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A STUDY ON CUSTOMER ATTITUDE TOWARDS INNOVATIVE PRODUCT FEATURES OF PASSENGER CARS IN CHENNAI CITY

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Abstract: *According to IBEF, The Indian automobile industry contributes almost 6.4% of India's GDP. The paper investigates the innovating product features in passenger cars exclusively in passenger cars and its impact on attitude of consumers in Chennai city. The study's primary goals are to examine customer's attitude about novel features in passenger cars and determine customer satisfaction with these innovations. The main data are the basis for the investigation. After assessing the reliability and validity of the questionnaire, the necessary primary data was gathered using it. Secondary data for the study was gathered from journals, periodicals, research publications, reports released by the automakers, and websites. The survey chose 570 respondents in Chennai city using the convenience sampling approach. The car manufacturers should design the product giving these factors the most consideration since the respondents believe that power steering and gear factor are the most crucial characteristics of the passenger automobile, followed by air bags and seat belt alarm factor and road and rain sensor factor.*

Key Words*: Customer Attitude, Innovation, Passenger cars.*

1. INTRODUCTION:

As per 2021 statistics, the automotive industry in India is the fourth largest industry. Innovation in a product refers to a fresh approach. A good or service now might not be profitable tomorrow. It needs to be swapped out with another one. Due to the more dynamic nature of our economy today, we must produce what the market demands. Innovation is the process of changing a stagnant economy into a dynamic one. India is one of the world's largest marketplaces for the automotive sector. The four-wheeler business makes more money and is essential to the Indian economy. Maruti, Suzuki, Hyundai, and Tata Motors are a few Manufacturing enterprises with strong brand recognition in India. We could discern the reality about these businesses when we carefully considered the expansion of the four-wheeler industry.

2. LITERATURE REVIEW:

- Mathankumar,V. (2015), Car industry in India faces stiff competition. In order to survive in the competitive scenario manufacturers have understand the features considered bythe customers before purchasing a car. Thus, an earnest attempt has been made in this study tounderstand the customer preference before purchasing a car. The result of the study disclose that customers give due importance for look and style, transmission, availability of spares andmileage.
- Lowe, Ben and Alpert, Frank (2015). a new conceptualization for CPI based uponextant theory, qualitative research and two quantitative pilot studies. It then identifies and testskey causes and consequences of CPI on a national sample of consumers using a range of different innovations. This allows addressing the "so what?" (Consequences) and the "how doyou manage it?" (causes). The research extends work in the new product development area by defining (i) CPI within its nomological net and proposing an operational measure based on psychometric testing, (ii) suggesting that affect is more usefully viewed as a consequence of CPI rather than a dimension, and (iii) highlighting the important, yet often overlooked role, ofperceived technology newness. These findings provide managers with a useful and practical theory for understanding and influencing consumer perceptions of a product's innovativeness.
- Biswajit Nag, (2007), Consumer look at production of cars from its make and model pointof view but in reality automobile production is dependent on layers of supplier driven outputsfor final assembly. Many automobile companies concentrate on assembling activities only andsome have long vertical chains. The industry has long

planning horizon and high fixed cost associated with new car design. The degree of scale economies in the industry is very much associated with the flexibility of the technology to constantly produce different models from the same platform. Some of the major technological issues which are important currently are increasing energy efficiency, competency of internal combustion engine (ICE), reducing the weight of vehicles, incorporating high-tech safety features etc.

3. OBJECTIVES OF THE STUDY:

- To analyze the attitude of consumers regarding innovative product features passenger cars.
- To examine the consumers satisfaction level towards the innovation in passenger cars

4. RESEARCH DESIGN:

The main data are the basis for the investigation. After assessing the reliability and validity of the questionnaire, the necessary primary data was gathered using it. Secondary datafor the study was gathered from journals, periodicals, research publications, reports released by the automakers, and websites.

Sampling: The survey chose 570 respondents who live in Chennai city using the conveniencesampling approach.

Statistical Techniques: The statistical tools used for the study were, Rotated component matrix, factor analysis used to assess the data that have been gathered.

5. FINDINGS AND INTERPRETATION:

Factor analysis helps to reduce the innumerable variables into limited number of latentfactors having inter–correlation within themselves. Hence factor analysis is attempted to reducethe numerous variables into limited number of factors. In order to apply factor analysis, the basic assumption to be fulfilled is the factorability of the correlation matrix. KMO measures ofsampling adequacy and the Bartlett's test of sphericity determine the factorability of the correlation matrix. The results of the calculation are presented below.

Table 1:KMO and Bartlett's Test for innovating product features influence more to buy the car

Kaiser-Meyer-Olkin measure of Sampling Adequacy		0.886
Bartlett's Test of Sphericity	Chi-Square	11996.86
	Degrees of freedom	171
	Significance	0.000

Source: Computed Data

High value of Kaiser – Meyer – Olkin (KMO) test of sample adequacy (0.886) indicatesthe correlation between the pairs of variables explained by other variables and thus factor analysis is considered to be appropriate in this model.

The Bartlett's test of sphericity chi-square indicates the population correlation matrix. It is an intensity matrix. The test of statistics for sphericity is based on X^2 test, which is significant. The value is 11966.86.

Findings of the KMO and Bartlett's test reveals that the factor analysis can be rightly employed in this context as evidenced through a higher KMO Measure (0.886) and a significantBartlett's test result. Hence factor analysis is attempted. Analysis of innovating product features influence more to buy the car is made through rotated factor matrix which reveals that there are three major innovating product features influence the consumers more to buy the car.The findings of the rotated factor analysis on the innovating product features influence more to buy the car are presented in Table 2

Table 2:Rotated Factor Matrix for Innovating product features influence more to buy the car

Innovating product features	F1	F2	F3	Communality (h^2)
Seating Comfort	**.859**	.216	.062	.999
Spacious	**.850**	.218	.117	.733
Width of the car	**.834**	.162	.101	.734
Height of the car	**.826**	.263	.163	.719
Interior design	**.825**	.148	.179	.729

Exterior design	**.822**	.204	.105	.788
Shape of the car	**.821**	.245	.066	.784
Lights	**.820**	.140	.165	.778
A/C/Heater	**.797**	.193	.083	.574
Seat belt	.082	**.785**	.233	.995
Driving seat	.087	**.773**	.147	.589
Alloy wheels	.280	**.715**	.011	.739
Tinted glass	.345	**.669**	.082	.680
Upholstery	.064	**.662**	.026	.443
Horn	.038	**.650**	.066	.429
Unique colour	.137	.055	**.848**	.677
Bumpers	.124	.071	**.865**	.626
Fog lamps	.188	.061	**.978**	.246
Rear view mirror	.151	.044	**.987**	.218

Extraction Method : Principal Component Analysis
Rotation Method : Varimax with Kaiser NormalizationSource : Primary Data

The above table exhibits the rotated factor loading for the nineteen statements (variables) of innovating product features influence more to buy the car. It is clear from table that all the nineteen statements have been extracted into three factors.

Table 3:Innovating product features influence more to buy the car – Factor Wise Analysis

Sl. No	Factors	Eigen Value	Percentage of Variance	Cumulative Percentage of Variance
1.	Comfortable	9.166	38.691	38.691
2.	Seating facility	4.304	18.168	56.860
3.	Colour	5.472	23.097	79.957

Source: Computed Data

It is observed from table that eight factors were extracted out of nineteen variables. These factors accounts for 79.957 percentage variance in the data. Eigen value for the first factor is 9.166 which indicates that the factor contains very high information than other factors.

Factor I (F1) – Comfortable Factor Variables such as, 'Seating comfort' (0.859), 'Spacious' (0.850), 'Width of the car' (0.834), 'Height of the car' (0.826), 'Interior design' (0.825), 'Exterior design' (0.822), 'Shape of the car' (0.821), 'Lights' (0.820) and 'A/C/Heater' (0.797) had the highest significant positive loading and hence were included in the first factor. These variables were directly associated with the comfortable. Hence, Factor I, was named as "Comfortable Factor".

Factor II (F2) – Seating Facility Factor

In the second factor (F2) variables such as 'Seat belt' (0.785), 'Driving seat' (0.773), 'Alloy wheels' (0.715), 'Tinted glass' (0.669), 'Upholstery' (0.662) and 'Horn' (0.650) were found tohave the highest significant positive loading and hence they were grouped and included in Factor 2. Variables included in the second factor were closely associated with the seating facility factor. So, the second factor was named as the 'Seating facility' factor.

Factor III (F3) – Colour Factor:

ariables such as, 'Unique colour' (0.848), 'Bumpers' (0.865), 'Fog lamps' (0.978) and 'Rearview mirror' (0.987) were found to have the highest significant positive loading and hence theywere grouped and included in Factor 3. Hence, this factor III (F3) is called was named as the 'Colour' factor.

6. Suggestions:

- The respondents perceive that Comfortable is the most important features of the passengercar followed by Seating facility factor and Colour factor, thus the manufacturers should designthe product giving maximum weightage to these factors.
- As the respondents give more importance to Seating Comfort, the car manufacturing companies should concentrate more on Seating Comfort. So the manufacturers of car should involve such production design and system to withstand and competition. This will help consumers to stick on to the specific brand without more utilization about the products.
- Seat belt factor and comfortable driving seat may be provided even with all small cars in order to safeguard and attract lower middle income group customers to prefer a car.
- Bumpers, Rear view mirror and Fog lamps are also the important innovative product featuresof the cars and the car manufacturers should include these additional innovative features in small and medium size cars with less cost.
- Including all important innovative product features may increase the price of cars, thus car manufacturers as well as the car dealers should have tie-up arrangements with the authorized financial institutions to ensure the availability of car finance on easy installments and reasonable interest rates to boost sales.

7. CONCLUSION:

The implications of innovative elements for Indian four-wheeler enterprises and marketers have been seriously illuminated by this study. It reveals how closely buyers examined the cutting-edge features in automobiles. The decision-making process is greatly influenced by novel product characteristics in four-wheelers. Additionally, customers of today are well-informed and conduct rigorous analysis.

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