

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 NATURE OF THE STUDY**

This study is quantitative in nature and it allows the researcher to explore the concepts of Consumer Based Brand Equity in FMCG market through the perceptions of consumers (Barratt et al., 2011). The study examines the cause and effect relationship between components of CBBE and overall CBBE; determinants of CBBE and overall CBBE; and determinants of CBBE and outcomes of CBBE in FMCG market (Horsewood, 2011). Descriptive research is used to describe characteristics of a population or phenomenon being studied (Sallee and Flood, 2012). Mixed method of research used in the study which encompasses the use of qualitative methods for interpretation, description and validation of quantitative findings (Harrigan et al., 2012).

#### **3.2 RESEARCH QUESTIONS OF THE STUDY**

The present study has made an attempt to answer the following questions:

- 1) What is the level of components of Consumer Based Brand Equity (CBBE) in the case of Household Care Products (HHCP), Food and Beverage Products (FBP) and Personal Care Products (PCP)?
- 2) Identify is the level of overall CBBE in FMCG market and how is it linked to the components of CBBE?
- 3) What are the various determinants of CBBE in FMCG market and how does it influence the overall CBBE in the FMCG market?
- 4) What are the various outcomes of CBBE in the FMCG market and how are they measured?
- 5) What is the linkage among the determinants of CBBE, overall CBBE and overall outcomes of CBBE in FMCG market?

#### **3.3 RESEARCH METHODS AND DESIGN**

The researcher has three options to carry out the research namely quantitative, qualitative and mixed methods (Ostlund et al., 2011). The quantitative method is followed to find out the cause and effect relationship between the dependent and independent variables (Klassen et al., 2012). The qualitative method is adopted to focus on contexts and human experiences (Vluyol and Akci, 2012). The mixed method of research is used whereby researchers collect and analyse both quantitative and qualitative data (Wisdom et al., 2012). In the present study, the mixed method has been adopted.. The qualitative research method

helps to build theory and in conceptualization (Doz, 2011). It is beneficial to understand the nuances of the respondent's view (Zenobia and Weber, 2012). Quantitative research produces objective data which can be clearly communicated through statistics and numbers. Quantitative research is data-oriented. (Lalor et al., 2013). The research design indicates descriptive research (Thomas, 2011). The later shows diagnostic research (Yin, 2003). In the present study, initially the focus is on the respondent's view on various aspects related to Consumer Based Brand Equity in FMCG market. In the later stages, the relationship and impact of one construct on other constructs have been developed for the study. So it is also diagnostic in nature. Hence, the applied research design of the study is descriptive and diagnostic in nature (Poghosyan et al., 2013).

The research methodology of the study consists of research method, research design, population of the study, sampling plan, data collection and data processing (Yu et al., 2014).

### 3.3.1 POPULATION OF THE STUDY

The population of the present study represents the total number of households in Coimbatore district. The district is classified into 16 taluks. The male and the female populations in 16 taluks has been given in the table 3.1.

**TABLE 3.1  
POPULATION OF THE STUDY DURING 2011**

S.No.	Taluk	Population			Number of Households
		Total	Male	Female	
1.	Karamadai	137,448	68,581	68,867	39,644
2.	Madukkarai	46,762	23,464	23,298	13,123
3.	Periyanaickenpalayam	101,930	51,694	50, 236	28,411
4.	Sarkarsamakulam	54,053	27,047	27,006	15,176
5.	Thondamuthur	66,080	33,009	33,071	18,346
6.	Anaimalai	71,786	35,798	35,988	21,047
7.	Kinathukadavu	95,575	47,658	47,917	28,005
8.	Pollachi North	103,284	51,249	52,035	29,780
9.	Pollachi South	82,535	40,950	41,585	24,045
10.	Annur	92,453	46,254	46,199	25,952
11.	Sulur	116,324	58,778	57,546	33,594
12.	Sulthanpet	77,364	38,639	38,725	22,922
13.	Mettupalayam	260,172	129,447	130,725	73,189
14.	Coimbatore North	637,389	320,620	316,769	176,703
15.	Coimbatore South	1,5,92,646	797,022	795,624	430,094
16.	Pollachi	575,928	285,835	290,093	165,932

Source: [www.censusindia2011.com](http://www.censusindia2011.com)

Out of 16 taluks in Coimbatore district, Coimbatore North, Coimbatore South, Pollachi North and Pollachi South have been treated as urban areas whereas the remaining 12 taluks have been treated as rural areas. The total number of households in urban and rural areas in this district are 6,60,622 and 4,85,341 households respectively.

### 3.3.2 SAMPLING PLAN OF THE STUDY

The sampling plan of the study consists of determination of sample size and sampling procedure followed in the study.

#### 3.3.2.1 DETERMINATION OF THE SAMPLE SIZE

The sample size of the present study has been determined with the help of the formula  $n = \frac{N}{Ne^2 + 1}$  whereas N refers to population and e refers to error of acceptance (0.05). The total number of households in urban and rural Coimbatore district are 6,60,622 and 4,85,341 respectively. The computed sample size in urban and rural areas of this district has been given in the Table 3.2.

**TABLE 3.2**  
**SAMPLE SIZE OF THE STUDY**

S.No.	Area	Total Number of Households (Population)	Sample Size $n = \frac{N}{Ne^2 + 1}$	Sample Size
1	Urban	6,60,622	$n = \frac{660622}{660622(0.05)^2 + 1} = 399.75$	400
2	Rural	4,85,341	$n = \frac{485341}{485341(0.05)^2 + 1} = 399.67$	400
<b>Total</b>		<b>11, 45,963</b>	-	<b>800</b>

The determined sample sizes for urban and rural areas of Coimbatore district have been 400 and 400 households respectively. Since the error of acceptance (e) in each area is 5 percentage. The total sample size of the study is 800 households.

#### 3.3.2.1 SAMPLING PROCEDURE OF THE STUDY

In total, there are 12 taluks in rural Coimbatore, whereas, there are only four taluks in urban Coimbatore. The taluk in each area has been treated as the strata of the present study. The sample size of 400 respondents from rural and 400 respondents from urban areas of Coimbatore district is taken for the study.

**TABLE 3.3**  
**DISTRIBUTION OF SAMPLE IN POPULATION**

S.No.	Rural			Urban		
	Taluks	Population	Sample	Taluk	Population	Sample
1	Karamadai	39,644	33	Coimbatore (North)	1,76,703	107
2	Madukkarai	13,123	11	Coimbatore (South)	4,30,094	260
3	Periyanaickenpalayam	28,411	23	Pollachi (North)	29,780	18
4	Sarkar samakulam	15,176	13	Pollachi (South)	24,045	15
5	Thondamuthur	18,346	15			
6	Anaimalai	21,047	17			
7	Kinathukadavu	28,005	23			
8	Pollachi	1,65,932	137			
9	Annur	25,952	137			
10	Sulur	33,594	28			
11	Sulthanpet	22,922	19			
12	Mettupalayam	73,189	60			
	<b>Total</b>	<b>4,85,341</b>	<b>400</b>	<b>Total</b>	<b>660,622</b>	<b>400</b>

The above table shows the distribution of 400 households in rural and urban areas of Coimbatore district. In rural areas the higher number of households allotted to Pollachi (137 households) since its population is higher. In the case of urban Coimbatore district, the more number of samples have been collected from Coimbatore South district. The sample in each taluks has been randomly selected by the researcher from urban and rural areas of Coimbatore district. Hence, the applied sampling procedure for the present study is stratified proportionate random sampling.

### 3.3.3 DATA COLLECTION INSTRUMENT

The purpose of this research is to measure the level of various components of CBBE, overall CBBE, the determinants of CBBE and its outcomes in the FMCG market. The researcher uses interview schedule as an instrument to collect the primary data from the respondents (Tessier, 2012). Open ended and closed ended questions are asked among the respondents (Sakulkijikaran, 2012). All the questions related to the constructs namely components of CBBE, overall CBBE, determinants of CBBE and outcomes of CBBE have been measured with the help of related variables drawn from reviews (Qu and Dumay, 2011) and also measured at likert five point scale. The interview schedule consists of four parts. The first part focuses on the background of respondents and their brand behaviour in the FMCG

market. The second part covers the measurement of various components of CBBE in three groups of product in the FMCG market. The third part of the schedule includes the measurement of various determinants of CBBE. The final part of the schedule covers the various outcomes of CBBE in FMCG market. Even though the FMCG products are too many, the present study is confined to Household Care Products (HHCP), Food and Beverage Products (FBP) and Personal Care Products (PCP).

### **3.3.3.1 PILOT STUDY**

The pilot study has been conducted among 50 households in Coimbatore. Initially, the reliability and validity of data collection instrument was checked to establish credibility, trust worthiness and transferability of the instruments in the study (Maltseva, 2004). The Split Half Run Test and Cronbach Alpha have been used to justify the contents of instruments (Sanchez and Spraakum, 2012). Based on the pilot study results, certain modifications, additions, deletions and simplifications have been carried out to prepare the final interview schedule and to collect the primary data from the respondents.

### **3.3.3.2 CRONBACH ALPHA RESULTS**

The internal consistency of the questionnaire used was tested using Cronbach's Alpha. Reliability tests have been executed by Cronbach Alpha (Nunnally, 1978) with its minimum threshold of 0.70.

### **3.3.3.3 RESEARCH PERIOD**

Before collecting data for the study, pilot study has been rolled out during November 2019. On completion of pilot study and subsequent corrections in the interview questionnaire have been done, the study data for the research was collected from January 2020 to January 2021.

### **3.3.3.4 PROCESS OF DATA COLLECTION**

A structured interview schedule has been used to collect the primary data from the respondents. The sampled households of 400 respondents from rural areas and 400 respondents from urban areas have been identified by using random sampling. The address and cell phone number of the heads of the households have been collected from the concerned taluk office and corporation office of Coimbatore. Initially, the consent of the households was obtained through phone call. Later, the researcher has attempted to make his own presence at the household to collect the filled in interview schedule. When the

households had not properly responded to the questions in the interview schedule, the immediate replacements were done by the nearby households at the discretion of the researcher. In order to complete the total interview schedule, around 30 to 35 minutes have been taken per sampled household.

### **3.3.4 TOOLS AND METHODS USED FOR ANALYSIS**

Microsoft excel has been used to organize the data. The row has been treated as the respondents and the columns have been allotted for the values of all variables included in each construct which have been measured at five point scale (Watkins, 2012). The research logs have been used to track and categorize the data (Goffin et al., 2012).

#### **3.3.4.1 DATA ANALYSIS**

The primary data collected from the respondents have been analysed using SPSS version 21 and AMOS version 21. Multiple tests have been implemented to measure the reliability, validity and validate for further analysis. Factor convergence has been reached through Exploratory Factor Analysis. It has been checked by the confirmatory factor analysis. Reliability tests have been executed by Cronbach Alpha (Nunnally, 1978) with its minimum threshold of 0.70. For factor convergence, the factor analysis with varimax rotation procedure has been adopted. The Kaiser-Meyer-Olkin measures of Sampling Adequacy and Bartlett's Test of Sphericity have been adopted to confirm the sampling adequacy. The minimum threshold of the above two tests are  $\geq 0.60$  and  $\leq 0.05$  respectively (Hair et al., 2006). The convergence has also been tested by the standardized factor loading through confirmatory factor analysis with the minimum threshold of 0.60 (Steenkamp and Van, 1991).

#### **3.3.4.2 MODEL ASSESSMENT**

The assessment of model fit measurement has been carried out to check the construct validity and reliability. Overall model fit has been produced through confirmatory factor analysis (Anderson and Gerbing, 1988). The chi-square value of the model should be significant at the maximum of five percentage level. The value of Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Incremental Fit Index (IFI) should be greater than 0.90. The value of Root Mean Square Error of Approximation (RMSEA) should be less than 0.05 (Podasakoff et al., 2003). These tests have been adopted to test the path model developed to examine the role of mediator variable (Overall CBBE) in between the independent variables (Components of CBBE) and the overall outcomes of CBBE (Yap and Khong, 2006).

### **3.3.4.3 CORRELATION ANALYSIS**

The correlation analysis has been implemented to find out the relationship between two variables (Oh, and Hsn, 2014). It has been estimated to find out the square of correlation coefficient between variables and it has been compared with the mean of average variance extracted (AVE) between them. If the mean of AVE between two variables are greater than its square of correlation coefficient between them, discriminant validity will be confirmed (Byrne, 2008). In the present study, the discriminant validity among the components of CBBE and the determinants of CBBE has been estimated.

### **3.3.4.4 REGRESSION ANALYSIS**

The regression analysis has been administered to find out the impact of independent variables on dependent variable (Fatema et al., 2015). Before the application of multiple regression analysis, the degree of mutual exclusiveness among the independent variables had been proved with the help of discriminant validity, Variance Inflation Factor and tolerance level. The Variance Inflation Factor should be equal or less than five and the minimum tolerance level should be equal or greater than 0.20 (Hair et al., 2006). In the present study, the Variance Inflation Factor of all independent variables included for regression analysis are greater than four whereas, the tolerance level is less than 0.20 which indicate the absence of multi-collinearity between the predictors (Zafar et al., 2012).

The impact of components of CBBE on overall CBBE, the influence of determinants of CBBE on overall CBBE and the impact of components of CBBE on the outcomes of CBBE have been searched with the help of multiple regression analysis.