CHAPTER III

RESEARCH METHODOLOGY

For any problem encountered by any business organization or others would follow a systematic and scientific technique or process to face the problem or to solve. Hence at this ground for this descriptive research; it identifies the problem and tries to formulate suitable strategies or suggestions to solve the problem. To proceed right with identifying the problem and formulation of suggestions a systematic procedure has been adopted. The chapter research methodology contains

3.1 RESEARCH DESIGN

"Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications." It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. A research study may also be an expansion on past study in the all fields. To test the validity of the research instruments, procedures, or experiments, research may replicate elements of prior studies, or the study as a whole.

The primary purpose of basic research are documentation, discovery, interpretation, or the research and development of methods and systems for the advancement of human knowledge. Approaches to research depend on epistemologies, which vary considerably both within and between humanities and sciences. There are several forms of research: scientific, humanities, artistic, economic, social, business, marketing, practitioner research, etc. The present study is
to examine the influence of public service advertisements in health awareness among the rural youths in Kancheepuram district.

The research process involves identifying a management problem or opportunity; translating that problem or opportunity into a research problem; and collecting, analyzing, and reporting the information specified in the research problem (Kervin, 2004)\(^1\). A research design is the detailed blueprint used to guide a research study toward its objectives. The process of designing a research study involves many interrelated decisions (Minocha, 2006)\(^2\). The most significant decision is the choice of research approach, because it determines how the information will be obtained. Tactical research decisions are made once the research approach has been chosen (Blumberg and Schindler, 2008)\(^3\). Here the focus is on the specific measurements to be made or questions to be asked, the structure and length of the questionnaire, and the procedure for choosing a sample to be interviewed. These tactical decisions also are constrained by time and budget availability, so before a study is executed the estimated costs must be compared to the anticipated value.

One of the best ways to get answers for the research questions set is a well planned, structured research design (Fink, 2003)\(^4\). In this study the researcher ensures that the study is well structured and well planned right from setting objectives, research hypothesis, framing necessary and support theories for the research objectives and finally a questionnaire is designed with a intent to obtain answers for the set research objectives. According to Bryman and Bell (2007)\(^5\), right from writing hypothesis to final analysis of data including any operational activities a well structured research design is required. An effective research design constitutes the blueprint for the collection, measurement and analysis of data and ensures that the research is conducted within the conceptual structure.
The research design adopted by the researcher in this study is descriptive in nature as it urges to know and examine the facts about the effectiveness of social service advertising among the rural youths in Kancheepuram district. Descriptive research, also known as ex post facto research, describes the data and characteristics about the population or phenomenon being studied. The data description is factual, accurate and systematic; the research cannot describe what has caused to a situation. According to Burns (2008)⁶, in descriptive research the research hypotheses often will exist, but they may be tentative and speculative. As in this study too the researcher has designed hypothesis which has been presented under the head which is presented in the latter part of this chapter.

In general, the relationships studied will not be causal in nature. However, they may still have utility in prediction. In social sciences; descriptive research usually takes one of two forms: Survey research and Observational research. According to Kervin (2004)⁷, “Survey research is the systematic gathering of information from respondents for the purpose of understanding and predicting some aspect of the behavior of the population of interest. As the term is typically used, it implies that the information has been gathered with some version of a questionnaire. The survey researcher must be concerned with sampling, questionnaire design, questionnaire administration, and data analysis”. And accordingly based on Kervin’s quote on survey, the researcher is careful enough to decide about questionnaire design and the sampling technique which is discussed later in this chapter.
3.2 DATA COLLECTION

3.2.1 Types of Data Collected

The researcher has used both primary and secondary data for his research. Secondary data means data that are already available i.e., they refer to the data which have already been collected and analyzed by someone else (Chisnall, 2007)\(^8\). When the researcher utilizes secondary data, then he has to look into various sources from where he would obtain them. In this case he is certainly not confronted with the problems that are usually associated with the collection of original data. Secondary data may either be published data or unpublished data (Carson and Perry, 2001)\(^9\). Usually published data are available in various publications of the central, state are local governments; various publications of foreign governments or of international bodies and their subsidiary organization; technical and trade journals; books magazines and newspapers; reports and publications of various associations connected with business and industry, banks, stock exchanges; reports prepared by research scholars, universities, economists in different fields; and public records and statistics, historical documents, and other sources of published information (Downie, 2003)\(^10\).

The primary data are those, which are afresh and collected for the first time and thus happened to be original in nature. Such data are collected with specific sets of objectives to assess the current status of any problem. Primary data collection is necessary when a researcher cannot find the data needed in secondary sources (Cassel and Johnson, 2006)\(^11\). Market researchers are interested in primary data about demographic, socioeconomic characteristics, attitudes, opinions, interests, awareness/knowledge, intentions, motivation, and behavior. Primary data are originated by the researcher for the specific purpose of addressing the problem at
hand (Collis and Hussey, 2009)\textsuperscript{12}. Since primary data is collected with specific purpose, it forms the most significant data of the entire study and it is ultimately used for the purpose of analysis.

3.2.2 Methods of data collection

3.2.2.1 Collection of primary data

There are several methods of collecting primary data, particularly in surveys and descriptive researches. Some of the methods are observation method, interview method, questionnaire method, scheduling method, and other methods like warranty cards, distributor audits, pantry audits, consumer panels, mechanical devices and so on. For the descriptive type of researches, the best – suited research approach for collecting primary data is the survey technique using questionnaire method. From a sample, data is collected and the different magnitudes are measured with respect to the whole population (Cooper, 2006)\textsuperscript{13}. Questionnaire method of data collection is quite popular, particularly in case of big enquiries. It is being adopted by private individuals, research workers, private and public organization and even by governments (David Aaker, Kumar and George Day, 2000)\textsuperscript{14}. In this study the researcher has used questionnaire method for the purpose of collecting primary data from the general public of rural youth from kancheepuram district to know about the awareness and the services provided through public service advertisements to provide a service quality module to have a better performance so that the benefits of the services provided by the government and non-government sectors could be tapped to the fullest extent by the general public.
3.2.2.2 Collection of secondary data

The secondary data is collected from the websites, international and national journals in the field of management as well as marketing, business magazines, business dailies, referred text books in marketing management as well as service related journals and academic studies conducted in the related areas for the purpose of building a strong conceptual background including the review of literature for the study.

3.2.3 Questionnaire Design

As discussed earlier for the purpose of collection of primary data questionnaire method has been adopted in this study. Designing and constructing an questionnaire for the effective implementation is not an easy job for the researcher (Peterson, 2000)\textsuperscript{15}. It is one of the most interested and challenging tasks of conducting a research for the researcher. Questionnaire is a self administered measuring instrument although it is designed by the researcher, for obtaining data from the respondents with view to find out their attitude, opinion to answer the research objectives set earlier in the study. Questionnaires are not just used to record the responses of the respondents regarding their attitude and opinion but also are used to describe, compare, or explain individual and societal knowledge, feelings, values, preferences and behaviour (Bryman and Bell, 2007)\textsuperscript{16}. Since this study has adopted descriptive research design, participation of large number of respondents is essential to come to a conclusion at the end of the study, so the viable method for any of the social science research is the questionnaire method. This is because the questionnaire method of communication allows participation of a larger number of respondents to be targeted as questionnaires are distributed more widely to gain a broad viewpoint of the study.
This study has used both attitudinal and classification questions. Classification questions are directed to the participants of the survey with the intention to gather information on demographic and socio-economic variables (Donald Tull and Dell Hawkins, 2005)\textsuperscript{17}. The data collected through this classification consider age, gender, social class, occupation, family size and so on. To obtain certain information concerning the background of respondents these kind of classifications have to be made on the questions designed. This is essential when the data is presented for analysis, as this type of information consists of the respondents’ personal details such details are crucial in understanding; why the respondents would react to some questions when it comes to providing opinion on availing the benefit of the public service advertisements. Attitudinal questions are designed with the intention to seek opinions or rational beliefs in which people have the awareness and the opinion regarding the public service advertisements to analyze the performance or influence of public service advertisements on the attitudinal changes of the rural youths in kancheepuram district. It is highly advantageous to apply this question type where information about people’s preferences and views about the public service advertisements made or promoted or enabled for a social cause from the government and non-government organizations. Use of attitude questions allows the researcher to compare and contrast many different opinions and beliefs and assess how those attitudes and beliefs are envisioned. (Bryman and Bell, 2007)\textsuperscript{18}.

Any social science research comprises both attitudinal and classification questions, alike the above the researcher has adopted both classification and attitudinal questions while designing a questionnaire on the specific area, For the compatibility purpose the researcher has used both open ended questions and closed ended questions. Closed ended questions are purported to gain the experience the
feelings of the respondents, as the respondents are sensible and emotional. By framing an open ended questionnaire, it would give the participant an opportunity to express in detail about the questioned posed to the respondent. In other words, respondents are free to reply in their own words rather than being limited to choosing from among a set of alternatives. This definition implies that respondents have full freedom and liberty over denouncing and complimenting the opinion, resulting in enthusiasm for the researcher, as an unbiased research response is gained. But for a study which required conclusion through analysis, this is not a suggested technique, rather closed questions could be used by the researcher. In the close ended questionnaire, there are number of options for the participants to the questions asked by the researcher from which the respondents are to select one or more (Hussey, 2007)\textsuperscript{19}. This has advantages in the analysis stage as it would provide an opening in which the respondent would be able to express their opinion, allowing for a stronger correlation to be gained (King, 2004)\textsuperscript{20}. In this area of study the researcher has designed a close ended questionnaire for collecting data from the rural youths of Kanchipuram district with the objective of knowing their demographic profile and identifying how they perceive the public service advertisements.

The questionnaire also has two sections; section - 1 comprises questions that require some measure of personal details in relation to the age, gender, job or position in the organization. Section - 2 is contended with likert scale which is a tool for gathering relevant information. A likert scale is defined by Zikmund (2003)\textsuperscript{21} as “A measure of attitudes designed to allow respondents to indicate how strongly they agree or disagree with carefully constructed statements that range from very positive to very negative towards an attitudinal object”. They require the respondents to give their perspective on the various factors relating to the awareness of public service
advertisements from rural youths in kancheepuram district, based on the respondent’s awareness level, satisfaction level and the motivation level.

3.3 SAMPLING DESIGN

According to Kervin (2004)\textsuperscript{23}, “Sampling is a necessary and inescapable part of human affairs. If all possible information needed to solve a problem could be collected, there would be no need to sample. Any researcher could rarely do this, however, because of limitation on the amount one cannot afford to spend within the available time, or for other reasons. Therefore the researchers take samples”. Sampling design includes the sampling unit, sample population, sample size and the sampling method employed for identifying the potential respondents.

3.3.1 Sampling Unit and Choice of Study

The Sampling Unit is the general public of rural youths in kancheepuram district. Kancheepuram district is situated on the North East Coast of Tamil Nadu and is adjacent to Bay of Bengal and Chennai city. The district mainly relied on the agriculture sector and now as it is adjacent to the city the district is bound with many manufacturing corporations and Information Technology Parks. Good connectivity and the presence of an efficient road and rail across regions have added flair and allure industries and individuals to this district. Though the district is a neighboring district it has more rural areas and some sub-urban areas which reflect equitable development and growth in the region.

3.3.2 Sampling Population

In this study the rural youths from kancheepuram district is considered for the study, the total population according the census data of 2011 shows that the population of kancheepuram district is about 39.38 lakhs, which is about 6.76% of the
total state population and it is an established fact that the entire youth population might have some awareness about public service advertisements, but might not know the nomenclature as it has been used or realised by the people.

3.3.3 Sample size

One of the herculean tasks that a researcher needs to entrench is the confinement of sample size. The researcher needs to be meticulous in fixing the sample size on the study unit as the study unit might have finite or infinite population or sometimes the researcher could not be in a position to count. Here in this study the researcher has found through the census survey 2011 that 39.38 Lakh people were there, hence a formulae for calculating the sample has been has and is as follows.,

Sample Size Formula

\[ SS = \frac{Z^2 \times P \times (1-P)}{C^2} \]

\( Z = \) Z value (e.g. 1.96 for 95% confidence level)

\( P = \) percentage picking a choice, expressed as decimal (0.5 used for sample size needed)

\( C = \) confidence interval, expressed as decimal (e.g. 0.04 = ± 4)

Correction for finite population:

\[ \text{New } SS = \frac{SS}{1 + \frac{SS-1}{\text{POP}}} \]

\( \text{Pop} = \) population

Since the population is finite and is more than 50,000 the researcher has considered the correction factor, applying the formula of SS by substituting 1.96 for
Z, 0.5 for p and .04 for c. The sample size has been arrived as 600 based on the above population formula, which is the sample size considered for this study.

3.3.4 Sampling Technique

Sampling is the unit or a subset of the entire population to represent the whole population (Kothari, 2005). Probability sampling or random sampling is a sampling technique in which the probability of getting any particular sample may be calculated. Non probability sampling does not meet this criterion and should be used with caution. Non probability sampling techniques cannot be used to infer from the sample to the general population. The difference between non probability and probability sampling is that non probability sampling does not involve random selection and probability sampling does. Thus that means that non probability samples aren't the representative of the population. Non-probability sampling is a sampling technique where the samples are gathered in a process that does not give all the individuals in the population equal chances of being selected. But it is applied because in any form of research, true random sampling is always difficult to achieve. Most researchers are bounded by time, money and workforce and because of these limitations, it is almost impossible to randomly sample the entire population and it is often necessary to employ another sampling technique, the non-probability sampling technique. It can be used when randomization is impossible like when the population is almost limitless. The advantage of non probability sampling is its lower cost compared to probability sampling. Many researchers and analysts have drawn generalizations (e.g., propose new theory, propose policy) from the analyses through non probability sample data. So being a widely accepted phenomenon the researcher in this study has adopted probability sampling technique.
The Sampling Method that has been adopted in this study is entirely probabilistic in nature. The main reason behind this the entire and exact population size is known for the researcher and due to the difficulties in adopting non-probability sampling in the kancheepuram district finding out the general public, thereby the probability type of sampling method is adopted in this study. Under the probability sampling the researcher has adopted stratified random sampling. (Zikmund, 2003)\textsuperscript{25}. According to Fink Arlene (2003)\textsuperscript{26}, “stratified random sampling is one in which the only criterion for selecting the sampling units is the stratified of the sampler”. The researcher for the purpose for the study has used stratified random sampling method in this study to obtain information quickly and inexpensively.

### 3.4 QUESTIONNAIRE PRE-TESTING

Kervin (2004)\textsuperscript{27} articulate that the reliability of the questionnaire is concerned with the consistency of responses to the questions. The internal consistency method is used to measure the consistency of responses across either all questions or a subgroup of questions from the questionnaire. Prior to the distribution of the questionnaire, it was tested on selected sample; it is important to embark on this exercise to make sure that no questions or aspects of the questionnaire posses any problem or confuses the respondent. This forms an important part of the research methodology part. Certain faults in the content, structure and design of the questions that were not recognized when designing the questionnaire are dealt at this stage and this could make the questionnaire more potent in delivering the required results. There are three main things that should be carefully checked; flow, timing and respondent interest and attention (Fink Arlene, 2003)\textsuperscript{28}. In order to test the questionnaire designed for collecting data, the researcher had earlier issued the questionnaire among the selected youths in kancheepuram district to pre-test the questionnaire. There were no issues
confronted by the researcher and the respondents as all the respondents who took part in the pre-test could understand the questions with respect to content and intention to pursue the response from the respondents.

Another element to test was the timing. Examining the questionnaire based on the face value; some of the respondents said that the questionnaire appears too lengthy, though it was not time consuming and easy to answer as many of the respondents later certified. Also the interest and attention of the respondents were another crucial area to be tested. To keep the appeal alive, the researcher was sensitive in providing sufficient time to every respondent and attended a few sessions with them, in some cases on individual basis to make the respondent appreciate the significance of the research. After testing the questionnaire on a small sample to ensure it has been drafted in the most constructive manner, this questionnaire was then distributed to the selected sample.

The researcher has used Cronbach's alpha test as a measure of internal consistency, that is to check the questionnaire, as to how closely related a set of items are as a group. A "high" value of alpha is often used (along with substantive arguments and possibly other statistical measures) as evidence that the items measure an underlying (or latent) construct. However, a high alpha does not imply that the measure is one-dimensional (King, 2004)\textsuperscript{22}. If, in addition to measuring internal consistency, one would wish to provide evidence that the scale in question is one-dimensional, additional analyses could be performed. Exploratory factor analysis is one method of checking dimensionality. Considered technically, Cronbach's alpha is not a statistical test and it is a coefficient of reliability (or consistency). This test is used to test the consistency of the attitude questions from the respondents to check the
reliability of the questionnaire. From the pre-testing the researcher has arrived the cronbach alpha value as 0.734 for this study.

3.5 Research Hypotheses

Hypothesis is a mere assumption or some supposition or as a proposition set forth as an explanation for the occurrence of some specified group of phenomenon either asserted merely as a provisional conjecture to guide some investigation or accepted as highly probable in the light of established facts which has to be proved or disproved. Some times in research it is considered as a valid formal question which a researcher needs to solve. However it is most of the social science researchers have been using the above and here too it has been used to test the significance or relationship between two variables such as independent variables and dependents variables.

The researcher has formulated the null and alternate hypotheses, in which the null hypothesis shows there does not exists any relationship between the independent and dependent variables and the alternate hypotheses as contrast to the above. Here the researcher has only presented the null hypotheses as it implies the alternate hypotheses have been set and is as follows;

➢ There is no Relationship between the gender and inheritance from public service advertisement.

➢ There is no Relationship between age and the extent of following the public service advertisement after viewing.

➢ There is no Relationship between occupation and the extent of following the public service advertisement after viewing.
- There is no Relationship between marital status and the extent of following the public service advertisement after viewing.

- There is no Relationship between gender and responses towards public service advertisements during Television programmes

- There is no Relationship between age and responses towards public service advertisements during Television programmes

- There is no Relationship between occupation and viewing nature of the respondents regard to the public service advertisements.

- There is no Relationship between gender and reading habits of the respondents regard to the public service advertisements.

- There is no Relationship between gender and responses towards public service advertisements during Television programmes

- There is no Relationship between age and responses towards public service advertisements during Television programmes

- There is no Relationship between occupation and viewing nature of the respondents regard to the public service advertisements.

- There is no Relationship between gender and reading habits of the respondents regard to the public service advertisements.

- There is no Relationship between age and reading habits of the respondents regard to the public service advertisements
➢ There is no Relationship between gender and the extent of change in behaviour of the respondents regard to the public service advertisements.

➢ There is no Relationship between age and the extent of change in behaviour of the respondents regard to the public service advertisements.

➢ There is no Relationship between marital status and the extent of change in behaviour of the respondents regard to the public service advertisements.

➢ There is no Relationship between occupation and extent of change in behaviour of the respondents regard to the public service advertisements.

➢ There is no Relationship between the age and the option of media for public service advertisements.

➢ Correlation between Demographic Variables and the Frequency of viewing Public service Advertisement

➢ Correlation analysis of Demographic Variables and the Remembrance of the public Service Advertisements

➢ Correlation between Demographic Variables and the Impact created due to celebrity for the public service advertisements

3.6 TOOLS USED FOR ANALYSIS

The main part of the study which any of the researchers consider is the analysis and interpretation as it provides the researcher a clear picture of the attitude, feelings, behaviour and influence of public service advertisement among the rural youths in kancheepuram district. Various tools confined to descriptive analysis and statistical analysis has been used by the researcher to describe the basic features or characteristics of the data and the relation and its influences respectively. They
provide simple description about the sample and the measures. Together with simple
graphical analysis and presentation of data the descriptive analysis and interpretation
has been made respectively. Descriptive analysis is used to present quantitative
descriptions in a manageable form and statistical analysis have been used and
depicted in a simple and lucid style with the help of statistical packages for social
science research in this study and following are the description about the inferential
and statistical tools used for the purpose of data analysis.

3.6.1 Percentage Analysis

According to Walker (2007)\textsuperscript{29}, the percentage analysis is the method to
represent raw streams of data as a percentage (a part in 100 - percent) for better
understanding of collected data.

Percentage can also be used to compare the relative term, the distribution of
two or more series of data. In the major part of the analysis chapter, percentage
Analysis has been used.

Formula

\[
\frac{X \times 100}{N}
\]

In the study the sample chosen is 600. So the data collected after the survey
has been converted into percentage.

3.6.2 Analysis of variance

According to Burns (2008)\textsuperscript{30}, ANOVA is a particular form of statistical
hypothesis testing, heavily used in the analysis of experimental data. A statistical
hypothesis test is a method of making decisions using data.
A test result (calculated from the null hypothesis and the sample) is called statistically significant if it is unlikely to have occurred by chance alone. A statistically significant result (when a probability (p-value) is less than a threshold (significance level)) justifies the rejection of the null hypothesis. In the typical application of ANOVA, the null hypothesis is that all groups are simply random samples of the same population. This implies that all treatments have the same effect (perhaps none). Rejecting the null hypothesis implies that different treatments results in altered effects. By constructing the hypothesis testing limits the rate of Type - I errors and Type – II errors (false positives leading to false scientific claims) have been calculated to test the significance level of the hypothesis.

**Formula**

\[
F = \frac{nS^2}{S^2}
\]

In this study the researcher also has used ANOVA both one way and two way for the purpose of testing of the hypothesis of the study that the variation in an experiment is not greater than that due to the normal variation of individuals' characteristics and error in their measurement. The reason for doing an ANOVA is to see if there exist any differences between the groups on some variable.

### 3.6.3 Chi Square Analysis

According to Cooper (2006)\(^{31}\), chi square is a non-parametric test of statistical significance for bi-variate tabular analysis. To test the hypothesis, Chi-squared test has been used as a statistical tool in this research study. Any appropriately performed test of statistical significance lets the researcher to understand the degree of confidence that can have in accepting or rejecting a hypothesis. Also it invokes no
assumption about the form of original distribution from which the observations are made. In this method analysis has been made to test the two attributes considered as dependent or not.

Typically, the hypothesis tested with chi square is whether or not two different samples that is different enough in some characteristic or aspect of their behavior that the researcher could generalize from the samples that the populations from which the samples are drawn are also different in the behavior or characteristic. Also it invokes no assumption about the form of original distribution from which the observations are made.

**Formula**

\[ \chi^2 = \sum \frac{(o-e)^2}{e} \]

Chi-square test is used as a statistical tool in this study. In this method test is conducted to find out whether the two attributes or the variables considered are dependent or not.

**3.6.4 Correlation Analysis**

According to Kervin (2004)\(^3\), correlation, also called correlation coefficient which indicates the strength and direction of a linear relationship between two random variables. In general statistical usage, correlation or co-relation refers to the departure of two variables from independence, although correlation does not imply causation. In this broad sense there are several coefficients, measuring the degree of correlation, adapted to the nature of data. According to probability theory and statistics, a number of different coefficients are used for different situations.

Correlation analysis has been used to test the relationship of selected variables. This is done to indicate the strength and direction of a linear relationship between two
random variables. In general statistical usage, correlation or co-relation refers to the departure of two variables from independence, although correlation does not imply causation. A number of different coefficients are used for different situations. The best coefficient technique is the Karl Pearson technique which is obtained by dividing the covariance of the two variables by the product of their standard deviations.

Formula

\[ r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{n(\sum x^2) - (\sum x)^2} \sqrt{n(\sum y^2) - (\sum y)^2}} \]

3.7 SUMMARY OF THE CHAPTER

This chapter focused on all the areas which have to be implemented in order to produce an effective research methodology right from choosing the research design, deciding the type of data to be collected, hypothesis of the study to be tested and finally the type of statistical tools used to analyze the data collected through the questionnaire method. Descriptive research design is the chosen research design for this study. Primary and secondary data has been used. Questionnaire method has been adopted to collect data. Both classification and attitudinal questions are used to collect the data from the respondents using closed and open ended questionnaire type. The sampling method chosen for this study is stratified random sampling technique which is probabilistic in nature, whereby every member in the population are represented through the sampling process. The next chapter will discuss the results obtained on the field and analyze the results using tables, charts and graphs. The chapter will provide the basis for this paper as a primary and quantitative research.


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