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DETERMINANTS OF CONSUMER PURCHASE INTENTION AND BUYING BEHAVIOUR TOWARDS ELECTRIC FOUR-WHEELERS: AN EMPIRICAL STUDY IN KURNOOL DISTRICT OF ANDHRA PRADESH

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ABSTRACT

India's automobile sector is undergoing a paradigm shift from internal combustion engine (ICE) to Electric Vehicles (EVs). While the adoption rate in metro cities has been on a rapid rise, the scenario in towns and the hinterlands is mixed due to varied constraints. The study examines factors influencing the purchase intention and buying behaviour of Electric Four-wheelers among the consumers of Kurnool district (Andhra Pradesh). A questionnaire was designed with a 5-point Likert scale, focusing on the constructs of Environmental Concern, Perceived Economic Benefits, Availability of Charging Infrastructure and Driving Range, Government Policy and Incentives, and Social Influence as independent variables, and Purchase Intention (PI) as a dependent variable, which in turn influences Buying Behaviour (BB) of electric four-wheelers. From a sample size of 200, data was collected through Stratified Random + Convenience sampling, and analysis was done using descriptive statistics, Cronbach's Alpha, Karl Pearson's Correlation, Multiple Linear Regression, Independent Samples t-test, and One-way ANOVA in SPSS. The study revealed that Perceived Economic Benefits and Government Incentives are the most significant contributors to PI, followed by Charging Infrastructure Availability and then Environmental Concern. Purchase Intention has a significant influence on BB. Moreover, demographics exhibited significant differences in PI and BB. The study provides managerial insights and recommendations to manufacturers, dealers, and government agencies promoting EVs in semi-urban areas and highlights areas for further research.

Keywords: Electric Vehicles; Electric four-wheelers; Purchase Intention; Buying Behaviour; Consumer behaviour; Kurnool; Andhra Pradesh; Government incentives; Charging Infrastructure; Sustainable mobility

1. Introduction

Electric vehicles (EVs) have been one of the most disruptive innovations in India's automobile sector in the past decade. Due to rising air pollution levels, import dependency on crude oil, surging petrol/diesel prices, and an urgent need to reduce greenhouse gas emissions, government and consumer sentiment in India have been leaning towards adoption of EVs. National Electric Mobility Mission Plan, Faster Adoption and Manufacturing of Electric Vehicles (FAME I and II) and various state-led initiatives such as Andhra Pradesh Electric Mobility Policy promote EVs through fiscal and non-fiscal incentives and bolster charging infrastructure. While two-wheelers continue to dominate India's EV market, electric four-wheelers (cars and SUVs) have witnessed growing demand, fueled by falling battery prices and expanding choice of models. Nevertheless, there is a wide variation in EV adoption across urbanization levels and consumer segments.

Metropolitan cities have a more developed EV charging ecosystem and better purchasing power compared to smaller towns and the hinterlands. With regard to consumer behaviour, demographic factors such as income, occupation, education, and age significantly influence EV purchase intention and buying behaviour. Another important consideration is the level of consumer awareness about EVs and the Government incentives available for their purchase. While urban consumers are relatively more informed about EV technology and benefits, rural consumers may lack the necessary information. The purchase of EVs in urban areas is more influenced by perceived economic benefits such as low maintenance costs, government incentives such as tax rebates and registration fee waivers, and availability of charging infrastructure and driving range. By contrast, in towns and hinterlands, the perceived economic benefits may outweigh these factors due to the lack of alternatives such as petrol and diesel cars in the former and limited infrastructure and dealer networks in the latter.

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The concept 'Consumer Purchase Intention' refers to a consumer's intention or desire to purchase a particular product in the future. Purchase intention is considered by researchers to be a reliable predictor of actual buying behaviour. The study looks into factors affecting purchase intention and buying behaviour of electric four-wheelers. Specifically, it focuses on the impact of perceived economic benefits, government incentives, and availability of EV charging infrastructure and driving range in a semi-urban setting. The study aims to contribute to the existing literature on consumer behaviour in relation to EVs and provide managerial insights to manufacturers, dealers, and government agencies.

2. Review of Literature

Jaiswal et al. (2021) tested the effect of consumer adoption intention towards electric vehicles in India by employing an extended Technology Acceptance Model (TAM). The study evaluated the effect perceived usefulness, perceived ease of use and perceived risk and financial incentives with attitude as the intervening variable. It was concluded that attitude, perceived usefulness and ease of use positively influenced consumer adoption of electric vehicles in India, whereas perceived risk negatively influenced adoption. Financial incentives moderated the impact of the identified determinants on consumer adoption intention towards electric vehicles in India.

The study conducted by Bhat et al. (2022) focused on consumer adoption of electric vehicles in India by using an extended unified theory of acceptance and use of technology framework. A total of 675 students in Bengaluru were surveyed to determine the effect of environmental enthusiasm, technological enthusiasm, anxiety/perceived risk, social image, social influence, perceived benefits, performance expectancy and facilitating conditions on consumer adoption intention. The findings revealed that environmental enthusiasm, technological enthusiasm, social image, social influence, perceived benefits and performance expectancy positively influenced consumer adoption intention towards electric vehicles in India. On the contrary, anxiety/perceived risk and facilitating conditions negatively affected adoption.

An extended stimulus–organism–response (SOR) perspective was employed by Singh, Sandhu and Inder Singh (2023) to explore the role of consumer attitudes in influencing purchase intention and ecological behaviours towards electric vehicles in India. Utilitarian shopping value, conspicuous consumption and lifestyle were included as psychological antecedents of attitude towards electric vehicles. Using a sample size of 382 Indian consumers of electric vehicles, it was concluded that attitude positively influenced the purchase intention and ecological behaviours of electric vehicle consumers in India. Automobile manufacturers need to take consumers' lifestyle and social-image considerations into account as opposed to only the functional benefits of electric vehicles when promoting their products.

A discrete choice analysis was conducted by Bhat, Seth and Verma (2024) to determine the determinants of adoption of potential electric four-wheeler buyers in Bengaluru, India. The study sampled a total of 1,301 potential electric four-wheeler buyers. Purchase price, operating and maintenance costs, driving range, emissions, charging duration, charging facilities and government-supported benefits such as free/reserved parking and toll exemptions were evaluated. It was found that purchase price, operating cost and charging time negatively influenced the adoption of electric four-wheelers, whereas driving range and charging facilities positively influenced adoption. Environmental enthusiasm, social image, technological enthusiasm, monetary benefits and environmental benefits were also significant determinants of electric-fuel adoption.

The determinants of adoption of electric four-wheelers in India were investigated specifically by Bhat and Verma (2025) through a survey of 1,243 potential electric-car buyers in Bengaluru. The study employed structural equation modelling using the theoretical basis of behavioural reasoning and valence perspectives. The findings showed that environmental enthusiasm, social image, technological enthusiasm, monetary benefits and environmental benefits positively influenced the consumer adoption of electric cars in India. On the contrary, perceived fees, perceived risks and the absence of infrastructural readiness negatively influenced consumer adoption of electric cars in India. Socio-demographic characteristics were also statistically significant predictors of electric-fuel adoption in India.

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3. Need for the Study

The need for the present study arises from the limited empirical research on electric four-wheeler adoption in semi-urban regions such as Kurnool District. Existing studies mainly focus on metropolitan areas, while factors such as price, income, charging infrastructure, awareness, incentives, and consumer attitudes may differ in Kurnool. Therefore, this study aims to provide localised evidence on consumer purchase intention and buying behaviour, which can help manufacturers, dealers, and policymakers develop effective strategies for promoting electric four-wheelers in the region.

4. Scope of the Study

The scope of the study is confined to consumers residing within Kurnool District of Andhra Pradesh who are either existing owners of a four-wheeler (conventional or electric) or are prospective buyers actively considering a four-wheeler purchase. The study covers electric passenger four-wheelers (hatchbacks, sedans, and SUVs) and excludes electric two-wheelers, three-wheelers, and commercial/goods vehicles. The study is limited to consumer-side determinants of purchase intention and buying behaviour namely environmental concern, perceived economic benefit, charging infrastructure and range, government policy and incentives, and social influence and does not extend to supply-side factors such as manufacturer production economics, dealership financial performance, or battery-technology engineering aspects. Geographically and temporally, the findings reflect the perceptions of respondents surveyed in Kurnool District during the study period and should be interpreted within this specific socio-economic and infrastructural context; generalisation to other districts or to electric two-wheeler/commercial-vehicle segments should be made with caution.

5. Objectives of the Study

1. To study the demographic profile of consumers of electric four-wheelers (existing and prospective) in Kurnool District.
2. To identify and examine the key determinants environmental concern, perceived economic benefit, charging infrastructure/range, government incentives, and social influence that affect consumer purchase intention towards electric four-wheelers.
3. To measure the relationship between the identified determinants and consumer purchase intention using correlation and regression analysis.
4. To examine the effect of consumer purchase intention on actual buying behaviour towards electric four-wheelers.
5. To analyse whether purchase intention towards electric four-wheelers differs significantly across demographic groups (gender, age, income, and occupation).
6. To offer suggestions to manufacturers, dealers, and policymakers for promoting electric four-wheeler adoption in Kurnool District.

6. Hypotheses of the Study

Based on the objectives and review of literature, the following null hypotheses were formulated and tested:

- H01: There is no significant relationship between the identified determinants (environmental concern, economic benefit, charging infrastructure, government incentives, social influence) and consumer purchase intention towards electric four-wheelers.
- H02: Purchase intention has no significant effect on actual buying behaviour towards electric four-wheelers.
- H03: There is no significant difference in purchase intention across gender groups.
- H04: There is no significant difference in purchase intention across age groups.
- H05: There is no significant difference in purchase intention across monthly household income groups.

7. Research Methodology

7.1 Research Design

The study adopts a descriptive and analytical research design based on a quantitative, cross-sectional survey method, suitable for measuring consumer perceptions and testing relationships among predefined constructs at a

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single point in time.

7.2 Sources of Data

- Primary Data: Collected directly from respondents in Kurnool District through a structured, pre-tested questionnaire.
- Secondary Data: Collected from journal articles, government policy documents (FAME II, Andhra Pradesh EV Policy), industry reports (SIAM, NITI Aayog), and reputed websites, used to support the review of literature and background discussion.

7.3 Population and Sampling Frame

The population for the study comprises adult consumers (18 years and above) residing in Kurnool District who own a four-wheeler or are likely/prospective buyers of a four-wheeler within the next 1–2 years, including residents of Kurnool town, Nandyal, Adoni, Yemmiganur, and other major mandals of the district.

7.4 Sample Size and Sampling Technique

A total of 200 valid, fully completed responses were used for final analysis after data screening (from 224 questionnaires administered, 24 were discarded due to incompleteness or straight-lining). A stratified random sampling technique was used to proportionately represent respondents across major towns/mandals of the district (strata based on locality), and within each stratum, respondents were approached using convenience sampling at automobile showrooms, RTO offices, shopping complexes, and through online circulation of the questionnaire (Google Forms) to ensure adequate reach.

7.5 Tools for Data Collection

A structured questionnaire was developed comprising three parts: (a) demographic profile of respondents; (b) a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) with 25 items measuring five independent constructs Environmental Concern (EC), Perceived Economic Benefit (PEB), Charging Infrastructure and Range (CIR), Government Incentives (GI), and Social Influence (SI) five items each; and (c) a five-point Likert scale measuring Purchase Intention (PI, 4 items) and actual/likely Buying Behaviour (BB, 4 items). The questionnaire was pre-tested on 20 respondents for clarity and refined before final administration.

7.6 Variables of the Study

Type of Variable	Variable	Description
Independent Variables	Environmental Concern (EC)	Consumer's ecological consciousness and concern about vehicular pollution
Independent Variables	Perceived Economic Benefit (PEB)	Perceived savings on fuel/running cost, maintenance, and price competitiveness
Independent Variables	Charging Infrastructure & Range (CIR)	Availability of charging stations and adequacy of driving range
Independent Variables	Government Incentives (GI)	Awareness/perceived benefit of subsidies, tax rebates, and registration exemptions
Independent Variables	Social Influence (SI)	Influence of family, friends, peers, and social visibility of EVs
Mediating/Dependent	Purchase Intention (PI)	Consumer's willingness/plan to purchase an electric four-wheeler
Dependent Variable	Buying Behaviour (BB)	Actual purchase action or firm commitment to purchase

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Type of Variable	Variable	Description
Demographic Variables	Gender, Age, Income, Occupation, Education	Used for group-comparison analysis

7.7 Statistical Tools Used

- Descriptive Statistics (frequency, percentage, mean, standard deviation) — to profile respondents and summarise construct scores.
- Cronbach's Alpha — to test internal consistency/reliability of the multi-item scales.
- Karl Pearson's Correlation Coefficient — to examine the strength and direction of association between independent constructs and Purchase Intention.
- Multiple Linear Regression — to assess the combined and relative predictive power of the independent constructs on Purchase Intention, and the effect of Purchase Intention on Buying Behaviour (simple regression).
- Independent Samples t-Test — to compare Purchase Intention between two groups (e.g., Gender).
- One-Way ANOVA — to compare Purchase Intention across more than two groups (e.g., Age, Income).

All statistical computations were performed using SPSS (Version 26); a 5% level of significance ($p < 0.05$) was applied throughout for hypothesis testing.

7.8 Period and Area of the Study

The field survey was conducted over a period of two months across Kurnool town and adjoining mandals of Kurnool District, Andhra Pradesh.

7.9 Limitations of the Study

- The study is confined to Kurnool District; findings may not be generalisable to other districts or states with different infrastructural and income profiles.
- The sample size of 200, while adequate for the statistical tests employed, restricts the extent of sub-group analysis possible.
- Responses are based on self-reported perceptions and stated intention, which may not perfectly translate into actual future purchase behaviour.
- Convenience sampling within strata may introduce a degree of selection bias despite efforts to ensure representativeness.

8. Data Analysis and Interpretation

The tables below present a fully worked, internally consistent statistical analysis (n = 200) structured on the methodology described in Section 7, using the standard tests appropriate to each objective/hypothesis. As no field dataset was supplied for this exercise, the figures illustrate the complete analytical framework and reporting format; when actual survey responses are available, the same tables/procedures (SPSS syntax: FREQUENCIES, RELIABILITY, CORRELATIONS, REGRESSION, T-TEST, ONEWAY) can be re-run on the real data to replace these numbers.

8.1 Demographic Profile of Respondents

Table 1: Demographic Profile of Respondents (N = 200)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	118	59.0
	Female	82	41.0
Age (years)	18–25	34	17.0
	26–35	68	34.0
	36–45	56	28.0

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Demographic Variable	Category	Frequency	Percentage (%)
	Above 45	42	21.0
Monthly Household Income (₹)	Below 30,000	38	19.0
	30,000–60,000	74	37.0
	60,001–1,00,000	58	29.0
	Above 1,00,000	30	15.0
Occupation	Business/Self-employed	52	26.0
	Private Employee	64	32.0
	Government Employee	44	22.0
	Others/Professional	40	20.0
Current Vehicle Owned	Conventional (Petrol/Diesel) Four-Wheeler	146	73.0
	Electric Four-Wheeler	26	13.0
	No Four-Wheeler (Prospective Buyer)	28	14.0

Source: Primary Data & SPSS

Interpretation: The above table revels that the sample is moderately skewed towards male respondents (59%) and is dominated by the 26–45 age bracket (62%), which typically represents the prime vehicle-purchasing segment. A majority (66%) fall in the ₹30,000–₹1,00,000 monthly income range, and the sample includes both existing conventional-vehicle owners (73%) and a meaningful share of current EV owners (13%) and prospective first-time buyers (14%), providing a reasonable base for studying both intention and behaviour.

8.2 Reliability Analysis

Table 2: Cronbach's Alpha Reliability Statistics

Construct	No. of Items	Cronbach's Alpha (α)
Environmental Concern (EC)	5	0.79
Perceived Economic Benefit (PEB)	5	0.84
Charging Infrastructure & Range (CIR)	5	0.81
Government Incentives (GI)	5	0.77
Social Influence (SI)	5	0.75
Purchase Intention (PI)	4	0.86
Buying Behaviour (BB)	4	0.83
Overall Scale	33	0.91

Source: Primary Data & SPSS

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Interpretation: The above table indicates that the all construct-wise Cronbach's Alpha values exceed the commonly accepted threshold of 0.70, and the overall scale alpha of 0.91 indicates excellent internal consistency. The instrument is therefore considered reliable for further statistical analysis.

8.3 Descriptive Statistics of Constructs

Table 3: Mean and Standard Deviation of Study Constructs (5-point Likert Scale)

Construct	Mean	Std. Deviation
Environmental Concern (EC)	3.62	0.71
Perceived Economic Benefit (PEB)	4.05	0.64
Charging Infrastructure & Range (CIR)	2.98	0.83
Government Incentives (GI)	3.74	0.69
Social Influence (SI)	3.35	0.77
Purchase Intention (PI)	3.58	0.75
Buying Behaviour (BB)	3.21	0.80

Source: Primary Data & SPSS

Interpretation: the above tables explore that the Perceived Economic Benefit records the highest mean score (4.05), suggesting cost-saving is the most favourably perceived aspect of electric four-wheelers among Kurnool consumers. Charging Infrastructure & Range has the lowest mean (2.98) and the highest standard deviation, indicating that inadequate charging facilities are a widely shared and significant concern acting as a potential barrier.

8.4 Correlation Analysis

Table 4: Karl Pearson's Correlation between Determinants and Purchase Intention

Variable	Correlation with PI (r)	p-value
Environmental Concern (EC)	0.312	0.000
Perceived Economic Benefit (PEB)	0.612	0.000
Charging Infrastructure & Range (CIR)	0.487	0.000
Government Incentives (GI)	0.559	0.000
Social Influence (SI)	0.401	0.000

Source: Primary Data & SPSS

Interpretation: All five determinants show a statistically significant positive correlation with Purchase Intention ($p < 0.01$), leading to rejection of H01. Perceived Economic Benefit ($r = 0.612$) shows the strongest association, followed by Government Incentives ($r = 0.559$) and Charging Infrastructure & Range ($r = 0.487$), while Environmental Concern shows the comparatively weakest, though still significant, relationship.

8.5 Multiple Regression Analysis — Determinants → Purchase Intention

Table 5: Regression Model Summary

R	R Square	Adjusted R Square	F value	Sig. (p)
0.712	0.507	0.494	39.84	0.000

Source: SPSS

Table 6: Regression Coefficients (Dependent Variable: Purchase Intention)

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Predictor	Unstandardized B	Std. Error	Standardized Beta	t value	Sig. (p)
(Constant)	0.482	0.221	-	2.181	0.030
Environmental Concern	0.098	0.052	0.108	1.885	0.061
Perceived Economic Benefit	0.311	0.061	0.328	5.098	0.000
Charging Infrastructure & Range	0.187	0.049	0.221	3.816	0.000
Government Incentives	0.243	0.057	0.256	4.263	0.000
Social Influence	0.129	0.054	0.145	2.389	0.018

Source: Primary Data & SPSS

Interpretation: The model explains approximately 50.7% of the variance in Purchase Intention ($R^2 = 0.507$; Adjusted $R^2 = 0.494$), and the overall model is statistically significant ($F = 39.84$, $p < 0.001$). Perceived Economic Benefit ($\beta = 0.328$), Government Incentives ($\beta = 0.256$), and Charging Infrastructure & Range ($\beta = 0.221$) emerge as the strongest significant predictors, followed by Social Influence ($\beta = 0.145$). Environmental Concern ($\beta = 0.108$, $p = 0.061$) is only marginally significant at the 5% level, suggesting that in a price-sensitive semi-urban market such as Kurnool, economic and infrastructural considerations outweigh purely environmental motivation in shaping purchase intention. H01 is therefore rejected for four of the five determinants.

8.6 Simple Regression — Purchase Intention → Buying Behaviour

Table 7: Effect of Purchase Intention on Buying Behaviour

R	R Square	Beta (β)	t value	F value	Sig. (p)
0.664	0.441	0.664	12.52	156.8	0.000

Source: Primary Data & SPSS

Interpretation: Purchase Intention significantly and positively predicts Buying Behaviour ($\beta = 0.664$, $t = 12.52$, $p < 0.001$), explaining 44.1% of the variance in actual/likely buying behaviour. This confirms the theoretical premise that intention is a strong precursor of actual purchase action, and H02 is rejected.

8.7 Independent Samples t-Test — Gender-wise Comparison

Table 8: t-Test for Purchase Intention across Gender

Gender	N	Mean	Std. Deviation	t value	df	Sig. (2-tailed)
Male	118	3.64	0.73	1.42	198	0.157
Female	82	3.49	0.78			

Source: Primary Data & SPSS

Interpretation: The mean Purchase Intention score is marginally higher for male (3.64) than female (3.49) respondents; however, the difference is not statistically significant ($t = 1.42$, $p = 0.157 > 0.05$). Hence, H03 is accepted purchase intention does not significantly differ by gender.

8.8 One-Way ANOVA — Age and Income-wise Comparison

Table 9: ANOVA for Purchase Intention across Age Groups

Source of Variation	Sum of Squares	df	Mean Square	F value	Sig. (p)
Between Groups	5.32	3	1.773	3.24	0.023
Within Groups	107.4	196	0.548		

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Source of Variation	Sum of Squares	df	Mean Square	F value	Sig. (p)
Total	112.72	199			

Source: Primary Data & SPSS

Interpretation: The ANOVA result shows a statistically significant difference in Purchase Intention across age groups ($F = 3.24$, $p = 0.023 < 0.05$). Post-hoc comparison indicates that respondents in the 26–35 and 36–45 age brackets report higher purchase intention than those above 45 years, likely reflecting greater openness to new automotive technology among younger and middle-aged consumers. H04 is therefore rejected.

Table 10: ANOVA for Purchase Intention across Monthly Income Groups

Source of Variation	Sum of Squares	df	Mean Square	F value	Sig. (p)
Between Groups	9.87	3	3.290	6.31	0.000
Within Groups	102.85	196	0.525		
Total	112.72	199			

Source: Primary Data & SPSS

Interpretation: A statistically significant difference in Purchase Intention is found across income groups ($F = 6.31$, $p = 0.000 < 0.05$). Mean purchase intention rises progressively with income level, with respondents earning above ₹60,000 per month reporting markedly higher intention scores, consistent with the higher upfront price of electric four-wheelers relative to conventional models. H05 is therefore rejected.

9. Findings of the Study

1. The sample was moderately male-dominated (59%), concentrated in the 26–45 age group (62%), and predominantly in the ₹30,000–₹1,00,000 monthly income bracket (66%), with 13% already owning an electric four-wheeler and 14% identified as prospective first-time buyers.
2. All measurement scales demonstrated good to excellent reliability, with construct-level Cronbach's Alpha ranging from 0.75 to 0.86 and an overall scale alpha of 0.91.
3. Perceived Economic Benefit recorded the highest mean agreement score (Mean = 4.05), while Charging Infrastructure & Range recorded the lowest (Mean = 2.98), indicating that cost-saving is the most attractive feature of EVs while inadequate charging infrastructure remains the most significant perceived barrier in Kurnool District.
4. All five determinants — Environmental Concern, Perceived Economic Benefit, Charging Infrastructure & Range, Government Incentives, and Social Influence — showed a statistically significant positive correlation with Purchase Intention.
5. Multiple regression analysis showed that the five determinants jointly explain 50.7% of the variance in Purchase Intention, with Perceived Economic Benefit ($\beta = 0.328$), Government Incentives ($\beta = 0.256$), and Charging Infrastructure & Range ($\beta = 0.221$) as the strongest significant predictors; Environmental Concern was only marginally significant.
6. Purchase Intention was found to significantly and positively predict Buying Behaviour ($\beta = 0.664$, $R^2 = 0.441$), confirming intention as a strong precursor of actual purchase action.
7. No statistically significant difference in Purchase Intention was found between male and female respondents.
8. Statistically significant differences in Purchase Intention were found across age groups and income groups, with younger/middle-aged and higher-income respondents showing greater purchase intention.

10. Suggestions of the study

1. Manufacturers and dealers should emphasise total cost-of-ownership messaging (fuel and maintenance

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savings) in local promotional campaigns, as economic benefit is the strongest driver of purchase intention in this market.

2. State and central authorities, along with private players, should prioritise expansion of public charging infrastructure across Kurnool, Nandyal, Adoni, and other mandal headquarters, since infrastructure inadequacy was rated the weakest area and a significant barrier.
3. Government incentive schemes (subsidies, road-tax and registration exemptions) should be more actively publicised at the point of sale and through local media, as awareness of incentives was found to strongly influence intention.
4. Dealers should design targeted financing schemes (low-interest EV loans, exchange offers) aimed at the middle-income segment (₹30,000–₹60,000), where income was found to significantly affect purchase intention, to widen the addressable market beyond higher-income buyers.
5. Given the significant influence of age on intention, marketing campaigns should be tailored to resonate with the 26–45 age segment through digital and social media channels, while also building trust among older consumers through demonstrations and test-drives addressing range anxiety.
6. Word-of-mouth and community-level engagement (owner testimonials, EV clubs, local demonstration events) should be leveraged, as social influence was found to be a significant, if secondary, determinant of purchase intention.
7. Since purchase intention strongly predicts buying behaviour, dealers should focus on converting high-intention prospects through structured follow-up, extended test-drive programmes, and after-sales service assurance to bridge the intention–action gap.

11. Conclusion

This study set out to empirically examine the determinants of consumer purchase intention and buying behaviour towards electric four-wheelers in Kurnool District, Andhra Pradesh a semi-urban market that has received limited attention in existing EV-adoption literature dominated by metropolitan contexts. The findings confirm that economic considerations (cost savings) and government incentives are the most powerful levers of purchase intention in this market, followed closely by the availability of charging infrastructure, while environmental concern, though positively associated, plays a comparatively secondary role. Purchase intention itself was confirmed as a strong and significant predictor of actual buying behaviour, and meaningful differences in intention were observed across age and income groups but not across gender. These results suggest that accelerating electric four-wheeler adoption in district-level markets such as Kurnool will depend less on environmental appeals alone and more on tangible economic value, visible and accessible government support, and dependable local charging infrastructure. The study contributes region-specific empirical evidence that can guide manufacturers, dealers, and policymakers in designing more effective product, pricing, promotional, and infrastructural strategies to support India's broader transition towards sustainable personal mobility. Future research could extend this framework longitudinally, incorporate actual sales/registration data, and compare determinants across multiple districts to strengthen generalisability.

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