CHAPTER III

RESEARCH METHODOLOGY

This chapter explains the systematic investigative procedure followed to study the phenomenon of abnormal buying in malls. It explains the blueprint adopted for collection, measurement and analysis of to obtain answers to the research question. It outlines the various hypothesises, its operational implications and the final conclusions arrived after analysis of data.

3.1. RESEARCH DESIGN

a. The research begins on an exploratory note with an analysis of existing theory on normal and abnormal buying behaviour that occurs in a shopping environment.
b. It interprets and questions the past findings in the context of present day advancements in technology and retailing formats to finally identify the focus area for research.
c. The formal study begins with the formulation of hypothesises.
d. The data collection is by a structured questionnaire where the data is collected personally from the respondents.
e. The purpose of the study is to find the kind of relationship prevailing between independent variables cognitive and affective, and the moderating variables shopping involvement and happiness on the different abnormal buying behaviours a) Frugal Buying b) Impulsive Buying c) Compulsive Buying and d) Tightwad Buying. Hence the study is a descriptive study.
f. Since the study focuses on the buying behaviour in malls of postgraduate students pursuing the management degrees in Universities the study is a cross sectional one as it represents the snap shot behaviour at this point of time.
g. The study is predominantly of statistical analysis.
h. The research environment is of field setting where students were met in their respective campuses for collecting data.

3.2. SCHEMATIC DIAGRAM OF THE RESEARCH MODEL

![Schematic Diagram of the Research Model]

**Fig A**

Schematic Diagram of the Research Model

<table>
<thead>
<tr>
<th>Exogenous Variables:</th>
<th>Endogenous Variables:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cognitive Attitude</td>
<td>1. Frugal Buying</td>
</tr>
<tr>
<td>2. Affective Attitude</td>
<td>2. Impulsive Buying</td>
</tr>
<tr>
<td>3. Shopping Involvement</td>
<td>3. Compulsive Buying</td>
</tr>
<tr>
<td>4. Happiness Levels</td>
<td>4. Tightwad Buying</td>
</tr>
</tbody>
</table>
3.3. RESEARCH HYPOTHESIS

The main hypotheses tested in the study are as below:

1. **Hypotheses relating to Influence of Demographic Variables on Exogenous Variables and Endogenous Variables**

   **H$_0$ 1(A):** There is no significant influence of the demographic variables on the exogenous variables Cognitive Attitude, Affective Attitude, Shopping Involvement and Happiness Level.

   **H$_0$ 1(B):** There is no significant influence of the demographic variables on the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

2. **Hypotheses relating to Influence of Psychographic Variable Number of Times the Respondents’ Visited a Mall on the Exogenous Variables and Endogenous Variables.**

   **H$_0$ 2(A):** There is no significant influence between the Number of Times the Respondent Visited a mall and the exogenous variables Cognitive Attitude, Affective Attitude, Shopping Involvement and Happiness Level.

   **H$_0$ 2(B):** There is no significant influence between the Number of Times the Respondent Visited a mall and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

3. **Hypotheses relating to Influence of Demographic Variables on the Psychographic Variable Spending Habit.**

   **H$_0$ 3:** There is no significant influence of the demographic variables on Spending Habit.
4. **Hypotheses relating to Influence of Demographic Variables on the Psychographic Variable Cash Comfort Level while Visiting Malls**

   \( H_0 \): There is no significant influence of the demographic variables on Cash Comfort Level while visiting a Mall.

5. **Hypotheses relating to Association between Family Income and the Exogenous and Endogenous Variables**

   \( H_0 \)(A): There is no significant association between Family Income and the exogenous variables Cognitive Attitude, Affective Attitude, Shopping Involvement and Happiness Level.

   \( H_0 \)(B): There is no significant association between Family Income and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

6. **Hypotheses relating to Association between Cognitive Attitude and the Other Exogenous Variables and Endogenous Variables.**

   \( H_0 \)(A): There is no significant association between Cognitive Attitude and the other exogenous variables Affective Attitude, Shopping Involvement and Happiness.

   \( H_0 \)(B): There is no significant association between Cognitive Attitude and the endogenous variables Frugal, Impulsive, Compulsive and Tightwad Buying.

7. **Hypotheses relating to Association between Affective Attitude and the Other Exogenous Variables and Endogenous Variables.**

   \( H_0 \)(A): There is no significant association between Affective Attitude and the exogenous variables Shopping Involvement and Happiness Level.

   \( H_0 \)(B): There is no significant association between Affective Attitude and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.
8. Hypotheses relating to Association between Shopping Involvement and the Exogenous and Endogenous Variables.

\( H_0 \, 8(A) \): There is no significant association between Shopping Involvement and the exogenous variable Happiness Level.

\( H_0 \, 8(B) \): There is no significant association between Shopping Involvement and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

9. Hypotheses relating to Association between Happiness and Endogenous Variables.

\( H_0 \, 9(A) \): As all factors within exogenous variables have been exhausted there is no hypothesis to be formed.

\( H_0 \, 9(B) \): There is no significant association between Happiness Levels and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

10. SEM Related Hypotheses relating to Correlation between the Exogenous Variables and the Endogenous Variables.

\( H_0 \, 10(A) \): There is no significant correlation between Cognitive Attitude and the endogenous variables - Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

\( H_0 \, 10(B) \): There is no significant correlation between Affective Attitude and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

\( H_0 \, 10(C) \): There is no significant correlation between Shopping Involvement and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.
H₀ 10(D): There is no significant correlation between Happiness Level and the endogenous variables Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying.

11. SEM Related Hypotheses relating to Covariance between the Exogenous Variables.

H₀ 11(A): There is no significant covariance between Cognitive Attitude and Affective Attitude.

H₀ 11(B): There is no significant covariance between Cognitive Attitude and Shopping Involvement.

H₀ 11(C): There is no significant covariance between Cognitive Attitude and Happiness.

H₀ 11(D): There is no significant covariance between Affective Attitude and Shopping Involvement.

H₀ 11(E): There is no significant covariance between Affective Attitude and Happiness.

H₀ 11(F): There is no significant covariance between Shopping Involvement and Happiness.

12. Hypotheses relating to Multiple and Simple Regression Analysis.

H₀ 12(A): There is no significant cause and effect relationship between the different types of Shopper buying and Cognitive and Affective Attitudes.

H₀ 12(B): There is no significant cause and effect relationship between the different types of Shopper buying and their Happiness.
3.4. **SCOPE OF THE STUDY**

The study was conducted among the students pursuing a MBA degree in the three leading Universities of Tamilnadu and one Central University having their business schools in Chennai. Students pursuing a regular full time MBA program from Madras University, Anna University and Bharathiar University and students pursuing a weekend MBA from the Pondicherry Central University, Loyola College twinning program were the respondents of the study.

The study aimed to study the unplanned abnormal buying patterns of post graduate students in malls after deciding that the MBA students would be an appropriate choice to represent the post graduate in general. The research specifically studies the relationship between Buying Attitudes, Shopping Involvement and Happiness that result in buying patterns like Frugal Buying, Impulsive Buying, Compulsive Buying and Tightwad Buying in malls.

3.5. **RESEARCH CONSTRUCTS**

In practice the term variable is used as a synonym for construct or the property being studied. In this context, a variable is a symbol of an event, act, characteristic, trait, or attribute that can be measured and to which we assign categorical values.¹

3.5.1. **COGNITIVE AND AFFECTIVE ATTITUDES**

To measure the buying attitudes of Cognition and Affect the Verplanken and Herabadi (2001) scale (Individual Differences in Impulse Buying Tendency: Feeling and No Thinking. European Journal of Personality, 15, Special Issue on Personality and Economic Behaviour, 571 – 583) were used. This scale was developed to study the two facets of impulsive buying cognitive and affective attitudes. The former measures the degree to which a buyer planned or deliberated before purchasing and the later the degree to which a buyer yielded to the pleasure, excitement, urge and a total lack of control and

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resulting regret thereafter while purchasing a product. The scale encompasses twenty items, nine to make a cognitive evaluation and eleven to make the affective evaluation of a buyer. The scale was validated in two studies. The scoring pattern was by the five point Likert scale with the endpoints ranging from strongly agree to strongly disagree, with intervening agree, neither agree nor disagree and disagree.

3.5.2. SHOPPING INVOLVEMENT

In order to measure the degree of shopping involvement of a buyer in malls the Impact of Store Format on Shopping Involvement Scale developed by Piyush Kumar Sinha and Dwarika Prasad Uniyal (2014) (Indian Institute of Management, Ahmedabad Impact of Store Format on Shopping Involvement Scale (W.P. No. 2014-03-06) was used. The scale seeks to measure the Shopping involvement of a buyer on a ten item scored on a five point Likert Scale. The scale items evaluate the different aspects of shopping like the happiness derived, decision making process, regrets of wrong decisions and the information gathering within stores while shopping.

3.5.3. HAPPINESS

To measure the level of happiness of the buyer the Scale to Measure Subjective Happiness developed by Lybomirskys and Lepper H (1999) (A Measure of Subjective Happiness, Social Indicators Research, 46, 137 – 155) a reliable and validated scale was used to measure the level of happiness of the individual. The scale though had only four items it was precise to identify whether a person was happy or otherwise. It directly seeks to identify the person’s level of happiness, with the next statement evaluating the happiness in comparison to friends and relatives and then cross checking through a disguised statement on how well a person handled the challenges in one’s life and the last statement seeking to evaluate the persons external being with that of his inner self to verify whether he or she was really happy as they appeared to be. The scale was suitably adapted to evaluate buying situations in a mall and was rated on the five point Likert scale as earlier described.
3.5.4. **FRUGAL BUYING**

To measure whether a buyer belonged to the frugal buyer category the Lastovicka, J., Bettencourt, L., Hughner, R. & Kuntze, R., (1999) (Lifestyle of the Tight and Frugal: Theory and Measurement. Journal of Consumer Research 26, 85-98) Measurement of Consumer Frugality scale with eight items rated on the Likerts scale that evaluated consumers on conserving the life of possessions, cautious and careful spending of money and on the importance of savings was adopted.

3.5.5. **IMPULSIVE BUYING**

The Impulsive Buying Scale (1995) developed by Dennis W. Rook and Robert J. Fisher (Normative Influences on Impulsive Buying Behaviour, Journal of Consumer Research, Inc. Vol. 22, Dec.1995) was adopted to measure impulsive buying. The scale focussed on buying without thinking at the spur of the moment and then thinking about it later. The scale also focuses on whether things were bought how one felt at that moment edging them to just do it kind of buying.

3.5.6. **COMPULSIVE BUYING**

The Faber R.J. and T.C. O’Guinn (1992) Compulsive Buying Scale (A Clinical Screener for Compulsive Buying.” Journal of Consumer Research, 19(December): 459-469) was suitably adapted to the five point Likert Scale. The seven items in the scale evaluated a person’s affinity to spend money, horrible spending habits, ill affordability, taking risks on bank payments, buying to feel better, anxiety if not spending and misuse of credit cards.

3.5.7. **TIGHTWAD BUYING**

The Scott I. Rick, Cynthia E. Cryder and George Loewenstein Tightwad and Spendthrift Scale (2008), (Tightwad and Spendthrifts, Journal of Consumer Research, 34 (6), 767 – 782) was adopted to measure the level of tightwad buying behaviour in a person where the scale items mainly focussed on the difficulty and trouble in spending. However in addition to the above scale items additional four items which is believed as
pointing towards tightwad behaviour in other studies were added to evaluate the view on not having luxury, hesitation even to normally buy things, deliberate postponing of purchases and getting upset at the very thought of spending were included to have more depth in evaluation. The same was done for better validity.

3.6. SAMPLING DESIGN

The sampling technique adopted in this study is convenient sampling as it was felt that it could best make use of respondents most conveniently available, namely students pursuing their MBA programs on regular and weekend modes in different Universities in Chennai. As most of them frequent the city malls and also ends up buying something or the other invariably it was felt that they would be the most ideal sampling frame to conduct the study.

3.7. PILOT STUDY

A Pilot study was done to identify the reliability of the instrument before collecting data on a full scale on the selected sample frame. Data was collected on a sample of 60 by administering the research instruments. In order to eliminate flaws and also to ensure that the sample chosen for pretesting would be similar to the respondents who were going to participate ultimately it was doubly ensured that the participants in the pilot study were the ones who visit shopping malls and have made purchases. The data collected in the pilot study was statistically analyzed for reliability and validity. The instrument faired fairly. With regard to scale statement (23) in the instrument pertaining to evaluation of degree of tightwad behaviour prevailing among the respondents, it was decided to add four more statements from similar validated scales in the said area for better validity as the original scale had only three statements.

3.8. SAMPLE SIZE

Since there was no real difficulty in identifying respondents pursuing MBA in different Universities in Chennai number was not a constraint.
Hair et al., (2006) standards were adopted for the SEM model and to test the goodness of fit on the different parameters as established by them. As laid out by them since a large sample significantly increases the accuracy of factor loadings thereby truly reflecting the population values by increasing the validity of the study as contrasted to smaller sample sizes where the observation to variable ratio could turn low necessitating the need to interpret the findings quite cautiously (Hair et al., 1998), the study was based on 650 questionnaires that were administered. As 27 were found lacking in some aspect they were rejected and 623 valid questionnaires were taken up for the study.

3.9. DATA COLLECTION

The study is based on primary and secondary data sources. After thorough review of literature findings from text books, international and national research journals published by highly reputed institutions and universities pertaining to the study a thoroughly valid structured questionnaire was designed and primary data collected from sample respondents by the researcher himself from various sample groups.

Data was entirely collected through the primary source as the researcher personally visited the different business schools of the different Universities. After giving necessary instructions the structured questionnaires were distributed and data collected in a clear and focussed environment where the respondents clearly understood the questions and also how to answer them especially the scale statements the main instruments of the research.

3.10. DATA ANALYSIS

The latest statistical software SPSS version 18.0 for Windows and AMOS 18.0 versions were used for data analysis to arrive at empirical based conclusions. As four types of abnormal buying behaviours were studied simultaneously in terms of independent variables buying attitudes - cognitive and affective, shopping involvement and happiness of the shoppers in a mall it was decided that a Structured Equation Modelling (SEM) would be best suited to test the various hypotheses.
Structured Equation Modelling: SEM is an excellent tool to test the various hypothesises dimensionality and relationships among the latent and observed variables. In reveals the structure very clearly and distinctly for the covariance between the observed latent variables.

Not only interrelated dependence and multiple relationships can be estimated simultaneously but it also identifies the still unobserved concepts or the latent (hidden) variables in the various relationships which during the estimation process duly accounted in the form of measurement error.

In addition standard statistical tools like ANOVA, Chi Square test, T-test and Correlation Analysis were used to check differences between the demographic variables and the outcomes in different relationships.

Reliability Test: According to Donald R. Cooper and Pamela S. Schindler, “Reliability is concerned with estimates of the degree to which a measurement is free of random or unstable error.”

Reliability analysis is determined by finding the proportion of systematic variation in a scale by determining the values obtained by different administration of the scale.

When reliability is high it means the instrument can be used with confidence as it ensures that:

a. Transient and situational factors are not interfering.

b. They work well in different conditions at different times.

Multiple Regression: A self weighting estimating equation is used to predict the values of a dependent variable in terms of the values of the Independent variables. It also has the
ability to control the confounding variables to better evaluate the effect of other variables. It can also test and clearly explain causal relationships by means of a path analysis. It can well establish the entire linkage structure in terms of which independent variable causes what effect on the dependent variable.

**Analysis of Variance (ANOVA):** The ANOVA model computes the mean of each group and the values that deviate from the group mean. The different group means together produce the overall grand mean. Next the total deviation is calculated by summing up the squared differences of each data point from the grand mean.

The deviation of each data point is partitioned into between group variance and within group’s variances. The test statistic $F$ ratio of ANOVA compares the variance from the two sources by dividing between group variance by within group variance.

When the ratio is close to 1 it implies that there is no difference between the population means and therefore the null hypothesis is true. When otherwise the difference manifests in the numerator resulting in $F$ ratio of more than one and based on calculated ratio and the $F$ distribution value the null hypothesis is rejected for a given sample size at a level of significance.

**Chi-square Test ($\chi^2$):** A very popular non parametric test. According to Donald R. Cooper and Pamela S. Shindler, “Chi square tests for significant differences between of data among categories and the expected distribution based on the null hypothesis. It handles one, two or $k$ independent samples. $X^2$, measures the deviations of the actual frequencies under each category as compared to the hypothesised frequencies. Greater the difference less is the chance of it being attributed to chance. Larger the $X^2$ value more is the divergence. Based on the $X^2$ values from the different distribution generated on the degrees of freedom a null hypothesis is rejected when the calculated value is greater than the critical value.
3.11. RELIABILITY AND VALIDITY

Reliability of the constructs of Cognitive Attitude, Affective Attitude, Shopping Involvement, Happiness, Frugal Buying, Compulsive Buying, Tightwad Buying and Impulse Buying.

The degree of consistency during multiple measurements indicates the reliability of an instrument (Hair et al 2006). Higher the reliability consistent is the results of experiment tests or construct measurements on repeated attempts. Though reliability is a necessary contributor for validity it is however not a sufficient condition for validity. Reliability ensures that measurements are free from random or unstable errors thereby yielding the same results consistently every time the instrument is used.

Reliability was measured for the independent variable scale constructs Cognitive and Affective Attitudes, Shopping Involvement and Happiness. The same was also done for the dependent variable constructs Frugal Buying, Compulsive Buying, Tightwad Buying and Impulsive Buying.

Cronbach Alpha co-efficient of reliability was computed on the primary data collected from the respondents through questionnaires (instrument). Cronbach reliability coefficient construct wise overall scores are both shown in Table 3.11.
Table 3.11
Results of overall reliability coefficients construct wise

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. of Items</th>
<th>Chronbach’s Alpha</th>
<th>Scale Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Attitude</td>
<td>8</td>
<td>0.634</td>
<td>Verplanken, B. &amp; Herabadi, A.G. (2001)</td>
</tr>
<tr>
<td>Affective Attitude</td>
<td>12</td>
<td>0.701</td>
<td>Verplanken, B. &amp; Herabadi, A.G. (2001)</td>
</tr>
<tr>
<td>Shopping Involvement</td>
<td>10</td>
<td>0.677</td>
<td>Piyush Kumar Sinha and Dwarika Prasad Uniyal (2014)</td>
</tr>
<tr>
<td>Happiness Levels</td>
<td>4</td>
<td>0.683</td>
<td>Lybomirskys &amp; Lepper H. (1999)</td>
</tr>
<tr>
<td>Frugal Buying</td>
<td>8</td>
<td>0.664</td>
<td>Lastovicka, J., Bettencourt, L., Hughner, R. &amp; Kuntze, R., (1999)</td>
</tr>
<tr>
<td>Impulsive Buying</td>
<td>7</td>
<td>0.689</td>
<td>Dennis W. Rook and Robert J. Fisher (1995)</td>
</tr>
<tr>
<td>Compulsive Buying</td>
<td>7</td>
<td>0.723</td>
<td>Faber, R. J., and T. C. O’Guinn. 1992</td>
</tr>
<tr>
<td>Tightwad Buying</td>
<td>7</td>
<td>0.640</td>
<td>Scott J. Rick, Cynthia E. Cryder and George Loewenstein (2008)</td>
</tr>
</tbody>
</table>

Validity

It refers to the extent to which a test measures what it purports to measure. The two main forms are external validity and internal validity. The former is the data’s ability to be generalized over persons, different kinds of settings and times. The later refers specifically to the research instruments ability to measure what it aims to measure.
Widely accepted classifications of validity are: a) Content validity b) criterion related validity and c) construct validity.

**Content validity:** refers to the extent to which the investigative areas regarding the study are adequately covered. The study covers buying attitudes of cognition and affection, shopping involvement and happiness which are all major influences of buying behaviours like frugal, compulsive, tightwad and impulsive buying in a mall. Content validity is adequate.

**Criterion-related validity:** refers to the how successful a measure is for prediction or estimation. The various attitude scales are expected to correctly forecast the different outcomes of a buying decision made in a mall. This is best judged by four qualities (Thorndike and Hagen, Measurement and Evaluation p.168):

a) Relevance: all the scales are highly relevant in predicting the buying behaviour in a mall.

b) Freedom from bias: the criterions chosen to measure the various aspects have adequately covered and ruled out factors that could cause bias in measurement.

c) Reliable: All the criterions chosen for measurement are stable and therefore capable of reproducing the results consistently.

d) Availability: All the criterions this study aims to measure were available.

**Construct validity:** refers to the degree to which the constructs correspond to an empirically grounded theory and their degree to which scores of one scale correlates with another scale designed to assess the same construct. All constructs are validated ones previously tried and tested in other researches and the scoring pattern were all adopted to five point Likerts scale after assessing the scoring pattern of the original scales perfectly correlated with the instrument scales.

**3.12. FRAMEWORK ADOPTED FOR ANALYSIS**

In an empirical study of this nature the entire validity of the study would gain credibility only when the empirical findings are accurately reflected through the constructs adopted in the study. This is conventionally done in three stages.
After the testing for reliability and validity the frequency distribution is tested for skewness and kurtosis to determine whether the assumptions of normality have been fulfilled, after which the demographic influence on the exogenous and endogenous variables are studied through t-test, and ANOVA and the results interpreted from the analysis. Next follows the study to determine the relationships between the exogenous and endogenous variables through regression analysis and Chi-square Test ($\chi^2$). The third and final part of the study relate to the study of the composite effects of the variables on different types of buying and also a study on the covariance within the exogenous variables based on structural equation modelling (SEM) analysis.

3.13. THE DATA OBTAINED ON THE MEASURES OF INDEPENDENT AND DEPENDENT VARIABLES

Since the study focussed on the experience based on the recent visit of the respondents to a shopping mall the measures of the independent and dependent variables were obtained from the respondents at the same time. This is more so because the exogenous variable ‘Happiness’ may vary at different time periods and thereby affecting the correctness of the study. The study was based on experiences of persons who had visited a shopping mall recently and not by intercepts of shoppers who were visiting the mall. As no shopper would be interested to answer lengthy questionnaires and those who did may not be a real shoppers. The Questionnaires were administered to only those respondents who had visited a shopping mall within a period of three months.

3.14. DESCRIPTION OF ENDOGENOUS VARIABLES

**COGNITIVE ATTITUDE** – A conscious mental process in the way of behaving  
**AFFECTIVE ATTITUDE** – Way of behaviour connected with emotions  
**SHOPPING INVOLVEMENT** - The act or process of taking part in the activity of buying something from the shops  
**HAPPINESS** The feeling of being happy  
(Courtesy the Cambridge Dictionary)