



# Cognitive Factors of A Car's That Influence on Car Buyers : An Empirical Study

*The Indian economy grew rapidly over the past two decade with rising income and fashionable standard of living has stimulated the car buyers in general and it leads to Indian automotive industry particularly in Chennai, which impact in Tamil Nadu increase production as well as sales in leading automotive nations. The car buyer's decision is based on the cognitive factors of a car that influencing on purchase decision is an unexplored research area in the field of Chennai car buyers' behavior. The cognitive factors may affect the car buyers are constituted with a valuable source of primary information are studied. **Key Words** : Consumers behavior, Cognitive factors, purchase decision, automotive industry, car buyers, longtime, fashionable, life style.*

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## **I**ntroduction :

Due to the emergence of globalization and liberalization there is a stiff competition among the automobile industries which are focusing attention in capturing the Indian markets an automobile are no more considered as luxury once, now occupies a part of day-to-day life and has become a necessity. Customers have now changed their attitude that yesterday's luxuries are today's necessities. The cognitive factors of a car in international automotive industry influence the demand of car buyers. An introduction is made on the Chennai consumers and automotive industry, for this particular background this study and problems are formulated in the structured study.

### **Automotive Industry in Chennai :**

There are various reasons for the growth of the Indian automobile market such as :

- (1) The people have more disposable income as economy is growing.
- (2) The car consumers are need of mobility due to urbanization and leisure travel.
- (3) The nuclear family systems are walk today towards fashionable life style.
- (4) Car finance options available from financial institutions and at reasonable rate of interest.
- (5) All cognitive factors of a car is more attractive and the brands are easily convince their customer.
- (6) The continuous improvements of all car cognitive factors of the brands are established in this industry.

### **Review of Literature :**

The car consumer researchers Dargay (1990)

discussed the relationship between the cars' cognitive factors and behavior of car users or owners. The study presents the importance of consumer factors affecting the car cognitive factors when the consumer purchases a car. Tao (2004) applied consumer behavior of old people when purchasing sedan cars in china. Tian (2007, the area of consumer behavior is a broad area with many different directions of research about pre-purchase decision of a car and stimulate the car users in different car cognitive factor. Swarna Bakshi (2013) Men and women due to their different upbringing and socialization along with various other social, biological and psychological factors depict different types of behavior at various situations, whether it is decision making in personal life or professional life.

### **Research Methodology :**

The empirical study of the Chennai automotive industry collaboration was established in this study. The quantitative data collection was made through structured questionnaires distributed through the car dealers in order to reach a wide geographical coverage respondents are asked to contact with their home region. Only a selected part of the questionnaire was used in this study. The total sample size of the quantitative data collection is based on the local experience and most popular way of developing sample size for a structured questionnaire survey in Chennai according to the regional coverage of a study.

### **Statistical Analysis, Data Validity and Reliability of data :**

The quantitative data are validity and analyzed through Excel and SPSS. The data are compressed in to three parts:

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(i) Metadata (ii) General and Descriptive analysis, (iii) the Higher analysis. The study is based on 600 questionnaires distributed after filtering and removing invalid questionnaires, a number of 529 (95.66% valid rate) was used and input into Excel and SPSS for further analysis. According to Cronbach's Alpha Cranach Alpha Coefficient reported from .764 to .864 and Split-half reliability accounted from .726 to .804.

**Cognitive Factors of A Car - An Analytical Study :**

The passenger car market changed very rapidly due to the fierce competition and advanced technology, therefore, it requires the automotive manufacturers and car dealers to understand the consumers' preference on time and take fast actions towards price of a car , different brand images of a car, quality stability mostly influence the customer, exterior designs, interior designs, speed and acceleration performance, highest safety systems of a car, comfortability of a car in all aspects and resale value of a car.

**Presentation of results of Frequency Distribution of the respondents by their opinion about important Cognitive factors a car.**

There are 100 percent of the consumers are given more important for Price, Size of the car, Service Support and Power windows. Further the study highlight around 90 percent of the car owners are give their important for Fuel efficiency, Style, Colors, Durability, Real values, Driving comfort, Appearance, Safety, Trouble free performance, Reliability, and Power steering. There is 80 percent of the car owners are give importance for Brand Name, Sitting Comfort, Updated Technologies, Designs and Fast pickup. The study revealed there are 47.6 percent of the consumers are given important for Social status for purchase their cars and also there are 56 percent of the consumers are give important for Exchange offer scheme. The above table pointed out most of the consumer's are not given the important for social status.

**Factor Analysis :**

In the correlation matrix table the correlation of  $r=.3$  and above and Kaiser-Meyer-Olkin value is .630. The scree plot shows that the relationship between the variables is linear, as per the outliers measures no variables are remove or recode in the factor analysis. In this case the primary data is more appropriate for factor analysis and all the factors scale by principal component analysis (PCA).

**Table 1 : KMO and Bartlett's Test of Cognitive Factors**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>		<b>.630</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	3529.333
	D.f	55
	Sig.	.000

**Source Computed :** Primary Data.

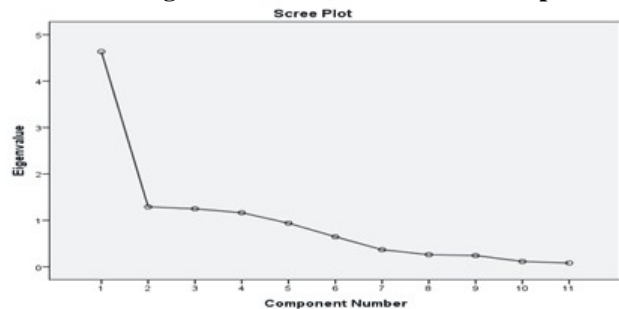
The above table-1 shows that the thumb rule applied to select the number of factors scan down the values

provided in the first set of columns, labeled Initial Eigenvalues. The eigenvalues for each component are listed. In this analysis the first four factors recorded eigenvalues above 1 that is (2.580, 2.346, 2.084, and 1.333). These four components explained the total of 75.843 percent of the variance.

**The result shows that the Cognitive factors Total Variance explained**

The frequency distribution explains of the variance explained after rotation. Component 1 now explains 23.46 of the variance, Component 2 explain 21.33 percent, Component 3 explains 18.95 percent and Component 4 explains 12.12 percent. The total variance explained (75.85 percent) does not change after rotation, just the way that it is distributed between the four components.

**Chart 1 : Cognitive factors Total Variance explained**



**Source Computed :** Primary Data.

The scree plot applied to plotting each of the eigenvalues of the factors and inspecting the plot to find the point at which the shape of the curve changes the direction and become horizontal. As the result the factors are contribute the most to the explanation of the variable in the data set.

**Rotated Component Matrix Extraction Method: Principal Component Analysis**

The results of rotated component matrix loading of each of the variables on the four factors that were Component 1 items are (Price, After Sales Service and Size of the car), the items on component 2 are (Resale Value, Driver Comfort, Speed and Fuel efficiency of a car) Component 3 are (Brand Images, Safety and style) Component 4 is Durability of a cars

**Table 2 : Factor 1 (Factors Loading for Car Value)**

S.No.	Factors	Loading
1	Price	.799
2	After Sales Service	.785
3	Size of the car	.655

The first component the first factor consists Price, After Sales Service and Size of the care mostly related to the value of a car. Those factors are related to "Car Value"

Factor tow consist of Real Value, Driving Comfort, Speed and Fuel Efficiency all the factors are concern to "Car Performance" of a car.

**Table 3 : Factor 2 (Factor Loading for Car Performance)**

S.No.	Factors	Loading
1	Resale Value	.821
2	Driving Comfort	.758
3	Speed	.736
	Fuel Efficiency	.531

**Table 4 : Factor 3 (Factor Loading for Fashion and Security)**

S.No.	Factors	Loading
1	Brand Image	.784
2	Safety	.730
3	Style	.691

Factor three consolidate the following factors that are brand image, Safety, Style all the factors are related to "Fashion and Security" of a car

**Table 5 : Factor 4 (Factor loading for longevity)**

S.No.	Factors	Loading
1	Durability	.845

Factor four shows in the table-8 the durability of a car is related the life time of a car that is "Longevity" of a car.

#### Findings of the study :

(i) The study find that great extents that the sample comprises more male respondents are playing a significant role in car buying activity than the female respondent's.

(ii) The middle age groups of customers are mostly participated in purchase decision is based on the car's cognitive factors.

(iii) The survey demonstrate about senior citizens are also participated in car purchase decision

(iv) The marital status highlight that the majority of the respondents are married couples than the unmarried people.

(v) The analysis found that the significant majority of the urban and Semi-Urban respondent, having own care or having new car.

(vi) There are 66.3 percent of the car owners are graduates they are professional degree holders, post undergraduate, under graduate and engineering graduates.

(vii) The study highlights there are 48.6 percent of the car owners are earn monthly income above 50,000. In overall income group the high income holders are more dominated than the other income groups.

(viii) The majority of the car owners are self driving. So the direct owners are more constituted than the others.

(ix) The study revealed that, there are 100 percent of the car owners are giving very important for Price of the car, Size of the car and After Sales Service of the car.

(x) There are 97 percent of the respondent are important to safety of the car.

(xi) The empirical study shows many inferences that Driving Comfort of a car, Fuel Efficiency, Design and Speed performance a car.

(xii) The factor analysis is find out that the following cognitive factors are influenced and the car buyers are give more priority in order as follows: The cognitive factors of a first influenced the car buyers are Price, After Sales Service and Size of the car. Second, Resale Value, Driver Comfort, Speed and Fuel efficiency of a car. Third, Brand Images, Safety and style. Finally, Durability of cars.

#### Conclusion :

The section concluded with a description or the stages followed in car cognitive factors a owners. These stages were problem recognition, general need description The empirical study of the Chennai region that there is no specific cognitive factors of a car the car owners influenced by the car owners. As per the study there are no specific entities of t he cognitive factors of a car. Most of the cognitive factors of car influenced the car owners. In specifically the factor analysis find that the car owners segmented as per factor analysis as the car owners are influenced by that Car Values, car performance, Fashion , Security and longevity of a cars.

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