CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

The Encyclopedia Britannica (2007) defines the term research as —careful or diligent search —studious inquiry or examination. Research involves all activities related to an investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws. Various other definitions suggested by academicians are shown in Table 4.1 below

Table 4.1 Various definitions of Research

<table>
<thead>
<tr>
<th>Author</th>
<th>Definitions</th>
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<tbody>
<tr>
<td>Fellows and Lui 2003</td>
<td>A voyage of discovery</td>
</tr>
<tr>
<td>Naoum 1998</td>
<td>An enquiry or investigation conducted in a careful, scientific and/ or critical manner</td>
</tr>
<tr>
<td>Williams et al. 1996</td>
<td>A quest for answers that involves answers and understanding, adding that it involves “methodical investigations into a subject or problem.”</td>
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The term research generally implies an appropriate process and technique, which are employed in the quest for solutions to problems or answers to questions posed in the inquiry. The investigative process often involves defining a research question and selection of the techniques that will
help to resolve the question. The credibility of the findings of any research is generally dependant on the conduct of the investigation (Williams et al. 1996).

Methodology is defined by the Encyclopedia Britannica (2007, emphasis supplied) as —A body of methods, rules, and postulates employed by a discipline, a particular procedure or set of procedures and/or —the analysis of the principles or procedures of inquiry in a particular field. The methods and procedures are the subset of methodology. The research methodology is a vital part in research process. It provides the methodological approaches used in the study, shows how appropriate the chosen techniques are, and puts forward a justification of their use over other techniques. A methodology also provides a good link between the literature reviewed and the primary data collection.

Qualitative and quantitative researches are the two main schools of research, and although they are often considered together in a study. In the current study, qualitative research was carried out to explore the behaviour of children and parents while shopping during the Onam season. The researcher talked to children and parents following observations at department stores, shopping malls, etc. to understand the pester behaviour of kids and the purchase behaviour of their parents.

Based on the observations, a questionnaire was developed for the empirical study to find out the empirical relationship between the different variables shortlisted.

4.2 RESEARCH PROCESS – STAGES

The research process involved two phases in this study as illustrated in Figure 4.1. Phase one included steps such as literature review,
finalization of objectives, and identification of variables and development of Theory. Defining the goals and objectives of a research was one of the most important steps in the research process. Clearly stated objectives provided correct direction to the research process. The process of finalizing objectives was done through an extensive literature review. The literature review provided an opportunity to build on others’ work (David S. Walonick 1993) and impart clarity to the problem to be addressed in the study.

Figure 4.1 Research Process adopted for the study

Research process adopted for this study included a set of advanced decisions that made the master plan specifying the methods and procedures for collecting and analyzing the needed information. The Research process for this study included descriptive research. The researcher also attempted to identify relationships or associations between variables under study to develop the theory to be tested in the study in this stage. In the descriptive stage the details regarding research design was finalized. The research design adopted for this study is explained in Figure 4.2.
4.3 DESCRIPTIVE RESEARCH

Having obtained some primary knowledge of the subject matter from the literature review, descriptive research was conducted. A descriptive study is more rigid, preplanned and structured, and is typically based on a large sample (Churchill and Iacobucci 2004, Hair et al. 2003, Malhotra 1999).

Descriptive research designs are basically quantitative in nature (Burns and Bush 2002, Churchill and Iacobucci 2004, Hair et al. 2003). There are two basic techniques of descriptive research namely cross-sectional and longitudinal. Cross-sectional studies collect information from a given sample of the population at only one point in time, while the latter deals with the same sample units of population over a period of time (Burns and Bush 2002; Malhotra 1999). The cross-sectional study is also referred to as a sample survey in which selected individuals are asked to respond to a set of standardized and structured questions about what they think, feel and do (Hair et al. 2003).

For the purpose of this study, a cross-sectional study was the appropriate technique as opposed to a longitudinal study for the reason the
data from different sample unit were needed to verify the relations between variables of interest in the study. The decisions regarding finalization of questionnaire, scale for marking responses, sampling design and data collection strategy were finalized at this stage.

4.4 QUESTIONNAIRE DESIGN

This step involved selecting appropriate measurement scales, question wording and content, response format and finally the sequence of questions. The literature review and preliminary study in the form of in-depth interviews with the focus group have given a clear idea of the contents to be included in the questionnaire. The stages involved in questionnaire design process is shown in Figure 4.3 below.

![Figure 4.3 Stages in Questionnaire Design](image)

The questionnaire in this study included both Open and closed – end questions where the respondents had to make their response in a 3point and 5 point Likert scale. This scale was adopted based on the below mentioned reasons (Kassim 2001):

A. It yields higher reliability coefficients with fewer items than the scales developed using other methods (Hayes 1998)
B. This scale is widely used in market research and has been extensively tested in both marketing and social science (Garland 1991).

C. It offers a high likelihood of responses that accurately reflect respondent opinion under study (Burns and Bush, 2002, Wong, 1999, Zikmund, 2000).

D. It helps to increase the spread of variance of responses, which in turn provide stronger measures of association (Aaker et al. 2000, Wong 1999)

In relation to question content and wording, the questions were designed to be short, simple and comprehensible, avoiding ambiguous, vague, estimation, generalization, leading, double barreled and presumptuous questions (Kassim 2001). Use of negative worded questions are avoided to prevent confusion to respondents in answering the questions.

The layout of the questionnaire was designed into four sections namely I, II, III and IV. Part-I consisted of general information and demographic profile of the respondents. Part-II was aimed at measuring the Kids’ decision making abilities and Purchase Behaviour. Part-III aimed to measure the level of awareness of kids and parents’ on he attributes of the product like brand, price, product promotion, etc. Part-IV aimed to understand the brands of convenient food items purchased by the respondents and the frequency of purchase of the convenient food items. This part was also intended to measure the level of perception of importance of quality, price and place aspects related to convenience food items; level of perception towards ethical marketing and unethical practices the improvement in the decision making abilities and buying behavior of kid; the perception of parents in accepting kids as an important consumer group in India; the level
of satisfaction towards the factors that influenced the buying behavior of parents and kids.

4.4.1 Pilot Study

A pilot study was conducted by collecting responses from 60 respondents to test the data collection tools and procedures and to identify and eliminate problems. Pilot testing provides an opportunity to detect and rectify a wide range of potential problems with an instrument. These problems include questions that respondents don't understand, questions that combine two or more issues in a single question (double-barreled questions), sensitive questions, etc.

In this study, some questions were deleted from first prepared set after the pilot study as these questions were found confusing by respondents. Finally, the questionnaire provided in Appendix was used for the data collection.

4.4.2 Measures used in Questionnaire

To understand the demographic profile of the respondents, questions related to Age, Gender, Qualification, Family Status and Income etc were included. Nominal scale was used to classify respondents according to gender, age group, income, family status, marital status, no. of kids, etc.

Likert scale was used to measure the influences, attitudes, awareness and preferences of the respondents that lead to observed consumer behaviours.

4.4.3 Data Collection

The data collection was done personally by meeting the respondents individually. The structured questionnaire was distributed to
respondents after meeting them and explaining them the purpose of the study. The respondents were met in the premises of schools and also at their residence. Only those who offered willingness to participate in the survey were considered. The survey was conducted during the period October 2010 to January 2011. Completed responses from 600 respondents were scrutinized and 47 incomplete responses were eliminated to get 553 usable responses.

4.5 RESEARCH PROCESS

This study has been carried out with an objective of understanding kids influence on purchase decisions with reference to Kerala. The survey was carried out in the Gods own country of Kerala. Three major districts namely, Thiruvananthapuram, the capital city of Kerala, Ernakulam (Kochi), the industrial city and Kozhikode (Calicut), the Northern part and the city with a large NRI population were selected for the study.

Further it was decided to conduct the survey among the parents of the students studying in unaided private schools which had been in the field of education for a period of minimum 10 years. As per the details of the State Government Education department Census report of 2009 conducted under the ageis of educationist, Prof. B. Hridayakumari, it has been pointed out that as many as 71 per cent of the parents belonging to upper and middle income groups as well as those belonging to Double Income groups (both parents employed) preferred to send their kids to unaided private schools in the city limits rather than to Government or Government aided schools or to unaided private schools. The study also points out that this was done mainly with a view to avoid being affected by strikes, conveyance problems and also in view of providing a good curriculum support. The researcher preferred to choose the schools in the city limits only in these three districts because of the fact that the study carried out by Hridayakumari (2009) stated that majority of
the parents in affluent families and Double income families preferred to send their kids to unaided private schools in the city limits.

As per the State Governments Education department data available (2009 June), there were as many as 52 unaided private schools in Thiruvananthapuram district, 58 in Kochi and 41 in Kozhikode which had put in a service of minimum 10 years. Of these, there were as many as 20 schools in the city limits with 10 years service in Thiruvananthapuram, 22 in Kochi and 12 in Kozhikode.

As many as 10 schools each belonging to Thiruvananthapuram, Kochi and Kozhikode were randomly chosen for the study and parents of students to whom the researcher had talked were administered the questionnaire which was finalized after the pilot survey.

As the study was aimed at understanding how parents are influenced by kids in their purchase decisions, parents were selected as respondents for the study. To find out the views and opinions of parents on the current topic, a questionnaire was designed consisting of various questions pertaining to understand the influence of the kids in purchase decisions. The respondents were parents having kids in the age group of 4 – 15 years and they were selected through Stratified random sampling method. The questionnaire was administered to them to extract the views from them. The respondents fall in different age groups and belong to various income levels.

In the three districts a pilot survey was conducted with a small sample of sixty respondents to gain firsthand information on the demographic status of the masses, their living standards, family style, parents employment status, number of kids in the family (i.e., knowledge about the kid based convenience food items available in the market). The sample size was
calculated with the help of the online resource www.surveysystem.com keeping the confidence level at 95% with 5 % confidence interval.

Based on the survey and information gained through the sources like friends, neighbours, relatives, colleagues, a sample 200 respondents (parents) each were chosen from all the three regions of the study. That was summed to total sample population of 600 respondents. At the end of data collection it was observed that 47 interview schedules were incomplete, therefore, these schedules were deducted from actual sample thus making the sample size 553. The researcher had interviewed kids in these 553 households to gather their opinion on purchase of food items and their level of pester power, but these responses were not presented in the data analysis considering their age and immaturity in replying or due to their spontaneous reaction and changes of behavioural pattern over a period of time. The study has been carried out on the lines of the aspects mentioned in the diagram given below.

**Figure 4.4 Pester Power – A Generalized Research Diagram**

### 4.6 SAMPLING METHODOLOGY

The Sampling methodology adopted in the current study was Stratified Random Sampling. In this type of sampling method, the population
is divided into certain strata and further, Simple Random sample is used within each stratum of the population.

Based on the Kerala State Government Education Census report conducted in 2009 under the aegis of educationist, Prof. B. Hridayakumari, the highest concentration of private unaided schools were in the urban areas of the State, the major areas being Thiruvananthapuram, Kochi and Kozhikode. The report also states that many parents, belonging to upper and middle income groups and those belonging to double income groups were concentrated in these districts and preferred to send their kids to unaided private schools in the city limits. Thus, the areas chosen for study were Thiruvananthapuram, Kochi and Kozhikode, which has a higher percentage of kids going to the private unaided schools.

The strata used in this research are the 3 major districts in Kerala viz., Thiruvananthapuram, Kochi and Kozhikode, which are the prominent cities in South, central and North of Kerala respectively. The idea behind using this methodology is because of the following aspects.

Stratification will always achieve greater precision provided that the strata have been chosen so that members of the same stratum are as similar as possible in respect of the characteristic of interest. The bigger the differences between the strata, the greater the gain in precision.

It is often administratively convenient to stratify a sample. Interviewers can be specifically trained to deal with a particular age-group or ethnic group, or employees in a particular industry. The results from each stratum may be of intrinsic interest and can be analyzed separately. It also ensures better coverage of the population than simple random sampling.
4.6.1 Population

The parents of kids studying in the private unaided schools that have a minimum of 10 years service in the education field. The parents were chosen for the study since children are highly vulnerable and are subject to different responses each time, which will affect the reliability of the instrument.

4.6.2 Sampling Design

The sampling design explains the definite plan for obtaining a sample from the population i.e the entire group of people whom the researcher is interested to know about. In this study the parents of the kids of the unaided private schools with 10 years of experience in the education field was the population.

4.6.3 Sampling Frame

The sampling frame consisted of parents of kids of the unaided private schools in the three districts of Thiruvananthapuram, Kochi and Kozhikode, those of which has been in the field for at least 10 years.

4.6.4 Sample Size

To determine the sample size, Sample Size Calculator developed by M/S Creative Research Systems, available at www.surveysystem.com was used. At the confidence level of 95percent and confidence interval of 5 per cent, the sample size was calculated as 384. However, the researcher used a sample size of 600 considering the possibility of invalid/ incomplete responses. 200 respondents were randomly chosen from the private unaided schools in the chosen three districts.
4.6.5 Sampling Technique

Stratified Random sampling method was adopted to collect primary data using the structured questionnaire.

4.6.6 Sampling units

The sampling units consisted of parents of kids in the age group of 4 – 15 years in the districts of Thiruvananthapuram, Kochi and Kozhikkode. The kids in this age group were considered since in the Indian scenario, a kid reaches matriculation at the age of 15 and is fully dependent on parents for the expenses during this time.

4.6.7 Data Sources

The data sources for the study were acquired from both primary and secondary data sources. The primary data were collected directly from the sample during the field survey. The secondary data were sourced from international and national journals, previous research works and websites.

4.7 DATA COLLECTION TOOL STRUCTURE

The market for kids is unique, since they can be easily influenced by external factors and thus creates greater scope for future marketers. They have a distinct niche with money, wants and needs. The advertising and television industries view market for kids as a potentially profitable market with ever-changing trends, remaining perpetually unpredictable. Keeping these basic factors in mind the interview schedule for the study was framed. Interview schedule of the study is divided into four sections.

Section I discusses the socio-economic status of the respondents. It contains details on the parent’s age, educational qualification, nature of
employment for both the parents, type of family and monthly income. Section II of the schedule gathered information about the influence of external factors on pester behaviour of kids, their decision making abilities and purchase behavior of parents towards various branded food items, their role in family decision making process, frequency of visit to the shops and the rights enjoyed by the kids in purchase of products.

Section III aimed to gather information on the level of awareness of parents and kids about convenience food items available in the market. Section IV of the study was framed to gather first hand information about monthly budget allocated for the kids, brand and frequency of purchase of convenience food items, parents’ level of perception towards the factors that they consider significant when they make the purchase decision for kids, ethical and unethical marketing practices, overall perception score on the improvement in kids’ buying behaviour in recent years, parents’ level of agreeability towards role played by kids in buying decision making process and their level of satisfaction of purchase.

4.8 TOOLS USED FOR DATA ANALYSIS

4.8.1 Analysis Strategy for the PP-PI Model

A structural equation model with all constructs used in the study was analyzed using Warp PLS 2.0 for identifying significant relations between variables of interest in the study. The term structural equation model is used to refer to both the structural and measurement model together. In a structural equation modeling (SEM) analysis, the inner model is the part of the model that describes the relationships between the latent variables considered in the model. The outer model is the part of the model that describes the relationships between the latent variables and their indicators. The inner and outer models are also frequently referred to as the structural
and measurement models, respectively. Therefore the path coefficients are inner model parameter estimates whereas weights and loading are measurement model parameter estimates depending on whether the measurement model is formative or reflective. Warp PLS 2.0 estimates enable evaluation of measurement model as well as structural model simultaneously. However when second order constructs is used, measurement model for first order constructs are to be evaluated separately.

In this study two constructs namely Pester Power and Purchase Intention are conceptualized as second order constructs. For analysis of second order constructs using Warp PLS 2.0, it is required to calculate the Latent Variable (LV) scores (factor scores) at first by creating models with latent variables and indicators without linking. These LV scores are used to define the second order construct in the final model.

The most important feature of Warp PLS 2.0 as found different from other PLS based software is the inclusion of model fit indices. For assessing the model fit with the data, it is recommended that the p values for both the Average Path Coefficient (APC) and Average R-Squared (ARS) be both lower than 0.05; that is, significant at the 0.05 level. Also it is recommended that the Average Variance Inflation Factor (AVIF) < 5.

Validity Criterion for various constructs in Warp PLS are explained in Table 4.2.
Table 4.2 Validity / Reliability guidelines in WarpPLS2.0

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Consideration</th>
<th>Reflective constructs</th>
<th>Formative constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cronbach Alpha</td>
<td>&gt; 0.7</td>
<td>NA</td>
</tr>
<tr>
<td>2</td>
<td>Composite reliability</td>
<td>&gt; 0.7</td>
<td>NA</td>
</tr>
<tr>
<td>3</td>
<td>Average Variance Extracted (AVE)</td>
<td>&gt; 0.5</td>
<td>&gt; 0.5</td>
</tr>
<tr>
<td>4</td>
<td>Convergent validity</td>
<td>P values associated with the loadings should be lower than 0.05 and the loadings should be equal to or greater than 0.5</td>
<td>VIF &lt; 5, all indicator weights should be with p &lt; 0.05</td>
</tr>
<tr>
<td>5</td>
<td>Discriminant validity</td>
<td>Square root of AVE should be higher than any of the correlations involving that latent variable</td>
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</tr>
</tbody>
</table>

As the correlations between formative indicators may be positive, negative or zero (Bollen 1984, Diamantopoulos and Winklhofer 2001), reliability as a measure of internal consistency sense is not meaningful for formative indicators (Bagozzi 1994, Hulland 1996).

Further to the above, the following analyses were carried out

  Verification of missing values
  Identification of Outliers

  Analysis of Normality: The data obtained was tested for normality in SPSS 16.0 using Kolmogorov-Smirnov test at 5 percent level of significance. The test gave a significance value of less than 0.05 for all variables, indicating that the data was not normal.

  Reliability test was conducted to check the consistency of the measurement scales. Chronbach’s alpha was found to be 0.79
using SPSS. Since this is greater than 0.7, the instrument used for data collection was considered as reliable.

Demographic classification was carried out by taking the frequencies and percentages.

Chi-square test was carried out to test the association between various factors related to kids’ decision making.

Factor analysis was carried out to determine the factors that influence purchase decisions.

Mann-Whitney U test was carried out to test the difference of perceptions/ preferences between kids and parents.

Kruskal-Wallis test was carried out to test the difference between various perceptual factors involved in purchase decisions.