Chapter-3 Research Methodology

This chapter starts with stating the problems of the study. Then the research objectives are set, research design and sources of data have been incorporated. This chapter also describes the instrument development process, pilot study and pretesting, hypothesis formulation, data collection, scope of the study and data analysis procedures. The issue of reliability and validity of the measurement scale are also addressed.

3.1 Introduction

Research methodology refers to the research process, the procedural framework within which the research is conducted. This methodology as defined by Leedey and cited by Remenyi et al., (1998) is 'an operational framework within which the facts are placed so that their meaning may be seen more clearly'.

Some methods provide data, which are quantitative and some are qualitative. This study is mainly based on quantitative research methods. Quantitative methods are those, which focus on numbers and frequencies rather than meaning and experience. Quantitative methods (e.g. experiments, questionnaires and psychometrics tests) provide information, which is easy to analyze statistically and fairly reliable. Quantitative methods are associated with the scientific and experimental approach and are criticized for not providing an in depth description.

Qualitative methods are ways of collecting data, which are concerned with describing meaning, rather with driving statistical inference. What qualitative method (e.g. case studies and interviews) lose on reliability, they gain in terms of validity. They provide a more in depth and rich description.

3.2 Research Problem

Organized retailing in India is recent phenomenon and as the retailing environment changes rapidly, there is growing need to evaluate true drivers of shopping in Indian scenario. Retailers operate in competitive environment facing changes in customer needs, demographics, type of retail ownership through mergers and acquisitions. In such an environment the understanding and prediction of customer buying behavior is of immense importance. There is a vast scope for this research and analysis as the
The retailing environment changes rapidly leading to changed shopper expectations and realignment of the choice of set of stores. A consumer shopping orientation may offer insights into how and why a consumer shops and why he visits a particular kind of store. Achieving the objectives of the study will contribute to the knowledge about the consumer needs of the retailing services in India and consumer behavior in terms of the retailing store choice. The act of shopping is an important facet of consumer life and is constantly evolving making it pertinent the investigation and understanding of this field. In managing retail firms understanding consumer perception towards retail formats is important. An awareness and understanding of international consumer underlying shopping motivation and its impact would facilitate to adapt the marketing approach where needed.

3.3 Research Objectives

The current study has been undertaken to examine the research problem with the following objectives.

1) To identify that which Retail Store Image Attribute does consumers perceive as important while shopping.

2) To identify shopping motives of customers when they come to shop in retail stores.

3) To find the effect of different store image attributes on shopping motives

4) To find the interaction between different shopping motives.

3.4 Research Design

There are two types of research designs: exploratory and conclusive.

The primary objective of the exploratory research is to provide insights into and an understanding of the problem confronting the researcher. Conclusive research is typically more formal and structured than exploratory research. It is based on large representative samples and data obtained are subjected to quantitative analysis (Malhotra, 2006).
We have chosen conclusive research design for our research. Under conclusive research we have chosen the descriptive research design the objective of the descriptive research is to describe the characteristic or function where that of casual research is to determine cause and effect relationship. We have chosen descriptive research.

Under descriptive research cross sectional design is used when information is collected from any given sample of population elements are chosen only once and longitudinal design is used when a fixed sample of population elements is measured repeatedly on the same variable. We have chosen cross sectional design.

Under cross sectional design, single cross sectional design is used when only a sample of respondents is drawn from the target population and information is obtained for the sample once. In multiple cross sectional design, there is two or more sample of respondents and information from each sample is obtained only once. Often information from different samples is obtained at different times and a long interval. We have chosen single cross sectional design.

This research study aims to focus on what implications does Organized Retail have on Buyers Behavior. For this purpose the Store Image Attributes and Shopping motives have been described. This study would attempt to explore the degree of interactivity of Store image Attributes and Shopping motives.

The study follows descriptive research design. It is descriptive as it provides description of store image attributes, shopping motives. Quantitative data was generated for the purpose of study to test and empirically validate the problems and the prospects of Organized Retailing Vis a Vis to Buyer Behavior. Since a scale was developed to measure the same, the reliability and the validity of the research instrument was checked. The present study tried to reduce any discrepancy with the help of availability of hard evidence based on rigorous methodology which is mandatory for the development for reliable and valid instrument.
3.5 The Research Instrument

The research instrument consisted of structured questionnaire that was specially designed for the study. The questionnaire was designed with the help of literature available.

The questionnaire was refined on the basis of the feedback received during the pilot study. Thus the instrument has been refined accordingly based on the pilot findings and face validity.

3.5.1 Instrument Development

The research instrument, a structured questionnaire was developed to collect data on the variables in this study. The questionnaire had 54 items. Questions 1-22 dealt with various store image attributes while questions 23-54 dealt with the various shopping motives dimensions. The dimensions covered under question 1-22 were

1) Merchandize

2) Shopping convenience

3) Atmospherics

4) Retail communication

and the dimensions covered under question 23-54 were

5) Utilitarian

6) Gratification

7) Socialization

Table 3.1 given below depicts items or statements for each measure
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Measures</th>
<th>Statements or items in each variables</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Merchandize</td>
<td>The product variety is good</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The product quality is good</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The prices with respect to the competitors is low</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The store has good range of fashion goods</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td>2.</td>
<td>Shopping Convenience</td>
<td>It is easy to find parking facilities</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It is easy to locate the store</td>
<td>Adly (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The store hours are convenient</td>
<td>Adly (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It is very easy to locate the products</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It takes less time to be checked out</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The payment facility is convenient</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Packaged units are convenient to handle</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The store layout is good</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The store personnel has a very caring attitude</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The store personnel has a very good knowledge</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td>3.</td>
<td>Atmospherics</td>
<td>The store is neat</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The smell is pleasant</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The temperature in the store is comfortable</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The lighting in the store is soothing</td>
<td>Theodoridis and Chatzipanagiotou (2008)</td>
</tr>
</tbody>
</table>

75
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Measures</th>
<th>Statements or items in each variables</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Retail Communication</td>
<td>The store has special offers</td>
<td>Adly (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The store has special offers</td>
<td>Adly (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>There is new product advertising in the store</td>
<td>Adly (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>There is a high visibility and display of product in promotion</td>
<td>Adly (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I look for discounts when I Shop</td>
<td>Cardoso and Pinto (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I look for bargains when I shop</td>
<td>Cardoso and Pinto (2010)</td>
</tr>
<tr>
<td>5</td>
<td>Utilitarian</td>
<td>I go to shop to find value for money</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go to shop to find the product that I need</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It is good to know that my shopping trip is successful</td>
<td>Cardoso and Pinto (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It is important to find the items I am looking for</td>
<td>Cardoso and Pinto (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It is important to accomplish what I have planned</td>
<td>Cardoso and Pinto (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go to shop as it consumes less time</td>
<td>Cardoso and Pinto (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go to shop as the service is good</td>
<td>Baltas and Papastathopoulou (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go to shop as it is quick</td>
<td>Baltas and Papastathopoulou (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On can shop for all the needs at a time</td>
<td>Carpenter (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I like shopping with my friends and family</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I like shopping for others because when they feel good</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td>S.No.</td>
<td>Measures</td>
<td>Statements or items in each variables</td>
<td>Author</td>
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<td>-------</td>
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<td></td>
<td></td>
<td>feel good</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>I enjoy shopping to find perfect gift for someone</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go to shop to socialize</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go shopping to enjoy crowds</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td>7</td>
<td>Gratification</td>
<td>Shopping gives me a break from daily routine</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go to shop to forget about day to day anxiety</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go shopping to be refreshed</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go shopping to be energized</td>
<td>Jin and Kim (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go shopping as it feels better</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shopping makes me feel that I am in my own universe</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shopping is way to relieve stress</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shopping is an adventure</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I enjoy shopping just for the fun of it</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go shopping when I want to treat myself special</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go shopping as the shopping environment is exciting</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I go shopping as it is a pleasure</td>
<td>Arnold and Reynolds (2003)</td>
</tr>
</tbody>
</table>
3.6 Hypothesis Formulation

The rationale for hypothesis considered for the present study stems from the extant literature on the subject, outcomes of the previous studies, from reasoning and the objectives of the study. The study will address the following research hypothesis.

$H_{01}$: There is no significant difference on the dimension of Retail Merchandize across different Age groups

$H_{02}$: There is no significant difference on the dimension of Retail Merchandize across different Income groups

$H_{03}$: There is no significance difference on the dimension of Retail Merchandize across different Educational Qualifications

$H_{04}$: There is no significant difference on the dimension of Retail Merchandize across Gender.

$H_{05}$: There is no significant difference on the dimension of Retail Merchandize across Marital status.

$H_{06}$: There is no significant difference on the dimension of Shopping Convenience across different Age groups.

$H_{07}$: There is no significant difference on the dimension of Shopping Convenience across different Income groups

$H_{08}$: There is no significant difference on the dimension of Shopping Convenience across different Educational Qualifications

$H_{09}$: There is no significant difference on the dimension of Shopping Convenience across Gender

$H_{10}$: There is no significant difference on the dimension of Shopping Convenience across Marital Status

$H_{11}$: There is no significant difference in the dimension of Atmospherics across different Age groups.

$H_{12}$: There is no significant difference in the dimension of Atmospherics across different Income groups.
$H_{013}$: There is no significant difference on the dimension of Atmospherics across different Educational Qualifications.

$H_{014}$: There is no significant difference on the dimension of Atmospherics across Gender.

$H_{015}$: There is no significant difference on the dimension of Atmospherics across marital status

$H_{016}$: There is no significant difference on the dimension of Retail Communication across different Age groups.

$H_{017}$: There is no significant difference on the dimension of Retail Communication across different Income groups.

$H_{018}$: There is no significant difference on the dimension of Retail Communication across different Education Qualifications.

$H_{019}$: There is no significant difference on the dimension of Retail Communication across Gender.

$H_{020}$: There is no significant difference on the dimension of Retail communication across marital status.

$H_{021}$: There is no significant difference on the dimension of Utilitarian Motive across different Age groups.

$H_{022}$: There is no significant difference on the dimension of Utilitarian Motive across different Income groups.

$H_{023}$: There is no significant difference on the dimension of Utilitarian Motive across different Educational Qualifications.

$H_{024}$: There is no significant difference on the dimension of Utilitarian Motive across Gender.

$H_{025}$: There is no significant difference on the Utilitarian dimension across Marital Status

$H_{026}$: There is no significant difference on the Socialization Motive dimension across different Age groups
H₀₂₇: There is no significant difference on the Socialization dimension across different Income groups

H₀₂₈: There is no significant difference on the Socialization dimension across Educational Qualifications

H₀₂₉: There is no significant difference on the Socialization Dimension across Gender.

H₀₃₀: There is no significant difference on the Socialization Dimension across Marital status.

H₀₃₁: There is no significant difference on the Gratification dimension across different Age groups

H₀₃₂: There is no significant difference on the Gratification dimension across different Income groups

H₀₃₃: There is no significant difference on the Gratification Motive dimension across different Educational Qualifications

H₀₃₄: There is no significant difference on the Gratification dimension across Gender

H₀₃₅: There is no significant difference on the Gratification Motive dimension across Marital Status

H₀₃₆: There is no significant difference on the Retail Merchandize dimension across Frequency of visits

H₀₃₇: There is no significant difference on the Retail Merchandize dimension across Time Spent during Shopping

H₀₃₈: There is no significant difference on the Shopping Convenience dimension across Frequency of visits

H₀₃₉: There is no significant difference on the dimension of Shopping Convenience across time spent during shopping/visit

H₀₄₀: There is no significant difference on the dimension of Atmospherics across Frequency of visits

H₀₄₁: There is no significant difference on the dimension of Atmospherics across time spent during shopping per visit
H₀⁴₂:- There is no significant difference on the dimension of Retail communication across Frequency of visits

H₀⁴₃:- There is no significant difference on the dimension of Retail Communication across Time spent during Shopping per visit

H₀⁴₄:- There is no significant difference on the dimension of Utilitarian Motive dimension across Frequency of Visits

H₀⁴₅:- There is no significant difference on the dimension of Utilitarian dimension across Time Spent during Shopping per visit

H₀⁴₆:- There is no significant difference on the Socialization Motive dimension across Frequency of visit per week

H₀⁴₇:- There is no significant difference on the Socialization Motive dimension across Time Spent during Shopping per Visit

H₀⁴₈:- There is no significant difference on the Gratification Motive dimension across Frequency of Visits per week

H₀⁴₉:- There is no significant difference on the Gratification Motive dimension across time spent during shopping per visit

H₀⁵₀:- There is no significant impact of Retail Merchandize dimension on the Utilitarian Motive Dimension

H₀⁵₁:- There is no significant impact of the Shopping Convenience dimension on the Utilitarian Motive Dimension

H₀⁵₂:- There is no significant impact of the Atmospherics dimension on the Utilitarian Motive dimension

H₀⁵₃:- There is no significant impact of the Retail Communication dimension on the Utilitarian Motive Dimension

H₀⁵₄:- There is no significant impact of Retail Merchandize Dimension on the Socialization Motive dimension

H₀⁵₅:- There is no significant impact of Shopping Convenience dimension on the Socialization Motive dimension
H056: There is no significant impact of the Atmospherics dimension on the Socialization Motive dimension.

H057: There is no significant impact of Retail Communication dimension on the Socialization motive dimension.

H058: There is no significant impact of Retail Merchandize Dimension on the Gratification Motive dimension.

H059: There is no significant impact of Shopping Convenience Dimension on the Gratification Motive Dimension.

H060: There is no significant impact of the Atmospherics Dimension on the Gratification Motive dimension.

H061: There is no significant impact of the Retail communication dimension on the Gratification motive dimension.

H062: There is no correlation between Utilitarian motive dimensions on Socialization motive dimension.

H063: There is no correlation between Socialization motive dimensions on Gratification motive dimension.

H064: There is no correlation between Utilitarian motive dimensions on Gratification motive dimension.

3.7 Pilot Study and Pretesting

Pilot testing of the measurement instrument was necessary to validate the items as well as the scale. This was necessary as some of the items related to the dimension had been used for the first time in the study.

The pilot testing was conducted in several steps. Before the final instrument was developed, a preliminary questionnaire was designed and tested to validate the scale items to be used in the study.

To check the face validity of the questionnaire, several subject experts were asked to evaluate the statements of the questionnaire regarding the content, layout, wording and ease of understanding the measurement items. They were also asked for their suggestions to improve the proposed scale and to edit the items to enhance clarity,
readability and content adequacy. Their feedback was taken into account while revising the questionnaire.

The structured questionnaire was first pre-tested on a representative sample of 225 respondents.

To obtain necessary inputs for refining the same, nearly all questions were close ended. On the basis of preliminary analysis of responses obtained which was based on five point Likert scale and it was decided to randomize the ordering of statements to minimize the respondent bias.

Further on the basis of the feedback, to improve the attractiveness of the Likert scale based question, emoticons were introduced to break the monotony of the questionnaire. Each emoticon used represented either strongly disagree (SD), Disagree (D), neither agree nor disagree (NAND), agree (A) and strongly agree (SA).

After the questionnaire was pilot tested, each question was examined for its clarity and relevance for the purpose of the research, which resulted in the modifications of the questions.

3.8 The Sample and Data Collection

The population for the study consisted of both male and female shoppers who come to shop in shopping malls and stores in Delhi & NCR, Mumbai and Pune. Delhi & NCR, Mumbai and Pune were selected as survey sites as they are planned cities and new stores have started operating in them. The sampling frame consisted of list of shopping malls and retail stores in Delhi & NCR, Mumbai and Pune. In order to have a representative sample a list of selected stores in Delhi & NCR, Mumbai and Pune was generated. The sample size consisted of 1200 shoppers who come to shop in malls and retail stores in Delhi & NCR, Mumbai and Pune as determined by the formula. For data collection purpose a list of selected malls and retail stores in Delhi & NCR, Mumbai and Pune was developed. Non probability convenience sampling intercept survey method was used to reach the customers. The shoppers were intercepted at various locations when they have completed their shopping.
3.9 Measurement, Reliability and Validity

3.9.1 Scale Refinement and Validation

A crucial aspect in the evolution of fundamental body of knowledge in any management theory is the development of genuine measures to obtain valid and reliable estimates. Unless, reliability and validity are established, it is hard to standardize the measurement scale, without which it is difficult to know whether the scales actually measure what they are supposed to measure. In the present study data was collected through a questionnaire, which was subjected to factor analysis in order to unearth the latent factors based on the factor loadings. Then, the instrument was subjected to tests of reliability and validity, thereby ensuring operationalization and standardization.

3.9.2 Types of Reliability and validity

3.9.2.1 Reliability

Reliability refers to a condition where a measurement process yields consistent scores (given an unchanged measured phenomenon) over repeat measurements. Perhaps the most straightforward way to assess reliability is to ensure that they meet the following three criteria of reliability. Measures that are high in reliability should exhibit all three.

3.9.2.2 Test-Retest Reliability

When a researcher administers the same measurement tool multiple times - asks the same question, follows the same research procedures, etc. - does he/she obtain consistent results, assuming that there has been no change in whatever he/she is measuring? This is really the simplest method for assessing reliability - when a researcher asks the same person the same question twice ("What's your name?") does he/she get back the same results both times. If so, the measure has test-retest reliability.

3.9.2.3 Inter-Item Reliability

This is a dimension that applies to cases where multiple items are used to measure a single concept. In such cases, answers to a set of questions designed to measure some single concept (e.g., altruism) should be associated with each other.
3.9.2.4 Interobserver Reliability

Interobserver reliability concerns the extent to which different interviewers or observers using the same measure get equivalent results. If different observers or interviewers use the same instrument to score the same thing, their scores should match. For example, the Interobserver reliability of an observational assessment of parent-child interaction is often evaluated by showing two observers a videotape of a parent and child at play. These observers are asked to use an assessment tool to score the interactions between parent and child on the tape. If the instrument has high Interobserver reliability, the scores of the two observers should match.

3.9.2.5 Validity

Validity refers to the extent we are measuring what we hope to measure (and what we think we are measuring). How to assess the validity of a set of measurements? A valid measure should satisfy four criteria.

3.9.2.6 Face Validity

Face validity is an estimate of the degree to which a measure is clearly and unambiguously tapping the construct it purports to assess. Thus, face validity refers to the “obviousness” of a test—the degree to which the purpose of the test is apparent to those taking it. Tests wherein the purpose is clear, even to naïve respondents, are said to have high face validity; tests wherein the purpose is unclear have low face validity (Nevo, 1985). The concept of face validity is similar to item subtlety, but there are important differences as well. Whereas face validity describes the transparency of an entire test, item subtlety describes the transparency of individual test items (Bornstein, Rossner, Hill, & Stepanian, 1994).

3.9.2.7 Content Validity

Content validity concerns the extent to which a measure adequately represents all facets of a concept. Consider a series of questions that serve as indicators of depression (don't feel like eating, lost interest in things usually enjoyed, etc.). If there were other kinds of common behaviors that mark a person as depressed that were not included in the index, then the index would have low content validity since it did not adequately represent all facets of the concept.
3.9.2.8 Criterion-Related Validity

Criterion-related validity applies to instruments than have been developed for usefulness as indicator of specific trait or behavior, either now or in the future. For example, think about the driving test as a social measurement that has pretty good predictive validity. That is to say, an individual's performance on a driving test correlates well with his/her driving ability.

3.9.2.9 Construct Validity

But for a many things we want to measure, there is not necessarily a pertinent criterion available. In this case, turn to construct validity, which concerns the extent to which a measure is related to other measures as specified by theory or previous research. Does a measure stack up with other variables the way we expect it to? A good example of this form of validity comes from early self-esteem studies - self-esteem refers to a person's sense of self-worth or self-respect. Clinical observations in psychology had shown that people who had low self-esteem often had depression. Therefore, to establish the construct validity of the self-esteem measure, the researchers showed that those with higher scores on the self-esteem measure had lower depression scores, while those with low self-esteem had higher rates of depression.

3.9.3 Reliability and Validity Analysis

Measures of variables should have validity and reliability (Cronbach, 1971; Nunally, 1978) in order to draw valid inferences from the research, reliability deals with how consistently similar measures produce similar results (Rosenthal & Rosnow, 1984) and it has 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 revised by altering or deleting the items that have scores lower than 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; Nunally,
According to Schuessler (1971), a scale is considered to have a good reliability if it has an alpha value greater than 0.60. In this research, the multi item scales measuring the various items and dimensions were checked for reliability by determining Cronbach’s Alpha and an Alpha value of 0.60 or greater were considered.

The validity of a measurement instrument refers to how well it captures what it is designed to measure (Rosenthal and Rosnow, 1984). Several different types of validity are of concern: Content validity, the degree of correspondence between the item 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 Hypothesis generated from a theory of constructs.

In 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 three professors and two marketing head of the companies. After they have reviewed the questionnaire, changes were made to clarify and eliminate ambiguous statements in instructions and questions according to their recommendations. Also in the pilot test each question was examined for its clarity and relevance to the purpose of the research, which resulted in some modifications to the questions.

After the data was collected through final refined questionnaire, the content validity of variables was assessed through factor analysis to unearth the latent factors based on factor loadings. Such analysis provides an empirical assessment of the interrelationship among the items in a variable in forming the conceptual and empirical foundation of summated scale (Hair, Anderson, Tatham and Black, 1998).

Measures were developed in stages; the researcher purified the measures by assessing the reliability and unidimensionality of each construct. The items were then subjected to principal component analysis (PCA).

The Cronbach’s Alpha was determined for each construct is mentioned in the following table 3.2
Table 3-2 Reliability Statistics

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
<th>No of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Merchandize</td>
<td>0.695</td>
<td>4</td>
</tr>
<tr>
<td>Convenience</td>
<td>0.705</td>
<td>10</td>
</tr>
<tr>
<td>Atmospherics</td>
<td>0.654</td>
<td>5</td>
</tr>
<tr>
<td>Retail Communication</td>
<td>0.724</td>
<td>5</td>
</tr>
<tr>
<td>Utilitarian Shopping Motive</td>
<td>0.881</td>
<td>9</td>
</tr>
<tr>
<td>Socialization Shopping Motive</td>
<td>0.833</td>
<td>6</td>
</tr>
<tr>
<td>Gratification Shopping Motive</td>
<td>0.943</td>
<td>13</td>
</tr>
</tbody>
</table>

The Cronbach’s Alpha for the Overall questionnaire is found to be 0.806. This means the questionnaire was reliable.

3.10 Method of Analysis

3.10.1 Factor Analysis

The data generated through the preliminary questionnaire was then subjected to principal component analysis (PCA) a method categorized under broad area of factor analysis. Principal component analyzes all the variance in the items. Principal component analysis is generally considered the best method for pragmatic purpose of data reduction.

With PCA, The 54 variables were reduced to 52 variables under broad head of seven factors such as Retail Merchandize, Shopping Convenience, Atmospherics and Retail Communication. The diagrammatic representation of the procedures followed, leading up to factor analysis is given in Figure 3.1 overleaf.
Figure 3.1 Procedure of Analysis

Research Problem

PCA Analysis (Exploratory Factor Analysis)

Factors extracted through forced extraction

Determination of factors using Varimax rotation

Interpretation of the rotated factor matrix

Computation of Factor Scores

Table 3-3 Table for factors and related items

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Factors</th>
<th>Factor Names</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Factor 1</td>
<td>Retail Merchandize</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Factor2</td>
<td>Shopping Convenience</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Factor3</td>
<td>Atmospherics</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Factor4</td>
<td>Retail Communication</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Factor5</td>
<td>Utilitarian Shopping Motives</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>Factor6</td>
<td>Socialization Shopping Motives</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Factor7</td>
<td>Gratification Shopping Motives</td>
<td>13</td>
</tr>
</tbody>
</table>

3.10.2 Rationale for using Factor Analysis

Factor analysis is a multivariate statistical procedure primarily used for data reduction and summarization- large number of correlated variables is reduced to a set of
independent underlying factors. This technique is used because it analyses the structure of interrelationship among a large number of variables by defining a set of common underlying dimensions, known as factors or dimensions. This leads to summarization and data reduction.

Factor analysis is an independent technique in which all variables are simultaneously considered, each related for all others and still applying to the concept of variant, the linear composite of variables. The original variables are dependent variables that are function of some underlying and latent set of dimensions that are themselves made of other variables (Gorusch, 1983). Factor analysis is multivariate technique that helps in understanding the complex relationships, which is otherwise not possible with bivariate and univariate methods. The other benefit of this technique is that researcher gets insights into empirical estimation of relationships with conceptual foundations and interpretation of results.

An important tool in interpreting factor is factor rotation. Rotation means that the factors are turned about the origin until some other position has been reached. This redistributes the variance from earlier factors to later ones to achieve simpler, theoretically more meaningful factor pattern.

In this research we have used varimax rotation with which maximum possible simplification is reached. With varimax rotational approach there tends to be some high loadings close to -1 or +1, thus indicating a clear positive or negative association between the variables and factors close to 0, indicating a clear lack of association. Varimax rotation gives clear separation of factors.

Varimax rotation is used because it is orthogonal type of rotation which signifies that our rotated factors have independent character in measurement that each factor is analyzed separately and each factor can independently be analyzed.

In this study, KMO measure of sampling adequacy was calculated. This suggests that the data is adequate for factor analysis. Bartlett’s test of Sphericity was also calculated which suggested that the null hypothesis correlation matrix came from a population in which the variables were non collinear and not correlated.
3.10.3 KMO and Bartlett test

The Kaiser-Meyer-Olkin measure of sampling adequacy suggests that the data is adequate for factor analysis. Bartlett's test of sphericity is a statistical test for the presence of correlation among variables. It provides the statistical probability that the correlation matrix has significant correlations among at least some of the variables. Thus a significant Bartlett's test of sphericity is required (Hair et al., 1998).

3.10.4 ANOVA

Analysis of variance (ANOVA) is a collection of statistical models used to analyze the differences between group means and their associated procedures (such as "variation" among and between groups), in which the observed variance in a particular variable is partitioned into components attributable to different sources of variation. In its simplest form, ANOVA provides a statistical test of whether or not the means of several groups are all equal.

3.10.5 t-Test

t-test is used to determine as to whether significant differences existed between them in terms of the factors such as marketing orientation, top management orientation, financial orientation etc.

3.11 Limitations of the study

1) There were limitations in terms of time, fund and willingness of the respondents to participate in the study.

2) There is a possibility of respondent bias. They may have give replies that are desirable form their point of view.

3) The accessibility of the customer was a problem, as most of the stores do not allow in store surveys, hence the times spent in searching shoppers for their responses was considerable.

4) Having a structured questionnaire meant that there is already an inbuilt inflexibility. This method is very rigid since no alteration in the questionnaire can be made.
5) It is difficult for the researcher to ascertain whether the responses received were correct.

6) As the people don’t have there is a risk of collecting incomplete and wrong information, particularly when the people are unable to understand the questions properly.

3.12 Scope of the study

The purpose of the study is to assess consumer behaviour in retailing scenario in India. We chose India to explore the shopping motives of shoppers who shop in retailing stores since the format is relatively new for them and their consumption culture may be different with those of previously researched countries like USA and European countries.

An awareness and understanding of underlying shopping motivations and its impact would facilitate the ability to adapt the marketing approach where needed. There is a growing need to evaluate true drivers of shopping behaviour in retailing in India. There is a vast scope for research and analysis as the retailing environment changes rapidly leading to changed shopper expectations and realignment of choice of set of stores.

It is important for Indian retailers to understand shopper’s evaluation of store attributes based on their shopping motives, based on these evaluations retailers could manipulate relevant marketing strategies to capture customer shopping motives.

The study is expected to contribute to the knowledge about the consumer’s needs of retailing services. Such knowledge is anticipated to assist supermarket management in process of formulating marketing strategies necessary to retain existing customer and to influence attitude and perception of potential customer.

In order to fulfill purpose of the study store image attributes preferred by shoppers while shopping were studied. Also different shopping motivations that shoppers have while shopping in a retail setting is determined. Through exploratory factor analysis the store image and shopping motivation dimension were identified.
The population of the study consisted of shoppers who come to shop in shopping malls and retail stores in Delhi &NCR, Mumbai and Pune. The sampling frame consisted of shopping malls and retail stores in Delhi & NCR, Mumbai and Pune. The sample size was 1200 shoppers as calculated by the formulae. To determine the sample size total number of footfalls in each of the listed stores were calculated and sample size was determined using the formulae. The sample size was found to be 1200 shoppers. In order to collect the data shoppers in different retail stores and malls listed were approached. The data was collected using mall intercept survey method when shoppers have completed the shopping. The data was collected during three months period. The major shopping malls and retail stores which were visited are listed below.

1) Select city walk, Saket, New Delhi
2) Ambience Mall, Vasant Kunj, New Delhi
3) West gate Mall, Rohini, New Delhi
4) DLF Promenade Vasant Kunj, New Delhi
5) Sahara Mall, Gurgaon
6) MGF Metropolitan Mall, Gurgaon
7) Ambience Mall Gurgaon
8) Atria Millennium Mall, Worli, Mumbai
9) High Street Phoenix, lower Parel Mumbai
10) Oberoi Mall, Goregaon West, Mumbai
11) Inorbit Mall, Malad West, Mumbai
12) Nucleus Mall Pune

The list of various stores visited to collect the data were as follows.

3.13 Summary

This chapter has illustrated the methodology adopted for the research study. Research design and Research hypotheses was presented. The study design included quantitative approach. Data collection section included a discussion of population, sample size, and survey procedures. In the scale refinement section, the details of scale refinement have been discussed. It also discusses the Exploratory Factor Analysis. The sequence of analyses has been figured. In data analysis section, the statistical technique used for analyzing the data has been explained. In the end, the major limitations of the study are presented. The next chapter i.e. chapter 4 “Data Analysis and Interpretation” analyses the data collected using the adopted research instrument.