Chapter 3

Research Methodology

3.1 Introduction

The system of collecting data for research projects is known as research methodology. The data may be collected for either theoretical or practical research, for example management research may be strategically conceptualized along with operational planning methods and change management. Some important factors in research methodology include validity of research data, Ethics and the reliability of measures.

Formulating the research questions along with sampling which can be probable or non probable is followed by measurement that includes surveys and scaling. This is followed by research design. The last two stages are data analysis and finally writing the research paper, which is organized carefully into graphs and tables so that only important relevant data is shown.

The first step to the research process is to define the research objective. Secondary data, previous research, discussion with decision makers, experience survey, interviews with industry experts, similar case studies, a review of existing background information are some techniques that will help the market research process.

After defining the problem and formulating the objectives, the researcher should design the research. This determines the way of collecting the data; Survey
questionnaires, interview, and observations even secondary data studies are methods that can be used to gather the data. However the most common method is a survey questionnaire.

Sampling is the next step in research design; “A sample is a subset from larger population” Finding information about the characteristic of a population is an important objective for most types of market research. Information about the population could be achieved by taking a sample. Proper and good sampling has the same characteristic of the population as whole.

The next step is data collection; during this stage, the researcher collects data. It may be obtained by human observation or a survey questionnaire. It can be over the phone or by face-to-face interviews.

After gathering the data, the information must be converted into language which is understandable for a wider audience. At this stage, the first step is editing and coding. The researcher checks the data for any minor mistakes and then “codes” the data. Coding means recording, categorizing, and interpreting the data. The second step in this process is to analyze the data.

The final stage in the market research process is reporting and drawing a conclusion. A market research report consists of a description and an interpretation of the research results, a conclusion and also an appropriate recommendation.

The figure 3.1 shows the stages of the market research process.
Figure 3.1 Stages of the Market Research Process

1. Define Research Objective
2. Selection of Exploratory Research Technique:
   - Secondary (historical research)
   - Previous research
   - Experience survey
   - Case study
3. Problem definition (statement of research objective)
4. Selection of Basic Research Method:
   - Survey: Interview, Questionnaire
   - Experiment: Laboratory, Field
   - Secondary Data study
   - Observation
5. Sampling
6. Data Gathering
7. Data Processing and Analysis
8. Drawing Conclusions and Preparing Report
3.2 Need for the Research

The purpose of the current research is to gain insight into the impact of brand attitude on consumer purchase behavior. Based on the proposition that attitude has three components, cognitive, affective and intention the present study measures affective and cognitive components to compare the effects of each on consumer purchase behavior.

For the present study, Soft drink market and existing brands in this market were selected. The reason for choosing soft drink brands are that they are frequently purchased products and there are many established brands of soft drinks in the market and consumers are aware about the brands and the brand attitude could be studied for such products.

✓ There is a transition in the soft drink market, people are becoming more health conscious and shifting to healthier products which decreases the market share for soft drink producers, so this study tries to understand the consumers attitude in order to provide a guide line to soft drink producers for better long time planning.

✓ India and Iran are developing countries, purchasing power of consumers is increasing in both countries and consumers are getting more health conscious and they are targeted by many different products in beverage category and different brands of soft drinks which are competing to grab the market share; on the other side FMCG products are mostly similar in attributes and consumers have various choices and the information seeking for such products is not feasible for consumers, these products are frequently
purchased but the quantity purchased is less and the price is also less, here the impact of brand attitude and its components are vital for companies in order to differentiate their products and get in to the basket of the consumers.

So far there has not been any such study about impact of brand attitude on consumer purchase behavior in Iran and India. The need is to know how important is brand attitude and its cognitive and affective components and how they influence Indian and Iranian consumer purchase behavior.

By using sophisticated measurement tools that demonstrate the fundamental impact of brand attitude on consumer behavior, the present study adds to the body of knowledge in the consumer behavior field. In addition, the present study is the first to examine the link between brand attitude and consumer purchase behavior.

### 3.3 Objectives of the Study

The overall goal of the current research is to identify the impact of brand attitude on consumer purchase behavior in soft drink market. To satisfy the overall goal, the following list of more specific objectives is employed:

1. To assess the impact of affective and cognitive components of brand attitude on consumer purchase behavior in Pune/India and Tehran/Iran.

2. To assess the relationship between consumer brand loyalty and their acceptance of brand extension in Pune/India and Tehran/Iran.

3. To study the relationship between consumer brand loyalty and their consumption frequency in Pune/India and Tehran/Iran.
4. To determine the influence of demographic factors on consumer purchase behavior in Pune/India and Tehran/Iran.

5. To find out what kind of products consumers expect as a brand extension in both countries.

6. To find out the most recalled and most preferred soft drink brand in both India/Pune and Iran/Tehran.

7. To assess the consumer intention to repurchase or recommend the soft drink brands.

3.4 Hypotheses of the Study

Based on the above defined objectives, following hypotheses were formulated:

Hypothesis 1: “Affective and Cognitive components of Brand attitude equally impact consumer brand loyalty.”

Hypothesis 2: “Acceptance of brand extension is significantly related to brand loyalty.”

Hypothesis 3: “There is a significant association between Consumption frequency and brand loyalty.”

Hypothesis 4: “There is a significant association between brand loyalty and age”

Hypothesis 5: “There is a significant association between brand loyalty and marital status.”
Hypothesis 6: “There is a significant association between brand loyalty and occupation.”

Hypothesis 7: “There is a significant association between consumption frequency and age.”

Hypothesis 8: “There is a significant association between consumption frequency and income.”

Hypothesis 9: “There is a significant association between purchase quantity and age.”

Hypothesis 10: “There is a significant association between purchase quantity and income.”

Hypothesis 11: “There is a significant association between purchase quantity and marital status.”

Hypothesis 12: “There is a significant association between purchase quantity and occupation.”

3.5 Type of Research

Prior to discussing the method applied to this research, it is necessary to consider the fundamental purpose of the research as well as the research approach appropriate to the study. The primary goal of social research falls in one of three categories: exploration, description or explanation (Babbi 2001).¹

Exploratory research is generally conducted when little is known about a particular phenomenon. The goal of research is not to seek answers but to
generate a greater understanding of a particular issue to allow more precise research questions to be formulated.

Exploratory research does not follow a structured path but allows flexibility and exploration of all available information. This form of research tends to use - although not exclusively- qualitative techniques in data collection.

Descriptive research generally begins with a more focused issue than exploratory research. The research attempts to develop a detailed description to yield an understanding of a particular phenomenon, allowing for classification or categorization. The ‘how’ and ‘who’ of the investigation tends to be more important than the ‘why’. Descriptive researchers may use a range of techniques in gathering data, including both qualitative and quantitative, although experimental designs are rare.

This study is a **descriptive type of research** which includes surveys and fact finding enquiries of different kinds.

The major purpose of this research is the description of the state of affairs as it exists at present. The main characteristic of this research is that the researcher has no control over the variables. The researcher can only report what has happened or what is happening.

**3.6 Survey Method**

Surveys are used to gather information from a sample of individuals and are probably the best method available in social sciences because it allows for data collection from a large population (Babbie, 2001).
Surveys may be used in either descriptive or exploratory research. The researcher extracts information using either a written set of questions or an interview. The answers are then summarized in a quantifiable form and generalizations are made to the larger population.

The advantages of survey research include economy and ease of collecting large amounts of data and the standardization of the collected data. Surveys are popular research methods which enable statistical analysis of data, can be cost-efficient, and can be administered in various ways. However, survey research has the weaknesses of being somewhat artificial, potentially superficial, and difficult to gain a full sense of social processes in their natural settings.\(^1\)

The collection of survey data may be via face-to-face interviews, telephone interviews, the internet or self-administration. Face-to-face interviews offer several advantages such as the flexibility to use visual aids, the ability of the interviewer to correct misunderstandings or probe for additional information, and the ability to control the order in which questions are answered.

Most importantly however, is the tendency for this technique to generate the highest response rate of all survey methods as well as generating the highest quality and depth of information. However, face to face interviews are the most costly data collection method, and as a result, the least used. In addition, this form of data collection presents a threat to internal validity in the form of interviewer affect. For example, the interviewer may influence the responses due to personal characteristics or the rapport established with the interviewee. The latter situation may contribute to a social desirability bias given the respondent’s
desire to please the interviewer. This issue would be of particular concern in the case of this research study (Hoyle et al. 2002).\textsuperscript{2}

However, given the purpose of the current study, survey methodology was used to develop a measure of the perceptions that brand attitude impacts consumer purchase behavior. The results of the survey will provide data to test the impact of brand attitude on consumer purchase behavior.

A descriptive research was carried out by applying a survey method, using structured questionnaire which covers the demographic profile of consumers (age, gender, income, and occupation), details about purchase patterns, various factors affecting brand attitude and brand loyalty.

College students and households are heavy users and buyers of soft drinks, and therefore are relevant respondents for the present study. 300 students and households at the Pune city in India and 300 students and households of Tehran city in Iran have completed the survey properly. Data collection took place in the shopping malls and colleges of Pune and Tehran.

Before beginning the analysis, the present study had to eliminate responses that did not qualify for the study, as explained below. Because this survey questionnaire was designed for soft drink users and had to be filled completely and incomplete questionnaires were eliminated, because the respondents skipped a significant number of items, therefore out of 300 questionnaires in each city, the final sample contained 271 valid cases for Pune city and 265 valid cases for Tehran city.
3.7 Instrument Design

The purpose of a survey instrument is to collect the information required to address the overall research question and hypotheses. In designing the survey, a set of questions must be developed to capture this information as well as to encourage respondent involvement and minimize response error.²

Lack of understanding of the question’s intent is directly associated with inaccurate or nonresponse. Further, survey designers should be cognizant of other sources of response error, that is, the fallibility of the respondents’ memory, their motivation to respond as well as their level of knowledge (Sudman and Bradburn 1982).³

Unfortunately there is not a scientific approach to survey design that will guarantee the optimal outcome, however, several guidelines exist (Churchil 2001).⁴

These guidelines relate to question design and format, response design, question order, presentation of instructions, survey format and pre-testing. These areas will be discussed as follows.

First, it is suggested that questions should be clear in terms of using simple and appropriate language, setting manageable tasks and supplying the required information (Converse and Presser 1986).⁵

Specific questions are preferable to general ones and both double-barreled and leading questions should be avoided as they contribute to response error (Fink 2003).⁶
Negative questions should also be avoided as respondents may inadvertently miss the negative qualifier if reading quickly (Babbie 1990).  

Finally, it is suggested that where possible, questions should be adapted from questions that have been successfully used in other survey providing the context is appropriate (Fink 2003).  

This is consistent with the argument that the wording of a question is critical to maximizing survey validity (Malhotra 2004).  

With regard to question format, researchers must also decide between open-end and close-end questions. Open-end questions allow for a greater variety of response that might otherwise be missed, but conversely they also allow for responses that may not match the intent of the question. Open-end questions are also more laborious with regard to data entry. Close-end questions are easier to process but need to be constructed to provide all possible responses; this may require the inclusion of a category such as ‘other’. Further, the stated responses should ideally be mutually exclusive (Babbie 1990).  

Another issue to be considered is whether a middle alternative should be provided in response to bipolar questions; that is questions in which respondents are asked to choose between two opposite positions. The reason for eliminating this option of independence is that it forces respondents to take a stand in a particular direction. An opposing view suggests that respondents should not be forced to take a position, and that the middle-of-the-road position provides valuable information as to the intensity of the respondent’s view (Converse and Presser 1986).
Question order must also be considered to reduce any potential biasing effect; unfortunately there is no clear guidance as to when an order effect will occur (Sudman and Bradburn 1982).³

Researchers need to be aware that answers to some questions may have implications for subsequent questions in terms of providing a context, either intended or unintended, in which they will be answered. Researchers should be aware that survey validity may suffer from fatigue effects when respondents are required to address long list of items or questions. In general, surveys should commence with the easiest questions and progress to those that may require more thought. Similarly, questions should also be presented in a logical order with general questions preceding specific ones. With regard to questions seeking demographic information, there is some dispute as to whether they are best placed at the beginning or the end of the survey (Bourque and Fielder 2003).⁹

The reasons for placing these questions at the end are because they may be perceived by the respondents as either boring or perhaps personal. In either instance, the upfront placement of these questions may impact on likelihood of completion. On the other hand, an argument can be made for commencing the survey with these questions. That is, the questions are easy for the respondent to answer and the likelihood that they will be answered is maximized.

Furthers, questions should be as short as possible and the instances where a respondents may be required to skip a question should be minimized.

In general, the instructions that accompany a survey are another important influence on the accuracy of the information gathered.
The format of the survey also impacts on both the accuracy of response and completion rate. The format should assist the respondent in moving through the document.

In general, it is suggested that questionnaires should be between four and twelve pages with adequate spacing between questions using an easy to read font (Bourque and Fielder 2003).\(^9\)

To maximize legibility, italics should be avoided and it is preferable to use bold or capitals if emphasis is required. Questions should never be split between pages and response codes should clearly correspond to the relevant alternative. The survey should end with instructions as to what to do with the completed questionnaire and the respondents should be thanked for their time and effort.

### 3.8 Instrument Development

The **structured questionnaire** was comprised of seven different major sections: (I) Demographical data; (II) Purchase Behavior; (III) Brand Loyalty; (IV) Cognitive component of brand attitude; (V) Affective component of brand attitude; (VI) Intention component of brand attitude; (VII) Brand Extension.

Sections I and II, demographical data and purchase behavior, are both comprised of multiple-choice questions. According to Fraenkel and Wallen (2006), most survey questions are multiple-choice or closed ended questions.\(^{10}\)

The benefit of using multiple-choice questions is that there is less confusion for the respondent in selecting an answer. In designing the questions for the research instrument, Fraenkel and Wallen (2006) highlight the following criteria that
should be used for closed-end questions: —...be sure the question is unambiguous; keep the focus as simple as possible; keep the questions short; use common language; avoid the use of terms that might bias responses; avoid leading questions; and avoid double negatives.¹⁰

Section III, IV, V, VI and VII, Brand Loyalty, Cognitive component of brand attitude, Affective component of brand attitude, Intention component of brand attitude and Brand Extension are all comprised of seven point Likert Scale. One part of section VII was comprised of an open-end question.

A note was included on the cover page informing the students on the topic of the survey and of its importance.

3.9 Design of the Questionnaire

The researcher has used a questionnaire for the collection of primary data in two languages: Persian and English.

The questionnaire was structured questionnaire with closed-end questions to avoid the variations in the responses of the respondents. All questions were given sufficient options to record the replies of respondents. This style of questionnaire was adopted to standardize the responses.

All the questions asked in this questionnaire were formulated based on intensive and extensive literature review, expert’s opinions and pilot survey.

There were categorical questions at the beginning of the questionnaire to understand the profile of the respondents and use these data to find out their
relationships with Brand attitude and Brand loyalty. All other questions were designed based on the objectives and hypothesis of the research study.

Questions number one to five were designed to obtain demographic information of the respondents on gender, age, marital status, occupation and average monthly income.

Questions number six to eleven were designed to obtain information on purchase behavior and brand recall of the respondents.

Question number twelve was designed to gather information on brand loyalty of the respondents.

Question number thirteen was designed to obtain information on affective component of brand attitude.

Question number fourteen was designed to gather information on cognitive component of brand attitude.

Questions number fifteen and sixteen were designed to obtain information on which brands they will buy next and which brands they will recommend to their friends.

Question number seventeen was designed to get information on brand extension.
3.10 Sample Design

3.10.1 Sampling Technique

Considering various factors in this study, the non-probability, judgment technique was used.

Due to the fact that this study is on the impact of brand attitude on consumer purchase behavior on soft drink market in Iran and India, the questionnaire was designed in a way that consumers of soft drink could answer to the questions and those who consume very rarely or do not consume soft drinks, were not qualified for this study.

In the beginning of the interview, participants were asked whether they consume soft drinks and if their answer was ‘yes’, the interview would have started otherwise the interviewer would have finish the conversation in a friendly manner.

3.10.2 Sample Size

The total sample size for this research was 600, 300 respondent from Tehran/Iran and 300 respondent from Pune/India who were 17 - 45 years old, students and households, both male & female. Out of these numbers, 265 questionnaires in Tehran/Iran and 271 in Pune/India were properly filled and could be used for data analysis.

The period of Research was Year 2008-2011 and the data collection was done during March 2009 to July 2009 in both cities of Pune and Tehran.
The geographical area of the research is Pune in India as well as Tehran in Iran. University of Pune and shopping centers of Pune such as Pune central, SGS mall in MG Road, Durabji in MG Road, Ozon in Aundh area, Relience Fresh in Bavdhan and PayameNoor University in Tehran and shopping centers of Tehran such as Shahrvand Poonak, Refah Azadi, Tirazheh in Ashrafi Esfahani, Boostan in Poonak were selected for distributing the questionnaires. The participants considered for this study were soft drink consumers or purchasers.

The period of Research was Year 2008-2011 and the data collection was done during March 2009 to July 2009 in both cities of Pune and Tehran.

3.11 Data Collection

The research was carried based on both primary and secondary data.

3.11.1 Secondary Data

Secondary data is data that has already been collected and collated by somebody for some reason other than the current study. It can be used to get a new perspective on the current study, to supplement or compare the work or to use parts of it, as another study may prove costly and time consuming e.g. the census. Secondary data can further be divided into two parts. Qualitative data includes biographies, personal letters, diaries, records, documents, published material, computer database, policy statements, etc. Quantitative data would have market research, census, and Economic documents, planning documents or specimens. Since the data has been collected for another purpose by somebody else, it may not be fully useful, the context could have changed or data could have been doctored.
The various sources of secondary data collected by the researcher are:

- Books
- Journals
- Companies annual reports & in-house publications
- Internet, websites
- Local Reports & etc.

### 3.11.2 Primary Data

Primary Data is first hand data which is collected by researcher by its own observation to solve any problem or to take decision. Primary data helps researcher to solve those problems which are new in nature. The main sources of collection of primary data are interview, filling questioners, observation etc.

Personal interview of 600 respondents by aid of structured questionnaire was conducted to collect primary data in India/Pune and Iran/Tehran.

The questionnaire was designed in English for data collection in India/Pune and was translated into Persian for data collection in Iran/Tehran.

The questionnaire consists of scales to identify:

- Cognitive and Affective component of Brand attitude
- Purchase behavior, Brand loyalty and Brand extension
- Demographic information
The questionnaire was designed in a way that contained closed-end questions such as Likert scale, Semantic differential rating scale method and Ranking scale method questions.

Open-ended questions were applied for brand extension as well as the pilot study.

This study was carried out in two stages; pilot study and actual survey.

3.12 Pilot Study

Before conducting the actual survey, two different pretests were conducted in India as well as Iran with 30 participants in each country, similar to those in the final sample. This preliminary step, less expensive and time consuming than the actual research, is necessary to uncover item ambiguities and other sources of bias and error (Garson, 2003).11

According to Converse and Presser (1986), a minimum of two pretests is necessary, with 25-75 participants similar to those in the final sample.5

Upon completion, respondents were interviewed regarding the following issues:

- Ease of understanding the instructions as how to respond to each question;

- Ease of understanding the stimulus material; and

- Ease of understanding what each question was asking.

3.12.1 First Pre-test

The first pretest was conducted in both countries with help of convenient sampling to decide the salient attributes of soft drinks that could measure
cognitive components. Thirty students at the University of Pune and 30 students at University of Payame Noor Tehran participated in Pretest 1. The method of data collection is face to face interview.

The salient attributes of soft drinks were determined by a free-elicitation technique as recommended by Fishbein and Ajzen (1975).12

When eliciting the salient beliefs that determine attitudes toward behaviors, it is essential to ensure correspondence in action, target, context, and time elements (Ajzen & Fishbein, 1980).13

However, attempting to understand the reasons for purchasing one brand over another, market researchers have often asked questions such as, “In thinking about buying an X product, what characteristics are important to you?”

Therefore, to elicit salient attributes, respondents in the pretest were given a few minutes to list their thoughts in response to the following question: “In thinking about buying a soft drink, what attributes are important to you?”

Five attributes (for measuring the cognitive component of brand attitude) considered to be the most important attributes in the pretest are: Taste, Price, Availability, Offers, and Healthiness.

The measurements of affective component of brand attitude have been taken from the list provided by Van Auken B. 2007. variables are: company image, self confidence, interaction, influence of friends, popularity of brand, refreshness, thirst quenching, life of the party, good feeling, trustworthiness.14
3.12.2 Second Pre-test

The second pretest was conducted with 37 households and students in Pune and 30 households and students in Tehran to identify whether there were any problems with the survey instrument or survey instructions (to ascertain the validity and relevance of the various inputs of the questionnaire). The assumption of this pilot study is that the given brands are well known among participants. Method of data collection is structured questionnaire. Some minor changes on questionnaire were done after the second pretest.

3.13 Data Screening

Upon collecting and entering the data, the analysis process commenced with data screening. Prior to analyzing the data, a critical first step is to examine the basic characteristics of the data in order to assist with the application of a multiple regression analysis, correlation analysis and chi square test of independence as well as an interpretation of the results. As discussed before, 600 questionnaires were distributed in Iran/Tehran and India/Pune, 300 in each country, resulting in 265 completed questionnaires in Tehran/Iran and 271 in Pune/India (90% response rate in India and 88% response rate in Iran). Although there is no clear agreement on an acceptable response rate, it has been suggested that a response rate of at least 75 percent means that the results will not be significantly affected by a nonresponse bias, if it in fact exists (Babbie 2001; Hoyle et al. 2002).1,2

The data from these surveys were first screened to identify out-of-range values by examining the minimum and maximum values for each question, as well as
ensuring the means and standard deviation were credible (Tabachnick and Fidell 2001). There were no out-of-range values.

3.14 Data Analysis

Data collected was processed, analyzed and interpreted with the help of the SPSS-18 software. This included performing several statistical computations to analyze the data collected to generate substantial evidence to prove the proposed hypotheses.

For the reliability check, the Cronbach's alpha test was done to measure internal consistency that is, how closely related a set of items are as a group.

The stepwise multiple regression analysis, correlation analysis, and chi-square test were used for the purpose of testing the hypotheses. These are the popular tests in social sciences, management and research. The stepwise regression analysis and correlation analysis was done on continuous variables and chi-square test was done on categorical variables. The bar charts and tables were used where necessary.

3.14.1 Justification of Analysis Techniques

A number of factors including the type of research question, the number of independent and dependent variables determined the choice of statistical technique for analyzing the data generated by this study. Based on these criteria, multiple regression analysis, correlation analysis and chi square test of independence were used to test hypotheses.
Multiple regression analysis is used to examine the relationship between two or more intervally scaled predictor variables (independent variable) and one intervally scaled criterion variable (dependent variable).

Multiple regression is simply a logical and mathematical extension of bivariate regression. However, instead of fitting a straight line through a two-dimensional space, multiple regression fits a plane through a multidimensional space.

The output of the multiple regression analysis is as below:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_iX_i \]

Where

- \( Y \) = estimated value of the criterion variable
- \( a \) = constant derived from the analysis
- \( b_i \) = coefficient associated with the predictor variables such that a change of one unit in \( X_i \) will cause a change of \( b_i \) units in \( Y \). The values for the coefficients are derived from the regression analysis.
- \( X_i \) = predictor variables (independent variable) that influence the criterion variable.

The coefficient of determination in the regression analysis is generally called \( r \) square (\( r^2 \)) can range from 0 to 1 in value and in multiple regression, indicates the percentage of the variation in the criterion variable that is explained by the entire set of predictor variables.
In multiple regression analysis, any number of variables can be used as predictors, but many variables are not necessarily the ideal. It is important to find variables that significantly influence the dependent variable.

There are several methods of entering variables into the regression equation such as: Enter, Forward, Backward, Stepwise and Remove.

The researcher has selected the stepwise regression analysis because this method combines both Forward and Backward procedures. Due to the complexity of intercorrelations, the variance explained by certain variables will change when new variables enter the equation. Sometimes a variable that qualified to enter loses some of its predictive validity when other variables enter. If this takes place, the Stepwise method will remove the “weakended” variable. Stepwise is probably the most frequently used method of the regression analysis.

In general, the research questions for this study sought to determine the impact of independent variables (Cognitive and affective components of brand attitude) in on dependent variable (brand loyalty) in stepwise multiple regression analysis.

The correlation analysis was used to identify the relation between brand loyalty and acceptance of brand extension.

The chi square test was carried to test hypotheses with categorical data.

**1.14.2 Multiple Regression Analysis**

In order to test the hypothesis “Affective and Cognitive components of brand attitude equally impact consumer brand loyalty”, stepwise multiple regression analysis is done and dependent and independent variables are as below:
1.14.2.1 Dependent Variable

**Brand loyalty** as an important part of consumer behavior, was taken into consideration as dependent variable in the multiple regression analysis.

The construct of brand loyalty toward various soft drink brands was measured by four questions using 7-point Likert scale where 1= strongly disagree and 7= strongly agree. The average of four questions was considered on for the analysis. The reason for designing four questions instead of one direct question is to reduce errors.

Respondents were asked to show the extent of their agreement to four statements on brand loyalty:

1) I consider myself to be loyal to my soft drink brand;

2) I will not buy other brands if my soft drink brand is not available at the store and will go to another store;

3) all soft drink brands are not the same and it does not matter which to purchase;

4) I usually do not like to switch to other soft drink brands to try out.

3.14.2.2 Independent Variables

**Cognitive component** of brand attitude was considered as an independent variable for the multiple regression analysis.

The construct of cognitive component of brand attitude was measured using a 7-point semantic differential scale measuring various aspects of soft drinks attributes such as taste, price, availability, offers, and healthiness.
**Affective component** of brand attitude was considered as an independent variable for the multiple regression analysis.

The construct of affective component of brand attitude measured using a 7-point Likert scale where 1= strongly disagree and 7= strongly agree.

Respondents were asked to show the extent of their agreement to eleven following statements:

2) company image  
3) popularity of brand  
4) influence of friends  
5) life of the party  
6) self confidence  
7) interaction  
8) refreshness  
9) thirst quenching  
10) good feeling  
11) trustworthiness  
12) perceived quality

**3.14.3 Correlation Analysis**

In order to test the hypothesis “Acceptance of brand extension is significantly related to brand loyalty”, correlation analysis is done and the variables are brand acceptance of brand extension and brand loyalty.

**3.14.4 Chi Square Test**

The researcher has done chi square test for all the hypotheses which were related to demographical data as well as frequency and quantity of purchase which are all categorical data.
3.15 Instrument Reliability

Instrumental reliability was computed using Cronbach’s Alpha for cognitive and affective components of brand attitude as well as brand loyalty and brand extension. In conducting research, a score of .70 or higher is considered adequate when determining reliability.\(^\text{10}\)

The result shows the adequate reliability as it is shown in Table 3.1; the Cronbach’s Alpha for cognitive, affective, brand loyalty and brand extension are more than 0.79 for India/Pune and more than 0.72 for Iran which means there is adequate reliability for the current study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach’s Alpha - India</th>
<th>Cronbach’s Alpha - Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>0.87</td>
<td>0.75</td>
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<tr>
<td>Affective</td>
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<td>0.93</td>
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<td>Brand Loyalty</td>
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REFERENCES


