



CUSTOMERS' PERCEPTION, BEHAVIOUR AND SATISFACTION TOWARDS LOCAL BRANDED CARS WITH SPECIAL REFERENCE TO SELECT CITIES IN TAMILNADU

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1. Introduction

Automobile industry is the key driver of any growing economy and plays a pivotal role in country's rapid economic and industrial development. It facilitates the improvement in various infrastructure facilities like power, rail and road transport. Due to its deep forward and backward linkages with several key segments of the economy the automobile industry is having a strong multiplier effect on the growth of a country and hence is capable of being the driver of economic growth. It plays a major catalytic role in developing transport sector in one hand and industrial sector on the other to grow faster and thereby generates a significant employment opportunities. In India, automobile is one of the largest industries showing impressive growth over the years and has been significantly making increasing contribution to overall industrial development in the country. Automobile industry includes two wheelers, three wheelers, commercial vehicles and passenger vehicles.

Presently, India is the world's second largest manufacturer of two wheelers, fifth largest manufacturer of commercial vehicles and fourth largest manufacturers of tractors. It is the seventh largest passenger car market in Asia as well as a home to the largest motor cycle manufacturers. The majority of India's car manufacturing industry is based around three clusters in the south, west and north. The southern cluster consisting of Chennai and Bengaluru which the biggest place occupies in the revenue share of 35%. The western hub near Mumbai and Pune contributes to 33% of the market and the northern cluster around the National Capital Region contributes 32% with the operations of *Ford, Hyundai, Renault, Mitsubishi, Nissan, BMW and Hindustan Motors* is about to begin their operations by 2014. Chennai accounts for 60% of the country's automotive exports.

2. Significance of The Study

The Indian passenger car industry is zooming ahead with the price and fuel efficiency. Customers are driving the small and compact car segment. The primary factor driving the car industry is the rising household income. This is fueled by the growth in the service sector. In economic terms, there is a strong correlation between car sales and GDP growth. There is an increase in the disposable income, having more disposable income on hand, the aspiration of Indians to own a car is highest among the developing countries as young people have been engaged in lucrative jobs today. Increasing urbanization and proportion of young people in the population coupled with improving consumer finance facilities with the entry of banks into car finance has come as a boon to the Indian car industry. Home car manufacturers too have started offering consumer finance facilities. Reduction in the excise duties on cars has helped in the reduction of their prices. At present, many models are available with the Indian car manufacturers at competitive prices and manufacturers are reducing the prices in the mid and compact segments to increase the sales volume.

Many models of passenger cars entry into the automobile market, leads to market saturation, companies competing against each other in sharp contrast to the monopolistic industry behaviour. It requires tremendous amount of marketing efforts to retain and grow their market share in this scenario, by adopting quite innovative features and value added services, which are very attractive to the customers.

3. Statement of The Problem

The Indian passenger car industry is made highly competitive because of the stiff competition between the domestic as well as foreign manufactures. Most of the 13 car manufacturers in the Indian passenger car industry are multinational corporations, who received a red – carpet welcome after the Indian economy opened cars segment (Ramesh Sardar, 2012). The survival and success in this competitive environment relies largely on the introduction of the innovative products or services with potential for need – fulfillment. Further, a company should have adequate level of competency to overcome the tough competition in the market efficiently and effectively. Besides, a dramatic change in the expectation of customers and the competitive climate in the Indian automobile market have forced the car manufacturers or sellers to manufacture various innovative products to generate and sustain the confidence and satisfaction of the customers. Today, the consumers have a number of brands and variants of cars from among which they can select a particular brand with the hope of drawing more satisfaction from the choice. But, before making final choice, they have to consider a number of factors. An identification and thorough analysis of various factors influencing the consumers decision towards the purchase of the particular brand of car alone would guide the manufacturers to develop and deliver the right product at the right time.

Therefore, the manufacturers or sellers must fully understand the socio – economic background of consumers, factors influencing brand choice, consumers perception and behaviour, consumers post – purchase satisfaction and problems faced by the consumers who have been using cars with respect to local branded cars.

4. Objectives of The Study

The objective of the study is to find out the relationship between customers' perception, behaviour and satisfaction towards the local branded cars.

5. Research Methodology

The research methodology includes the nature of the study, nature of data, data collection instrument, sample size determination, sampling technique and statistical tools used to analyse the primary data.

5.1 Nature of the Study

The research design applied for this study is descriptive and analytical in nature.

5.2 Nature of Data

Both primary and secondary data were used in this study. The primary data were collected from the respondents who are using local branded cars. A structured interview schedules was used to collect primary data from the respondents covering 8 city corporations of Tamilnadu. Secondary data were collected from journals, magazines, periodicals and dailies.

5.3 Data Collection Instrument

The questions in the interview schedule were designed according to the statement of the problem and objectives of the study. The variables identified from review of literature were taken into account while drafting a structured interview schedule. The opinion from a panel of members comprising experts in the field of marketing, consumer behaviour, economics, psychology, commerce and statistics was sought at every stage of designing the final interview schedules.

Reliability Test for Data Collection Instrument

The measured reliability value is given in the following table.

Table – 1, Cronbach's Alpha Test Report

Sl. No.	Variables	Cronbach's Alpha Value
2.	Consumer Perception.	0.930
3.	Consumer Behaviour.	0.956
4.	Consumer Satisfaction.	0.872

The cronbach's alpha value for consumer perception, consumer behaviour and consumers satisfaction is above 0.6 which means the internal consistency of data is ensured.

Table – 2 Split – Half Reliability Test

Sl. No.	Variables	Alpha Part I Value	Alpha Part II Value	Guttman Split-half	Correlation Between Forms
1.	Consumer Perception.	0.883	0.868	0.901	0.819
2.	Consumer Behaviour.	0.971	0.966	0.935	0.882
3.	Consumer Satisfaction.	0.954	0.936	0.923	0.876

The above table reveals that the alpha value for consumer perception, consumer behaviour and consumer satisfaction in Part I and Part II of the randomly selected responses is more that 0.6 and the correlation between part I and part II is highly significant. This means that there is a good internal consistency among the data.

Confirmatory Factor Analysis (CFA):

CFA provides quantitative measures that assess the reliability and validity of the constructs or theoretical model.

Table – 3,Confirmatory Factor Analysis (CFA) for Local Branded Cars

Variables	Chi-Square	P Value	GFI	AGFI	CFI	RMR	RMSEA
Consumer Perception.	692.958	0.73	0.916	0.902	0.961	0.732	0.601
Consumer Behaviour.	548.432	0.54	0.923	0.931	0.942	0.624	0.539
Consumer Satisfaction.	142.532	0.57	0.909	0.931	0.952	0.606	0.672
Suggested Value		>0.05 (Hair et al., 1998)	>0.90 (Hu and Bentler, 1999)	>0.90 (Hair et al. 2006)	> 0.90 (Daire et al., 2008)	< 0.08 (Hair et al.)	< 0.08 (Hair et al.)

Validity Test for Data Collection Instrument

To assess the validity of data collection instrument, content validity and construct validity are used by the researcher.

- Content Validity:** This can be tested by Judgment or Panel evaluation. The researcher has used both his judgment and panel evaluation to decide the content validity of the interview schedule. To study the consumer perception and behaviour towards local branded cars in Tamilnadu, the researcher has chosen three constructs namely, consumer perception, consumer behaviour and consumer satisfaction with the consultation of panel members belonging to the field of marketing, consumer behaviour, psychology, economics, commerce and statistics.
- Construct Validity:** This is assessed through convergent validity and discriminant validity for the variables namely consumer perception, consumer behaviour and consumer satisfaction with respect to local branded cars.

5.4 Sample Size Determination

The following formula is applied to determine the optimum sample size.

$$n = \frac{Za/2.p.q}{e^2}$$

Where,

e=0.03(since the estimate should be within 3% of the true value)

Za/2=2.005(As per table of area under normal curve for the given confidence level of 95%)

P=0.1(It is calculated on the basis of result of a pilot study)

q=0.1

$$n = \frac{(2.005)^2.(0.1) (1-0.1)}{(0.03)^2}$$

Required sample Size (n) = 402

1.5.5 Sampling Procedure

A structured interview schedule was used to collect the primary data. The consumers who have been using local branded cars of Tamilnadu represent the population for the study. The sample respondents from 8 city corporations of Tamilnadu have been selected by adopting purposive sampling method.

On the basis of sample size determination, 402 each respondents were purposively chosen from the 8 city corporations of Tamilnadu such as Chennai, Coimbatore, Erode, Salem, Tiruchirapalli, Tirunelveli, Tiruppur, and Vellore.

Table – 4,Selection of Sample Respondents from the Study Area

Sl.No	Name of the City	No. of Sample Respondents Local Branded Cars	No. of Sample Respondents Global Branded Cars
1.	Chennai	51	51
2.	Coimbatore	51	51
3.	Erode	50	50
4.	Salem	50	50

5.	Tiruchirapalli	50	50
6.	Tirunelveli	50	50
7.	Tiruppur	50	50
8.	Vellore	50	50
	Total	402	402

5.6 Framework of Data Analysis

Structural Equation Modeling (SEM) was applied to analyse the primary data.

5.7. Period of the Study

The period of the study was between 2012 and 2016.

6. Limitations of The Study

1. The study is confined to consumers' perception, behaviour and satisfaction only. Other aspects of consumers with respect to local branded cars are excluded from the study.
2. The study is focused on passenger car only. Other vehicles which are manufactured in the automobile industry is excluded from the study.
3. The study is confined to 8 city corporations of Tamilnadu only. The remaining areas of Tamilnadu are excluded from the study.

7. Consumers' Perception, Behaviour and Satisfaction towards Local Branded Cars

The relationship between consumer perception, behaviour and satisfaction is studied using structural equation modelling. About 21 statements under four heads are identified to study the consumer perception. Product, price, place and promotion are four heads i.e., sub constructs of perception. Consumer behaviour is studied using 23 statements. Here, consumer satisfaction is studied using 26 statements under three heads namely i) satisfaction towards technical attributes ii) satisfaction towards non-technical attributes and iii) satisfaction towards dealers' service quality. Technical attributes includes seven statements, non-technical attributes involves eight statements and dealers' service quality consists of 11 statements.

Structural Equation Modelling

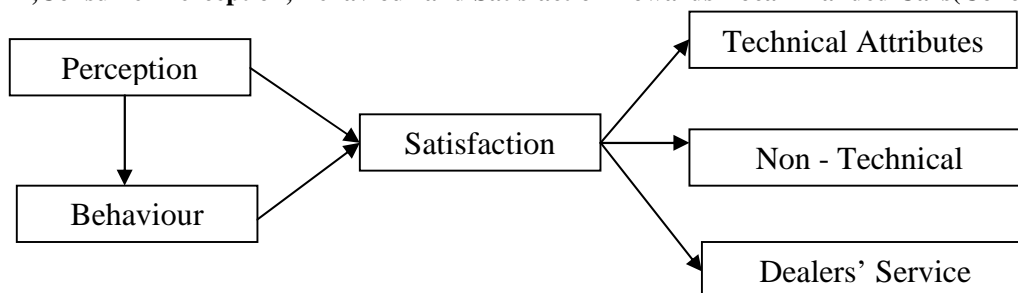
Structural Equation Modelling (SEM) is used to test the hypothesis about the dimensionality of and relationship among, latent and observed variables. Structural Equation Modelling implies a structure for the covariance between observed variables and accordingly it is sometimes called covariance structure modelling. SEM is a powerful alternative to other multi – variance techniques, which are limited to representing only a single relationship between the dependent and independent variables. The major advantages of SEM are (i) multiple and interrelated dependence relationships can be estimated simultaneously and (ii) that it can represent unobserved concepts or latent variables in these relationships and account for measurement error in the estimation process.

Hypotheses

1. There is a positive impact of consumer perception on consumer behaviour on local branded cars.
2. There is a positive impact of consumer perception on consumer satisfaction on local branded cars.
3. There is a positive impact of consumer behaviour on consumer satisfaction on local branded cars.
4. There is a positive impact of consumer satisfaction on technical attributes, non-technical attributes and dealers' service quality.

The following figure is a graphic presentation of the developed hypothetical model.

Figure – 1, Consumer Perception, Behaviour and Satisfaction Towards Local Branded Cars(Conceptual Model)



In order to obtain non-standardized and standardized regression weights, a variance estimate for the residual errors and the squared multiple correlation of the dependent variable “consumer satisfaction” are calculated. In this case, the calculated value of chi-square is 5.357 on 4 degrees of freedom which gives a p-value of 0.253 and this model is a good fit for the analysis. The real strength of SEM is to estimate more complicated path models, with intervening variance between the independent and dependent variables and latent factor as well.

Table – 5,Maximum Likelihood Estimates

Measured Variable		Latent Variables	Estimates	SE	CR	P	Label
Satisfaction	←	DSQ	0.734	.141	5.195	***	
Satisfaction	←	NTA	0.945	.170	5.566	***	
Satisfaction	←	TA	1.000				
Behaviour	←	Satisfaction	0.015	0.009	1.622	.105	
Perception	←	Satisfaction	0.010	0.010	0.985	.325	
Perception	←	Behaviour	-.148	0.52	-2.862	.004	

Source: Primary Data

DSQ = Dealers’ Service Quality
NTA= Non –Technical Attributes
TA = Technical Attributes

It is found from the analysis that consumer satisfaction has significant influence on technical attributes, non-technical attributes and dealers’ service quality towards local branded cars.

Model Fit Summary – CMIN

The following table shows the CMIN for the “default model”. A significant chi-square shows satisfactory fit model.

Table – 6,Model Fit Summary – CMIN

Model	NPAR	CMIN	df	P	CMIN/df
Default Model	11	5.357	4	.253	1.339
Saturated Model	15	.000	0		
Independence Model	5	190.888	10	.000	19.089

Source: Primary Data

Table 6 shows that CMIN is a chi-square statistical comparing the default model and the independence model with the saturated model. The default model has been associated at 1.339 percent with saturated model and other side, the independence model has been associated at 19.089 percent with saturated model.

Root Mean Residual and Goodness- of-Fit Index

The Root Mean Square Residual (RMR) is the mean absolute value of the co-variance residuals, which reflect the difference between observed and model-estimated co-variance. RMR is the co-efficient which results from taking the square root of the mean of the squared residuals. The closer RMR is to 0 and better is the model fit. The GFI is the Goodness of fit index and is equal to 1(chi-square for the default model/ chi-square for the null model).

Table – 7, Root Mean Square Residual and Goodness – of – Fit Index

Model	RMR	GFI	AGFI	PGFI
Default Model	0.072	0.995	0.980	0.265
Saturated Model	.000	1.000		
Independence Model	15.963	.839	.759	.560

Source: Primary Data

Table 7 reveals that the model is good fit as the value of RMR is 0.072. Goodness-of-fit Index (GFI) refers to a fact that 99.5% has been fitted in default model for the proportion of variance, co-variance matrix and on the other hand, 83.9% has been fitted in independence model.

Baseline Comparisons

The Normed Fit Index (NFI) also known as $\Delta 1$ was developed as the alternative to CFI. Comparative Fit Index (CFI) is also known as the Bentler Comparative Fit Index which compares the existing model fit with the null model which assumes that the latent variable correlate with independent variables.

Table – 8, Baseline Comparisons

Model	NFI Delta1	RFI Rho1	IFI Delta 2	TLI Rho 2	CFI
Default Model	0.972	.930	.993	.981	.992
Saturated Model	1.000		1.000		1.000
Independence Model	.000	.000	.000	.000	.000

Source: Primary Data

It is learnt from table 8 that the evidence of NFI (0.972) and CFI (0.992) is greater than 0.8 which means the latent variable correlates with independent variables.

Root Mean Square Error of Approximation

Root Mean Square Error of Approximation is the popular measure of fit because it does not require comparison with the null model. It is one of the fit indexes less affected by sample size. It is good model fit if RMSEA is less than or equal to 0.08 (Hair et al)

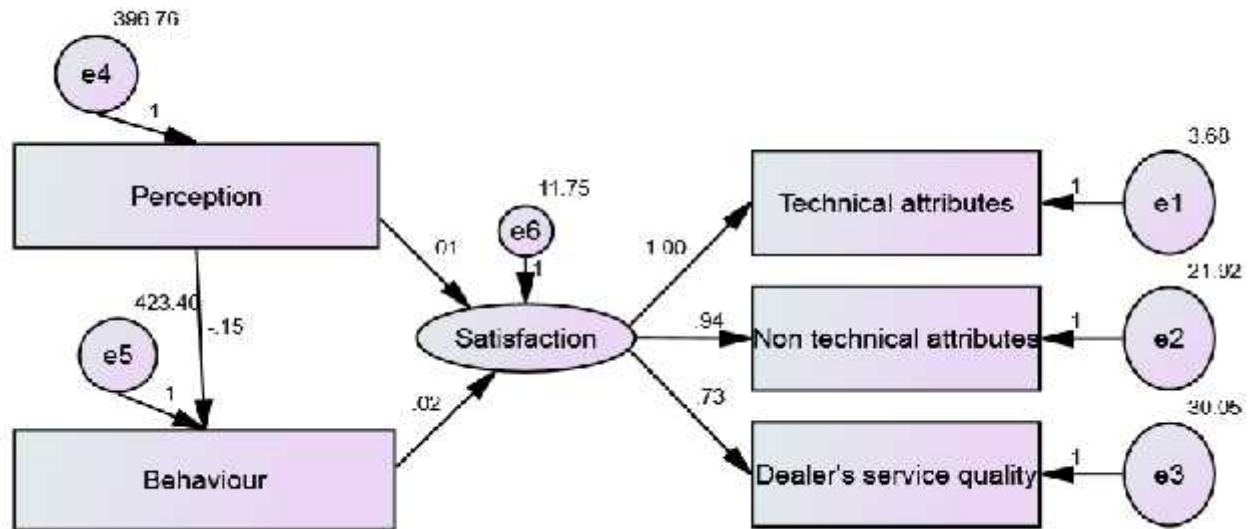
Table – 10, Root Mean Square Error of Approximation

Model	RMSEA	LOGO	H190	PCLOSE
Default Model	0.029	.000	.085	.658
Independence Model	0.212	.187	.239	.000

Source: Primary Data

It is found from table 9 that the RMSEA value is 0.029 which means less than 0.08 and the model resulted as good fit. The following path analysis is used to prove the framed hypothesis.

Figure – 2, Path Analysis



Testing of Hypotheses

The following table shows the result of testing of framed hypotheses.

Table – 10, Testing of Hypothesis

Hypotheses	Hypothetical Relationship	Results
H1: There is a positive impact of consumers' perception on behaviour towards local branded cars.	Positive	Not Confirmed
H2: There is a positive impact of consumers' perception on satisfaction towards local branded cars.	Positive	Not Confirmed
H3: There is a positive impact of consumers' behaviour on satisfaction towards local branded cars.	Positive	Not Confirmed
H4: There is a positive impact of consumers' satisfaction on technical attributes of local branded cars.	Positive	Confirmed
H5: There is a positive impact of consumers' satisfaction on non-technical attributes of local branded cars.	Positive	Confirmed
H6: There is a positive impact of consumers' satisfaction on dealers' quality service towards local branded cars.	Positive	Confirmed

Source: Primary Data

It is also observed from the structural equation modeling that consumers' satisfaction has significant influence on technical attributes, non-technical attributes and dealers' service quality. Consumers' perception and behaviour does not have significant influence on consumers' satisfaction.

8. Findings

It is found from the path analysis that the intervening variable (consumer satisfaction) with latent variables (Technical attributes, non-technical attributes and dealers' service quality) towards local branded cars have positive relationship and also significant at 1% level. The measured variable namely consumer perception with latent variable namely consumer behaviour has negative relationship and also significant at 5% level. The measured variable (perception and behaviour) with intervening variable (Satisfaction) do not have significant relationship. The analysis of the model, from the view point of latent variables, suggests that consumer satisfaction has significant influence on technical attributes, non-technical attributes and dealers' quality service. Consumer perception and behaviour do not have significant influence on consumer satisfaction towards local branded cars.

9. Conclusion

There is a negative relationship between consumers' perception and behaviour towards local branded cars. Consumers' perception and behaviour do not have significant impact on consumers' satisfaction. However, consumers' satisfaction has significant impact on technical attributes, non-technical attributes and dealers' quality service. Therefore, these impacts to be viewed seriously and to take suitable measures for improving customers' satisfaction on technical attributes, non-technical attributes and dealers' quality service. Such considerations will help the manufacturers to improve technical attributes, non-technical attributes and dealers' quality service and will help the car users to enhance their perceptive ability and behavioural modification to make right purchase decisions at right time in accordance with the actual attributes of the cars and services offered by both manufacturers and dealers.

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