Chapter-4

RESEARCH
METHODOLOGY
Chapter 4
Research Methodology

Chapter Outline

This chapter describes the research design and the procedures for conducting the study. Specifically, this chapter delineates the instrument development including pilot testing and the sampling, data collection and data analysis procedures. The discussion of the instrument for collecting data shows the operationalization of the variables. The issues of the reliability and validity of the measurement scales are addressed. Furthermore this chapter presents the various research hypotheses to be tested in the study.

Since the study is divided in two parts, the research methodology incorporated for both the parts shall be dealt sequentially. The structure of data analysis is also discussed and limitations of the study is also mentioned at the end of the chapter.

4.1 Research Design for Quantitative study

In quantitative research the aim is to determine the relationship between one thing (an independent variable) and another (a dependent or outcome variable) in a population. Quantitative research designs are either descriptive (subjects usually measures only once) or experimental (subjects measured before and after treatment). A descriptive study established only associations between variables whereas an experiment establishes causality.

Studies aimed at quantifying relationships are of two types descriptive and experimental. In a descriptive study no attempt is made to change the behaviour or conditions- things are measured as they are. In an experimental study measurements are taken, some sort of intervention is administered and then again the measurements are repeated to observe the effect of the intervention.

Since this study is industry specific, it is pertinent to mention the industry the study will focus on. Industries have been identified as forming the two ends of tangibility-intangibility continuum as suggested by Lovelock (2000). Indian Car
industry has been chosen for the study. It has a predominantly tangible good association with it along with a supplemental role of dealer involvement during car purchase in car marketing and after sales service.

Research designed to answer questions about the current state of affairs is known as descriptive research and the hence the research design applied by this study is descriptive research design.

Furthermore one distinction that is made in descriptive research concerns whether it is qualitative or quantitative in orientation. Qualitative research is descriptive research that is focused on observing and describing events as they occur with the goal of capturing all the richness of everyday behavior. The data that forms the basis of qualitative research are in their original rich form for example descriptive narrates such as field notes and audio video recordings. Quantitative research is descriptive research that uses more formal measures of behavior including questionnaires which are deigned to be subjected to statistical analysis. This research is quantitative in nature.

4.1.1 Sample Size for the Car Industry –

4.1.2 Marketing mix variable, and brand image effects intending car purchase decision

The population for the research was all the car manufacturers in India, manufacturing small cars (within Segment A and B). In all there were four variables with the addition of buying intention. However the total number of items counted to 48 and therefore a minimum desirable size of 240 was desirable. For the Marketing mix analysis, the target sample size was set at 1000 but 469 was the final achieved limit, based on the data access of the respondent as also accounted for the missing cases or biases linked to that of respondent or interviewer. The population for small car industry was anybody who owned, or was planning to purchase a small car within next 3 to 6 months time and was presently engaged in active car search and of the three brands (company as a brand) of car viz. Maruti, Hyundai and Tata. A systematic sampling of car owners was carried out from the list given by dealers.
Table 6: Screened Dealership of Tata Hyundai and Maruti at cities Aligarh, Gurgaon, Chennai, Pune, and Jamshedpur

<table>
<thead>
<tr>
<th>Dealers of @</th>
<th>MUL</th>
<th>HMIL</th>
<th>Tata</th>
<th>No of customers interviewed</th>
<th>Customers who responded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aligarh</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>108</td>
<td>59</td>
</tr>
<tr>
<td>Gurgaon</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>130</td>
<td>93</td>
</tr>
<tr>
<td>Chennai</td>
<td>12</td>
<td>4</td>
<td>6</td>
<td>216</td>
<td>104</td>
</tr>
<tr>
<td>Pune</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>203</td>
<td>141</td>
</tr>
<tr>
<td>Jamshedpur</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>125</td>
<td>72</td>
</tr>
<tr>
<td>Total no of dealers</td>
<td>32</td>
<td>13</td>
<td>13</td>
<td>782</td>
<td>469</td>
</tr>
</tbody>
</table>

The second step was visiting Dealers at the 5 cities and interviewing customers who visited with the intention of purchasing a small car. Questionnaire filled after personal interviews at dealer location itself.

The study aimed at identifying the factors which are important towards affecting a purchase decision for a car brand and model. The nature of the research was descriptive cross-sectional research. It was aimed at getting the feedback from the intending buyers of Maruti Wagon R, Santro Xing and Tata Indica. The study was carried out at Aligarh, Jamshedpur, Gurgaon, Pune and Chennai during the time period 2006-2007. The final sample consisted of prospective customers of the three brand of cars (Number of customers contacted) and response elicited

   (108) 59 from Aligarh,
   (216) 104 from Chennai
   (130) 93 from Gurgaon and
   (125) 72 from Jamshedpur,
   (203) 141 from Pune

The reason behind selection of these cities was

1. convenience
2. the cities, selected had a similar ratio of number of dealers of the three car manufacturers in each city.
3. The ratio of three manufacturers' market share was nearly similar during the period of study.

4. Also, the four cities were associated with small car manufacturing.

From out of 782 persons contacted, a final sample of 469 intending consumers was selected by judgmental area sampling method. In judgmental sampling, the choice of sample items depends exclusively on the judgment of the investigator. In other words, the investigator exercises his judgment in the choice and includes those items in the sample, which he thinks are most typical of the universe with regard to the characteristics under investigation. In area sampling, the total area is divided into a number of smaller non-overlapping areas, generally called geographical clusters, in our case car dealers in each city of the 3 brands under investigation and all units (prospects who visited these dealerships for car purchases) in the small area being included in the sample. This makes the field interviewing more efficient since the interviewer can take many interviews at each location.

During visits to these cities in connection with plant visits and interviewing senior executives and managers, also all car dealers of the car makers were visited. The consumers visiting these dealers were approached personally and handed over the questionnaire. This direct approach for data collection instead of mailing questionnaires, was adopted because according to Meister (1985), experience has shown that the rate of response and the quality of responses received are lower in the mailed questionnaires than in the directly administered questionnaire. The administrator's instructions and appeals with positive motivation may increase the number of respondents completing the questionnaire. This motivational factor is lacking in mailed questionnaires. In the latter, respondents must derive their instructions and motivation from printed material, with no opportunity to query instructions. This was done with a view of giving complete attention to the respondent. Any ambiguity or clarifications asked by the individuals were attended to immediately. In this context, administration of a questionnaire does involve some loss in terms of time. The set of questionnaires used in the present
study however consisted of items so constructed that their meaning was obvious. However, to be absolutely sure about the suitability of both the consumer and dealer questionnaires, pre-testing of both the questionnaires was done on 50 consumers at Aligarh. Though there were no major problems encountered during the pre-testing, minor modifications were done where deemed necessary. Most respondents handed back the completed questionnaire instantaneously. Some took one or two days depending on exigency of work, while some did not return. In case of those who returned after a few days and had some data fields missing or multiple entries made they too were screened to arrive at the final sample of 469 intending car buyers.

Intending Buyers were identified as adult males and females planning to purchase a new Maruti Wagon R / Santro Xing / Tata Indica in the next three to six months. The total number of questions was 9 with one question having 2 sub parts (Annexure I). The questions were developed based on the primary research objectives, which aimed at identifying important aspects of consumer decision making in the Indian Car Industry’s most competitive Segment B. Since the primary aim was to assess how the consumer choice sets influence car purchase decision-making, a number of dimensions were determined on the basis of which questions were developed. The following two important dimensions have been considered, on whose basis the following hypothesis have been developed:

1. Perceived image of a car model and specific parameters that are valued by the consumer as important determinants for final car purchase. Specific questions were developed for measuring these in the questionnaire.

2. It was essential to carry out direct comparison on a one-to-one basis amongst the 3 car models under consideration. Hence one question was specifically included on number of parameters on the basis of which it was possible to carry out paired comparisons. After data collections, consumer questionnaires were scrutinized and analysis was carried out using various statistical tests including paired sample –t test and Chi square.
Three cars selecting one each the three firms i.e Santro Xing from Hyundai, Indica from Tata Motors and Wagon R from Maruti Udyog were selected after observing several parameters like their growth rate from the time of their introduction, their current stage in the life cycle and the share of sale among the total B segment car sales in India. (Incorporate cut sales table here) It was further decided to explore the factors which influenced their purchase among consumers making purchase decisions towards purchasing small cars. The factors considered being important aspects of consumer decision making in the Indian car industry’s most competitive Segment B. The factors which influenced and individuals being the perceived image of the car model on the basis of driving comfort and easy maneuverability, Fuel efficiency, Durability/ Ruggedness, After sales service/ Availability of spares, technology and safety/ Financing schemes/ Exchange programs, Knowledge and attitude of dealer staff car purchase decision making in context of these 3 car models, as they had the largest share of sales in the B segment nearly 76-80%. We try to probe which of the marketing mix elements are effecting his purchase decision in selecting a car and how the different marketing strategies offered by the Automobile manufacturers effecting him by the different brands,

4.1.3 Instrument Development for exploring effect of marketing mix variable, and brand image toward intending car purchase decision

A structured questionnaire was developed based on the research objective which primarily aims at identifying important aspects of consumer decision making in the Indian car industry’s most competitive B segment. Since the primary aim is to assess how the consumer choice sets influence car purchase decision making, a number of dimensions were identified on the basis of which questions were developed to collect data on the variables in the study. The final version of the instrument is in Appendix A. All questions in the questionnaire were closed ended.

The research variable (criterion variables) being Product variable (identified as parameters for selecting the brand, Price Variable, Place variable (dealership affiliation and association) Promotion variable, Brand image. Some questions
were adopted and compiled from previous studies of consumer decision making, purchase factors and consumer behavior while others being developed or modified for this study.

The questionnaire for exploring the dynamics of Marketing mix variables towards intending purchase decisions, was divide into two parts viz. Part A and B. Part A had 12 questions, four of them indicating the intended purchase decision already established because of the effect of the factors already a consumer was exposed to. Choices indicated single brand preference and also the intending time of taking the purchase decision with the variation being less than a month, 1 to 3 month, 3 to 6 months, after 6 months. The fourth question explored the source or sources of information which intending consumer had used towards taking the purchase decision, choices indicated single source option viz-a-viz multiple source preferences.

The fifth question listed 12 parameters 8 of them product related three of them service related and one parameter related for reason for purchase. Each of the parameters was to be ranked from 1 to 3. The classifications being from 1 most important, to 2 indecisive and 3 least important. Also this was used for analyzing if there existed any significant association between certain parameter(s) and the choice of the car brand.

Towards understanding of most important list of factors extracted towards selecting a car and exploring an association of these factors with the purchase intended brand of the car was the reason for this question.

The sixth question was related to, the image and perception, the consumers had for the three B segment car brands under study. It was described with 11 itemized statements. The response format being a 5 point Likert scale, with classifications of their liking and disliking ranging from 5: very good, 4: good, 3: neither good nor bad, 2: poor, to 1: Very poor. The construct of this question was done in a tabular format so that an intended consumer gives his association as per each statement and ranks the three competing car brands, appearing visually at the same place.
The seventh question follows the pricing element and explores the source of finance for the purchase intention for an intended brand of car. It consists of five single options, towards marking ones preference.

The B part of the questionnaire explores the marketing mix elements viz. Product Price Place and Promotion and Place (consumers preference for a particular dealer)

The survey used questionnaire which had 21 statements. The responses were collected on a five point Likert scale ranging from (1 Strongly Agree to 5 Strongly Disagree). Five point Likert scale being the simplest and easy to understand, is suitable for this category of respondents. Factor Analysis was used for analysis.

The research variable for studying the purchase decision for a car brand and model were Driving comfort, Luggage space, cabin space, easy maneuverability, serviceability, Ease of driving, superior technology, image of the company, fuel efficiency, safety, environment friendly, commercial purpose

4.1.4 Marketing Mix Strategy and Variables Affecting Car Purchase Decision

4.1.4a. Marketing Mix Strategies and Perceived Brand Image Affecting Consumer Purchase Decision

We attempt towards exploring the factors responsible in affecting the purchase decision by an intending car buyer. Since purchase decision involving a car requires a high amount of involvement and especially since it a high ticket item, the car buyer would invest in serious search towards making the purchase decision.

First and foremost s/he identifies the car category on the basis of her /his need criterion and investment capacity. We have decided to limit our analysis for customers, who were intending to purchase a small car in about 3 to 6 months time. The intending customers had already pre decided on purchasing a B category small car made by one of the three major Indian car manufacturers namely Maruti Udyog Ltd., Tata Motors and Hyundai Motors India Limited.
After having decided on the car category comes the next level of decision making i.e., to decide on which car to purchase. Finally the intending customer also takes into the account the dealer experience in terms of acquaintance, accessibility and his interaction and preference for a specific dealer towards finalizing his purchase decision. We attempt at exploring the dealer marketing and promotion and observe as to how it affects the intending car buyers purchase decision.

Finally we explore the interactions of the four marketing mix strategy dimensions, i.e., Product strategy, Pricing Strategy, Promotion strategy and Place strategy towards shaping the consumers final purchase decision for a specific brand of car.

The outcome of the first part of the study give us the marketing mix elements along with factors which are responsible for the affecting the purchase decision by an intending car buyer. In the second part of the study we explore the marketing strategies which are followed by the three car manufacturers and try to understand their competitive positions within the Indian Car industry.

Fig.10 : Conceptual Framework - Marketing Mix Strategy Affecting Consumer Purchase Decision

The conceptual framework of the study focuses on the development of a model to measure the relationship between marketing mix strategy and consumer purchase decision. Examining the relationship between marketing mix strategy and consumer purchase decision, should contribute to our knowledge of the relationship that exists between them. The link between the dimensions of marketing mix strategy and consumer purchase decision is illustrated in Figure 1 above.

In this framework, the marketing mix strategy dimensions are independent variables and consumer purchase decision is the dependent variable. The present study thus attempts to bridge the gap by providing a basis for a thorough and insightful understanding of marketing mix strategy and consumer purchase decision. The model suggests that there is a strong relationship between the dimensions of marketing mix strategy and consumer purchase decision.

### 4.1.4b. Perceived image of the Car Brand

With the availability of similar products, positioned by the competing firms, and also price and promotion positioned on narrow difference. It becomes difficult for a consumer to decide as to which car to purchase. Car manufacturers then try to use Promotion and Branding as communication tools positioning the different Unique Selling Proposition trying to further differentiate their product from their nearest competitor. There arises Parameters as Easy to Drive, Easy to Maintain, Sophisticated, Attractive styling, Spacious, Environment Friendly, Value for money, Complete Family Car etc. These parameters are designed and branded as product personalities which attract a consumer to particular car brand and many purchase decisions are based primarily on the perceived image of the brand.

In the attempt towards exploring the factors affecting consumer purchase decision we shall explore the three cars brands, one from each manufacturer, i.e., Santro Xing from Hyundai Motors India Ltd., Indica from Tata Motors and Wagon R from Maruti Udyog Ltd. The factors influencing an individual’s perceived image of the car model being Driving comfort and easy maneuverability, Fuel efficiency, Durability, Ruggedness, After sales service, Availability of spares, technology and safety, Financing schemes and Exchange programs.
To explore the effect of the perceived factors influencing the purchase decision A descriptive cross sectional analysis comparing the three car models on a one to one basis for each factor shall be carried out.

4.1.4c. Dealer Factors Affecting Consumer Purchase Decision

Car dealers form an important link in the Car Marketing Process. Being an important link in the value chain their managerial insight is extremely useful towards planning sales promotion. Their influence has a direct impact on the customer towards deciding to purchase a car from them. Estimating customer’s judgment about their ‘buying experience’ and evaluating the aspects that influence their perception could help in making a product a success.

We would attempt to explore the factors which results in determining why a customer will not buy elsewhere? Why customer loyalty exists towards purchasing from a certain dealers only, in case of high ticket items like cars. Loyal customers also tend to make more additional purchases and also spread positive ‘word of mouth’ affecting more sales- an important sales factor in automotive business, which is heavily dependent on vehicle servicing and accessories.

Factors like acquaintance, association and accessibility which influence consumers’ preference for a particular dealer towards effecting car purchase decision shall be explored.

The study shall attempt to explore which of the marketing mix elements along with perceived image about a brand and the dealer at which the consumer has had a direct marketing association with the brand affects a consumers’ purchase decision in selecting a car and how the different marketing strategies offered by the competing car manufacturers affect him / her in the decision making process.

4.1.5 Instrument Reliability and Validity for Quantitative Study

The precision with which one measures things also has a major impact on the sample size. The weak result of a measurement, requires more subjects in order to elicit the signal (or effect) out of the noise (the errors in measurement). Precision is expressed as validity and reliability. Validity represents how well a variable
measures what it is supposed to measure. Validity is important in descriptive studies. If the validity of the main variable is poor, the researcher would need thousands rather than hundreds of subjects.

The validity of a scale may be defined as the extent to which differences in observed scale scores reflect true differences among objects on the characteristic being measured rather than systematic or random error. Researchers may access content validity, criterion validity or construct validity.

4.1.5a Types of measurement validity

- **Content validity**: checks if the full content of a concept’s definition included in the measure? It includes a broad sample of what is being tested, emphasizes important material, and requires appropriate skills. A conceptual definition can be though of as the “pace” that contains ideas and concepts.

- **Criterion validity**: finds if the measure is consistent with what we already know and what we expect? Two subcategories: predictive and concurrent
  - **Predictive validity**: Predicts a known association between the construct being measured and something else.
  - **Concurrent validity**: Associated with pre-existing indicators; something that already measure the same concept.

- **Construct validity**: shows that the measure relates to a variety of other measures as specified in a theory.

- **Convergent validity**: finds the extent to which the scale correlates positively with other measures of the same construct.

- **Discriminant validity**: is the extent to which a measure does not correlate with other constructs from which it is supposed to differ.

- **Nomological validity**: is the extent to which the scale correlates in theoretically predicted ways with measures of different but related constructs.
4.1.5b. Reliability

Reliability tells one how reproducible the measures are on a retest, so it impacts experimental studies: the more reliable a measure, the less subjects one needs to observe a small change in the measure.

**Internal Consistency Reliability:** It is used to assess the reliability of a summated scale where several items are summed to form a total score. In a scale of this type, each item measures some aspect of the construct measured by the entire scale and the items should be consistent in what they indicate about the characteristic. This measure of reliability focuses on the internal consistency of the set of items forming the scale.

The simplest measure of internal consistency is split-half reliability. The items on the scale are divided into two halves and the resulting half scores are correlated. High correlations between the halves indicate high internal consistency. The scale items can be split into halves based on odd and even numbered items or randomly. The problem is that the result will depend on how the scale items are split. A popular approach to overcoming this problem is the use of coefficient alpha.

The coefficient alpha or Cronbach's alpha is the average of all possible split-half coefficients resulting from different ways of splitting the scale items. This coefficient varies from 0 to 1 and the value of 0.6 or less generally indicates unsatisfactory internal consistency reliability.

**Reliability and Validity of the Instrument:** The precision with which one measures things also has a major impact on sample size: the worse the measurements, the more subjects are required to lift the signal (the effect) out of the noise (the error in measurement). Precision is expressed as validity and reliability. Validity represents how well a variable measures what it is supposed to measure. Validity is important in descriptive studies: if the validity of the main variables is poor, one may need thousands rather than hundreds of subjects. Reliability indicates the researcher how reproducible the measures are on a retest,
so it impacts experimental studies: the more reliable a measure, the less subjects are required to see a small change in the measure.

Internal validity addresses the “true” causes of the outcomes that were observed in the study. Strong internal validity meant that the instrument being used, not only has reliable measures of the independent and dependent variables but a strong justification that causally links the independent variables to dependent ones. At the same time we are able to rule out extraneous variable, or alternative and often unanticipated causes for the dependent variables. Thus the strong internal validity refers to the unambiguous assignment of causes to effects. Internal validity hence is about causal control.

Measures of variables should have validity and reliability (Cronbach, 1971; Nunally. 1978) in order to draw valid inferences from research. Reliability deals with how consistently similar measures produce similar results (Rosental & Rosnow, 1984), and it has the two dimensions of repeatability and internal consistency (Zigmund, 1995).

Internal consistency refers to the ability of a scale item to correlate with other items in the scale that are intended to measure the same construct. Items measuring the same construct are expected to be positively correlated with each other. A common measure of the internal consistency of a measurement instrument is Cronbach’s alpha. If the reliability is not acceptably high, the scale can be reversed by altering or deleting items that have scores lower than a predetermined cut-off point. If a scale used to measure a construct has an alpha value greater than 0.70, the scale is considered reliable in measuring the construct (Hair, Anderson, Tatham, & Black, 1998; Nunnally, 1978; Leedy, 1997). According to Schuessler (1971), a scale is considered to have good reliability if it has an alpha value greater than 0.60. Hair et al. (1998) suggest that reliability estimates between 0.6 and 0.7 represent the lower limit of acceptability for reliability estimates.

The validity of a measurement instrument refers to how well it captures what it is designed to measure (Rosental & Rosnow, 1984). Several different types of
validity are of concern: content validity, the degree of correspondence between the items selected to constitute a summated scale and its conceptual definition; criterion validity, the degree of correspondence between a measure and a criterion variable, usually measured by their correlation; and construct validity, the ability of a measure to confirm a network of related hypotheses generated from a theory based on constructs.

In the first part of this research the content validity of the measurement instrument was assessed by asking experts to examine it and provide feedback for revision. The expert panel included professors, industry practitioners, and consultants in the car industry. After reviewing the questionnaire, changes were made to clarify and eliminate ambiguous statements in instructions and questions according to their recommendations.

4.1.6 Pilot Testing

Pilot testing of the measurement instrument was necessary to validate the items and the whole scale. This is because some of the measurement items were developed or modified for the purpose of this research and because the questions in the instrument were newly compiled to form a new questionnaire. The pilot testing was conducted in a series of steps. Before the final survey instrument was set up, a preliminary questionnaire was developed and tested to validate the scale items to be used in the study. The development of the measurement scales for this research followed the procedures.

The first questionnaire was pretested in Maruti, Hyundai and Tata Motors dealerships at Aligarh using a convenience sample of approximately 50 respondents in September 2006.

Instrument Reliability Primary Study

Overall reliability for 469 respondents and 42 items was 0.897. The Cronbach alpha estimates for most of the variables used in the study have all been higher than 0.7.
Instrument Validity for Primary Study

In the first part of the study, the content validity has been assessed. This is a subjective but systematic evaluation of how well the content of the scale represents the measurement task at hand. The researcher or some expert tries to examine whether the scale items adequately cover the entire domain of the construct being measured.

Establishing content validity is a largely subjective operation and relies on the judgment of ‘experts’ concerning the relevance of the material used. It is also situation specific and estimates made in one circumstance may not carry over to others. When the validator assumes that predictor is representative of a given class of situations, he is involved in content validity. Being an expert in the field of study s/he has a specific notion about the kind of knowledge, skill, attitude, opinion or performance that should be tapped by a measuring instrument and s/he considers the instrument valid to the degree that its content is representative of what s/he wants to tap.

Other forms of validity are measured empirically by the correlates between theoretically defined set of variables. High correlates here indicate that the scale is measuring its intended concept. (Hair et al. 1998).

4.1.7 Data Collection process

Final data was collected over a period of eight months from December 2006 to June 2007. To remove potential bias owning to the use of non probability sample, intercept surveys were conducted at various times of the day, 4 days a week and over weekends. Since convenience sampling was used, the researcher tried to ascertain a diverse respondent profile like inclusion of both gender, intending customers from rural and urban locations and test driving higher variants to lower variants of cars in B segment, also those who opted for diesel and petrol variant car models were covered.

Primary Data: A survey was conducted to collect data from intending customer who wished to purchase a B segment small car from among the 3 competing car
brands, i.e., Maruti Wagon R, Tata Indica and Hyundai Santro from the car’s respective dealer’s showroom, within their respective cities. A structured questionnaire was used to explore their purchase intentions and their perception and responses about competing car brands. The marketing experience at the dealer outlet and the test drive experience coupled with the effect of promotion, price and product strategy affect the satisfaction and commitment variables an intending consumer has for a car brand. They need to be understood from the customer’s viewpoint for the small car industry and their marketing strategy study. Thus exploring the elements and compounded effects of marketing mix elements from the intending customer’s purchase intention was explored using primary data collection. The second part of the study used another instrument and explored the marketing strategy followed by the three major competing small car manufacturing companies. It was directed at the car producers.

4.1.8 Hypotheses comparing competing car brands on marketing strategy parameters

H₀₁: There is no significant difference between ease of maneuverability parameter and intending car brand selection.

H₀₂: There is no significant difference between cabin space parameter and intending car brand selection.

H₀₃: There is no significant difference between luggage space parameter and intending car brand selection.

H₀₄: There is no significant difference between comfortable to ride parameter and intending car brand selection.

H₀₅: There is no significant difference between durable/ ruggedness parameter and intending car brand selection.

H₀₆: There is no significant difference between commercial utility parameter and intending car brand selection.

H₀₇: There is no significant difference between after sales service parameter and intending car brand selection.
H08: There is no significant difference between high technology parameter and intending car brand selection.

H09: There is no significant difference between company image parameter and intending car brand selection.

H010: There is no significant difference between fuel efficiency parameter and intending car brand selection.

H011: There is no significant difference between safety parameter and intending car brand selection.

H012: There is no significant difference between environment friendly parameter and intending car brand selection.

H013: There is no significant difference between the means of variable “easy to drive” for WR and IN.

H014: There is no significant difference between the means of variable “easy to maintain” for WR and IN.

H015: There is no significant difference between the means of variable “sophisticated” for WR and IN.

H016: There is no significant difference between the means of variable “attractive styling” for WR and IN.

H017: There is no significant difference between the means of variable “popularity” for WR and IN.

H018: There is no significant difference between the means of variable “spacious” for WR and IN.

H019: There is no significant difference between the means of variable “fuel efficiency” for WR and IN.

H020: There is no significant difference between the means of variable “value for money” for WR and IN.

H021: There is no significant difference between the means of variable “environment friendly” for WR and IN.
H022: There is no significant difference between the means of variable “sporty” for WR and IN.

H023: There is no significant difference between the means of variable “high technology” for WR and IN.

H024: There is no significant difference between the means of variable “easy to drive” for SN and IN.

H025: There is no significant difference between the means of variable “easy to maintain” for SN and IN.

H026: There is no significant difference between the means of variable “sophisticated” for SN and IN.

H027: There is no significant difference between the means of variable “attractive styling” for SN and IN.

H028: There is no significant difference between the means of variable “popularity” for SN and IN.

H029: There is no significant difference between the means of variable “spacious” for SN and IN.

H030: There is no significant difference between the means of variable “fuel efficiency” for SN and IN.

H031: There is no significant difference between the means of variable “value for money” for SN and IN.

H032: There is no significant difference between the means of variable “environment friendly” for SN and IN.

H033: There is no significant difference between the means of variable “sporty” for SN and IN.

H034: There is no significant difference between the means of variable “high technology” for IN and SN.

H035: There is no significant difference between the means of variable “easy to drive” for WR and SN.
\( H_{036} \): There is no significant difference between the means of variable “easy to maintain” for WR and SN.

\( H_{037} \): There is no significant difference between the means of variable “sophisticated” for WR and SN.

\( H_{038} \): There is no significant difference between the means of variable “attractive styling” for WR and SN.

\( H_{039} \): There is no significant difference between the means of variable “popularity” for WR and SN.

\( H_{040} \): There is no significant difference between the means of variable “spacious” for WR and SN.

\( H_{041} \): There is no significant difference between the means of variable “fuel efficiency” for WR and SN.

\( H_{042} \): There is no significant difference between the means of variable “value for money” for WR and SN.

\( H_{043} \): There is no significant difference between the means of variable “environment friendly” for WR and SN.

\( H_{044} \): There is no significant difference between the means of variable “sporty” for WR and SN.

\( H_{045} \): There is no significant difference between the means of variable “high technology” for WR and SN.

4.1.9 Hypothesis identifying the interaction of Marketing Mix variables affecting Car purchase

\( H_{046} \): There is no significant association between product consideration and price consideration towards car purchase intention.

\( H_{047} \): There is no significant association between product consideration and place consideration towards car purchase intention.

\( H_{048} \): There is no significant association between product consideration and promotion consideration towards car purchase intention.
H_{049}: There is no significant association between price consideration and place consideration towards car purchase intention.

H_{050}: There is no significant association between price consideration and promotion consideration towards car purchase intention.

H_{051}: There is no significant association between place consideration and promotion consideration towards car purchase intention.

The second part of the study explores marketing strategy followed by small car manufacturers and competitive positioning within the industry. A Qualitative approach is used for this study.

### 4.1.10 Competitive Marketing Mix Strategies

As all competing business employs a strategy to select a mix of market resources. Formulating such competitive strategies fundamentally involves recognizing relationship between elements of marketing mix (e.g., price, place, promotion and product quality), as well as assessing competitive and market conditions (i.e., industry structure). In car industry pricing and setting of promotional budgets depends on the quality levels selected and the competitive conditions including the size of competitors and the height of industry entry barriers.

In the first part of the study we have observed the role of different marketing mix elements and their importance in car purchase-decision making by intending consumers. In this part we shall attempt to explore the competitive formulations of broader marketing mix elements as well as the impact of competitive and market conditions across the three car manufacturing firms i.e., Maruti Udyog Limited, Tata Motors and Hyundai Motors India Ltd.

### 4.2 Strategic focus / objectives

Since defining the marketing objectives happens to be the first steps towards defining organizational strategies. Firms should clearly define their goals/ objectives towards setting direction for the firm. Should the firm expand the market; maintain or win market shares? Or should the company focus on productivity and costs rather than differentiation through quality improvement and
or branding. Decision toward whether strategy is defensive (holding position) or aggressive (expand the sales) as detailed by Miles and Snow typology needs to be addressed by the firm. The car model in question, its stage in Product Life Cycle and the type of industry structure also affect the marketing objective.

4.2.1 Marketing targeting

Marketing targeting encompasses a number of dimensions like complete range of products and the customer segments served, the geographical location the firm competes in and the degree of vertical integration. It also addresses the extent of related business the in which the firm has a co-ordinated strategy. Competitive advantages are attained within a scope, and the choice of scope is central one in strategy formulation and implementation.

4.2.2 Marketing positioning

Marketing positioning aims at creating and sustaining competitive advantages. It offers a competitive edge over ones rival in marketplace in cost, differentiation, and / or outcomes that result from these positional strategies. Price positioning indicating offering same products as the competition but at a lower price. Similar is quality and service positioning too. A combination of price and quality/ service level can be crucial to financial performance.

The next part of the study involved the study of marketing strategy of the car marketers and their integration within their business strategy.

4.2.3 Qualitative research approach attempts to study in depth one or few objects in depth and the main purpose is to gain a deeper understanding of the problem studied and to acquire a profound knowledge of the studied objects. The qualitative approach is characterized by looseness between the sources and researcher, and a low degree of formalization (Yin, R.K. 1994).

Cooper and Schindler state that a qualitative research aims to achieve an in-depth understanding of a situation and it incorporates a collection of interpretive techniques which try to describe, decode, translate, and otherwise learn to accept the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. A collection of techniques includes case studies,
individual depth interviews, observation, focus groups, action research, etc (Cooper, D.R and Schindter (2006).

Since the second part of the research tries to gain a deeper understanding of small scar segment of the Indian car industry, and its questions are about basic issues of industry like CSFs, driving forces, marketing mix and generic strategies and not numerical and statistical issues; a qualitative approach is a more suitable choice.

4.2.4 Research Strategy

A research strategy will be a general plan of how the researcher will go about answering the research questions s/he has set (Saunders, M, Lewis, P. and Thomhill, (2000).

Taking a look at research questions it is observed that that all the research questions start with what. The research strategies for finding answers of What-Questions are survey archival analysis. (Yin (1994). A survey will be conducted for getting expert opinion Archival analysis is also used for both cross checking and getting statistical information.

4.2.5 Data Collection Method

After having determined the most suitable research strategy, it is necessary to decide on how the empirical data will be collected (Yin R.K (1994). Yin mentions that there are six important sources of evidence, namely documentation, archival records, interviews, direct observation, participant observation, and physical artifacts. None of these sources of evidence has complete advantage over all of the other instead they complement each other.

According to Yin, documents are important in the data collection stage, due to their overall value. However, care must be taken in the interpretation of documents, since they are often prepared for another purpose and audience than that of the research purpose.

Yin defines the interview as a two-way conversation that gives the interviewer the opportunity to participate actively in the interview. The interview is structured and
based on predetermined questions. He further classifies the interviews into there are three types: open-ended, focused, and structured. Yin R.K. (1994).

Data that will be collected throughout this study is expected to be mainly of a qualitative nature since it is in the form of words and not derived from numbers. Two valuable sources of evidence are documentation and interview. Documents could be either internal like management reports, meeting notes; or external such as market researches, journal articles, and news.

The most commonly used interview method is open-ended, where the researcher asks the respondent unstructured questions, thus allowing the interview to be more of a discussion. The respondents can be asked for facts as well as their own personal opinion. When a focused interview takes place, the respondent is interviewed during a brief period of time - an hour, for example. The purpose with a focused interview could be to confirm certain facts that are already known to the researcher. The third form of interview, structured, is more of a combination of an interview and a survey and entails more structured questions along the lines of a formal survey.

According to Saunders et al, most qualitative interviews occur on a one-to-one, face-to-face basis. Cooper and Schindler state that telephone interviews have three advantages over personal interviews: 1) the use of telephones brings a faster completion of a study; 2) the reduction of interviewer bias: physical appearance, body language, and actions of the interviewer 3) the caller is who decides the purpose, length, and termination of the call. They further address some of the disadvantages: limitation on interview length, limitations on use of visual or complex questions, ease of interview termination, less participant involvement.

**Face-to-face** and **telephone interviews** and **documentation** are used as main data collection methods for this study. Documentation in this study is mostly used to find information about industry dominant traits, and value chain and also to prepare some data to be discussed in interviews. According to Yin, documentation is mostly used to confirm and augment evidence gathered from other sources.
Both Face-to-Face and telephone interviews will be used in this study. Face-to-Face interview has higher priority over telephone interview, however due to some time and money constraints some telephone interviews are inevitable. Interviews are open-ended with a clear question structure; They will be a little flexible to cover some issues ignored in questionnaire design.

4.2.6 Sample Selection

For analyzing of the second part of the study which involved qualitative study. Non-probability sampling was done without chance selection procedures. Purposive sampling or judgmental sampling is a non-probability sampling method that basically allows a researcher to select cases that seems to be best suited to answer the research questions. This form of sampling is often used when working with small samples, especially in a case study when a researcher is looking for cases that are particularly informative.

Hence The non-probability or judgmental sampling will be used for this part of the study. Each case should have some characteristics to give relevant and accurate data. The first sampling criterion is to have information in the car industry. To explore the marketing strategy followed by the 3 major small car manufacturers viz. Maruti, Hyundai and Tata. A systematic sampling of the top executives of (Marketing & Sales, Finance, Operations & Quality Control, Dealer Development) at the organizations corporate office and GM Operations, Executive R&D at Manufacturing Plant was done. All the executives who were responsible towards taking part in shaping strategic decisions for the organizations at the three car manufacturers was done. After seeking prior appointment the executives were interviewed on a number of strategic dimension variables. The total numbers of executives interviewed are as follows:
Table 7: No. of responding executives

<table>
<thead>
<tr>
<th>No of executives interviewed @</th>
<th>MUL</th>
<th>HMIL</th>
<th>Tata Motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gurgaon</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chennai</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Jamshedpur</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Pune</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Kolkata</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

4.2.7 Industry and Competitive analysis

Industry and competitive analysis uses a framework of concepts and techniques to get a clear fix on key industry traits, the intensity of competition, the drivers of Indian car industry change, the market positions and strategies of rival companies, the keys to competitive success, and the industry's profit outlook. This framework provides a way of thinking strategically about Indian car industry's overall situation and drawing conclusions about whether the B car segment in the small car industry represents an attractive investment for company funds. The analysis entails examining a company's business in the context of much wider environment.

Questions to be answered

1. What are the small car market’s dominant economic features?
2. What is competition like? And how strong is each of the competitive forces?
3. What is causing the small car industry's competitive structure and business environment to change?
4. Which car brands are in the strongest/weakest position
5. What marketing strategic moves are rival car brands likely to make next?
6. What are the key factors of competitive success?
7. Is the Small Car segment in the Indian car industry attractive and what are the prospects for above-average profitability?
4.2.8 Internal Analysis

4.2.8a Business Strategy Analysis

Strategy has been defined as a pattern by Mintzberg (13). It means that strategy is a pattern in a stream of decisions. This definition has two advantages: One, it is based on action, not just intentions. Therefore, it makes strategy observable and tangible. Second, it defines strategy in a way that does not depend on a firm having gone through a formal planning and documentation process (20). Business strategy analysis is composed of two steps: Strategy Identification, and Strategy evaluation.

All firms have a realized strategy, whether or not management has made that strategy explicit in advance. A firm's actual strategy can be quite different from what management thinks it is or from what it was intended to be. The process of delineating the realized strategy is called strategy identification (20).

Having identified the components of the business strategy, the manager now has the raw material with which to evaluate the quality of that strategy. After gaining a thorough understanding of the strategy's quality can one know what elements of strategy should be changed and, equally important, which elements of strategy are sound and should not be altered. In addition, the evaluation process itself will suggest strategic alternatives.

The stronger company's current overall performance, the less likely the need for radical changes is strategy. The weaker a company's financial performance and market standing, the more in current strategy must be questioned. Weak performance is almost always a sign of weak strategy, weak execution, or both.

Questions to be answered

1. What marketing mix strategies (product/price/promotion/place) have been followed so far?

2. How have they influenced the company?

3. What positive and negative aspects have those strategies had?
4.2.8b Evaluation of company resources and competitive capabilities

Insightful company situation analysis is a precondition for identifying the strategic issues that management needs to address and for tailoring strategy to company resources and competitive capabilities as well as to industry competitive condition.

There is a key distinction between resources and capabilities. Resources are inputs into the production process - they are the basic units of analysis. The individual resources of the firm include items of capital equipment, skills of individual employee, patents, brand names, company image, finance, and so on. But, on their own, few resources are productive. Productive activity requires the cooperation and coordination of teams of resources. A capability is the capacity for a team of resources to perform some task or activity. While resources are the source of a firm's capabilities, capabilities are the main source of competitive advantage.

Questions to be answered

4. What are the company resource strengths and weaknesses and its external opportunities and threats?

5. Are the company's prices and costs competitive in the B segment?

6. How strong is the company's competitive position relative to its rivals?

7. What strategic issues does the company face?

4.2.9 Setting Strategic Direction

4.2.9a Developing Mission

A mission statement, defines where the organization is going now, basically describing the purpose, why this organization exists (\( \alpha \)). It could help managers by serving as beacon of the enterprise's long-term direction, and helping channel organizational efforts and strategic initiatives. It gives the organization its own special identity, business emphasis, and path for development - one that typically sets it apart from other similarly situated companies. (2)

Questions to be Answered

1. What are the B segment customers' needs?
2. What are the needs of supply chain partners and internal customers?

3. Which customer groups have been targeted by company for B segment cars?

4. How the company goes about creating and delivering value to customers and satisfying their needs?

4.2.9b Developing Vision

While a mission statement highlights the boundary of the company's current business, a vision statement shows where the company should be positioned in future. A well-articulated strategic vision creates enthusiasm for the course management has charted and engages members of the organization. Strategic visions usually have time horizon of five years or more unless the industry is very new or market conditions ti-that it's difficult to see that far in future with any degree of confidence.

Questions to be answered

5. What changes are occurring in the B segment small car market arenas where we operate, and what implications do these changes have for the direction in which we need to move?

6. What new or different customer needs should we be moving to satisfy?

7. What new or different buyers segments should we be concentrating on?

8. What new sub segment or product markets should we be pursuing or creating?

9. What should the company's business makeup looks like in five years?

10. What kind of car producing company should we be trying to become?

4.2.10 Strategy Development

4.2.10a Identifying strategic options

On a much higher level from Marketing strategy which is directed at a segment or product group, small car segment, the Business strategy, of the company is concerned principally with (1) forming responses to changes under way in the
industry, the economy at large, the regulatory and political arena, and other relevant areas; (2) crafting competitive moves and market approaches that can lead to sustainable competitive advantage; (3) building competitively valuable competencies and capabilities; (4) uniting the strategic initiatives of functional departments; and (5) addressing specific strategic issues facing the company's business. (2)

Based on the existing situation and the vision, in this stage, different alternatives for realizing that vision should be identified. Strategy-making is not an analytical process and actually is something that comes out of managers' mind. So, a part of this stage of model is to provide necessary inputs for management decision about strategy. But, the more important part is a creative process which may make a hybrid of options, a totally new strategy, or tailor one option to the other.

Questions to be answered

1. Which strategies work better in the Indian car industry?
2. Which composition of product/customer should be targeted?
3. Which opportunities are available for integrating the delivery chain?
4. Which opportunities are available for merger and acquisition?

4.2.10b Evaluating strategic options

Choosing among strategic alternatives is usually difficult. Managers encounter this difficulty because they lack perfect foresight. They must choose a course of action today, whose success depends on future conditions, without knowing exactly what the future looks like. Therefore, in selecting a strategic alternative, the manager is actually placing a 'bet': he is using his beliefs about the future to choose a plan that best fulfills his firm's objectives.

Once alternative strategies have been determined, the next s model is to evaluate them and choose the best one. Three tests are used to evaluate the merits of one strategy over another:

4.2.10c The goodness of Fit Test — a good strategy has to be well matched to industry and competitive conditions, market opportunities and threats, and other
aspects of the enterprise's external environment. At the same time, it has to be tailored to the company's resource strengths and weaknesses, competencies, and competitive capabilities.

4.2.10d The Competitive Advantage Test—a good strategy leads to sustainable competitive advantage. The bigger the competitive edge, that a strategy helps build, the more powerful and effective it is.

4.2.10e The Performance Test—a good strategy boosts company performance. Two kinds of performance improvements are the most telling of a strategy's caliber: gains in profitability and gains in the company's competitive strength and long-term market position.

Questions to be answered

5. What are the impacts of each strategy on company's financial and strategic performance?

6. How consistent is each marketing strategy with the industry structure?

7. How well do company's internal resources or capabilities support or detract from each strategy?

8. What competitive advantages or disadvantages would each strategy lead to?

4.2.11 Emerged Frame of Reference

Based on the literature review chapter, in this chapter it was shown that strategic planning is a suitable approach to strategy-making for a company which works in Indian car industry. Then according to the strategic planning literature a framework was developed which shows the elements and sequence of a strategic planning project.

The rest of this research is devoted to customizing and tailoring this basic framework according to the context of small car segment of the car industry. The purpose of this study is to find the differences in marketing strategies followed by competing car companies within the B segment cars, the most competitive among other small cars.
Towards addressing the marketing strategic planning followed by the car companies, the question as in parts 5-3, 3-4, 3-5, and 3-6 should be answered, the purpose of research can be translated to finding those questions which should be answered at the industry level and not the company level, because a generalized comparative analysis about the small car industry could be done. The expected outcome of this result towards generalized industry analysis rather than individual company analysis was agreed upon in discussion, before the respondents agreed to answering strategy related questions for the study.

### Table 8: Extracted research questions

<table>
<thead>
<tr>
<th>1. External Analysis</th>
<th>Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>What are the Small Car market’s dominant economic features?</td>
</tr>
<tr>
<td>Q3</td>
<td>What are the major driving forces of the Small Car segment in the Indian Car Industry?</td>
</tr>
<tr>
<td>Q6</td>
<td>What are the Critical Success Factors of Small Car segment in Indian Car Industry?</td>
</tr>
<tr>
<td>2. Internal Analysis</td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>What performance measures can be used for evaluating the results of the Small Car manufacturing company?</td>
</tr>
<tr>
<td>Q5</td>
<td>What are the different Marketing Mix strategies for a small car company?</td>
</tr>
<tr>
<td>Q6</td>
<td>What is the relative position of company due to Marketing Mix strategies, against its rivals?</td>
</tr>
<tr>
<td>3. Setting strategic Direction</td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td>What are typical strategies which work well in the small car industry?</td>
</tr>
<tr>
<td>Q3</td>
<td>What are the opportunities for vertical integration in the car industry?</td>
</tr>
</tbody>
</table>

As shown in Table 8 there is no research question directly setting strategic direction of company, because there is no input factor in determining the strategic objective.

Considering the stages of strategic marketing planning that it is a continuous process. It has some inputs and outputs and is not static but dynamic in nature. Since it is reaction based and keeps changing none of the research question are about the result of the output because they're not going to continue running the
strategic planning for a specific company for ever. But a static analysis for a certain time frame, and they are going to present a model for the role of strategic marketing by a company in a competitive scenario. And those questions provide the model with some considerations about inputs and process of integrating marketing strategies within business strategy.

4.2.12 Data Analysis
The ultimate goal of analyzing data is to treat the evidence fairly, to produce compelling analytical conclusions and to rule out alternative interpretations. Data analysis involves turning a series of recorded observations into descriptive statements. When analyzing the data collected, the intentions are to find answers on the previously stated objectives. Miles and Huberman present the following three parallel flows of activity to explain the analysis.

4.2.12a Data reduction: The process of selecting, focusing, simplifying, abstracting and transforming the data. The purpose is to organize the data so that the final conclusion can be drawn and verified.

4.2.12b Data Display: Taking the reduced data and displaying it in an organized compressed way so that conclusions can be more easily drawn.

4.2.12c Conclusion drawing verification: Deciding what things mean, noting regularities, patterns, explanations, possible configurations, casual flows, and propositions.

Miles and Huberman further present pattern coding as a way to present data. For a qualitative analyst, pattern coding is important since it reduces large amounts of data into a smaller number of analytic units. This facilitates for the researcher since they can stay more focused and helps the researcher to elaborate a cognitive map in order to understand local incidents and interactions.

In this study three mentioned steps are followed in order to analyze the empirical data. The data will be reduced through a within-interview analysis where the cases will be compared against the frame of reference. Further, the data will be displayed through a cross-interview analysis where the interviews compare against one another. Finally, conclusions from these analyses will be drawn based
on the patterns of similarities and differences, which are discovered in the data reduction and data display.

4.2.13 Quality Standards

The two important criteria that were used to determine the quality of a research: the reliability and the validity in the quantitative part of the study have so been incorporated to validate instrument for the qualitative part of the research too.

4.2.13a Validity

Validity being concerned with whether the findings are really about what they appear to be about. Yin has presented three commonly used tests for a researcher to test the validity. These include construct validity, internal validity, and external validity as discussed above. Here in we discuss four different tests of judging the quality of research design; 1) Construct validity: establishing correct operational measures for the concepts being studied, 2) Internal validity; establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships, 3) External Validity: establishing the domain to which a study's findings can be generalized.

Yin claims that internal validity only is used for explanatory or causal studies, this part of the study mainly is descriptive and therefore the test will not be dealt with further. Yin also states that external validity deals with the problems of making generalizations of the case study. There are three tactics according to construct validity: Use multiple sources of evidence; Establish chain of evidence; Have key informants review draft case study report. In this part of research, documents and interviews are used as sources of evidence. Throughout this study references will be made to all the sources from which evidence will be collected. Furthermore, after designing the interview questionnaire, and guide; it will be reviewed and approved by the auto industry experts and academicians before conducting the interview with respondents.
The interviewees will be contacted in advance about the matters are going to be discussed and also to assure that they are qualified for the interviews. To increase the external validity an interview guide, will be developed and followed through the study.

4.2.13b Reliability

The goal of reliability is to minimize the errors and biases in a study similar to the aspects discussed for the first part of the study. The objective is that if a later researcher follows the same procedures as described by a previous researcher and conducts the same study all over again; the later researcher should arrive at the same finding and conclusions as the previous. One prerequisite for the researcher to be able to repeat a previous study is that the procedure followed in the earlier case is documented. Hence, a good guideline is to conduct the research so that an auditor could repeat the procedure and arrive at the same result.

To have more reliable research, several respondents will be asked the same questions and most the conclusions will be drawn based on expert consensus. Those issues which are more agreed on will be assumed as fact. Since the interviewees have an in-depth knowledge in the research field, it has a good chance to have the same results in repetitive run of study. There is something that should be considered in this research and that is time-dependency of the study. Since this research is focused on the environment of car industry and it changes by the time, the results can be different in a different time, but in short-time there will not certainly be a drastic change in results. It might be just slight variations in number of factors and their importance.

In Figure 11, a schematic view of this research's methodology has been sketched.
4.2.14 Data Analysis

Data was subjected to cleaning in order to look for missing values as also for errors in data entry for instance values being entered which exceed the limits predetermined in the questionnaire.

Several univariate techniques both descriptive and inferential have been used under descriptive analysis, the researcher has used, mean, frequency distribution, standard deviation. Under inferential statistics independent sample Student’s t test as well as Pearson’s Chi square analysis has been used. Correlation regression analysis was used towards descriptive analysis under bivariate techniques. In Multivariate techniques, the researcher, has the researcher has relied on factor analysis and Stepwise Multiple regression analysis. The entire data analysis was done using SPSS Statistics 17.0 software and MS Office Excel 2007 used for some primary calculations and towards plotting of graphs.
4.2.15 Expected Contribution of the study

Since product sales forms the resource generation base for any business activity. Every organization’s marketing activity, is aligned towards achieving it. A carefully designed marketing strategy by strategists acts as the roadmap to achieve this objective. But in a marketplace with many companies offering competing product with their own marketing strategies results in the sales of that product which really appeals to the customer. The research is built upon the premise to study competing car brands on the marketing predictors as judged by intending car buyers. A comparative analysis of each car brand tested on each of the marketing mix variable to differentiate its brand and image perception for the buyer is done. Also the study attempts to explore which of the marketing mix variables has the subsequent degrees of impacts towards shaping a purchase intention for a car buyer. Finally the research attempts to study the marketing strategy from the car manufacturer positions itself, in relation to its competitive strategy in the car industry.

4.2.16 Limitations of the study

This study is delineated for studying Small Car segment within the Indian Car industry, further it delimits its scope to analyzing the marketing strategies of B segment cars of the three major car producers and their three competing cars in the B segment. The result obtained shall be limited to this subsection of the small car market. The designs used in the analysis too have their own limitations. Also the study is carried out only in 5 Indian cities of Aligarh, Gurgaon, Chennai, Pune and Jamshedpur, and therefore has a geographical limitation towards using the result for the rest of the country.

Further more the study has tried to use different perception variables more towards addressing the marketing parameters. This can be further strengthened by exploring correlating between the outputs of the study with and real financial data towards production and sales, ROI, growth and profitability impact of the marketing strategy of the small car company for the specified car.