CHAPTER 2

RESEARCH DESIGN

2.1 INTRODUCTION

This chapter deals with the research design, the description of the population, characteristics of the sample, research methodology, nature of the sample, research instrument used in data collection, data collection methods, field work, tools and techniques used to study the sample, chapter scheme and operational definitions used in the study.

2.2 AREA OF STUDY – CHENNAI

The study was conducted in Chennai city in the state of Tamil Nadu in India. Chennai is identified as one among business friendly city out of top business friendly cities in India. The study area is also estimated to account for major share in the total durable goods market of Tamil Nadu. Most of the manufacturers of consumer durables have their regional offices located in Chennai. The presence of a large number of reputed chain stores to display and/or sell their products, like the Vasanth & Co. Viveks, Shaw & Co. etc., The companies have also a large number of authorized agents representing them in different parts of Chennai with service outlets. Chennai is also the house to major Information Technology Enabled Services (ITES) companies like the Infosys, Cognizant Technology Solutions (CTS), Tata Consultancy Services (TCS), Hindustan Computers Limited (HCL), iflex, Carritor and others to name a few. The city is the fourth largest in India and the 30th largest city in the world in terms of population.
The Profile of the study area is as given below:

2.2.1 **Profile of Chennai**

City: Chennai (Formerly known as Madras)

Established: August 22, 1639 (Celebrated as Madras Day)

Time Zone: GMT + 5:30

Languages: Tamil, Telugu, and English

Importance: Capital of the State of Tamil Nadu

Fourth Largest Metropolis in India

Industrial and Information Technology Hub,

Major Port, Education center par excellence

Center for culture, dance, music and films


5,421,985 (1991)

Density: 24,231/Km$^2$

Sex Ratio: 951:1000(approximately)

Literacy Rate: Male : 84.71 %

Female : 75.32 %

Total : 80.14 %

Area: 174 Km$^2$

Latitude: 13.090 N

Longitude: 80.270 E

Attitude: 6 meters above Mean Sea Level (MSL)

Temperature: Summer: 21$^\circ$C to 37$^\circ$C

Winter: 20$^\circ$C to 32$^\circ$C

PIN: 600 XXX

The Chennai city map is given in Appendix 1.

Source: The census of India Report
2.2 CHOICE OF PRODUCT, POPULATION AND SAMPLE

The products chosen for the study are television, refrigerator and washing machine. The rationale for selection of products is presented in Chapter 1.

The population for the study consists of buyers who have replaced any one or more, either individually or together of the consumer durables considered for the study. Such replacement ought to have taken place during the study period viz., 2003 – 2005. The data pertaining to replacement market is not estimated so far. The researcher has carried out an in depth search towards obtaining this data if there be any, but has not been able to find any data even near satisfactory.

The sales records of major retail outlets of the study area have been surveyed. The findings show the replacement purchase is a maximum in the case of Television followed by Refrigerator and Washing Machine accordingly. The researcher had intensive interaction with managers of leading retail outlets, marketing executives, consultants, researchers and academic experts and by reasonable judgment to have 550 samples.

2.3 SAMPLE SIZE

A total number of 550 questionnaires were distributed to the buyers defined as per the population framework and 424 respondents satisfactorily responded and the response rate is 77.10%.

The details are set in Table 2.1.
Table 2.1 Distribution of Sample

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Category</th>
<th>No. of Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Overall</td>
<td>424</td>
<td>77.10</td>
</tr>
<tr>
<td>2.</td>
<td>TV</td>
<td>321</td>
<td>75.70</td>
</tr>
<tr>
<td>3.</td>
<td>Refrigerator</td>
<td>186</td>
<td>43.87</td>
</tr>
<tr>
<td>4.</td>
<td>Washing Machine</td>
<td>93</td>
<td>21.93</td>
</tr>
<tr>
<td>5.</td>
<td>TV and Refrigerator</td>
<td>113</td>
<td>26.65</td>
</tr>
<tr>
<td>6.</td>
<td>TV and Washing Machine</td>
<td>50</td>
<td>11.79</td>
</tr>
<tr>
<td>7.</td>
<td>Refrigerator and Washing Machine</td>
<td>41</td>
<td>9.67</td>
</tr>
<tr>
<td>8.</td>
<td>TV only</td>
<td>186</td>
<td>43.87</td>
</tr>
<tr>
<td>9.</td>
<td>Washing Machine only</td>
<td>30</td>
<td>7.08</td>
</tr>
<tr>
<td>10.</td>
<td>Refrigerator only</td>
<td>60</td>
<td>14.15</td>
</tr>
<tr>
<td>11.</td>
<td>All the three</td>
<td>28</td>
<td>6.60</td>
</tr>
</tbody>
</table>

2.4 DATA SOURCE

Primary data for the study was collected from the buyers as defined in the population parameters, using the undisguised structured questionnaire. The questionnaire was fine tuned on the basis of the pilot study conducted. The Questionnaire was personally administered and the respondents were given adequate time to record their responses without bias.

The Secondary data was collected from various sources such as companies web sites, Census of India Records and bulletins, publications of survey organizations, other relevant research publications, journals and books. Business dailies such as The Economic Times, Business Line were also perused for relevant information on the topic.


2.5 DATA COLLECTION INSTRUMENT/TOOL

The Data collection tool was an undisguised and structured questionnaire. The questionnaire was finalized on the basis of the pilot study conducted with academic experts, experts in the field and customers.

The questionnaire consists of two major parts. The first part was designed to collect information to categorize replacement buyers on a list of 39 statements on the basis of distinct influencers that characterizes such buyers and their general opinion on product and service related factors over replacement purchase of the durables under study. This part also elucidates information on the demography characteristics of the buyers. Demographic characteristics of buyers have been measured by the variables such as sex, age, marital status, Education, Occupation, Income, Family size, type of family and age of children of buyers.

Part two comprises of questions seeking information on specific products and the importance of attributes that buyers impart in the decision making of selecting these products. The extent of the influence of service factors in the repurchase of the products was also considered important in the study. A copy of the instrument is appended in Appendix - 1 towards the end of the report.

2.6 PILOT STUDY

The purpose of the pilot study was to ascertain if the data collected conformed to the stated objectives and its relevance to the field of buyer behavior at large. The study also tested the validity of the questions and their responses received. The pilot study undertaken served its purpose in full.
A sample of 50 respondents was selected for the pilot study and the research instrument was sought for their responses. Questions that tested their power to retrieve over information that was fairly beyond a certain period of time such as the year of the first purchase, place of the first purchase was asked to be sought during the final collection of information. However, the questions were retained as a measure of authenticity than more used for analysis.

2.7 FIELD WORK

The database was generated by obtaining input from the major retail outlets of the study area that deal with the products under study. Such retail outlet includes Vivek & Co., Shaw & Co., Vasanth & Co., VGPaneerdas & Co etc. From the database respondents were selected on judgmental basis and approached them at the respondents place and time of convenience. In collecting the information from the customers the following method was adopted by the researcher.

2.8 EXPERIENCES ENCOUNTERED DURING THE PHASE OF DATA COLLECTION

The researcher had to face many a difficulties during the process of collecting information from the customers. Even at the first stage, permission had to be sought from the Managing Director / Chairman / Manager of reputed company show rooms and from the retail majors such as Vivek & Co., Vasanth & Co. and Shaw & Co. They were reluctant at the first instance, as they were of the opinion that allowing the researcher to carry out the research would not only cause inconvenience to their customers but would might also lead to some of the disclosure of their customers vital data regarding demographic factors and replacement purchase opinions, which
according to them were a concern of confidentiality. Hence, the researcher had to assure them that the data collected would only be used for academic purposes and it will not be transacted for other motives.

The customers were reluctant to disclose some of the information, on a few demographics relating to education, income and family size. But, the researcher convinced them the need of imparting such information and the data will solely be used for academic purpose. And, not to exaggerate, some of the respondents were more than willing to share their information, as some time earlier in their student life, they had understood the pain-staking exercise of collecting information from customers. The elders whole heartedly volunteered to part with the required information not withstanding the invitation to the researcher if further data need be. The researcher remains extremely grateful to his respondents.

2.9 STATISTICAL TOOLS DEPLOYED FOR DATA ANALYSIS

The following statistical tools are deployed for meaningful interpretation of the data collected.

1. Analysis of variance (ANOVA)
2. Chi-Square Analysis
3. Cluster Analysis
4. Factor Analysis
5. Kruskal-Wallis Test of Significance
6. Multi-Dimensional Scaling Technique
7. Percentage or Descriptive Analysis
8. Principle Component Extraction Analysis
9. Proximity Matrix
10. Weighted Average Mean (WAM)
11. Wilcoxon Signed Ranks Test
2.10 CHAPTER SCHEME

The thesis is presented in six different chapters. A brief description of these chapters is given below.

Chapter 1 deals with the Introduction to the study, the rationale behind the field of study, statement of the problem, need for the study, objectives, scope and limitations of the study

Chapter 2 describes the research design. The chapter details the justification of the area of study, procedure for sampling, the instrument chosen for the survey, methods used for data collection, details on statistical techniques employed for analysis, operational definitions and acronyms.

Chapter 3 sets the theoretical background of study. The chapter also describes the related studies in the field chosen for research.

Chapter 4 provides an outlook about consumer durable industry. It provides a brief description about market economies, statistics and estimations, manufacturers and brands in the Indian market.

Chapter 5 gives an analysis of the data collected and interpretations and conclusion. Relevant statistical tools have been deployed to substantiate the results arrived from the data collected.

Chapter 6 presents the findings of the study obtained through the analysis and interpretation of primary data. The findings are given towards the end of the report for easy reference.
Chapter 7 provides suggestions. The study also provides the scope for further research.

The thesis concludes with bibliographical references and annexure.

2.11 OPERATIONAL DEFINITIONS AND ABBREVIATIONS

AIO inventories

A list of consumer activities, interests, and opinions constructed to measure empirically lifestyle components

Consumer

Consumer has the same meaning as that of the buyer for the purpose of this study

Consumer durable

A Consumer Durable is defined as a consumption item that is not immediately consumed, but renders a stream of services over certain period.

Buyer

Buyer, for the purpose of this study, is a person who has replaced any one or two for all three of the consumer durables namely, Television, Refrigerator and Washing Machine during the period of study
Product Attributes

Those attributes, which are identified by the pilot study as important to the buyers in the replacement purchase of products. The importance of these attributes is not uniform for all products and is product specific.

2.12 SUMMARY

The primary data has been collected from respondents, namely the buyers who have replaced repurchased any one or two or all the three of the consumer durables under study; Television, Refrigerator and/or the Washing Machine during the period of study. Secondary data to the study has been collected from various sources such as the company’s publication in magazines, journals, research articles and newspapers, both regular and supplements; The Hindu, The Business Line, and The Economic Times to name a few. The web sites of different companies, online research journals, and publications also forms part of the collection. The following chapter provides an insight into relevant research that has been done in the past.