A STUDY OF CONSUMER PREFERENCE AND PERCEPTION TOWARDS VARIOUS BRANDS OF CARS IN TIRUNELVELI DISTRICT

THESIS SUBMITTED TO
MANONMANIAM SUNDARANAR UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE OF

DOCTOR OF PHILOSOPHY

BY
S.RUBHA
(REG. NO. 11274)

RESEARCH CENTRE OF COMMERCE
St.XAVIER'S COLLEGE (AUTONOMOUS)
PALAYAMKOTTAI – 627 002
MANONMANIAM SUNDARANAR UNIVERSITY
TIRUNELVELI-627 012

APRIL 2017

CO-GUIDE

Dr. C.EUGINE FRANCO,
Associate Professor,
Department of Commere,
St.Xavier's College,
Tirunelveli,
Tamil Nadu, India.

GUIDE

Dr. V. BHARATHI,
Associate Professor &
HOD of Commerce,
Ambai Arts College,
Ambasamudram,
Tamil Nadu, India.

CERTIFICATE

This thesis entitled "**A STUDY OF CONSUMER PREFERENCE AND PERCEPTION TOWARDS VARIOUS BRANDS OF CARS IN TIRUNELVELI DISTRICT**" submitted by **Mrs. S. RUBHA** for the award of Degree of Doctor of Philosophy in Commerce of Manonmaniam Sundaranar University is a record of bonafide research work done by her and it has not been submitted for the award of any degree, diploma, associateship, fellowship of any University / Institution.

Place: Ambasamudram,

Date:

(Dr. C. EUGINE FRANCO)
Co-Guide

(Dr. V. BHARATHI)
Guide

Mrs. S. RUBHA,
Assistant Professor,
Department of Commerce,
Sadakathullah Appa College, (Autonomus)
Tirunelveli, Tamil Nadu, India.

DECLARATION

I hereby declare that the thesis entitled "**A STUDY OF CONSUMER PREFERENCE AND PERCEPTION TOWARDS VARIOUS BRANDS OF CARS IN TIRUNELVELI DISTRICT**" submitted by me for the Degree of Doctor of Philosophy in Commerce is the result of my original and independent research work carried out under the guidance of **Dr. V. BHARATHI**, Associate Professor & HOD of Commerce, Ambai Arts College, Ambasamudram, Tamilnadu and it has not been submitted for the award of any degree, diploma, associateship, fellowship of any University or Institution.

Place: Tirunelveli, (**Mrs. S. RUBHA**)

Date:

ACKNOWLEDGEMENT

This research work entitled, **A STUDY OF CONSUMER PREFERENCE AND PERCEPTION TOWARDS VARIOUS BRANDS OF CARS IN TIRUNELVELI DISTRICT** would have been impossible without the direct and indirect help and support of a number of important persons. I avail myself of this opportunity, with pleasure, to follow the good tradition of recognizing all those who, in one way or the other, contributed to make my study a success.

I praise **GOD** for **HIS** sustaining grace that saw me through this thesis.

I extend my profound gratitude to my revered supervisor, **Dr. V. BHARATHI**, Associate Professor & HOD of Commerce, Ambai Arts College, Ambasamudram, a guide par excellence and a remarkable person of dedication, devotion, determination and altruism. I am highly indebted to her patience, encouragement and effective direction. Her enthusiastic and integral view on research and her mission for providing 'only high quality work and not less', has made a deep impression on me. I owe her lots of gratitude for showing me this way of research, and providing me with valuable comments on several versions of this thesis. Her impact and magnanimity have been long standing.

I would like to thank to my Co-guide Dr. C.Eugine Franco, Associate Professor of commerce, St. Xavier's College (Autonomous), Tirunelveli for his research guidance and support throughout my research activities.

I gratefully acknowledge my immense thanks to **Dr. M.MOHAMED SATHIK,** Principal, Sadakathullah Appa College, Tirunelveli, for his whole hearted support in submitting the thesis in time. I

extend my immense gratitude to **Dr. A.ABDUL KADHAR ,** Director Self – Financing Course, Sadakathullah Appa College, Tirunelveli, for his encouragement, support and for having provided me with an excellent work environment during the study period.

I am very much thankful to **Dr. M.MICHAEL PONRAJ**, Principal (Rtd), Ambai Arts College, Ambasamudram for his valuable guidance and advises for the completion of this work.

I recognize my indebtedness to **Dr. S.M.A. SYED MOHAMED KAJA,** Head of the Department of Commerce (CA), Sadakathullah Appa College, Tirunelveli for his encouragement and support throughout my study.

I'm grateful to **Mr. S.SHAHUL HAMEED**, Assistant Professor, Department of Business Administration, Sadakathullah Appa College, Tirunelveli for his help in the process of developing my thesis work.

I am indebted to the sample respondents who were good enough to spare their precious time in giving me answers in detailed interview schedule. They actually form the base for this thesis.

My hearty thanks are due to my dear spouse **Mr. G.SANKARA PANDIAN,** and our children, **S. HARILAYA** and **S. JAI KRISH** for their understanding, encouragement, moral and psychological support during every stage of my study.

I also express my deep sense of gratitude to my father **Mr. E. SUBRAMANIAN**, my mother **Mrs. S. VIJAYA**, for their co- operation, support and encouraging remarks.

S. RUBHA

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CHAPTER I

INTRODUCTION AND DESIGN OF THE STUDY

As an introductory part of the research, this chapter includes the introduction, background of the study, statement of the problem, need for the study, the scope of the study, objectives of the study, hypotheses of the study, methodology, ethical considerations, operational definition of concepts and significance of the study, limitation of the study and scheme of the report.

1.1 INTRODUCTION

The Indian car industry has flourished as never before in the recent years. This extraordinary growth that the Indian car industry has witnessed is a result of a major factors namely, the improvement in the living standards of the middle class and an increase in their disposable income, modern and innovated technology. Moreover, the liberalization steps, such as, relaxation of the foreign exchange and equity regulations, reduction of tariffs on imports and easing the banking policies initiated by Government of India, have played an equally important role in bringing the Indian car industry to great heights. The increased demand for Indian cars has resulted in a large number of multinational auto companies, especially from Japan, U.S.A., and Europe, entering into the Indian market and working in collaboration with the Indian firms. Also, the institutionalization of automobile finance has further paved the way to sustain a long term high growth in the industry.

To tap the new market generated by prospering Indian economy, the luxury car manufacturers like, Volvo, Mercedes, Volkswagen etc., have not only started the manufacturing facilities in India, but are also introducing new luxury models of car in Indian market at rapid pace. The great Indian Middle Class, having a formidable

purchasing power, is the back bone of growth in Indian manufacturing sector, is so unpredictable in its preferences, choices, and priorities that a in-depth study is required to find out sustainability of any product, spicily a product which is falling in the category of comfort or to some extent luxury for the middle class consumers.

Consumer preferences are defined as the subjective (individual) tastes, as measured by utility, of various bundle of goods. They allow the consumer to rank these bundles depending upon the quantum of utility derived by their consumption. It is to be noted that preference is independent of income and prices. One's capability to purchase is not a determinant factor for one's likes or dislikes. For instance, one can have a preference of Mercedes over Nano but have the budget constraint of purchasing only a Nano. Consumers make decisions by allocation of their scarce income across all possible bundles of goods in order to derive greatest satisfaction. The preferences may depend on plethora of factors inter alia, culture, education and individual tastes. Consumer preference is the foundation of consumer demand. How high the prices will be, what will be the reaction of consumer by change in price, how much the consumer is willing to pay and accordingly profitability depends upon understanding of consumer buying behaviour.

Consumer buying behaviour is one of the most important phenomena in the purchase of any product. Consumer buying behaviour is determined to a large extent by the social psychological and economic factors and it is necessary for a manager to understand the factors for the proper planning of marketing strategies. The reasons why consumers buy particular products or brands are due to buying motives. All behaviors start with motivation. A motive is a stimulated need that an individual seeks to satisfy. These motivations can be bio-organic or psychogenesis needs and motives that are influenced by perceptions. These perceptions are in turn influenced by customer's habit,

fashion, education and advertisement. The demand for goods varies with race, climate, income, education, religion and occupation. So, the seller's task is to fulfill the consumers' desire for his products by influencing the factors, which influence the motives of consumer. The buying behavior towards a car of a consumer can be studied by knowing their preference and perceptions about the cars in the market and about the possible entrants in the market. This preference and perception sketching will help in knowing what a customer (or a potential customer) thinks about a given brand of car and what are the possible factors guiding a possible purchase.

1.2 BACKGROUND OF THE STUDY

India is a vast country having the large population, with diverse socio-economic structure and cultural background. The regional economic differences, individual preferences and perceptions influence the customers buying pattern and choice. It is still fresh in the memory that in Indian Automobile sector, in 70's and 80's, Scooter was getting sold at the premium. Scooter was so much in demand that to supplement the production of scooters by three privet sector companies, naming Bajaj Scooter, LML Scooter and Lamberata Scooter Government has started manufacturing scooters through various state government run companies like Maharashtra Scooters, Aravali Scooters (in Rajasthan), West Bengal Scooters, Girnar Scooters (in Gujarat), etc. However, though the production of two wheelers is still ruling the Indian Automobile sector, the scooter has vanished from the market. By the end of the century, the manufacturing of scooter has virtually stopped and most of these companies either diversified or closed.[5]

To tap the new market generated by prospering Indian economy, the luxury car manufacturers like Volvo, Mercedes, Volkswagen etc., have not only started the

manufacturing facilities in India but are also introducing new luxury models of car in Indian market at a rapid pace.

The great Indian middle class, having a formidable purchasing power, is the backbone of growth in Indian manufacturing sector, is so unpredictable in its preferences, choices, priorities and perceptions that an in-depth study is required to find out sustainability of any product, spicily a product which is falling into the category of comfort or to some extent luxury for the middle-class consumers.[10]

Government policies related to duties, development of roads, industrial policies and factors like urbanization, infrastructure development issues of the cities resulting in traffic problems, long-term policy initiatives like Auto Policy-2002, road development vision plan, and fund allocation in five year plans are also influencing factor for the sustainability of a product like car.

A revolution in Indian automobile sector was expected with the introduction of various brands with various segments. It was thought that to overcome the discomfort of traveling in rain or in the hot sun, on two-wheelers, the car will be preferred, which will have serious implications on the manufacturing of two wheelers and sale of other models of personal vehicles. The consumer might be drawn to a new car by a low advertised price that the base price is for a low- or no-frills model. A consumer can probably find less of a difference between the prices of new cars and two-wheelers when he doesn't want pricey options. If a consumer just trying to get to the office or train station and back, he can custom order a new car from the dealer without all of the unnecessary options and get a competitive price for a brand new car. Therefore a special study of preferences and perceptions of a car was required. In view of above facts, the current study deals with the consumer preference and perception towards various brands of car.

1.3 STATEMENT OF THE PROBLEM

Due to the emergence of globalization and liberalization, there is a cut throat competition among the variety of car industries which are focusing attention on capturing the Indian markets. In Indian car industry, car segments have played a very crucial and significant role due to its economy, efficiency, and effectiveness. Due to the invasion of foreign cars into Indian markets, the pace of competition has hiked. This has brought into market, the number of brands and their variants competing to with each other. Ability to meet changing technology, consumer's needs and styling and shortening product life cycle are the challenges that car companies will have to face. All these factors have resulted in flux in the minds of the consumers as to which brand to go for. Consumer's buying preference and perception attitude are forced by culture, social, personal and psychological factors. These factors are uncontrollable and beyond the hands of marketers but they have to be considered while trying to understand the complex behaviour of the consumers. In other words, Brand switching is gaining the momentum. So to position the brand in the minds of the customers the company or dealer should keep the track of this shift in preferences. Tirunelveli district, which is selected for the study, is one of the main growing markets for car manufacturers. People who were not ready to spend their money on luxuries have now changed their attitude that yesterday's luxuries are today's necessities. To be a successful marketer it is absolutely essential to read the minds of buying preference and perceptions of the prospective buyers of cars.

In addition to the above, the due weight age which is given by the Government for the growth of car industries and the involvement of the consumers in the selection of a particular brand of car have also made the researcher to undertake a study on the car with special reference to the buying preference and perceptions of owners of car. Hence

the main purpose of this study is to analyze the consumer preference and perception towards various brands of car in Tirunelveli district.

1.4 NEED FOR THE STUDY

The last decade has seen the Indian industry gaining maturity and confidence. This industry is counted among the larger contributors to India's economic development, witnessed over the last decade. In this regard, India shall learn from global history to steer ahead in the proper direction. In the case of countries like Japan, Germany, Italy, the United Kingdom and more recently Korea, after the Korean war, post-war reconstruction have been strongly influenced by their manufacturing industries and in particular their automotive sector over the past fifty years. In India, too, the automotive industry can play an important role in sustaining its current, significant economic advancement.

The car industry is one of India's largest industrial sectors today with a turnover that contributes to roughly 5 percent of India's Gross Domestic Product (GDP).[13] More importantly, it contributes to the employment of over 2 million persons directly and to another 10 million indirectly. The industry is important for national policy in that it contributes 19 percent of indirect taxes. Its potential role may also be recognized by another view of historical global patterns. As the per capita (GDP) of a society grows, mobility needs for its population rapidly increase. In its current phase of economic growth, India's population may be expected to demonstrate a large appetite for personal mobility to be potentially quenched through both mass and private transportation and commercial vehicles for the movement of freight. While assessing the Indian market scenario, it is evident that until a decade ago, the auto sector in India had been a relatively protected industry limiting the entry of foreign companies with tariffs against imports. As part of a broader move to liberalize its economy, India has opened up the

sector to foreign direct investments and has also progressively relaxed trade barriers. Today, almost all the major global companies present in India are producing two-wheelers and passenger cars in almost all size segments.

India was the sixth largest motor vehicle/car manufacturer in the world in 2015.[22] Indian auto manufacturers produced a record 23.4 million motor vehicles in 2014-15 (Apr-Mar), including 3.22 million passenger vehicles.[19] The production of passenger cars was 500301 in 2001-02. It increased to 2590917 in 2014-15, recording an absolute growth of 2090616 passenger cars as compared to 2001-02. In percentage terms, the total growth recorded was 417.87% during the period from 2001-02 to 2014-15 i.e. the annual growth of 32.14%. There was the growth of 71636 passenger cars (2.84%) in 2014-15 as compared to 2013-14.[26] Sales of passenger vehicles increased by 16.7 percent to 258,000 units in August 2016 driven by better than expected monsoon and strong buying sentiment.[16] The car industry has grown at a compounded annual growth rate of more than 75 percent during the last five years and has also witnessed a shift in the demand mix particularly, with sales of the various brand of the car showing an accelerated trend. The increased income level of the middle-class family motivates and fulfilled their dream of owning a car which is much suitable for the financial capacity of the middle-middle and low-middle category of the respondents.[17]

There is a greater need for studying the consumer behaviour towards various brands of the car especially in Tirunelveli district, Tamilnadu. Hence, an attempt has been made by the researcher to study about the consumer preference and perception towards various brands of car in Tirunelveli district, Tamilnadu.

1.5 SCOPE OF THE STUDY

Nowadays, the car has become a necessity and forms an important part of human life. It is a well-known fact that with the advent of increasing purchasing power and

changing lifestyle towards luxury now the car has become a commodity of necessity and has become one important element of the life of even to the middle-class people. Hence, there is a remarkable scope to investigate the demographic characters, buying preference and perception of car consumers. The study is restricted to Tirunelveli district of Tamil Nadu, which is economically the richest district famous both for agriculture and industry. Tirunelveli district with a population of 3,077,233[33] is a potential market for all consumer products and services especially cars, because people of different religions, languages, cultural backgrounds, demographic and psychographic characteristics live in this area. Due to their increasing purchasing power, the people of this district have started to buy cars for business or personal use or the prestige and maintenance of social status. As there are so many market players in the car market segment only the ten top most branded cars have been confined to this study. They are Maruti Suzuki, Hyundai, Mahindra, Honda, Tata, Toyota, Ford, Renault, Chevrolet, and Volkswagen. Knowledge of the buying behavior of the different market segments helps a seller to select their target segment and implement marketing strategies to increase the sales. Advertisers and marketers have been trying to discover why consumers buy the cars and what other features do they look for in a car for the fulfillment of their requirements and also what brand they opt for. This study makes an attempt to investigate the buying preference and perception towards various brands of car. The result can be utilized by marketers in their favour to win the hearts of the consumers. This study also highlights the problems faced by the car consumers and offers suggestions to increase the sales volume of car marketers.

1.6 OBJECTIVES OF THE STUDY

The main objective of the study is to examine the consumers buying preference and perception towards various brands of car in Tirunelveli district. To achieve the main objective, the following specific objectives are considered:

1. To ascertain the demographics profile of the respondents.
2. To analyze the consumer buying preference towards various brands of car in Tirunelveli District.
3. To examine the factors influencing the consumer for buying preference towards various brands of car in Tirunelveli District.
4. To study the consumer perception towards various brands of car in Tirunelveli District.
5. To study the problems faced by the consumers of car in Tirunelveli District.
6. To offer suitable suggestions based on the findings.

1.7 HYPOTHESES OF THE STUDY

To give a specific focus to the objectives, hypotheses have been framed to test the objectives in clear terms using appropriate statistical tools. It necessitates the development of hypotheses at each and every stage of the analysis. Following null hypotheses were formulated for the study.

H_1 : There is no significant association between consumer buying preference of various brands of car and their demographic characters.

H_2 : There is no significant influence of the factors on consumer buying preference towards various brands of car.

H_3 : The attributes of car do not significantly predict the brand image of the car.

H_4 : There is no significant difference between genders of the respondents in the problems faced by the consumers of the car.

H_5 : There are no significant differences between the age groups of the respondents in the problems faced by the consumers of the car.

H_6 : There are no significant differences between the literacy levels of the respondents in the problems faced by the consumers of the car.

H_7 : There are no significant differences between the current occupations of the respondents in the problems faced by the consumers of the car.

H_8 : There are no significant differences between monthly incomes of the respondents in the problems faced by the consumers of the car.

1.8 RESEARCH METHODOLOGY

The research methodology has to be robust in order to minimize errors in data collection and analysis. The methodology adopted in the present study includes research design, research approach, research strategy, research variables, selection of car brand and study area, resources of data collection, population, sampling procedure, period of study, research instrument, pilot study, reliability and validity of research instrument, data collection, data processing, data analysis strategy, ethical considerations, limitations of the study and scheme of the report.

1.8.1 Research Design

The research design is referred to the measures of determining the overall design to be whether exploratory, descriptive, or explanatory (causal research), determining the sampling size, data collection methods, designing the research instruments, and developing a plan for data analysis.[9] Exploratory studies tend toward loose structure with the objective of discovering future research tasks. The immediate purpose of exploration is usually to develop hypotheses or question for future research. If the research is concerned with finding out who, what, where or how much, then the study is

descriptive. If it is concerned with learning why that is, how one variable produces the change in another and the relationship between the variables, it is explanatory (causal research).[4] In line with this, research designs may be classified into two types: exploratory research design and conclusive research design. The conclusive research design is described in the forms of descriptive and explanatory (causal research) that are designed to describe specific population/phenomena and examine specific relationships between the researcher's constructs. Exploratory design is characterized by its flexibility is conducted to explore the phenomena that cannot be investigated through the conclusive research design.[3]

The conclusive research design (descriptive and explanatory) was adopted due to the nature of the study. The descriptive research, also known as statistical research, describes data and characteristics about the population or phenomenon being studied. Descriptive research answers the questions who, what, where, when and how. The explanatory research describes the relation between and the cause to different variables. It tries to find out specifically the relationship of ordinal variables with nominal variables such as gender, age, literature level, current occupation and monthly income. So the adoption of conclusive research design has been very effective in the present study.

1.8.2 Research Approach

The most prevalent research approaches in social sciences and humanities are quantitative and qualitative research. Moreover, the social science research can be conducted within a quantitative or qualitative or mixed context.[6] By considering two research approaches qualitative and quantitative, this research covers both. Being qualitative research, the researcher has studied various qualitative aspects and attributes. Research is quantitative in the sense that researcher has quantified the responses

received from respondents to draw the logical conclusions from them. Thus the study was conducted based on the research approaches of mixed research method.

1.8.3 Research Strategy

The main three strategies used by most researchers are experiments, surveys, and case studies.[8] Table 1.1 visualizes how Yin[11] (1994) relates the three conditions to the different strategies.

Table 1.1

Relevant Strategies for different Research Strategies

Research Strategy	Form of Research Question	Requires Control over Behavioral Events	Focuses on Contemporary Events
Experiment	How, Why	Yes	Yes
Survey	Who, What, Where, How many, How much	No	Yes
Case Study	How, Why	No	Yes

This research aims to test the consumer buying preference and perception towards various brands of car by considering how much the consumer has the buying preference towards various brands of car, what are the factors influencing the consumer for buying preference towards various brands of car, how the consumer have the perception of various brands of car and what are the problems faced by the consumers when pre, during and post purchasing the car. The researcher has no control over the respondents and focuses on contemporary events. So the appropriate strategy for this study is surveys. In other words due to the fact that in the survey, respondents will be asked questions in order to find the buying preference, perception towards various brands of car and problems faced by them.

1.8.4 Research Variables

The distinction of variables is necessary for a research to reach to the response to a research question or hypothetical tests. Researchers are mostly interested in the relationship among variables. The type of variables used in this research has been brought here:

1. Independent Variable is a speciality from the physical and social environment that is accepted after the selection, interference or modification by a quantitative variable so that its impact may be observed on other variables (Dependent variables).
2. The dependent variable is a variable in which changes occur under the impact of the independent variable.
3. A moderating variable is a second independent variable that is included because it is believed to have a significant contributory or contingent effect on the originally stated dependent – independent variables relationship.

In this research, brands of car, aspects of influencing factors on consumer buying preference and attributes of the car are independent variables. And the consistency of consumer buying preference, influencing factors on consumer buying preference, brand image of the car, consumer perception and problems faced by the consumers are the dependent variables. And respondent's demographic characters like gender, age, literacy level etc. are considered as moderating variables.

1.8.5 Selection of Car Brands and Study Area

In order to study the consumer buying preference and perception towards various brands of car, the top ten brands of the car such as Maruti Suzuki, Hyundai, Mahindra, Honda, Tata, Toyota, Ford, Renault, Chevrolet, and Volkswagen as on October 2015 were selected for this study.[12] They are selected on the basis of their high turnover in

numbers in the study area of Tirunelveli city. Tirunelveli district was selected as study area on the basis of one of the district of most turnovers in numbers of the car in the car marketing in the Tamilnadu. It is a hub of all activities like bus transport, train transport, courier services, car marketing, gold marketing, educational services, steel industry, etc. So, the sale of various brands car is very competitive in Tirunelveli district in Tamilnadu. Hence, the researcher selected Tirunelveli district to study about the consumer preference and perception towards various brands of car. The study covers the entire fifteen taluks in Tirunelveli district.

1.8.6 Resources of Data Collection

Primary data have been collected from the consumers of the car in the study area. A structured interview schedule was developed and used to collect the required data during the survey. Secondary data of the information related to research literature and the background of the study were collected from various published and unpublished sources, including Journals, Magazines, Publications, Reports, Books, Dailies, Periodicals, Websites, Car Band Manuals, and Car Band Booklets etc. This process was mostly performed with the help of the internet.

1.8.7 Population

Population plays a significant role in determining the sample design. Since the present study is confined to evaluate the consumers buying preference, perception towards various brands of car and problems faced by the consumers, the people residing in the study area, who have the experience of purchasing a new car and used it for at least one year, were defined as population for this study.

1.8.8 Sampling Procedure

Snowball sampling (also known as chain-referral sampling) is a non-probability (non-random) sampling method, is adopted for the present study. According to Allen Rubin and Earl R. Babbie[2], snowball sampling is appropriate when the members of a special population are difficult to locate or contact. The researcher realized that the list of the population of the study obtained from Regional Transport Office (RTO) at Tirunelveli district was not easy and also it will take long more time. Even if the researcher gets the list of the population, it is very hard to contact them directly without knowing the person very well. And also the researcher was informed that some population unit (ex: Police persons, Government Doctors, and High officials in Government) may not be in the record of Regional Transport Offices (RTO) at Tirunelveli district because they may have registered their car in the RTO of their native district. Based on the above reason, in order to complete the research in time and avoid unnecessary expenditure, the study adopted the snowball sampling.[1] In the snowball sampling method, the researcher followed two steps, they are: (a) trying to identify one or more units in the desired population; and (b) using these units to find further units and so on until the sample size is met. Whenever the sample unit was approached, the researcher got concerned by explaining the purpose and benefits of the study.

The standardized and most accepted Raosoft sample size calculators were used to determine the sample size for the study.[23] To find out the sample size, the margin of error was fixed at 5%, the confidence level was fixed at 95%, the response distribution was fixed at 50% and the population size was fixed at infinite (for more than 20,000 units). Then the Raosoft sample size calculator computed that the minimum recommended sample size of the study is 377. To achieve minimum recommended sample size, a total of 390 consumers representing 15 taluks of Tirunelveli district from

each of 26 samples were selected for the study for collection of data by adopting the snowball sampling method, a form of non-probability sampling. Table 1.2 shows the sampling distribution of the present study.

Table 1.2

Sampling Distribution of the Respondents

S.No	Name of Taluks in Tirunelveli District	Number of Consumers Taken into Consideration for the Study
1.	Tirunelveli	26
2.	Palayamkottai	26
3.	Sankarankovil	26
4.	Tenkasi	26
5.	Sivagiri	26
6.	Shenkottai	26
7.	Ambasamudram	26
8.	Nanguneri	26
9.	Radhapuram	26
10.	Veerakeralampudur	26
11.	Alangulam	26
12.	Kadayanallur	26
13.	Thiruvengadam	26
14.	Manur	26
15.	Cheranmahadevi	26
Total		390

1.8.9 Period of Study

The researcher herself carried out the field work for this study. The survey was conducted during the period from November 2015 to August 2016. The observations made on the consumer preference and perception towards various brands of cars in Tirunelveli district for a span of three years i.e., 2013 to 2016. It has helped the

researcher to understand the consumer preference and perception towards various brands of cars and to draw appropriate findings and suggestions.

1.8.10 Research Instrument

A structured interview schedule was developed by the researcher. A covering letter with a description of the purpose and the importance of the study was attached to the interview schedule. Respondents were assured of their anonymity and freedom to decide whether to participate in the study or not. Clear instructions were given to the respondents regarding completion of specific items throughout the interview schedule. The interview schedule was designed in such a format the data could be easily entered into the computer. Items numbers that could be used in a data set were incorporated into the interview schedule. The interview schedule consisted of five parts containing completely closed-ended questions.

The interview schedule had first part as demographics profile of consumers of the car which had descriptive questions such as gender, age, literacy level, social status, religion, marital status, the size of the family, current occupation, monthly income and presently having the brand of Car. Consumer buying preference on various brands of the car was measured in the part B. Part C contained measures of the influencing factors of consumer buying preference of various brands of car. Part D contained the questions to measure the consumer perception of various brands of car. The last section, part E contained the questions about the problems faced by the consumer when pre, during and post purchasing of a car.

The interview schedule on the first part was measured by the nominal scale, whereas the interview schedule in the parts B, C, D, and E was measured by an ordinal scale. The ordinal scale was developed in the Likert's five point scale for part B which ranges as follows: Not at all Preferred (1), Minimally Preferred (2), Moderately

Preferred (3), Highly Preferred (4) and Very highly Preferred (5) and the score can be vice-versa also. For part C, the Likert's five-point scale was carried out as follows: Not at all Influenced (1), Minimally Influenced (2), Moderately Influenced (3), Highly Influenced (4) and Very highly Influenced (5) and the score can be vice-versa also. For part D, the Likert's five-point scale was carried out as follows: Very Poor (1), Poor (2), Fair (3), Good (4) and Excellent (5) and the score can be vice-versa also. For part E, the Likert's five-point scale was carried out as follows: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) and Strongly Agree (5) and the score can be vice-versa also. The reason for choosing Likert scale was that respondents preferred this scale and they considered this scale easier to fill out. The interview schedule consisted of closed-ended questions because it is easier to administer and to analyze.

The objectives of the study, the theoretical framework, and the literature review guided the researcher in the formulation of questions. After consultation with the statistician and a computer expert, the interview schedule was submitted to the guide of the study. After incorporation of recommendations made by the statistician, the guide of the study and the computer expert, the interview schedule was made ready to be pre-tested.

1.8.11 Pilot Study

The pilot study formed the pedestal for the research. It was conducted on 20 consumers of the car in Palayamkottai taluk in Tirunelveli district using the pre-tested interview schedule. They were asked to list down the various risks and problems when handled the interview schedule which helped in improving upon the questions and then final interview schedule was framed which is being appended. Based on the findings of this pilot study, the final interview schedule was designed. In addition, the researcher contacted 10 marketing experts from the academic fields and 20 consumers of the car

for assessing the significance and validity of carrying out the present research work. Since the researcher got favourable results from the pilot study, the present study has been undertaken.

1.8.12 Reliability and Validity of Research Instrument

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring. The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. Validity refers to the degree to which an instrument measures what it is supposed to be measuring.[7]

In order to test the reliability and validity of research instrument (Interview schedule), the same was administered to 50 respondents. Initially, the Cronbach's coefficient alpha is used to measure the reliability of the interview schedule. For that, a survey was carried out with the help of the interview schedule to the same sample of consumers of the car on two occasions and then compares the scores obtained by computing a reliability coefficient. The higher value of Cronbach's coefficient alpha reflects a higher degree of internal consistency.

Further, Kaiser-Meylen-Olkin measure of adequacy test and Bartlett's test of sphericity were done on the final test score to measure the homogeneity of variables and to test for the correlation among the variables used respectively. They were performed for assessing the validity of the research instrument. As the rule of thumb of Kaiser, KMO should be 0.60 or higher in order to determine the homogeneity of variables. If the significant value less than 0.05 in Bartlett's test, there exists a significant relationship between the variables.[40] Table 1.3 summarizes the results.

Table 1.3

Tests of Reliability and Validity of Research Instrument

Variables	Number of Variables	Tests			Results
		Cronbach's Alpha	KMO Measure	Bartlett's Test	
Consumer Buying Preference	10	.912	.802	Approx. Chi-Square	875.34
				df	45
				Sig.	.000**
Influencing Factors on Consumer Buying Preference	30	.879	.715	Approx. Chi-Square	1162.62
				df	435
				Sig.	.000**
Consumer Perception	70	.927	.776	Approx. Chi-Square	5308.87
				df	2415
				Sig.	.000**
Problems faced by the Consumer of Car	20	.886	.872	Approx. Chi-Square	6681.05
				df	190
				Sig.	.000**

**Significant at 0.05 levels

The Cronbach's Alpha Criterion was applied to test the reliability. The value was determined as 0.912, 0.879, 0.927 and 0.886 for the questions of consumer buying preference, influencing factors on consumer buying preference, consumer perception and problems faced by the consumer of the car, respectively in the interview schedule collected from the consumers. This also explains that the statements in the questions of consumer buying preference, influencing factors on consumer buying preference, consumer perception and problems faced by the consumer of the car in the interview schedule are understood by the consumers at 91.2, 87.9, 92.7 and 88.6 percent level

respectively. Since the values of Cronbach's alpha for the questions of consumer buying preference, influencing factors on consumer buying preference, consumer perception and problems faced by the consumer of the car are more than 0.7, and then the research instrument is considered to be reliable.

Since the values of the KMO test for the variance; consumer buying preference, influencing factors on consumer buying preference, consumer perception and problems faced by the consumer of the car are higher than 0.60, it is confirmed the homogeneity of variables in the interview schedule. The p-values (Sig.) of Bartlett's test of sphericity for the variables are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the variables in the interview schedule are consistent and valid to be measuring what it was set to.

1.8.13 Data Collection

The researcher herself carried out the field work for this study. The work was conducted during the period from November 2015 to August 2016. While collecting data one consumer of the car was considered as a sample unit. The researcher used the interview schedule for the collection of primary data from sample consumers selected for the study. The filled up questions in the interview schedule were checked and edited. The omissions and commissions in the interview schedule were rectified on the same day after collected the interview schedule. The total targeted sample was 390 (15 Taluks with 26 each). On scrutiny of the interview schedules, it was found that 3 interview schedules were insufficient with data provided and were rejected. On master data sheet preparation, a set of errors were found in the interview schedule like answering all the aspects of the question by giving own explanations. Such interview schedules come around 2. The total number of sample respondents not responded and returned the structured interview schedule given to them accounted to 5 in number. Finally, the

number of interview schedules taken for analysis was 385, which exhibited a good response rate of 98.72 percent.

1.8.14 Data processing

After the completion of data collection, filled up interview schedules were edited properly to make them ready for coding. Interview schedules were coded numerically in different numbers from serial numbers to enable the researcher to enter the data systematically and efficiently and to maintain no missing interview schedules. The processing of data was done through computer technology packages of SPSS (Statistical Package for Social Science) version 21. Data screening was performed through the frequency to assure check for any error.

1.8.15 Data Analysis Strategy

The primary data collected were analyzed by using Statistical Package for Social Sciences (SPSS 21). The data were screened in order to study about the consumer buying preference, perception towards various brands of car and problems faced by the consumers when pre, during and post purchasing of the car. The following statistical tools have been employed in the study to obtain torrent of results from the primary data analysis:

- Descriptive analysis
- Coefficient of Variation (CV)
- Chi-square test
- One sample *t*-test
- Multiple Linear Regression analysis
- Factor Analysis
- Mann-Whitney U test
- Kruskal-Wallis *H* test

1.8.15.1 Descriptive Statistics

A descriptive statistical procedure, including frequency distributions and percentage analysis, has been used for analyzing the demographic profile of the respondents. It has also been used to find out the consumers perception of the brand image of each car in seven attributes of car.[24]

1.8.15.2 Coefficient of Variation (C_V)

In order to analyze the consistency of consumer buying preference, the coefficient of variation (C_V) was measured by the following standardized formula by means of mean score and standard deviation.

Coefficient of Variation (C_V) = (Standard Deviation / Mean) x 100.

In symbols: $C_V = (S / X) \times 100$.

Where

C_V - Coefficient of Variation

S – Standard Deviation

X – Sample Mean

The coefficient of variation was measured by manually instead of SPSS package with the help of above standard formula.[32]

1.8.15.3 Chi-square test

The chi- square test was used to determine the existence/non-existence of an association between consumer buying preference of various brands of car and their demographic characters like gender, age, educational qualification, current occupation and monthly income. Phi (φ) and Cramer's (V) values in the Chi-square test was used to find out the strength of the association between the variables. The rule of thumb for Phi (φ) (in the case of 2 x 2 tables) and Cramer's (V) (in the case of other than 2 x 2 tables)

values above 0.35 is strong, values between 0.25 and 0.35 are moderately strong, and values below 0.25 is weak.[38]

1.8.15.4 One-Sample *t*-Test

One-Sample *t*-Test has been used to find out whether any significant influence of the factors on consumer buying preference towards various brands of car in the study area. To calculate an effect size, called *d* or Cohen's *d* is used. The rule of thumb for Cohen's d above 0.5 is large, a value between 0.2 and 0.5 is medium, and a value below 0.2 is small.[35]

1.8.15.5 Multiple Linear Regression Analysis

Multiple linear regression analysis was used to predict the brand image of the car by the attributes of the car like design and style, performance, quality, safety, technology and innovation, value and fuel economy.

The regression equation for predicting the brand image of the car can be derived from the following regression equation. The regression equation can be expressed in the following form:

$$\textbf{Predicted Value (X)} = B_0 - (B_1 \times V_1) + (B_2 \times V_2) + \ldots\ldots (B_X \times V_X)$$

Where B_0 is the intercept (constant), B_1 through B_X are the slope coefficients (one for each variable) and V_1 through V_X are the mean value of variables.[39]

1.8.15.6 Factor Analysis

Factor analysis was carried out for the purpose of reduction of the variables of problems faced by the consumers of the car when pre, during and post purchasing a car into factors by means of Principal Component Analysis (PCA) and to identify the factors of almost similar character by means of orthogonal rotation with Varimax.

Previously, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy; and Bartlett's test of sphericity were used for assumptions the Factor analysis.[40]

1.8.15.7 Mann-Whitney *U* test

Mann-Whitney *U* test has been used to see whether any significant differences are there between the groups of the demographic characters in the problems faced by the consumers of car in case of two moderate independent variables.[37]

1.8.15.8 Kruskal-Wallis *H* test

Kruskal-Wallis *H* test has been used to see whether any significant differences are there between the groups of the demographic characters in the problems faced by the consumers of car in case of more than two moderate independent variables.[36]

1.9 Operational Definition of Concepts

1. 9.1 Automobile

A motorized vehicle consisting of four wheels and powered by an internal engine. Automobiles are used to transport people and items from one location to another location. After years or various designs, inventors were able to develop a functional general design that is utilized by major automakers as the foundation of their designs. Automobiles generally use gasoline to fuel the internal engine, but technological advances have led to the design of cars that run on electricity and even water.[9]

A self-propelled passenger vehicle that usually has four wheels and an internal-combustion engine, used for land transport. Also, it is called motorcar.[32]

1. 9.2 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.[35]

Automobile industry, the business of producing and selling self-powered vehicles, including passenger cars, trucks, farm equipment, and other commercial vehicles.[36]

1. 9.3 Car

A road vehicle, typically with four wheels, powered by an internal combustion engine and able to carry a small number of people.[37]

A car is a wheeled, self-powered motor vehicle used for transportation and a product of the automotive industry.[38]

1. 9.4 Demographic Characters

Demographic characteristics of a population expressed statistically, such as age, sex, education level, income level, marital status, occupation, religion, birth rate, death rate, an average size of a family, the average age at marriage. A census is a collection of the demographic factors associated with every member of a population.[39]

1. 9.5 Brand

Brand is a unique design, sign, symbol, words, or a combination of these, employed in creating an image that identifies a product and differentiates it from its competitors.[20]

A brand is a distinguishing symbol, mark, logo, name, word, sentence or a combination of these items that companies use to distinguish their product from others in the market.[10]

1. 9.6 Brand Image

Brand image is the current view of the customers about a brand. It can be defined as a unique bundle of associations within the minds of target customers.[22]

Brand image, in simplest words, is what the customers think about a particular brand. It can be defined as how existing or potential customers view the brand and associate with it.[22]

1. 9.7 Attributes

An attribute is a quality or characteristic given to a person, group, or some other thing.[31]

The attribute is a specification that defines a property of an object, element, or file. It may also refer to or set the specific value for a given instance of such. It is frequently and generally a property of a property.[27]

1. 9.8 Car Attributes

A car attribute is a characteristic that defines a particular car and will affect a consumer's purchase decision. Product attributes can be tangible (or physical in nature) or intangible (or not physical in nature).[14]

1. 9.9 Consumers

A consumer is a person or organization that uses economic services or commodities.[28]

A consumer is an individual who buys a product or services for personal use and not for manufacture or resale. A consumer is someone who can make the decision whether or not to purchase an item at the store, and someone who can be influenced by marketing and advertisements.[18]

1.9.10 Consumer Preference

Consumer preference is a marketing term meaning a consumer likes one thing over another.[34]

Consumer preferences are defined as the subjective (individual) tastes, as measured by utility, of various bundles of goods.[25]

1.9.11 Perception

Perception can be defined as our recognition and interpretation of sensory information. Perception also includes how we respond to the information.[15]

Perception (from the Latin perceptio, percipio) is the organization, identification, and interpretation of sensory information in order to represent and understand the environment.[25]

1. 9.12 Consumer Perception

Customer perception refers to how customers view a certain product based on their own conclusions. These conclusions are derived from a number of factors, such as price and overall experience.[30]

Consumer perception refers to the process by which a customer selects, organizes, and interprets information/stimuli inputs to create a meaningful picture of the brand or the product.[21]

1.10 SIGNIFICANCE OF THE STUDY

This research study is being conducted in order to provide basic information and insights regarding car consumers to the car marketers. There are so many vital benefits that one can get from this study. The findings of this study will be of significance in the following ways.

1. The findings of the study may add to the existing fund of knowledge with regard to the demographic characters, buying preference and perception of car consumers and the problems faced by the car consumers in Tirunelveli district.

2. Through this research, the car marketers can understand the consistency of buying preference of car consumers and influencing factors on their buying preference towards various brands of car.
3. The car marketers will know about the relationship between the demographic characters and buying preference of car consumers towards various brands of the car through this study. So that, the car marketers be able to do better in their planning in order to compete with other competitors.
4. Based on the information about the perception of car consumers on the brand image of the car, the car makers and marketers can modify their strategies and make the right decision in order to maintain their competitiveness in car industries.
5. The finding of prediction formula for the brand image can be of great use to the car manufacturers and marketers to appraise their marketing strategies and marketing programs through their consumers.
6. The study findings will definitely help the manufacturers and marketers of cars to strategize, plan and the market their products in the district. Car manufacturers also will have more understanding on consumer insights and problems and making the necessary adjustment to fulfill their consumers' needs and wants.

1.11 LIMITATIONS OF THE STUDY

Every research work has some noted as well as implied limitations. As far the present study is concerned, the following limitations have been noticed.

1. The investigation was deliberately restricted to only the consumers who have the experience of buying a new car and used it for at least one year. And, it was also restricted to only the passenger cars.

2. Although the consumers of the car are global, the generalization of the findings of this research beyond the consumers of the car of this district is therefore not recommended.
3. The research study exclusively pertains to the analysis of consumer preference and perception towards various brands of cars in Tirunelveli district. Therefore, the adequate focus could not be given to another dimension of the car business namely car dealers related aspects. This area needs an in-depth study on a macro level.
4. Since the responses of the respondents are not document supported, the data supplied by the respondents are highly unofficial and may be biased and prejudiced.
5. Data collection through interview schedule was a time-consuming matter. The respondents sometimes were found non-cooperative with the interview schedule.
6. The authenticity of secondary data, in small cases, could not be checked or verified. However, the researcher feels confident in minimizing their adverse effects, by taking suitable remedial measures.
7. For statistical test $p < 0.05$ was taken as the significance level.

1.12 SCHEME OF THE REPORT

The total study is presented in the form of following five chapters

The first chapter, "Introduction and design of the study" presents the introduction, background of the study, statement of the problem, the scope of the study, objectives of the study, hypotheses of the study, methodology, ethical considerations, operational definition of concepts and significance of the study, limitation of the study and scheme of the report.

The second chapter, “Review of Previous Studies” presents the previous studies related to the present research and enables gap identification leading to the objectives of the present study.

The third chapter, “An Overview of the Car Industry and the Study Area” provides detailed information about the history of cars, car industry development, car segmentation, leading car manufacturers, car financing, associations, government policy, production, sales, exports, global scenario, problems and future prospects. Furthermore it provides detailed information about the study area.

The fourth chapter deals with the analysis and interpretations of the demographic profile of the respondents, consumers buying preference towards various brands of car, influencing factors of the consumers buying preference of various brands of car, consumers perception towards various brands of car and problems faced by the consumers of the car.

The fifth chapter presents the summary of findings along with suggestions and conclusion based on the analysis done.

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CHAPTER-II

REVIEW OF PREVIOUS STUDIES

2.1 INTRODUCTION

This chapter presents the review of literature of the past research studies related to the present study and conceptual framework of the study. Review of literature is necessary as it familiarizes the researcher with concepts and conclusions already evolved by earlier analysts. It also enables the present researcher to measure the scope for future study and to frame appropriate objectives for the proposed evaluation. Since the proposed study is to analyze the consumer preference and perception of towards various brands of car, the previous studies made in this area of research are briefly reviewed. The reviewed literature was categorized in three different groups.

These were:

1. Review relating to consumer buying preference of brand of car
2. Review relating to consumer perception towards various brands of car
3. Review relating to problems faced by the car consumers

2.2 REVIEW OF LITERATURE

2.2.1 Review relating to consumer buying preference of brand of car

Akila, Pamavathy, Balaji and Senthilkumar[1] (2015) examined the brand preference and purchase behaviour of B – segment passenger cars in Vellore city. The study was intended to scrutiny of the customer's brand preference among B-segment cars and their buying behavior with special reference to Vellore City. The study was based on both primary and the secondary data. The primary data was collected by using a structured questionnaire. The researcher met the customers in three main regions of Vellore district

and collected data by interviewing personally. The statistical tools like Chi-square test, ANOVA test has been used to analysis the primary data. The study proved that the customer prefers vehicles that can transport their family size comfortably irrespective of the brand, within their financial status. This also proved that the customers prefer a comfortable vehicle that lies within their financial status.

Amita Girdhar, Suman Ghalawat and Kavitha[2] (2015) conducted a study of consumer behavior considering various attributes towards purchasing a car. The present paper has empirically investigated the objective of developing a model framework for various decision areas of consumers while purchasing a car. The study is mainly primary data based on a sample of 300 respondents from Hisar district of Haryana state and applied statistical tools of factor analysis and Discriminant analysis to achieve the objective of the study. The result of the study explained that consumers are more influenced when preferring the brand of car for purchasing by product strategies, followed by technology know-how and up to some extent level of satisfaction and service orientation. On the other hand, consumers are least influenced by the factor workshop features.

Rajasekar and Rameshkumar[3] (2015) examined the determinants of preference towards passenger cars in Madurai City in Tamilnadu. The present paper attempted to identify and analyze the factors influencing the selection of a particular brand of the car by the car owners in Madurai City. This paper was based on both the primary and secondary data. The primary data were collected by the researcher from a sample size of 150 respondents by adopting Proportionate Random Sampling Technique. The results of the study showed that price and fuel efficiencies are the dominant factors and the pick-

up and comfort and the latest technology is the least and last factors that influence the sample car owners in the study area while purchasing selected brands of cars.

Vishal Rana and Lokhande[4] (2015) investigated the consumer preferences & attitude towards passenger cars of Maruti Suzuki and Hyundai motors in Marathwada Region of Maharashtra. The objective of this research paper was to know the preferences and opinions of Maruti and Hyundai customers regarding after sales service, resale value, and fuel efficiency along with customer preferences while buying Maruti and Hyundai brands. The present study is descriptive in nature and convenient sampling technique has been adopted for selecting the consumers. The primary data has been collected with the help of the structured questionnaire. The study revealed that the customer's preferred Maruti cars on parameters like fuel efficiency, after sales service, resale value, availability of spare parts whereas in view of Hyundai customers they preferred vehicles on parameters like comfort and convenience, exterior, technology etc. The study concludes that proper customer care strategy plays the vital role in satisfying and delighting the customers.

Aman Saxena[5] (2014) investigated the consumer preference and automobile market in India. The paper evaluates an Engel-Coleman-Blackwell model through which consumer preferences can be determined which is a four stage process of Input, Information, Decision process and variable influencing. In the next segment, methods of estimating consumer preference was discussed including survey and its limitation as well as revealed consumer preference which gauges the preferences in retrospect after the choice has been made. Using the latter, the paper analyzed the consumer preference in Electric car segment, technological innovation, high priced small car segment, diesel-petrol preference and body style. At the end, the paper did a case study on Toyota

Kirloskar cars to find out the consumer preference regarding particular features on comparing Toyota with other companies and itself by the criterion of sales. The paper concluded by stressing on the enumeration of consumer preference for successful decisions on product designs, branding, and distribution and focus on predicting it to an extent with the consumer research activity which is indispensable to satisfy the consumers in the long run.

Arpita Srivastava and Mitu Matta[6] (2014) analyzed the consumer behavior towards passengers' cars - A study in Delhi NCR. The objective of the study was to identify different sources of information used by the buyers and their role while making a purchase decision. The researchers have decided to select sample respondents by adopting the Simple Random Sampling Technique. A total of 100 Interview schedules were prepared and out of this, only 80 interview schedules were filled up and collected. A scrutiny of these schedules led to the rejection of 30 interview schedules on account of incomplete responses. Thus 50 completed interview schedules were used for the present study. For determining the pre-purchase behavior of the customers, the respondents were asked about the sources of information while purchasing new car and who influenced their decision. Majority of respondents were found to be relying upon friends and advertisements. The study concluded that the customer behavior towards passengers' cars was determined by the factors namely, cultural, socio-economic, personal and psychological.

Gautam Raj Kumar[7] (2014) studied on purchase decision of Indian consumers: the factors of attraction while purchasing the car. The aim of the paper is to study factors affecting the purchase behavior of the automobile consumer. The study has been conducted in northern states comprising Punjab, Haryana, Himachal Pradesh, Delhi, and

Chandigarh. The total 250 customers who have purchased (Volkswagen, Hyundai, Maruti and Honda cars) were contacted for purpose of study. The study is based on primary and secondary data. Kruskal-Wallis test has been applied to know the significant differences among the respondents relating to different factors of purchase. It has been found that safety, looks, shape, features and interior image and presales and post-sales policies have compelled the customer to select and buy the car. Hyundai and Volkswagen are emerging as the very strong brand in the area in comparison to other manufacturers.

Lakshmanan and Gayathr[8] (2014) investigated the consumer preference on users of the car in Krishnagiri town. The researchers selected 200 car owners as a sample by convenience sampling method in the study area. The data were collected by using a questionnaire and it was analyzed with appropriate statistical tools. The study found out that among the various brands of cars viz., Maruti 800, Maruti alto, Tata Indica, Hyundai Santro, wagon R, Zen Estilo and Swift in Krishnagiri Town Maruti 800 and Maruti alto is the most preferred brands by the majority of the population. Among the various social factors like friends, relatives, own family members, neighbors and one's own decision influence the car purchase decision in the small car market in Krishnagiri Town, it was one's own family members who influenced the car purchase decision the most. Out of the four factors namely comfort, safety, aesthetics, and technology, the comfort factor has been rated as the most important factor in the small car market in Krishnagiri Town.

Manish Kumar, Srivastava and Tiwari[9] (2014) studied the consumer behavior for A3 segment vehicles such as Honda City and SX4 in a particular region Jaipur. Data collected from 100 respondents 50 each from Honda City and Maruti SX4. Respondents

were considered from various backgrounds like Gender, Occupation, and Income class. Also, customer purchase parameters considered for the study were Price, Safety, Comfort, Power & Pickup, Mileage, Max Speed, Styling, After Sales Service, Brand Name, and Spare Parts Cost. Based on above parameters and analysis made in this it revealed that while purchasing A3 segment car Customer give much importance to Safety, Brand Name, and seating and driving comfort. Also, word of mouth publicity and advertisements in car magazines are more effective communication medium for promotion of Cars.

Prasanna Mohan Raj, Jishnu Sasikumar and Sriram[10] (2014) studied the factors influencing customers brand preference of the economy segment SUV's and MUV's. Data collection was made through direct interaction and customer intercept survey using questionnaire. Descriptive analysis was used to transform data into the understanding format and factor analysis was used for identification of factors influencing customer preference. In light of study findings, the preference of a given brand can be explained in terms of six factors namely Product reliability, monetary factor, trendy appeal, the frequency of non-price promotions offered, trustworthiness and customer feeling or association towards the brand. There was a need for marketers to take these factors into consideration when crafting product innovations in the SUV segment of Automobile market.

Tan Wee Lee and Santhi Govindan[11] (2014) conducted a study on Emerging Issues in Car Purchasing Decision. The objective of this study was to identify the factors influencing consumer buying behaviour towards national automobiles in the Malaysian perspective. The independent variables in this study consisted of four dimensions, namely reliability, safety, fuel economy, and price. The sample sizes of this study were

171 out of 200 targeted respondents through an online questionnaire with 85.5% return rate. The unit of analysis for this research consisted of individual potential car buyers in Kuala Lumpur. In addition, this study focused on the determinant of consumers buying behavior towards national cars in Kuala Lumpur with their rapid growth in car ownership. The result was tested by using descriptive (frequency analysis) and statistical analysis (reliability analysis, and simple linear regression analysis). The result indicated that the three independent variables of car's reliability, safety and price significantly influence consumer buying behaviour towards national cars in Kuala Lumpur. The result can assist the Malaysian automotive companies to increase their sales by focusing on those important factors.

Vikram Shende[12] (2014) analyzed the consumer behavior of automobile passenger car customer. The objective of this study was the identification of factors influencing customer's preferences for the particular segment of cars. This paper also attempted to consolidate findings and suggestions to overcome present scenario of stagnancy in sales and cultivate future demand for automobile car market. For this research, the methodology adopted was to study the research papers in the area of Passenger Car segment, study the purchase decision process and its interaction with behavior parameters across all the segments of the car such as small & Hatch Back segment, Sedan class segment, SUV & MUV segment and Luxury Car segment. The study concluded that in the category of personal preference on comfort factors, dominant factors were comfort in driving, value for money and interior design, which topped the requirement list. The car segment wise analysis also brought out these specific comfort requirements across all the brands.

Balasubramani, Suganthi, and Suresh[13] (2013) conducted an empirical study on consumer preference towards Hyundai cars in Salem city. The aim of the study was to analyze the preference of consumers to buy the passenger car. Descriptive and analytical research designs have been used in this study. This study has been conducted on the respondents who are the owners of Hyundai brand Passenger cars. A total of 658 interview schedules were prepared and out of this, only 621 interview schedules were filled up and collected. A scrutiny of these schedules led to the rejection of 21 interview schedules on account of incomplete responses. Thus 600 completed interview schedules were used for the present study. The results were compared and analyzed by using descriptive analysis, chi-square analysis, Friedman's nonparametric test and ANOVA. The study observed that the majority of the respondents prefer the finance mode of purchase rather than cash mode and bank finance as a source rather than the private finance to purchase the car.

Beena John and Pragadeeswaran[14] (2013) made an investigation on consumer preference of small car in Pune city. The purpose of this paper was to come with the identification of parameter that influences the customer purchase preference behavior patterns of passenger automobile small car owners within the city of Pune. The greatest interest to the current study was the impact of demographic variables and income affecting the vehicle selection of small cars. The study revealed that value consciousness and price quality inference are the important factors which influence small car buying. It also found out that male consumer preferred diesel cars while female respondents preferred petrol cars.

Mohamed Abusali Sheik and Mubarak Ali[15] (2013) examined the factors influencing the buyers of passenger cars. This study aimed at identifying the demographic factors

influencing the purchase of the car, analyze the purchase behaviour of consumers and examine the level of satisfaction and factors influencing the level of satisfaction. The specific objective of the present study was to analyze the impact of personal and demographic variables over consumer preference. This study was conducted among the car owners residing in Tirunelveli city. Stratified random sampling was used for selection the sample respondents for primary data collection. Tirunelveli city has select four areas. Each area was considered as strata and from each strata 75 sample respondents were selected on the random basis, from the list of four wheelers owners in the area obtained from car dealers at Tirunelveli. This study has clearly identified that certain core factors such as Price, Comfort, and Technology which the buyers take into account before selecting a brand.

Sangeeta Gupta[16] (2013) studied the buying decision influencers for passenger car segment in New Delhi. The objective of this paper was to investigate the differentiating parameter and effect of the reference group that influences the consumer buying behavior of car owners within the city of New Delhi. The primary data was collected from 191 respondents, located in New Delhi using convenience sampling. The results revealed the strong influence of attributes like price, fuel efficiency in buying decision and importance of reference group.

Shiv Prasad Josh[17] (2013) studied the consumer behavior for small cars. The present paper aimed to identify the factors that influence the consumer behavior with special reference to small cars. One of the main objectives of the study was to find out the brand preferences of the consumers. The researcher approached the customers of small cars in the cities of Jaipur and Jodhpur randomly for the purpose of the present study. He used the convenience sampling method to carry out the present study. The sample size

consists of 100 respondents. A well-designed questionnaire was prepared for obtaining the information. The study found out that Alto is the most preferred brand whereas Palio is the least preferred brand in small car segment. The other brands such as Santro, Maruti 800, Tata Indica, Maruti Zen and Spark have been assigned the second, third, fourth, fifth and sixth rank by the respondents respectively.

Yesodha Devi, Gomathy, and Krishnakumari[18] (2013) conducted a study on customer preference and satisfaction towards SEDAN cars in Coimbatore city. The present study made an attempt to understand car purchase satisfaction and influential factors affecting the purchase decision. The sample size of the study is 152 and a questionnaire is prepared to collect the primary data. The questionnaire has been prepared based on the survey on the awareness level and satisfaction of customers' with regard to SEDAN car in Coimbatore city. The convenient sampling method is adopted. The data collected has been analyzed using percentage analysis, chi-square, and ANOVA. The results have been obtained based on the tools applied in the study. The study found out that most of the buyers are satisfied with the services provided by the dealers and they preferred fiesta brand because of its comfortability.

Balakrishnan Menon and Jagathy Raj[19] (2012) conducted a study on model development and validation for studying consumer preferences of car owners. The main purpose of this paper is to come up with the identification of possible parameters and a framework development that influence the consumer purchase behaviour patterns of passenger car owners in the state of Kerala, The methodology adopted is to use exploratory approach. For depth interviews, sample selection of dealers of 10 major car brands such as Maruti Suzuki, Tata Motors, Ford, Toyota, General Motors, Skoda, Hyundai, Honda, Renault, Mitsubishi, Hindustan Motors, Tata Motors, and Fiat India

was chosen from the city of Cochin. The sampling strategy implemented for the research study was two-stage sampling method. It was also decided to draw 150 units from each district, totaling a sample size of 750 units across the state. For the youth, who is on the move, the peer group is the greatest influencing factor, of their car purchase decision. The parameters developed in this paper and the model which has been conceptualized would be further studied and tested through an extensive research and quantitative analysis, for data analysis, interpretations, and recommendations.

Thiripurasundari[20] (2011) examined the factors facilitating brand equity dynamics on car industries. The objectives of the study were to analyze the importance of various factors like brand knowledge, brand preference, brand loyalty, brand application etc. in the car market in Pondicherry. The primary data were collected from three hundred car owners through an interview schedule. The collected data were analyzed with the appropriate statistical tools. The study revealed that among the five factors, brand preference factor has been rated as the most important factor in the car industry. This study showed that it is possible to ascertain where a company should focus its improvement efforts in order to make it pay off.

Ajoy Joseph and Kamble[21] (2011) conducted an empirical study on buying behaviour of passenger car customers towards auto finance. This empirical study analyzes the behavioural pattern exhibited by passenger car customers towards auto loan schemes and financiers when they purchase their cars. The study was based on the data collected from five hundred and twenty-five passenger car owners consisting of professionals, employees of the public and private sector, businessmen, and agriculturist in Dakshina Kannada district of Karnataka State. The respondents have been broadly categorized into three groups on the basis of the original price range of their cars viz. cars in the

price range of Rs. 2 – 4 lakhs, Rs. 4 – 6 lakhs and Rs. 6 – 9 lakhs. The study finding indicated that the most important three factors considered by car purchasers while deciding auto finance company were less processing time, easy documentation and explanation of the financing scheme by the staff.

Sathyapriya and Suganesh [22] (2011) investigated the influencing brand preferences of passenger cars existing car owners. The study was conducted in Chennai with six hundred and three respondents who owned a car. The impact of demographic variables on their choice of a passenger car was studied with the chi-square test. The current research explored the choice of a brand in different segments and the factors influencing the same with weighted average ranking. The study revealed that factors influencing the brand preference among the consumers who prefer passenger cars in mid and premium segments vary, and age and income influence their brand choice.

Seyed Fathollah Amiri Aghdaie and Ehsan Yousefi[23] (2011) examined the affecting factors on purchasing domestic and imported cars in Iran market - using AHP technique. The goal of this research was the comparative analysis of affecting factors on purchasing domestic and imported cars by using AHP technique, in Iran market. The type of this paper was descriptive-cognition and the related information for this scope have been collected from the questionnaire designed by researchers. Statistical society of present study included car's buyers in Isfahan city. The result pointed out that performance is the highest priority in the main criteria in both domestic and imported cars. Consistency ratio in domestic groups was 0.08 and in imported group was 0.06 that is an appropriate rate. Another result was that although in this research mental factor such prestige name and model of cars are not in the first priority, but it seems, many customers do not want to express that these factors clearly affect purchasing decisions.

However, they expressed that some friends, bought this car and it has been satisfied. Thus, it was deduced that subjective factors play a main role in car buying behavior.

Natarajan and Thiripurasundari[24] (2010) focused on the consumer preference for global brands vs. local brands in the Indian car industry. The customers' preference towards local and global brands is studied by administering a structured interview schedule with one hundred and fifty customers in Pondicherry city. The study explained that consumers made favourable perceptions of the country wherein they tend to associate factors such as superior quality, technical advancements, modernization etc. to the country from which the brand had taken its origin. The study also explained that consumers who owned a local brand evaluated the local brand in a favourable manner, wherein they tended to associate the brand to India‘s strong automobile sector making quality and technically efficient cars. The findings of the study advised that the consumers who possessed global car brands preferred their car brands due to factors such as global presence, worldwide reputation and the quality of being imported.

Sudharani Ravindran and Gayathridevi[25] **(2010)** studied the customer satisfaction of Hyundai i10 in Coimbatore city. The research is descriptive in nature. The sample design adopted for the study was the simple random sampling. The sample size was one hundred which included the only owner of Hyundai i10 cars in Coimbatore city. The customer's expectations over a Hyundai i10 were identified and it was found to be based on certain factors. The most motivating factor to buy Hyundai i10 car was also found out (Design and Style). The attributes like suspension and handling were identified to be below par for a Hyundai i10.

2.2.2 Review relating to consumer perception towards various brands of car

Choy Johnn Yee, Annie Ng Cheng San, and Ching Huck Khoon[26] (2015) conducted a study on consumer perception towards buying an automobile in Malaysia. This study was to conduct the research to examine the relationships of the factors, particularly perceived quality, perceived value and perceived the risk that will affect on Malaysia consumer purchase decision towards cars. This research was done using descriptive research due to the prior knowledge the researchers have about the problem situation as it is discovered through the past studies. Questionnaire survey method was used to collect data for this research study. 200 questionnaires were distributed in Klang Valley, due to the ease, reliability, and simplicity. Survey using convenience sampling was done at Klang Valley to customers' age between 23 to 65 years old and above. The study indicated that perceived risk have association with purchase decision when customers want to purchase a car. The study found that most of the consumer perceives that car should be long lasting. Therefore, they face uncertainty if they purchase the unsuitable car that result in poor performance, embarrassment, poor self image and unsafely, which cause them lost in financial risk, physical risk, social risk and performance risk.

Joompoth Sanitthangkul, Ausanee Ratsamewongjan, Wuttisak Charoenwongmitr and Jutamas Wongkantarakorn[27] (2015) examined the factors affecting consumer attitude toward the use of eco-car vehicles. This study emphasized on car users' attitude toward eco cars and factors that influence their attitude as well as the chance of using eco-cars. A sample of 560 respondents of car users in Bangkok, Thailand was collected and analyzed using multivariate analysis. Linear regression and Generalized Linear Model assuming Logit were employed in analyzing factor determining attitude toward eco-cars. Linear regression model and Ordered Logit model were applied in determining factor influencing the chance of using eco-cars. The results confirmed the hypothesis

that attitude of car users on eco-cars plays an important role in determining decision of using eco-cars. The study suggested that Thai government should not only promote eco-cars through the low price and energy saving incentive policies but also the policy to change the car users' attitude toward eco-cars.

Muhammad Yousif Moosa and Zubair Hassan[28] (2015) examined the customer perceived values associated with automobile and brand loyalty. The purpose of this study is identifying the customer perceived value associated with automobile and examining its impact on customer satisfaction and brand loyalty. A sample size of 198 respondents was chosen from various points in Jeddah, Saudi-Arabia using convenient sampling. A multi-factor CPV questionnaire with a Likert-Scale from 1-5 was used to collected the data to determine customer perceived value associated with automobile and its impact on customer satisfaction and brand loyalty. To ensure reliability and validity of the data set, sample size only includes respondents who have been using/driving an automobile for a year. Descriptive statistics shows that the most significant perceived value associated with an automobile is functional value followed by emotional value and epistemic value. The social value was the least reason that respondents purchase an automobile.

Shahir Bhatt and Amola Bhatt[29] (2015) analyzed the factors influencing the purchase of hatchback cars in Ahmedabad. The purpose of the study was to identify the factors for the purchase of hatchback cars and to examine the relationship between these factors and demographics. The data is collected using a self-administered questionnaire. The sample size for the study is 300 respondents. The focal product for the study is hatchback cars in Ahmedabad district of Gujarat State. The analysis is done by using the multivariate technique like Factor Analysis followed by ANOVA and Independent

Sample t-test. The study found that five factors, namely, Brand promise, Features, Reach, Promotions, Perceived Quality and price/make influenced consumer's purchase of hatchback cars. Additionally, it is also found that there is a relationship between brand promise and age, monthly income, and educational qualification. Also, there exists a relationship between reach and monthly income, features and age, and price/make and marital status.

Shalini and Kanakaraj[30] (2015) investigated the consumer's perception towards Nano car in Coimbatore city. The present study is an empirical inquirer into the influence of consumer satisfaction to buy products and services from car showroom. The study is purely based on primary data as well as necessary secondary data. The population of the study was online retail customers in the city of Coimbatore (India). A total of 100 customers were surveyed through nonrandom technique by using convenience sampling method for testing the hypotheses. The statistical tools employed for this purpose are Percentage analysis and Chi – square Analysis. The present study revealed that consumers have a good preference towards TATA Nano vehicle. They are mainly motivated by the price of the car. It can be concluded that the consumers are satisfied with the price, appearance of the vehicle and comfortability in the crowded area.

Suman Ghalawat, Amita Girdhar and Kavitha[31] (2015) conducted a study of consumer behavior considering various attributes towards purchasing a car. One of the objectives of the study was to find out the major factors that affect consumer perception towards different brands of car. The study mainly depended upon primary data based on a sample of 300 respondents from Hisar district of Haryana state and applied statistical tools of factor analysis and Discriminant analysis to achieve the objective of the study. The result of the study showed that consumer perception of a car was more influenced

by the discounts availability, comparative price, promotional strategies, marketing influence guarantee/warranty, the resale value of the car in markets, acquaintance with retailer, imported technology and lastly technology advancement plays an important role in the purchase of a car.

Teoh Chai Wen and Nor Azila Mohd. Noor[32] (2015) examined the factors influence consumers' intention to purchase the hybrid car and explore the roles of consumption values in automotive context. The study has been examining the direct relationship between functional value, symbolic value, emotional value, novelty value and conditional value with consumers' intention to purchase the hybrid car. Each variable was measured using 7-point Likert-scale. The questionnaire was used to collect data from individual consumers in Klang Valley. The data were then analyzed by using structural equation modeling (SEM) with Smart PLS 2.0. Five hypotheses were developed for this study and were tested using two stages analyses. The first stage involves measurement model while the second stage is the structural model. The results of the study indicated that functional value is the most significant predictor of consumers' intention to purchase the hybrid car. In contrast, symbolic value, emotional value, and novelty value failed to show the significant relationship with consumers' intention to purchase the hybrid car. Finally, the study proved that the perception and brand image plays a key role in the way consumers perceived and judged the product.

Arpita Srivastava and Mitu Matta[33] (2014) conducted a study on consumer behavior towards passengers' cars in Delhi. The research aimed to examine the buying behavior of consumer for passenger cars in Delhi. As the universe of the study is large, the researchers have decided to select sample respondents by adopting the Simple Random Sampling Technique. A total of 100 Interview schedules were prepared and out of this,

only 80 interview schedules were filled up and collected. A scrutiny of these schedules led to the rejection of 30interview schedules on account of incomplete responses. Thus 50 completed interview schedules were used for the present study. The study revealed that consumers in this region are influenced by the various factors such as culture, family, reference, age, and lifestyle. The most important factor that influenced the consumer to use passenger car is the price of the cars, social status, and durability.

Faisal[34] (2014) made an investigation on customer perception towards Royal Enfield with special reference to Malappuram district. The objectives of the study were to study whether there is any change in perception of new generation towards Royal Enfield and to understand the reasons for the change in perception if any. The researcher selected 250 customers who purchased different brands of Royal Enfield by the sampling technique of convenient sampling. The study used appropriate statistical tools such as percentage analysis and chi-square test. The study found out that Majority of Royal Enfield customers are giving importance to style and power and whole customers are satisfied in the resale value of Royal Enfield.

Gur Gaurav Singh, Munish Kumar and Abhinav Gupta[35] (2014) studied the consumer buying behavior towards Maruti Swift and Ford Figo. The objective of the research was to carry out the factor analysis to understand the perception of the consumer. An exploratory study was conducted in the tri-city (Chandigarh, Mohali , and Panchkula) in which detailed face to face structured interviews were conducted with the people which helped us to uncover individual‟s covert feelings and emotions towards purchasing behavior and perspective of global brands vs. local brands. The systematic sampling technique used was to identify 53 respondents as our sample. The study found that the consumers have high preciseness on Maruti Swift and Ford

Figo due to the factors driving pleasure and ride quality, Reliability, Engine performance and Stability at higher speed.

Idris bin Md.Noor and Divendran Vijaya Lingam[36] (2014) examined the Malaysians Perceptions toward Proton Car. The purpose of this study was to investigate Malaysian public perceptions toward Proton cars. Four main factors to be established in the present study include brand, price, advertisement and satisfactory level of the proton users. Research methodology undertaken in the study was questionnaire and observation. 100 respondents have participated in the survey. The main findings of the study showed that all factors in advertisement have a positive correlation to consumers' perceptions. The study concluded that the study on Proton cars could help this automobile industry and the findings of the study to further improve their marketing.

Nikhil Monga, Bhuvender Chaudhary and Saurabh Tripathi[37] (2014) attempted to answer some of the questions regarding the brand personality of selected cars in India by conducting the market research. The sample sizes of this study were 232 out of 250 targeted respondents through the online questionnaire with 92.8% return rate. The study showed that brand perception is something which starts building up before a car is purchased and goes on with its use and is reflected in the recommendations. Also, it is seen that the customer might not be using the car still he holds the perceptions about it. The brand personality of a car was enforced by the sellers in the mindsets of the customers and customers react to it by forming their perception about the car and this reflects in the overall brand image of the car. As per the study findings, dealers play a very important role in building up the brand perceptions of the cars.

Sharma and Namrata Maheshwari[38] (2014) conducted a study on the customer's awareness and perception level towards green cars. The purpose of this paper was to

focus on investigating the awareness level and the perception of customers towards environment-friendly practices of automobiles in India. The objective of the study was to explore the factors which influence the customer awareness and perception towards green cars. The study is based on the response collected through questionnaires from 200 respondents aged between 20-50 years who have been targeted in the retail stores of Kolkata city. The result reports that the maximum customers 64% are green supporters as they are concerned about the environment and aware of the environmental issues but they are not green customers and 26% respondents are not concerned about the green factor and don't take green automobiles in their choice while taking purchase decision.

Siti Norbaya Yahaya, Nusaibah Mansor, Nurul Zarirah Nizam and Yasuo Hoshino[39] (2014) examined the consumers' acceptance towards green technology in automotive industries in Malacca, Malaysia. This research aimed at revealing consumer perception on vehicle adopting green technology testing on the sample of regression is used. In order to obtain reliable information from the respondents, established and validated scales were selected for data collection. In this study, the survey instrument of intention to buy green technology automobile on the independent variables were adopted from the scales developed by Hasrini and Firmanzah (2009). Based on randomly approach and surveying distribution, only 200 respondents were selected. From the statistical result, it can be revealed that environmental benefits of green vehicles positively influence customers' perception to buy. The study found that consumers' perception towards becoming an environmental friendly reflected in their preference for choice when it comes to their intention to purchase green technology automobile.

Yasodha Damodaran and Kumudha[40] (2014) studied the customers' perception towards TATA NANO car in Coimbatore. One of the objectives of the study was to evaluate the customers' perception towards the "Tata's Nano" car. The research conducted is a descriptive research. This is descriptive in nature because the study is focused on the fact-finding investigation in a well-structured form and is based on primary data. Primary data has been used in the form of a questionnaire and telephonic interview in order to collect data. The sample was chosen to collect data consisted of fifty respondents. Statistical tools like percentage analysis and chi-square were used to analyze the data. The study highlighted the fact that all the respondents on the survey conducted revealed that Tata Nano will definitely be a good alternative for Two-wheelers. The study concluded that the main factor that attracted and influenced the purchase decision of Nano is its Price.

Adithya[41] (2013) examined the customer perception and behaviour of car owners in Bangalore city. The purpose of this research was to study the behaviour of consumers, perception of product attributes and level of satisfaction. A sample of 100 consumers was selected by Non - Probability Quota sampling method for the present study around Bangalore City in Karnataka. It consists of 50 consumers from Bangalore Urban and 50 consumers from Bangalore Rural. A structured questionnaire was designed and administered to the respondents to give a fair representation to various attributes of the consumer. The secondary data has been collected from various published articles, through internet, journals, and magazines. For the purpose of evaluation, the percentages, chi-square test has been used for meaningful analysis and clear presentation. The respondents perceived that driving comfort and fuel economy are the most important features of the passenger car followed by availability of spare parts and price of the car.

Cheng Wei Hin, Filzah Md Isa, Hoe Chee and Liang Siak Swee[42] (2013) conducted a study of foreign students of the country of origin and perception towards locally made Malaysian cars. The study examined the relevance of the concept of country of origin in purchasing intention of cars among international students in Malaysia. A number of 176 international students who are studying at a public university were asked to complete a self-administered questionnaire. The students were also asked to rank the quality of cars made in Malaysia compared to nine other countries. The results showed that the concept of country of origin is still very much relevant among these international students in their purchasing intention of cars. In terms of quality, cars made in developed countries were highly ranked by the students while cars made in developing countries like Malaysia where given a low ranking.

Mubarak Ali and Mohamed Abusali Sheik[43] (2013) examined the factors influencing the buyers of passenger cars. This study aimed at identifying the demographic factors influencing the purchase of car and analyzes the perception of consumers towards the car. The specific objective of the present study was to know about the perceptions of passenger car consumers towards their preference over a particular brand. This study was conducted among the car owners residing in Tirunelveli city. Stratified random sampling was used for selection the sample respondents for primary data collection. Tirunelveli city has select four areas. Each area was considered as strata and from each strata 75 sample respondents were selected on the random basis, from the list of four wheelers owners in the area obtained from car dealers at Tirunelveli. This study reported that the respondents have the high perception on Maruti and Hyundai and their demographic characters influenced their perception towards the car.

Suganthi, Balasubramani, and Suresh[44] (2013) conducted an empirical study on consumer perception towards Hyundai cars in Salem city. The aim of the study was to analyze the perception of consumers towards the passenger car. Descriptive and analytical research designs have been used in this study. This study has been conducted on the respondents who are the owners of Hyundai brand passenger cars. A total of 658 interview schedules were prepared and out of this, only 621 interview schedules were filled up and collected. A scrutiny of these schedules led to the rejection of 21 interview schedules on account of incomplete responses. Thus 600 completed interview schedules were used for the present study. The results were compared and analyzed by using descriptive analysis, chi-square analysis, Friedman's Nonparametric test and ANOVA. The study observed that the majority of the respondents stated that the price of the car is moderate for all models of Hyundai cars. It was concluded that there is a highly significant association between the model and opinion about the price of the car.

Abhijit Gosavi, William Daughton, Samaranayake and Ozge Senoz[45] (2012) analyzed consumer perception of US and Japanese automobiles: a statistical comparison via consumer reports and J.D. power and associates data. In this paper, the researchers carried out statistical tests to determine whether: i) strong correlation exists between these two sources; ii) whether U S and Japanese cars have undergone any trends in the last 10 years. Both consumer reports (CR) and J.D.Power & Associates (JDP) surveys indicated that Japanese cars continue to outrank US cars in terms of perceived quality and brand image. Trends from CR indicated that the perceived quality of both US and Japanese cars is climbing, but the slope of US cars is steeper and the brand image of Japanese cars is falling rapidly.

Samuel Taiwo Akinyele and Kola Olorunleke[46] (2012) examined the Effect of consumer behaviour and perception on car purchase decision in Lagos – Nigeria. A simple random sampling technique was adopted in the study to select the sample respondents. As the size of the universe is restricted, the study has been conducted on the respondents who are the owners of all the segments of passenger cars. A total of 350 interview schedules were prepared and out of this, only 327 interview schedules were filled up and collected. Data were collected through an interview schedule regarding reception of the respondents on the usage of cars. The following tools were used for testing the hypotheses and in the analysis of data. Descriptive statistical tools such as percentage, mean, median and standard deviation have been used to describe the profiles of consumers, preferred product attributes and level of satisfaction. ANOVA, T- Test and F- test have been used to test the significant differences between the groups of respondents in their perception and satisfaction for selected independent variable like age, sex, and income. The study threw light on various features that the manufacturers should concentrate on to attract the prospective buyers. This study concluded that consumer behaviour plays a vital role in marketing cars and there is more scope for extensive research in this area.

Sunitha, Franksuniljustus, and Ramesh[47] (2012) conducted a study on determinants of perceived risk in the purchase of the car. This study tried to ascertain the various factors that can cause perceive risk while purchasing the car and makes an attempt to find out the influence of risk reduction factors which can further be used by manufacturers and dealers of motor cars. The convenience sampling procedure was adopted for this study and persons who had taken a car out of the three selected brands in the last three months or were definitely buying a car within a month in Chidambaram town were selected as respondents. Primary data are collected with the help of the

questionnaire. A total of 104 respondents from Chidambaram town were surveyed. It can be inferred that factors like word of mouth, magazine reviews, test drive, availability of service stations do have a major role in the purchase decision-making and serve to reduce the perceived risk associated with the purchase. The study also found that advertisements, mechanics, manufacturer's country of origin have a moderate impact on the decision process and also serve to minimize the perceived risk factors.

Choy Johnn Yee, Ng Cheng San and Chng Huck Khoon[48] (2011) examined the consumers' perceived quality, perceived value and perceived risk towards purchase decision on an automobile. The objectives of this research were to study the relationships of perceived quality, perceived value and perceived risk that will affect on Malaysia consumer purchase decision towards cars. Survey using convenience sampling was done at Klang Valley to customers' age between 23-65 years old and above. Questionnaires were distributed to 200 respondents at the sampling location. Results from multiple regression analysis showed the positive association between the three factors mentioned previously with a purchase decision.

Shuyuan Xiao and Wei He[49] (2011) studied Chinese consumers' attitudes toward Volvo cars. Our aim with this study was to identify the most important attributes of Volvo for Chinese consumers; to analyze how Chinese consumers were influenced by other people's opinions and to explore how Chinese culture factors such as face concern and group conformity influence consumers' attitudes towards Volvo. The study used online self-completion questionnaires and chooses customers from a life insurance company in Shanghai as our sample group. From the survey result, the study found that Volvo is the second most favourable brand that Chinese consumers want to own in the near future. The top three car attributes for the Chinese consumers when they were

going to choose a car were quality, safety, and fuel economy. But they had less knowledge or beliefs that Volvo car has an advantage with those attributes. Besides that, the study found out that Chinese consumers' behavioural intention of buying Volvo is influenced by family, friends, perceived behaviour control and group conformity, but there is no relationship between face concern and buying behavior.

2.2.2 Review relating to problems faced by the car consumers

Lokhande and Vishal S.Rana[50] (2015) conducted a study of consumer preferences and attitude towards passenger cars of Maruti Suzuki and Hyundai Motors in Marathwada region of Maharashtra. The objective of this research paper is to know the preferences and opinions of Maruti and Hyundai customers regarding after sales service, resale value, and fuel efficiency along with customer preferences while buying Maruti and Hyundai brands. The present study is descriptive in nature and convenient sampling technique has been adopted for selecting the consumers. The primary data has been collected with the help of the structured questionnaire. The study disclosed that 7.6 percent respondents have faced problems regarding after sales service whereas 92.4 percent i.e 440 respondents opined that they have not faced any problem regarding after sales service. During the survey, it was found that few Maruti respondents are not satisfied regarding after sales service provided by Maruti Suzuki dealers.

Power[51] (2015) attempted to study on car sales volumes creates the uphill task for dealers to deliver. One of the objectives of the study was to identify the problems faced by the customers when shopping for their new vehicle. The study was based on secondary data which were collected from the sales records of selected dealers of all over India. The study revealed that there is a significant increase in the proportion of customers who face problems and pressures when shopping for their new vehicle. The

study found that most of the customers experience problems with a small selection of models and their salesperson having difficulties in answering their questions. Similarly, most of the customers reported that they experienced pressure from their purchase dealer. It also found that first-time buyers are particularly affected by these issues.

Gautam Raj Kumar[52] (2014) examined the purchase decision of Indian car consumers. One of the aims of the paper was to study the problems of car consumers after purchasing the new car. The study has been conducted in northern states comprising Punjab, Haryana, Himachal Pradesh, Delhi, and Chandigarh. The total 250 customers who have purchased (Volkswagen, Hyundai, Maruti and Honda cars) were contacted for purpose of study. The study is based on primary and secondary data. Kruskal-Wallis test has been applied to know the significant differences among the respondents relating to different factors of purchase. The test has been applied at assumed p-value = 0.05. The statements with less than 0.05 p-value are considered significant and those with p-value more than the assumed value are considered to be insignificant. It has been found that majority of the car owner do not have purchase regrets. The majority of the respondents from Honda have experienced difficulties due to nonavailability of spare parts followed by Volkswagen owners whereas the customers of Maruti do not face such problems. It has also been observed that majority of the customers have not faced any major product problems

Sheetal[53] (2014) conducted a study of consumer behavior towards premium passenger car segment in U.P in post - liberalization era. One of the objectives of the study was to analyze the dislikes/problems faced by the respondents in their cars. The present study is primarily based on primary data. For primary data, the respondents (250 (Consumers), 25 (Dealers)) were chosen randomly. To collect the primary data survey method has

been used through a nondisguised structured questionnaire comprising questions of dichotomous type, multiple choice etc. for car consumers and car dealers separately. The secondary data was collected from various books, magazines, the internet, journal, reports (both published and unpublished) etc. The study revealed that Outdated Styling is the major problem of maximum consumers followed by the Maintenance and Spare parts Availability. Breakdown and Any Other (space, interior etc.), are least preferred problems faced by the car users.

Shende Vikram[54] (2014) analyzed the consumer behavior of automobile passenger car customer. One of the objectives of this study was to identify the problems faced by the customer of cars. This paper also attempted to consolidate findings and suggestions to overcome present scenario of stagnancy in sales and cultivate future demand for automobile car market. For this research, the methodology adopted was to study the research papers in the area of Passenger Car segment, study the purchase decision process and its interaction with behavior parameters across all the segments of the car such as small & Hatch Back segment, Sedan class segment, SUV & MUV segment and Luxury Car segment. The study found that car dealers and manufacturers show very good hospitality to customers during their visits to the place of showroom before and immediately after their purchase. But after some time they face a problem with their dealers regarding after sales service.

David Green, Piotr Wyszogrodzki and Tomasz Kassel[55] (2013) conducted a survey on car dealers market. The findings of this survey were made on the basis of answers given by representatives of 220 car showrooms all over Poland in the period from June to July 20013. The questionnaire was mainly filled out by showroom owners or managers. In the report, the study presented the most interesting relationships which

came to attention during the analysis of the data. The survey reported that currency fluctuations and problems with access to credit facilities were the main factors influencing the market. Customers have been finding it harder to obtain a car loan – the number of loan applications rejected by banks is increasing sharply, while those who can get a credit are forced to contribute a bigger down payment and to pay higher interest rates.

Kamrul Ahsan[56] (2013) made a trend analysis of car recalls evidence from the US market. The research uses secondary data from recall websites maintained by public and private organizations. This study is based on US car recall related data from January 2000 to April 2010. Data in the form of car recall numbers, customer complaints, and car sales were taken from several authenticated sources. The study found that Toyota's large number of car recalls in 2009 and 2010 due to floor mat and sudden acceleration problems, resulting in high recall costs to Toyota and its supply chain members and stakeholders. The study reported that recalls are the result of product related problems and issues and a sign of the bad quality product. The study noted that Toyota's 8.5 million car recalls during 2009-2010 due to sudden acceleration and floor mat problems can be considered a high profile recall in terms of media coverage, the number of recalled cars and estimated losses.

Mark Grinblatt, Matti Keloharju, and Seppo Ikaheimo[57] (2013) analyzed the automobile purchase behavior of all residents of two Finnish provinces over several years. The study selected the variables derived from the union of two data sets: one contains data on automobile ownership and purchases; the other contains data from income tax returns. Using a comprehensive data set with location coordinates at the individual consumer level; it found that the purchases of neighbors, particularly in the

recent past and by those who are geographically most proximate, influence a consumer's purchases of automobiles. The found that advertising, reviews, and warranties all serve to mitigate the asymmetric information problem in new car purchases or serve as an additional set of factors that influence purchases.

Orazio P. Attanasio, Pinelopi K. Goldberg, and Ekaterini Kyriazidou[58] (2013) investigated the empirical significance of borrowing constraints in the market for consumer car loans. Using micro data from the Consumer Expenditure Survey on auto loan contracts, the researcher estimated the elasticity of loan demand with respect to loan interest rate and maturity. The econometric specifications employed account for important features of the data, such as selection and simultaneity. The study found that with the exception of high-income households, consumers are very responsive to maturity changes and less responsive to interest rate changes. Both maturity and interest rate elasticity vary with the level of household income, with the maturity elasticity decreasing and the interest rate elasticity increasing with income. The study argued that these results are consistent with the presence of binding credit constraints in the auto loan market and that such constraints significantly affect the borrowing behavior of some groups in the population, low-income households in particular.

Shamim Akhtar[59] (2013) conducted a case study on consumer psychology behind the Nano mistakes. This explorative case study looked beyond the mistakes and attempted to throw light on the consumer psychology regarding Nano's initial low market acceptance; which seemed to be quite different from what the company and industry had speculated in the beginning. The study identified that Tatas have had problems with the entire marketing mix for Nano. The study found that there were initial safety issues with the product; they couldn't hold on to their original pricing promise due to rising costs;

there was a tough time with the distribution due to the serious mismatch between demand and supply, and there wasn't a proper promotional campaign, to begin with.

Vidyavathi[60] (2012) conducted a study on consumer lifestyle influence of consumer behaviour with reference to the automobile industry in Chennai. One of the objectives of the study was to identify the problems faced by the car consumers. A simple random sampling technique was adopted in the study to select the sample respondents. A total of 400 Interview schedules were prepared and out of this, only 387 interview schedules were filled up and collected. Descriptive statistical tools such as Percentage, Mean, Median and Standard deviation have been used to describe the profiles of consumers, preferred product attributes and level of satisfaction. The study showed that the hospitality shown by the dealers is more during their visits to the places of dealers before and immediately after the purchase. But after some time they face a problem with their dealers regarding after sales service.

Bradley Flamm and Asha Weinstein Agrawal[61] (2011) made an investigation into constraints to sustainable vehicle ownership. The authors organized a series of four focus group sessions with residents of the Sacramento metropolitan region to investigate their attitudes, knowledge, and behaviors related to the environmental impacts of their vehicle ownership choices. Focus group research projects typically include between two and six focus groups. The study revealed that the participants perceived prevent them from aligning their vehicle purchase choices with their environmental attitudes. Many of the key constraints cited were linked to the belief that only hybrid vehicles are pro-environmental choices. Among the constraints described were that sustainable vehicles are too expensive, they do not provide needed amenities, and they rely on unproven technologies.

Christy Dayamani[62] (2011) conducted a study on consumer behaviour in buying cars in Tirunelveli City, Tamil Nadu. The present study is based on the perceptions, behaviour and satisfaction of the consumers for passenger cars. Sources of the primary and the secondary data are discussed. The researchers have used interview schedule for the purpose of collecting primary data. This study was conducted among the car owners residing in Tirunelveli city of Tamil Nadu. A simple random sampling technique was adopted in the study to select the sample respondents. Most of the analyses were based on the relevant statistical tools such as percentages, averages, chi-square tests, Cramer's V and probability analysis. The study revealed that the demand for small car segment is increasing because of the growing number of nuclear families as well as parking problems. Most of the respondents expressed that they have technical problems in their existing car.

Ganapathi, Subadra and Anbu Malar[63] (2011) examined the consumer perceptions and behaviour with special reference to the car owners in Tamilnadu. The purpose of this research was to study the behaviour of consumers, their importance in the aspects of lifestyle, perception of product attributes and level of satisfaction. The researchers have used interview schedule for the purpose of collecting primary data from the car owners for the study. A Simple Random Sampling Technique was adopted in the study to select the sample respondents. A total of 350 Interview schedules were prepared and out of this, only 327 interview schedules were filled up and collected. In order to evaluate the objectives of the study and draw inferences scientifically, the researchers have adopted various statistical techniques and tools like ANOVA, KMO and Bartlett's Test, Factor Analysis, Correlation Analysis and the like. The study found that the demand for small car segment is increasing because of the growing number of nuclear families as well as parking problems. Most of the respondents expressed that they have technical problems

in their existing car and some of them opined that they switch over to another brand because they would like to buy a new technology car.

Sandesh Kumar Sharma, Kiran Sharma and Makshud Khan[64] (2011) analyzed the customer satisfaction of Tata Motors in Jaipur, Rajasthan. Jaipur City map was studied thoroughly and samples were selected from the place in a scattered manner to get effective result. The study was a random area sampling method that attempts to obtain the sample of convenient. Total sample size is 100. The study found that Tata Motor is one of the best cars manufacturing company in India, customers are satisfied because of affordable price, but the maintenance is a problem and resale value is very low. These are the two main reasons and other reasons are customer care does not respond to customers complaints, so the customers are dissatisfied. TATA Motors have to improve its customer care and decrease the price of their spare part and make available in all part of the country.

Abirami Devi[65] (2002) attempted to assess the consumer attitude, level of satisfaction and the problems faced by the owners of small cars with reference to Chennai city. Only those who drive and own the vehicle were selected as respondents for the study. From the findings of the study, it is inferred that very less complaint were made by Hyundai Santro owners followed by Telco India. In the area of product features, Maruti and Santro are given a joint first place.

Maran[66] (2002) conducted a study on the scenario of small cars segment in Chennai city which deals with the market share and marketing strategy, technical and financial performance of the manufacturers of small cars segment. The study has pointed out that the ancillary industries which supply components to the manufacturers often failed to adhere to the delivery schedule causing production problems. The study has also found

that higher maintenance cost of small cars due to inflation, the high cost of spares and components and adverse conditions which prevailed in the town and semi-urban areas led to the postponement of purchase of small cars as the problems faced by the small car owners.

Peeru Mohamed[67] (2002) in his study entitled "The passenger car industry of India: A study of market condition and brand selection" attempted to focus on the market conditions and brand selection of the passenger car owners of Coimbatore district. A sample of 400 car owners was taken from Coimbatore district by adopting the sampling technique of stratified random sampling technique. As such the study is a fact gathering expedition, assuming the characteristics of both descriptive and exploratory research. The collected data were analyzed with the help of appropriate statistical tools. The study pointed out the problems faced by the consumers of the car are high price, poor quality standards lack of after-sales service increasing fuel cost, non availability of standard quality of spare parts and differing tax rates from State to State.

2.3 RESEARCH GAP

The recent boom in car sales has, to a little bit, been dragged by liberalized financing options and also largely due to the enhanced income levels of the middle-class people. The car industry in India has been on steroids. The domestic sales have reached a level of 2 million units per annum, growing in double digits. It is expected to rise further to 5.2 million units by 2019-20. The overall car industry performance has shown encouraging results for all the segments of the industry. Today, India has become the second fastest growing car market in the world. Passenger car sales have tripled in six years. Indian car industry would serve as a key input for the business decisions and segmentation of Indian market for future demand.

From a survey of the literature, it is observed that while all branded car industries are struggling to increase their sales volume in the race of marketing, the consumers of the car are also struggling to buy a car because of hovering thinking due to various dimensional factors. The survey also revealed that research gaps exist in consumer preference and perception of branded cars in general; and with the consistency of preference, factors influencing the preference and brand images in the view of consumers in particular. It is observed that a large number of research studies have been conducted on consumers behavior towards various brands of the car with reference to different geographical locations in India and abroad. But there are no studies yet which have analyzed the consumer preference and perception towards various brands of the car based on the demographic character of the consumer which will be of use to the car companies, dealers and marketers to know the consumers elaborately so that they can easily handle the consumers. The survey confirmed that such a research was not done in Tirunelveli district. The survey also revealed that none of the research work mentioned in reviews of previous studies, to integrate the approach

for evaluation of the brand image of the car based on the attributes of the car, and to generate the formula to predict the brand image. Several research works have been done on the problems faced by the car consumers, but a research was not done in factorized the various dimensions of problems faced by the consumers through physically and psychologically. In this context, it was thought that this study is very relevant to analyze the consumer tendencies in the car. Hence this study was intended to analysis the consumer preference and perception towards various brands of the car in Tirunelveli district.

2.4 CHAPTER SUMMARY

This chapter refers to the studies related to consumer preference and perception towards various brands of car. In this context, the literature review was done to identify the gaps that existed between relevant available matter and proposed the study. The reviewed literature was categorized in three different groups. These were: studies related to consumer buying preference of brand of car; consumer perception towards various brands of car and problems faced by the car consumers. It was found that there was a need for evaluating the consumer preference and perception towards various brands of car in an integrated manner.

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CHAPTER III
AN OVERVIEW OF THE CAR INDUSTRY AND THE STUDY AREA

This chapter provides detailed information about the car industry in India, consumer preference, consumer perception and the study area. Besides, some statistical information of the car industry in India and Tirunelveli district is highlighted and presented in this chapter.

3.1 INDIAN CAR PASSENGER INDUSTRY – AN OVERVIEW

The Indian car industry is growing from strength to strength, rapidly. Following the liberalization of the passenger cars market by the government, the mid 90s saw hectic activity in the passenger car industry. This can be called the second revolution in the passenger car market. For the first time, international car manufactures began to evident a keen interest in the Indian car market. The central government's Auto Mission Plan II that forecasts the car market to more than triple to 9.4 million units by 2026 from 2.8 million now if the economy grows at an average rate of 5.8% a year. If the economy grows at an average yearly pace of 7.5%, the size of the car market is forecast to rise to 13.4 million units; making it the world's second largest after China.[11]

3.1.1 History of Cars

With the invention of the wheel in 4000 BC, man's journey on the road by mechanized transport had begun. Since then, he continually sought to devise an automated, labour saving machine to replace the horse. Innumerable attempts had been made to reach a conclusion in the early 1760s with the building of the first steam driven tractor by a French captain, Nicolas Jacob Cugnot. It was however left to Karl Benz & Goltlieb Damlier to produce the first vehicle powered by the internal combustion engine

in 1885. It was then that the petrol engine was introduced, which made the car a practical and safe proposition. The cars in this period were more like the cars on our roads today. With the introduction of cars, came the era of speed. The first mass-produced car, the Ford Model T, was launched in 1908, and the production line was introduced in 1914. 5 This flagged of an era of 'wheels racing', till 1964, after which jet and rocket propelled vehicles were allowed.[4]

3.1.2 Industry Development

The first motor car on the streets of India was in 1898. Mumbai had its first taxicabs in the early 1900. Then, for the next fifty years, cars were imported to meet domestic demand. Between 1910 and 1920's the automobile industry made a humble beginning by setting up assembly plants in Mumbai, Kolkota and Chennai. The government of India entered into the car business, with a 74 percent stake in Maruti Udyog Ltd. (MUL), a joint venture with Suzuki Motors Ltd. of Japan. MUL introduced `Maruti 800' in 1983 providing a complete boost to the Indian car industry. The car was launched as a 'Peoples car'. This changed the industry's profile dramatically; consequently the production of cars in India multiplied almost six times to reach a total of 181,800 in 1990-91 with Maruti Udyog claiming the lion's share of 112,800 cars followed by Premier Automobiles with 42,900 cars and Hindustan Motors 25,200 cars.

The passenger car industry in India during the past two decades registered an impressive growth. The car population is not that much widespread in our country as human population. It is rather concentrated in a few developed states. This can be made clear from the fact that in 1998, eight states namely, Delhi, Maharashtra, Tamilnadu, West Bengal, Gujarat, Kerala, Karnataka and Uttar Pradesh possessed nearly 75percent cars in the country. Another interesting feature of the analysis is that four metropolitan cities - Delhi, Mumbai, Kolkota and Chennai - accounted for about 35 percent of the

country's total car population in 1997. Taking into consideration the rise in expendable income levels and necessity of personal transportation as a result of inefficient public transportation facility, the demand for cars is expected to increase.

The car buyer will be the major beneficiary of the marketing war in the passenger car segment as they will be able to get technologically better products on good terms and conditions. In India, passenger cars have always been considered luxury items. However, once affordable for only the rich, these are how being owned by middle class families also.[5]

The passenger car segment in India is set to grow at a reasonable pace in the future. Strong drivers in the form higher disposable incomes, higher penetration of financial schemes, new model launches, and changing consumer mindset are expected to push the demand further.

3.1.3 Passenger Car Segmentation

With more players and greater number of models with a whole lot of different specifications became a need for segmentation. The segmentation of the passenger car market in India is vastly different from that in the developed nations. Price, the most significant factor contributing to the purchase decision of a car buyer, can be used as an effective segmentation variable for analyzing the passenger car market.[3]

Common people always confuse between the car type and car segment. It has always been a difficult situation to identify a car type and to guess which segment it falls in. While browsing the internet one can come across an article that had all the information about car segments and types. Then one can come to know that segments are defined by length of the car and the shape of the body defines type.

Following are the specific categories of all vehicles sold in India as outlined by the Society of Indian Automobile Manufacturers (SIAM). Using the SIAM classification

ensures that no vehicle type will slip through the net. These classifications help consumers to compare and identify similar vehicles and makes car buying process as easy as possible. It also helps identify other similar vehicles for consumers to compare against, to help make the car-buying process much easier. The classification of segment is done on the basis of the length of the vehicle (Car segment) which is presented in Table 3.1.

Table 3.1

Car Segment based on Length

Category	Models
A1 Segment	Mini – Up to 3400mm (M800, Nano)
A2 Segment	Compact – 3401 to 4000mm (Alto, wagon r, Zen, i10, A-star, Swift, i20, palio, indica etc)
A3 Segment	Midsize – 4001 to 4500mm (City, Sx4, Dzire, Logan, Accent, Fiesta, Verna etc)
A4 Segment	Executive – 4501 to 4700mm (Corolla, civic, C class, Optra, Octavia etc)
A5 Segment	Premiun – 4701 to 5000mm (Camry, E class, Accord, Sonata, Laura, Superb etc)
A6 Segment	Luxury – Above 5000mm (Mercedes S class, 5 series etc)
B1 Segment	Van – Omni, Versa, Magic etc
B2 Segment	MUV/MPV – Innova, Tavera, Sumo etc
SUV Segment	CRV, Vitara etc

Source: Society of Indian Automobile Manufacturers

The classification of segment is done on the basis of the body shape of the vehicle (Car segment) which is presented in Table 3.2.

Table 3.2

Car Segment based on Body Shape

Category	Models
One Box (VAN/MPV)	Omni, Ace Magic, Versa
Two Box (HATCHBACK)	M800, Alto, Santro, i10, A*, Swift etc.
Three Box (SEDAN/ SALOON/ NOTCHBACK)	SX4, City, Fiesta, Dzire, Ambassador, Indigo CS etc.
Estate/Station Wagon	Indigo Marina, Octavia Combi, etc.
SUV (Sports Utility Vehicle)	CRV, SAFARI, GRAND VITARA, PAJERO etc
Semi Notchback	Skoda Octavia, Accent Viva.

Source: Society of Indian Automobile Manufacturers

In India, the A2 and Two Box (HATCHBACK) segment accounts for the largest share of the cars sold, as compared to mid- range segment in the mature markets. The A2 and Two Box (HATCHBACK) car segments face the lowest competitive threats while the luxury car segment will witness intense competition due to lower volumes.[10]

3.1.4 Leading Manufacturers Of Cars

After the delicensing of the automobile industry in 1993, global automakers entered into Indian markets through various types of modes like subsidiaries, joint ventures and technology licensing agreements etc. Indian car industry has many players that bring to us dream cars. Some of the major manufacturers that shaped Indian car industry are:

- Maruti Suzuki Ltd.,
- Hyundai Motor India Ltd.,
- Hindustan Motors Ltd.,
- Fiat India Pvt. Ltd.,

- General Motors (India) Ltd.,
- Tata Motors Ltd.,
- Ford India Ltd.,
- Honda SIEL India Ltd.,
- Skoda Auto India Pvt. Ltd.,
- Mercedes Benz (India) Ltd.,
- Toyota Kirloskar India Ltd.,
- Daimler Chrysler India Pvt. Ltd.,
- BMW India Ltd.,
- Audi AG Ltd.,
- Nissan Motor Company Ltd.,
- Volkswagen Auto India Ltd.

3.1.5 Car Financing

An increase in the reach of financing can increase the sales of passenger cars in all segments. Most manufacturers' are looking to rural and semi-urban areas to increase sales. Along with increasing the number of dealerships, manufacturers are also trying to increase the availability of finance in these markets to enable customers to purchase cars.

The explosive growth in the supply of vehicle financing has been the key enabler for the growth in vehicle sales. One can buy a vehicle on monthly payments of Rs.7000, and less which is easily afforded by double-income middle class families. Today almost 100 percent of vehicle purchases are financed compared to 15 percent ten years ago.

In the last two years, (auto & two wheelers) loans showed higher growth than home vehicle and personal loans. Both, in fact, accounted for 70percent of overall retail loan growth. There are some indicators, which reveal that Indians will continue buying

cars. They are i) easy monthly installment schemes available for the consumers and ii) sufficient loan facilities with affordable / less interest rates. The obstacles faced by the consumers who buy cars for the first time have been broken by these facilities. The knowledgeable consumers would determine the growth rate of the car industry. If the marketers are able to satisfy customers' expectations, they will see growth.[1]

At another level, consumers' decision to move up the car segment ladder is being driven by easy access to finance. The NCAER survey reveals that 39 percent of all car purchases are done with the help of car loans. The midsized cars and utility vehicles form the biggest segment in auto finance with a market size of ` 20,000 crore and finance volume of around ` 15,000 crore. Most banks and finance companies are tying up with auto manufacturers to give a boost to this segment.[2]

3.1.6 Associations

Various associations have been formed with a goal to promote sustainable development in the automobile industry, focusing on technology up gradation for environment and safety. They are:

- Society of Indian Automobile Manufacturers [SIAM]
- The Automotive Component Manufacturers Association of India [ACMA]
- The Western India Automobile Association [WIAA]
- Federation of Automobile Dealers Association [FADA]
- Association of International Automobile Manufactures [AIAM]

3.1.7 Government Policy

If the passenger car industry has not grown at a reasonably good speed in India during the last five decades or so, the entire blame should be placed on the government

policies which were short-sighted and coloured by ideological considerations such as car is a 'luxury'. So it should not be encouraged.

The government controls the car sector by way of framing policies on depreciation norms, import duty on cars and parts used in it, petrol prices, and import duty on steel. The perception of cars as luxury goods led to heavy excise duty on cars. The car industry had been asking for reduction in excise duty so as to reduce the end prices of cars to customers and increase the flagging demand. With continuation of liberalization and a shift in the perception of car being a luxury product will lead to reduction in duties over a period of two to three years. This will reduce the prices of cars leading to further boost in demand. Car manufacturing is basically an assembly of components procured from ancillaries or auto component manufactures. Car manufactures outsource nearly 75 per cent of auto components. This helps in reducing the capital cost needed to set up a car manufacturing plant. The body panel and engine constitute a major portion of the total cost of car manufacture. Percentage of total cost of a car is given in Table 3.3

Table 3.3

Percentage of Total Cost of a Car

Components	Component Percentage
Raw materials	81
Employee cost	10
Power and Fuel cost	1
Other manufacturing cost	1
Administration cost	1
Selling and Distribution cost	6
Total	100

Source: Society of Indian Automobile Manufacturers

3.1.8 Production

One of the largest industries in India, Passenger car Industry has been witnessing impressive growth during the last 30 years. Abolition of licensing in 1991, permitting automatic approval and successive liberalization of the sector over the years have led to all round development of this industry. The freeing of the industry from restrictive environment has, on one hand, helped it to restructure, absorb newer technologies, align itself to the global developments and realize its potential on the other hand. This has significantly increased industry's contribution to overall industrial growth in the country. India gets rank 13th in the world in the production of passenger cars. The massive growth in the country's car population is attributed to the concurrent spurt in demand that resulted in consequent rises in car production. The fluctuating production trend evinced during the past 10 years achieved and all — time high record in the production of passenger cars are given below in Table 3.4.

TABLE 3.4

Production of Passenger Cars

Year	Number of Cars
2006 - 07	15,45,223
2007 - 08	17,77,583
2008 - 09	18,38,593
2009 - 10	23,51,240
2010 - 11	29,82,772
2011 - 12	31,46,069
2012 - 13	32,31,058
2013 - 14	30,87,973
2014 - 15	32,21,419
2015 - 16	34,13,859

Source: Society of Indian Automobile Manufacturers

3.1.9 Sales

Rise in the proportion of young people who have the propensity to spend, increasing urbanization and the need for mobility has led to whoofing demand for cars in India. Relatively, good availability of money and a favourable interest rate regime has also been a strong contributor to the sustained good demand. In contrast to China, a much larger fraction of consumer sales in India is financed by loans and easy availability of financing from banks.

The concept of a second car is, on the rise, in urban areas. With more than one member of the family working, the need for personal transportation is a driving force for the purchase of more than one car. This is likely to add significantly to the sales growth of cars, especially in the metros. The sales of passenger cars are given in Table 3.5.

Table 3.5

Sales of Passenger Cars

Year No. of Cars	Year No. of Cars
2005 - 06	11,43,076
2006 - 07	13,79,979
2007 - 08	15,49,882
2008 - 09	15,52,703
2009 - 10	19,49,776
2010 - 11	25,01,542
2011 - 12	26,29,839
2012 - 13	26,65,015
2013 - 14	25,03,509
2014 - 15	26,01,236
2015 - 16	27,89,678

Source: Society of Indian Automobile Manufacturers

3.1.10 Exports

The passenger car exports in the eighties and early nineties had been very negligible as the companies were facing capacity constraints that were not even sufficient to supply to the domestic market. The poor quality of cars compared to international standards led to a poor quantity of exports to any other country.

Passenger car industry of India is now finding, increasing recognition worldwide. Indian cars of the earlier times lacked in technology but the entry of multinationals made, superior and latest technology available to the domestic industry. The export of passenger cars is given in Table 3.6.

Table 3.6

Export of Passenger Cars

Year No. of Cars	Year No. of Cars
2005 - 06	1,75,512
2006 - 07	1,98,452
2007 - 08	2,18,401
2008 - 09	3,35,729
2009 - 10	4,46,146
2010 - 11	4,44,326
2011 - 12	5,08,783
2012 - 13	5,59,414
2013 - 14	5,96,142
2014 - 15	6,21,341
2015 - 16	6,53,889

Source: Society of Indian Automobile Manufacturers

The statistics given in the above Table on exports of cars highlights the significant role of passenger cars in country's foreign trade. The Indian passenger car industry has not only made available, comfortable, spacious and efficient cars to a large

population within the country but has also attracted a sizeable number of buyers outside the country. The available statistics on exports of cars highlight the significant role of passenger cars in country's foreign trade.[12]

3.1.11 Global Scenario

The passenger car is an economy's draught animal, which is the driving force for upstream industries like steel, iron, aluminum, rubber, plastic, glass and electronics and downstream industries like advertising and marketing, transport and insurance.

According to world motor vehicle registration, the population of passenger cars in the world stood at 485.95 million in 1996, with contribution of 26.75 per cent from the USA alone. The three leading nations, namely, the USA, Japan and Canada accounted for more than 53 percent of total cars' population in the world. The share of Indian car industry in the world car production was nearly one per cent, occupying the thirteenth position.

The global car market is growing by 2 percent per annum and expected to continue the same pattern in the near future. Furthermore, the global industry is moving towards quality in a big way. The car industry generates ample employment opportunities in the development of economy. For example, in the US, every sixth worker is involved in the making of an automobile.

3.1.12 Problems

The passenger car industry has to overcome many constraints before it could surge ahead. The price of a car is still too high when compared to current Indian income levels for most people. The acquisition cost in India in terms of months of median salary required to purchase the most popular model is among the highest in the world. The months of income needed to purchase a car in India are 42 as compared to only nine

months in the U.S. In South Korea, it is 20 months and in Brazil, 25 months. To buy Maruti Swift dezire, an Indian would require an income of 76 months. The Indian automobile industry has reached a stage, from where it can aspire for global action. However, antiquated laws, poor infrastructure and high tax regimes have been major retardants that are preventing Indian industry from becoming a global hub for manufacturing small cars. The trend seen in the global passenger car industry is also going to have its impact on India. The number of auto makers is fast shrinking. There have been alliances and takeovers taking place which would have been unthinkable even five years ago.

3.1.13 Future Prospects

The passenger car segment in India is set to grow at a reasonable rate in the future. Strong drivers in the form of higher disposable incomes, higher penetration of finance schemes, new model launches and changing consumer mindset are expected to push demand further up with the up gradation of technologies, the users have developed liking for efficient, sleek and spacious cars. Because of rising fuel prices, the Indian consumer is keen on low running cost' and low cost of maintenance'.

For better prospects of the passenger car industry, there should be competitiveness among the manufactures in the adoption of the latest technology with low consumption of fuel and more indigenous components. This would help in reducing the cost of car as well as the costs on repairs and replacements after sales. Widened and smooth metallic roads and removal of traffic hazards are the other prerequisites. In this regard, special infrastructural development programmes are currently being implemented in the country. To survive and grow, the Indian auto industry has to ensure product innovation and overall cost competitiveness.

3.2 TIRUNELVELI DISTRICT – AN OVERVIEW

Tirunelveli District is a district of Tamil Nadu state in South India. The city of Tirunelveli is the district headquarters. A unique feature of this district is that it encompasses all five geographical traditions of Tamil Literature; kurinji (mountains), mullai (forest), marudham (paddy fields), neithal (coastal) and palai (desert). Tirunelveli District was formed on September 1, 1790 by the East India Company (on behalf of the British government), and comprised the present Tirunelveli and Thoothukudi districts and parts of Virudhunagar and Ramanathapuram districts.[8] The founding date of Tirunelveli District is commemorated as Tirunelveli Day. The British East India Company named it Tinnevelly district; its headquarters was first located in Palayamkottai (an adjacent city), where they had their military headquarters during their operations against the Palayakars. There are three reasons attributed for naming the district Tirunelveli. The primary reason is after the largest city of the district; another reason is that it was called Tirunelveli Seemai under the Nayaks and Nawabs. Finally, it served as the southern capital during the Pandyan Empire. Both Tirunelveli and Palayamkottai grew as twin cities in the district. In the early 20th century, parts of Tirunelveli district were separated into Ramanathapuram and Virudhunagar districts. In 1986, Tirunelveli district was further split into two districts for administrative purposes: Chidambaranar (present-day Thoothukudi) and Nellai-Kattabomman (later Tirunelveli-Kattabomman and present-day Tirunelveli) districts.[9]

Tirunelveli District has a geographical area of 6759 sq. kms, in the Southeastern portion of Tamil Nadu and is triangular in shape. It lies between 8°.05’ and 9°.30’ of the Northern latitude and 77°.05’ and 78°.25’ of Eastern longitude. This district has 3 Revenue divisions comprising of 15 Taluks, 60 Firkas, 19 Development Blocks, 616 Revenue Villages and 425 Village Panchayats.[7]

Figure 3.1: Tirunelveli District Map

3.2.1 Demographic Details

According to the 2011 census Tirunelveli district has a population of 3,072,880, roughly equal to the nation of Oman or the US state of Iowa. This gives it a ranking of 116th in India (out of a total of 640). The district has a population density of 458 inhabitants per square kilometer (1,190 /sq mi). Its population growth rate over the decade 2001-2011 was 13.66%. Tirunelveli has a sex ratio of 1024 females for every 1000 males, and a literacy rate of 82.92%.[13]

Table 3.7

Tirunelveli District Population

Description	2011	2001
Actual Population	3,072,880	2,723,988
Male	1,518,595	1,333,939
Female	1,554,285	1,390,049
Population Growth	13.66%	8.93%
Area Sq. Km	6,703	6,703
Density/km^2	458	403
Proportion to Tamil Nadu Population	4.26%	4.36%
Female Sex Ratio (Per 1000 Male)	1024	1042
Average Literacy	82.92	76.09
Male Literacy	89.66	85.21
Female Literacy	76.38	67.43
Literates	2,298,262	1,829,064
Male Literates	1,223,964	997,278
Female Literates	1,074,298	831,786

Source: Tirunelveli District Hand Book 2011-12

3.2.2 Transport Services

Transport services play a vital role in the economic development of the nation opening up remote areas, stimulating the growth of agriculture as well as industry, besides facilitating communication. Transport services also contribute to the growth of the nation's economy.

The road network in Tirunelveli district consists of national highways (94.000 km), national highways (A1) (181.00 km), state highways (561.039 km), corporation and municipalities, road (1001.54 km), Panchayat union and Panchayat road (1658.35 km), town Panchayat and township road (863.51 km) and forest roads (114.450 km). The national highway road from Madras to Nagercoil connects the district headquarter with Madurai, Virudhunader and Nagercoil and also connects the main cities within the Tirunelveli District. The railway network in Tirunelveli district consists of broad gauge (95.448 km) and meter gauge (134.430 km).

3.2.3 Educational Services

Tirunelveli district, or more specifically, Palayamkottai, is called the Oxford of South India as the city has excellent educational institutions. The Manonmaniam Sundaranar University is named after the famous poet who penned the Tamil Thai Vazhthu, the official song of the state. This University has 26 departments, and offers some unique courses in Tamil Nadu, like Criminology and Criminal justice. In view of improving the quality of technical education in the southern parts of Tamil Nadu, Anna University Tirunelveli was established in 2007. The University offers a variety of engineering and technology courses in both undergraduate and postgraduate streams. Research facilities are being established in a start-of-the-art campus near Palayamkottai. The district has many prestigious old governments and private colleges in the medical,

legal, engineering, arts, pharmaceutical and physiotherapy fields. School education is from the government and private management schools in the district.[6]

Table 3.8

Number of Educational Institutions in the District

S.No.	Educational Institutions	Total Number
1	Universities	2
2	Arts and Science Colleges	25
3	Medical Colleges	2
4	Physiotherapy College	1
5	Engineering Colleges	20
6	Law College	1
7	Pre Kindergarten Schools	241
8	Primary Schools	1521
9	Middle Schools	431
10	High Schools	114
11	Higher Secondary Schools	185
12	Teacher Training Institutes	28

Source: District Profile – Hand Book 2011 – 12

3.2.4 Industries

There are 25 medium and major industries such as Cement, Cotton yarn, Calcium carbide, Sugar, Cotton seed oil, Printing papers, flour Mill etc. Among the other industries in the District, Pin, Clip, Matches, Beedi, Vessels making and Engineering industries are important. The important Village industries functioning in the district are Handloom, Poultry farming, Brick making and Jaggary production. The Handloom products such as Lungi, Sarees etc. are marketed in North India. So also the fine Korai mats from Pathamadi have world fame. Kallidaikurichi Pappads, Karukurichi mud pots, and Tirunelveli "Halva" are specialties which earned many laurels to the

District. The beedi and safety matches industries play an important role in the economy of the rural areas of the country, especially Tamilnadu. Its sustained growth and development will ensure the continued employment of millions of women, raise the standards of living and contribute to the economic progress of the area. Beedi rolls, safety match making, mat weaving, processing and manufacturing of palm fibers and articles from palm trees and weaving of handloom textiles are the main household industries and are concentrated in Tenkasi, Ambasamudram and Tirunelveli towns. Safety matches are made mainly in Sankarankoil and Sivagiri taluks. Handloom weaving, beedi rolling and net weaving are prominent in Ambasamudram taluk which has plenty of Palmyra trees. It is famous for the manufacture of articles from palm leaves.[14]

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CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

This chapter presents the findings and results of the analysis for meeting the objectives of the study. It deals with data analysis of consumer buying preference and perception towards various brands of cars in Tirunelveli District by analysis of the demographic profile of the respondents, consumer buying preference towards various brands of car, factors influencing consumer buying preference towards various brands of car, consumer perception towards various brands of car and problems faced by the consumers during and after buying a car.

4.2 ANALYSIS AND RESEARCH FINDINGS

4.2.1 Demographics Profile of the Respondents

A demographic profile provides enough information about the typical member of the group to create a mental picture of the hypothetical aggregate. Demographic profiling is essentially an exercise in making generalizations about groups of people. In this connection, this section makes an attempt to discuss the principal demographic characteristics such as gender, age, social status, religion, literacy level, marital status, the size of the family, current occupation, monthly income and the brand of car used at present. The descriptive analysis was performed to find out the frequency distribution of the respondents based on their demographic characters. All these characteristics have an important bearing upon the car consumers. The demographic profile of the respondents of the study reflects the clear picture and structure of the representative sample. The

result of analyzing the data related to the demographic profile of the sample respondents is presented as follows.

4.2.1.1 Gender Wise Classification of the Respondents

The consumers of car from whom information is gathered have been classified into male and female. The buying preference and perception towards various brands of car of such groups are different; hence, this variable is important. The gender-wise classification of consumer of car is given in Table 4.1.

Table 4.1

Gender Wise Classification of the Respondents

Sl.No.	Gender	Number of Respondents	Percentage to Total
1.	Male	354	91.9
2.	Female	31	8.1
	Total	385	100.00

Source: Primary Data

It is quite clear from the Table 4.1 that out of the total respondents investigated in this study, an overwhelming majority (91.9 percent) of them are male whereas 8.1 percent are found to be female. It is inferred that the majority of the respondents are male consumers in the study area.

4.2.1.2 Age Wise Classification of the Respondents

Viewing consumers of car on the basis of age groupings is valuable in terms of product development, promotion and evaluation of delivery systems. The close association between consumers age and product usage suggests a life cycle rather than a strict segmentation approach to marketing. Marketers must realize that financial needs change as a consumer matures, and anticipate according to the age and provide for these changing needs in order to build a solid consumers base. In this respect, information of the sample respondents is collected and presented in Table 4.2.

Table 4.2

Age Wise Classification of the Respondents

Sl.No.	Age	Number of Respondents	Percentage to Total
1.	30 years and Below	14	3.6
2.	31 – 40 years	130	33.8
3.	41 – 50 years	232	60.3
4.	51 – 60 years	7	1.8
5.	Above 60 years	2	0.5
	Total	385	100.00

Source: Primary Data

Analyzing the age of the respondents using data in the Table 4.2 revealed that the foremost group of respondents are from the age group of 41 – 50 (60.3 percent) followed by the age group of 31 – 40 (33.8 percent), 30 and below (3.6 percent), 51 – 60 (1.8 percent) and the age group of above 60 (0.5 percent). From the above survey, it is clear that the majority of the respondents are in the age group between 41 and 50 years.

4.2.1.3 Literacy Level Wise Classification of the Respondents

Education is knowledge. Education equips man with attitudes and aptitudes that enable him to deal with people in society. Educational qualification is an important variable which judges the buying preference and perception of consumers towards various brands of car to deal or move with the car marketers. In the base, the variable educational qualification is included in the study. The classification of respondents on the basis of their literacy level is shown in Table 4.3.

Table 4.3

Literacy Level Wise Classification of the Respondents

Sl.No.	Literacy Level	Number of Respondents	Percentage to Total
1.	School Level	39	10.1
2.	U.G. Level	227	59.0
3.	P.G. Level	61	15.8
4.	Professional Level	58	15.1
	Total	385	100

Source: Primary Data

Table 4.3 shows that about 59 percent of the respondents have education up to under graduate (UG) level and 15.8 percent have education up to post graduate (PG) level. 15.1 per cent of the respondents have education up to the professional level. A considerable number of respondents (10.1 per cent) have education up to school level. The study concluded that most of the respondents have studied up to under graduate (UG) level of education.

4.2.1.4 Social Status Wise Classification of the Respondents

Every individual has some people around who influence him/her buying preference. Every consumer knows some people from their community who become their idols in due course of time. In this light, social status of a consumer enables the car marketing to increase the value of its advice and service by effectively using its consumer information such as community. In this base, the variable social status is included in the study. The social status wise classification of the sample respondents is presented in Table 4.4.

Table 4.4

Social Status Wise Classification of the Respondents

Sl.No.	Social Status	Number of Respondents	Percentage to Total
1.	Forward Community	45	11.7
2.	Backward Community	176	45.7
3.	Most Backward Community	64	16.6
4.	SC/ST Community	100	26.0
	Total	385	100

Source: Primary Data

In terms of the social status of the respondents, the Table 4.4 showed that noteworthy majority of respondents (45.7 percent) are found as the backward community group. In addition, the second majority of the respondents are from the most backward community group. (16.6 percent) followed by the SC/ST community (26 percent) and the forward community (11.7 percent). It is observed that most of the respondents belong to the backward community.

4.2.1.5 Religion Wise Classification of the Respondents

Each and every religion has its own effect on building the culture of every person. The civilization and culture of people based on religious will have an effect of creating or reducing the occurrence of the problems and finding solutions to them, if any. In this base, the variable religion is included in the study. The religion wise classification of respondents is shown in Table 4.5.

Table 4.5

Religion-wise Classification of the Respondents

Sl.No.	Religion	Number of Respondents	Percentage to Total
1.	Hindu	197	51.2
2.	Christian	122	31.7
3.	Muslim	43	11.1
4.	Others	23	6.0
	Total	385	100

Source: Primary Data

Data revealed in Table 4.5 shows that more than half of the respondents (51.2 percent) are found to be as Hindus. The rest of them are Christians (31.7 percent), Muslims (11.2 percent) and others such as Buddhist and Jain (6 percent). It is confirmed in the study that the majority of the respondents are Hindus.

4.2.1.6 Marital Status Wise Classification of the Respondents

Marital status is also found to be an important deciding factor for buying preference and perception of a product. The marital status of a person is more correlated to their buying preference or business. Since the marital status influences the buying preference of the respondents, it is included and presented in Table. 4.6.

Table 4.6

Marital Status Wise Classification of the Respondents

Sl.No.	Marital Status	Number of Respondents	Percentage to Total
1.	Unmarried	29	7.5
2.	Married	289	75.1
3.	Widow	50	13.0
4.	Divorced	17	4.4
5.	Separated	0	0
	Total	385	100

Source: Primary Data

Table 4.6 disclosed that an overwhelming number of the respondents (75.1 percent) are married followed by the respondents of widow/widower (13 present), unmarried (7.5 percent) and divorced (4.4 present) whereas zero percent of the respondents are found to be separated. It is inferred that the majority of the respondents are married in the study area.

4.2.1.7 Size of the Family Wise Classification of the Respondents

The size of the family too plays a vital role in analyzing the consumer's social economic status. This status is purely based on the number of persons belonging to each family. If the number is more, their difficulty is more compared to those having lesser number in their family. The classification of consumers on the basis of the size of the family is given in Table 4.7.

Table 4.7

Size of the Family Wise Classification of the Respondents

Sl.No.	Size of the Family	Number of Respondents	Percentage to Total
1.	Small (1 – 2 Members)	11	2.9
2.	Medium(3 – 4 Members)	317	82.3
3.	Large (5 – 6 Members)	16	4.2
4.	Very Large (Above 6 Members)	41	10.6
	Total	385	100.0

Source: Primary Data

Table 4.7 elucidated that 317 (82.3 percent) respondents are medium sized family (3 – 4 members), 41 (10.6 percent) respondents are very large sized family (Above 6 members), 16 (4.2 percent) respondents are large sized family (5 – 6 members) and 11 (2.9 percent) respondents are small sized family (1 – 2 members). It is clear that most of the respondents come under medium sized family.

4.2.1.8 Current Occupation Wise Classification of the Respondents

Marketing studies indicated that occupation played a significant role in determining the perceptions of consumers. In this respect, information of the sample respondents is collected and presented in Table 4.8.

Table 4.8

Current Occupation Wise Classification of the Respondents

Sl.No.	Current Occupation	Number of Respondents	Percentage to Total
1.	Government Employee	106	27.5
2.	Private Employee	54	14.0
3.	Entrepreneur	190	49.4
5.	Professional	35	9.1
	Total	385	100.0

Source: Primary Data

It has been observed from Table 4.8 that out of 385 sample respondents, a maximum of 190 (49.4 per cent) respondents are entrepreneurs, followed by 106 (27.5 percent) respondents are government employees, 54 (14 percent) respondents are private employees and 35 (9.1 percent) respondents are professionals. It is observed that most of the respondents are entrepreneurs.

4.2.1.9 Monthly Income Wise Classification of the Respondents

Economic situation like the income of a person determines the buying behavior. A person who earns more is likely to lead to purchase a luxury and necessary products such as car. In the base, the variable monthly income is included in the study. The classification of respondents on the basis of their monthly income is shown in Table 4.9.

Table 4.9

Monthly Income Wise Classification of the Respondents

Sl.No.	Monthly Income	Number of Respondents	Percentage to Total
1.	₹ 20,000 and below	21	5.5
2.	₹ 20,001 – ₹ 30,000	57	14.8
3.	₹ 30,001 – ₹ 40,000	90	23.4
4.	₹ 40,001 – ₹ 50,000	74	19.2
5.	Above ₹ 50,000	143	37.1
	Total	385	100.0

Source: Primary Data

As the Table 4.9 indicated, the majority of 143 respondents (37.1 per cent) earn a monthly income above `50000 followed by 90 respondents (23.4 percent) who earn a monthly income between `30001 – `40000. The respondents who earn a monthly income between `40001 – `50000 are 74 (19.2 percent). The respondents who earn a monthly income between `20001 – `30000 are 57 (14.8 percent) and the respondents who earn a monthly income `20000 and below are 21 (5.5 percent). It is inferred that most of the respondents are earning a monthly income above `50000.

4.2.1.10 Brand of Car Owned at Present Wise Classification of the Respondents

All the car owners are having their cars based on their monthly income, taste, needs, likeness of family members and purpose. They may have the car against their perception due to various affecting factors of buying preference. However, the brand of car owned at present of a consumer will somewhat influence the buying preference and perception towards the car. In this base, the variable presently having the brand of car is included in the study. The classification of respondents on the basis of their brand of car owned at present is shown in Table 4.10.

Table 4.10

Brand of Car Owned at present Wise Classification of the Respondents

Sl.No.	Brands of Car	Number of Respondents	Percentage to Total
1.	Chevrolet	29	7.5
2.	Ford	26	6.7
3.	Honda	28	7.3
4.	Hyundai	75	19.5
5.	Mahindra	8	2.1
6	Maruti Suzuki	120	31.2
7	Renault	10	2.6
8	Tata	14	3.6
9	Toyota	56	14.5
10	Volkswagen	13	3.4
11	Others	6	1.6
	Total	385	100.0

Source: Primary Data

From Table 4.10, it has been inferred that out of 385 sample respondents, a maximum of 120 (31.2 percent) respondents are presently having a Maruti Suzuki car followed by 75 (19.5 percent) respondents are presently having a Hyundai car and 56 (14.5 percent) respondents are presently having Toyota car. 29 (7.5 percent) respondents are presently having Chevrolet car. 28 (7.3 percent) respondents are presently having Honda car. 26 (6.8 percent) respondents are presently having Ford car. 14 (3.6 percent) respondents are presently having a Tata car. 13 (3.4 percent) respondents are presently having Volkswagen car. 10 (2.6 percent) respondents are presently having Renault car. 8 (2.1 percent) respondents are presently having Mahindra car. 6 (1.6 percent) respondents are presently having other brand of cars. It is confirmed that most of the respondents are presently having a Maruti Suzuki car.

4.2.2 Consumer Buying Preference towards Various Brands of Car

The Indian car market is ever expanding. The Indian consumer buying preferences are changing and growing everyday. They select the cars, according to their tastes and the availability of funds. The area of consumer buying preference is one of the most interesting areas because it is concerned with understanding consumer with regard to why individual act in certain consumption related ways. The top ten brands of car such as Maruti Suzuki, Hyundai, Mahindra, Honda, Tata, Toyota, Ford, Renault, Chevrolet and Volkswagen as on December 27th, 2015 were selected to analyze in the study. In this section, an attempt is made to study the consumer buying preference towards various brands of the car by analyzing the consistency of buying preference, the association between demographics characters of consumers and their buying preference of brand of car.

4.2.2.1 Consistency of Consumer Buying Preference towards Various Brands of Car

An attempt was made to know the consistency of consumer buying preference towards various brands of car. In order to analyze the consistency of consumer buying preference, the coefficient of variation (C_V) was measured by the standardized formula by means of mean score and standard deviation. The series of data for which the coefficient of variation is large indicates that the group is more variable and it is less stable or less uniform. If a coefficient of variation is small it indicates that the group is less variable and it is more stable or more uniform. The high C_V value reflects inconsistency among the samples within the group. The lower value of the coefficient of variation indicates higher consistency. Table 4.11 shows the mean score, standard deviation, and coefficient of variations of consumer buying preference relating to the different brands of car.

Table 4.11

Consistency of Consumer Buying Preference

Brands of Car	No of Respondents (N)	Mean (X)	Std. Deviation (S)	C_V %
Chevrolet	385	3.75	0.60	16.00
Ford	385	3.17	0.55	17.35
Honda	385	3.48	0.65	18.68
Hyundai	385	3.35	1.08	32.24
Mahindra	385	2.41	0.99	41.08
Maruti Suzuki	385	3.95	0.45	11.39
Renault	385	3.40	1.20	35.29
Tata	385	3.23	1.25	38.70
Toyota	385	3.73	0.62	16.62
Volkswagen	385	1.50	0.98	65.33

Source: Primary Data

To recognize the consistency of consumer buying preference towards the various brands of car, the data pertaining to that is presented in Table 4.11. An examination of the Table reveals that the coefficient of variation of consumer buying preference towards the brand of Maruti Suzuki is 11.39 (X = 3.95, S = 0.45), which is the lowest value when compared to other values and it leads to top most consistency of consumer buying preference. From the theoretical point of view, the study indicates the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the top most consistency of buying preference towards the brand of Maruti Suzuki car.

The Table shows that the coefficient of variation of consumer buying preference towards the brand of Chevrolet is 16.00 (X = 3.75, S = 0.60), which is second lower value when compared to other values and it leads to second most consistency of consumer buying preference. From the theoretical point of view, the study indicates the

consistency of consumer buying preference towards the various brands of car, the consumers have expressed the second most consistency of buying preference towards the brand of Chevrolet car.

The Table explains that the coefficient of variation of consumer buying preference towards the brand of Toyota is 16.62 (X = 3.73, S = 0.62), which is third lower value when compared to other values and it leads to third most consistency of consumer buying preference. From the theoretical point of view, the study indicates the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the third most consistency of buying preference towards the brand of Toyota car.

The Table reveals that the coefficient of variation of consumer buying preference towards the brand of Ford is 17.35 (X = 3.17, S = 0.55), which is fourth lower value when compared to other values and it leads to fourth most consistency of consumer buying preference. From the theoretical point of view, the study indicates the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the fourth most consistency of buying preference towards the brand of the Ford car.

The Table illustrates that the coefficient of variation of consumer buying preference towards the brand of Honda is 18.68 (X = 3.48, S = 0.65), which is fifth lower value when compared to other values and it leads to fifth most consistency of consumer buying preference. From the theoretical point of view, the study indicates the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the fifth most consistency of buying preference towards the brand of Honda car.

The Table explains that the coefficient of variation of consumer buying preference towards the brand of Hyundai is 32.24 (X = 3.35, S = 1.08), which is sixth lower value when compared to other values and it leads to sixth most consistency of consumer buying preference. From the theoretical point of view, the study indicates the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the sixth most consistency of buying preference towards the brand of Hyundai car.

The Table discloses that the coefficient of variation of consumer buying preference towards the brand of Renault is 35.29 (X = 3.40, S = 1.20), which is seventh lower value when compared to other values and it leads to seventh most consistency of consumer buying preference. From the theoretical point of view, the study indicates the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the seventh most consistency of preference towards the brand of Renault car.

The Table reveals that the coefficient of variation of consumer buying preference towards the brand of Tata is 38.70 (X = 3.23, S = 1.25), which is eighth lower value when compared to other values and it leads to eighth most consistency of consumer buying preference. From the theoretical point of view, the study indicates the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the eighth most consistency of buying preference towards the brand of Tata car.

The Table explains that the coefficient of variation of consumer buying preference towards the brand of Mahindra is 41.08 (X = 2.41, S = 0.99), which is ninth lower value when compared to other values and it leads to ninth more consistency of consumer buying preference. From the theoretical point of view, the study indicates the

consistency of consumer buying preference towards the various brands of car, the consumers have expressed the ninth most consistency of buying preference towards the brand of Mahindra car.

The Table shows that the coefficient of variation of consumer buying preference towards the brand of Volkswagen is 65.33 (X = 1.50, S = 0.98), which is last lower value when compared to other values and it leads to lost consistency of consumer buying preference. From the theoretical point of view, the study indicates regarding the consistency of consumer buying preference towards the various brands of car, the consumers have expressed the lost consistency of buying preference towards the brand of Volkswagen car.

From these results, it can be seen that the consumers have more consistency of buying preference towards the brand of Maruti Suzuki car followed by Chevrolet car, Toyota car, Ford car, and Honda car. In this order, the consumers have the consistency of buying preference towards the brand of Hyundai car, Renault car, Tata car, Mahindra car and Volkswagen car. This order of consistency of buying preference of consumers towards the brands of the car may reflect when a consumer purchases a brand of car.

4.2.2.2 Consumer Buying Preference of Various Brands of Car on the Basis of Demographic Characters

The demographic characters of the respondents such as gender, age, literacy level, current occupation and monthly income have also been collected during data collection. The above demographic characters of the respondents are having a direct relationship with their psychological aspects as buying preference. Thus an attempt has been made to measure the association between the consumer buying preference of various brands of car and their demographic characters. The comparative analysis of consumer buying preference of various brands of the car on the basis of demographic

characters like gender, age, educational qualification, current occupation and monthly income using Pearson chi-square test is done in the following section. In the Pearson chi-square test, Cramer's *V* is utilized to determine the effect of association between independent variables (Demographic characters) and dependent variables (Consumer Buying Preference). The following null hypothesis (H_1) is proposed for analysing the association between consumer buying preference of various brands of car and their demographic characters.

H_1 : There is no significant association between consumer buying preference of various brands of car and their demographic characters.

In order to examine the association between the consumer buying preference of various brands of car and their gender, chi-square test has been conducted. The result of chi-square test is explained in Table 4.12.

Table 4.12

Chi-Square Test: Gender and Various Brands of Car Preference

Various Brand of Car	Pearson Chi-Square χ^2	N	df	*p*-value	Cramer's *V*
Chevrolet	2.73	385	2	.255	.084
Ford	1.14	385	1	.285	.055
Honda	1.46	385	2	.482	.062
Hyundai	1.08	385	2	.582	.053
Mahindra	.020	385	3	.871	.007
Maruti Suzuki	1.25	385	2	.535	.057
Renault	4.92	385	3	.177	.113
Tata	7.45	385	4	.114	.139
Toyota	0.51	385	2	.774	.036
Volkswagen	3.94	385	3	.101	.268

**Significant at 0.05 level

The Table 4.12 revealed that the observed chi-square (χ^2) statistic for Chevrolet is 2.73, which is associated with 25.5 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in a case of gender and buying preference of Chevrolet car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Chevrolet car and their gender, χ^2 (2) = 2.73, p = .255 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Chevrolet car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Chevrolet car and their gender.

The Table 4.12 exposed that the observed chi-square (χ^2) statistic for Ford is 1.14, which is associated with 28.5 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in the case of gender and buying preference of Ford car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Ford car and their gender, χ^2 (1) = 1.14, p = .285 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Ford car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Ford car and their gender.

The Table 4.12 shown that the observed chi-square (χ^2) statistic for Honda is 1.46, which is associated with 48.2 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in a case of gender and buying preference of Honda car. The study, therefore, concludes that there was a statistically insignificant

association between consumer buying preference of Honda car and their gender, χ^2 (2) = 1.46, p = .482 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Honda car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Honda car and their gender.

The Table 4.12 revealed that the observed chi-square (χ^2) statistic for Hyundai is 1.08, which is associated with 58.2 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in the case of gender and buying preference of Hyundai car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Hyundai car and their gender, χ^2 (2) = 1.08, p = .582 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Hyundai car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Hyundai car and their gender.

The Table 4.12 revealed that the observed chi-square (χ^2) statistic for Mahindra is.020, which is associated with 87.1 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in a case of gender and buying preference of Mahindra car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Mahindra car and their gender, χ^2 (3) = .020, p = .871 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Mahindra car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Mahindra car and their gender.

The Table 4.12 shown that the observed chi-square (χ^2) statistic for Maruti Suzuki is 1.25, which is associated with 53.5 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in a case of gender and buying preference of Maruti Suzuki car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Maruti Suzuki car and their gender, χ^2 (2) = 1.25, p = .535 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Maruti Suzuki car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Maruti Suzuki car and their gender.

The Table 4.12 revealed that the observed chi-square (χ^2) statistic for Renault is 4.92, which is associated with 17.7 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in the case of gender and buying preference of Renault car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Renault car and their gender, χ^2 (3) = 4.92, p = .177 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Renault car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Renault car and their gender.

The Table 4.12 exposed that the observed chi-square (χ^2) statistic for Tata is 7.45, which is associated with 11.4 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in a case of gender and buying preference of Tata car. The study, therefore, concludes that there was a statistically insignificant

association between consumer buying preference of Tata car and their gender, χ^2 (4) = 7.45, p = .114 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Tata car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Tata car and their gender.

The Table 4.12 revealed that the observed chi-square (χ^2) statistic for Toyota is 0.51, which is associated with 77.4 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in the case of gender and buying preference of Toyota car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Toyota car and their gender, χ^2 (2) = 0.51, p = .774 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Toyota car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Toyota car and their gender.

The Table 4.12 revealed that the observed chi-square (χ^2) statistic for Volkswagen is 3.94, which is associated with 10.1 percent risk of being wrong in rejecting the null hypothesis. The risk is very high (far above the standard of 5 percent risk), so it is impossible to reject the null hypothesis (H_1) in the case of gender and buying preference of Volkswagen car. The study, therefore, concludes that there was a statistically insignificant association between consumer buying preference of Volkswagen car and their gender, χ^2 (3) = 3.94, p = .101 > .05. Thus, it can be interpreted that the gender difference of the consumer has not influenced their buying preference of Volkswagen car. Cramer's V was not considered due to the insignificant association between consumer buying preference of Volkswagen car and their gender.

In order to examine the association between the consumer buying preference of various brands of car and their age difference, chi-square test has been conducted. The result of chi-square test is explained in Table 4.13.

Table 4.13

Chi-Square Test: Age and Various Brands of Car Preference

Various Brand of Car	Pearson Chi-Square χ^2	N	df	*p*-value	Cramer's *V*
Chevrolet	25.02	385	8	.002**	.18
Ford	20.39	385	4	.000**	.23
Honda	102.99	385	8	.000**	.37
Hyundai	182.99	385	8	.000**	.50
Mahindra	79.31	385	12	.000**	.26
Maruti Suzuki	62.03	385	8	.000**	.30
Renault	251.40	385	12	.000**	.52
Tata	223.48	385	16	.000**	.38
Toyota	177.41	385	8	.000**	.48
Volkswagen	85.19	385	12	.000**	.27

**Significant at .05 level of confidence

The Table 4.13 revealed that the observed chi-square statistic for Chevrolet is 25.02, which is associated with a 0.2 percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Chevrolet car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Chevrolet car and their age, χ^2 (8) = 25.02, p = .002 < .05. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Chevrolet car. Based on Cramer's V = 0.18, the effect of the influence of age difference of the consumers on their buying

preference of Chevrolet car is small. Hence it is confirmed that, age of the consumers can become a significant demographic factor in influencing their buying preference of Chevrolet car at a smaller level.

The Table 4.13 exposed that the observed chi-square statistic for Ford is 20.39, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Ford car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Ford car and their age, χ^2 (4) = 20.39, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Ford car. Based on Cramer's $V = 0.23$, the effect of the influence of age difference of the consumers on their buying preference of Ford car is small. Hence it is confirmed that, age of the consumers can become a significant demographic factor in influencing their buying preference of Ford car to a smaller extent.

The Table 4.13 revealed that the observed chi-square statistic for Honda is 102.99, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Honda car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Honda car and their age, χ^2 (8) = 102.99, $p = 0 < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Honda car. Based on Cramer's $V = 0.37$, the effect of the influence of age difference of the consumers on their buying preference of Honda car is medium. Hence it is confirmed that, age of the consumers can become a

significant demographic factor in influencing their buying preference of Honda car at a medium level.

The Table 4.13 reported that the observed chi-square statistic for Hyundai is 182.99, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Hyundai car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Hyundai car and their age, χ^2 (8) = 182.99, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Hyundai car. Based on Cramer's $V = 0.50$, the effect of the influence of age difference of the consumers on their buying preference of Hyundai car is large. Hence it is confirmed that, age of the consumers can become a significant demographic factor in influencing their buying preference of Hyundai car to a greater extent.

The Table 4.13 exposed that the observed chi-square statistic for Mahindra is 79.31, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Mahindra car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Mahindra car and their age, χ^2 (12) = 79.31, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Mahindra car. Based on Cramer's $V = 0.26$, the effect of the influence of age difference of the consumers on their buying preference of Mahindra car is small. Hence it is confirmed that, age of the consumers can become a

significant demographic factor in influencing their buying preference of Mahindra car to a smaller extent.

The Table 4.13 revealed that the observed chi-square statistic for Maruti Suzuki is 62.03, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Maruti Suzuki car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Maruti Suzuki car and their age, χ^2 (8) = 62.03, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Maruti Suzuki car. Based on Cramer's $V = 0.30$, the effect of the influence of age difference of the consumers on their buying preference of Maruti Suzuki car is medium. Hence it is confirmed that, age of the consumers can become a significant demographic factor in influencing their buying preference of Maruti Suzuki car at a medium level.

The Table 4.13 exposed that the observed chi-square statistic for Renault is 251.40, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Renault car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Renault car and their age, χ^2 (12) = 251.40, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Renault car. Based on Cramer's $V = 0.52$, the effect of the influence of age difference of the consumers on their buying preference of Renault car is large. Hence it is confirmed that, age of the consumers can

become a significant demographic factor in influencing their buying preference of Renault car to a greater extent.

The Table 4.13 revealed that the observed chi-square statistic for Tata is 223.48, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Tata car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Tata car and their age, χ^2 (16) = 223.48, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Tata car. Based on Cramer's $V = 0.38$, the effect of the influence of age difference of the consumers on their buying preference of Tata car is medium. Hence it is confirmed that, age of the consumers can become a significant demographic factor in influencing their buying preference of Tata car at a medium level.

The Table 4.13 showed that the observed chi-square statistic for Toyota is 177.41, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Toyota car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Toyota car and their age, χ^2 (8) = 177.41, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Toyota car. Based on Cramer's $V = 0.48$, the effect of the influence of age difference of the consumers on their buying preference of Toyota car is nearly large. Hence it is confirmed that, age of the consumers can become

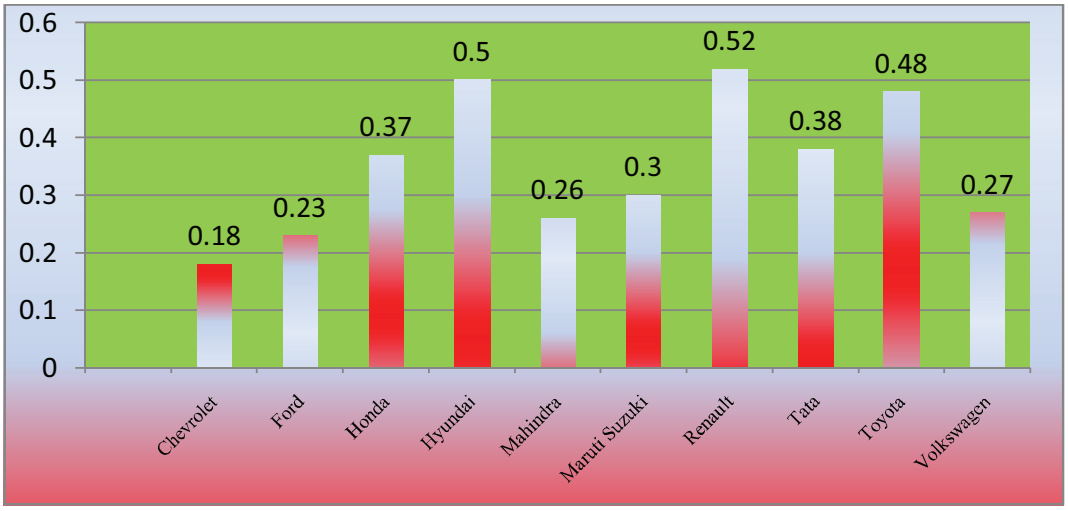
a significant demographic factor in influencing their buying preference of Toyota car to a larger extent.

The Table 4.13 revealed that the observed chi-square statistic for Volkswagen is 85.19, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of age and buying preference of Volkswagen car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Volkswagen car and their age, χ^2 (12) = 85.19, $p < .05$. Thus, it can be interpreted that the age difference of the consumer has influenced their buying preference of Volkswagen car. Based on Cramer's $V = 0.27$, the effect of the influence of age difference of the consumers on their buying preference of Volkswagen car is medium. Hence it is confirmed that, age of the consumers can become a significant demographic factor in influencing their buying preference of Volkswagen car at a medium level.

The effect (Cramer's V) of influencing the age factor on consumer buying preference of various brands of the car is illustrated in figure 4.1

Fig: 4.1

Effect of Influence of Age on Consumer Buying Preference of Various Brands of Car



In order to examine the association between the consumer buying preference of various brands of car and their literacy level group, chi-square test has been conducted. The result of chi-square test is explained in Table 4.14.

Table 4.14

Chi-Square Test: Literacy Level and Preferences of Various Brands of Cars Preference

Various Brand of Car	Pearson Chi-Square χ^2	N	df	*p*-value	Cramer's *V*
Chevrolet	34.27	385	6	.000**	.21
Ford	10.71	385	3	.013**	.17
Honda	38.77	385	6	.000**	.22
Hyundai	110.36	385	6	.000**	.38
Mahindra	113.38	385	9	.000**	.32
Maruti Suzuki	73.79	385	6	.000**	.31
Renault	112.11	385	9	.000**	.37
Tata	131.41	385	12	.000**	.34
Toyota	96.56	385	6	.000**	.35
Volkswagen	179.17	385	9	.000**	.40

**Significant at .05 level of confidence

The Table 4.14 revealed that the observed chi-square statistic for Chevrolet is 34.27, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Chevrolet car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Chevrolet car and their literacy level, χ^2 (6) = 34.27, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Chevrolet car. Based on Cramer's $V = 0.21$, the effect of the influence of literacy level difference

of the consumers on their buying preference of Chevrolet car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Chevrolet car to a medium level.

The Table 4.14 revealed that the observed chi-square statistic for Ford is 10.71, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Ford car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Chevrolet car and their literacy level, χ^2 (3) = 10.71, p = 0< .05. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Ford car. Based on Cramer's V = 0.167*,* the effect of the influence of literacy level difference of the consumers on their buying preference of Ford car is small. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Ford car to a small extent.

The Table 4.14 exposed that the observed chi-square statistic for Honda is 38.77, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Honda car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Honda car and their literacy level, χ^2 (6) = 38.77, p < .05. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Honda car. Based on Cramer's V = 0.22*,* the effect of the influence of literacy level difference of the consumers on their buying preference of Honda car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Honda car to a medium level.

The Table 4.14 reported that the observed chi-square statistic for Hyundai is 110.36, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Hyundai car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Hyundai car and their literacy level, χ^2 (6) = 110.36, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Hyundai car. Based on Cramer's $V = 0.38$, the effect of the influence of literacy level difference of the consumers on their buying preference of Hyundai car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Hyundai car to a medium level.

The Table 4.14 revealed that the observed chi-square statistic for Mahindra is 113.38, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Mahindra car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Mahindra car and their literacy level, χ^2 (9) = 113.38, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Mahindra ar. Based on Cramer's $V = 0.32$, the effect of the influence of literacy level difference of the consumers on their buying preference of Mahindra car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Mahindra car to a medium level.

The Table 4.14 showed that the observed chi-square statistic for Maruti Suzuki is 73.79, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not

possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Maruti Suzuki car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Maruti Suzuki car and their literacy level, χ^2 (6) = 73.79, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Maruti Suzuki car. Based on Cramer's $V = 0.31$, the effect of the influence of literacy level difference of the consumers on their buying preference of Maruti Suzuki car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Maruti Suzuki car to a medium level.

The Table 4.14 revealed that the observed chi-square statistic for Renault is 112.11, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Renault car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Renault car and their literacy level, χ^2 (9) = 112.11, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Renault car. Based on Cramer's $V = 0.37$, the effect of the influence of literacy level difference of the consumers on their buying preference of Renault car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Renault car to a medium level.

The Table 4.14 revealed that the observed chi-square statistic for Tata is 131.41, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Tata car. The study, therefore, concludes that there was a statistically

significant association between the consumer buying preference of Tata car and their literacy level, χ^2 (12) = 131.41, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Tata car. Based on Cramer's $V = 0.34$, the effect of the influence of literacy level difference of the consumers on their buying preference of Tata car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Tata car to a medium level.

The Table 4.14 exposed that the observed chi-square statistic for Toyota is 96.56, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and buying preference of Toyota car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Toyota car and their literacy level, χ^2 (6) = 96.56, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Toyota car. Based on Cramer's $V = 0.35$, the effect of the influence of literacy level difference of the consumers on their buying preference of Toyota car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Toyota car to a medium level.

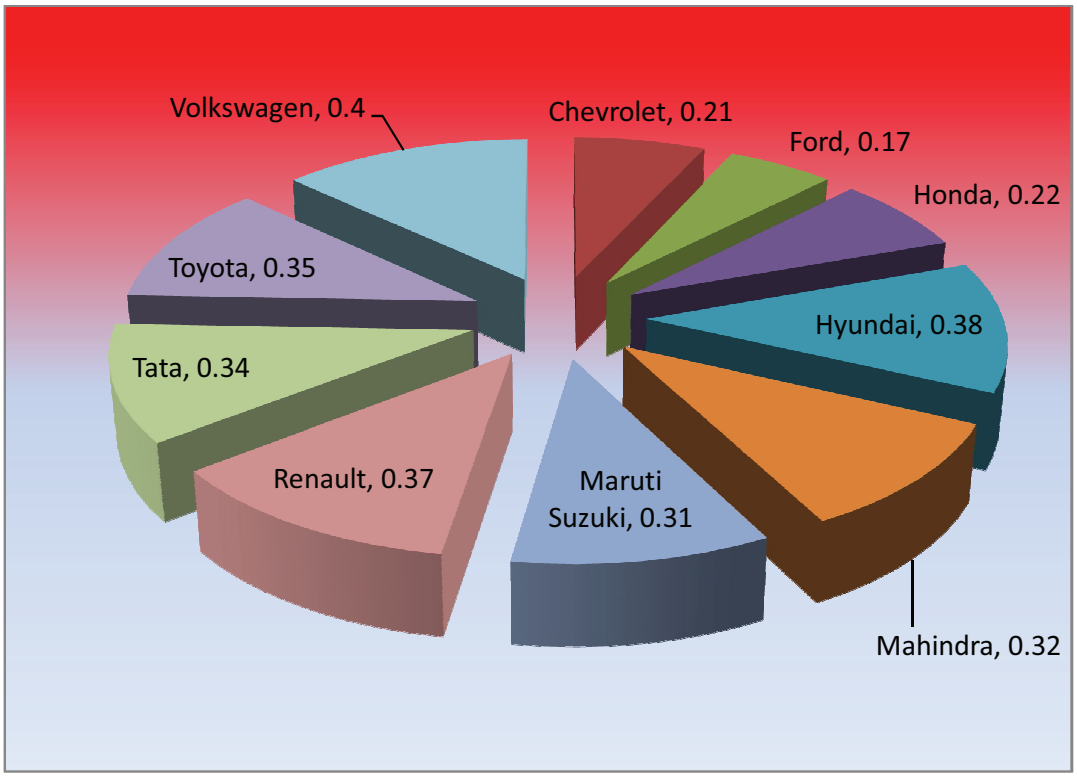
The Table 4.14 reported that the observed chi-square statistic for Volkswagen is 179.17, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of literacy level and preference of Volkswagen car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Volkswagen car and their literacy level, χ^2 (9) = 179.17, $p < .05$. Thus, it can be interpreted that the literacy level difference of the consumer has influenced their buying preference of Volkswagen car.

Based on Cramer's $V = 0.40$, the effect of the influence of literacy level difference of the consumers on their buying preference of Volkswagen car is medium. Hence it is confirmed that, literacy level of the consumers can become a significant demographic factor in influencing their buying preference of Volkswagen car to a medium level.

The effect (Cramer's V) of influencing the literacy level of consumer buying preference of various brands of the car is illustrated in figure 4.2.

Fig: 4.2

Effect of Influence of Literacy Level on Consumer Buying Preference of Various Brands of Car



In order to examine the association between the consumer buying preference of various brands of car and their current occupation, chi-square test has been conducted. The result of chi-square test is explained in Table 4.15.

Table 4.15

Chi-Square Test: Current Occupation and Various Brands of Car Preference

Various Brand of Car	Pearson Chi-Square χ^2	N	df	*p*-value	Cramer's *V*
Chevrolet	123.27	385	6	.000**	.40
Ford	31.84	385	3	.000**	.29
Honda	129.31	385	6	.000**	.41
Hyundai	221.28	385	6	.000**	.54
Mahindra	161.39	385	9	.000**	.37
Maruti Suzuki	77.19	385	6	.000**	.32
Renault	365.02	385	9	.000**	.56
Tata	543.97	385	12	.000**	.69
Toyota	250.31	385	6	.000**	.57
Volkswagen	106.11	385	9	.000**	.30

**Significant at .05 level of confidence

The Table 4.15 revealed that the observed chi-square statistic for Chevrolet is 123.27, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Chevrolet car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Chevrolet car and their current occupation, χ^2 (6) = 123.27, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Chevrolet car. Based on Cramer's V = 0.40, the effect of the influence of current occupation difference of the consumers on their buying preference of Chevrolet car is medium. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Chevrolet car to a medium level.

The Table 4.15 exposed that the observed chi-square statistic for Ford is 31.84, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Ford car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Ford car and their current occupation, χ^2 (3) = 31.84, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Ford car. Based on Cramer's $V = 0.29$, the effect of the influence of current occupation difference of the consumers on their buying preference of Ford car is medium. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Ford car to a medium level.

The Table 4.15 showed that the observed chi-square statistic for Honda is 129.31, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Honda car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Honda car and their current occupation, χ^2 (6) = 129.31, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Honda car. Based on Cramer's $V = 0.41$, the effect of the influence of current occupation difference of the consumers on their buying preference of Honda car is medium. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Honda car to a medium level.

The Table 4.15 reported that the observed chi-square statistic for Hyundai is 221.28, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Hyundai car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Hyundai car and their current occupation, χ^2 (6) = 221.28, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Hyundai car. Based on Cramer's $V = 0.54$, the effect of the influence of current occupation difference of the consumers on their buying preference of Hyundai car is large. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Hyundai car to a larger extent.

The Table 4.15 revealed that the observed chi-square statistic for Mahindra is 161.39, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Mahindra car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Mahindra car and their current occupation, χ^2 (9) = 161.39, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Mahindra car. Based on Cramer's $V = 0.37$, the effect of the influence of current occupation difference of the consumers on their buying preference of Mahindra car is medium. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Mahindra car at a medium level.

The Table 4.15 exposed that the observed chi-square statistic for Maruti Suzuki is 77.19, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Maruti Suzuki car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Maruti Suzuki car and their current occupation, χ^2 (6) = 77.19, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Maruti Suzuki car. Based on Cramer's $V = 0.32$, the effect of the influence of current occupation difference of the consumers on their buying preference of Maruti Suzuki car is medium. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Maruti Suzuki car to a medium level.

The Table 4.15 revealed that the observed chi-square statistic for Renault is 365.02, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Renault car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Renault car and their current occupation, χ^2 (9) = 365.02, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Renault car. Based on Cramer's $V = 0.56$, the effect of the influence of current occupation difference of the consumers on their buying preference of Renault car is large. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Renault car to a greater extent.

The Table 4.15 exposed that the observed chi-square statistic for Tata is 543.97, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Tata car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Tata car and their current occupation, χ^2 (12) = 543.97, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Tata car. Based on Cramer's $V = 0.69$, the effect of the influence of current occupation difference of the consumers on their buying preference of Tata car is large. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Tata car to a greater extent.

The Table 4.15 showed that the observed chi-square statistic for Toyota is 250.31, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Toyota car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Toyota car and their current occupation, χ^2 (6) = 250.31, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Toyota car. Based on Cramer's $V = 0.57$, the effect of the influence of current occupation difference of the consumers on their buying preference of Toyota car is large. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Toyota car to a greater extent.

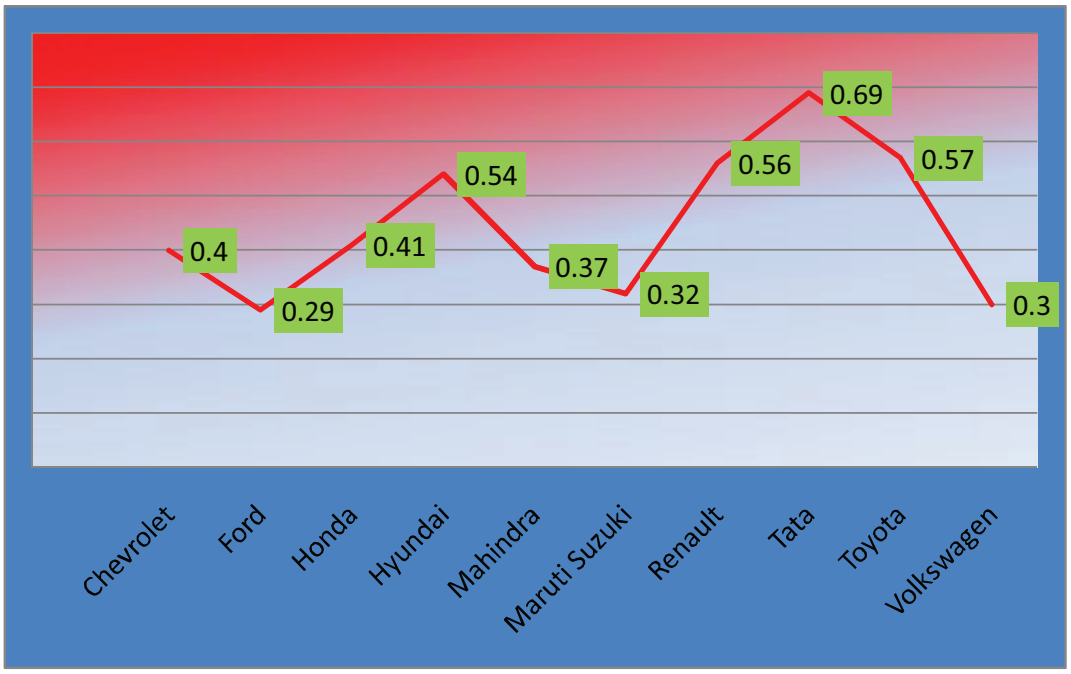
The Table 4.15 revealed that the observed chi-square statistic for Volkswagen is 106.11 which is associated with a zero percent risk of being wrong in rejecting the null

hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of current occupation and buying preference of Volkswagen car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Volkswagen car and their current occupation, χ^2 (9) = 106.11, $p < .05$. Thus, it can be interpreted that the current occupation difference of the consumer has influenced their buying preference of Volkswagen car. Based on Cramer's $V = 0.30$, the effect of the influence of current occupation difference of the consumers on their buying preference of Volkswagen car is medium. Hence it is confirmed that, current occupation of the consumers can become a significant demographic factor in influencing their buying preference of Volkswagen car at a medium level.

The effect (Cramer's V) of influencing the current occupation on consumer buying preference of various brands of car is illustrated in figure 4.3.

Fig: 4.3

Effect of Influence of Current Occupationon Consumer Buying Preference of Various Brands of Car



In order to examine the association between the consumer buying preference of various brands of car and their monthly income, chi-square test has been conducted. The result of chi-square test is explained in Table 4.16.

Table 4.16

Chi-Square Test: Monthly Income and Various Brands of Car Preference

Various Brand of Car	Pearson Chi-Square χ^2	N	df	*p*-value	Cramer's *V*
Chevrolet	182.44	385	8	.000**	.50
Ford	146.68	385	4	.000**	.62
Honda	138.38	385	8	.000**	.42
Hyundai	420.28	385	8	.000**	.74
Mahindra	297.23	385	12	.000**	.51
Maruti Suzuki	142.83	385	8	.000**	.43
Renault	542.87	385	12	.000**	.69
Tata	532.32	385	16	.000**	.59
Toyota	323.71	385	8	.000**	.65
Volkswagen	250.77	385	12	.000**	.47

**Significant at .05 level of confidence

The Table 4.16 revealed that the observed chi-square statistic for Chevrolet is 182.44, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Chevrolet car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Chevrolet car and their monthly income, χ^2 (8) = 182.44, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Chevrolet car. Based on Cramer's $V = 0.50$, the effect of the influence of monthly income difference of the consumers on their buying preference of Chevrolet car is large. Hence it is confirmed that monthly income of the consumers can become a significant

demographic factor in influencing their buying preference of Chevrolet car to a greater extent.

The Table 4.7 exposed that the observed chi-square statistic for Ford is 146.68, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Ford car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Ford car and their monthly income, χ^2 (4) = 146.68, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Ford car. Based on Cramer's $V = 0.62$, the effect of the influence of monthly income difference of the consumers on their buying preference of Ford car is large. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Ford car to a large extent.

The Table 4.16 revealed that the observed chi-square statistic for Honda is 138.38, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Honda car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Honda car and their monthly income, χ^2 (8) = 138.38, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Honda car. Based on Cramer's $V = 0.42$, the effect of the influence of monthly income difference of the consumers on their buying preference of Honda car is medium. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Honda car at a medium level.

The Table 4.16 showed that the observed chi-square statistic for Hyundai is 420.28, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Hyundai car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Hyundai car and their monthly income, χ^2 (8) = 420.28, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Hyundai car. Based on Cramer's $V = 0.74$, the effect of the influence of monthly income difference of the consumers on their buying preference of Hyundai car is large. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Hyundai car to a greater extent.

The Table 4.16 revealed that the observed chi-square statistic for Mahindra is 297.23, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Mahindra car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Mahindra car and their monthly income, χ^2 (12) = 297.23, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Mahindra car. Based on Cramer's $V = 0.51$, the effect of the influence of monthly income difference of the consumers on their buying preference of Mahindra car is large. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Mahindra car to a greater extent.

The Table 4.16 exposed that the observed chi-square statistic for Maruti Suzuki is 142.83, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Maruti Suzuki car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Maruti Suzuki car and their monthly income, χ^2 (8) = 142.83, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Maruti Suzuki car. Based on Cramer's $V = 0.43$, the effect of the influence of monthly income difference of the consumers on their buying preference of Maruti Suzuki car is medium. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Maruti Suzuki car at a medium level.

The Table 4.16 showed that the observed chi-square statistic for Renault is 542.87, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Renault car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Renault car and their monthly income, χ^2 (12) = 542.87, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Renault car. Based on Cramer's $V = 0.69$, the effect of the influence of monthly income difference of the consumers on their buying preference of Renault car is large. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Renault car to a greater extent.

The Table 4.16 reported that the observed chi-square statistic for Tata is 532.32, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Tata car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Tata car and their monthly income, χ^2 (16) = 532.32, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Tata car. Based on Cramer's $V = 0.59$, the effect of the influence of monthly income difference of the consumers on their buying preference of Tata car is large. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Tata car to greater extent.

The Table 4.16 revealed that the observed chi-square statistic for Toyota is 323.71, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Toyota car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Toyota car and their monthly income, χ^2 (8) = 323.71, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Toyota car. Based on Cramer's $V = 0.65$, the effect of the influence of monthly income difference of the consumers on their buying preference of Toyota car is large. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Toyota car to a greater extent.

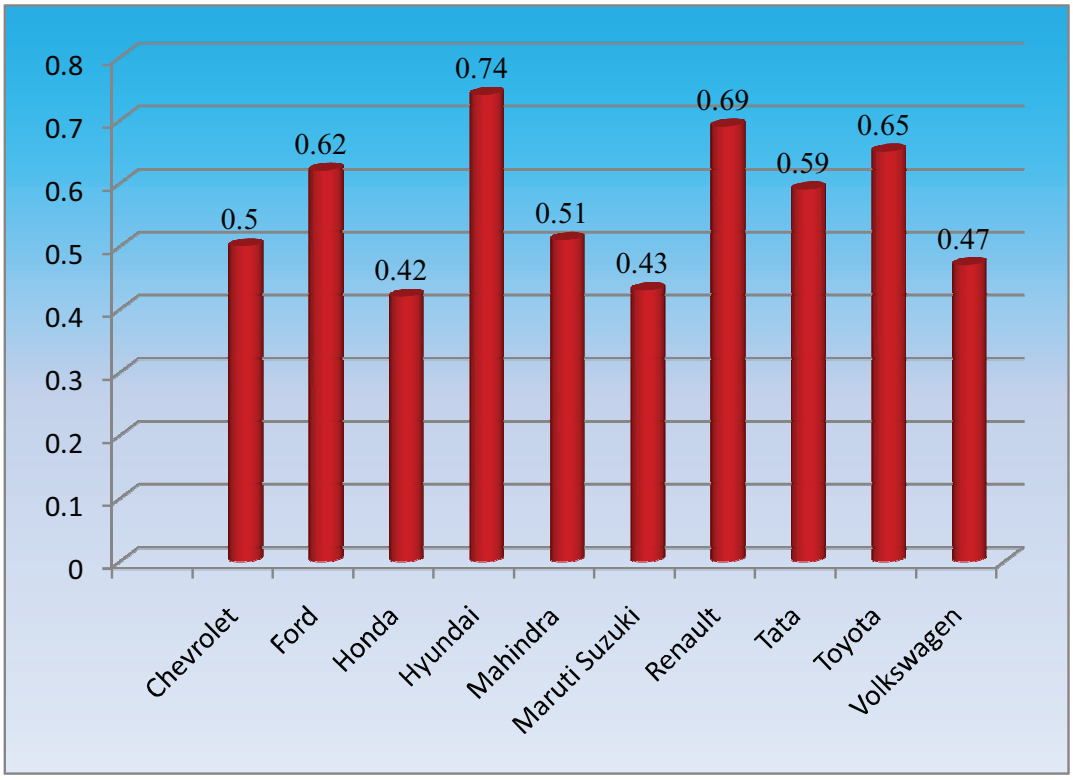
The Table 4.16 exposed that the observed chi-square statistic for Volkswagen is 250.77, which is associated with a zero percent risk of being wrong in rejecting the null hypothesis. This is too tiny a risk (far below the standard of 5 percent risk), so it is not

possible to accept the null hypothesis (H_1) in the case of monthly income and buying preference of Volkswagen car. The study, therefore, concludes that there was a statistically significant association between the consumer buying preference of Volkswagen car and their monthly income, χ^2 (12) = 250.77, $p < .05$. Thus, it can be interpreted that the monthly income difference of the consumer has influenced their buying preference of Volkswagen car. Based on Cramer's $V = 0.47$, the effect of the influence of monthly income difference of the consumers on their buying preference of Volkswagen car is medium. Hence it is confirmed that monthly income of the consumers can become a significant demographic factor in influencing their buying preference of Volkswagen car at a medium level.

The effect (Cramer's V) of influencing the monthly income on consumer buying preference of various brands of the car is illustrated in figure 4.4.

Fig: 4.4

Effect of Influence of Monthly Income on Consumer Buying Preference of Various Brands of Car



The proposed null hypothesis (H_1) was tested by chi-square test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to arrive at a decision with regard to whether to reject or accept the proposed null hypothesis. The decision made, based on this *p*-value, is presented in Table 4.17.

Table 4.17

Null Hypothesis (H_1) Test Summary

Null Hypothesis	Test	Variable	*p*-value				
			Gender	Age	Literacy Level	Current Occupation	Monthly Income
There is no significant association between consumer buying preference of various brands of car and their demographic Characters.	Chi-Square Test	Chevrolet	.255	.002**	.000**	.000**	.000**
		Ford	.285	.000**	.013**	.000**	.000**
		Honda	.482	.000**	.000**	.000**	.000**
		Hyundai	.582	.000**	.000**	.000**	.000**
		Mahindra	.871	.000**	.000**	.000**	.000**
		Maruti Suzuki	.535	.000**	.000**	.000**	.000**
		Renault	.177	.000**	.000**	.000**	.000**
		Tata	.114	.000**	.000**	.000**	.000**
		Toyota	.774	.000**	.000**	.000**	.000**
		Volkswagen	.101	.000**	.000**	.000**	.000**
Decision			Accepted	Rejected	Rejected	Rejected	Rejected

**Significant at 0.05 level

The Table 4.17 revealed that the null hypothesis (H_1) is rejected at the 5% level of significance with regard to age, literacy level, current occupation and monthly income due to the reason *p*-value is less than 0.05. And null hypothesis (H_1) is accepted at the 5% level of significance with regard to gender due to the reason *p*-value is more than 0.05.

4.2.3 Influencing Factors on Consumer Buying Preference towards Various Brands of Car

An attempt was made to know the factors which significantly influence the consumer buying preference towards various brands of car. The factors studied were information factors, psychological factors, economic factors, product factors and performance factors. One sample *t* test had been applied to analyze the important factors while buying various brands of car. In order to analyze it, one sample *t*-test is performed. In this one sample *t*-test, the computed mean value of the customer is compared with hypothesized mean value 20 to obtain the significance or insignificance value. Further, to calculate an effect size, called *d* or Cohen's *d* is used. Cohen's *d* above 0.5 is very good, a value between 0.2 and 0.5 is good, and a value below 0.2 is fair. The following null hypothesis (H_2) is framed to test the factors which significantly influence the consumer preference towards various brands of car.

H_2 : There is no significant influence of the factors on consumer buying preference towards various brands of car.

The result of one-sample *t*-test is explained in Table 4.18.

Table 4.18

One-Sample *t*-Test – Influencing Factors on Consumer Buying Preference

Influencing Factors	Test Value = 20					Std. Deviation	Effect Size Cohen's *d*
	t Value	df	*p* Value	Mean	Mean Difference		
Information Factors	12.80	384	.000**	21.46	1.46	2.25	0.65
Psychological Factors	18.54	384	.000**	22.55	2.55	2.69	0.95
Economic Factors	6.52	384	.000**	21.23	1.23	3.67	0.34
Product Factors	14.21	384	.000**	22.52	2.52	3.48	0.72
Performance Factors	4.91	384	.000**	20.81	0.81	3.24	0.25

Source: Primary Data

**Significant at .05 level of confidence

To understand the factors which significantly influence the consumer buying preference towards various brands of car in Tirunelveli district, the data pertaining to this is presented in Table 4.18.

It is found in Table 4.18 that the mean value of 'Information Factors' (21.46 ± 2.25) was higher than the hypothesized mean value of 20 (Test value). It is found that the *t* value of the variable 'Information Factors' is statistically significant at the 5 % level (t (384) = 12.80, p <.05, d = 0.65). Since the p-value is less than .05, the null hypothesis (H_2) is rejected regarding the variable of 'Information Factors'. There is enough evidence to conclude that there is a statistically significant influence of information factors on consumer buying preference towards various brands of the car at

the 0.05 significance level. Based on Cohen's *d,* it is found that the information factor in the study area exposes very strong influence on consumer buying preference towards various brands of car. From the theoretical point of view, it is concluded that the information from relatives, friends, co-workers, dealers, shopkeepers, newspaper advertisement, fair, exhibition, internet advertisement and pamphlets regarding the various brands of car influences very strongly on the buying preference of consumer towards various brands of car.

It is shown in Table 4.18 that the mean value of 'Psychological Factors' (22.55 ± 2.69) was higher than the hypothesized mean value of 20 (Test value). It is found that the *t* value of the variable 'Psychological Factors' is statistically significant at the 5 % level (t (384) = 18.54, p <.05, d = 0.95). Since *the p*-value is less than .05, the null hypothesis (H_2) is rejected regarding the variable of 'Psychological Factors'. There is enough evidence to conclude that there is a statistically significant influence of psychological factors on consumer buying preference towards various brands of the car at the 0.05 significance level. Based on Cohen's *d,* it is found that the psychological factors in the study area expose very strong influence on consumer buying preference towards various brands of car. From the theoretical point of view, it is concluded that the psychological feelings of social status, brand loyalty, personal values, driving comfort, status symbol and necessity based on various brands of car influences very strongly on the buying preference of consumer towards various brands of car.

It is revealed in Table 4.18 that the mean value of 'Economic Factors' (21.23 ± 3.67) was higher than the hypothesized mean value of 20 (Test value). It is found that the *t* value of the variable 'Economic Factors' is statistically significant at the 5 % level (t (384) = 6.52, p <.05, d = 0.34). Since the p-value is less than .05, the null hypothesis (H_2) is rejected regarding the variable of 'Economic Factors'. There is enough evidence

to conclude that there is a statistically significant influence of economic factors on consumer buying preference towards various brands of the car at the 0.05 significance level. Based on Cohen's *d,* it is found that the economic factors in the study area expose strong influence on consumer buying preference towards various brands of car. From the theoretical point of view, it is concluded that the economic factors such as product price, maintainance cost, discount offers, insurance, resale value and mileage regarding the various brands of car influences strongly on the buying preference of consumer towards various brands of car.

It is exposed in Table 4.18 that the mean value of 'Product Factors' (22.52 ± 3.46) was higher than the hypothesized mean value of 20 (Test value). It is found that the *t* value of the variable 'Product Factors' is statistically significant at the 5 % level (t (384) = 14.21, p <.05, d = 0.72). Since the p-value is less than .05, the null hypothesis (H_2) is rejected regarding the variable of 'Product Factors'. There is enough evidence to conclude that there is a statistically significant influence of product factors on consumer buying preference towards various brands of the car at the 0.05 significance level. Based on Cohen's *d,* it is found that the product factors in the study area expose very strong influence on consumer buying preference towards various brands of car. From the theoretical point of view, it is concluded that the product factors such as product quality (durability & reliability), exteriors (overall look, colour, shape, feature lines, head lamp & tail lamp), interiors (plush interiors, exotic colours, legroom, seat design, armrest, music system), warranty, technology and safety features regarding the various brands of car influences very strongly on the buying preference of consumer towards various brands of car.

It is revealed in Table 4.18 that the mean value of 'Performance Factors' (20.81 ± 3.24) was higher than the hypothesized mean value of 20 (Test value). It is found that

the *t* value of the variable 'Performance Factors' is statistically significant at the 5 % level (t (384) = 4.91, p <.05, d = 0.25). Since the p-value is less than .05, the null hypothesis (H_2) is rejected regarding the variable of 'Performance Factors'. There is enough evidence to conclude that there is a statistically significant influence of performance factors on consumer buying preference towards various brands of the car at the 0.05 significance level. Based on Cohen's *d,* it is found that the performance factors in the study area expose nearly strong influence on consumer buying preference towards various brands of car. From the theoretical point of view, it is concluded that the performance factors such as maximum speed, pickup, breaking ability, engine power, engine sound and balancing regarding the various brands of car influences very strongly on the buying preference of consumer towards various brands of car.

The results of the analysis of Table 4.18 help to understand the *t* values that psychological factor is considered the most important followed by product factor and information factor when a consumer buying a car. Based on the results of t statistics given above, it can be concluded that psychological factor is the highest influencing factor on consumer buying preference towards various brands of car.

The proposed null hypothesis (H_2) was tested by one sample *t*-test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to reach a decision with regard to whether to reject or accept the proposed null hypothesis. The decision made, based on this *p*-value, is presented in Table 4.19.

Table 4.19

Null Hypothesis (H_2) Test Summary

Null Hypothesis	Test	Variable	*p*-value	Decision
There is no significant influence of the factors on consumer buying preference towards various brands of car.	One-Sample *t*-Test	Information Factors	.000**	Rejected
		Psychological Factors	.000**	Rejected
		Economic Factors	.000**	Rejected
		Product Factors	.000**	Rejected
		Performance Factors	.000**	Rejected

**Significant at 0.05 level

The Table 4.19 revealed that the null hypothesis (H_2) is rejected at the 5% level of significance with regard to information factors, psychological factors, economic factors, product factors and performance factors due to the *p*-value is less than 0.05.

4.2.4 Consumer Perception towards Various Brands of Car

4.2.4.1 Brand Image of Car Based on Attributes of Car

An attempt was made to analyze the consumer perception towards various brands of car in Tirunelveli district. The study considered the consumer perception towards various brands of the car as brand image of the car. The survey scores reflect how consumers perceive the brand image of the car in seven attributes: design and style, performance, quality, safety, technology and innovation, resale value and fuel economy. In order to find out the consumers perception of the brand image of each car in seven attributes, mean values were measured by performing the descriptive analysis. In order to find out the brand image, combining seven attributes' scores give the total brand – perception score which reflects a brand's image of the car in consumers' minds. The mean scores are rounded to the nearest whole number. The mean values are viewed as 1

– very poor, 2 – poor, 3 – fair, 4 – good and 5 – very good for determining the attribute of various brands of car. The result of descriptive analysis of consumer perception on attributes of each brand of car and image of each brand is explained in Table 4.20.

Table 4.20

Descriptive Analysis: Attributes of Cars and Brand Image of Cars

Brands of Car	Attributes of Cars - Mean Values							Brand Image
	Design/ style	Perfo rmance	Quality	Safety	Technology/ Innovation	Resale Value	Fuel Economy	
Chevrolet	2	2	1	1	2	1	1	10
Ford	3	3	4	4	3	3	3	23
Honda	3	3	3	3	3	3	3	21
Hyundai	3	3	3	3	3	4	3	22
Mahindra	2	2	2	2	2	2	2	14
Maruti Suzuki	3	3	4	2	3	4	4	23
Renault	4	5	4	4	4	3	2	26
Tata	3	3	3	2	3	4	4	22
Toyota	4	4	4	3	4	4	3	26
Volkswagen	5	4	4	4	5	4	3	29

Source: Primary Data

As per the result of the analysis in the Table 4.20, Volkswagen is the brand of the car whose attribute “design and style” are very good (Mean = 5) in the view of consumers perception. The attribute “design and style” is good (Mean = 4) in the consumers perception of the brand of Renault and Toyota car. Ford, Honda, Hyundai, Maruti Suzuki and Tata share the same platform on the attribute design and style that is fair (Mean = 3). The brands of Chevrolet and Mahindra cars share the same position on the attribute of design and style that is poor (Mean = 2).

The result of the analysis shows that Renault is the brand of the car whose attribute "performance" is very good (Mean = 5) in the view of consumers perception. The attribute "performance" is good (Mean = 4) in the consumers perception for the brand of Toyota and Volkswagen car. Ford, Honda, Hyundai, Maruti Suzuki and Tata share the same platform on the attribute performance that is fair (Mean = 3). The brands of Chevrolet and Mahindra cars share the same position on the attribute performance that is poor (Mean = 2).

As per the analysis, no brands of the car whose attribute "quality" is very good (Mean = 5) in the consumers perception. The attribute "quality" is good (Mean = 4) in the view of consumers perception for the brand of Ford, Maruti Suzuki, Renault, Toyota and Volkswagen car. Honda, Hyundai, and Tata share the same platform on the attribute of quality that is fair (Mean = 3). The attribute quality for the brands of Mahindra (Mean = 2) and Chevrolet cars (Mean = 1) are poor and very poor respectively in the consumers perception.

The result in the Table 4.20 shows that no brands of the car whose attribute "safety" is very good (Mean = 5) in the view of consumers perception. The attribute "safety" is good (Mean = 4) in the consumers perception of the brand of Ford, Renault, and Volkswagen car. The attribute of safety is fair (Mean = 3) for the brands of Honda, Hyundai, and Toyota which share the same platform. The attribute safety (Mean = 2) is poor for the brands of Mahindra, Maruti Suzuki and Tata cars in the consumers perception. The attribute safety (Mean = 1) is very poor for the brand of Chevrolet in the consumers perception.

The Table 4.20 reveals that Volkswagen is the brand of the car whose attribute "technology and innovation" is very good (Mean = 5) in the view of consumers perception. The attribute "Technology and Innovation" is good (Mean = 4) in the

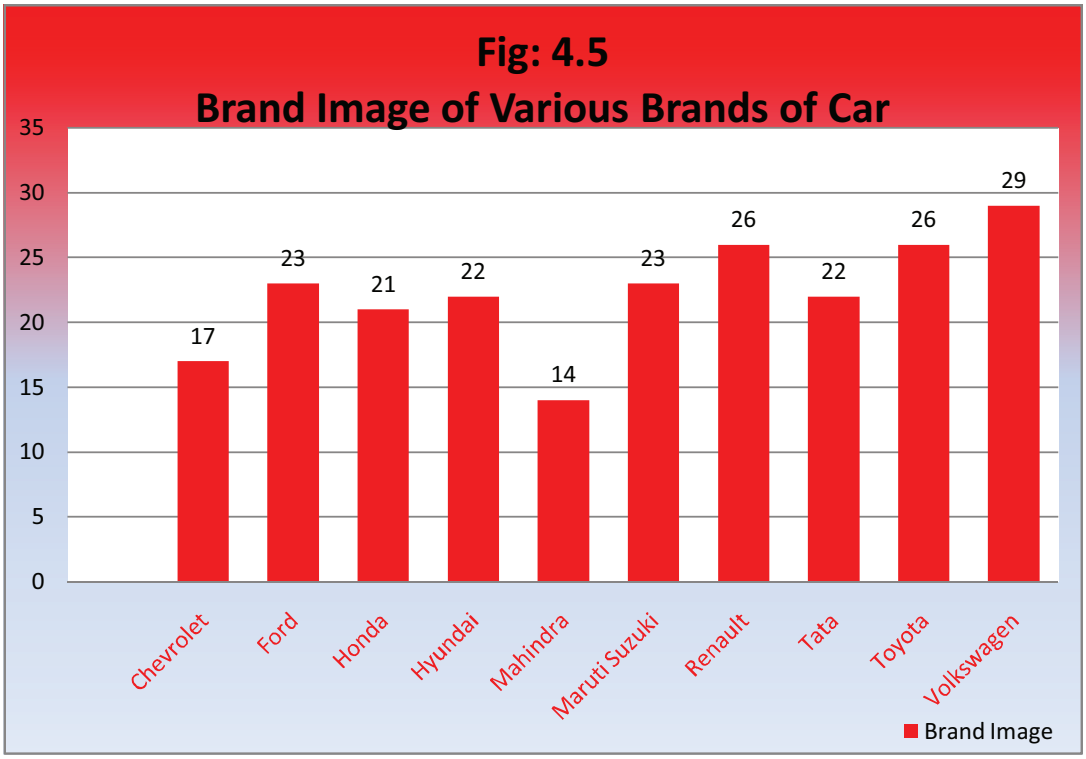
consumers perception of the brand of Renault and Toyota car. The attribute Technology and Innovation is fair (Mean = 3) for the brands of Ford, Honda, Hyundai, Maruti Suzuki, and Tata which share the same platform. The attribute of Technology and Innovation (Mean = 2) is poor for the brands of Chevrolet and Mahindra cars in the consumers perception.

The Table 4.20 shows that the consumers perception of the attribute "resale value" is good for the brands of Chevrolet, Hyundai, Maruti Suzuki, Tata, Toyota and Volkswagen (Mean = 4) while the attribute "resale value" is very good for no brands of car. The attribute of resale value is fair (Mean = 3) for the brands of Ford, Honda, and Renault which share the same platform. The attribute resale value for the brand of Mahindra (Mean = 2) is poor in the consumers perception.

The Table 4.20 explains that the consumers perception of the attribute "fuel economy" is very good for the brand of Chevrolet (Mean = 5) while the attribute "fuel economy" is good for Maruti Suzuki and Tata (Mean = 4). The attribute fuel economy is fair (Mean = 3) for the brands of Ford, Honda, Hyundai, Toyota and Volkswagen which share the same platform. The attribute fuel economy (Mean = 2) is poor for the brands of Mahindra and Renault cars in the consumers perception.

As per the analysis, Volkswagen is the brand of the car whose brand image is most preferred with the score of 29 in the consumer perception whereas Renault and Toyota share the subsequently same platform on the second most brand image with the score of 26. The brands of Ford and Maruti Suzuki are third most preferred the brand image with the score of 23 in the consumers perception followed by the brands of Hyundai and Tata who are the fourth most preferred brand image with the score of 23. The fifth most preferred brand image in the consumer's perception is the brand of Honda with the score of 21 followed by the brand of Chevrolet whose brand image is

seventh most with the score of 17 in the consumer's perception whereas the brand of Mahindra is the least most preferred brand image with the score of 14. The brand images of the various brand of car in the consumer's perception are explained in figure 4.5.



4.2.4.2 Prediction of Brand Image of Car Based on Attributes of Car

An attempt was made to predict the brand image of the car based on attributes of the car in the view of consumer perception. The standard multiple regression analysis was used to predict the dependent variable based on multiple independent variables. The study performed a regression analysis using the brand image of the car as the outcome variable and the variables, namely design and style, performance, quality, safety, technology and innovation, resale value and fuel economy are considered as predictors. The following null hypothesis (H_3) is framed to test the prediction of the brand image of the car based on attributes of the car.

H_3 : The attributes of car do not significantly predict the brand image of the car.

The standard multiple regression analysis was performed to test the proposed hypothesis. The results of the standard multiple regression analysis are explained in the following Tables.

Table 4.21

Model Summary – Brand Image of Car

N	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
385	.955	.911	.910	.051

Source: Primary Data

The Table 4.21 provides the Multiple Correlation (R = .955), the Multiple Correlation squared (R^2 = .911), the adjusted Multiple Correlation squared (adj.R^2 = .910), and the Standard Error of the Estimate (SEE = .051). It reveals that the multiple correlation coefficients '*R'* for the linear relationship between the predicted score of the brand image of the car by the seven attributes of the car and the actual values of the brand image of the car is .955 and the strength of the linear relationship is very strong. Multiple R^2 indicates that approximately 91.1% of the variability of the brand image of the car was explained by seven attributes of the car, namely design and style, performance, quality, safety, technology and innovation, value and fuel economy. Adjusted R^2 is an estimate of effect size, which at 0.910 (91%), is indicative of a large effect size according to Cohen's (1988) classification. So, the attributes of the car had a large effect on brand image of the car. The result of ANOVA of multiple regression analysis is explained in the Table 4.22.

Table 4.22

ANOVA Summary Table - Brand Image of Car

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.977	7	1.425	552.53	.000**
Residual	.972	377	.003		
Total	10.949	384			

**Significant at 0.05 level

The Table 4.22 reveals that the attributes of the car, namely design and style, performance, quality, safety, technology and innovation, value and fuel economy statistically significantly predict the brand image of the car, F (7, 377) = 552.53, p <.05 at 5 percent level of significance. As p < .0005 satisfies p < .05, the study has a statistically significant result. This means that the addition of design and style, performance, quality, safety, technology and innovation, resale value and fuel economy (i.e., overall model) leads to a model that is statistically significantly better at predicting the brand image of the car than the mean model. Thus, the null hypothesis (H_3) stands to be rejected and the attributes of car statistically significantly predict the brand image of the car. The study can also deduce from this result that at least one attribute of car statistically significantly predicts the brand image of the car. The result of multiple regression coefficients is highlighted in Table 4.23.

Table 4.23

Multiple Regression Coefficients - Brand Image of Car

Attributes of Car	Unstandardized Coefficients		Standardized Coefficients	*t*	*P*
	B	Std. Error	Beta (β)		
(Constant)	.309	.101		3.049	.002**
Design and Style	.118	.018	.124	6.758	.000**
Performance	.167	.028	.186	6.055	.000**
Quality	.346	.016	.645	21.252	.000**
Safety	.170	.019	.175	9.009	.000**
Technology and Innovation	.266	.046	.310	5.740	.000**
Resale Value	.363	.025	.560	14.571	.000**
Fuel Economy	.006	.021	.008	.269	.788

**Significant at 0.05 level

The Table 4.23 presented the unstandardized coefficients (B) used for building a predicted value, standardized coefficients (β) indicates the relative impact of the predictors on a scale ranging from -1 to 1, *t* indicates the relative importance of the independent variables and *p* indicates the statistical significance of each independent variable. The intercept (constant) is the value of the dependent variable when all the independent variables are zero. The result reveals that the intercept is statistically significant (i.e., $p = .002 < .05$), meaning that it is different from 0 (zero).

The findings in Table 4.23 regarding the attributes of car namely design and style indicate a statistically significantly positive result ($t(385) = 6.758$, $p < .05$) at the 5 percent level of significance. Since the p-value is less than .05, the null hypothesis (H_3) is rejected with respect to the variable 'design and style'. The study deduces that the

design and style of a car statistically significantly predict the brand image of the car. The above Table shows that the coefficient for design and style is 0.118. The slope coefficient represents the change in the dependent variable for one point change in the independent variable. As such, an increase in design and style of one point is associated with an increase in brand image of the car of 0.118 points when controlling for other attributes of the car. Based on 'Beta' value (β = .124), it is found that there is significantly the small impact of design and style of a car on the brand image of the car.

The findings in Table 4.23 regarding the attributes of car namely performance indicate a statistically significantly positive result (t (385) = 6.055, $p < .05$) at the 5 percent level of significance. Since the p-value is less than .05, the null hypothesis (H_3) is rejected with respect to the variable of 'Performance'. The study deduces that the performance of a car statistically significantly predicts the brand image of the car. The above Table shows that the coefficient for performance is 0.167. The slope coefficient represents the change in the dependent variable for one point change in the independent variable. As such, an increase in performance of one point is associated with an increase in brand image of the car of 0.167 points when controlling for other attributes of the car. Based on 'Beta' value (β = .186), it is found that there is significantly the small impact of performance of a car on the brand image of the car.

The findings in Table 4.23 regarding the attributes of car namely quality indicate a statistically significantly positive result (t (385) = 21.252, $p < .05$) at the 5 percent level of significance. Since the p-value is less than .05, the null hypothesis (H_3) is rejected with respect to the variable of 'Quality'. The study deduces that the quality of a car statistically significantly predict the brand image of the car. The above Table shows that the coefficient for quality is 0.167. The slope coefficient represents the change in the dependent variable for one point change in the independent variable. As such, an

increase in quality of one point is associated with an increase in brand image of the car of 0.346 points when controlling for other attributes of the car. Based on 'Beta' value (β = .645), it is found that there is significantly the large impact of quality of a car on the brand image of the car.

The findings in Table 4.23 regarding the attributes of car namely safety indicate a statistically significantly positive result (t (385) = 9.009, $p < .05$) at the 5 percent level of significance. Since the p-value is less than .05, the null hypothesis (H_3) is rejected with respect to the variable of 'Safety'. The study deduces that the safety of a car statistically significantly predict the brand image of the car. The above Table shows that the coefficient for safety is 0.167. The slope coefficient represents the change in the dependent variable for one point change in the independent variable. As such, an increase in safety of one point is associated with an increase in brand image of the car of 0.175 points when controlling for other attributes of the car. Based on 'Beta' value (β = .175), it is found that there is significantly the small impact of the safety of a car on the brand image of the car.

The findings in Table 4.23 regarding the attributes of car namely technology and innovation indicate a statistically significantly positive result (t (385) = 5.740, $p < .05$) at the 5 percent level of significance. Since *the* p-value is less than .05, the null hypothesis (H_3) is rejected with respect to the variable of 'Technology and Innovation'. The study deduces that the technology and innovation of a car statistically significantly predict the brand image of the car. The above Table shows that the coefficient for technology and innovation is 0.266. The slope coefficient represents the change in the dependent variable for one point change in the independent variable. As such, an increase in technology and innovation of one point is associated with an increase in brand image of the car of 0.266 points when controlling for other attributes of the car.

Based on 'Beta' value (β = .310), it is found that there is significantly the medium impact of technology and innovation of a car on the brand image of the car.

The findings in Table 4.23 regarding the attributes of car namely resale value indicate a statistically significantly positive result (t (385) = 14.571, p < .05) at the 5 percent level of significance. Since the p-value is less than .05, the null hypothesis (H_3) is rejected with respect to the variable of 'Resale Value'. The study deduces that the resale value of a car statistically significantly predict the brand image of the car. The above Table shows that the coefficient for resale value is 0.363. The slope coefficient represents the change in the dependent variable for one point change in the independent variable. As such, an increase in the resale value of one point is associated with an increase in brand image of the car of 0.363 points when controlling for other attributes of the car. Based on 'Beta' value (β = .560), it is found that there is significantly the large impact of the resale value of a car on the brand image of the car.

The findings in Table 4.23 regarding the attributes of car namely fuel economy indicate statistically insignificant result (t (385) = .269, p = .788 > .05) at the 5 percent level of significance. Since the p-value is higher than .05, the null hypothesis (H_3) is accepted with respect to the variable of 'Fuel Economy'. The study deduces that the fuel economy of a car statistically insignificantly predict the brand image of the car. The impact of fuel economy of the car on the brand image of the car is not considered due to the insignificant result.

Assessing the p-values suggests that six independent variables are equally statistically significant. The magnitude of the t statistics provides a means to judge the relative importance of the independent variables. In this study, quality is the most significant independent variable, followed by value, safety, design and style,

performance, technology and innovation and then fuel economy. In fact, fuel economy does not reach statistical significance ($p = 0.788$) in the multiple regression models.

The regression equation for predicting the brand image of the car is derived from the following regression equation. The regression equation can be expressed in the following form:

$$\textbf{Predicted Value (X)} = B_0 - (B_1 \times V_1) + (B_2 \times V_2) + \ldots\ldots (B_X \times V_X)$$

Where B_0 is the intercept (constant), B_1 through B_X are the slope coefficients (one for each variable) and V_1 through V_X are the mean value of variables.

From the Table 4.23, the following regression equation is derived for prediction of the brand image of the car by means of attributes of car namely design and style, performance, quality, safety, technology and innovation, resale value and fuel economy.

Brand Image of Car = .309 + .118 x Design and Style + .167 x Performance + .346 x Quality + .170 x Safety + .266 x Technology and Innovation + .363 x Resale Value + .006 x Fuel Economy

By using the regression equation, the car company in the study area can access its brand image with the help of the attributes of the car such as design and style, performance, quality, safety, technology and innovation, resale value and fuel economy in the perception of the customer.

The proposed null hypothesis (H_3) was tested by standard multiple regression analysis. The significant level of confidence was fixed at .05. Using this significance level, it is possible to reach a decision with regard to whether to reject or accept the proposed null hypothesis. The decision made, based on this *p*-value, is presented in Table 4.24.

Table 4.24

Null Hypothesis (H_3) Test Summary

Null Hypothesis	Test	Variable	*p*-value	Decision
The attributes of car do not significantly predict the brand image of car	Standard Multiple Regression Analysis	Design/style	.000**	Rejected
		Performance	.000**	Rejected
		Quality	.000**	Rejected
		Safety	.000**	Rejected
		Technology/ Innovation	.000**	Rejected
		Resale Value	.000**	Rejected
		Fuel Economy	.788	Accepted

**Significant at 0.05 level

The Table 4.24 revealed that the null hypothesis (H_3) is rejected at the 5% level of significance with regard to design and style, performance, quality, safety, technology and innovation, resale value due to the *p*-value is less than 0.05. The null hypothesis (H_3) is accepted at the 5% level of significance with regard to fuel economy for the reason the *p*-value is higher than 0.05.

4.2.5 Problems Faced by the Consumers of Car

4.2.5.1 Factorization of Problems Faced by the Consumers of Car

The study throws light on the problems faced by consumers of car in the study area. An attempt was made to analyze the problems faced by consumers when pre, during and post purchasing a car in the study area. Factor analysis was used to construct the factors from the twenty variables of problems of the respondents when purchasing the car for the purpose of analyzing the problems based on the selected demographic profile of the respondents. Principal Component analysis was employed primarily for

extracting the factors which have eigen values greater than one. Further, orthogonal rotation with Varimax was applied to identify the factors of almost similar character by means of load factor for the purpose of giving the suitable name to the identifying factors. Previously, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy; and Bartlett's test of sphericity were used for assumptions the Factor analysis. The details of sampling adequacy and Sphericity of the collected data of the respondents are shown in Table 4.25.

Table 4.25

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	**0.776**	
Bartlett's Test of Sphericity	Approx. Chi-Square	6681.054
	df	190
	Sig.	.000**

**Significant at .05 level of confidence

The above Table clearly portrays that Kaiser-Meyer-Olkin measure of sampling adequacy value is 0.776, which falls into the range of being great. The correlation matrix was initially examined to determine how appropriate it was for factor analysis. The Kaiser-Meyer-Oklin (KMO) value was 0.776, which is higher than the recommended minimum of 0.6 indicating that the sample size was adequate for applying factor analysis. In addition, the value of the test statistic for sphericity on the basis of a chi-squared transformation of the determinant of the correlation matrix was large. Bartlett's test of sphericity (Z = 6681.054) was significant, supporting the factorability of the correlation matrix. Bartlett's test of sphericity was statistically significant ($p <$ .05), indicating that the data was likely factorization.

The purpose of this investigation was to explore the factor structure underlying the data set of problems faced by consumers when pre, during and post buying a car. Factor analysis has as its key objective reducing a larger set of variables to a smaller set of factors, less in number than the original variable set, but capable of accounting for a large portion of the total variability in the items. The maximum likelihood estimation procedure was used to extract the factors from the variable data. Principal Component analysis was employed primarily for extracting factors which have eigen values greater than one as per the Kaiser's rule. Using this rule, five factors were extracted and they are shown in Table 4.26.

Table 4.26

Principal Component Analysis (PCA)

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.339	26.697	26.697	5.339	26.697	26.697
2	4.045	20.227	46.924	4.045	20.227	46.924
3	2.513	12.564	59.488	2.513	12.564	59.488
4	2.157	10.785	70.273	2.157	10.785	70.273
5	1.572	7.858	78.131	1.572	7.858	78.131
6	.984	4.918	83.049			
7	.750	3.750	86.798			
8	.446	2.231	89.029			
9	.423	2.116	91.145			
10	.308	1.540	92.686			
11	.222	1.109	93.794			
12	.216	1.078	94.873			
13	.204	1.021	95.893			
14	.184	.919	96.812			
15	.154	.770	97.582			
16	.141	.706	98.288			
17	.104	.522	98.810			
18	.091	.456	99.266			
19	.084	.419	99.685			
20	.063	.315	100.000			

Extraction Method: Principal Component Analysis

Principal Component Analysis (PCA) revealed five components that had eigen values greater than one and which explained 26.697%, 20.227%, 12.564%, 10.785% and 7.858% of the total variance, respectively. The analysis yielded five factors explaining a total of 78.131% of the variance for the entire set of variables related to the problems of the respondents when pre, during and post buying a car. It is a pretty good extraction because it is able to economize on the number of choice factors (from 20 to 5 underlying factors), it lost 21.869 % of information content for the choice of variables. In addition, a five-component solution met the interpretability criterion. As such, five components were retained. A Varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited simple structure. The five factors extracted for further study with component loadings and communalities of the rotated solution are presented in Table 4.27.

Table 4.27

Varimax Orthogonal Rotated Component Matrix

Items	Component				
	1	2	3	4	5
Misleading sources of information	**-.868**	.166	.089	.166	.269
Do not provide recommended safety options	**-.743**	.087	.013	.194	.070
Hide the discounts and free accessories	**-.739**	.045	.426	.197	.068
Hide the entire pre-delivery checklist	**.683**	.488	.080	.070	.394
Difficult to get an itemized price list	**.647**	.123	.221	.398	.107
Refuse to go for a comprehensive test drive	**.518**	.475	.138	.417	.167
Free accessories are of very poor quality	.242	**-.806**	.319	.043	.067
The prices of accessories for the car are very high	.260	**.736**	.071	.266	.383
Delays to deliver the new car	.234	**-.729**	.455	.150	.038
Unwilling to offer an alternative car in the interim	.096	**.716**	.482	.251	.151
Sell the insurance policy with fat commissions	.430	**-.540**	.380	.292	.223
Not doing service promptly	.102	.214	**.875**	.020	.024
Do not send regular intimations	.057	.001	**.870**	.070	.004
Have not a strong Service Network	.075	.213	**.564**	.324	.535
Hard to decide what sort of car best meets	.138	.002	.124	**.881**	.223
Budget preparation for buying a car is very difficult	.310	.005	.166	**.736**	.439
Difficult to get a loan for buying a car	.069	.251	.076	**-.648**	.088
Hide the actuality of car finance	.406	.542	.247	**-.560**	.143
Puzzlement to decide to buy the diesel or petrol car	.038	.173	.079	.354	**.824**
Puzzlement to buy whether new or used car	.478	.101	.467	.072	**.579**

Note that the analysis has sorted out the 20 questions relating to the problems of the consumer when pre, during and post buying a car into five somewhat overlapping groups of items, as shown by the blocked-up items in Table 4.27. The items are sorted so that the items that has the highest loading (not considering whether the correlation is positive or negative) in the factors. After the number of extracted factors was decided upon, the factors were interpreted by identifying which factors were associated with the problems of the consumer of when buying a car. The five factors were named as per the available literature and their group characteristics. The name of the Factors and its constituency of variables are mentioned in Table 4.28.

Table 4.28

Factor Analysis of Problems of Consumer of Car

Factor	Problems	Factor Loading	Factor Name
1	Misleading sources of information	.868	Ripping-off before Booking the Car
	Do not provide recommended safety options	.743	
	Hide the discounts and free accessories	.739	
	Hide the entire pre-delivery checklist	.683	
	Difficult to get an itemized price list	.647	
	Refuse to go for a comprehensive test drive in traffic, on open roads and up and down hills	.518	
2	Free accessories are very poor quality	.806	Ripping-off after Booking the Car
	Prices of accessories for the car are very high	.736	
	Delays to deliver the new car	.729	
	Unwilling to offer an alternative car in the interim failure to deliver a new car within a reasonable time	.716	
	Sell the insurance policy with fat commissions	.540	
3	Car Companies are not doing service promptly	.875	Disgraceful Service after Sales
	Car Companies do not send regular intimations	.870	
	Car companies have not a strong Service Network	.564	
4	Hard to decide what sort of car best meets	.881	Oscillation in Financial Affairs
	Budget preparation for buying a car is very difficult	.736	
	Difficult to get a loan for buying a car	.648	
	Hide the actuality of car finance and annual percentage rate (APR)	.560	
5	Puzzlement to decide to buy the diesel or petrol car	.824	Confusion on Decision Making
	Puzzlement to buy whether new or used car	.579	

Six items have been loaded onto the first Factor. It is clear from Table 4.28 that these six items all relate to the problems faced by the consumer before booking the car due to the ripping-off the dealers. This factor is loaded by the variables named, Misleading sources of information, do not provide recommended safety options, Hide the discounts and free accessories, Hide the entire pre-delivery checklist, Difficult to get an itemized price list, Refuse to go for a comprehensive test drive in traffic on open roads and up and down hills. The loading of the variables first, second, third, fourth, fifth and sixth on the first Factor is 0.868, 0.743, 0.739, 0.683, 0.647 and 0.518 respectively. This factor was labelled, 'Ripping-off before booking the Car'. This first factor explained 26.697% of the variance, which means approximately 26.697% of the variance in any one of the original variable which is being captured by the extracted factors.

Five items loaded onto a second factor related to the problems faced by the consumer after booking the car due to the ripping-off the dealers. This related to Free accessories is of very poor quality, Prices of accessories for the car are very high, Delays to deliver the new car, Unwilling to offer an alternative car in the interim when failure to deliver a new car within a reasonable time and Sell the insurance policy with fat commissions. The loading of the variables first, second, third, fourth and fifth on the second Factor is 0.806, 0.736, 0.729, 0.716, and 0.540 respectively. This factor was labelled, 'Ripping-off after booking the Car'. This second factor explained 20.227% of the variance, which means approximately 20.227% of the variance in any one of the original variable which is being captured by the extracted factors.

Three items loaded onto the third Factor related to the problems faced by the consumer due to the car company provided the disgraceful service after sales. This factor is loaded by the variables named, Car Companies are not doing service promptly,

Car Companies do not send regular intimations and Car companies have not a strong Service Network. The loading of the variables first, second and third on the third Factor is 0.875, 0.870 and 0.564 respectively. This factor was labelled, 'Disgraceful Service after Sales'. This third factor explained 12.564% of the variance, which means approximately 12.564% of the variance in any one of the original variable which is being captured by the extracted factors.

Four items have been loaded onto the fourth Factor. These four items all relate to the problems faced by the consumer due to their oscillation in financial affairs. This factor related to the variables named, Hard to decide what sort of car best meets, Budget preparation for buying a car is very difficult, Difficult to get a loan for buying a car and Hide the actuality of car finance and annual percentage rate (APR). The loading of the variables first, second, third and fourth on the fourth Factor is 0.881, 0.736, 0.648 and 0.560 respectively. This factor was labelled, 'Oscillation in Financial Affairs'. This fourth factor explained 10.785% of the variance, which means approximately 10.785% of the variance in any one of the original variable which is being captured by the extracted factors.

Two items loaded onto a fifth factor related to the problems faced by the consumer due to the puzzlement on decision making. This related to Puzzlement to decide to buy the diesel or petrol car and Puzzlement to buy whether new or used car. The loading of the variables first and second on the fifth Factor is 0.824 and 0.579 respectively. This factor was labelled, 'Puzzlement on Decision Making'. This fifth factor explained 7.858% of the variance, which means approximately 7.858% of the variance in any one of the original variable which is being captured by the extracted factors.

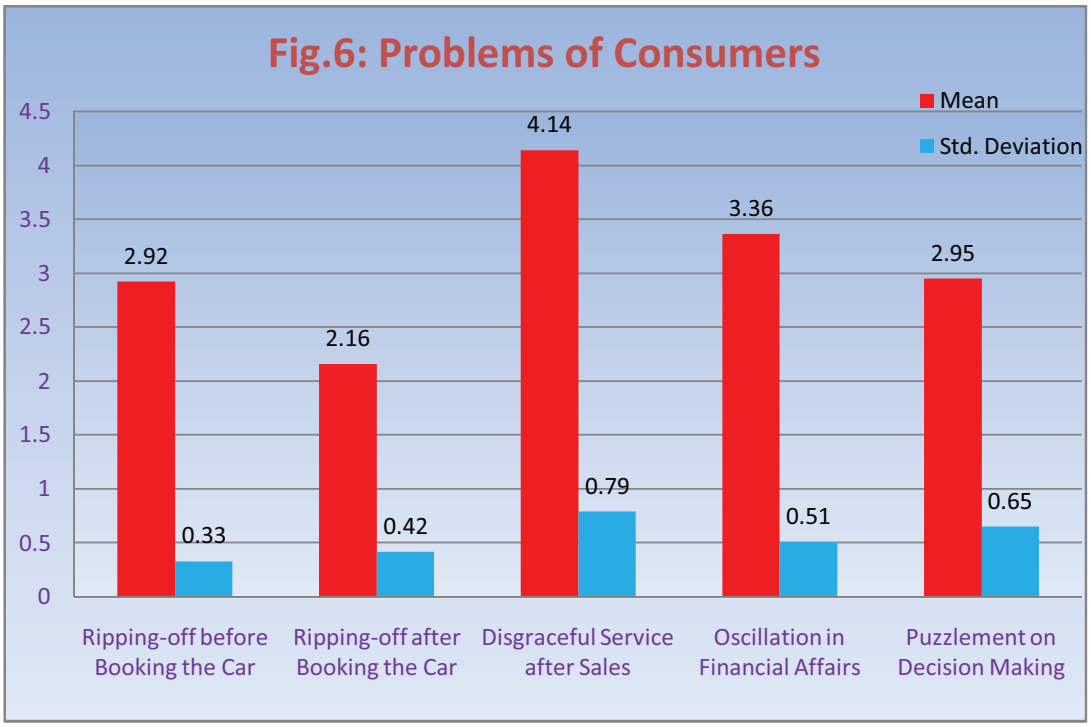
The five dimensions (Factors) of problems faced by the consumers of the car are then ranked. The ranking using the mean scores and standard deviation are given in Table 4.29.

Table 4.29

Mean and Standard Deviations for Five Dimensions (Factors) of Problems

Problems of Consumer	N	Mean	Std. Deviation
Ripping-off before Booking the Car	385	2.92	.33
Ripping-off after Booking the Car	385	2.16	.42
Disgraceful Service after Sales	385	4.14	.79
Oscillation in Financial Affairs	385	3.36	.51
Puzzlement on Decision Making	385	2.95	.65

It is clear from Table 4.29 that the problems faced by the consumers of the car due to disgraceful service after sales had the highest mean of 4.14, stating that according to the consumers of the car, they suffer most often because of disgraceful service of car companies after-sales the car. The standard deviation for the same is .79. It is followed by the problems due to the oscillation in financial affairs regarding decide what sort of car best meets, budget preparation for buying a car and to get a loan for buying a car (M = 3.36, SD = .51), then the problems due to puzzlement on decision making as to decide to buy the diesel or petrol car and to buy whether new or used car (M = 2.95, SD = .65). The consumers of car suffer not most often because of the problems due to ripping-off before booking the car based on the mean value of 2.92 (SD = .33). The least problems faced by the consumers of the car were ripping-off after booking the car (M = 2.16, SD = .42). Figure 4.6 shows the means and standard deviation in histograms.



4.2.5.2 Problems of Consumers across Various Demographic Characters

The factor analysis as explained in the previous section resulted in five dimensions (Factors) of problems faced by the consumers of car namely: Ripping-off before Booking the Car, Ripping-off after Booking the Car, Disgraceful Service after Sales, Oscillation in Financial Affairs and Puzzlement on Decision Making. The study concentrates on five demographic characters such as gender, age, literacy level, current occupation and monthly income. For comparing the five dimensions (Factors) of problems faced by the consumers across various personal characteristics, Mann-Whitney U test for gender and Kruskal-Wallis *H* test for age, literacy level, current occupation and monthly income were done to see whether any significant differences are there between the groups of the demographic characters in the problems faced by the consumers of car. The post hoc test was not performed because the result of Kruskal-Wallis *H* test is enough to obtain the aim of test the hypotheses.

An attempt was made to analyze the gender difference in the problems in the form of ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision making faced by the consumers of the car. The following null hypothesis (H_4) is proposed for analyzing the gender difference in the problems faced by the consumers of the car.

H_4 : There is no significant difference between genders of the respondents in the problems faced by the consumers of the car.

The Mann-Whitney U test was done to find out whether there was a significant difference in the problems faced by the consumers of the car by the genders as male and female. The result of Mann -Whitney *U* test is presented in Table 4.30.

Table 4.30

Mann-Whitney U Test: Problems of Consumers of Car Based on Gender

Factors	Gender	N	Mean Rank	*U*	*Z*	*p*-value
Ripping-off before Booking the Car	Male	354	193.74	5225	-.800	.424
	Female	31	184.55			
	Total	385				
Ripping-off after Booking the Car	Male	354	192.06	5153	-.912	.362
	Female	31	203.77			
	Total	385				
Disgraceful Service after Sales	Male	354	195.52	4593	-1.609	.108
	Female	31	164.18			
	Total	385				
Oscillation in Financial Affairs	Male	354	191.74	5041	-.899	.369
	Female	31	207.39			
	Total	385				
Puzzlement on Decision Making	Male	354	193.21	5414	-.140	.889
	Female	31	190.65			
	Total	385				

**Significant at .05 level of confidence

A Mann-Whitney *U* test was run to determine if there were any differences in Ripping-off before booking the Car, Ripping-off after booking the Car, Disgraceful Service after Sales, Oscillation in Financial Affairs and Puzzlement on Decision Making between males and females.

Table 4.30 indicates that Ripping-off before Booking the Car scores for males (mean rank = 193.74) and females (mean rank = 184.55) were not statistically significantly different, $U = 5225$, $z = -.800$, $p = .424 > .05$. Since the *p*-value is higher than .05, it is not possible to reject the null hypothesis (H_4) in the case of gender and the problems in the form of ripping-off before booking. The research results, therefore, showed no statistically significant differences in the problems in the form of ripping-off before booking the car according to their gender (male / female).

Table 4.30 shows that Ripping-off after Booking the Car scores for males (mean rank = 192.06) and females (mean rank = 203.77) were not statistically significantly different, $U = 5155$, $z = -.912$, $p = .362 > .05$. Since the *p*-value is higher than .05, it is not possible to reject the null hypothesis (H_4) in the case of gender and the problems in the form of ripping-off after booking. The research results, therefore, showed no statistically significant differences in the problems in the form of ripping-off after booking the car according to their gender (male / female).

Table 4.30 reveals that Disgraceful Service after Sales scores for males (mean rank = 195.52) and females (mean rank = 164.18) were not statistically significantly different, $U = 4593$, $z = -1.609$, $p = .108 > .05$. Since the *p*-value is higher than .05, it is not possible to reject the null hypothesis (H_4) in the case of gender and the problems in the form of disgraceful service after sales. The research results, therefore, showed no statistically significant differences in the problems in the form of disgraceful service after sales according to their gender (male / female).

Table 4.30 divulges that Oscillation in Financial Affairs scores for males (mean rank = 191.74) and females (mean rank = 207.39) were not statistically significantly different, $U = 5041$, z = -899, $p = .369 > .05$. Since the p-value is higher than .05, it is not possible to reject the null hypothesis (H_4) in the case of gender and the problems in the form of oscillation in financial affairs. The research results, therefore, showed no statistically significant differences in the problems in the form of oscillation in financial affairs according to their gender (male / female).

Table 4.30 explains that Puzzlement on Decision Making scores for males (mean rank = 193.21) and females (mean rank = 190.65) were not statistically significantly different, $U = 5414$, z = -140, $p = .889 > .05$. Since the p-value is higher than .05,it is not possible to reject the null hypothesis (H_4) in the case of gender and the problems in the form of puzzlement on decision making. The research results, therefore, showed no statistically significant differences in the problems in the form of puzzlement on decision-making according to their gender (male / female).

The proposed null hypothesis (H_4) was tested by Mann -Whitney U test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to reach a decision with regard to whether to reject or retain the proposed null hypothesis. The decision made, based on this p-value, is presented in Table 4.31.

Table 4.31

Null Hypothesis (H_4) Test Summary

Null Hypothesis	Test	In the Form of	*p*-value	Decision
There is no significant difference between genders of the respondents in the problems faced by the consumers of the car.	Mann -Whitney *U* test	Ripping-off before Booking the Car	.424	Retain
		Ripping-off after Booking the Car	.362	Retain
		Disgraceful Service after Sales	.108	Retain
		Oscillation in Financial Affairs	.369	Retain
		Puzzlement on Decision Making	.889	Retain

**Significant at 0.05 level

The Table 4.31 revealed that the null hypothesis (H_4) is retained at the 5% level of significance with regard to ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs, puzzlement on decision making due to the *p*-value is less than 0.05.

An attempt was made to analyze the differences between the age groups in the problems in the form of ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision making faced by the consumers of the car. The following null hypothesis (H_5) is proposed for analyzing the differences between the age groups of the respondents in the problems faced by the consumers of the car.

H_5 : There are no significant differences between the age groups of the respondents in the problems faced by the consumers of the car.

The Kruskal-Wallis *H* test was done to find out whether there was a significant difference in the problems faced by the consumers of the car by the age groups of the respondents. The result of Kruskal-Wallis *H* test is presented in Table 4.32.

Table 4.32

Kruskal-Wallis *H* Test: Problems of Consumers of Car Based on Age

Factors	*H*	*df*	*p* Value	Mean ranks				
				I	II	III	IV	V
Ripping-off before booking the Car	35.43	4	.000**	209	217	180	182	114
Ripping-off after booking the Car	25.83	4	.000**	155	174	207	167	162
Disgraceful Service after Sales	12.43	4	.014**	262	207	180	211	238
Oscillation in Financial Affairs	105.05	4	.000**	153	129	231	234	126
Puzzlement on Decision Making	53.44	4	.000**	145	147	219	266	277

**Significant at 0.05 level

(I - 30 and below, II - 31 – 40, III - 41 - 50, IV - 51 – 60 and V - Above 60)

A Kruskal-Wallis *H* test was conducted to determine if there were any differences in the problems faced by the consumers of car that made an implication in their age group: the "30 and below" (n = 14), "31 – 40" (n = 130), "41 – 50" (n = 232), "51 – 60" (n = 7) and "above 60" (n = 2).

Table 4.32 reveals that mean rank of the problem faced by the consumer in the form of "Ripping-off before booking the Car" increased from the age group of above 60

(114) to the age group of 41 – 50 (180), to the age group of 51 – 60 (182), to the age group of 30 and below (209) and to the age group of 31 – 40 (217). It also shows that there was a statistically significant difference between the age groups of the respondents in the problems faced by them in the form of ripping-off before booking the car, H (4) = 35.43, $p < .05$. The study confirms that the null hypothesis (H_5) is rejected at the 5% level of significance with regard to ripping-off before booking the car due to the p-value is less than 0.05. The result indicates that the problems faced by the consumers in the form of ripping-off before booking the car were greater for the respondents who come under the age group of 31 – 40 than another age group of the respondents.

Table 4.32 exposes that mean rank of the problem faced by the consumer in the form of "Ripping-off after booking the Car" increased from the age group of 30 and below (155), to the age group of above 60 (162), to the age group of 51 – 60 (167), to the age group of 31 – 40 (174) and to the age group of 41 – 50 (207). It also shows that there was a statistically significant difference between the age groups of the respondents in the problems faced by them in the form of ripping-off after booking the car, H (4) = 25.83, $p < .05$. The study confirms that the null hypothesis (H_5) is rejected at the 5% level of significance with regard to ripping-off after booking the car due to the p-value is less than 0.05. The result indicates that the problems faced by the consumers in the form of ripping-off after booking the car were greater for the respondents who come under the age group of 41 – 50 than another age group of the respondents.

Table 4.32 exposes that mean rank of the problem faced by the consumer in the form of "Disgraceful Service after Sales" increased from the age group of 41 – 50 (180), to the age group of 31 – 40 (207), to the age group of 51 – 60 (211), to the age group of above 60 (238), and to the age group of 30 and below (262). It also shows that there was a statistically significant difference between the age groups of the respondents in the

problems faced by them in the form of disgraceful service after sales, H (4) = 12.43, p = .014 < .05. The study confirms that the null hypothesis (H_5) is rejected at the 5% level of significance with regard to disgraceful service after sales due to the p-value is less than 0.05. The result indicates that the problems faced by the consumers in the form of disgraceful service after sales the car were greater for the respondents who come under the age group of 30 and below than another age group of the respondents.

Table 4.32 shows that mean rank of the problem faced by the consumer in the form of “Oscillation in Financial Affairs" increased from the age group of above 60 (126) to the age group of 31 – 40 (129), to the age group of 30 and below (153), to the age group of 41 – 50 (231), and to the age group of 51 – 60 (234). It also shows that there was a statistically significant difference between the age groups of the respondents in the problems faced by them in the form of oscillation in financial affairs, H (4) = 105.05, p < .05. The study confirms that the null hypothesis (H_5) is rejected at the 5% level of significance with regard to oscillation in financial affairs due to the p-value is less than 0.05. The result indicates that the problems faced by the consumers in the form of oscillation in financial affairs regarding buying a car were greater for the respondents who come under the age group of 51 – 60 than another age group of the respondents.

Table 4.32 exposes that mean rank of the problem faced by the consumer in the form of “Puzzlement on Decision Making” increased from the age group of 30 and below (145), to the age group of 31 – 40 (147), to the age group of 41 – 50 (219), to the age group of 51 – 60 (266), and to the age group of above 60 (277). It also shows that there was a statistically significant difference between the age groups of the respondents in the problems faced by them in the form of puzzlement on decision making, H (4) = 53.44, p < .05. The study confirms that the null hypothesis (H_5) is rejected at the 5% level of significance with regard to puzzlement on decision making due to the p-value is

less than 0.05. The result indicates that the problems faced by the consumers in the form of puzzlement on decision making regarding buying a car were greater for the respondents who come under the age group of above 60 than another age group of the respondents.

The proposed null hypothesis (H_5) was tested by Kruskal-Wallis *H* test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to reach a decision with regard to whether to reject or retain the proposed null hypothesis. The decision made, based on this *p*-value, is presented in Table 4.33.

Table 4.33

Null Hypothesis (H_5) Test Summary

Null Hypothesis	Test	In the Form of	*p*-value	Decision
There are no significant differences between the age groups of the respondents in the problems faced by the consumers of the car.	Kruskal-Wallis *H* Test	Ripping-off before Booking the Car	.000**	Rejected
		Ripping-off after Booking the Car	.000**	Rejected
		Disgraceful Service after Sales	.014**	Rejected
		Oscillation in Financial Affairs	.000**	Rejected
		Puzzlement on Decision Making	.000**	Rejected

**Significant at 0.05 level

The Table 4.33 revealed that the null hypothesis (H_5) is rejected at the 5% level of significance with regard to ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs, puzzlement on decision making due to the *p*-value is less than 0.05.

An attempt was made to analyze the differences between the literacy levels of the respondents in the problems in the form of ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision making faced by the consumers of the car. The following null hypothesis (H_6) is proposed for analyzing the differences between the literacy levels of the respondents in the problems faced by the consumers of the car.

H_6 : There are no significant differences between the literacy levels of the respondents in the problems faced by the consumers of the car.

The Kruskal-Wallis *H* test was done to find out whether there was a significant difference in the problems faced by the consumers of the car by the literacy levels of the respondents. The result of Kruskal-Wallis *H* test is presented in Table 4.34.

Table 4.34

Kruskal-Wallis *H* Test: Problems of Consumers of Car Based on Literacy Level

Factors	*H*	*df*	*p* Value	Mean ranks			
				I	II	III	IV
Ripping-off before booking the Car	20.74	3	.000**	222	193	202	167
Ripping-off after booking the Car	2.32	3	.508	196	197	184	186
Disgraceful Service after Sales	4.73	3	.193	178	198	171	206
Oscillation in Financial Affairs	42.94	3	.000**	179	182	268	186
Puzzlement on Decision Making	24.91	3	.000**	193	177	247	207

**Significant at 0.05 level

(I - School Level, II - U G Level, III - P G Level and IV - Professional Level

A Kruskal-Wallis *H* test was conducted to determine if there were any differences in the problems faced by the consumers of car that made an implication in their literacy levels: " School Level" (n = 39), "U G Level" (n = 227), "P G Level" (n = 61) and "Professional Level" (n = 58).

Table 4.34 reveals that mean rank of the problem faced by the consumer in the form of "Ripping-off before booking the Car" increased from the professional level educated respondents (167), to the U G level educated respondents (193), to the P G level educated respondents (202) and to the school level educated respondents (222). It also shows that there was a statistically significant difference between the literacy levels of the respondents in the problems faced by them in the form of ripping-off before booking the car, H (3) = 20.74, $p < .05$. The study confirms that the null hypothesis (H_6) is rejected at the 5% level of significance with regard to ripping-off before booking the car due to the *p*-value is less than 0.05. The result indicates that the problems faced by the consumers in the form of ripping-off before booking the car were greater for the respondents who have school level education than other literacy levels of the respondents.

Table 4.34 exposes that mean rank of the problem faced by the consumer in the form of "Ripping-off after booking the Car" increased from the P G level educated respondents (184), to the professional level educated respondents (186), to the school level educated respondents (196) and to the U G level educated respondents (197). It also shows that there was a statistically insignificant difference between the literacy levels of the respondents in the problems faced by them in the form of ripping-off after booking the car, H (3) = 2.32, $p = .508 > .05$. The study confirms that the null hypothesis (H_6) is retained at the 5% level of significance with regard to ripping-off after booking the car due to the *p* value is higher than 0.05.

Table 4.34 exposes that mean rank of the problem faced by the consumer in the form of "Disgraceful Service after Sales" increased from the P G level educated respondents (171), to the school level educated respondents (178), to U G level educated respondents (198) and to the professional level educated respondents (206). It also shows that there was a statistically insignificant difference between the literacy levels of the respondents in the problems faced by them in the form of disgraceful service after sales, H (3) = 4.73, p = .193 > .05. The study confirms that the null hypothesis (H_6) is retained at the 5% level of significance with regard to disgraceful service after sales for the reason that the p value is higher than 0.05.

Table 4.34 shows that mean rank of the problem faced by the consumer in the form of "Oscillation in Financial Affairs" increased from the school level educated respondents (179), to the U G level educated respondents (182), to the professional level educated respondents (186) and to the P G level educated respondents (268). It also shows that there was a statistically significant difference between the literacy levels of the respondents in the problems faced by them in the form of oscillation in financial affairs, H (3) = 42.94, p < .05. The study confirms that the null hypothesis (H_6) is rejected at the 5% level of significance with regard to oscillation in financial affairs because the p value is less than 0.05. The result indicates that the problems faced by the consumers in the form of oscillation in financial affairs regarding buying a car were greater for the respondents who have P G level education than other literacy levels of the respondents.

Table 4.34 exposes that mean rank of the problem faced by the consumer in the form of "Puzzlement on Decision Making" increased from the U G level educated respondents (177), to the school level educated respondents (193), to the professional level educated respondents (207), and to the P G level educated respondents (247). It

also shows that there was a statistically significant difference between the literacy levels of the respondents in the problems faced by them in the form of puzzlement on decision making, H (3) = 24.91, p < .05. The study confirms that the null hypothesis (H_6) is rejected at the 5% level of significance with regard to puzzlement on decision making due to the p value is less than 0.05. The result indicates that the problems faced by the consumers in the form of puzzlement on decision making regarding buying a car were greater for the respondents who have P G level education than other literacy levels of the respondents.

The proposed null hypothesis (H_6) was tested by Kruskal-Wallis H test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to reach a decision with regard to whether to reject or retain the proposed null hypothesis. The decision made, based on this p-value, is presented in Table 4.35.

Table 4.35

Null Hypothesis (H_6) Test Summary

Null Hypothesis	Test	In the Form of	*p*-value	Decision
There are no significant differences between the literacy levels of the respondents in the problems faced by the consumers of the car.	Kruskal-Wallis *H* Test	Ripping-off before Booking the Car	.000**	Rejected
		Ripping-off after Booking the Car	.508	Retained
		Disgraceful Service after Sales	.193	Retained
		Oscillation in Financial Affairs	.000**	Rejected
		Puzzlement on Decision Making	.000**	Rejected

**Significant at 0.05 level

The Table 4.35 revealed that the null hypothesis (H_6) is rejected at the 5% level of significance with regard to ripping-off before booking the car, oscillation in financial affairs, puzzlement on decision making for the reason that the *p* value is less than 0.05. The Table also revealed that the null hypothesis (H_6) is retained at the 5% level of significance with regard to ripping-off after booking the car and disgraceful service after sales due to the *p* value is less than 0.05.

An attempt was made to analyze the differences between the current occupations of the respondents in the problems in the form of ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision making faced by the consumers of the car. The following null hypothesis (H_7) is proposed for analyzing the differences between the current occupations of the respondents in the problems faced by the consumers of the car.

H_7 : There are no significant differences between the current occupations of the respondents in the problems faced by the consumers of the car.

The Kruskal-Wallis *H* test was done to find out whether there was a significant difference in the problems faced by the consumers of the car by the current occupations of the respondents. The result of Kruskal-Wallis *H* test is presented in Table 4.36.

Table 4.36

Kruskal-Wallis *H* Test: Problems of Consumers of Car Based on Current Occupations

Factors	*H*	*df*	*p* Value	Mean ranks			
				I	II	III	IV
Ripping-off before booking the Car	41.74	3	.000**	216	215	173	198
Ripping-off after booking the Car	33.12	3	000**	174	167	213	183
Disgraceful Service after Sales	57.33	3	000**	156	284	185	210
Oscillation in Financial Affairs	36.18	3	.000**	185	129	214	202
Puzzlement on Decision Making	125.21	3	.000**	208	56	222	201

**Significant at 0.05 level

(I - Government Employee, II - Private Employee, III - Entrepreneur and IV - Professional

A Kruskal-Wallis *H* test was conducted to determine if there were any differences in the problems faced by the consumers of car that made an implication in their current occupations: "Government Employee" (n = 106), "Private Employee" (n = 54), "Entrepreneur" (n = 190), and "Professional" (n = 35).

The Table 4.36 explains that there was a statistically significant difference between the respondents by different current occupations in the problems faced by them in the form of ripping-off before booking the car, H (3) = 41.74, $p < .05$, with a mean rank of 216 for government employee, 215 for private employee, 173 for entrepreneur and 198 for professional. The study confirms that the null hypothesis (H_7) is rejected at the 5% level of significance with regard to ripping-off before booking the car for the reason that the *p* value is less than 0.05. The result indicates that the problems faced by the consumers in the form of ripping-off before booking the car were greater for the respondents of government employee than the respondents with other current occupations.

The Table 4.36 shows that there was a statistically significant difference between the respondents by different current occupations in the problems faced by them in the form of ripping-off after booking the car, H (3) = 33.12, $p < .05$, with a mean rank of 174 for government employee, 167 for private employee, 213 for entrepreneur and 183 for professional. The study confirms that the null hypothesis (H_7) is rejected at the 5% level of significance with regard to ripping-off after booking the car due to the p value is less than 0.05. The result indicates that the problems faced by the consumers in the form of ripping-off after booking the car were greater for the respondents of entrepreneur than the respondents with other current occupations.

The Table 4.36 shows that there was a statistically significant difference between the respondents by different current occupations in the problems faced by them in the form of disgraceful service after sales, H (3) = 57.33, $p < .05$, with a mean rank of 156 for government employee, 284 for private employee, 185 for entrepreneur and 210 for professional. The study confirms that the null hypothesis (H_7) is rejected at the 5% level of significance with regard to disgraceful service after sales due to the p value is less than 0.05. The result indicates that the problems faced by the consumers in the form of disgraceful service after sales the car were greater for the respondents of the private employee than the respondents with other current occupations.

The Table 4.36 shows that there was a statistically significant difference between the respondents by different current occupations in the problems faced by them in the form of oscillation in financial affairs, H (3) = 36.18, $p < .05$, with a mean rank of 185 for government employee, 129 for private employee, 214 for entrepreneur and 202 for professional. The study confirms that the null hypothesis (H_7) is rejected at the 5% level of significance with regard to oscillation in financial affairs due to the p value is less than 0.05. The result indicates that the problems faced by the consumers in the form of

oscillation in financial affairs regarding buying a car were greater for the respondents of professional than the respondents with other current occupations.

The Table 4.36 exposes that there was a statistically significant difference between the respondents by different current occupations in the problems faced by them in the form of puzzlement on decision making, H (3) = 125.21, $p < .05$, with a mean rank of 208 for government employee, 56 for private employee, 222 for entrepreneur and 201 for professional. The study confirms that the null hypothesis (H_7) is rejected at the 5% level of significance with regard to puzzlement on decision making due to the p value is less than 0.05. The result indicates that the problems faced by the consumers in the form of puzzlement on decision making regarding buying a car were greater for the respondents of the entrepreneur than the respondents with other current occupations.

The proposed null hypothesis (H_7) was tested by Kruskal-Wallis H test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to reach a decision with regard to whether to reject or retain the proposed null hypothesis. The decision made, based on this p-value, is presented in Table 4.37.

Table 4.37

Null Hypothesis (H_7) Test Summary

Null Hypothesis	Test	In the Form of	*p*-value	Decision
There are no significant differences between the current occupations of the respondents in the problems faced by the consumers of the car.	Kruskal-Wallis *H* Test	Ripping-off before Booking the Car	.000**	Rejected
		Ripping-off after Booking the Car	.000**	Rejected
		Disgraceful Service after Sales	.000**	Rejected
		Oscillation in Financial Affairs	.000**	Rejected
		Puzzlement on Decision Making	.000**	Rejected

**Significant at 0.05 level

The Table 4.37 revealed that the null hypothesis (H_7) is rejected at the 5% level of significance with regard to ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs, puzzlement on decision making for the reason that the *p* value is less than 0.05.

An attempt was made to analyze the differences between monthly incomes of the respondents in the problems in the form of ripping-off before booking the car, ripping-off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision making faced by the consumers of the car. The following null hypothesis (H_8) is proposed for analyzing the differences between monthly incomes of the respondents in the problems faced by the consumers of the car.

H_8 : There are no significant differences between monthly incomes of the respondents in the problems faced by the consumers of the car.

The Kruskal-Wallis *H* test was done to find out whether there was a significant difference in the problems faced by the consumers of the car between monthly incomes of the respondents. The result of Kruskal-Wallis *H* test is presented in Table 4.38.

Table 4.38

Kruskal-Wallis *H* Test: Problems of Consumers of Car Based on Monthly Incomes

Factors	*H*	*df*	*p* Value	Mean ranks				
				I	II	III	IV	V
Ripping-off before booking the Car	63.18	4	.000**	226	215	213	204	161
Ripping-off after booking the Car	86.69	4	.000**	167	170	171	258	186
Disgraceful Service after Sales	2.66	4	.616	194	199	205	180	190
Oscillation in Financial Affairs	30.39	4	.000**	174	195	150	209	215
Puzzlement on Decision Making	50.01	4	.000**	165	164	152	190	236

**Significant at 0.05 level

(I - `20,000 and below, II - `20,001– `30,000, III - `30,001– `40,000, IV - `40,001– `50,000 and V - above `50,000)

A Kruskal-Wallis *H* test was conducted to determine if there were any differences in the problems faced by the consumers of car that differed in their monthly incomes: "`20,000 and below" (n = 21), "`20,001– `30,000" (n = 57), "`30,001– `40,000" (n = 90), "`40,001– `50,000" (n = 74) and "above `50,000" (n = 143).

The Table 4.38 explains that there was a statistically significant difference between monthly incomes of the respondents in the problems faced by them in the form of ripping-off before booking the car, H (4) = 63.18, $p < .05$, with a mean rank of 226 for the monthly income of `20,000 and below, 215 for the monthly income of `20,001– `30,000, 213 for the monthly income of `30,001– `40,000, 204 for the monthly income of `40,001– `50,000 and 161 for the monthly income of above `50,000. The study confirms that the null hypothesis (H_8) is rejected at the 5% level of significance with regard to ripping-off before booking the car due to the *p* value is less than 0.05. The result indicates that the problems faced by the consumers in the form of ripping-off before booking the car were greater for the monthly income `20,000 and below of the respondents than other monthly income group of the respondents.

The Table 4.38 shows that there was a statistically significant difference between monthly incomes of the respondents in the problems faced by them in the form of ripping-off after booking the car, H (4) = 86.69, $p < .05$, with a mean rank of 167 for the monthly income of `20,000 and below, 170 for the monthly income of `20,001– `30,000, 171 for the monthly income of `30,001– `40,000, 258 for the monthly income of `40,001– `50,000 and 186 for the monthly income of above `50,000. The study confirms that the null hypothesis (H_8) is rejected at the 5% level of significance with regard to ripping-off after booking the car due to the *p* value is less than 0.05. The result indicates that the problems faced by the consumers in the form of ripping-off after

booking the car were greater for the monthly income of `40,001– `50,000 of the respondents than other monthly income group of the respondents.

The Table 4.38 shows that there was a statistically insignificant difference between monthly incomes of the respondents in the problems faced by the consumers of car in the form of disgraceful service after sales, H (4) = 2.66, p = .616 > .05, with a mean rank of 194 for the monthly income of `20,000 and below, 199 for the monthly income of `20,001– `30,000, 205 for the monthly income of `30,001– `40,000, 180 for the monthly income of `40,001– `50,000 and 190 for the monthly income of above `50,000. The study confirms that the null hypothesis (H_8) is retained at the 5% level of significance with regard to disgraceful service after sales due to the p value is less than 0.05.

The Table 4.38 shows that there was a statistically significant difference between monthly incomes of the respondents in the problems faced by them in the form of oscillation in financial affairs, H (4) = 30.39, p < .05, with a mean rank of 174 for the monthly income of `20,000 and below, 195 for the monthly income of `20,001– `30,000, 150 for the monthly income of `30,001– `40,000, 209 for the monthly income of `40,001– `50,000 and 215 for the monthly income of above `50,000. The study confirms that the null hypothesis (H_8) is rejected at the 5% level of significance with regard to oscillation in financial affairs due to the p value is less than 0.05. The result indicates that the problems faced by the consumers in the form of oscillation in financial affairs regarding buying a car were greater for the monthly incomes of above `50,000 of the respondents than other monthly income group of the respondents.

The Table 4.38 shows that there was a statistically significant difference between monthly incomes of the respondents in the problems faced by them in the form of puzzlement on decision making, H (4) = 50.01, p < .05, with a mean rank of 165 for the

monthly income of `20,000 and below, 164 for the monthly income of `20,001– `30,000, 152 for the monthly income of `30,001– `40,000, 190 for the monthly income of `40,001– `50,000 and 236 for the monthly income of above `50,000. The study confirms that the null hypothesis (H_8) is rejected at the 5% level of significance with regard to puzzlement on decision making due to the *p* value is less than 0.05. The result indicates that the problems faced by the consumers in the form of puzzlement on decision making regarding buying a car were greater for the monthly income of above `50,000 of the respondents than other monthly income group of the respondents.

The proposed null hypothesis (H_8) was tested by Kruskal-Wallis *H* test. The significant level of confidence was fixed at .05. Using this significance level, it is possible to reach a decision with regard to whether to reject or retain the proposed null hypothesis. The decision made, based on this *p*-value, is presented in Table 4.39.

Table 4.39

Null Hypothesis (H_8) Test Summary

Null Hypothesis	Test	In the Form of	*p*-value	Decision
There are no significant differences between monthly incomes of the respondents in the problems faced by the consumers of the car.	Kruskal-Wallis *H* Test	Ripping-off before Booking the Car	.000**	Rejected
		Ripping-off after Booking the Car	.000**	Rejected
		Disgraceful Service after Sales	.616	Retained
		Oscillation in Financial Affairs	.000**	Rejected
		Puzzlement on Decision Making	.000**	Rejected

**Significant at 0.05 level

The Table 4.30 revealed that the null hypothesis (H_8) is rejected at the 5% level of significance with regard to ripping-off before booking the car, ripping-off after booking the car, oscillation in financial affairs, puzzlement on decision making due to the *p* value is less than 0.05. The Table also revealed that the null hypothesis (H_8) is retained at the 5% level of significance with regard to disgraceful service after sales the car for the reason that the *p* value is higher than 0.05.

4.3 CHAPTER SUMMARY

In this chapter, the study has described the demographic characters of the consumers of the cars to gain some necessary insights. And the result of the selected demographic characters of the consumers was used to analyze their buying preference of brand of car and to analyze their problems regarding buying a car. The study considered the top ten brands of the car such as Maruti Suzuki, Hyundai, Mahindra, Honda, Tata, Toyota, Ford, Renault, Chevrolet and Volkswagen as on October, 2015 for analysis. The empirical results confirmed that the brand of Maruti Suzuki has the top most consistency of buying preference among the consumers of the car. The study identified that there is a significant association between consumer buying preference of various brands of car and their age, literacy level, current occupation and monthly income except for their gender. It also identified the factors such as information, psychological, economic, product and performance which influenced the consumer buying preference. The study constructed the brand image of various brands of the car by using the perception of consumers on seven attributes of the car, namely design and style, performance, quality, safety, technology and innovation, value and fuel economy. It also derived a formula to predict the brand image of the car by the seven attributes of the car. The study identified and named the five factors of problems from twenty types of problems faced by the consumers of the car. The demographic characters' differences in the problems faced by the consumers of the car were found to be negligible, with significant differences in different age, gender, literacy level, current occupation and monthly income except for gender with regard to the problems faced by the consumers of the car.

CHAPTER V

SUMMARY OF FINDINGS, SUGGESTIONS, AND CONCLUSION

This chapter is devoted to recapitulate the summary of main findings and conclusion of the previous chapters and to offer some suggestions for improving buying preference and the perception level of consumers towards various brands car and also for increasing car marketing in Tirunelveli district.

5.1 INTRODUCTION

Consumer behaviour, in general, such as buying preference and perception is the process whereby individuals decide what, when, where, how and from whom to purchase goods and services. It is influenced by cultural, social, personal and psychological factors and includes all types of behaviour that consumers display in buying, using, evaluating and disposing of products. And so, it reflects the totality of a consumer's actions with respect to the acquisition, consumption, and disposition of goods and services, including the decision-making process that precedes buying process and post buying orientation.

After an in-depth survey of the literature, the researcher got acquainted with various aspects related to the study that helped her to evolve a suitable methodology. The information for the study has been obtained from both primary and secondary sources. The primary data were collected through the interview schedule. The secondary data were collected through all relevant published and unpublished sources. The data collected were subjected to multivariate statistical analysis. They include Descriptive statistics, Coefficient of variation, Chi-square test, One sample *t*-test, Multiple Linear Regression Analysis, Factor Analysis, Mann-Whitney *U* test, and Kruskal-Wallis *H* test.

5.2 SUMMARY OF FINDINGS

From the foregoing chapters, the major findings of the demographic profile of the respondents, consumer buying preference towards various brands of car, influencing factors of buying preference of various brands of car, consumer perception towards various brands of car and problems faced by the consumers of the car are summed up and presented below.

5.2.1 Demographic Profile of the Respondents

Regarding the demographic profile of the consumers of the car, 10 variables are taken up into consideration for this study. While considering the gender of the respondents, the predominant group is found to be male only. Under the category of age, most of the respondents come under the age category of 41 – 50 years. Regarding literacy level, most of the respondents were educated up to undergraduate level. Regarding the social status of the respondents, most of them belonging to a backward community (BC). Regarding the religion of the respondents, most of them belonging to the Hindu religion. The marital status showed that the majority of the respondents are found married. Most of the respondents are having the medium size (3 – 4 members) of the family. Regarding current occupation, most of the respondents belong to entrepreneur. The monthly income of the respondents showed that most of the respondents are having the monthly income of above ` 50,000. The result exposed that the most of the respondents presently having the Maruti Suzuki Car.

5.2.2 Consumer Buying Preference towards various Brands of Car

- The study indicated that the consumers have expressed the top most consistency of buying preference towards the brand of Maruti Suzuki car.

- It could be found from the analysis that consumers buying preference of the brands of the car are influenced by the age, literacy level, current occupation and monthly income of the respondents except for the gender of the respondents.
- It is observed that the influencing effect of age of the consumers on their buying preference towards the brand of Renault Car is higher than other brands of cars.
- It is found that the influencing effect of literacy level of the consumers on their buying preference towards the brand of Volkswagen Car is higher than other brands of cars.
- It is inferred that the influencing effect of current occupation of the consumers on their buying preference towards the brand of Tata Car is higher than other brands of cars.
- It is shown that the influencing effect of monthly income of the consumers on their buying preference towards the brand of Hyundai Car is higher than other brands of cars.
- It is shown that the information factors, psychological factors, economic factors, product factors, and performance factors influence the consumers buying preference towards all the brands of cars.
- It is highlighted that psychological factors such as feelings of social status, brand loyalty, personal values, driving comfort, status symbol, and necessity are the highest influencing factors on consumers buying preference of the brands of the car than other factors.

5.2.3 Consumer Perception towards Various Brands of Car

- It could be found from the analysis that the design and style of Volkswagen car are very good whereas the design and style of Chevrolet and Mahindra cars are poor in the view of consumer's perception.

- It is found from the analysis that the performance of Renault car is very good whereas the performance of Chevrolet and Mahindra cars are poor in the view of consumer's perception.
- It has revealed that the quality of Ford, Maruti Suzuki, Renault, Toyota and Volkswagen car is good while the quality of Chevrolet car is very poor in the view of consumer's perception.
- It is inferred that the safety of Ford, Renault, and Volkswagen car is good while the safety of Chevrolet car is very poor in the view of consumer's perception.
- It is noticed from the analysis that the technology and innovation of Volkswagen car are very good while the technology and innovation of Chevrolet and Mahindra cars are poor in the view of consumer's perception.
- It is revealed that the resale value of Chevrolet, Hyundai, Maruti Suzuki, Tata, Toyota and Volkswagen car is good while the resale value of Mahindra car is very poor in the view of consumer's perception.
- It is clear that the fuel economy of Chevrolet car is very good while the fuel economy of Mahindra and Renault cars are poor in the view of consumer's perception.
- The study reported that the brand of Volkswagen car have the highest brand image followed by the brand of Renault and Toyota cars whereas the brand of Mahindra car has the least brand image among the consumers of the car.
- Further, the study derived the following regression equation for predicting the brand image of the car by means of attributes of car namely design and style, performance, quality, safety, technology and innovation, resale value and fuel economy.

Brand Image of Car = .309 + .118 x Design and Style + .167 x Performance + .346 x Quality + .170 x Safety + .266 x Technology and Innovation + .363 x Resale Value + .006 x Fuel Economy

5.2.4 Problems Faced by the Consumers of Car

- With the help of factor analysis, the twenty various problems faced by the consumers when pre, during and post buying the car were reduced to five factors such as ripping-off before booking the car, ripping off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision making.
- It is revealed that the consumers of car suffer most often because of disgraceful service after-sales the car and followed by the problems due to the oscillation in financial affairs regarding deciding what sort of car best meets, budget preparation for buying a car and to get a loan for buying a car.
- It is shown that there was no statistically significant difference in the problems such as ripping-off before booking the car, ripping off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision-making between the genders of the respondents.
- The study showed that there was a statistically significant difference in the problems such as ripping-off before booking the car, ripping off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision-making between the age groups of the respondents.
- The study showed that there was a statistically significant difference in the problems such as ripping-off before booking the car, oscillation in financial affairs and puzzlement on decision-making except for the problems such as

ripping-off after booking the car and disgraceful service after sales between the age groups of the respondents.

- The study showed that there was a statistically significant difference in the problems such as ripping-off before booking the car, ripping off after booking the car, disgraceful service after sales, oscillation in financial affairs and puzzlement on decision-making between the current occupations of the respondents.
- The study showed that there was a statistically significant difference in the problems such as ripping-off before booking the car, ripping off after booking the car, oscillation in financial affairs and puzzlement on decision-making except for the problems of disgraceful service after sales between the monthly incomes of the respondents.

5.3 SUGGESTIONS

After analyzing the findings, the following suggestions have been made. Great care has been taken in offer some salutary suggestions for enhancing better consumer service and more efficient marketing of cars.

5.3.1 Suggestions to the Car Manufacturers and Dealers

- The study brought to light the fact that the brand of Maruti Suzuki car has the top most consistency of buying preference among the car consumers. Hence, it is suggested that car manufacturers and marketers of other brands need to understand the influencing factors for Maruti Suzuki car which has the top most consistency of buying preference among the car consumers. They have to focus their marketing strategies and sales promotional activities such as advertisement

through an effective media to ensure their product finds a place in the minds of consumers.

- The study revealed that consumers buying preference of the brands of the car are dependent the age, literacy level, current occupation and monthly income of the respondents. Car manufacturers must realize the fact that the influencing effect of age, literacy level, current occupation and monthly income is higher for the brand of Renault car, Volkswagen car, Tata car, and Hyundai car respectively. Therefore, the car manufacturers should find out the needs, tastes and preferences of the consumers based on their demographic characters and act accordingly through their research and development department in order to design the products and promote the marketing strategies.
- The study revealed that the information factors, psychological factors, economic factors, product factors, and performance factors influence the consumers buying preference of the different brands of cars. So the car manufacturers have to analyze all these factors and find out the best suitable tools for promoting their cars. For promoting the product consumption and creating awareness, manufacturers may use advertising campaigns based on these factors to promote the higher consumption of cars with lots of promotional offers.
- The study proved that psychological factor is the highest influencing factor on consumers buying preference of the brands of the car than other factors. Hence, it is suggested that marketers/dealers of the car might want to focus on social status, brand loyalty, personal values, driving comfort, status symbol and necessity of the consumers to catch the attention of the intending future customers. Manufacturers might look into these aspects to their car design, so as to attract the consumers, prone to decide the models based on these criteria.

- The study proved that the attributes of the car like design and style, performance, quality, safety, technology and innovation and resale value have significantly predicted the brand image of the car except for fuel economy. Hence, the following suggestions are recommended.
- It is suggested that the car manufacturers should appoint the design and styling team (automotive designers) consisting of a chief designer and an exterior as well as interior designer. They should all be experts on the latest information and knowledge regarding the consumers and advice the car manufacturers to produce very stylish, good looking cars fulfilling A to Z requirements of the consumers.
- It is suggested to the car manufacturers, dealers and marketers to give top priority in the follow up of their consumers for changing oil regularly, ensuring tires are properly inflated with recommended pressure, and following the recommended schedule of service, to make their car perform better and last longer. Further it is also suggested that the consumers of the car to do the professional tune-ups that include air and fuel filter changes, spark plugs, and even transmission fluid and filter changes for the better performance of their car.
- The car manufacturers are recommended that they have to produce the cars with the latest technology with superior quality and at a lower price. The central and state government may announce the award for the automobile companies which adopt Research and Development measures so that Indian cars can really become world class quality.
- The car manufacturers and dealers are recommended that they should provide the safety options such as ABS (anti-lock braking system), airbags and traction control systems from low version onwards. They may invite the ideas regarding

safety measures in the car from the consumers by registering on their official website. It is also suggested to the car manufacturers, dealers and marketers to conduct periodical awareness programmes related to the safety measures and maintenance of the car for their consumers. The consumers are also recommended that they have to do no compromise for the safety measures of their car under any circumstances.

- The car manufacturers may gather data from consumer clinics and marketing surveys and combine this information with formalized assessments of new technology and innovation so that they can implement the new technology and innovation for their product.
- The car manufacturers and dealers may provide a "special master repairing service" to their customers who wish to sell their cars after one or two years of their buying the car. This will indirectly increase the resale value of the cars. The special master repairing service may consist of replacing windshield wipers, clean the engine, top off all fluids, check the tires, wash and wax the car, restore headlights, check dashboard lights, clean the interior, shine the wheels, check the breaks and repair major scratches, dings, and dents. The car manufacturers and dealers should take necessary steps and use advertising campaigns to popularize their brands among consumers so that they can increase the resale value of their brand.
- Due to the steady increase in petrol/diesel prices, fuel efficiency should be improved, increased at any cost and practically speaking this is the need of the hour. Constant improvement and technical up gradation for better fuel efficiency alone will attract and retain more consumers.

- It is revealed that the consumers of car suffer most often because of disgraceful service after-sales of the car. Therefore, it is suggested that the after sale services rendered or to be rendered should be properly explained and taken care of, and intimated to the consumers in time. Friendly approach and reliability in service will stop the consumer problems like disgraceful service after-sales the car. Approved service points or stations should be established in every Taluks with experienced mechanics and equipped with spare parts at reasonable cost.
- The study noted that the oscillation in financial affairs is the next most problems faced by the consumers when buying the car. Hence, the car dealers should have tie-up with authorized financial institutions to boost sales of cars and should not hide the actuality of car finance and Annual Percentage Rate.(APR). The hidden charges should totally be avoided.
- The study reported that confusion on decision making is also one of the problems faced by the consumers when buying a car. Hence, it is suggested that the Regional Transport Office (RTO) and Non-Government Organization (NGO) may organize an association or forum for car consumers where the consumers may share their experience, clear their doubt and gather the information related to the car buying so that the consumers can avoid the confusion on decision making regarding the car buying.
- It is revealed that the consumers also suffer due to the problems of ripping-off before and after booking the car because of dealers in the showroom. Hence, the car manufacturers and wholesale dealers should appoint a special team for a surprise visit and inspect the showroom to avoid these problems. They should generate and run the grievance cell on their official websites for receiving the complaints of consumers about the dealers and showroom so that they can stop

the problems like ripping-off before and after booking the car because of dealers in the showroom.

5.3.2 Suggestions to the Government

- The government may announce the awards/rewards for the car companies and for the car dealers having top most sales for every year so that the healthy, as well as tough competition, will generate in the car marketing.
- The government should take specific measures to promote the sales of cars by the expansion of the domestic market. Policy initiatives for competitiveness and developments of technology would be taken by the government for increase the sales of cars.
- The government should generate the centralized data warehouse/agency on car registration and related parameters exist. The availability of centralized registration details (age, literacy level, current occupation, monthly income and other details) will enable to meet customer's demand in view of buying preference such as demand structure for styling and engineering design of a car.
- The car exhibition including all brands may be conducted by the government for every year in every district for the consumers to prefer to buy the car based on their social status, brand loyalty, personal values, driving comfort, status symbol and necessary.
- The government may provide the modernization and technology up-gradation fund to the car manufacturers to facilitate the development of car attributes like design and style, performance, quality, safety, technology, fuel economy and innovation for enhancing the car marketing.

- Computerized and web-based systems of Grievance Redressal may be organized in every Regional Transport office (RTO) to solve the problems faced by the consumers of the car such as ripping-off before booking the car, ripping off after booking the car and disgraceful service after sales.
- Regional Transport office (RTO) may extend its service by counseling center for car consumers to meet their problems before buying the car like oscillation in financial affairs and puzzlement on decision making.
- The government may introduce the latest tools such as Mobile Apps and Customized Websites for car consumers for car shopping, car maintenance, knowing their buying preference based on their demographic factors, car features, booking complaints, knowing the status of the complaints and result of the complaints.

5.4 CONCLUSION

Realizing the importance of the car industry in the present economic situation, the researcher has analyzed the buying preference and perception of consumers towards the various brand of car. It is rightly said; Yesterday's luxuries are today's comforts: and Todays comforts are Tomorrows necessities. Hence in this digital world, the car is no longer a luxury. Consumer buying preference and perception consists of all human characters which reflect in making purchase decisions. An understanding of the consumer buying preference and perception enables a marketer to take marketing decisions which are compatible with its consumer needs. Consumer buying preference and perception cannot be exactly predicted but can be done to a certain extent with the help of consumer research activity.

The present study is an attempt to evaluate the consumer buying preference and perception towards various brands of car. This study explained the relationship of consumer buying preference of various brand of car with their demographic characters. It highlights the various factors which influence the consumer buying preference of various brand of car. From the discussions made in the study, there are certain product attributes which are identified in the study as predictors for the brand image of a car. The study has analyzed the problems faced by the consumers when pre, during and post buying a car. This finding of the study will enable the Government and the Automobile industrial marketers to frame suitable mandates to promote the Automobile industrial market particularly the car market. It is therefore earnestly hoped that the authorities will consider the suggestions given in the study. The researcher also strongly believes that if all the suggestions are carried out by a car manufacturer and dealers, they may become a number one brand of car in the car marketing.

SCOPE FOR FURTHER RESEARCH

The present study has made an attempt to analyze the consumer buying preference and perception towards various brands of car in Tirunelveli District. The findings reported in this study offer several suggestions that there still remains a viable prospect for future research.

- There may be inherent distinctions among the urban, semi-urban and rural consumers in their buying habits, motives perceptions etc. due to their different lifestyles. There is a scope for future research to compare the behaviour of these three major groups of people.
- A comparative study may be undertaken between the districts of Tamil Nadu in the consumer buying preference and perception towards various brands of car.

- The study dealt the problems when buying a car in the view of consumers. The future research may conduct on the problems of dealers and manufacturers when marketing the car.
- Further research can be made on the impact of the brand image of the car on buying preference of consumers.

The researcher presents this study with the hope that this will draw the attentions of future researchers and help them in any form for their research. If do so, the researcher will feel that she is amply rewarded.

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