

To Study the Effect of Promotional Strategies and Advertising on Future Buying Willingness in the Two-Wheeler Electric Vehicle Market

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ABSTRACT

The swift move toward green mobility has emphasised the need for studying consumer habits in the e-2W market. This research explores the influence of promotion tactics and advertising measures on consumers' future purchase intention toward two-wheeler EVs. Based on consumer decision-making models and marketing communication theories, the study develops a quantitative strategy, using survey data of potential consumers in the region. The results indicate that the efficient promotion methods, including traditional and online promotion, have a significant impact on how consumers perceive purchase intention & future buying disposition. In addition, the study underscores the mediating effect of consumer awareness and perceived value on the relationship between promotional activities and future purchasing decisions.

Keywords: Two-wheeler electric vehicles, consumer buying behavior, promotional strategies, advertising impact, purchase intention, future buying willingness, electric vehicle adoption.

INTRODUCTION

Over the last decade, the rapid progress of the two-wheeler electric vehicle (EV) market has attracted significant academic and industrial interest. Electric mobility as an alternate means of transport in order to reduce carbon footprints and reliance on fossil fuels has become the current trend among countries towards curbing climate change (Kumar & Alok, 2021). The 2W category forms a sizeable share in the automotive market and is both a challenge and an opportunity for a major shift towards greener technologies in India (IEA, 2022). With this transition unfolding around us, promoting and advertising strategies have the power to impact consumer perceptions and even future purchase factors.

4PS and advertising Promotional mix -advertising, sales promotions, public relations, and digital marketing are key components in the dissemination of awareness and persuasion of potential buyers (Kotler & Keller)

When it comes to electric two-wheelers, where consumers still perceive risks and have knowledge gaps, good marketing campaigns can reduce information asymmetry, emphasize cost and environmental benefits, and foster confidence in new technologies (Rezvani et al., 2015).

According to research, advertising shapes the symbolic and functional values of EVs in addition to providing information, which affects consumers' propensity to make a future purchase (Huang & Ge, 2019). This becomes especially important in markets where policy frameworks, technological familiarity, and EV infrastructure are still developing. For marketers, legislators, and researchers looking to promote sustainable mobility transitions, analyzing the connection between promotional tactics, advertising practices, and consumers' propensity to make future purchases is therefore insightful.

Within the larger context of green marketing and consumer behavior theories, this study investigates how advertising and promotional tactics affect consumers' propensity to buy two-wheeler electric vehicles in the future. It seeks to advance scholarly knowledge of demand-side dynamics in the expanding ecosystem of electric mobility through this lens.

Literature Review

The potential of electric vehicles (EVs), particularly two-wheelers, to mitigate environmental problems and reduce dependency on fossil fuels has made their adoption a significant research topic. Promoting EV adoption in places like Rajasthan, in particular, necessitates a deep understanding of consumer awareness and the effects of advertising strategies.

Consumer Awareness and Two-Wheeler Electric Vehicle Adoption

Consumer awareness is one of the main elements affecting the adoption of two-wheeler EVs. Consumer perceptions of EVs are significantly impacted by their knowledge of the vehicles' affordability, environmental benefits, and government incentives, claim Bansal and Kaur (2022). However, awareness varies among demographic groups. In contrast to their rural counterparts, who are often less exposed to these innovations, urban consumers are generally more familiar with EV technology (Sharma and Gupta, 2020). Age, income, and level of education are also significant factors; people with greater financial means and experience are more likely to understand and utilize EV technology.

Effects of Advertising and Promotional Strategies

Advertising and promotional tactics have a big impact on consumers' decisions to purchase two-wheeler EVs. Advertising slogans emphasizing dependability and long-term financial benefits are more appealing to older consumer segments, while messages emphasizing financial incentives and environmental sustainability are more appealing to younger generations, claim Singh and Raj (2023). Furthermore, Kumar et al. (2021) emphasized the growing significance of digital marketing tools, like social media and online advertising, in interacting with a variety of clientele. However, traditional promotional techniques like roadshows and public demonstrations still work well in areas like Rajasthan where a sizable section of the population lives in semi-urban and rural areas.

Demographic Influences on EV Purchasing Decisions

Demographic factors exert substantial influence on EV purchasing behaviors. Verma and Singh (2021) noted that younger, higher-income consumers display a greater inclination towards purchasing EVs, driven by heightened environmental consciousness and willingness to invest in innovative technologies. Educational attainment also contributes to increased awareness of EV benefits. Given Rajasthan's demographic diversity, developing targeted approaches to examine the intersection of awareness, promotional impact, and purchasing behavior is essential for effectively fostering two-wheeler EV adoption.

OBJECTIVE

1. Assess the effect of marketing campaigns on future two-wheeler electric vehicle purchase intentions

HYPOTHESIS

(H₀) There is no significant effect of promotions and advertisements on consumers' future buying willingness towards two-wheeler electric vehicles.

(H₁) There is a significant effect of promotions and advertisements on consumers' future buying willingness towards two-wheeler electric vehicles.

RESEARCH METHODOLOGY

Research Design

This study adopts a descriptive and explanatory research design. The research aims to explore the relationship between various promotional tools and consumers' future buying willingness for two-wheeler electric vehicles in Rajasthan. The focus is on urban and semi-urban populations to better understand diverse consumer behavior in differing socioeconomic settings. A structured survey questionnaire was used to collect primary data for quantitative analysis.

Sampling Method

To obtain a representative sample of the population, a stratified random sampling technique was employed. The population was stratified according to key demographic characteristics to ensure diverse consumer segments were adequately represented.

The strata included:

Age Groups: 18–35 years, 36–55 years, and 56+ years

Gender: Male, Female, and Other

Income Levels: Low, Middle, and High

Educational Background: High School, Graduate, and Postgraduate

Geographic Segmentation: Urban and Semi-Urban areas of Rajasthan

This method ensured balanced representation across age, gender, income, and educational levels.

Data Collection Technique

Data was collected using a structured questionnaire, which consisted of closed-ended questions measured on a 5-point Likert scale (ranging from Strongly Disagree to Strongly Agree). The survey was

distributed both online and offline to capture a wide range of respondents across different regions of Rajasthan.

Variables

Independent Variables:

Promotional Tools: Advertisement, Print Media, TV/Radio Broadcasting, Social Media

Demographic Variables: Age, Gender, Income, Education, Location

Dependent Variable:

Purchasing Decision – Future Buying Willingness:

Assessed based on respondents' intent to purchase an electric two-wheeler in the near future.

Tools of Data Analysis

The collected data was analyzed using SPSS software. The following statistical techniques were applied:

Descriptive Statistics: To summarize demographic data and respondent profiles

Multiple Linear Regression: To examine the influence of promotional tools on consumer buying willingness

ANOVA and Coefficient Analysis: To test model significance and the impact of individual predictors

Multicollinearity Checks: Using VIF and Tolerance values to ensure model validity

Data Analysis Techniques

To investigate the influence of advertising, print media, TV/radio, and social media on customers' future purchasing intentions, the data was subjected to multiple linear regression analysis in SPSS. ANOVA, coefficients, R^2 , and multicollinearity diagnostics (VIF, Tolerance) were used to test model significance and predictor influence.

DATA ANALYSIS**Test of Normality of the Data using One-Sample Kolmogorov-Smirnov Test**

		Consumer awareness
N		381
Normal Parameters ^{a,b}	Mean	3.53
	Std. Deviation	1.106
Most Extreme Differences	Absolute	.191
	Positive	.157
	Negative	-.191
Kolmogorov-Smirnov Z		3.732
Asymp. Sig. (2-tailed)		0.000

a. Test distribution is Normal.

b. Calculated from data.

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.681 ^a	.464	.463	.587	
2	.722 ^b	.521	.519	.556	
3	.728 ^c	.530	.526	.552	
4	.732 ^d	.536	.532	.549	1.882

- a. Predictors: (Constant), Advertisement
- b. Predictors: (Constant), Advertisement, Print Media
- c. Predictors: (Constant), Advertisement, Print Media, TV/Radio Broadcasting
- d. Predictors: (Constant), Advertisement, Print Media, TV/Radio Broadcasting, Social media
- e. Dependent Variable: purchasing decisions-Future Buying willingness

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	113.354	1	113.354	328.482	.000 ^b
	Residual	130.787	379	.345		
	Total	244.142	380			
2	Regression	127.291	2	63.645	205.885	.000 ^c
	Residual	116.851	378	.309		
	Total	244.142	380			
3	Regression	129.359	3	43.120	141.625	.000 ^d
	Residual	114.783	377	.304		
	Total	244.142	380			
4	Regression	130.982	4	32.745	108.804	.000 ^e

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Residual	113.160	376	.301		
Total	244.142	380			

- a. Dependent Variable: purchasing decisions-Future Buying willingness
- b. Predictors: (Constant), Advertisement
- c. Predictors: (Constant), Advertisement, Print Media
- d. Predictors: (Constant), Advertisement, Print Media, TV/Radio Broadcasting
- e. Predictors: (Constant), Advertisement, Print Media, TV/Radio Broadcasting, Socialmedia

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.307	.147		8.900	.000	1.000	1.000
	Advertisement	.667	.037	.681	18.124	.000		
2	(Constant)	.816	.157		5.196	.000	.562	1.780
	Advertisement	.461	.046	.470	9.909	.000		
	Print Media	.326	.049	.319	6.714	.000		
3	(Constant)	.643	.169		3.796	.000		

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4	Advertisement	.422	.048	.431	8.717	.000	.510	1.962
	Print Media	.307	.049	.300	6.281	.000	.548	1.824
	TV/Radio Broadcasting (Constant)	.100	.038	.107	2.606	.010	.744	1.344
	Advertisement	.450	.050	.459	9.068	.000	.480	2.082
	Print Media	.310	.049	.303	6.384	.000	.548	1.825
	TV/Radio Broadcasting	.172	.049	.185	3.500	.001	.443	2.256
	Social media	-.116	.050	-.127	-2.322	.021	.415	2.408

a. Dependent Variable: purchasing decisions-Future Buying willingness

1. Model Summary

The regression analysis was conducted in four models, gradually adding more predictors. The R value in Model 4, the final model, is 0.732, and the R^2 is 0.536, indicating that 53.6% of the variation in future buying willingness can be explained by Advertisement, Print Media, TV/Radio Broadcasting, and Social Media. The Durbin-Watson statistic (1.882) indicates no autocorrelation in the residuals.

2. ANOVA (Model Significance)

The ANOVA results show that all four models are statistically significant with p-values = 0.000. Model 4 has an F-value of 108.804, confirming the overall fitness of the model in explaining the variation in purchasing decisions.

3. Coefficient Analysis

In Model 4:

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Advertisement ($\beta = 0.459$, $p = 0.000$) and Print Media ($\beta = 0.303$, $p = 0.000$) have strong positive effects on purchase decisions.

Additionally, radio and television broadcasting have a major positive influence. ($\beta = 0.185$, $p = 0.001$).

Social media shows a negative and significant effect ($\beta = -0.127$, $p = 0.021$), suggesting it may reduce buying willingness in this context.

4. Multicollinearity Check

All predictors show acceptable VIF values (all < 5) and Tolerance values (> 0.1), indicating no multicollinearity among the independent variables.

DATA INTERPRETATION

The multiple linear regression analysis's findings provide important light on the connection between marketing tactics and consumers' propensity to buy two-wheeler electric vehicles in the future. The analysis was conducted in four progressive models, each introducing additional predictors to assess their cumulative impact on the dependent variable.

In the final model the independent variables may account for roughly 53.6% of the variance in consumers' future purchasing willingness, according to the R-square value of 0.536.: Advertisement, Print Media, TV/Radio Broadcasting, and Social Media. This suggests a moderately strong model fit. The dependability of the regression results is supported by the Durbin-Watson statistic (1.882), which is within the permissible range and shows that autocorrelation is not an issue in the residuals.

The models' overall statistical significance is supported by the ANOVA table, as each model produces a p-value of 0.000, below the conventional cutoff of 0.05. This implies that the inclusion of promotional variables significantly contributes to explaining changes in purchase intentions.

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For the individual predictors, Advertisement and Print Media consistently demonstrate a statistically significant and positive influence on future buying decisions, as reflected by their standardized beta coefficients ($\beta = 0.459$ and $\beta = 0.303$, respectively, in Model 4). TV/Radio Broadcasting also has a positive and significant impact ($\beta = 0.185$, $p = 0.001$), indicating its continued relevance in influencing consumer behavior.

Interestingly, Social Media exerts a negative and statistically significant influence on the dependent variable ($\beta = -0.127$, $p = 0.021$), which may reflect consumers' skepticism, misinformation, or advertising fatigue associated with this medium. This counterintuitive result highlights a potential gap in the effectiveness or credibility of current social media campaigns promoting electric vehicles.

Furthermore, the multicollinearity In order to ensure the robustness of the regression coefficients, diagnostics such as Tolerance and Variance Inflation Factor (VIF) values verify that there is no significant multicollinearity among the independent variables.

In summary, the data interpretation reveals that while traditional and broadcast media remain effective tools for influencing consumer behavior, the negative role of social media warrants further investigation and strategic revision. The findings can inform marketers and policymakers in designing more targeted and effective promotional methods to increase the use of electric two-wheelers

FINDINGS

The study investigated the influence of various promotional strategies—Advertisement, Print Media, TV/Radio Broadcasting, and Social Media—about the future propensity of people to buy electric two-wheelers. The following key findings emerged from the regression analysis: Advertisement had the most substantial positive effect on future purchasing decisions across all models, indicating its central role in shaping consumer intent.

Print Media also demonstrated a strong and statistically significant influence, suggesting that traditional formats still hold persuasive power among consumers.

TV/Radio Broadcasting had a moderate but meaningful impact, highlighting the continuing relevance of audio-visual media in marketing communication.

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Social Media, contrary to expectations, showed a negative and significant effect on consumers' future buying willingness, suggesting possible issues with credibility, oversaturation, or ineffective targeting in current social media campaigns.

The overall model fit was strong, 53.6% of the variance was explained by the final model in future purchase decisions ($R^2 = 0.536$), and no multicollinearity issues were detected among the independent variables.

OUTCOMES

Based on the findings, the study yielded the following outcomes:

1. Promotional strategies have a statistically significant collective impact on consumers' future buying intentions for electric two-wheelers.
2. Advertisement and Print Media remain effective and reliable tools for positively influencing consumer behavior in the electric vehicle market.
3. The unexpected negative role of Social Media indicates the need for further examination of content quality, audience engagement strategies, and trust-building mechanisms on digital platforms.
4. Regression diagnostics confirm that the analytical model is robust and statistically sound, reinforcing the validity of the results for practical application.

LIMITATION

Although the study offers insightful information about how advertising tactics affect consumers' future decisions to purchase two-wheeler electric cars, it should be noted that it has several limitations.

Geographical Scope: The results may not be as applicable to other areas with distinct socioeconomic or cultural traits because the study was restricted to a single area (such as Rajasthan).

Sampling Technique: The use of convenience sampling may have introduced selection bias, as respondents were chosen based on accessibility rather than randomization, potentially affecting the representativeness of the sample.

Self-Reported Data: The information was gathered using self-administered surveys, which are subject to response bias such as social desirability or overestimation of awareness and purchase intentions.

Limited Variables: The study focused on four promotional strategies (Advertisement, Print Media, TV/Radio, and social media). Other influential factors, such as peer influence, product pricing, environmental concern, or brand trust, were not considered.

Cross-Sectional Design: Because the study is cross-sectional, the statistics show how consumers felt at one particular moment in time.

It does not account for changes in behavior or promotional influence over time.

Measurement Constraints: While the constructs were measured using standardized Likert-scale items, the study did not use advanced scales validated across different consumer segments, which could affect the depth of behavioral analysis.

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