



A STUDY ON IMPACT OF GREEN MARKETING ON BUYING BEHAVIOUR OF CONSUMERS OF AUTOMOBILE SECTOR WITH SPECIAL REFERENCE TO RAIPUR CITY

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ABSTRACT-

Green marketing refers to holistic marketing concept which fosters environmental betterment ensures reduction of trade barriers, standardization, diminished health and safety impacts, enhanced community and employee relationships, high customer satisfaction, trust, loyalty, and elevated brand equity.

Indian automobile industry is one of the primary drivers of the nation's economic prosperity. Currently, the automobile industry contributes **7.1%** of India's GDP and 49% of its manufacturing GDP. The EV market is expected to grow at CAGR of 49% between 2022-2030. Government of India, and non-governmental organizations are collaborating to foster green pursuit which propels the nation toward sustainability. If strategically implemented then it may generate several commercial opportunities, green jobs, protect environment, and improve the livelihood of people (Rodger, 2016).

This study titled “**AN STUDY ON IMPACT OF GREEN MARKETING ON BUYING BEHAVIOUR OF CONSUMERS OF AUTOMOBILE SECTOR WITH SPECIAL REFERENCE TO RAIPUR CITY**”, critically reviews the existing literature on green marketing strategies and collected data to understand the individual and organizational benefits derived from green marketing strategies. The findings of the study are proved by applying sound statistical modeling, states that passenger vehicle companies exhibit a heightened environmental consciousness. However, the purchasing behavior of customers for different types of passenger vehicles, such as cars, SUVs, XUVs, vans, and jeeps, varies significantly. The implications of this study highlights the need for businesses to embrace green marketing, integrate sustainability and adapt to changing consumer preferences and government initiatives. There is ample scope for businesses to grow by abiding eco-friendly practices in the Indian automobile sector.

KEYWORDS : Green Marketing, Eco-Marketing, Environmental Marketing, Green Vehicles, and Green Automobile Companies

I. INTRODUCTION

Marketing, an ancient concept, has evolved into a holistic approach that shapes a company's vision, mission, and strategy. It encompasses decisions regarding customers, products, prices, distribution channels, promotional techniques, and environmental considerations, collectively known as "Marketing Practices." Green marketing, which gained prominence in the 1980s, represents a transformative shift in how businesses engage with consumers by emphasizing environmental consciousness and sustainability. Green advertising is a key component in building a brand's image.

Green marketing is a critical component of modern marketing strategies, driven by environmental concerns and consumer demand for eco-friendly products. Businesses have a responsibility to protect the environment and promote sustainability while meeting the needs and preferences of their customers. By embracing green marketing, companies can innovate, save resources, and create a more sustainable future for both their businesses and the planet. Sharang Karurkar , Seema Unnikrishnan , Swapna Sonali Panda,(2018),

The rise of the Green market is a response to the growing importance placed on environmental protection. Businesses, regardless of their size, must now adopt environmental friendliness as a core value to remain competitive in today's economy. Consumers are willing to pay a premium for eco-friendly products and prefer to associate themselves with environmentally responsible companies. Thus, green marketing has become not only an environmental instrument but also a promotional strategy. Green marketing can benefit companies both financially, by reducing costs, and in terms of market opportunities, by gaining a competitive edge and positive public perception. However, as more businesses adopt environmentally responsible practices, simply being a first mover in the green market is no longer enough.

The Indian automobile industry plays a substantial role in the nation's economy, contributing 7.1% to GDP and 49% to manufacturing GDP. The electric vehicle (EV) market in India is poised for rapid growth, offering job opportunities and economic prospects. India holds a strong position in the global heavy vehicles market, manufacturing tractors, buses, and heavy trucks. Government initiatives like the Automotive Mission Plan 2026 and scrappage policies are expected to stimulate growth in the two-wheeler and four-wheeler markets.

Environmental pollution poses a significant threat, and green marketing aligns with the concept of a green economy, promoting sustainable development, pollution reduction, and natural resource preservation. Strategic green economic policies can generate commercial opportunities, green jobs, and protect the environment. Velury Vijay Bhasker, (2013),

This study investigates green marketing within the Indian automobile industry, with a focus on Raipur. It explores green consumer behavior and its relevance in the context of sustainable development. Consumers and marketers are increasingly aware of environmental concerns such as global warming, non-biodegradable waste, and harmful contaminants. This heightened awareness has led to a growing demand for green products and services. Green marketing involves developing and promoting products and services that meet customer needs while minimizing negative environmental impacts.

Automobile Companies in India

The automobile sector in India has witnessed substantial development in the past few decades. From the times when the sector was largely dominated by foreign car manufacturers and their patented technologies to the present era wherein Indian car manufacturers have a major share of the market, there has been a drastic evolution in the sector. The Indian car market has emerged appealingly within the global automobile industry. The favorable economic and demographic trends play major role in progress of the Indian car market. Government support in the form of Automotive Mission Plan 2026 and developing India as a manufacturing hub has opened future avenues for the expansion of the Indian car market.

The Indian automobile industry is a significant contributor to the country's economy, accounting for a considerable share of GDP and manufacturing GDP. With the growing electric vehicle (EV) market, government initiatives, and a strong position in heavy vehicle production, the industry is poised for growth. However, environmental pollution remains a pressing concern, making green marketing an essential strategy for promoting sustainable development.

Marketing with a focus on sustainability

Marketing with a focus on sustainability means promoting products or services in a way that shows they're good for the environment and society. This type of marketing highlights how a company is being eco-friendly, using resources wisely, and making a positive impact on the world. It's about more than just selling things; it's about making sure those things are made and sold in a way that doesn't harm the planet or people. Green marketing has become crucial in modern business practices, driven by societal obligations and growing environmental concerns. It aims to protect the planet and ensure the well-being of future generations. Sustainable development, defined as meeting present needs without compromising the ability of future generations to meet their own needs, is at its core. Green marketing involves fundamental changes in product composition, manufacturing methods, waste management, and more, emphasizing environmental protection. Businesses need to shift from product-centered marketing to consumer and planet-centered values. Sustainable growth is achieved through strategies like energy-efficient processes, improved pollution controls, and eco-friendly products. Environmental marketing strategy encompasses operational and strategic planning, involving various actions to meet green consumer needs and avoid distrust of environmental claims.

Protecting the Environment

Protecting the environment in the automobile industry involves taking steps to reduce the negative impact of cars on nature. This can include developing and using cleaner fuels like electric or hybrid engines, making vehicles more fuel-efficient to reduce emissions, and recycling materials to reduce waste. Additionally, efforts can be made to design cars with eco-friendly materials and technologies that minimize pollution during manufacturing and operation. It's about finding ways to make cars more environmentally friendly throughout their entire lifecycle, from production to disposal. Heightened environmental awareness due to media coverage has made consumers more concerned about their everyday actions' impact on the environment. Environmental safety is challenging and costly for businesses, with strict regulations like hazardous material management and waste disposal. International programs focus on emergency procedures and pollution control. Regulatory bodies like OSHA, CERCLA, TSCA, HMTA, FIFRA, FFDCA, and the Clean Air Act ensure environmental safety. Implementing environmental measures is challenging due to differing regulations, especially in countries with multiple authorities. EH&S compliance and CSR initiatives promote continual improvement and environmental responsibility, helping businesses adhere to regulations.

Accountability to Society

Corporations are recognizing the need for ecological responsibility in a globalized world where customers demand environmental protection. Green marketing is crucial in India and worldwide for sustainable development, appealing to consumers willing to pay more for a cleaner environment. Businesses must prioritize environmental objectives alongside profits, making ecological concerns integral to their ethos. They can either promote their ecological responsibility or quietly embrace it. Green marketing's importance is growing, with the paper discussing its challenges, opportunities, and future growth in both practice and demand, especially in developing countries.

Performance of Auto Industry in 2021-22

As per SIAM report 2021-22 (The Society of Indian Automobile Manufacturers (SIAM) is a not for profit apex national body representing all major vehicle and vehicular engine manufacturers in India According to the SIAM report for 2021-22, the Indian automobile industry produced 22,933,230 vehicles, including Passenger Vehicles, Commercial Vehicles, Three Wheelers, Two Wheelers, and Quadricycles, which was a slight increase compared to the previous year. Domestic sales saw growth in Passenger Vehicles, Commercial Vehicles, and Three Wheelers, while Two Wheelers experienced a decrease in sales. Exports also showed positive trends, with higher numbers in Passenger Vehicle Exports, Commercial Vehicle Exports, Three Wheeler Exports, and Two Wheelers Exports compared to the previous year. The report reflects the performance and dynamics of the Indian auto industry during this period.

Growth Prospects of Indian Automobile Industry in India

As per Indian Brand Equity Foundation ,the India passenger car market was valued at US\$ 32.70 billion in 2021, and it is expected to reach a value of US\$ 54.84 billion by 2027, while registering a CAGR of over 9% between 2022-27. The electric vehicle (EV) market is estimated to reach Rs. 50,000 crore (US\$ 7.09 billion) in India by 2025. A study by CEEW Centre for Energy Finance recognized a US\$ 206 billion opportunity for electric vehicles in India by 2030. This will necessitate a US\$ 180 billion investment in vehicle manufacturing and charging infrastructure. According to NITI Aayog and the Rocky Mountain Institute (RMI), India's EV finance industry is likely to reach Rs. 3.7 lakh crore (US\$ 50 billion) by 2030. A report by the India Energy Storage Alliance estimated that the EV market in India is likely to increase at a CAGR of 36% until 2026. In addition, projection for the EV battery market is expected to expand at a CAGR of 30% during the same period.

2 REVIEW OF LITERATURE

The literature review covers several aspects, beginning with a discussion on marketing concepts, particularly the shift from old-school mass marketing to the modern focus on consumer satisfaction and customized products. It then explores the evolution of green marketing, ethical marketing, and social marketing. Hallin (1995) argues that people's environmental actions stem from aspirations to improve the environment, gain respect as an example to others, and protect the planet for future generations. Green marketing, as argued by Ryan Wiser and Steven Pickle (1997), capitalizes on consumers' desire to purchase things that have both personal and public environmental advantages, even if doing so requires paying more than usual. Green manufacturing has been defined as an economically-driven, system-wide and integrated approach to the reduction and elimination of all waste streams associated with the design, manufacture, use and/or disposal of products and materials (Handfield et al., 1997).

With an eye toward the future of Green marketing, James A. Roberts (1999) analyses the ever-changing habits of environmentally conscious consumers. The research also offers a means of categorizing and segmenting college students according to their level of concern for the environment in their purchasing decisions. This article by Ricky Y. K. Chan (2001) analyses the ways in which cultural and psychological factors affect Green purchasing behavior among Chinese consumers. As such, a conceptual model has been created and will be empirically verified by a survey. Structural-equation modeling results demonstrate that individuals' man-nature orientation, degree of collectivism, ecological affect, and, to a lesser extent, ecological knowledge. Carmen Tanner (2003) seeks to improve our understanding of how to encourage people to buy more sustainably farmed food by illuminating the factors, both individual and environmental, that stand in the way of such purchases. According to Ubba Savitha (2006), consumers' pro-environment attitudes and actions are largely determined by their age and gender. She argues that consumers' individual characteristics and lifestyle choices determine whether or not they engage in "Green behavior."

Looking into the trend we have taken the Indian automobile sector specifically the car segment as a case. It is because the automotive sector is one of the most important economic catalysts in every country (Orsato and Wells, 2007). Nitin Joshi (2010) examines consumer habits in the Indian state of Maharashtra, one of the country's most prosperous regions. This research is being conducted to learn how consumers feel about eco-friendly vehicles (EFV). In order to succeed in producing a "green" vehicle, it is important to first ascertain the current state of public knowledge about the EFC and then to actively raise that level of knowledge. Positive customer attitudes about environmental issues are not always reflected in environmentally conscious purchase decisions. The review highlights the Indian perspective on green marketing within the automobile industry, emphasizing green manufacturing.

Maximum definition of GM focuses around minimizing environmental impact by reducing toxics, waste, pollution, optimizing use of raw material, and energy by applying end of life (EOL), cradle to cradle and close loop approach Ahmad and Shrivastava (2013). One important prerequisite of greenmarketing is the green manufacturing. Tian et al. (2016) say that for many companies, green product development has become a key strategic consideration due to regulatory requirements and market trends.

Shruti Garg and Vandana Sharma (2017) The ideas of green marketing such as designing of green products, implementing a green supply chain, packaging, pricing and advertising are beneficial to society and to the environment as a whole

Research Gap:

The literature review highlights several research gaps in the context of green marketing practices in the automobile industry, particularly in India:

1. **Emerging Research Area:** Green marketing practices within the automobile industry are relatively unexplored, presenting an opportunity for new research.
2. **Untapped Customer Behavior:** The influence of green production and marketing practices on customer behavior in the automobile industry remains uncovered, especially among environmentally conscious consumers.
3. **Sustainable Marketing Strategies:** Despite the rising demand for green products like electric and hybrid vehicles in India, there's a research gap in understanding the effectiveness and impact of sustainable green marketing strategies.
4. **Challenges in Implementation:** Limited research exists on the challenges faced by companies when implementing sustainable green marketing strategies within the Indian automobile industry.
5. **Consumer Knowledge and Attitudes:** Investigating the knowledge, attitudes, and purchasing behavior of consumers regarding green vehicles in specific locations, such as Raipur, Chhattisgarh.
6. **Perception and Awareness:** Understanding consumer perception and awareness of green vehicles

within specific regions, shedding light on regional differences.

7. **Demographic Influences:** Identifying significant demographic factors that influence consumer buying behavior in the context of green vehicles.
8. **Government Policies:** Exploring the role of government policies, rules, and regulations in promoting green marketing within the Indian automobile sector.
9. **Research Models:** Developing research models that can be empirically tested to provide valuable insights into green marketing practices and consumer behavior.

Addressing these research gaps is essential for advancing the understanding of green marketing in the Indian automobile industry and promoting sustainability in this sector.

Objectives of Study:

To study the auto industry's green marketing practices which influences Consumer of the Automobile Industry in Raipur.

Hypotheses

H01: There is no association between the purpose of the vehicles and the type of vehicles purchased by the customers of the automobile industry.

H02: There is no difference across the preferences of the customers of different vehicle formats associated with the factors that motivate them to purchase vehicles.

DATA COLLECTION METHODS

Data for the first objective were collected from sustainability reports of ten major Indian car manufacturers, covering 98% of the market. TV advertisements were sourced from a marketing portal (afaqs.com). A structured questionnaire was used to collect responses from 700 respondents in Raipur city. Data for the study was collected from both primary and secondary sources. Primary sources include surveys of automobile manufacturers and interviews with vehicle owners. Secondary sources comprise data from government agencies and research journals

- Research employed a comprehensive questionnaire and an interview schedule to investigate green practices and consumer behavior in the auto industry.
- Data collection involved interviews with four-wheeler buyers.
- A pilot study with 75 passenger vehicle buyers refined the interview schedule.
- 152 statements on aspects affecting purchasing behavior, satisfaction, loyalty, trust, and green brand equity were analyzed using reliability analysis.
- The population includes registered vehicle owners in Raipur and car manufacturers who are members of the Association of Automobile Manufacturers of India.

Cronbach's alpha, a measure of internal consistency, was employed to establish trust in the study. It assesses how well a set of items measures a single construct, ensuring reliability.

Sampling Method

There are 26 Automobile dealers on the list approved by the Association of Automobile Dealers in Raipur Chhattisgarh; 6 of these responded to the questionnaire, making them the statistically representative sample for this study. There were **over six million registered vehicles** across Chhattisgarh at the end of fiscal year 2021.(Source –statistica)

Table 2.0 Total No. vehicles sold in Raipur in FY 2020-2021

SNO	VEHICLE TYPE	TOTAL NUMBERS OF VEHICLE OWNER IN RAIPUR	DISTRIBUTION OF SAMPLE (700)
1	Four-wheeler (Private & Passenger car)	122034	700
	Total	122034	700

Source: auto.economictimes.indiatimes.com/ 3July2021

Research Tools

- Chi-square test assesses the association between vehicle function and type of vehicle purchased, examining correlation.
- Independent Samples t Test compares responses of companies regarding environmentally friendly practices.
- Log Linear Multinomial model analyzes conditional relationships between categorical variables.
- Friedman test compares multiple variables and ranks respondents' preferences across studies.
- Two-Way ANOVA assesses factors influencing Green purchasing behavior across regions and vehicle types.
- Pearson Correlation measures the interconnection and interrelation among factors influencing Green purchasing behavior.

III DATA ANALYSIS AND INTERPRETATION

The study emphasizes the growing environmental awareness among consumers due to media coverage of environmental issues. It highlights the importance of eco-friendly practices and products, especially in the automobile industry. The shift towards green lifestyles and sustainable choices has influenced consumer preferences. Car manufacturers aim to reduce their environmental impact through green technology.

Using Stratified Random selection method, customers from the data base of 6 dealers of Automobiles in Raipur and RTO offices of Rawabhanta and Pandari were selected . Taking into account the theoretical and statistical relationship between the variables, this study analyzes the Green buying behavior of four-wheeler buyers.

3.1 Demographic Profile of the Selected Customers of Four-wheelers

Fig. 3.1 Area wise sample of the Selected Customers of Four-wheelers

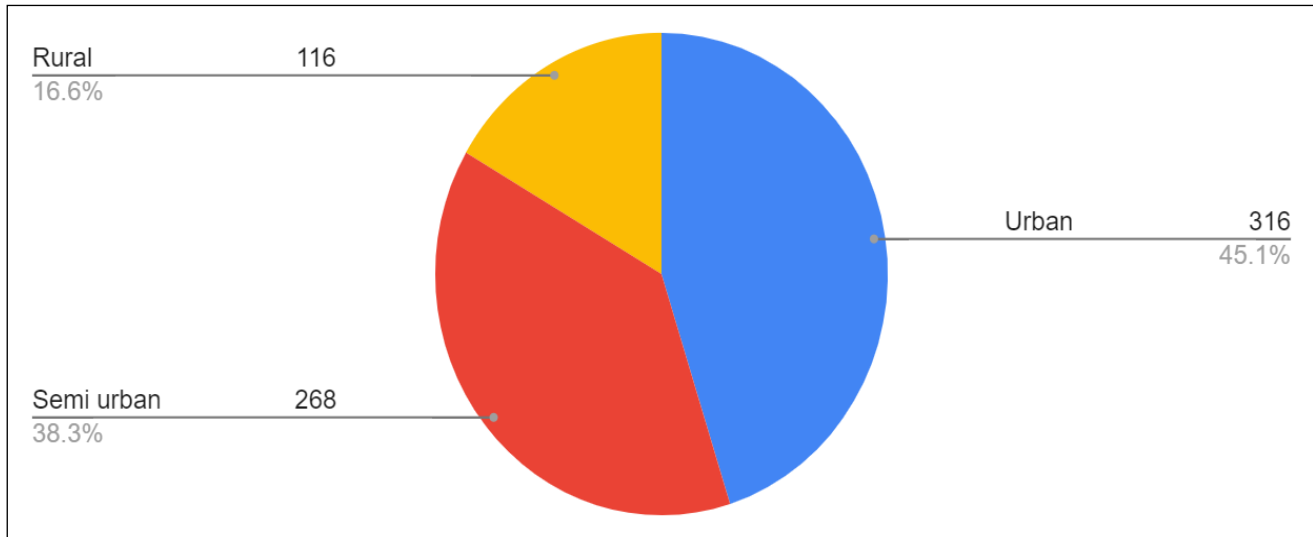


Fig. 3.2 Gender bifurcation of the Selected Customers of Four-wheelers

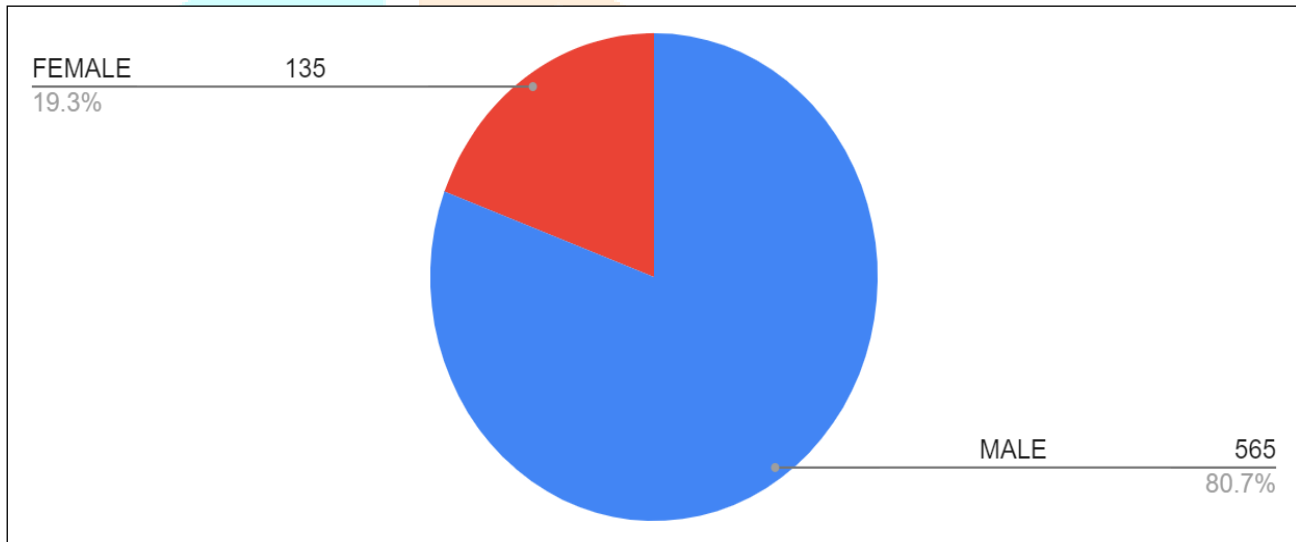


Fig. 3.3 Educational Qualification of the Selected Customers of Four-wheelers

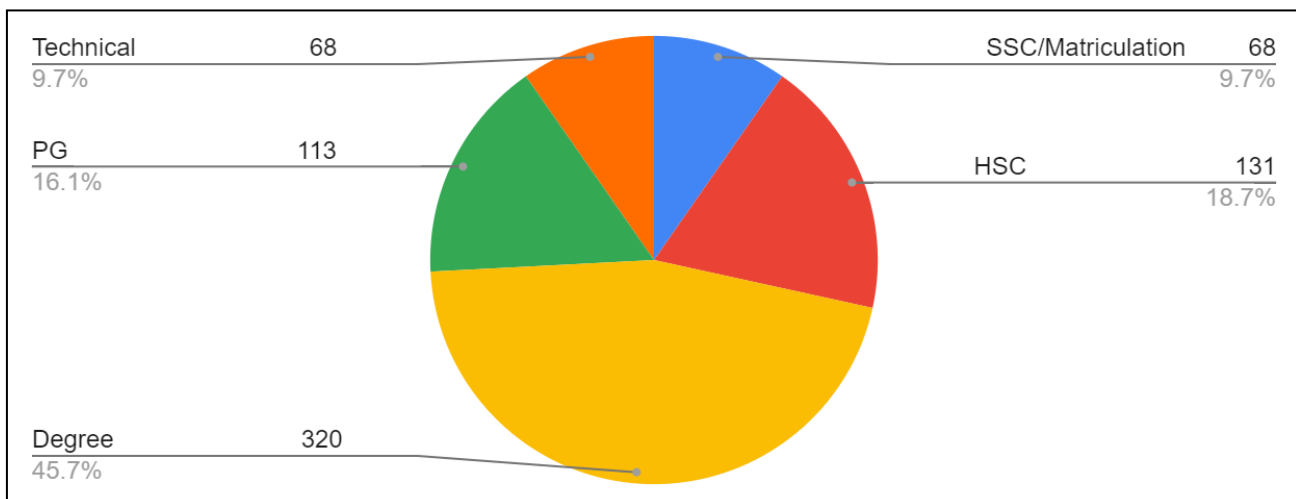
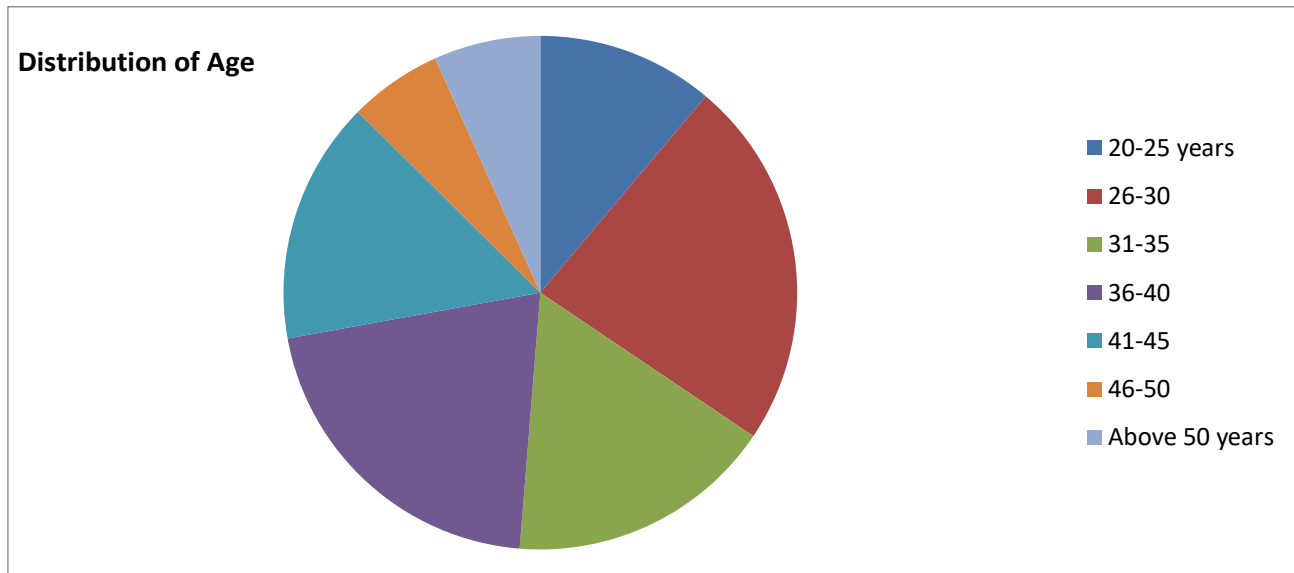


Fig 3.4 Distribution of Age of the Selected Customers of Four-wheelers



3.2) Factors Affecting the Motivation to Purchase the Vehicles

i) Purpose of Vehicle

Customers typically buy cars for a variety of reasons, including "personal usage," "rental," and "commercial purpose."

H01: There is no association between the purpose of the vehicles and the type of vehicles purchased by the customers of the automobile industry.

Eighty-nine percent of consumers use automobiles for personal reasons, whereas just five point five percent use automobiles for either renting or commercial reasons. A Chi-square test of statistical independence between vehicle type and function finds that the value of the Chi-square is statistically significant at the 1% level of significance (Chi-Square value: 447.074 D f 10 Sig 0.000 0.01).

Table 3.1 Purpose of Vehicle

Type of vehicle	Purpose of vehicle			Total
	Personal Usage	Renting	Commercial purpose	
Hatchback Car	392(89.1)	24(5.5)	24(5.5)	440(100)
Sedan car	30(42.9)	20(28.6)	20(28.6)	70(100)
SUV	6(10)	11(18.3)	43(71.7)	60(100)
MUV	8(17.8)	22(48.9)	15(33.3)	45(100)
Van	0(0)	28(62.2)	17(37.8)	45(100)
Jeep	0(0)	19(47.5)	21(52.5)	40(100)
Total	436(62.3)	124(17.7)	140(20)	700(100)
Pearson Chi-Square	447.074	Df 10	Asymp. Sig. (2-sided) 0.000**	

Source: Survey data*Significant at 5 per cent level of significance

** Significant at 1 per cent level of significance

ii) Mean Rank of the Preferences for Motivation to Purchase

H02: There is no difference across the preferences of the customers of different vehicle formats associated with the factors that motivate them to purchase vehicles.

Table 3.2 Mean Rank of the Preferences for Motivation to Purchase.

Factors	Mean Rank					
	Car	Jeep	SUV	MUV	JEEP	VAN
Advertisement	4.24	4.91	5.20	5.91	4.93	3.20
Image of the company	4.34	3.98	4.53	4.69	3.42	3.10
Brand image	4.33	4.30	5.12	4.73	3.02	3.18
Quality of the product	5.21	5.24	6.30	5.47	3.84	3.43
High demand for the product	6.66	6.26	6.65	7.00	8.20	5.78
Price	7.43	6.42	6.03	7.44	7.76	9.65
Better service	7.74	7.01	6.68	7.04	7.71	9.70
Better after-sale service	7.87	7.74	7.60	7.56	7.47	9.83
Mileage	7.66	7.73	7.05	6.98	9.13	8.63
Durability	7.79	8.44	7.72	7.51	8.18	7.40
Easy maintenance	7.53	8.09	7.60	6.98	7.76	7.35
High efficiency	7.20	7.88	7.52	6.69	6.58	6.78

Source: Survey data *Significant at 5 per cent level of significance ** Significant at / per cent level of significance

According to Tables 3.1 and 3.2, Customers are driven by advertisements, but those of **Hatchback Car, Sedan car SUV, MUV, VAN** Jeeps, are driven by the brand's reputation. In contrast, JEEP companies often choose cars based on how well the Brand is perceived. Additionally, the value of the Friedman Chi-square is shown to be statistically significant at the 1% level of significance (value of the Friedman Chi-square is significant in all cases, $p=.0000.01$) when testing for variance in customers' rank preferences. Consequently, it is reasonable to infer that customers' decision making motive varies widely between vehicle categories.

3.3 Dimensions of the Motivational Factors Influencing the Purchase of different Passenger Vehicles

- Dimensions of the Motivational Factors Influencing the Purchase of Cars-** Great efficiency is the primary motivating factor when consumers are considering the operational aspects of a product like a car,
- Dimensions of Motivational Factors Influencing the Purchase of Sedan Car -** Quality also has the highest positive co-efficient (5.774). Sedan Car have a loyal fan due to the reliability and rugged good looks of the cars.
- Dimensions of the Motivational Factors Influencing purchase of SUV -**The quality of the vehicle (highest positive co-efficient 6.349) and the company's advertising (8.004) are the primary driving forces behind the purchase.
- Dimensions of the Motivational Factors Influencing the Purchase of MUV -**The quality of the vehicle has highest positive co-efficient matrices (6.671) and the company's service (4.246) remain driving force for purchase
- Dimensions of the Motivational Factors Influencing the Purchase of JEEP-** Customers are influenced to buy JEEP by "Image of the firm" (6.556) and "High efficiency" (4.189),

f) **Dimensions of the Motivational Factors Influencing the Purchase of Van** - The co-efficient matrix shows that "Easy to maintain" and "Better services" were the most influential reasons for purchasing VAN (4.067 and 5.448,) respectively

3.4 Factors Affecting the Green Purchasing Behavior

i) Social Impact

The results of a two-way ANOVA on the Social Impact as a function of vehicle type and geographic location, it is evident that Social Impact has a far greater effect on automobile buyers. There isn't a statistically significant difference between the two regions' area-wise variations., we can infer that consumers of cars (Mean score 45.048) are more susceptible to peer pressure than customers of minivans (Mean score 38.033).

Table 3.3 Area-wise Estimated Marginal Means of Social Impact

Independent Variable- Area		
Dependent Variable-Social Impact		
Area	Mean	Std. Error
Urban	36.843	.504
Semi-urban	33.963	.526
Rural	34.339	.689

Source: Survey data

Table 3.4 Vehicle-wise Estimated Marginal Means

Independent Variable -Type o f Vehicle		
Dependent Variable-Social Impact		
Type o f vehicle	Mean	Std. Error
Car	45.048	.376
Jeep	32.302	.877
SUV	23.321	.925
MUV	40.206	1.068
JEEP	43.750	1.074
VAN	25.661	1.133

Source: Survey data

Table 3.5 Two-way ANOVA-Social Impact

Tests of Between-Subjects Effects					
Dependent Variable: Social Impact					
Source	Type I Sum of Squares	Df	Mean Square	F	Sig
Area	22.733	2	11.367	.222	0.801
Vehicle type	26491.316	5	5298.263	103.375	0.000**
Error	35466.915	692	51.253		
Total	61980,964	699			

Source: Survey data *Significant at 5 per cent level of significance **Significant at 1 per cent level of significance

ii) Awareness for Environmental Laws And Regulations (AELR)

It is apparent that Urban customers have a far greater level of awareness and sensitivity, as higher mean score, compared to customers in other regions (20.693) Buyers of vehicles are environmentally conscientious, and more familiar with national environmental rules and regulations

Table 3.6-Area-wise Estimated Marginal Means of AELR

Region			
Dependent Variable-Awareness for Environmental Laws And Regulations			
Area	Mean	Std. Error	
Urban	20.396	.209	
Semi-urban	20.117	.218	
Rural	20.693	.285	

Source: Survey data

Table 3.7 Two-way ANOVA-AELR

Tests of Between-Subjects Effects					
Dependent Variable: Awareness for Environmental Laws And Regulations					
Source	Type I Sum of Squares	Df	Mean Square	F	Sig
Area	88.761	2	44.381	5.056	.007**
Vehicle type	7138.720	5	1427.744	162.640	.000**
Error	6074.763	692	8.779		
Total	13302.244	699			

Source: Survey data *Significant at 5 per cent level of significance ** Significant at 1 per cent level of significance

iii) Attitude towards Environmental

The selected consumers' estimated marginal mean scores for their Green Attitude towards Environmental vary by area, vehicle type, and vehicle age. The average score is much higher for rural areas (44.872). The mean score is quite high in this regard (53.578), and the mean variation is statistically significant at the 1% level, suggesting that automobile buyers have a more positive Attitude towards Environmental. Two-way ANOVA is used to analyze a table and its variation across geographic regions and vehicle classes. Its results are shown in the Tables below.

Table 3.8 Area-wise Estimated Marginal Means of Environmental Awareness

Area		
Dependent Variable-Attitude towards Environmental		
Area	Mean	Std. Error
Urban	42.216	.400
Semi-urban	42.977	.418
Rural	44.872	.547

Source: Survey data

Table 3.9 Vehicle-wise Estimated Marginal Means- Environmental Awareness

Type of Vehicle		
Dependent Variable- Awareness of Environmental Laws and Regulations		
Type of vehicle	Mean	Std. Error
Car	53.578	.298
Jeep	40.086	.696
SUV	34.857 .734	.734
MUV	52.470 .847	.847
JEEP	47.780	.852
VAN	31.359	.899

Source: Survey data

Table 3.10 Two-way ANOVA- Environmental Awareness

Tests of Between-Subjects Effects					
Dependent Variable: Attitude towards Environmental					
Source	Type I Sum of Squares	Df	MeanSquare	F	Sig.
Area	302.238	2	151.119	4.681	.010**

Vehicle type	23902.245	5	4780.449	148.078	.000**
Error	22340.025	692	32.283		
Total	46544.509	699			

Source: Survey data *Significant at 5 per cent level of significance ** Significant at 1 per cent level of significance

iv) Environmental Activism (Eact)

Environmental Activism (Eact) means the actions of individuals or groups that protect or aid the environment. Two-way ANOVA indicates the Environmental Activism of the Customers based on the Area in which they live and the type of vehicle they purchase. Environmental activism is rather strong across all demographics, but the estimated marginal means reveal that rural consumers are especially committed to the cause (52.244).

Table 3.11 Two-way ANOVA-EAct

Tests of Between-Subjects effects					
Dependent Variable: Environmental Activism					
Source	Type I Sum of Squares		Mean Square	F	Sig.
Area	774.403	2	387.202	5.240	0.006**
Vehicle type	29290.829	5	5858.166	79.284	0.000**
Error	51130.905	692	73.889		
Total	81196.137	699			

Source: Survey data *Significant at 5 per cent level of significance ** Significant at 1 per cent level of significance

IV FINDING CONCLUSION SUGGESTIONS

Findings

- Preferences for Vehicle Types:
 1. Friedman's test on customers' preferences for elements influencing purchasing decisions yields distinct values ($p=0.0000,01$) for each customer group.
 2. Rejecting the null hypothesis supports the alternative hypothesis that motivating factors for vehicle purchases differ among customer types.
- Consistency in Green Purchase Behavior Factors:
 1. Dummy Variable Multiple Regression Model shows consistency in factors influencing Green purchasing behavior across demographic subsets.

2. Validity is confirmed by statistically significant t values and positive beta coefficients for predictor variables.

In summary, the research findings challenge initial hypotheses, revealing dynamic patterns in consumer behavior, preferences, and attitudes towards Green practices in the automotive industry

Conclusion

The following inferences were drawn from the study's findings and the data it gathered and analyzed.

- 1) Customers both rural and urban of four-wheeled vehicles, are more heavily impacted by the social contacts at the time of the purchase. It is supported by the substantial F values in the Two-way ANOVA General Linear Multinomial Model
- 2) As compared to others sectors ,the buyers of Automobiles in both urban as well as rural areas, have a much higher awareness of environmental laws and regulations
- 3) Urban customers have largely responded positively to the Green advertising made by the vehicle companies and the claim of Green effect in vehicles produced and launched by the companies.
- 4) Social influence, awareness of environmental laws and regulations, and "environmental activism," are found to have a significant impact on the Green purchasing behavior of buyers of Four-wheeled vehicles.

To conclude , Customers prefer Green vehicles that combine high levels of safety, high levels of decreasing emissions and effluents, and high levels of Green technology in vehicle design and development with low levels of pollution, noise, energy, power, fuel consumption, and waste.

Benefits for Automobile Dealers from the Study

1. Insight into Customer Social Influences:

Dealers can better understand the impact of social contacts on customers during the purchase process. This knowledge can guide dealership strategies for customer engagement and interaction.

2. Enhanced Environmental Awareness:

Dealers in both urban and rural areas can benefit from the finding that automobile buyers have a higher awareness of environmental laws and regulations. This awareness can be leveraged in marketing and sales efforts, emphasizing eco-friendly features.

3. Leveraging Green Advertising Impact:

Urban dealers can leverage the positive response observed among urban customers to green advertising by vehicle companies. Aligning dealership promotions with eco-friendly messaging can resonate well with urban buyers.

4. Factors Impacting Green Purchasing Behavior:

Dealerships can utilize insights into factors like social influence, environmental laws awareness, and environmental activism to tailor their sales pitches and customer interactions to align with customers' green purchasing behaviors.

5. Attitudes Towards Environmental Problems:

Dealers can consider customers' attitudes towards environmental problems caused by pollutants in their sales strategies, especially for passenger cars where attitudes toward emissions can significantly impact green purchasing behavior.

6. Promoting Green Technology Adoption:

Dealerships can advocate for the incorporation of green technology in vehicle design and development to align with customer preferences for safety, decreased emissions, and advanced green features.

In conclusion, the study's findings provide valuable insights for automobile companies to tailor their strategies, marketing messages, and customer interactions to align with evolving customer preferences for environmentally friendly vehicles and practices.

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