Chapter III

Research Methodology
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The study is designed to explore the behaviour of audience towards television advertising and its impact. This section focuses on the methods adopted to conduct the study and the type of the research. The data collection methods, sample, sample size and sampling methods are also discussed. This chapter explains the methods used in carrying out the study. The chapter explains the period of the study, research design, sampling method, data sources and the statistical tools used to analyze the data.

3.1 Research Design

Research design is the conceived plan and structure of investigation to obtain answers to research question (Cooper 2003)\textsuperscript{100}. The research type adapted to this study is descriptive research. Descriptive research describes data and characteristics about the population or phenomenon being studied. The study describes the audience behaviour towards television advertisements and understands the reasons behind it.

\textsuperscript{100} Cooper and Schindler's (2003), Business Research Methods, 8\textsuperscript{th} edition, McGraw-Hill
3.2 Sampling Design

Sampling design includes the sampling unit, sample population, sampling method employed and the determination of sample size. The sampling unit includes the places where the study was conducted. The study was conducted in Dharmapuri and Krishnagiri districts. Convenience sampling method was adopted for the study. The population above 18 years of age in these two districts was considered as sample for the study. Majority of the population are agricultural labourers and they were not ready to spend time to respond to the questionnaire. This made the researcher to adopt the convenience sampling method that gives flexibility to approach, only those who are ready to spend time and respond to the questionnaire. The sample size was determined as follows.

Sample size is determined using the “Sample size determination for the means method”. The formula for computing “n”, the sample size used in the study.

\[ N = \left( \frac{Z\sigma}{Dx} \right)^2 \]

The ‘z’ value represents the ‘z’ score from the standard normal distribution for the confidence level desired by the research. The researcher has taken the 95% confidence interval. For 95% confidence level, the probability that the
population mean will fall outside one end of the interval is (0.05/2). The associated value of z score will be 1.96.

σ represents the standard deviation of the population and ‘x’ represents the mean of the population. The standard deviation of the population is estimated by conducting pilot study. The interval scale is used in the pilot study. The mean is calculated as 4.3 and the standard deviation is calculated as 1.89. ‘D’ represents the level of precision. This is the maximum permissible difference (D) between the sample mean and the population mean. The researcher has taken ‘D’ value as 0.05.

Applying all these values into the formula:

\[ N = \left( \frac{(1.96 \times 1.89)}{(0.05 \times 4.3)} \right)^2 = 296 \]

The actual sample size is estimated as 296. The researcher decided to collect equal number of sample from Dharmapuri and Krishnagiri districts and proceeded with data collection. An additional 80 respondents were approached in total of both the districts to have additional responses in case there is incomplete questionnaire. But only 6 questionnaires were incomplete and the remaining 370 questionnaires were complete and used for the study. So the sample size for the study is 370.
3.3 Period of the Study

The duration of the research is between 2006 and 2009. Primary data for the study is collected through a structured questionnaire and the primary data was collected in the years 2007 and 2008. Secondary data were collected from different publications, reports, websites, magazines, journals, newspapers and other published sources. Various literatures from 1983 to 2009 were collected, reviewed and presented in Chapter II.

3.4 Methods of Data Collection

The focus of this research is to study the behaviour of audience towards television advertisements. Data for the study were collected through the primary and secondary sources.

3.4.1 Primary Data

The major source of the data used to carry out the analysis is primary data. Field survey method was employed to collect the primary data from the selected 370 respondents with the help of a well framed questionnaire. Ten television advertisements of the regional language (i.e. Tamil) were shown to the respondents and their opinion on those advertisements were drawn from them. The advertisements are Ashirvad, Fair & Lovely, Fevicol,
Hamam, Lakme, Mentos, Parachute, Power soap, Sugar Free, Surf Excel. The advertisements were selected from 20 popular regional ads and the respondents participated in the pilot study were asked to rank them. From that first ten ads were taken for the research work. Since the study focuses on identifying the behaviour of the audience towards television advertisements, it is felt by the research that this approach is relevant and may provide appropriate results. Care was taken in wording the questions in the questionnaire because poorly worded questions can cause respondents to report miscomprehension even though they actually comprehend the message (Lynn et.al. 1992)\(^{101}\)

In case of respondents who were not having formal education, the researcher read and briefed about the questions and recorded their response. The doubts raised by the respondents were clarified then and there by the researcher. Respondents with varying background were selected based on the important demographic aspects like age, sex, educational qualification, marital status, occupation and income level for this study.

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3.4.2 Secondary Data

The secondary data used in this study were collected from the national and international journals, newspapers, magazines, articles and other records. The latest information related to the study was gathered from libraries in Bangalore, Chennai and Salem. Websites and portals were also used to collect some statistical information on Dharmapuri and Krishnagiri districts. A number of standard text books in the area of marketing, advertising and mass communication were also referred to present the theoretical perspective. The brief profile of both the districts is given in this chapter. To know the importance given to the television medium and statistical information on advertisement expenditures on television and other media were also collected and presented in chapter V.

3.5 Profile of Dharmapuri District

Dharmapuri is one of the 30 administrative districts of Tamilnadu situated in the north-western corner of the state and the district’s economy depends on agriculture. Dharmapuri district came into existence since the year 1965. The total geographical area of this district is 4497.77 square kilometers i.e. 3.46% of Tamilnadu. According to 2001 census, the total
population of the district is 12, 95,182 consisting of 6, 70,520 males and 6,
24,662 females. The literacy rate of this district is 63.5%.

3.6 Profile of Krishnagiri District

Krishnagiri district has been bifurcated from Dharmapuri district as
the thirtieth district of Tamilnadu. It has 2 municipalities, 10 panchayat
unions, 7 town panchayats, 352 village panchayats and 636 revenue villages.
The total geographical area of this district is 5143 square kilometers.
According to 2001 census, the total population of the district is 15, 46,700
consisting of 7, 95,718 males and 7, 50,982 females. The literacy rate of this
district is 58.11%. Three languages namely Tamil, Telugu, and Kannada are
predominantly spoken in this district.

3.7 Pre-testing and Pilot Study

The questionnaire was given to some research experts for a critical
view regard to its content, format and sequence and their feedback was
incorporated. Then questionnaire was distributed to 20 respondents for
pretesting and pilot study was also conducted. Pretesting was done to ensure
reliability and validity of the questionnaire. It was done to check whether the
instrument was correctly framed in an understandable manner. Taking into
consideration the suggestions of the selected sample respondents, necessary modifications and changes were incorporated in the questionnaire after the pilot study. The respondents included in the pilot study were not included as samples for the final study.

3.8 Tools for data collection

Questionnaire was the main tool used to collect the data. The research problem and the questionnaire were framed accordingly with the help of literatures and in consultation with research supervisor and the research experts. The questionnaire also includes the questions to gather information on demographic details of the respondents, perception and opinion on advertisements, features of effective advertisements, influencing factors of the selected ten television advertisements and the attributes of the advertisements which make the audience uncomfortable in viewing the ads.

3.9 Statistical Tools used for Analysis

Appropriate research tools were used to analyze the data. The data was checked for its validity and reliability and statistical tools used for analysis are, simple percentage method, weighted average, chi-square, factor
analysis, and multiple regression analysis. The statistical package SPSS 15.0 was used to analyze.

3.9.1 Simple Percentage Method

Simple percentage method was used to present the profile of the respondents involved in the study. To present the responses on usefulness of the medium, television watching timings, duration and benefits of television advertisements perceived by the respondents, simple percentage method was used in this study.

3.9.2 Weighted Average

To understand the attributes that influence the consumers to make purchase decisions, the sample respondents were asked to rank the eight attributes in the questionnaire from 1 to 8 giving least rank to the most preferred attribute and vice versa. The mean scores were calculated by assigning weights in reverse order (For e.g. Rank 1 is assigned weight 8) and multiplying the number of responses for each rank with their respective weights. The sum of these weighted scores is divided by the total number of respondents (370) to derive the mean score. Ranks are assigned based on the respondents preference of the attributes, higher the mean score lower the
rank assigned and vice versa. Similarly, weighted average scores are calculated for understanding the opinion of the audiences on television commercials, attributes liked and disliked by them in the ten selected television advertisements, reasons for zapping the channels during commercial breaks and the attributes of the ads bothering them. The weighted average scores are tabulated in the Analysis and Interpretation chapter. Weighted average score is calculated by using the given formula.

Weighted average score = \( \sum (\text{No of Respondents preferred the attribute} \times \text{weights assigned}) / \text{total no. of respondents} \)

3.9.3 Factor Analysis

Factor analysis is a statistical approach that can be used to analyze interrelationships among a large number of variables and explain these variables in terms of their common underlying dimensions (factors). This statistical approach involves finding a way of condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of information. Principal Component Analysis method of factor analysis with Varimax rotation is chosen. Factor
analysis is used in this research to identify the factors which influence the audience behaviour towards television advertisements.

3.9.4 Pearson’s Chi-Square Test

Chi-square is a statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis. According to Snedecor and Cochran (1989)\textsuperscript{102}, chi-square test is used to test if a sample of data came from a population with a specific distribution. The formula used is

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

where $O$ is the observed frequency and $E$ is the expected frequency. Chi square is performed in SPSS to identify the relationship between demographic variables and time spent on television advertisements.

3.9.5 Perceptual Mapping

Perceptual mapping is a graphics technique used by asset marketers that attempts to visually display the perceptions of customers or potential customers. Typically the position of a product, product line, brand, or company is displayed relative to their competition. It is a marketing research

technique in which consumer's views about a product are traced or plotted (mapped) on a chart. In SPSS, discriminant analysis is performed considering the brands as the decision variable and the opinion in a scale as the independent variables. A combined group plot is activated to have the perceptual map. The strength of the variables is understood from the coefficient matrix. Perceptual mapping is done to position the advertisements based on the attributes measured as opined by the respondents.

3.9.6 Analysis of Variance

Analysis of variance is a technique used for analyzing the data in which one or more response for variables are measured under different conditions. Anova was used in this study to understand the impact of advertisements and whether it provides adequate information to make purchase decisions.

3.10 Validity- Validity determines the degree to which a measure assesses what it is meant to measure. Validity is ensured in the contents used in the research instrument, the extent to which it distinguishes the concept and
measures the criteria. The validity of the instrument, questionnaire was ensured at the time of pilot study.

3.10.1 Content Validity- Content Validity was established by enquiring the sample considered for pilot study. Focus was given on whether or not they are able to understand the concept that is targeted in the questionnaire.

3.10.2 Construct Validity - The respondents who said that television ads influence their decisions in purchasing a product had different levels of influence on the attributes of television ads than those who said that television ads do not influence their decision in purchasing a product. This ensures construct validity of the questionnaire.

3.11 Reliability

Reliability refers to the consistency or repeatability of the questionnaire for further analysis. The reliability of the questions was empirically examined in order to understand the coherence in the responses made. Reliability of the scales was ensured with Cronbach’s alpha coefficient. The coefficient varies between the values 0 to 1. If the score is closer to the value ‘1’, the internal consistency in the questionnaire is perfect and if the score is closer to ‘0’ the there is poor internal consistency among the questions in the scale constructed.
Cronbach’s alpha measures how well a set of items (or variables) measures a single unidimensional latent construct.

Cronbach’s alpha can be written as a function of the number of test items and the average inter-correlation among the items. Cronbach’s $\alpha$ is defined as

$$\alpha = \frac{N}{N - 1} \left(1 - \frac{\sum_{i=1}^{N} \sigma_{Y_i}^2}{\sigma_X^2}\right)$$

where $N$ is the number of components (items or testlets), $\sigma_X^2$ is the variance of the observed total test scores, and $\sigma_{Y_i}^2$ is the variance of component $i$.

Cronbach’s alpha can be interpreted as the percent of variance the observed scale that would explain hypothetical true scale composed of all possible items in the universe. Alternatively, it can be interpreted as the correlation of the observed scale with all possible other scales measuring the same thing and using the same number of items.

The Chronbach alpha score for the attributes that influences the television ads was calculated to be 0.748 which is greater than 0.5. Thus, the internal consistency of the questionnaire is good enough to proceed for further data collection and analysis.
3.12 Level of Significance

After examining the construct validity of the instrument, the data was collected, tabulated, processed and analyzed with reference to each of the specific objectives, with the help of appropriate tools of analysis. All tests were conducted for five percent level and one percent level of significance. Analysis was made to meet the purpose of each of the specific objectives and test the hypotheses.