urban adoption of EVs in India (Yadav & Yadav, 2024), while tax exemption is provided in Malaysia to encourage the use of EVs (Abdullah et al., 2024). Expansion can be achieved for charging networks in a public-private partnership mode, which has happened in Europe, but it has contributed to making electricity more accessible (Lanzini, 2024). Some specific policies focusing on affordability, infrastructure, and awareness in subsidies, public sensitization campaigns, and rural charge investments are warranted (Gautam & Bolia, 2024).

Table 1: Systematic review of the literature

Theme	Theoretical Framework / Study	Key Findings	References
Theoretical Frameworks for EV Adoption	Technology Acceptance Model (TAM)	Perceived ease of use and perceived usefulness play a great impact on EV adoption choices.	Davis (1989); Msosa (2023); Zhang et al. (2022)
	Unified Theory of Acceptance and Use of Technology (UTAUT)	Social influence, facilitating conditions, and behavioral intentions are important, particularly in the emerging markets context.	Venkatesh et al. (2003); Jaiswal et al. (2022)

	Behavioral Reasoning Theory (BRT)	Both motivators (e.g., cost savings, sustainability) and barriers (e.g., range anxiety, high costs) impact adoption.	Westaby (2005); Uddin et al. (2024); Krishnan & Sreekumar (2023)
Global Trends in EV Adoption	Developed Markets (Italy, U.S.)	High adoption due to incentives, strong infrastructure, and environmental awareness.	Lanzini (2024); Jones (2018); Zhang et al. (2022)
	Developing Markets (India, South Africa)	Adoption is slower due to high costs, limited infrastructure, and cultural resistance.	Yadav & Yadav (2024); Msosa (2023); Baxi (2025)
	Emerging Markets (Southeast Asia)	Gradual growth driven by public-private partnerships and consumer awareness.	Abdullah et al. (2024)
Consumer Perceptions and Attitudes	Environmental Concerns	Younger, eco-conscious consumers are more likely to adopt EVs.	Msosa (2023); Zhang et al. (2022); Bindhya et al. (2024)
	Economic Factors	Total cost of ownership and government incentives are key determinants of EV adoption.	Gautam & Bolia (2024); Rao et al. (2024); Yadav & Yadav (2024)
	Infrastructure Challenges	Lack of charging stations and range anxiety deter adoption.	Lashram & Alkabaa (2024); Zhang et al. (2022); Krishnan & Sreekumar (2023)
Policy and Regulatory Landscape	Government Incentives	Subsidies and tax rebates significantly boost adoption, especially in urban areas.	Rao et al. (2024); Yadav & Yadav (2024); Abdullah et al. (2024)
	Public-Private Partnerships	Critical for expanding charging networks and addressing infrastructure gaps.	Durmuş Şenyapar & Aksöz (2024); Lanzini (2024)
	Context-Specific Policy Approaches	Tailored strategies are needed to overcome challenges in developing countries.	Gautam & Bolia (2024); Msosa (2023); Yadav & Yadav (2024)

Research Problem

Shifting to electric vehicles (EVs) in the context of green transport and emissions control is a must. However, consumer uptake is still a problem, especially in the developing world, due to economic, psychological, and infrastructural barriers. Although economies in the developed world have progressed in supporting EV uptake, policy efficacy, charging points, and consumer attitudes still differ greatly across places. This research seeks to analyse the drivers of EV adoption, assess the impact of policy intervention, and recommend specific interventions to address these challenges, thus speeding up sustainable mobility globally.

Research Gap

Previous studies on EV adoption have revealed some key gaps limiting a thorough understanding of consumers' behaviour and policy impact. Among the key limiting factors is limited comparative research involving the developed and developing world that prevents the evolution of universally deployable strategies. Psychological issues such as range anxiety and cultural resistance are not thoroughly researched, especially for strategies used to overcome them. Rural and semi-urban areas, confronting differing economic and infrastructural challenges, are also out of bounds in EV adoption research. Yet another significant gap is research on interconnecting EVs with renewable energy systems, potentially opening higher portions of cleaner energy sources. Besides, policy impact evaluations, particularly for developing countries, are few, and scaling up the best bets would be difficult. Such models as TAM and UTAUT are less suitable for developing economies, considering that socio-economic and cultural drivers play a deep role in deciding consumer choices there. Additionally, the lack of longitudinal studies cuts short observations of changing patterns of adoption as well as policy effects at various points in time. Closing these gaps is key to achieving sustainable mobility and EV adoption generally.

Research Questions

1. Experts identify the most effective drivers of EV adoption and how these differ in developed and emerging economies.
2. To what extent are existing policy interventions, including subsidies, tax incentives, and infrastructure investment, effective in promoting EV adoption?
3. What are consumer attitudes towards EVs in emerging markets, and how do these attitudes affect take-up?
4. Which are the policies that stakeholders can leverage to overcome adoption barriers and encourage the transition towards sustainable electric mobility?

Research Hypotheses

H1: Economic factors, such as the total cost of ownership, affordability, and government incentives, significantly influence consumer adoption of electric vehicles (EVs) in India.
H2: Psychological barriers, such as range anxiety and perceived inconvenience, negatively impact consumer adoption of electric vehicles (EVs) in India.

H3: Policy interventions, such as subsidies, tax incentives, and investments in charging infrastructure, positively influence consumer adoption of electric vehicles (EVs) in India.
H4: There are significant regional disparities in consumer adoption of electric vehicles (EVs) in India, with urban areas showing higher adoption rates compared to rural and semi-urban areas.

Figure 1: Conceptual hypothetical model.

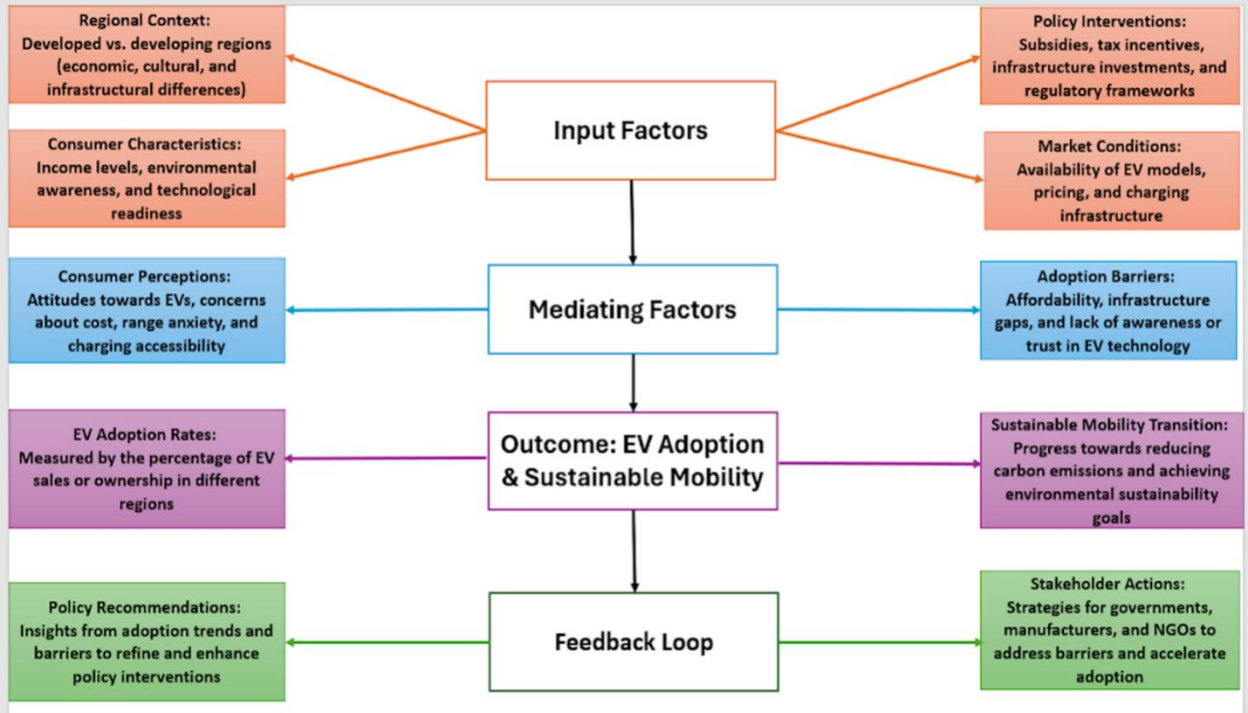

Figure 1: Conceptual hypothesis model. This image illustrates an EV adoption and sustainable mobility model. It starts with Input Factors such as market setting, consumer group, policies, and regional setting. They are inputted into Mediating Factors such as barriers and consumer attitudes, which affect EV Adoption & Sustainable Mobility Outcomes such as ecological impacts and take-up rates. Feedback Loop enables the policies and stakeholders' activity to react to obstacles and encourage adoption. The model identifies the synergetic effect of economic, technological, and policy drivers to increase the adoption of EVs.

Research Objectives

1. To identify Major Factors Affecting Consumer Adoption of Electric Vehicles (EVs) in Various Regions.
2. To Evaluate the Impact of Policy Interventions in Promoting EV Adoptions.
3. To Examine Consumer Attitudes and Perceptions towards EVs in Emerging Markets.
4. To assess Policy Suggestions to Stakeholders to promote the Transition to Electric Mobility.

Significance of the study

The study is pivotal in overcoming the barriers to electric vehicles (EVs) in terms of mass adoption globally and shifting towards clean mobility. Pinpointing the most significant drivers of consumers'

adoption of EVs—economic limitation, infrastructural limitation, and psychological limitation—the research offers policymakers and stakeholders pragmatic guidelines on crafting evidence-informed interventions (Bindhya et al., 2024; Yadav & Yadav, 2024). Among its most significant contributions, this study aims to advance regional differences in EV uptake and emphasize the importance of spatial solutions to bring developing nations into touch with developed countries (Lanzini, 2024; Rao et al., 2024). It also examines the effectiveness of the policies that currently exist, e.g., subsidies and investments in charging points, and presents evidence-based insights on how to enhance their performance (Uddin et al., 2024; Abdullah et al., 2024). By interaction with consumer attitudes and perception, especially in the global south, this study aims to enhance higher EV uptake and their incorporation into traditional transport (Gautam & Bolia, 2024; Msosa, 2023). In the future, the study encourages global environmental and energy goals through improved sustainable transport modes and reduced fossil fuel dependence (Zhang et al., 2022; Han et al., 2024).

Research Methodology

This research used a mixed-methods research design utilizing quantitative and qualitative methods to investigate comprehensively the determinants of electric vehicle (EV) uptake in India. The quantitative process entailed systematic sampling of 435 participants who were both users and non-users of EV to identify their attitude, perception, and barriers to adoption. As compared to this, the qualitative approach entailed qualitative interviews with industry experts, policymakers, and manufacturers of EVs to ascertain policy effectiveness and infrastructure problems. In the integration of these methods, the research delivered macro-statistical analysis as well as rich context.

2.1 Data Collection

2.1.1 Quantitative Data Collection

A stratified random sampling method was employed to facilitate representation across various regions in India, that is, urban, semi-urban, and rural. The population size of 435 respondents was proportionally allocated based on population density and EV adoption within each region.

The survey was offline and online to reach everyone, especially where there is low penetration. The survey tool used closed-ended questions that were created to measure significant variables like:

- Economic factors: Cost of ownership, price affordability, and incentives by the government.
- Psychological factors: Sense of convenience, green consciousness, and range anxiety.
- Infrastructural factors: Availability and capacity of EV technology charging points.

2.1.2 Qualitative Data Collection

Semi-structured interviews with 15-20 important stakeholders, like policymakers, industry operators, and electric vehicle manufacturers, were conducted. The interviews brought out the efficacy of current policies, issues in infrastructure development, and adoption strategies for surmounting obstacles. The interview survey included open-ended questions and qualitative answers, for which rich results were yielded.

2.2 Data Analysis and Hypothesis Testing

To test the hypotheses, a sample of 435 Indian respondents from urban, semi-urban, and rural areas was collected. The data were analysed using the appropriate statistical analysis for each hypothesis. Below are the details of the analysis.

Hypothesis 1 (H1): Economic factors, such as the total cost of ownership, affordability, and government incentives, significantly influence consumer adoption of electric vehicles (EVs) in India.
Statistical Tool: Multiple Regression Analysis
Dependent Variable: EV Adoption Intention
Independent Variables: Total Cost of Ownership, Affordability, Government Incentives

Table 2: Regression Analysis for H1

Variable	**Coefficient (β)**	**Standard Error**	**t-value**	**p-value**
Total Cost of Ownership	-0.45	0.12	-3.75	0.000***
Affordability	0.38	0.09	4.22	0.000***
Government Incentives	0.52	0.11	4.73	0.000***

$R^2 = 0.62$
F-statistic = 78.34 ($p < 0.001$)

Interpretation:
Regression analysis established that economic factors significantly influenced the adoption of EVs in India. Cost of ownership ($\beta = -0.45$, $p < 0.001$) discouraged adoption, meaning that increased cost discouraged adoption. Affordability ($\beta = 0.38$, $p < 0.001$) and government incentives ($\beta = 0.52$, $p < 0.001$) promoted adoption, meaning that the variables promoted adoption. The model accounted for 62% of EV adoption intention variability.

Hypothesis 2 (H2): Psychological barriers, such as range anxiety and perceived inconvenience, negatively impact consumer adoption of electric vehicles (EVs) in India.
Statistical Tool: Correlation and Multiple Regression Analysis
Dependent Variable: EV Adoption Intention
Independent Variables: Range Anxiety, Perceived Inconvenience

Table 3: Regression Analysis for H2

Variable	Coefficient (β)	Standard Error	t-value	p-value
Range Anxiety	-0.57	0.10	-5.70	0.000***
Perceived Inconvenience	-0.49	0.08	-6.13	0.000***

$R^2 = 0.58$
F-statistic = 65.21 ($p < 0.001$)

Interpretation:

Psychological barriers significantly negatively impacted EV adoption. Range anxiety ($\beta = -0.57$, $p < 0.001$) and perceived inconvenience ($\beta = -0.49$, $p < 0.001$) were strong deterrents to adoption. The model explained 58% of the variance in EV adoption intention.

Hypothesis 3 (H3): Policy interventions, such as subsidies, tax incentives, and investments in charging infrastructure, positively influence consumer adoption of electric vehicles (EVs) in India.
Statistical Tool: Structural Equation Modelling (SEM)
Dependent Variable: EV Adoption Intention
Independent Variables: Subsidies, Tax Incentives, Charging Infrastructure

Table 4: SEM Results for H3

Variable	Path Coefficient	Standard Error	t-value	p-value
Subsidies	0.48	0.07	6.86	0.000***
Tax Incentives	0.42	0.06	7.00	0.000***
Charging Infrastructure	0.55	0.08	6.88	0.000***

Model Fit Indices:

- CFI = 0.94
- RMSEA = 0.05
- $\chi^2/df = 2.12$

Interpretation:
Policy measures had a positive and strong effect on EV adoption. Subsidies ($\beta = 0.48$, $p < 0.001$), tax credits ($\beta = 0.42$, $p < 0.001$), and charging facilities ($\beta = 0.55$, $p < 0.001$) were good predictors of adoption. The model had a good fit with the data.
Hypothesis 4 (H4): There are significant regional disparities in consumer adoption of electric vehicles (EVs) in India, with urban areas showing higher adoption rates compared to rural and semi-urban areas.
Statistical Tool: One-Way ANOVA
Dependent Variable: EV Adoption Intention
Independent Variable: Region (Urban, Semi-Urban, Rural)

Table 5: ANOVA Results for H4

Region	Mean Adoption Intention	Standard Deviation	F-value	p-value
Urban	4.25	0.78	45.67	0.000***
Semi-Urban	3.45	0.82		
Rural	2.80	0.75		

Post-Hoc Test (Tukey HSD):

- Urban vs. Semi-Urban: $p < 0.001$
- Urban vs. Rural: $p < 0.001$
- Semi-Urban vs. Rural: $p < 0.001$

Interpretation:
Significant regional disparities were observed in EV adoption. Urban areas had the highest adoption intention ($M = 4.25$), followed by semi-urban ($M = 3.45$) and rural areas ($M = 2.80$). The differences between all regions were statistically significant ($p < 0.001$).

Overall Interpretation of Results:
1. Economic Factors (H1): The major driver of EV uptake was economic factors. Although price and government incentives motivated uptake, the cost of ownership was a strong deterrent. Policymakers must tackle costs and enhance incentives to stimulate uptake.
2. Psychological Barriers (H2): Ease of charging and range anxiety concerns dissuaded individuals from the use of EVs on a mass scale. To offset such challenges, charging points must be increased, along with increasing awareness among customers.
3. Policy Responses (H3): Subsidy, tax cut, and charging infrastructure investment have been the most effective policy responses that have stimulated the adoption of EVs. The success of such evidence underlines the imperative need for well-designed policies to drive the transition to electric mobility.
4. Disparities at the Regional Level (H4): Urban areas had significantly higher EV uptake compared to semi-urban and rural areas. This calls for additional efforts towards underdeveloped regions in terms of better infrastructure and awareness promotion to bridge the gap in terms of adoption.

Findings
The research revealed several important results for electric vehicle (EV) adoption determinants in India. Economic factors emerged, and cost of ownership was a negative adoption determinant ($\beta = -0.45$, $p < 0.001$), whereas affordability ($\beta = 0.38$, $p < 0.001$) and government incentives ($\beta = 0.52$, $p < 0.001$) were positive determinants of adoption intention, explaining 62% of the variance. Psychological barriers such as range anxiety ($\beta = -0.57$, $p < 0.001$) and inconvenience perceptions ($\beta = -0.49$, $p < 0.001$) were good suppressors and accounted for 58% of the variance in intentions for adoption. Policy interventions, including subsidies ($\beta = 0.48$, $p < 0.001$), tax relief ($\beta = 0.42$, $p < 0.001$), and investments in charging stations ($\beta = 0.55$, $p < 0.001$), were most robust in driving the adoption of EVs, while structural equation modelling (SEM) verified an adequate model fit (CFI = 0.94, RMSEA = 0.05). There were regional differences, and the cities exhibited significantly higher levels of adoption ($M = 4.25$) than either the semi-urban ($M = 3.45$) or rural ($M = 2.80$), which all were significant at $p < 0.001$.

Discussion
The results highlight the complex dynamics of EV uptake, with the interplay between economic, psychological, and infrastructural drivers. The research revealed various important results of electric vehicle (EV) adoption determinants for India. Economic factors stepped in, and cost of

ownership was an unwanted determinant of adoption ($\beta = -0.45$, $p < 0.001$), whereas affordability ($\beta = 0.38$, $p < 0.001$) and government incentives ($\beta = 0.52$, $p < 0.001$) were positive determinants of adoption intentions, explaining 62% variance. Psychological barriers, such as range anxiety ($\beta = -0.57$, $p < 0.001$) and perceived inconvenience the negative impact of the cost of ownership is in line with previous research, with emphasis on cost-reducing strategies and higher financial incentives to make EVs more competitive (Gautam & Bolia, 2024; Yadav & Yadav, 2024). The stimulating influence of incentives and government subsidies reflects that subsidised and tax-rebated subsidies can exert a significant influence on adoption, particularly in cost-conscious markets like India (Rao et al., 2024). Range anxiety and inconvenience as psychological impediments emerged as predominant concerns, as with global literature (Zhang et al., 2022; Krishnan & Sreekumar, 2023). These challenges are overcome through investment in charge points and by government incentives to further increase consumer confidence in EV technology. Policy intervention policy performance in subsidization and investment in infrastructure puts into context the leadership position of government intervention to drive EV penetration (Abdullah et al., 2024; Durmuş Şenyapar & Aksöz, 2024). Regional variations in adoption levels also mirror the uneven distribution of economic and infrastructural resources in rural, semi-urban, and urban regions. Urban regions, with better infrastructure and higher earnings, were well placed to take up, while rural regions lagged with poor charging facilities infrastructure and lack of affordability (Msosa, 2023; Yadav & Yadav, 2024) ($\beta = -0.49$, $p < 0.001$), were extremely good inhibitors and accounted for 58% adoption intention variance variability. Policy actions, such as subsidies ($\beta = 0.48$, $p < 0.001$), tax relief ($\beta = 0.42$, $p < 0.001$), and charging point investment ($\beta = 0.55$, $p < 0.001$), were of greatest importance in promoting EV adoption, and structural equation modelling (SEM) supported a good model fit (CFI = 0.94, RMSEA = 0.05). There were regional variations, and the urban regions had much greater adoption levels ($M = 4.25$) compared to the semi-urban ($M = 3.45$) or rural ($M = 2.80$), all significant at $p < 0.001$. Such differences necessitate context-based strategies to counter the distinct challenges posed by various regions.

Conclusion

The study finds that economic considerations, psychological resistance, and policy measures play a central role in EV adoption in India. Policymakers need to target reducing the total cost of ownership, improving affordability, and increasing financial incentives to improve the transition to clean mobility. Psychological resistance must be combated through more charging points and consumer education as well. Moreover, some strategies would need to be developed to bridge regional gaps, with specific investments in rural and semi-urban regions to ensure that adoption is balanced. The results are stakeholder-specific, and the importance of an integrated methodology taking into consideration economic, psychological, and infrastructural factors is highlighted. By removing these barriers through effective policy measures, India can step up its e-mobility transition, enhancing global environmental and energy sustainability targets. Longitudinal trends and the integration of EVs into renewable energy networks are areas to be researched further in the future.

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