4.1 Introduction

Kerlinger in his ‘Foundations of Behavioral Research defines research design as ‘a plan, structure, and strategy of investigation so conceived as to obtain answers to research questions or problems’. The plan is the complete scheme or program of the research. It includes an outline of what the investigator would do from writing the hypothesis and their operational implications to the final analysis of the data’ (Kerlinger, 1986). Aaker et al (1998) defines research design as the detailed blue print which guides a research study towards its objectives. These definitions form the backdrop for the various steps like research approaches, sampling design, questionnaire design, data collection methods and data analysis processes used in this study and are discussed in this chapter.

4.2 Research Perspective

The research methodology used in academic research takes in to consideration the research approaches used in the research studies of
similar nature in the past, the kind of research problem and the questions to be asked. There are fundamentally two research paradigms, the positivist paradigm and the phenomenological paradigm. Positivist studies focus on quantitative methods for empirical testing of formulated hypothesis (Buttery and Buttery, 1991). Data collection with relatively large samples using surveys and analysing the data using statistical tools are common in this approach. The stress here is on an objective or logical reasoning for the factors or reasons for the social phenomenon without a subjective interference from the researcher. Precision, objectivity and rigour are the guiding forces rather than experience, hunches and intuition for investigating research problems (Collis and Hussey, 2003). On the other hand, the phenomenological paradigm deals with exploration and understanding the phenomenon from the researcher’s own frame of reference.

This study, to identify the ‘Determinants of Consumer Purchase Decisions of Health Insurance in Kerala’ uses a positivist approach, relying on quantitative data collected from a large sample using structured questionnaire based survey and interviews, a structured research design and objective methods forming a cross sectional study.

4.3 Research Approach

A look at fundamental forms of research gives two approaches viz., the qualitative and quantitative forms. Quantitative research is ‘explaining phenomena by collecting numerical data that are analysed using mathematically based models, especially statistical methods’ (Mujis, 2004). This is fundamentally an objective method that calls for measurement of a phenomenon. On the other hand, Qualitative research focuses on
observations to find out underlying meanings and relationships. Methods like focus groups, depth interviews, projective techniques etc to understand factors influencing behaviour of people in particular situations are commonly used in qualitative research.

Basically, this is a quantitative study. However, during the early exploratory stages of problem formulation and development of research instruments, the concepts of qualitative research have also been incorporated.

Research designs of different types are described in academic literature including major text books on research. The commonly seen categories are exploratory research, descriptive research and causal research. The type of research design depends on the specific problem under investigation and the type of information required to understand it (Malhotra, 2007; Zikmund, 2003).

In an exploratory research, the emphasis is on finding out the general nature of the problem and associated variables that contribute to it. While descriptive research tries to describe the variables and their contributions in a research situation, causal research aims at understanding the functional relationship between different variables in the problem under study. Depending on the type adopted the methods of conducting research will vary.

Keeping aside the initial exploratory part, the study on ‘Determinants of Consumer Purchase Decisions in the Health Insurance Market’ is a descriptive research. Descriptive Research is used to make descriptions of the phenomena or the characteristics associated with a subject population: who, what, when, where and how of a topic (Cooper and Schindler, 2003). Different forms of data collection like observation methods, panels or
surveys can be used in descriptive studies. According to Cooper and Schindler (2003), correlation study to find out relationship among variables when done can be considered as a subset of descriptive study. Study of relationship among variables in the health insurance purchase decision process is also a part of this work.

**Cross-sectional Nature of the Study**

For the present study, data collection from various sources of sample populations has been done only on a single occasion and hence it has a cross sectional study nature in contrast to a longitudinal study where data from same samples are collected at different time periods. Opinions of different groups of people are taken and analysis is done to arrive at the contributing factors of purchase decisions in this case.

**4.4 Data Sources**

The present study that aims at understanding the determinants of consumer’s purchase decision of health insurance policy is structured in the manner outlined below. The study uses secondary and primary data sources.

**4.4.1 Secondary Data Sources:**

The major sources of secondary data used here are:

a) Text Books on Research Methodology, Statistics and Marketing, as listed in references.

b) Published studies in various international and national journals mostly accessed through academic databases like EBSCO, Emerald, JStore etc to get inputs related to conceptual design and literature study.
c) IndiaStat for statistical information on health insurance company performance and socio-economic information

d) Articles published in business related journals like IRDA journal and periodicals on the subject

e) News magazines and newspaper articles on health insurance, government policies, company information & published information from health insurance companies and agencies

f) Web sources for inputs on academic, industry related and government policy information

4.4.2 Primary Data Sources

The source of primary data that has been used in this study are individual respondents of the age above 18 years, who may be either consumers or non-consumers of health insurance in the state of Kerala.

Inputs from interview of a number of marketing executives of health insurance companies and insurance agents have been found relevant to the study.

Survey Research:

The data have been collected using pre-tested structured questionnaire. Structured questionnaires allow arrangement of questions in a planned sequence facilitating easy coding, analysis and interpretation of data. Individual information, awareness, attitude, perceptions, satisfaction levels, impacts of marketing activities by companies and contextual business environment were brought under the purview of the study.
Different ways of administering survey method are possible. The mode of administration could be: telephonic personal interviews, by postal mails or using internet. The last two have much less response rate. A survey response rate of 25% is considered satisfactory (Clark et al. 2010). However, to get better response to survey, the study has been done by personally meeting the respondents in most cases. The purpose and nature of study were informed to the respondents and confidentiality of gathered information was assured. Substitution was done in case of non-availability of respondents.

4.4.3 Sampling Plan

4.4.3.1 Geographical coverage:

After independence of India in 1947, the three geographical regions of Travancore, Cochin and Malabar were combined to form the state of Kerala on 1st November 1956. The state of Kerala has a population of 33.4 million as per 2011 census and has been divided into 14 districts. The districts are normally grouped in to the three regions as: Trivandrum, Kollam, Alleppey, Pathanamthitta, Kottayam and Idukki in south Kerala; Ernakulam, Thrissur and Palakkad in central Kerala and Malappuram, Kozhikode, Wayanad, Kannur and Kasargod in northern Kerala (Districts of Kerala, 2009). Though religious composition and cultural practices in these regions vary in view of historical factors, educationally and in terms of social development they are similar. The state became 100% literate state in 1991 and is rated high in HDI comparable to western countries.
Table 4.1. Details of Population and Sample Size

<table>
<thead>
<tr>
<th>Districts</th>
<th>South Kerala</th>
<th>Central Kerala</th>
<th>North Kerala</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trivandrum, Kollam, Alleppey, Pathanamthitta, Kottayam, Idukki</td>
<td>Ernakulam, Thrissur and Palakkad</td>
<td>Malappuram, Kozhikode, Wayanad, Kannur, Kasargod</td>
</tr>
<tr>
<td>Region’s Voters</td>
<td>9011648</td>
<td>6400901</td>
<td>7735326</td>
</tr>
<tr>
<td>District selected</td>
<td>Kottayam</td>
<td>Ernakulam</td>
<td>Kozhikkode</td>
</tr>
<tr>
<td>Constituency</td>
<td>Changanacherry</td>
<td>Ernakulam</td>
<td>Kozhikkode North</td>
</tr>
<tr>
<td>Constituency’s Voters</td>
<td>148860</td>
<td>135516</td>
<td>149890</td>
</tr>
<tr>
<td>Sample Size</td>
<td>240</td>
<td>171</td>
<td>206</td>
</tr>
</tbody>
</table>

Source: Voters list as of 2009, extracted from www.keralaassembly.org

4.4.3.2 Population of the study

The universe of a study is defined in Research Methodology as the total of the items or units in a study while the term population refers to the total of items about which information is desired. India follows a democratic system of administration with universal franchise and every individual above the age of 18 is an eligible voter. Therefore, the population frame of the study is taken as the electoral list published by the Chief Electoral Officer of the state of Kerala, as of 2009. The total number of voters in the state based on this list is 23147875. The regional break-up of the list is, south: 9011648, central: 6400901 and north: 7735326.

4.4.3.3 Unit of Study

The units of study (sampling elements) of consumers are individuals above the age of 18 years, who are included in the electoral list of the state. The terms customer and consumer have been used interchangeably in the study. Marketing executives as representative of the organization and agents as mediators are also taken for the study.
4.4.3.4 Sampling Method:

Since a defined population is available and it is desired to give equal opportunity for all respondents from all regions, this study uses multi stage random sampling as the method of sampling. Of the three regions, randomly one district each is selected. Further, one legislative constituency is selected randomly and respondents are selected on a random basis using the electoral list of the constituency. Substitution was done in case of non-availability.

The selection of districts from the regions resulted in identifying Kottayam, Ernakulam and Kozhikode districts. From these districts, Changanacherry, Ernakulam and Kozhikode North were selected as the constituencies from which data collection was to be done. The voters’ population in these constituencies as per list are: 148860, 135516 and 149890 respectively.

Judgment sampling methods was used for choosing marketing executives and agents of health insurance.

4.4.3.5 Sample size:

This study considered several statements to assess the various components in the study variable. Since the population for this study is infinite, for an assumed level of 5% error in estimates of means of these responses, using the information on variance from the pilot study, sample size was obtained based on each response.

If ‘n’ is the sample size, ‘s’ is the estimate of standard deviation and ‘d’ is the estimate of error under the assumption of 5% error in estimate and the critical value from Normal test at 5% level of significance is 1.96, then

\[ n = \left( \frac{1.96 \times s}{d} \right)^2 \]
The sample size of 610 is the maximum among the sample sizes obtained from responses for all the statements.

The total size of the sample taken for study of consumer/non consumers is 617, and data was collected from respondents in proportion to the total population of the region, detailed earlier. Thus, data was collected from 240 respondents in Changanacherry, 171 from Ernakulam and 206 from Kozhikode North.

Thirty five marketing executives and thirty insurance agents were also taken for the study.

4.4.4 Data Collection Method

Data was collected using a structured questionnaire based on literature study. The questionnaires were delivered in person to the respondents to ensure better response rate and completed questionnaires were collected, providing opportunity for the respondents to clarify any point.

4.4.4.1 Research Instrument: Questionnaire

The survey instrument questionnaire was designed and developed after an extensive literature review, discussions with academic experts and discussions with managers of insurance companies dealing with health insurance products. In order to develop the questionnaire, the literature survey covered areas like consumer purchase decision process, consumer awareness, consumer attitudes, satisfaction and how satisfaction affects purchase decisions, influence of service quality on satisfaction and purchase, decision making in insurance in general and health insurance in particular, impact of marketing activities on consumer decision, contribution of brand image in consumer choice of service provider, social trends,
government policies on health insurance etc. A number of websites were referred to get information on current market trends. Publications like IRDA Journal provided very relevant information. Trends in hospitalization and cost, different schemes, changing life styles and its impact on health and diseases, consumer perception of risk and risk mitigation etc were mostly obtained from various web sources.

### 4.4.4.2 Reliability and Validity of the Research Instrument Used

Reliability and Validity are the two main criteria to measure the goodness of the measures used in a research instrument. Testing Reliability is necessary, but is not sufficient for the validity of an instrument.

Content Validity – the Validity of the questionnaire, whether the questions measure what it is intended to measure was tested through prima facie verification, literature review, discussions with experts, pilot testing and subsequent factor analysis and suitable modifications incorporated. Checking the reliability of the questionnaire is essential for any type of data collection. Chronbach Alpha is a measure of reliability based on the internal consistency of the constructs used. Reliability has been tested after data collection using Chronbach’s Alpha. Post data collection, each of these variables were tested for the suitability of questions to measure the intended behaviour using Chronbach’s Alpha test. According to Liu and Zumbo (2007) and Pallant (2005), a Chronbach’s Alpha of 0.70 and above is acceptable reliability co-efficient, while some researchers consider a Chronbach’s Alpha value above 0.6 to be satisfactory.

Using the data obtained from the pilot study, a reliability analysis using the classical Cronbach Alpha Model for reliability was attempted. The procedure starts with all statements considered and sequentially eliminating
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statements whose elimination may improve the Alpha. The procedure ends when there is no more improvement. From a set of 64 statements, when 10 statements get deleted in this way, the summated scale was set to use the remaining statements which provide a reliability coefficient of 0.905. The current reliability with all these variables is 0.905 and it is observed that this value cannot be improved by deletion of some variables.

4.5 Pre-Testing Using Factor Analysis

The survey questionnaire was pilot tested with a total of 70 respondents from major constituent groups providing diversity to the pilot test sample. The initial questionnaire had two parts, with the first section having 25 questions to collect demographic information, reasons for purchase, medical history, health insurance preferences etc. This section of the questionnaire covered basic demographic data regarding the respondent including age group, gender, education, employment, monthly income, monthly medical expenses etc. Further information on health insurance was sought, like source of funds for health related expenses, source of information about health insurance, status of health insurance coverage, claim history etc. The questionnaire further moves on to find out respondent’s reasons why health insurance is necessary and what are the reasons he feels for people not taking health insurance cover. The factors which are considered important while selecting a health insurance provider and the respondent’s ranking of major health insurance providers from a selected list (based on responses in pilot study) with opportunity to add a provider if the same is not included in the list, followed. This part of the questionnaire also attempts to find out the purchase intention (renewal in the case of existing policy holders) and possibility of switching in case of
poor service. Most of the questions in the first section are given as choice from a list provided.

Factor Analysis using Principal Component Analysis and Rotation Method (Varimax with Kaiser Normalization) was carried out for the data collected from the pilot study. The analysis of the questionnaire data resulted in identifying three major factors, viz., personal factors, marketing factors and social factors. Thus, the final questionnaire used for the complete sample of 617 respondents had 54 questions in the second section, of which, 20 items were under personal factors, 18 under marketing factors and 16 under social factors. The first section was retained.

On the basis of the outcome of pilot study and factor analysis, a model was proposed with the three factors described above.

**Fig. 4.1 Proposed Model of Consumer Purchase Decision**

**Questions Related to Personal Factors Influencing Consumer Purchase Decision**

Based on the study of literature and discussions with the marketing executives of several health insurance marketing companies, it was found that a number of factors relating to the personal knowledge, attitudes, motivation and satisfaction of the consumer contributed to favourable or
non-favourable decision towards health insurance purchase. In personal factors, consumer’ awareness is measured using six questions checking awareness of provider companies, benefits, schemes, exclusions, cost of premium and claim procedures. Consumer’s attitude towards health insurance, whether it can reduce risk, provide a sense of security, advantage of taking health insurance at a younger age, sense of security provided to family etc are covered in this part. Ease of the process of taking health insurance policy, process of claim and settlement, response to queries etc form the satisfaction part of the personal factors that contribute to purchase decision making process.

Questions Related to Marketing Factors Influencing Consumer Purchase Decision

The Marketing factors that contribute to purchase decision making mostly focuses on the 7P approach, where the three ‘P’ s of People, Processes and Physical Evidences are added to the original four ‘P’ s of Product, Price, Place and Promotion to adapt to the services marketing context and the impact of Brand. The schemes offered, benefits offered by schemes like domiciliary treatment cover, schemes to suit different category of clients, coverage of critical illnesses, the rate of premium, benefits of the schemes to consumers, the returns for the investment made, availability of agents or officials to provide policy related information, persuasion and guidance from agents, information and content value of brochures, fliers and literate, renewal intimations, new product information, brand image perception, role of brand name in decision making, etc. Consumer’s opinion is also sought on whether marketing efforts taken by companies really impact purchase decision.
Questions Related to Social Factors Influencing Consumer Purchase Decision

The health insurance market environment is changing and several factors contribute to this positive change. The rising social awareness in matters related to health care is visible in Kerala. Added to that is the realization that health insurance cover is a good option. The various schemes introduced by the government, mostly intended for lower sections of the society are being observed by the non-beneficiaries. The impact of all these add to social awareness and therefore questions are included from these areas. Recently, especially after the arrival of international health insurance providers, a variety of schemes are available in the market, often tailor made to specific customer groups. Competition between providers has helped in developing consumer oriented schemes. The changing food habits and sedate life style have increased the incidences of major health problems. This is compounded by stress, mostly originating at work place or due to work-family balance issues. Thus increasing risk factors have been noticed by the society and hence included in the questionnaire. Post liberalization, the governments at centre and state are gradually coming out of medical care other than primary sectors. Consumers, especially from middle and upper class of society are moving towards private health care, and this is costly. Experience of people who have met with accidents, major illness resulting in hospitalisation and own experiences are prompting consumers to look for some form of protection and health insurance is generally agreed to be one of the major ways. Therefore, the contribution of the rising cost of healthcare in decision making process finds a place in the questionnaire used to study factors contributing to purchase decision making in health insurance market.
4.6 Data Coding and Tabulation

The data collected were edited for useful responses and incomplete ones have been discarded. Where minor clarifications only were required, the respondents were contacted over phone and information recorded. Coding has been done by identifying and denoting a numerical to the responses given by a respondent, to facilitate quantification and statistical analysis.

4.7 Statistical Analysis

The primary data collected were coded and tabulated using MS Office-Excel and analysis conducted using IBM PASW Statistics (SPSS). Weighted means, Cross tabulations, Chi-Square tests, independent sample-t test, one way ANOVA and Log-linear multinomial model have been used for conducting analysis at different parts of the study as called for.

Discriminant Analysis is done to find out the ability of the three factors – personal, marketing and social – individually and collectively in discriminating an insurance buyer to a non buyer. The discriminant analysis results can be used to describe each group in terms of its profile, using the group means of the predictor variables. These group means are called centroids. ‘Functions at Group Centroid’ indicates the average discriminant score in the two groups.
4.8 Conclusion

This chapter describes the basic approach adopted in conducting the study ‘Determinants of Consumer Purchase Decisions of Health Insurance in Kerala’ and the research methodology used. The details related to the research approaches used, sources of data, methods of sampling, description of the research instruments employed and analysis tools have been explained. Effort to conduct a systematic and scientific study in the selected topic is made here, adopting established principles of marketing research.

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