CHAPTER - III
RESEARCH METHODOLOGY

Research is considered as an endeavour to arrive at answer to intellectual and practical problems through the application of scientific methods to the knowable universe. Methodology is a crucial step in any research because it directly influences the whole research and its findings. Research methodology is a systematic way to solve a research problem.

The methods and procedures adopted in conducting the research are presented under the following heads.

3.1. Description of Research Area
3.2. Research Design
3.3. Sampling Procedure
3.4. Questionnaire Construction
3.5. Research Model
3.6. Selection of Variables
3.7. Selection of the Products
3.8. Hypotheses of the Study
3.9. Sources of Data
3.10. Statistical Tools Used
3.11. Research Strategy

3.1. Description of Research Area
3.1.1. Rural marketing in India

The study focused mainly on the rural women consumer behaviour towards selected Fast Moving Consumer Goods (FMCG) of branded cooking oil. According to the third annual edition of Accenture Research, the heart of India lies in the villages which comprise 72 percent of the total Indian population. These villages are inhabited by about 850 million consumers making up for about 70 per cent of population and contributing around half of the country's Gross Domestic Product (GDP). Consumption patterns in these rural areas are gradually changing to increasingly resemble the consumption patterns of urban areas. Some of India's largest consumer companies serve one-third of their consumers from rural India.
Owing to a favorable changing consumption trend as well as the potential size of the market, rural India provides a large and attractive investment opportunity for private companies.

The rural regions are already well covered by basic telecommunication services and are now witnessing increasing penetration of computers and smart phones. Taking advantage of these developments, rural customers also discover the new and exciting choice of brands, which creates demand for the available product in the market. Marketers have entered the rural markets by extending the distribution of their existing offer or by developing a separate marketing strategy for the rural markets.

India's GDP is expected to grow at 7.1 per cent in FY 2016-17, led by growth in private consumption, while agriculture GDP is expected to grow above-trend at 4.1 per cent to Rs 1.11 trillion (US$ 1,640 billion). $ As per the 2nd Advance Estimates, India's food grain production is expected to be 271.98 M.t in 2016-17. Production of pulses is estimated at 22.14 M.t.

The Government of India has planned various initiatives to provide and improve the infrastructure in rural areas which can have a multiplier effect in increasing movements of goods, services and thereby improve earnings potential of rural areas subsequently improving consumption. Rural consumers have traditional influence in their way of life and behaviour that the marketer may find difficult to compete with. The rural segment is growing at a healthy pace of 8-10 percent annum and is expected to add US $ 100 billion in consumption demanded by 2017.

It is understood that there is always a gap in the study of consumer behavior, particularly rural women consumer towards selected FMCG products. Very less attention has been paid in the rural women buying behavior study than the common rural market study and urban market study. Here there is a scope for study the rural women are untapped market.

It is felt there is a need and it is necessary to study the decision of women towards the purchase of FMCG products and there is a need to focus this research on rural women to understand their buying behavior. Moreover research of this type has not been carried out earlier with reference to various kinds and types of branded cooking oil (edible oil).

Therefore, this study was taken up to understand the buying behaviour of rural women towards branded cooking oil in Villupuram Taluk with the following objectives.
3.1.2. Objectives of the Study

The following are the specific objectives of the study are,

1. To study the socio-economic profile of rural women respondent.
2. To study the awareness level of rural women about various branded cooking oils.
3. To identify the factors influencing rural women towards the purchase of branded cooking oil.
4. To assess the stages of decision making role of rural women towards buying cooking oil.
5. To analyze the impact of demographic factors on the buying behavior of the rural women towards branded cooking oil.
6. To offer suitable strategies and suggestions to the manufacturers, for quickly influencing the rural consumer for the purchase of branded cooking oil.

3.1.3. Selection of District

Tamil Nadu has emerged as a major building block in the national economy. It was ranked the second economically most competitive state in 2016. It is one of the three most-preferred states for investment and one of the eight states where poverty dropped at a higher rate than the all-India average. Its per capita income is the third highest among the big states. Health, education and safety of women are other areas the state made strides in. [http://indiatoday.in/](http://indiatoday.in/) (2016). The literacy rate for Tamil Nadu in 2011 has increased to 80.33% from 73.45% in the 2001 Census [http://censusindia.gov.in/](http://censusindia.gov.in/)(2011). Tamilnadu is considered to be one among the pioneer states in the country to increase rural women literacy growth and income generating activities (Micro credit activities) in the form of women self-help groups in rural areas.

Villupuram is one of the thirty two districts in the Indian state of Tamil Nadu. Villupuram district has a total population of 3458873 (as per 2011 Census), of which males account for 1740819 and females account for 1718054. The Urban population according to 2011 census is 519088 and rural population is 2939785, [http://viluppuram.tn.nic.in/](http://viluppuram.tn.nic.in/) the total Villupuram district population living in rural areas is 2,93,9785 of which male and female is 1,489,868 and 1,463,540 respectively.

From the above data it could be seen that Villupuram district has been identified that **84.99% population lives in rural area in Villupuram Districts.** In this Villupuram district, the highest population of 1,463,540 women is living in the rural area.
The following table 3.1. Highest Number of self-help group members in villupuram district.

<table>
<thead>
<tr>
<th>SI. No.</th>
<th>District</th>
<th>Total groups in rural areas up to March 2012</th>
<th>Total number of members in rural areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cuddalore</td>
<td>16484</td>
<td>255320</td>
</tr>
<tr>
<td>2</td>
<td>Thiruvannamalai</td>
<td>18124</td>
<td>206673</td>
</tr>
<tr>
<td>3</td>
<td>Villupuram</td>
<td>21886</td>
<td>336630</td>
</tr>
</tbody>
</table>

www.tamilnadumahalir.org/schemes/district-unit.htm/

The following table 3.2. Given details of the strength of self-help group members:

<table>
<thead>
<tr>
<th>SI. No.</th>
<th>District</th>
<th>Number of New Groups to be Formed</th>
<th>Number of New Groups Formed</th>
<th>Percentage of Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cuddalore</td>
<td>400</td>
<td>605</td>
<td>151%</td>
</tr>
<tr>
<td>2</td>
<td>Thiruvannamalai</td>
<td>250</td>
<td>260</td>
<td>104%</td>
</tr>
<tr>
<td>3</td>
<td>Villupuram</td>
<td>375</td>
<td>704</td>
<td>188%</td>
</tr>
</tbody>
</table>

www.tn.gov.in/dtp/shg.htm/

In Villupuram district, highest population of 1,463,540 women are living in the rural area and Highest percent of rural women hold self- help membership available in the district compared to the nearby districts with respect to less than 100 km.. Majority of the rural women are members in self- help group, so this paves the way for the respondents to interact
with urban people and also to utilize the financial assistance. Rural women have financial
freedom to create a valid demand in the market. This is one of the main reasons for
purposively selecting Villupuram district for this research study.

3.1.3.1. Administrative Set Up

At present Villupuram district comprises of 1490 Revenue Villages, 4 Revenue
Divisions, 8 Administrative Taluks, 22 Blocks, 15 Town Panchayat Unions, 1104 Village
Panchayats and 3 Municipalities. The majority of the population depends on agriculture.

3.1.3.2. Historical Background

Villupuram is the second largest district in Tamil Nadu (with 22 Blocks as compared
to the average of 13-14 blocks in the other districts), but it is one of the least industrialized
areas of the State. The majority of the population depends on agriculture. Villupuram
District was earlier a part of Cuddalore District. It was then bifurcated from Cuddalore and
became a separate district on 30th September 1993. Because of this, the history of
Villupuram district closely resembles that of Cuddalore. Viluppuram district came into
existence on 30 September 1993 when it was created out of South Arcot district. The district
lies in the middle of the Thiruchirapalli to Chennai National Highways No. 45. It is well
connected by the rail road and it is major junction. From here one can go to any corner of the
Tamil Nadu as well as to other part of India. This district has varieties of tourist spots which
are more than 500 years old. The district has temples, mosques and churches which are very
old and famous. Villupuram is located on the bank of Thenpennai and all government offices
are in one complex besided, Gingee fort, aurovile, tirukoilur, malaikovil near ananthapuram,
kalvarayan hills are also important places of historical importance.

3.1.3.3. Climate

The climate of Viluppuram District is fairly dry and on the whole healthy. The
temperature is moderate, due to the influence of the Bay of Bengal.

3.1.3.4. Main Crops

Viluppuram district of Tamil Nadu is spread over an area of 7,250 Sq. km.
the main crops grown in Viluppuram district are paddy, colam, ragi, cumbu, red gram, black
gram, horse gram and varage. Some cash crops of the region are sugarcane, groundnut,
cotton, casurina and coconut. Black granite, blue metals, and river sand are the major
minerals of the district.
3.1.3.5. Manufacturing sector

Viluppuram district is growing as an important industrial sector. One of the major industries in the district is the Sugar industry. Handloom is another sector that is growing rapidly. Other industries are Edible oil, Engineering fabrication, and Modern Rice mill, Food Processing, Beverage and Extraction.

3.1.4. Selection of the Taluk

As per the census of 2011, Villupuram district has eight taluks.

Fig no: 3.2. Map of villupuram District Taluks.

(Source: Villupuram District Website)
The following table 3.3 shows the total population of male and female in the eight Taluks in Villupuram district.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Taluk</th>
<th>Total Population</th>
<th>SC Population</th>
<th>ST Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
</tr>
<tr>
<td>1.</td>
<td>Villupuram</td>
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<tr>
<td>2.</td>
<td>Gingee</td>
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<td>3.</td>
<td>Tindivanam</td>
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<td>5.</td>
<td>Tirukkovilur</td>
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<tr>
<td>6.</td>
<td>Sankarapuram</td>
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<td>7.</td>
<td>Kallakurichi</td>
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<td>8.</td>
<td>Ulundurpettai</td>
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</tbody>
</table>

(As per Census of India, 2011)

The researcher selected Villupuram Taluk in Villupuram District for the study, since more population lives in this Taluk. The total Villupuram Taluk population living in rural area is 4, 92,705 of which 2, 48,723 are males and 2, 43,982 are females. Hence this study was taken up in Villupuram Taluk.
3.1.5. Selection of blocks in Villupuram Taluk

Fig no: 3.3. Map of Villupuram District Blocks

![Map of Villupuram District Blocks](http://www.tnrd.gov.in/databases/villupuramVillages.pdf)

(Source: Villupuram District Website)

Villupuram Taluk has four blocks and the researcher selected all four blocks of Villupuram Taluk i.e., Kanai, Koliyanur, Kandamangalam and Vikravandi for the study and further it has as maximum number of blocks and villages. In the Kanai, Koliyanur, Kandamangalam and Vikravandi blocks, the study was conducted in 189 villages and the numbers of villages were given in Table 3.4.

Total No: 3.4 Total numbers of villages from blocks in Villupuram Taluk

<table>
<thead>
<tr>
<th>Name of the blocks in Villupuram Taluk</th>
<th>Total number of villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kanai</td>
<td>51</td>
</tr>
<tr>
<td>Koliyanur</td>
<td>43</td>
</tr>
<tr>
<td>Kandamangalam</td>
<td>45</td>
</tr>
<tr>
<td>Vikravandi</td>
<td>50</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>189</strong></td>
</tr>
</tbody>
</table>

3.1.6. Selection of Villages in Villupuram Taluk

In Villupuram Taluk, top three villages with highest women population were selected in this study. The following villages were given below,

**Total No: 3.5 Selected of villages in the selected Blocks of Villupuram Taluk**

<table>
<thead>
<tr>
<th>Name of the blocks in Villupuram Taluk</th>
<th>Highest women population villages selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kandamangalam</td>
<td>1.Pakkam, 2.Tirumangalam and 3.Vengatadiagram</td>
</tr>
</tbody>
</table>

http://www.tnrd.gov.in/databases/Villages.pdf (As per Census of India, 2011)

3.2. Research design

A research design is a framework or blue print for conducting the research project. It details the procedures necessary for obtaining the information needed to structure and/or solve research problems. The research design lays the foundation for conducting the project. The research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research with economy in procedure.

The present study is the descriptive design. Descriptive in the nature due to fact finding with the help of literature survey and the analysis of demographic profile of the respondents in the particular area considered for this study. The present study is said to be descriptive due to the information gathered to describe the buying behavior of rural consumers, factors influencing choice of branded cooking oil, motivating factors for buying/brand loyalty, problem faced by the rural women at the time purchase and the various promotional activities being offered by the different manufactures and marketer of the product at rural and urban area in the country.
3.3. Sampling Procedure

3.3.1. Selection of Respondents

Rural women’s age groups of 18 years and above have been selected for this study. This is because the necessities for purchase of cooking oil products are mainly done by this age group. The Respondent’s are housewives, self-help group women members, farmers, own business people, working women and girl students. Total Electoral women population Statistics has been applied in determining each block sample size.

3.3.2. Sampling method

A convenient sampling technique was adopted during the researcher’s visit in the villages. It was ensured that the consumers who were women above 18 years to participate in the survey. As this study concentrated on buying behaviour of rural women consumers on branded cooking oil, such users were assessed. Data were collected using structured questionnaire through one to one interview method.

3.3.3. Sampling Frame:

There are nine socio economic profiles (demographic factors) were included in the Sample design. They were: Age (from 18 years to above 45 years) Education (primary, secondary, Hr.sec, UG, PG, Diploma, professional and uneducated), occupation (working (labour, farmer, business, govt & private vs. nonworking (students& housewife)) family income (less than 5000 to above 25000), Family type, family size, Marital status, self-help group membership and possessing personal saving account.

3.3.4. Description of sampling size

In this research, a pilot survey was conducted with 40 rural women respondents. The purpose of the study was to find out the user/buyers of the branded cooking oil in the rural area. Therefore the size of the sample to be studied depends on the basis of the assumption that the sample proportion is unbiased estimator of the population proportion.

In this study, the sample size was determined by taking into account both the qualitative and quantitative approach. The following method was followed for selection of samples.
A Register Extract Statistical formula was used to determine the sample size as given below:

Sample size \( n = \left( \frac{ZS}{E} \right)^2 \)

Where

- \( Z \) = Standardized value corresponding to a confidence level of 95% = 1.96
- \( S \) = Sample SD from Pilot study of 40 samples = 0.5245
- \( E \) = Acceptable Error = 5% = 0.05

Hence, Sample size \( n = \left( \frac{ZS}{E} \right)^2 \)

\[ = (1.96*0.5245/0.05)^2 \]

\[ = 422.7 \]

\[ = 423 \]

The sample size arrived at statistically is 423. But, this figure being quite insufficient as the study engaged examining relationship among many variables.

### 3.3.5. Sample plan from Selected Taluk

Sample size of 423 has been selected from Villupuram Taluk. Since that Taluk has the highest electoral rural women population and further it has as maximum number of blocks and villages.

Table No. 3.6. The sampling plan is given as below

<table>
<thead>
<tr>
<th>Name of the blocks in Villupuram Taluk</th>
<th>Total Electoral women population as per 2011 census</th>
<th>Percentage of sample selected</th>
<th>Number of women respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaanai</td>
<td>47,972</td>
<td>24.3%</td>
<td>103</td>
</tr>
<tr>
<td>Kolianur</td>
<td>50,298</td>
<td>25.5%</td>
<td>108</td>
</tr>
<tr>
<td>Kandamangalam</td>
<td>53,508</td>
<td>27.0%</td>
<td>114</td>
</tr>
<tr>
<td>Vikravandi</td>
<td>45,767</td>
<td>23.2%</td>
<td>98</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,97,545</strong></td>
<td><strong>100%</strong></td>
<td><strong>423</strong></td>
</tr>
</tbody>
</table>

Source: villupuram collectorate databases/electoral population (As per Census of India, 2011)

Considering, the above sample size 423 rural women branded cooking oil users/buyers, a minimum sample size of 200 is common for behavioural studies and based upon affordability which also ensures the minimum size in each cell while doing the cross tabulation for the required statistical analysis (Sudman, 1976). But, as per the Pilot Survey in the selected districts, it has been found that the responses were quite similar. Hence, it was assumed that the rural women consumers were expected to be homogeneous in respect to purchase behaviour. Hence the sample size of 423 respondents has been chosen.
3.4. Questionnaire Construction

With the extensive study of literature, structured questionnaires have been framed to study the buying behaviour of rural women about branded cooking oil. The self-administered questionnaires were developed. The scales were prepared in order to bring more clarity and suitability of the study to fit into Indian context and modified to reflect the context of buying behaviour of rural women. The questionnaire consisted of five point Likert style statements, multiple choice, close and open ended questions. The final English and Tamil questionnaires are in appendix-I and appendix-II.

The survey instrument was constructed based on the initial research model and propositions. Primary data were collected through the questionnaire. As the study has been undertaken in rural area, simple open and close ended questionnaire were constructed, and it was collected through research used through one to one interview method.

The questionnaire consists of four sections. The details of the questionnaire are as follows:

- **The first part** of the questionnaire comprises demographic factors with options to understand the socio economic status of the respondents namely age, sex, education, occupation, family size etc. Some optional questions are included along with the multiple choice questions.

- **The second part** of the questionnaire deals with factors related to awareness of brands of branded oil and attributes.

- **The third part** consists of statements relating to factors influencing towards purchase of branded cooking oil.

- **The fourth part** of the questionnaire deals with evaluation of consumer opinion on purchase decision with respect to need recognitions, information search, evaluation of alternatives, purchase behavior pattern and post purchase behavior of customer satisfaction, brand loyalty and problem faced by rural women at the time of buying which are measured using rating scale, yes/no type question and multiple choice questions.

The questionnaire consists of both optional type and statements in Likert five point scales. The responses of these sections were obtained from rural women for ascertaining their buying behaviour of branded cooking oil in Villupuram Taluk, which range as follows: 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, 1 – Strongly Disagree, 5 – Very High satisfaction, 4 – High satisfaction, 3 – Moderate satisfaction, 2 – Low satisfaction, 1 – Very low satisfaction. This was very useful for the standardization of results and made it easier for respondents to complete the interview schedule.
3.4.1. Questionnaire and Scale Validation

The research design was Descriptive in nature. A pilot study was conducted to pre-test the Questionnaire qualitatively by getting consumers insight into their reasons for buying the product. The reliability and validity tests confirmed and were similar to those in literature. The estimated value of Cronbach Alpha of the scale was found to be 0.817 which is far above the desired prescribed limit of 0.6 (Nunnally and Bernstein, 1994; Donio et al., 2006) and establishes its reliability. The questionnaire was translated into the regional language i.e., Tamil for the convenience of the rural women respondents.

3.4.2. Pilot Study

As discussed earlier, the study was descriptive in nature. Pilot study was conducted to enhance clarity of the questionnaire so that respondents will not have difficulties in understanding and answering the questions. 40 women respondents participated in the preliminary study and these responses were not included in the main study. The questionnaire was evaluated in terms of ambiguity in wording, clarity of polar adjectives, difficulty level of questions, ease of answering questions, overall structure of questions as well as the time needed for its completion. The questionnaire was improved on the basis of their suggestions and feedbacks regarding the appropriate words and structure of the questionnaire.

3.5. Selection of the Products:

For the purpose of research various branded cooking oil products were selected. After conducting a pilot study among the selected areas women and they used to purchase and consume the various branded cooking oil (Edible oil). E.g. (a) Groundnut oil (b) Pamolein oil (c) Sunflower oil (d) Rice bran oil (e) Soya beans oil (f) Mustard oil (g) corn oil (h) Gingelly oil.

Moreover, in edible oil industry, brand preference is more sensitive as compared to any other related industry due to the reason that this industry is health sensitive and the quality-conscious.
3.6. Research Model:

A diagrammatic representation of research model given the following chart: 3.4

- **Socio Economic Profile**
  - Age,
  - Qualification, Occupation, Income,
  - Family size
  - Family type
  - SHGS

- **RURAL WOMEN BUYERS OF BRANDED COOKING OIL**

- **Psychological Influence Factors**
  - Motivation, Perception, Learning, Beliefs and attitudes

- **Women Consumer Awareness**

- **Women Consumer Influence Factors**

- **Need Recognition**

- **Information Search**

- **Evaluation of Alternatives**

- **Purchase Behaviour**

- **Post-Purchase Behaviour**
  - (A) Satisfaction
  - Level of Branded Cooking Oil
  - (B) Brand Loyalty
  - (C) Problem Faced By Rural Women Consumer
In the proposed model it clearly analyzes the impact of demographic factors on the buying behavior of the rural women towards branded cooking oil.

3.7. Selection of Variables

The below describes the Variables and its nature is shown in Table 3.7.

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Independent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age</td>
</tr>
<tr>
<td>2</td>
<td>Educational Qualification</td>
</tr>
<tr>
<td>3</td>
<td>Occupation</td>
</tr>
<tr>
<td>4</td>
<td>Monthly Income</td>
</tr>
<tr>
<td>5</td>
<td>Family Type</td>
</tr>
<tr>
<td>6</td>
<td>Marital Status</td>
</tr>
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<td>7</td>
<td>SHG Membership</td>
</tr>
<tr>
<td>8</td>
<td>Employed and Unemployed Rural Women</td>
</tr>
<tr>
<td>9</td>
<td>Satisfaction of Benefits Of Branded Cooking Oil</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Need Recognition Factor</td>
</tr>
<tr>
<td>2 Information Search</td>
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<td>3 Evaluation Of Alternatives</td>
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<td>4 Preference Of Various Brands Of Cooking Oil</td>
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<td>5 Rural Women Buying Decision</td>
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<td>6 Place Of Purchase</td>
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<td>10 Satisfaction of Benefits Of Branded Cooking Oil</td>
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<td>11 Stick To The Brand</td>
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3.8. Hypotheses of the Study

Hypotheses are tentative, intelligent guesses posited for the purpose of directing one’s thinking and action towards the solution of a problem (Selamat, 2008). Hypotheses are derivable from theory and they serve as means through which theories are validated, revised or invalidated through research (Glassman, 2007), Nenty (2009) hypotheses guide the study especially in terms of the literature to be reviewed, research design and methodology, data analysis procedure, arrangement of research sections and discussions of research findings. In this study, hypotheses have been formulated on the basis of existing review of literature.
1. Ho: There is no significant Rural Women Self-help group membership and influence factors of their decision making about branded cooking oil

2. Ho: There is no significant difference among the age, educational qualification, occupation, monthly income, marital status and family type with respect to Need recognition factors.
   2.1 Ho: There is no significant difference between the Age and Need recognition factors.
   2.2 Ho: There is no significant difference the Educational qualification and Need recognition factors.
   2.3 Ho: There is no significant difference between the Occupation and Need recognition factors.
   2.4 Ho: There is no significant difference between the Monthly income and Need recognition factors.
   2.5 Ho: There is no significant difference between the marital status and Need recognition factors.
   2.6 Ho: There is no significant difference between the Family type and Need recognition factors.

3. Ho: There is no significant difference among the age, educational qualification, occupation, monthly income, marital status and family type with respect to Information search factors.
   3.1 Ho: There is no significant difference between the Age and Information search factors.
   3.2 Ho: There is no significant difference between the Educational qualification and Information search factors.
   3.3 Ho: There is no significant difference between the Occupation and Information search factors.
   3.4 Ho: There is no significant difference between the Monthly income and Information search factors.
   3.5 Ho: There is no significant difference between the marital status and Information search factors.
   3.6 Ho: There is no significant difference between the Family type and Information search factors.
4. Ho: There is no significant difference among the age, educational qualification, occupation, monthly income, marital status and family type with respect to Evaluation of alternatives factors.

4.1 Ho: There is no significant difference between the Age and Evaluation of alternatives factors.

4.2 Ho: There is no significant difference between the Educational qualification and Evaluation of alternatives factors.

4.3 Ho: There is no significant difference between the Occupation and Evaluation of alternatives factors.

4.4 Ho: There is no significant difference between the Monthly income and Evaluation of alternatives factors.

4.5 Ho: There is no significant difference between the marital status and Evaluation of alternatives factors.

4.6 Ho: There is no significant difference between the Family type and Evaluation of alternatives factors.

5. Ho: There is no significant association among the age, educational qualification, occupation, monthly income, and marital status with respect to their preference of various brands of cooking oil.

5.1 Ho: There is no significant association between the age and their preference of various brands of cooking oil.

5.2 Ho: There is no significant association between the Educational qualification and their preference of various brands of cooking oil.

5.3 Ho: There is no significant association between the occupation and their preference of various brands of cooking oil.

5.4 Ho: There is no significant association between the monthly income and their preference of various brands of cooking oil.

5.5 Ho: There is no significant association between the marital status and their preference of various brands of cooking oil.

6. Ho: There is no significant association among the age, educational qualification, occupation, monthly income, marital status and family type with their place of purchase of various brands of cooking oil.
6.1 Ho: There is no significant association between the age and their place of purchase of various brands of cooking oil.

6.2 Ho: There is no significant association between the educational qualification and their place of purchase of various brands of cooking oil.

6.3 Ho: There is no significant association between the Occupation and their place of purchase of various brands of cooking oil.

6.4 Ho: There is no significant association between the monthly income and their place of purchase of various brands of cooking oil.

6.5 Ho: There is no significant association between the marital status and their place of purchase of various brands of cooking oil.

6.6 Ho: There is no significant association between the type of family and their place of purchase of various brands of cooking oil.

7. Ho: There is no significant association among the age, educational qualification, occupation, monthly income, marital status and family type with their frequency of purchase of various brands of cooking oil.

7.1 Ho: There is no significant association between the age and their frequency of purchase of various brands of cooking oil.

7.2 Ho: There is no significant association between the Educational qualification and their frequency of purchase of various brands of cooking oil.

7.3 Ho: There is no significant association between the occupation and their frequency of purchase of various brands of cooking oil.

7.4 Ho: There is no significant association between the monthly income and their frequency of purchase of various brands of cooking oil.

7.5 Ho: There is no significant association between the marital status and their frequency of purchase of various brands of cooking oil.

7.6 Ho: There is no significant association between the type of family and their frequency of purchase of various brands of cooking oil.

8. Ho: There is no significant association among the age, educational qualification, occupation, monthly income, marital status and family type with Quantity of purchase of various brands of cooking oil.

8.1 Ho: There is no significant association between the age and Quantity of purchase of various brands of cooking oil.
8.2 Ho: There is no significant association between the Educational qualification and quantity of purchase of various brands of cooking oil.

8.3 Ho: There is no significant association between the Occupation and Quantity of purchase of various brands of cooking oil.

8.4 Ho: There is no significant association between the Monthly income and Quantity of purchase of various brands of cooking oil.

8.5 Ho: There is no significant association between the marital status and Quantity of purchase of various brands of cooking oil.

8.6 Ho: There is no significant association between the Type of family and Quantity of purchase of various brands of cooking oil.

9. Ho: There is no significant association among the age, occupation, monthly income, marital status and family type with and their preference of types of package of various brands of cooking oil.

9.1 Ho: There is no significant association between the age and their preference of types of package of various brands of cooking oil.

9.2 Ho: There is no significant association between the Occupation and their preference of types of package of various brands of cooking oil.

9.3 Ho: There is no significant association between the Monthly income and their preference of types of package of various brands of cooking oil.

9.4 Ho: There is no significant association between the marital status and their preference of types of package of various brands of cooking oil.

9.5 Ho: There is no significant association between the Type of family and their preference of types of package of various brands of cooking oil.

10. Ho: There is no significant difference across the age, educational qualification, occupation, monthly income, marital status and family type with respect to customer satisfaction factors.

10.1 Ho: There is no significant difference between the Age and Customer satisfaction factors.

10.2 Ho: There is no significant difference between the Educational qualification and Customer satisfaction factors.

10.3 Ho: There is no significant difference between the Occupation and Customer satisfaction factors.
10.4 Ho: There is no significant difference between the Monthly income and Customer satisfaction factors.
10.5 Ho: There is no significant difference between the marital status and Customer satisfaction factors.
10.6 Ho: There is no significant difference between the Family type and Customer satisfaction factors.

3.9. Data Sources

Both the primary and the secondary data were used in the study for the purpose of analyses.

3.9.1. Primary Source

The primary data are those which are collected afresh and for the first time, and thus happened to be original in character. The primary data for this study has been collected by distributing structured questionnaires. In order to collect the primary data, survey method has been chosen. The sample size was chosen keeping in mind only the time factor but also the area of coverage. The sample size was limited to 423 rural women respondents. The primary data has been collected in the geographical limits of Villupuram Taluk, Tamil Nadu.

3.9.2. Secondary Source


3.10. Statistical Tools Used

The completed questionnaires were thoroughly checked and coded for further processing. Care was taken to detect errors and omissions to assure that the data were accurate and consistent with facts gathered. Statistical Package for Social Science version 22.0(SPSS) was used for processing the data. The statistical techniques adopted are percentage analysis, cross tabulation, chi-square analysis, MANOVA (Multivariate Analysis of Variance), Logistic regression, Weighted Average, Discriminant Analysis and Factor analysis. Charts, tables and graphs have been used for proper presentation of the findings.

Percentage Analysis is applied to create a contingency table from the frequency distribution and represent the collected data for better understanding. In this study, percentage analysis was used to segment the responses of consumer based on their demographic profile namely
age, education qualification, occupation, monthly income, marital status family type, family size, Self- help membership and having personal saving account. Furthermore, the analysis used for identify rural women consumer purchase behaviour of cooking oil namely brand awareness, preference, influence factors, oil attributes purchase frequency, place of purchase, buying quantity, purchase preferences like oil type, store type, brand, reason for buying specific cooking oil were examined.

**Factor Analysis** is used to explore the possible underlying factor structure of a set of measured variables without imposing any preconceived structure on the outcome and used to reveal underlying factor structure of a set of variables. This approach allows researcher to describe and identify the number of latent constructs. In this study, factor analysis was used for understanding the consumer buying decision process, they are need recognition factor, information search, evaluation of alternatives, purchase decision and post purchase factors namely customer satisfaction and loyalty were measured. In addition to the above, problems in rural marketing were explored.

**Chi-Square Analysis** is used to compare the observed data of the consumer with the data expected to obtain according to a specific hypothesis formulated in this study. In this study, chi square analysis was used to identify the association between demographic profile of the respondents namely age, education qualification, occupation, monthly income, marital status and family type with respect to buying preference such as brand preference, place of purchase and type of packages.

**Cross-Tabulation Analysis**, also known as contingency table analysis, is most often used to analyze categorical (nominal measurement scale) data. A cross-tabulation is a two (or more) dimensional table that records the number (frequency) of respondents that have the specific characteristics described in the cells of the table. A cross tabulation allows to summarize the values in a column based on the values in two or more other columns and display the result as a matrix. In this study, cross tabulation was performed to identify the relationship between demographic profile of the respondents namely age, educational qualification, occupation, monthly income, marital status and family type with respect to buying preference such as brand preference, place of purchase and type of packages.

**Cronbach's Alpha** is a measure of internal consistency, that is, how closely related a set of items are as a group. A "high" value of alpha is often used as evidence that the items measure an underlying (or latent) construct. Questionnaires were used in this research and therefore it is mandatory to estimate this quantity to add validity and accuracy to the interpretation of the
data. Cronbach’s alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach’s alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. George and Mallery (2003) provided the following rules of thumb: “\( \alpha > .9 \) – Excellent, \( \alpha > .8 \) – Good, \( \alpha > .7 \) – Acceptable, \( \alpha > .6 \) – Questionable, \( \alpha > .5 \) – Poor, and \( \alpha < .5 \) – Unacceptable.” In this study, cronbach’s alpha test of reliability was used to measure the internal consistency of each constructs pertaining to consumer buying decision process i.e. need recognition factor, information search, evaluation of alternatives, purchase decision and post purchase factors namely customer satisfaction and loyalty.

**Logistic Regression** is one of the most widely used statistical techniques for creating predictive models. It is used to predict a categorical (usually dichotomous) variable from a set of predictor variables. In this study, logistic regression was applied to predict relationship between brand loyalties of consumer with respect to satisfaction factors pertaining to rural women buying behaviour.

**MANOVA** (Multivariate Analysis of Variance) is a type of multivariate analysis used to analyze data that involves more than one dependent variable at a time. MANOVA allows us to test hypotheses regarding the effect of one or more independent variables on two or more dependent variables. A MANOVA analysis generates a p-value that is used to determine whether or not the null hypothesis can be rejected. In this study, MANOVA was performed to identify the mean differences between demographic profiles of the respondents namely age, educational qualification, occupation, monthly income, marital status and family type with respect to the factors explored on five stages of consumer buying decision process.

**Weighted Average** is a mean calculated by giving values in a data set more influence according to some attribute of the data. It is an average in which each quantity to be averaged is assigned a weight, and these weightings determine the relative importance of each quantity on the average. Weightings are the equivalent of having that many like items with the same value involved in the average. In this study, weighted average method was used for ranking the factors responsible for the awareness of attributes which were considered for measuring the awareness of branded cooking oil are brand, price, quality, and taste, size of package, availability, healthy aspects, ingredients, discount and offers and color/odor of the oil.

**Discriminant analysis** Discriminant analysis is a statistical method that is used by researchers to help them understand the relationship between a "dependent variable" and one
or more "independent variables." A dependent variable is the variable that a researcher is trying to explain or predict from the values of the independent variables. It is essential to know the important factors for buying branded cooking oil among employed and non-employed in order to device marketing strategy for future. The company should know how far they are discriminated among employed and non-employed women and in which aspects.

3.11. Research Strategy

The research Strategy followed for this research is presented below in Table 3.8

Table No. 3.8. Research Strategy

<table>
<thead>
<tr>
<th>Research Approach</th>
<th>Quantitative &amp; Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research design</td>
<td>Descriptive Research</td>
</tr>
<tr>
<td>Study Area</td>
<td>Villupuram Taluk</td>
</tr>
<tr>
<td>Research method</td>
<td>One to one personal interview method</td>
</tr>
<tr>
<td>Type of survey</td>
<td>Sample survey</td>
</tr>
<tr>
<td>Sampling unit</td>
<td>Rural Women respondent of Branded cooking oil user</td>
</tr>
<tr>
<td>Sample Size</td>
<td>423</td>
</tr>
<tr>
<td>Sampling method</td>
<td>Convenience sampling</td>
</tr>
<tr>
<td>Population of the study</td>
<td>Rural Women Respondents</td>
</tr>
<tr>
<td>Method of data collection</td>
<td>Structured questionnaire and using Interview schedule</td>
</tr>
<tr>
<td>Sample plan</td>
<td>Highest rural women population villages in the all four Blocks of Villupuram Taluk - Kaanai, Kolianur, Kandamangalam and Vikravandi.</td>
</tr>
<tr>
<td>Sources of data</td>
<td>Primary and Secondary</td>
</tr>
<tr>
<td>Cronbach Alpha value</td>
<td>0.817</td>
</tr>
<tr>
<td>Statistical Tools Used</td>
<td>Percentage analysis, Weighted average methods, Factor analysis Cross-Tabulation Analysis, Chi - square analysis, Logistic regression analysis, Multivariate analysis (MANOVA) and</td>
</tr>
</tbody>
</table>

The Research was carried out with the above stated procedure and results obtained are presented in the next chapter RESULTS AND DISCUSSION.