A Study on Brand Preference of Select Passenger Cars in Tiruvannamalai Town

Dr. R. Angamuthu

Assistant Professor of Commerce, PG & Research Department of Commerce, Government Arts College, Tiruvannamalai – 606 603, Tiruvannamalai District, Tamil Nadu

Abstract

In this paper analyze the brand preference of select passenger cars in Tiruvannamalai Town in Tamil Nadu. India is one of the largest automotive markets in the world. India provides wide opportunity for every class of car manufacturers. India's GDP is expected to grow at 7.3 per cent in the fiscal year 2018-19. ***Findings:*** *1).Majority, 82 percent of the respondents were falling in the male classification. 2). Majority, 46 percent numbers of respondents were falling in the age group of 55 & above years3) Majority, 42 percent number of respondents was studied up to Post Graduate Level.4). Majority, 75 percent numbers of the respondents were married. 5). Majority, 39 percent numbers of respondents were falling under the number of family members group of below 3. 6). Majority, 44 percent numbers of respondents were involving in the group of Professionals (Engineers, Lawyers, and Doctors Etc.).7). Majority, 43 percent number of respondents were falling in the income group of Rs.1,00,000 & above.8). Majority, 46 percent of the respondents were given preference to price, while purchase the new car.* ***Hypothesis:*** *1). The null hypothesis is rejected and it may be concluded that number of family members and brand preference of the car were significant difference. 2).The null hypothesis is accepted and it may be concluded that occupation of the respondents and brand preference of the car were not significant difference.*

Key Words: *Passenger Cars, Brand Preference, Top Car Manufacturers, Percent, and Chi-Square Test.*

Introduction

The Indian automotive industry has grown tremendously in the past decade. Our grandparents had an easy decision – it was either the Ambassador from Hindustan Motors or the Premier Padmini. The launch of the Maruti 800 in 1983 was a game changer for the industry. Maruti-Suzuki sold over 2.6 million units of that car and opened up the market to India's middle class. It was in 1897 that a resident of Calcutta (Nowadays it is called as Kolkatta) brought the first car to India. The next year, there were four cars in Bombay; one of them owned by Jamshedji Tata and the other three also by Parsis. That same year, the first pneumatic tyres arrived in Bombay, with Dunlop opening an office in the city.

What is automobile Industry?

The automobile industry is a wide range of companies and organizations involved in the design, development, manufacturing, marketing, and selling of motor vehicles, some of them are called automakers. It is one of the world's largest economic sectors by revenue.

Automobile industry of India can be broadly classified under passenger vehicles, commercial vehicles, three wheelers and two wheelers, with two wheelers having a maximum market share of more than 75%. Automobile companies of India, Korea, Europe and Japan have a significant hold on the Indian market share.

Major Players of Automobile Industry in India

The top players in the Indian automobile industry have played a key role in the growth and development of the automobile industry in India. Companies like Bajaj Auto, Hindustan Motors and TVS Motors, with their ever expansive car dealing networks, promotional, convenient customer care services, have marked India among the leading automobile Industries.

Top Car Manufacturers in India in 2018

Rank	Car Manufacturer	Units sold (Apr-June 2018)
1	Maruti Suzuki	4,58,967
2	Hyundai Motor India	1,37,114
3	Mahindra & Mahindra	60,539
4	Tata Motors	58,969
5	Honda Cars India	42,609
6	Toyota Kirloskar	39,238
7	Ford India	24,941
8	Renault India	20,790
9	Nissan India	10,605
10	Volkswagen India	9,159

Source: SIAM

Review of Literature

Dr.Basanta Khamrui and Dr. Bhaskar Bagchi (2012) "Growth of Automobile Industry in the Post – Reform Period", in their study reveals that with the liberalization of Indian economy, numerous global automobile players have set up their units in Indian Territory. The entry of global auto giants also facilitated domestic automobile companies to improve technical capabilities, output capacities and standard of vehicle at a cheaper price. There was also high inflow of FDI in Indian auto sector (34.01 billion in 2008-09). As a result, an impressive growth in productions, sales and exports has been observed, the output and sales of CV, PC & MUV and spectacularly. The industry has achieved a milestone of production of 1,00,00,000 units of vehicles.

Pankaj Gupta, Rajdeep Gupta and Pulkit Maheshwari (2015) "A Review: Present Indian Automobile Industry", their study explain about overview of automobile industry in India. As India's economy continues to grow at a rapid pace, the automobile industry will be a key beneficiary. This is widely true across automotive markets—from those serving customers with two-wheelers and four-wheelers to those offering commercial vehicles. The main factors behind such growth are the increasing affluence of the average consumer, overall GDP growth, the arrival of ultra-low-cost cars, and the increasing maturity of Indian original equipment manufacturers (OEMs).The automotive Industry in India is now working in terms of the dynamics of an open market. In India, automobile sector is one of the largest growing industries. Many joint ventures have been set up in India with foreign collaboration. India also has one of the fastest growing economies and many U.S. companies view India as a potentially lucrative market. It is expected that the automotive industry will play an important role in helping the economy to continue this growth.

Dr.K.Rajireddy and D.Ravinder (2016) in their article entitled on "Consumer Behavior towards Brand Preference of Passenger Cars in Karimnagar District". This research article examines the brand preference of consumer towards passenger car. The Automobile industry has powerfully striven towards globalization, which increasingly affects the policy at all levels. The present study made a systematic effort on studying

consumer brand preference towards passenger cars in Karimnagar district by analyzing the factors that influence brand choice of the customers and revealed the impact of brand preference dimensions on customer satisfaction. There is cut throat competitions in the market on price front and so they have to find out better quality and low cost product. Every day technology is changing the shape of world business so Indian automobile industry is also being affected. Especially passenger car industry will face challenges to satisfy consumer needs.

Bhavesh Soni and Roshan Ravi (2017), in their study expressed that "A study on Brand Preference in Automobile Segment" The report consists of research on study on brand preference in automobile segment. The automobile industry is getting more profit, due to increases in readily available income both in urban as well as rural area getting easily availability of finance. The research is helpful for the existing and the new entrant in the car manufacturing companies in India to find out customer's expectation and their market offering. Both domestic as well as multinational manufacturer influences current automobile industry. The current research pattern is about the consumer behavior of automobile car customer. Understand what customer wants to buy and about the market. The research consists of the brand preference in automobile segment. This topic focuses on what factors influence to buy a preferred brand. It takes consideration on an average how does a consumer think to about the automobile brand, what is the perception about the brand. In addition, is spending on car dependent on income of consumer. It also considers age, gender and income etc. and mainly depends on the brand image of the company.

Statement of the problem

The most important question is how a company can remain competitive in the face of the turbulent transformations taking place in the automotive industry. The key to success lies in being focused, responsive, variable and resilient, which can be accomplished by converting to anon demand company. Adaptively to an ever-changing environment has become the core business demand, requiring problem-solving tools and methods to be identified, selected and implemented quickly. Considering an insatiable demand for vehicles in an economy that is expected to grow at an average of 7% for the next 20 years, the automobile sector in the country will require disproportionate amounts of natural resources which will not only have economic cost implications, but also have strong environmental and social impacts. Future growth will be associated with increased raw material extraction, pollution arising from production, processing of primary materials for production of auto components, GHG emissions during the manufacturing phase, use/operation phase, traffic congestion, etc. Hence this companies face several problems such as Drawing talent, Overloading, Globalization, Sustainability, Urbanization Increasing regulations, Challenges to meet emission norms, Retention of talented workforce, Accidents, Pollutions etc.,

Objectives of the Study

This study is undertaken with the following objectives:

1. To trace the origin and growth of Automobile Industry in India
2. To examine the customers perception about different brands of cars
3. To summarize the findings and provide conclusion.

Sampling Design

The Research design for the study is descriptive and analytical in nature. The present study is restricted to 4 passengers' cars only in Tiruvannamalai Town. The convenience sampling technique is adapted to select the passenger car for the study. The particulars of the passenger cars included in the present study are shown in the below table.

Sl.No	Name of the Company	Year of Incorporation	Headquarters
1.	Mahindra & Mahindra Limited	1945	Mumbai, Maharashtra, India.
2.	Maruti Suzuki India Limited	1981	New Delhi, India
3.	Tata Sumo (Tata Motors Limited. It is a subsidiary of Tata Group)	1994	Mumbai, Maharashtra, India.
4.	Hyundai Motor India Limited	1996	Chennai, Tamil Nadu, India

Hypothesis

The following research hypotheses are framed and tested in the present study:

1. There is no significant difference between number of family members and brand preference of cars.
2. There is no significant difference between occupation of the respondents and brand preference of cars.

Scope of the Study

This study is undertaken to analyze the Brand Preference of Select Passenger Cars in Tiruvannamalai Town in Tamilnadu. The proposed study is to be confined only to four Passenger Cars namely Mahindra & Mahindra Limited, Maruti Suzuki India Limited, Tata Sumo (Tata Motors Limited. It is a subsidiary of Tata Group) and Hyundai Motor India Limited. This study focuses its attentions on factors influencing the purchase of car and brand preference of the cars.

Research Methodology

Source of Data

The present study is based on primary and secondary data. The primary data collected by the way of interview schedule and secondary data collected from journals, periodicals, publications and websites.

Period of Study

The present study covers a period of 3 months from October 2018 to December 2018.

Statistical Techniques

By virtue of a mass of data obtained from research survey, as well as data from secondary sources collected and presented in the present report, descriptive and analytical was considered most appropriate for the study. The research problems and questionnaire were all framed accordingly. To analyze the collected data, simple percentage method and chi-square test are used.

Chi – Square Test:

It is a statistical test in which the sampling distribution of the t-statistic is a chi-squared distribution. It is a non-parametric test. This test defines if there is a significant difference between the observed and expected frequencies. These tests are framed from a sum of squared errors or with the sample variance. The chi-square test is based on the assumption that the data is independent normally distributed.

The formula is defined as:

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Here, O i is the observed frequency and E i is the expected frequency.

Results and Discussion

Table – 1: Demographic Factors of the Respondents

SL.No.	Particulars of the Respondents	Factors	Number of Respondents	Percent
1.	**Gender wise Classification**	Male	82	82
		Female	18	18
		Total	**100**	**100**
2.	**Level of Age**	Below 35 years	6	6
		35 – 45 years	20	20
		45 – 55 years	28	28
		55 & above years	46	46
		Total	**100**	**100**
3.	**Level of Education**	Higher Secondary Level	8	8
		Degree Level	35	35
		Post Graduate Level	42	42
		Doctorate Level	15	15
		Total	**100**	**100**
4.	**Marital Status**	Married	75	75
		Unmarried	25	25
		Total	**100**	**100**
5.	**Size of the Family Members**	Below 3 Members	39	39
		3-6 Members	29	29
		6-9 Members	20	20
		9 & above Members	12	12
		Total	**100**	**100**
6.	**Type of Employment**	Government Employee	17	17
		Private Employee	15	15
		Professionals [Engineers, Lawyers, Doctors etc.,]	44	44
		Own Business	24	24
		Total	**100**	**100**
7.	**Monthly Income**	Below Rs. 50,000	8	8
		Rs. 50,000 – Rs.75,000	16	16
		Rs. 75,000 – Rs.1,00,000	33	33
		Rs.1,00,000 & above	43	43
		Total	**100**	**100**

Source: Primary Data

Gender wise Classification:

The above table shows that 82 percent respondents were falling in male classification and rest of the respondents (i.e., 12 percent) were falling in the female classification. Majority, 82 percent of the respondents were falling in the male classification.

Level of Age:

The above table reveals that 6 percent number of respondents lying in the age group of below 35years, 20 percent were lying in the age group of 35-45 years, 28 percent were lying in the age group of 45-55 years and 46 percent were falling in the age group of 55 & above years. Majority, 46 percent numbers of respondents were falling in the age group of 55 & above years.

Level of Education:

Education must also be treated as one of explanatory variables of brand preference of the cars. In fact, the significance of education in this context in two fold; firstly, education is viewed as investment in human capital. Thus, the choice of profession, nature of work and one's earning capacity is determined to a large extent by the education level one has attained. Secondly, the education also reshapes the value of system and preference of the individual. The brand preference of the cars may vary with the level of education.

The above table shows that 8 percent number of respondents were studied upto Higher Secondary Level, 35 percent were studied upto Degree level, 42 percent lying in the Post Graduate Level. Finally, 15 percent were belongs to the Doctorate level. Majority, 42 percent number of respondents were studied upto Post Graduate Level.

Marital Status:

The above table explains that 75 percent numbers of respondents were married and rests of the respondents (i.e., 25 per cent) were unmarried. Majority, 75 percent numbers of the respondents were married.

Size of the Family Members:

The above table state that, 39 percent numbers of respondents were lying under the number of family members group of below 3, 29 percent number of respondents were falling under the family members group of 3-6, 20 percent number of respondents were lying in the family members group of 6-9. Hence, 12 percent number of respondents having 9 & above family members group. Majority, 39 percent numbers of respondents were falling under the number of family members group of below 3.

Type of Employment:

The above table reveals that 17 percent number of respondents were lying in Government Service, 15 percent were falling in Private Service, 44 percent were involving in the group of Professionals (Engineers, Lawyers, Doctors etc.,). Hence 24 percent numbers of respondents were falling in Own Business Category. Majority, 44 percent numbers of respondents were involving in the group of Professionals (Engineers, Lawyers, and Doctors Etc.).

Monthly Income:

The above table gives the comparable data for the income level and most relate to their brand preference of the passenger cars based upon a summary carried out the study.

Among the respondents, 8 percent were involving in the income group of below Rs.50,000, 16 percent were lying in the income group of Rs.50,000 – Rs.75,000, 33 percent were involving in the income group of Rs.75,000 – Rs.1,00,000 finally, 43 percent

were falling in the income group of Rs.1,00,000 & above. Majority, 43 percent number of respondents were falling in the income group of Rs.1,00,000 & above.

Table – 2: Factors influencing purchase of the new car

Factors	**No. of Respondents**	**Percent**
Price	46	46
Brand Status	7	7
Mileage	22	22
Low Maintaining Cost	9	9
After Sales Service	16	16
Total	100	100

Source: Primary Data

The above table express that 46 per cent of the respondents were given importance to price, 7 percent were given preference to brand status, 22 percent of the respondents were given importance to mileage, 9 percent were given preference to low maintaining cost and finally, 16 percent respondents were given preference to good service after sale of the car. Majority, 46 percent of the respondents were given preference to price, while purchase the new car.

Null Hypothesis - 1

There is no significant difference between the Number of Family Members and Brand Preference of the Cars.

Cars / Family Members	**Maruti Suzuki Cars**	**Tata Sumo Cars**	**Mahindra Cars**	**Hyundai**	**Total**
Below 3 Members	32	4	2	1	**39**
3 – 6 Members	5	15	5	4	**29**
6 – 9 Members	3	2	7	8	**20**
9 & above Members	2	5	1	4	**12**
Total	**42**	**26**	**15**	**17**	**100**

Source: Primary Data

Calculation of Chi – Square Test

Observed value	**Expected Value**	**O-E**	**$(O-E)^2$**	**$(O-E)^2/E$**
32	16.38	15.62	243.9844	14.89526
4	10.14	-6.14	37.6996	3.717909
2	5.85	-3.85	14.8225	2.533761
1	6.63	-5.63	31.6969	4.78083
5	12.18	-7.18	51.5524	4.232545
15	7.54	7.46	55.6516	7.380849
5	4.35	0.65	0.4225	0.097126
4	4.93	-0.93	0.8649	0.175436
3	8.4	-5.4	29.16	3.471429
2	5.2	-3.2	10.24	1.969231
7	3	4	16	5.333333
8	3.4	4.6	21.16	6.223529
2	5.04	-3.04	9.2416	1.833651
5	3.12	1.88	3.5344	1.132821
1	1.8	-0.8	0.64	0.355556
4	2.04	1.96	3.8416	1.883137
Total				**60.0164**

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Expected Frequencies are calculated as given below formula:

$$\frac{\text{Row Total X Colum Total}}{\text{Grand Total}}$$

Degrees of freedom = (r-1) (c-1)

(4-1) (4-1)

3 X 3 = 9

d.f. = 9; X^2 , 5% level of significance = 16.9

Conclusion:

At 5 percent level of significance, the critical value of X^2 is 16.9 for 9 degrees of freedom. Since the computed value of X^2 is (60.0164) greater than the critical value of chi-square value (16.9), it falls in the rejected region. Hence, the null hypothesis is rejected and it may be concluded that number of family members and brand preference of the car were significant difference.

Null Hypothesis – 2

There is no significant difference between occupation of the respondents and brand preference of the cars.

Cars / Occupation	Maruti Suzuki Cars	Tata Sumo Cars	Mahindra Cars	Hyundai	Total
Govt. Employee	11	8	4	1	**24**
Private Employee	7	4	3	1	**15**
Professionals	20	11	5	8	**44**
Own Business	4	3	3	7	**17**
Total	**42**	**26**	**15**	**17**	**100**

Source: Primary Data

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Calculation of Chi – Square Test

Observed value	Expected Value	O-E	$(O-E)^2$	$(O-E)^2/E$
11	10.08	0.92	0.8464	0.083968
8	6.24	1.76	3.0976	0.49641
4	3.6	0.4	0.16	0.044444
1	4.08	-3.08	9.4864	2.325098
7	6.3	0.7	0.49	0.077778
4	3.9	0.1	0.01	0.002564
3	2.25	0.75	0.5625	0.25
1	2.55	-1.55	2.4025	0.942157
20	18.48	1.52	2.3104	0.125022
11	11.44	-0.44	0.1936	0.016923
5	6.6	-1.6	2.56	0.387879
8	7.48	0.52	0.2704	0.03615
4	7.14	-3.14	9.8596	1.380896
3	4.42	-1.42	2.0164	0.456199
3	2.55	0.45	0.2025	0.079412
7	2.89	4.11	16.8921	5.845017
Total				**12.54992**

Expected Frequencies are calculated as given below formula:

$$\frac{\text{Row Total X Colum Total}}{\text{Grand Total}}$$

Degrees of freedom = (r-1) (c-1)

(4-1) (4-1)

3 X 3 = 9

d.f. = 9; X^2 , 5% level of significance = 16.9

Conclusion:

At 5 percent level of significance, the critical value of X^2 is 16.9 for 9 degrees of freedom. Since the computed value of X^2 is (12.54992) less than the critical value of chi-square test (16.9), it falls in the accepted region. Hence, the null hypothesis is accepted and it may be concluded that occupation of the respondents and brand preference of the car were not significant difference.

Findings

1. Majority, 82 percent of the respondents were falling in the male classification.
2. Majority, 46 percent numbers of respondents were falling in the age group of 55 & above years
3. Majority, 42 percent number of respondents was studied up to Post Graduate Level.
4. Majority, 75 percent numbers of the respondents were married.
5. Majority, 39 percent numbers of respondents were falling under the number of family members group of below 3.
6. Majority, 44 percent numbers of respondents were involving in the group of Professionals (Engineers, Lawyers, and Doctors Etc.).
7. Majority, 43 percent number of respondents were falling in the income group of Rs.1,00,000 & above.
8. Majority, 46 percent of the respondents were given preference to price, while purchase the new car.

Conclusion

India is one of the largest automotive markets in the world. India provides wide opportunity for every class of car manufacturers. From Sedan to SUVs, small to mid size and even luxury cars there are around 50 global companies in India. In the last financial year around 11 million cars were manufactured in India. With ever growing competition in car market, it is very difficult to trust a company. India's GDP is expected to grow at 7.3 per cent in the fiscal year 2018-19, and 7.5 per cent in the following two years, the World Bank has forecast, attributing it to an upswing in consumption and investment.

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