

Analysing Consumer Preferences and Brand Choices for EV Cars Through the VALS Framework: A Study in Coimbatore & Madurai

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ABSTRACT

The transition from internal combustion engine vehicles to electric vehicles (EVs) is gaining momentum globally, driven by technological innovation, environmental awareness, and policy incentives. In India, the EV sector is experiencing rapid growth, yet adoption remains inconsistent across different consumer segments and regions. This study aims to analyze consumer preferences and brand choices in the electric vehicle market through the VALS (Values, Attitudes, and Lifestyles) framework, focusing specifically on the urban centers of Coimbatore and Madurai.

Using a descriptive research design, data was collected from 100–250 respondents through structured questionnaires. The study segmented consumers into psychographic categories (e.g., Innovators, Achievers, Believers, Survivors) to explore how values and lifestyles influence EV adoption, brand preference, and decision-making. Statistical tools such as percentage analysis, ranking, Chi-square test, and ANOVA were applied to validate the findings.

The results reveal that factors such as age, income, education, occupation, and VALS classification significantly influence consumer attitudes toward EVs. Battery performance, charging infrastructure, brand reputation, and government incentives were identified as critical determinants in shaping EV brand choices. Additionally, regional preferences emerged, with Coimbatore favoring Tata Motors and Madurai leaning towards Hyundai.

Keywords: Electric Vehicles, Consumer Preferences, VALS Framework, Psychographic Segmentation

INTRODUCTION

The global automobile industry is undergoing a paradigm shift with the transition from conventional internal combustion engine vehicles to electric vehicles (EVs). This shift is primarily driven by growing environmental concerns, technological advancements, and supportive government policies. In India, the EV market has witnessed rapid growth, with increasing consumer interest and significant investments from both domestic and international manufacturers. However, consumer preferences and brand choices in the EV segment remain varied and complex, influenced by multiple factors such as affordability, technological features, government incentives, and individual lifestyle orientations.

The study "Analysing Consumer Preferences and Brand Choices for EV Cars Through the VALS Framework: A Study in Coimbatore & Madurai" aims to provide a deeper understanding of how different consumer segments, as defined by the VALS (Values, Attitudes, and Lifestyles) framework, influence brand preferences and EV adoption patterns. This research will offer valuable insights into how demographics, psychological factors, and personal values shape consumer behavior in the EV market, particularly in Coimbatore and Madurai, two rapidly growing urban centers in Tamil Nadu.

Statement of the Problem

Despite the growing momentum of the EV industry in India, there remains a significant gap in understanding consumer preferences and brand selection criteria. The adoption rate of EVs varies significantly across different consumer segments, influenced by factors such as price sensitivity, technological awareness, environmental

consciousness, and lifestyle choices. While government incentives and sustainability campaigns promote EV adoption, challenges such as limited charging infrastructure, high initial costs, and lack of consumer awareness continue to hinder widespread acceptance.

Scope of the Study

The scope of this study focuses on understanding the impact of VALS (Values and Lifestyles) on consumer brand preference for electric vehicles (EVs) in Coimbatore and Madurai, India. It aims to analyze how different psychographic segments influence EV adoption, purchasing decisions, and brand choices.

Objectives of the Study:

- To classify the Indian EV consumer market using the VALS framework and identify distinct brand preference patterns among different consumer segments.
- To analyse the geographical variations in VALS-based consumer segmentation and assess its impact on EV sales distribution in Coimbatore and Madurai.

RESEARCH TECHNIQUES

To effectively implement the research methodology, specific research techniques were employed during data collection and analysis. A structured questionnaire was used as the primary tool for gathering data from 120 respondents, consisting of both close-ended and scale-based questions designed to assess demographics, EV ownership patterns, brand preferences, and psychographic traits as per the VALS framework. The questionnaire included multiple-choice questions and Likert scale statements to measure attitudes and preferences. Data was collected through both online platforms (Google Forms) and in-person surveys to ensure a diverse and reliable respondent base. After data collection, responses were coded and tabulated using Microsoft Excel, and statistical analysis was conducted using tools such as SPSS. Techniques like percentage analysis helped in understanding response distribution, while Chi-Square tests and ANOVA were applied to identify relationships and differences among variables. The ranking method was used to determine the order of influence of different factors affecting EV brand preference. These practical techniques played a crucial role in extracting meaningful insights from the collected data.

REVIEW OF LITERATURE

Choudhury, M., Mishra, B.B., & Mohanty, P.K. (2019). An Empirical Study of Branding Strategy at Dealer Point for Selling of Car: A Qualitative & Systematic Review of Literature

Summary:

This study investigates branding strategies in the automobile industry, particularly in the Indian EV market, using the VALS framework to segment consumers. The research finds that Achievers and Innovators prefer premium EV brands, prioritizing smart features and brand reputation, whereas Survivors and Believers focus on affordability and trust in the manufacturer. The study highlights that regional factors like infrastructure development in cities like Coimbatore and Madurai significantly impact EV adoption rates. It also discusses how automobile dealers play a crucial role in shaping brand perception, with consumers relying heavily on word-of-mouth recommendations and trust-building marketing tactics. This paper is particularly useful for understanding how branding strategies influence different VALS segments and their impact on EV sales.

Salah, P. (2022). Measuring the Role of Psychographic Segments (VALS) as a Mediating Variable Between Brand Resonance Model and Online Repurchase Intentions

Summary:

This study explores how VALS-based psychographics influence consumer loyalty in India's automobile sector, which is directly linked to EV adoption patterns. The research finds that Achievers and Experiencers tend to repurchase EVs due to their status appeal and innovation-driven mindset, whereas Believers and Strivers show lower brand loyalty, often switching between hybrid and petrol models based on economic conditions. The study

also emphasizes the importance of government subsidies and incentives, particularly for lower-income VALS segments. It suggests that EV brands should target different VALS categories with distinct marketing strategies— for instance, using technological innovation to appeal to early adopters and financial incentives to attract budget-conscious buyers.

DATA ANALYSIS AND INTERPRETATION

Age Group vs. Type of Car Currently Owned

- H_0 : There is no significant association between the age group of respondents and the type of car they currently own.
- H_1 : There is a significant association between the age group of respondents and the type of car they currently own.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
1. What is your age group? * 8.What type of car do you currently own?	120	100.0%	0	.0%	120	100.0%

1. What is your age group? * 8.What type of car do you currently own? Crosstabulation

Count		8.What type of car do you currently own?				Total
		Diesel Car	Electric Car	Hybrid Car	Petrol Car	
1. What is your age group?	25-34	15	2	21	1	39
	35-44	0	0	11	0	11
	45-54	1	0	1	11	13
	55 and above	13	1	1	0	15
	Below 25	0	0	16	26	42
Total		29	3	50	38	120

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.064E2 a	12	.000
Likelihood Ratio	121.262	12	.000
N of Valid Cases	120		

- a. 12 cells (60.0%) have expected count less than 5.
The minimum expected count is .28.

Age Group vs. Type of Car Owned

- Chi-Square Statistic: 106.40
- Degrees of Freedom: 12
- p-value: 0.000

Interpretation:

- Since the p-value (0.000) is less than 0.05, we reject the null hypothesis (H₀) and conclude that there is a significant association between age group and type of car owned.
- The age group influences the type of car people own. Younger age groups, especially those in the Below 25 and 25-34 categories, predominantly own petrol cars. Older age groups like 55+ own more diesel cars, while younger age groups have less ownership of electric cars.

2 Chi square

Education Level vs. Awareness of Government Policies for EVs

- **H₀:** There is no significant relationship between education level and awareness of government incentives/policies related to electric vehicles.
- **H₁:** There is a significant relationship between education level and awareness of government incentives/policies related to electric vehicles.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
1. What is your age group? * 10.Which type of EV are you most interested in?	120	100.0%	0	.0%	120	100.0%

1. What is your age group? * 10.Which type of EV are you most interested in? Crosstabulation

Count		10.Which type of EV are you most interested in?			Total
		Battery Electric Vehicle (BEV)	Hybrid Electric Vehicle (HEV)	Plug-in Hybrid Electric Vehicle (PHEV)	
1. What is your age group?	25-34	22	1	16	39
	35-44	0	1	10	11
	45-54	13	0	0	13
	55 and above	3	2	10	15
	Below 25	1	40	1	42
Total		39	44	37	120

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.375E2 a	8	.000
Likelihood Ratio	150.613	8	.000
N of Valid Cases	120		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is 3

Age Group vs. Type of EV Interested In

- Chi-Square Statistic: 137.50
- Degrees of Freedom: 8
- p-value: 0.000

Interpretation:

- The p-value (0.000) is less than 0.05, so we reject the null hypothesis (H_0). There is a significant association between age group and the type of EV that respondents are most interested in.
- Battery Electric Vehicles (BEVs) are preferred by the 25-34 age group, while younger individuals in the Below 25 group show a stronger preference for Hybrid Electric Vehicles (HEVs). This suggests a generational shift in preference for fully electric vehicles as younger consumers become more environmentally conscious and familiar with EV technology.

FINDINGS

PERCENTAGE ANALYSIS

- ◆ Majority (35%) of the respondents belong to the age group of Below 25 years.
- ◆ Majority (56.7%) of the respondents are Male.
- ◆ Majority (49.2%) of the respondents are educated at Postgraduate level.
- ◆ Majority (30%) of the respondents are Government Employees.
- ◆ Majority (42.5%) of the respondents have a monthly household income between ₹1,00,000 – ₹2,00,000.

CHI-SQUARE ANALYSIS

- ◆ There is a significant association between age group and type of car owned (p -value = 0.000). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted.
- ◆ There is a significant association between age group and type of EV most preferred (p -value = 0.000). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted.
- ◆ Education level significantly affects the timeline of EV purchase (p -value = 0.000). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted.
- ◆ Location significantly affects the preferred EV brand (p -value = 0.000). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted.

ANOVA ANALYSIS

- ◆ Intent to purchase an EV significantly influences the willingness to pay extra for extended EV battery warranty.
- ◆ Attitudes towards EV resale value significantly influence the willingness to upgrade to a luxury EV.
- ◆ Awareness of battery swapping technology does not significantly affect the perception of resale value of EVs.

Suggestions

- ◆ Focus on the youth segment through targeted promotions and student-friendly EV finance options.
- ◆ Strengthen charging infrastructure across both urban and semi-urban areas to reduce range anxiety.
- ◆ Promote Tata in Coimbatore and Hyundai in Madurai based on regional preferences.
- ◆ Engage micro and nano influencers in the EV space for authentic outreach.

- ◆ Improve battery technology and offer extended warranties to build consumer trust.

Conclusion

The study reveals that demographic factors such as age, income, education, and occupation significantly influence Electric Vehicle adoption behavior in Coimbatore and Madurai. The Chi-Square and ANOVA tests confirm that interest in EVs, brand preferences, and concerns such as battery life and resale value are statistically dependent on these demographic segments.

The research provides valuable insights for automobile manufacturers, marketers, and policymakers to refine their strategies and build an EV-friendly ecosystem. Furthermore, the study brings to light the fact that electric vehicle preferences are not uniform across all segments of society. Younger individuals and those with higher education levels tend to be more receptive to the concept of EVs, largely due to their greater exposure to environmental awareness and technological innovation. Income levels also play a key role; high-income groups are not only more likely to invest in EVs, but also place higher emphasis on advanced features and luxury options.

References

1. Choudhury, M., Mishra, B. B., & Mohanty, P. K. (2019). *An empirical study of branding strategy at dealer point for selling of car: A qualitative & systematic review of literature.*
2. Salah, P. (2022). *Measuring the role of psychographic segments (VALS) as a mediating variable between brand resonance model and online repurchase intentions.*
3. Nakaket, P. (2006). *The relationship between VALS and brand benefits with brand preference for personal care products.*
4. Pingle, S. (2011). *Understanding the purchase behavior of luxury brand consumers.*
5. Choudhury, D., & Patra, S. K. (2012). *FDI/Organized retail vs. SME segment in India.*
6. Sharma, R., & Jha, M. (2015). *Linking values and behavior to understand sustainable consumption patterns of Indians.*