

# **CHAPTER – 4**

## **RESEARCH METHODOLOGY**

### **4.1 INTRODUCTION**

Research Methodology is the most important part in any type of research. Without research methodology, a research work is of no use or you can say it is a research which is inevitable. Herein lies the importance of adopting accepted verifiable processes and clearly detailing the methodology adopted for the research for it to be valued and recognized. Appreciating primary requirements for a research study, chapter deal in details of research methodologies adopted and their various components used in this research.

### **4.2 RATIONALE OF THE STUDY**

A brand and brand equity is particularly a firms or marketers commitment to provide perceived quality of product or services to the consumers. Hence exploring the brand equity in terms of consumer's perception is of paramount interest to the marketers as well as researchers. Further, the measurement of brand equity of consumers durable and non- durable products, particularly in the rural markets will definitely supports the company or marketers of the products for their strategic planning of marketing system, improvements of branding, increasing awareness amongst the rural market consumers, framing of marketing theme and advertisement related to the rural market consumers in order to capture better market shares of, both durable and non- durable products. The consumers non-durable products like biscuit, tea, bathing soap and tooth paste taken for this research study are fast moving consumer goods or non-durable consumables which are regularly consumed and therefore purchased frequently and repeatedly, having low cost products and quick turnover items. Moreover, consumer's durable products like refrigerator, television, two wheeler and mobiles are also high demand product at rural markets, as now-a – days this product is in demands in rural markets, characterised by medium to high range products, and supports the company or marketers for turnover and profit too. Over and above, both of these durable as well as non-durable products are the integral part of most of the rural house hold families.

According to the McKinsey study report, aggregate rural consumption stood at Rs 9,688 billion in 2005. McKinsey has projected it to reach Rs 26,383 billion in 2025. McKinsey report forecasts that the rural personal, non-durable consumption grow significantly from Rs 160 billion in 2005 to Rs 376 billion in 2015 and to Rs 861 billion crore in 2025, adding Rs700 billion worth of spending over the next 20 years. (Source: McKinsey Report). The outcome will be helpful to the industry to understand the perception and their opinion towards selected durable and non-durable products. This report forecast that consumer durables as well as non-durable product market in rural area. This generates the motive to researcher for selecting this topic for research.

In view of above, the marketers and researchers use various perspectives to study Brand equity, the most popular one being the consumer based approach to Brand Equity. The proposed study will focus on the measurement of Brand Equities for selected Consumer Durable vis-à-vis Non-Durables Products in Western Indian Rural Market to analyse the perception of consumers of western rural area regarding the various dimensions of brand equity on selected respondents.

#### **4.3 STATEMENT OF THE PROBLEM**

It is nevertheless to say that the rural market is having different market situations than the urban market. Unlike the urban market, the rural market is difficult to predict, and possess special characteristics. However, the recent changes in rural populations attract the marketers and sellers of consumable durables & non-durable manufacturing companies to tap the untapped huge market potential of rural area. This evident the scope of rural markets due to rising rural populations and prosperity, growth in consumption of various non-durable as well as durables, changes in life styles and demands of the rural markets, increasing marketing growth rates, improvement in life cycle patterns. These compelled the markets of both consumable durable and non-durable product sellers and researchers too, for study of brand equity measurement for both of these products, particularly at rural markets of western India.

Hence, the statement of the problem is:

**“An Empirical Study of Measurement of Brand Equities for selected Consumer Durable vis-à-vis Non-Durable Products in Western Indian Rural Market”**

#### **4.4 RESEARCH OBJECTIVES**

**Main Objective of the Study**

1. To Measure Brand Equities for selected Consumer Durable vis-à-vis Non-Durable Products in Western Indian Rural Market

**Other Objectives of the Study**

2. To assess the linkage between the consumer demographics association with selection of non-durable and durable brands.
3. To examine the relationship between Brand Equity Dimensions with brand equity of selected durable and non-durable brands.
4. To know the significant difference among the brand equity of selected non-durable and durable products.
5. To identify the factors that are affecting most to the brand equity for the selected non-durable & durable products.
6. To measure the effect of Brand Awareness on Brand equity of selected non-durable & durable products.
7. To understand the association between Brand Loyalty and Brand equity of selected non-durable & durable products.
8. To analyse the perception of respondents towards the Perceived quality of the selected non-durable & durable products.
9. To identify the impact of brand image on the brand equity of selected non-durable & durable products.

#### **4.5 SIGNIFICANCE OF THE STUDY**

Brand Equity is very important parameters for the success of every company. When a company is said to have leader in brand equity, it reciprocate that that company has outstandingly differentiated their products from other competitor's products. It, also evident that the company offers the competitive product quality as well as the consumers services with focused marketing strategy. Alternatively, from the point of view of consumer, it is said to have a

very good perception of consumer towards that product and the consumer will again and again purchase that product as it believed, that product brand or service offers the consumers a reliable and consistent quality. This evident the significance of measurement of the brand equity which access the product's standing in the market. The significance in view of the associated stock holders of consumer durable and non-durable products are as under:

- a) **Consumer:** From the consumer's point of view, opting to buy a products or services having high brand equity means a reduction in predicted risks and an enhancement in the expected confidence in the consumers brand purchasing decision. Indeed, it is a reflection of the consumers increased satisfaction with the brand. This brand equity influenced increased comfort level often results in the consumers enthusiasm to reward price premiums, create brand value in the mind of consumers. The consumer perceived that the brand provides unique experience and value with respect to the other products or services. Moreover, the consumer attached with that product emotionally which further strengthen the brand loyalty. In fact, the product's brand equity delivers re assurance, reputation and other interests that are significant to the consumer.
- b) **Marketer:** To the marketer's advantage, the brand equity plays the vital role in the business marketing. The strong brand equity supports the products or services to distinguish that product or services in the market place and continuously keep connected the loyal customers. The effectiveness and efficiency of marketing programs occurs due to the higher brand equity. One can see the marketing of company like McDonalds, Nike shoes, the logo of which it identifies the product in terms of quality and customer loyalty. Resultantly, it brings to the product a sustainable competitive advantage over the other products and therefore strong brand equity plays major part for designing the long term marketing strategy, ultimately leads to marketing success for the brand.
- c) **Brand Owner/ Company:** For the brand owners or a company, brand equity is one of the most important intangible assets. The significance gains

of the higher brand equity to the company or brand owner owning the brand includes a positive impact on its market share. Further, a company having positive brand equity shall take leverage on pricing strategy that is charge more for their product or services than the other competitors pricing. This in turn results in better future gains and continuing finance. Indeed, in a long run, strong positive brand equity can aid in attaining successful outcome for up to date products launched as brand stretching. The best example of strong brand equity can be demonstrated for the Maggi. With the ban on the product Maggi noodles in India, there was a great demand of the product. As soon as Maggi re-launched, the company cope up with market share, keeping aside other competitors products.

## **4.6 RESEARCH DESIGN**

Creswell & Plano Clark (2007) <sup>1</sup> “A research design is the procedure for collecting; analysing, interpreting and reporting collected data in the research studies”. The research design id thus, conceptually the overall plan or a frame works of the research study connecting the various elements of the research projects. Thus, it is mandatory that an effective and appropriate research design is prepared for continuing the effective research process to set the perspective ideas in a shape. Mc NABB, D. (2010) <sup>2</sup> “Research Design stands for advance planning for the methods to be adopted for collecting the relevant data and techniques to be used for the analysis, keeping in view the objectives of the research”

In the prevailing study, the combination of Descriptive and Exploratory research design is used. W. Paul Vogt, (2012) <sup>3</sup> ideally, “if the research uses the combined research design methods, researcher will get better more valid results”

## **4.7 DATA COLLECTION**

### **4.7.1 Primary Data Collection:**

The primary data were collected from various respondents of rural area of western India through structured non-disguised closed ended

questionnaire. The questionnaire was framed on the basis of objectives of the study.

#### **4.7.2 Secondary Data Collection:**

The secondary data were collected from reliable and authentic sources like, published research papers, newspapers, and various authentic websites, published and non-published Ph.D. thesis. The relevant data which has been used for the purpose of the study has been taken from books, journals and electronic media as well.

### **4.8 SAMPLE DESIGN**

In this research, the sample design on the basis of suitability and availability of the requisite sampling frame has been used. Here, convenience sampling method is preferred by the researcher to select the respondents of the selected brands.

#### **4.8.1 Population**

Consumers are residing in the rural areas of Western India region are forming the population for this study.

#### **4.8.2 Sampling Techniques**

Convenience sampling method is used for this study due to the data requirement and its diversity. The researcher has selected five brands of various companies.

#### **4.8.3 Sampling Frame**

The sample frame is comprised of the selected respondents in the Rural Western India.

#### **4.8.4 Sample Size**

To find out the appropriate number (size) of sample, researcher has used the Sample Size formula for the standard error of the proportion as below:

$$\text{Sample Size (n)} = \frac{\pi (1 - \pi) z^2}{D^2}$$

Where,

$n$  = Sample Size

$\pi$  = The estimated population proportion (based on the literature review and researcher's judgment) estimate that 50% (0.50) of the target population is aware about brand equity.

$Z$  = Level of confidence is 95% than associated  $z$  value is 1.96

$D$  = The level of precision and desired precision is such that the allowable interval is set as  $D = P$  (Sample Proportion) –  $\pi$  (population Proportion) =  $\pm 0.05$

This formula is taken from the book ***“Marketing Research – And Applied Orientation”*** by Naresh K. Malhotra (Sixth Edition) Pearson Publication, pp. 377-379

#### **Calculation of Sample Size:**

$$n = \frac{\pi (1 - \pi) z^2}{D^2}$$

$$n = \frac{0.50 (1 - 0.50)(1.96)^2}{(0.05)^2}$$

$$n = \frac{0.50 (0.50)(3.8416)}{0.0025}$$

$$n = \frac{0.9604}{0.0025}$$

$n = 384.17$  **So, sample size round off to 385**

Based on calculated sample size 385, also determines the total sample size. Considering the 3 states i.e. Gujarat, Maharashtra and Goa as strata, total sample size for this research is  $(385 \times 3)$  **1155**.

#### **Justification for Actual Sample Size:**

As per the direction of Dr. Uma Sekaran in “Research Methodology” published by Wiley India, “Sampling Techniques” by William G. Cochran published by Wiley India, total respondents has been decided. Further, also considering the

geographical area, population and importance, the researcher under guidance and consultation of experts, for meaningful outcome the number of respondents are selected as under:

**Table-4.1: Sample Size**

<b>States</b>	<b>Rural populations (in thousands)*</b>	<b>Number of Respondents from rural populations</b>	<b>Remarks</b>
Gujarat	34671	500 Respondents	The numbers of respondents are considered based on population density per sq. Km rural area. Maharashtra & Gujarat have almost nearby population density of 180-200.
Maharashtra	61558	500 Respondents	
Goa	552	200 Respondents	Less population density & less rural populations
<b>TOTAL</b>	<b>96781</b>	<b>1200 Respondents</b>	

(\*As per Census 2011)

#### **4.9 VARIABLES UNDER STUDY:**

<b>Independent Variables</b>	<b>Dependent Variables</b>
Customer Satisfaction	Brand Trust
Competitive Advantage	Brand Image
Product Features	Brand Credibility
Culture	Brand Experience
Repeat Purchase	Brand Commitment
Perceived Value	Brand Performance
Switching Costs	Brand Loyalty
Product Benefits.	Brand Associations
Demographics Variables: Age, Gender, Occupation, Marital Status.	

#### **4.10 HYPOTHESIS**

The hypotheses tested for the subject topic with appropriate statistical tools are as under:

1. H<sub>01</sub>: There is no significant difference between gender and selection of biscuits brands.
2. H<sub>02</sub>: There is no significant difference between gender and selection of tea brands.
3. H<sub>03</sub>: There is no significant difference between gender and selection of bathing soap brands.



4. H0<sub>4</sub>: There is no significant difference between gender and selection of toothpaste brands.
5. H0<sub>5</sub>: There is no significant difference between gender and selection of refrigerator brands.
6. H0<sub>6</sub>: There is no significant difference between gender and selection of television brands.
7. H0<sub>7</sub>: There is no significant difference between gender and selection of Two Wheelers brands.
8. H0<sub>8</sub>: There is no significant difference between gender and selection of mobile brands.
9. H0<sub>9</sub>: There is no significant difference between age group and selection of biscuits brands.
10. H0<sub>10</sub>: There is no significant difference between age group and selection of tea brands.
11. H0<sub>11</sub>: There is no significant difference between age group and selection of bathing soap brands.
12. H0<sub>12</sub>: There is no significant difference between age group and selection of toothpaste brands.
13. H0<sub>13</sub>: There is no significant difference between age group and selection of refrigerator brands.
14. H0<sub>14</sub>: There is no significant difference between age group and selection of television brands.
15. H0<sub>15</sub>: There is no significant difference between age group and selection of Two Wheelers brands.
16. H0<sub>16</sub>: There is no significant difference between age group and selection of Mobile brands.
17. H0<sub>17</sub>: There is no significant difference between marital status and selection of biscuits brands.
18. H0<sub>18</sub>: There is no significant difference between marital status and selection of tea brands.
19. H0<sub>19</sub>: There is no significant difference between marital status and selection of bathing soap brands.
20. H0<sub>20</sub>: There is no significant difference between marital status and selection of toothpaste brands.

21. H0<sub>21</sub>: There is no significant difference between marital status and selection of refrigerator brands.
22. H0<sub>22</sub>: There is no significant difference between marital status and selection of television brands.
23. H0<sub>23</sub>: There is no significant difference between marital status and selection of two wheelers brands.
24. H0<sub>24</sub>: There is no significant difference between marital status and selection of mobile brands.
25. H0<sub>25</sub>: There is no significant difference between family type and selection of biscuit brands.
26. H0<sub>26</sub>: There is no significant difference between family type and selection of tea brands.
27. H0<sub>27</sub>: There is no significant difference between family type and selection of bathing soap brands.
28. H0<sub>28</sub>: There is no significant difference between family type and selection of toothpaste brands.
29. H0<sub>29</sub>: There is no significant difference between family type and selection of refrigerator brands.
30. H0<sub>30</sub>: There is no significant difference between family type and selection of television brands.
31. H0<sub>31</sub>: There is no significant difference between family type and selection of two wheelers brands.
32. H0<sub>32</sub>: There is no significant difference between family type and selection of mobile brands.
33. H0<sub>33</sub>: There is no significant difference between education qualification and selection of biscuit brands.
34. H0<sub>34</sub>: There is no significant difference between education qualification and selection of tea brands.
35. H0<sub>35</sub>: There is no significant difference between education qualification and selection of bathing soap brands.
36. H0<sub>36</sub>: There is no significant difference between education qualification and selection of toothpaste brands.
37. H0<sub>37</sub>: There is no significant difference between education qualification and selection of refrigerator brands.

- 38.** H0<sub>38</sub>: There is no significant difference between education qualification and selection of television brands.
- 39.** H0<sub>39</sub>: There is no significant difference between education qualification and selection of two wheelers brands.
- 40.** H0<sub>40</sub>: There is no significant difference between education qualification and selection of mobile brands.
- 41.** H0<sub>41</sub>: There is no significant difference between occupation and selection of biscuits brands.
- 42.** H0<sub>42</sub>: There is no significant difference between occupation and selection of tea brands.
- 43.** H0<sub>43</sub>: There is no significant difference between occupation and selection of bathing soap brands.
- 44.** H0<sub>44</sub>: There is no significant difference between occupation and selection of toothpaste brands.
- 45.** H0<sub>45</sub>: There is no significant difference between occupation and selection of refrigerator brands.
- 46.** H0<sub>46</sub>: There is no significant difference between occupation and selection of television brands.
- 47.** H0<sub>47</sub>: There is no significant difference between occupation and selection of two wheelers brands.
- 48.** H0<sub>48</sub>: There is no significant difference between occupation and selection of mobile brands.
- 49.** H0<sub>49</sub>: There is no significant difference between monthly income and selection of biscuit brands.
- 50.** H0<sub>50</sub>: There is no significant difference between monthly income and selection of tea brands.
- 51.** H0<sub>51</sub>: There is no significant difference between monthly income and selection of bathing soap brands.
- 52.** H0<sub>52</sub>: There is no significant difference between monthly income and selection of toothpaste brands.
- 53.** H0<sub>53</sub>: There is no significant difference between monthly income and selection of refrigerator brands.
- 54.** H0<sub>54</sub>: There is no significant difference between monthly income and selection of television brands.

55. H0<sub>55</sub>: There is no significant difference between monthly income and selection of two wheelers brands.
56. H0<sub>56</sub>: There is no significant difference between monthly income and selection of mobile brands.
57. H0<sub>57</sub>: There is no significant difference between family size and selection of biscuit brands.
58. H0<sub>58</sub>: There is no significant difference between family size and selection of tea brands.
59. H0<sub>59</sub>: There is no significant difference between family size and selection of bathing soap brands.
60. H0<sub>60</sub>: There is no significant difference between family size and selection of toothpaste brands.
61. H0<sub>61</sub>: There is no significant difference between family size and selection of refrigerator brands.
62. H0<sub>62</sub>: There is no significant difference between family size and selection of television brands.
63. H0<sub>63</sub>: There is no significant difference between family size and selection of two wheelers brands.
64. H0<sub>64</sub>: There is no significant difference between family size and selection of mobile brands.
65. H0<sub>65</sub>: There is no significant difference between no. of earning family members and selection of biscuit brands.
66. H0<sub>66</sub>: There is no significant difference between no. of earning family members and selection of tea brands.
67. H0<sub>67</sub>: There is no significant difference between no. of earning family members and selection of bathing soap brands.
68. H0<sub>68</sub>: There is no significant difference between no. of earning family members and selection of toothpaste brands.
69. H0<sub>69</sub>: There is no significant difference between no. of earning family members and selection of refrigerator brands.
70. H0<sub>70</sub>: There is no significant difference between no. of earning family members and selection of television brands.
71. H0<sub>71</sub>: There is no significant difference between no. of earning family members and selection of two wheelers brands.

72. H0<sub>72</sub>: There is no significant difference between no. of earning family members and selection of mobile brands.
73. H0<sub>73</sub>: There is no significant difference among the brand equity of selected non-durable and durable products.
74. H0<sub>74</sub>: There is no significant positive effect of brand awareness on brand equity of selected non-durable products.
75. H0<sub>75</sub>: There is no significant positive effect of brand loyalty on brand equity of selected non-durable products.
76. H0<sub>76</sub>: There is no significant positive effect of brand quality on brand equity of selected non-durable products.
77. H0<sub>77</sub>: There is no significant positive effect of brand association on brand equity of selected non-durable products.
78. H0<sub>78</sub>: There is no significant positive effect of brand awareness on brand equity of selected durable products.
79. H0<sub>79</sub>: There is no significant positive effect of brand loyalty on brand equity of selected durable products.
80. H0<sub>80</sub>: There is no significant positive effect of brand quality on brand equity of selected durable products.
81. H0<sub>81</sub>: There is no significant positive effect of brand association on brand equity of selected durable products.

#### **4.11 DATA ANALYSIS AND INTERPRETATIONS**

Once the collected data has been analysed and processed, the next step in the research is to interpret the analysed data. The interpretation of data is done from the point of research questionnaire and hypothesis tested. Hence, the interpretation ultimately, turn out to the conclusion that the researcher actually wants to achieved.

- The method adopted is basically descriptive and analytical in nature
- Extensive analysis f collected data is done
- On the basis of objectives and collected data, the researcher uses various statistical tools to analyse and interpret the data.

- The primary data collected with the help of structured and closed ended questionnaire is scrutinised, edited and presented in the form of tables, charts, graphs and analysed as per requirements.
- Besides the excel software applications used, SPSS package is used for quantitative analysis used for analysis.

The hypothesis and result of the research is derived from the analysis of responses received from the respondents of western Indian rural area.

## **4.12 STATISTICAL PACKAGE & TOOLS**

The Statistical Package for Social Science (SPSS) version 21 has been extensively used to analyse the primary collected data and statistical test were performed. The statistical package supports the researcher to reduce the collected data to a more manageable form for the purpose of data analysis and interpretations.

The statistical tools used were:

- Frequency Analysis
- Percentage Analysis
- Descriptive Analysis
- Factor Analysis
- Cross-tabulations
- Analysis of Variance (ANOVA)
- Chi-square Test
- Regression Analysis
- Bi-Variate Correlation
- Kruskal Wallis Test

## **4.13 RELIABILITY AND VALIDITY OF THE QUESTIONNAIRE**

The complete research is on the basis of the responses obtained to the questionnaire. Therefore, it is highly essential to test the reliability as well as validity of the survey questionnaire.

The study is valid if it actually measures what it claims to measure and also if there are no logical errors in drawing conclusions from the data (Garson, 2002).

Therefore different steps were taken to ensure the validity of the study. To check the content validity of the questionnaire various expert in the field of academics and psychologist from a different organization were contacted and the components of questionnaire were modified as per their suggestions. According to Garson (2002), reliability is a measure if the extent to which an item, scale or instrument will yield the same score when administered in different times, location or population, when the two administrations do not differ in relevant variables. The objective is to make sure that if another investigator were to follow the same procedures and used the same case study objects, the same conclusions would be arrived at.

Keeping this in mind the researcher has used the Statistical Package for Social Science (SPSS) for reliability testing with the help of Cronbach Alpha, which is well known method of testing of reliability and normally varies between 0 to 1.

The **Cronbach's Alfa** of given questionnaire is 0.99 for the 231 numbers of items, which is near to, in fact is almost 1, which shows that all the 231 items of the questionnaire were **99%**reliability hence it is concluded that **overall data information is credible** and have good degree of **internal consistency** of reliability between the variables. As per the thumb rule, the reliability of greater than 0.9 is to be considered as excellent. In this research it is 99% which considered as the excellent reliability.

**Table-4.2: Reliability Statistics**

Cronbach's Alpha	No of Items
0.99	231

Source: Computed from Primary Data

The validity of the questionnaire is tested based on the factor analysis method .The factor analysis in turn supports to identify the factors that gives the relationship among the given set of variables. Therefore, the factor analysis is used to verify the validity of the questionnaire. The validity normally verified by means of PCA - Principal Component Analysis. The factor analysis is done on each of the questions as mentioned in the factor analysis including various factors with the help of the PCA analysis. Hence, here the principal component factor analysis has been conducted to check the validity of the questionnaire.

#### **4.14 LIMITATIONS OF THE STUDY**

- The major limitations of this study are the geographical area and it is confined to only western Indian rural market.
- The deep penetrated rural areas are not covered for the study.
- The responses are not taken into consideration from social media sites like Face book, Instagram for the study.
- Some of the respondents may be biased towards giving the responses as the data is collected for the usages of personnel brands of non-durables and durables consumable products used by them.
- In some of the cases researcher has faced the issues of making rural respondents to clearly understand the questions, during the collections of the responses, which could have been reflected in results of the study.
- The other limitations of the study are that the suggestions and recommendations could not be generalized; it will be applicable to the selected western rural markets and selected non-durables & durable products only.

#### **4.15 DELIMITATIONS OF THE STUDY**

- This study is delimited to the measurement of the Brand Equity from the dimensions of Brand Equity such as Brand Awareness, Brand Loyalty, Perceived Quality and Brand Associations, so financial aspect have not been considered for the study.
- Rural Consumer markets are only studied.
- Few companies are only considered for the study.
- Only four Durable and Non-Durable products are considered for the study.

#### **4.16 BENEFITS OF THE STUDY:**

- The study will be beneficial for the non-durable and durable consumable products marketers to know about the perceptions and expectations of the rural consumers in the selected rural area of western India.
- The study will be beneficial to the rural consumers in the selected rural area of western India to understand about the various selected non-durables and durables product ranges, preferences of products usages, marketing



strategies, distribution channels and availability of the products in the given rural areas.

- It is helpful to the researchers and academicians for considering the research report as a reference material for further studies related to the topics at regional, national as well as international levels.

## **References:**

1. Creswell, J. and Plano Clark, V, (2007), Designing and conducting mixed methods Research. Volume 12, Issue 4, SAGE Publications.  
<http://orm.sagepub.com>
2. McNABB, D. (2010). Case Study of Research in Public Management. (1<sup>st</sup> edition, New York, USA: Taylor & Francis Group.
3. W. Paul Vogt, (2012). Research Design. New York, USA: The Guilford Press, [www.guilford.com](http://www.guilford.com)