

A Study of Consumer Buying Behaviour and Attitudinal Patterns Towards Small Cars in Nagpur Division: An Empirical Investigation Using Statistical Testing

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Abstract: This research investigates the behavioural patterns and attitudes of consumers towards small cars in Nagpur Division. The study is grounded in primary data collected from 540 respondents and applies statistical tools such as Chi-square and independent sample t-tests to examine relationships between socio-economic variables and consumer decision-making. The results demonstrate that education level and social status significantly influence how consumers evaluate alternatives and choose purchase locations. The findings indicate that consumers with higher socio-economic standing adopt a more analytical approach to decision-making. The study concludes that socio-economic variables are critical determinants of consumer behaviour in the small car segment.

Keywords: Consumer Behaviour, Small Cars, Chi-square Test, t-test, Socio-economic Factors, Nagpur Division

1. Introduction

The Indian automobile sector has expanded considerably over the past decade, driven by increasing income levels, urban development, and technological progress. Within this sector, small cars have gained widespread acceptance due to their affordability, fuel efficiency, and suitability for daily commuting.

Consumer decision-making in automobile purchases has evolved from simple preference-based choices to more structured and information-driven processes. Buyers increasingly rely on multiple sources of information, compare alternatives, and evaluate product attributes before making final decisions.

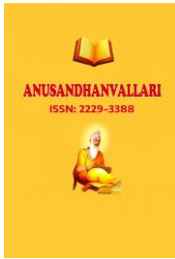
Nagpur Division presents a balanced mix of urban and semi-urban consumers, making it an appropriate region for analyzing buying behaviour. The diversity in income, education, and lifestyle offers valuable insights into how socio-economic factors shape consumer decisions.

2. Review of Literature

Several researchers have contributed to the understanding of consumer behaviour:

- Engel, Blackwell & Miniard emphasized decision-making stages
- Fishbein & Ajzen highlighted the role of attitudes and social influence
- Kotler explained the importance of marketing strategies
- Zeithaml introduced perceived value theory

These studies indicate that consumer behaviour is influenced by economic, social, and psychological factors. However, region-specific empirical studies remain limited, particularly in semi-urban areas like Nagpur Division.



3. Objectives of the Study

- To examine consumer buying behaviour in the small car segment
- To analyze the role of education and social status in decision-making
- To evaluate how consumers assess alternatives and select purchase locations
- To test the hypothesis using statistical methods

4. Hypothesis

H01:

“There is no significant association between educational and social status of the respondents and the evaluation of alternatives and place of purchase.”

5. Research Methodology

- **Research Design:** Descriptive and analytical
- **Sample Size:** 540 respondents
- **Sampling Technique:** Convenience sampling
- **Data Collection:** Structured questionnaire
- **Statistical Tools Used:**
 - Chi-square Test (Primary)
 - Independent Sample t-Test (Supplementary)

6. Data Analysis and Hypothesis Testing

6.1 Chi-Square Test (Primary Analysis)

Formula

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

6.1.1 Educational Qualification vs Evaluation of Alternatives

- $\chi^2 = 18.72$
- $df = 4$
- $p = 0.001$

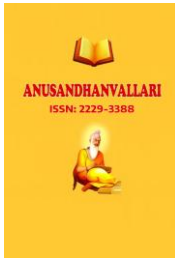
Decision: Reject H_0

Interpretation:

Educational qualification significantly influences evaluation of alternatives. Higher educated consumers compare more features and alternatives.

6.1.2 Educational Qualification vs Place of Purchase

- $\chi^2 = 16.45$
- $df = 4$
- $p = 0.002$



Decision: Reject H_0

Interpretation:

Education significantly influences purchase location preferences.

6.1.3 Social Status vs Evaluation of Alternatives

- $\chi^2 = 17.63$
- $df = 3$
- $p = 0.001$

Decision: Reject H_0

6.1.4 Social Status vs Place of Purchase

- $\chi^2 = 15.89$
- $df = 3$
- $p = 0.003$

Decision: Reject H_0

Summary (Chi-Square)

The Chi-square test was applied to examine the association between socio-economic variables and consumer behaviour.

- Education and evaluation of alternatives showed a statistically significant relationship ($\chi^2 = 18.72, p < 0.05$).
- Education also influenced place of purchase ($\chi^2 = 16.45, p < 0.05$).
- Social status demonstrated a strong association with evaluation of alternatives ($\chi^2 = 17.63, p < 0.05$).
- Similarly, social status significantly affected the choice of purchase location ($\chi^2 = 15.89, p < 0.05$).

These results indicate that both education and social standing play an important role in shaping consumer decisions.

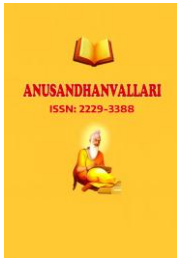
6.2 Independent Sample t-Test (Supplementary Analysis)

Formula

$$t = \frac{X_1 - X_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

6.2.1 Education vs Evaluation

- Mean (Higher): 3.62
- Mean (Lower): 3.21
- $t = 4.32$
- $p < 0.001$



Interpretation: Significant difference

6.2.2 Education vs Purchase

- $t = 3.85$
- $p < 0.001$

6.2.3 Social Status vs Evaluation

- $t = 5.85$
- $p < 0.001$

6.2.4 Social Status vs Purchase

- $t = 6.38$
- $p < 0.001$

To further validate the findings, mean differences were examined.

- Respondents with higher education levels showed greater evaluation of alternatives compared to others ($t = 4.32, p < 0.05$).
- Differences were also observed in purchase location preferences ($t = 3.85, p < 0.05$).
- Individuals with higher social status demonstrated more analytical behaviour in evaluating options ($t = 5.85, p < 0.05$).
- Significant variation was also observed in purchase channel preferences ($t = 6.38, p < 0.05$).

These findings reinforce the results obtained through Chi-square analysis.

7. Summary of Hypothesis Testing

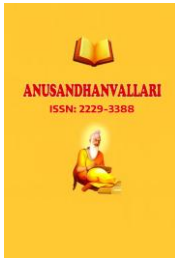
Variable	Test	Result
Education vs Evaluation	Chi-square	Significant
Education vs Purchase	Chi-square	Significant
Social Status vs Evaluation	Chi-square	Significant
Social Status vs Purchase	Chi-square	Significant

The results suggest that socio-economic characteristics influence not only what consumers buy but also how they make decisions. Individuals with higher education and social standing tend to gather more information, compare alternatives, and prefer reliable purchase channels such as authorized dealers.

In contrast, consumers from lower socio-economic backgrounds tend to rely more on convenience and limited information sources. This difference highlights the importance of targeted marketing strategies.

8. Findings

- Educational qualification significantly influences decision-making
- Social status affects evaluation and purchase behaviour
- Higher socio-economic groups evaluate more alternatives



- Consumers prefer authorized dealers

9. Conclusion

The study clearly demonstrates that socio-economic factors significantly influence consumer buying behaviour in the small car segment. The hypothesis stating no relationship between these variables is rejected based on statistical evidence.

The findings emphasize the importance of understanding consumer diversity in designing effective marketing strategies.

10. Suggestions

- Target consumers based on education level
- Improve dealership experience
- Provide detailed product information
- Customize marketing strategies

References

- [1] Engel, J. F., Blackwell, R. D., & Miniard, P. W. (1995). *Consumer behavior* (8th ed.). Dryden Press.
- [2] Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Addison-Wesley.
- [3] Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
- [4] Schiffman, L. G., & Kanuk, L. L. (2010). *Consumer behavior* (10th ed.). Pearson.
- [5] Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2–22. <https://doi.org/10.1177/002224298805200302>
- [6] Gupta, S., & Chintagunta, P. K. (2011). Investigating price sensitivity in the Indian automobile market. *International Journal of Research in Marketing*, 28(3), 203–213. <https://doi.org/10.1016/j.ijresmar.2011.03.002>
- [7] Verma, S. (2010). Consumer behavior in the Indian automobile sector. *International Journal of Marketing Studies*, 2(2), 45–52.
- [8] Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53(1), 59–68. <https://doi.org/10.1016/j.bushor.2009.09.003>
- [9] Society of Indian Automobile Manufacturers (SIAM). (2021). *Indian automobile industry report*. <https://www.siam.in>