CHAPTER FIVE

RESEARCH METHODOLOGY

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This chapter details the step-by-step methodology devolved for this research. The chapter covers all aspects of the method, from the model adopted for the research to the methodology for the data analysis.

A. Guideline For Research

The model developed by Engel, Blackwell and Miniard (EBM model hereafter) is a modified version of the Engel, David T. Kollat, and Blackwell model of 1968. According to them, decision process strategies can be considered to be a continuum which is based on the extent of active reasoning underlying the behavior.[1]

The study broadly follows the EBM model since it is only in such a process that the decision is taken under the conditions of expenditure of considerable time and effort. Given below is a brief description of the same. **Figure 5.1 in Annexure A depicts the flow chart of this model in detail.** The primary variables are listed in colored boxes. Where one influences another directly, a solid arrow represents this. When there is a feedback effect, it is represented by a dotted arrow.

In the model, decision process begins with the recognition of a *perceived problem*. This perceived problem has to be overcome by reaching the *desired* state of affairs. Problem could have been triggered by : i)Individual characteristics of the consumer, ii)Social influences, and iii)Situational influences. Once a problem is recognized, the individual must then decide what course of action has to be taken. The initial step is to *search* her/his memory to determine whether enough knowledge exists about alternatives. If enough is not known, then a concentrated effort is put into knowing all the alternatives that are available. Once search has proceeded to the point where something is known about alternatives, there must be an *evaluation* of these alternatives. *Search* and *alternative evaluation* take place more or less simultaneously.

The effect of *information processing* begins with the formation or change in *beliefs* about the product or brand, followed by a shift in *attitude* toward the act of purchasing that alternative. All things being equal, this leads to an *intention* to act consistent with attitude and finally to *purchase*.

Beliefs can be shaped by an individual's motives, personality and life-style. Furthermore, social influence often enters at this stage to make some attributes more important than others. Once beliefs have been changed, attitudes toward the act of purchase also will change, all things being equal. If the brand is perceived as meeting the specifications the buyer considers important, it is probable that a favorable evaluation will follow, as will formation of an intention to act. Social and situational factors may sometimes have a strong effect on intentions, however, in the form of conflict within the family, a sudden drop in income, or any such factors.

In the information processing stage, active processing starts on being exposed to

alternative offers. *Exposure* though does not necessarily imply that *attention* would be attracted;since this is most likely to occur when the message and its content has *pertinence* for the individual. Once attention is attracted though, the message is understood and processed accordingly the individual perceives the message. If the *perception* changes the *attitudes* and *beliefs* of the consumer then *yielding* or *acceptance* will occur. And thence the message is *retained* in memory. The opposite could occur at any of the stages mentioned above if there is any incompatibility with the beliefs, attitudes of the consumer.

Although, the various stages in the decision process could lead to the ultimate purchase of the product, the process is far from terminated. On purchase, the consumer would compare the performance against expectations. S/he would be *satisfied* if performance matches expectations otherwise would be *dis-satisfied.* Satisfaction leads to a further strengthening of favorable brand beliefs and attitudes, whereas dis-satisfaction can have the opposite effect.

B. Sampling Methodology

Since the object of the research was to analyze the buying behavior of consumers, it follows that the household is the sampling unit for the research. In order to select the sampling units, it was decided that a two stage sampling process would be appropriate. The rationale for this decision was because: the object of studying the behavior of consumers was within the framework of the characteristics of the region, that is, the rural and the urban. Therefore, sampling methodology would initially have to evolve a method for the stratification of the regions, and subsequently, evolve a method for sampling the households. Hence, in the first stage, the regions were stratified; and in the second stage stratification was devised to sample households.

1. First Stage Sampling

The rural and the urban regions have been stratified separately. The reasons for the separate stratification are because of the differences between the two regions, which have been already discussed. In order to identify a region as either "rural" or "urban", the research has employed the definition of the Census of India, 1981. Note 5.1 in Annexure A describes the definition employed in the 1981 Census for defining a given region as either "rural" or "urban".

(i) Rural Stratification

It may be recalled that changes in the rural region, or for that matter in any region, was considered to occur in a continuum. Moreover, changes in the rural

regions were concluded to fall in either of three categories. The three categories were concluded from the point of view of simplifying the differing stages of change occurring in the rural region. The three categories were described to be as : 1) those regions which are engulfed by the changes in the urban regions, 2) those that are yet to be swept by the changes in the urban areas, that is, those that are traditionally rural, and 3) those in the twilight zone, that are those which have begun to experience the winds of change but at the same time neither traditionally rural.

Hence, it was decided that stratification methodology would be so devolved as to reflect these conclusions, and therefore be a true representative of the "rural" region. The need to view economic development as a tool for inculcating the values of changes has also been stressed. **Hence, it was decided that certain development factors would be employed in order to stratify the rural regions, such that there is a complete representation of the characteristics of this region. Hence, it was devolved that the targeted states would be divided into three zones on the basis of its relative development when compared against the state average: 1) zones that are above the state average, 2) zones below the state average, and 3) zones which are at par with the state average.**

Initially, it was decided that the districts would be the basis for the formation of these three zones. But, it was modified to evaluation of the talukas, since the districts were considered to be segregated largely for improving the administrative efficiency, rather than the similarity of the different regions within a district on its' level of development. Stratification of the rural region was thus devolved to a stratification the talukas of a state on the basis of its level of development on certain socio-economic factors. A composite index was computed on the basis of these socio-economic factors, which was the tool for stratification. This index was compared to the state average and the levels of development of each taluk thereby determined.

(a) Variables Employed for Stratification

The socio-economic factors that were employed for stratification of the talukas were : i) Literacy rate of the taluka, ii) Percentage of main workers to total population of the taluka, iii) Percentages of villages with power supply, iv) Number of banks per 1000 residents, and v) Percentage of urban population to total population.

(b) Index Composition

The composite index was computed through the summation of the weighted score of each of the socio-economic factors. The weightage assigned to each of the components of the index, was: thirty percent to proportion of literate person, i.e., the literacy rate, twenty percent each to the proportion of main workers to total

population, proportion of villages with power supply, and number of banks per 1000 residents. Ten percent weightage was assigned to the proportion of urban population to the total population.

(c) Rationale for the Index

The rationale for the choice of the indicators and the weightage assigned follows : Development can be considered to be an indicator of the receptivity to change, as stressed repeatedly. In fact, development can be viewed as a type of social change in which new ideas and innovations are introduced and built into a social system in order to enhance the well-being of the whole society. Moreover, purchase and usage of a product can be viewed in the context of adopting an innovation, for, an innovation is defined as some phenomena which are perceived as new by a particular individual or population.[2] Therefore, in order that change and innovations, though primarily change, since innovations imply changes, be assimilated into the social system, it is imperative that the populace be equipped such that, they are in a position to be aware of the changes that are taking place elsewhere, and evaluate whether such changes are needed in their society as well. This implicates that the populace be equipped such that the horizons are expanded while at the same time the enhanced communicative abilities shrink the world for the society as a whole. The minimal criterion for such an ideal situation to continuously occur is that the population be literate. Literacy creates an opportunity for the betterment of the society as well as the individual, since channels of communication are wider and as a consequence opportunities presented also widen. Hence, the study stresses the importance of literacy by not only selecting it as an indicator of development, but also according it the highest wieghtage.

It needs to be cautioned that the definition employed here is similar to that followed by the Census of India 1981.[3] The Census employs the following definition, "a person who can read and write with understanding in any language is taken to be as literate. A person who can merely read but cannot write, is not literate. It is not necessary that a person who is literate should have received any formal education or should have passed any minimum educational standard". This definition clearly indicates that a person is declared "literate" if s/he has this minimal education. Hence, the employment of this factor in the index indicates that the object of the index is to define a minimal requirement in education levels for accepting changes in the society.

The importance of income especially when purchase decisions of durable products are to be studied cannot be over emphasized; while at the same time, it needs to be stressed that income is not very important in even product purchase. This is clearly borne out by the NCAER study,[4] which states that all people above the line of subsistence purchase products, even durable products. Hence, although the intention of including the income factor is clear enough, it had to be borne that it is not an all important factor. Therefore, in calculating the index, the object of an indicator which would serve these twin purposes had to be reflected. With this view, the proportion of main workers to

total population was selected in lieu of income. According to the Census of India 1981,[5] main worker has been defined as those employed for at least a period of 270 days out of 365 days. This definition once again illustrates that the intention of the index is to build a minimal criterion. Since, income though important, was not deemed to be as important in product purchases, it was decided that the index would not assign it as much importance as literacy rate, and therefore it was assigned a weightage of twenty percent.

Infrastructural development is the primary need of any region; since, it is only on the availability of adequate infrastructure that the development of the region can be facilitated. Therefore, adequate supply of power, accessibility of the region through either rail or road is the basic need for the growth and development of the region. In this analysis, the proportion of availability of power among the total number of villages of the talukas is assessed. Secondly, the availability of power was employed as a criterion, since the products under study were in the majority of cases power-driven. Consequently, the proportion of villages with power supply was once more a minimal criterion for assessing the talukas. This variable was also deemed to be as important as the main worker proportion, since it was indicative of the level of the infrastructural development of the village, an infrastructure which is an important factor in determining the potential of further development of an area. Hence, this variable was also assigned a weightage of twenty percent.

Another equally important infrastructure is the availability of banks in the region. Accessibility to banks is important not only for the credit that banks are enjoined to make available to the farm sector, but also for the ease with which the residents can make their savings. Therefore, this infrastructure facility of a region was also assessed by assigning it a weightage of twenty percent.

Innovations are generally considered to be continuously occurring in the urban regions. Contact with the urban regions facilitates the flow of information and consequently diffusion of innovations is accelerated. The need for innovations has already been covered. What needs to be stressed is the diffusion of it. Although mass media vehicles are considered to be effective means of diffusing innovations, which again therefore stresses the need of a literate population, the impact of urbanization nevertheless cannot be ignored. It is generally considered that innovations diffuse at a faster rate when the population is hetrophilous in nature.[6] Urban populations are considered to be hetrophilous while rural regions are considered to be homophilous. The differences in the nature of both the populations indicate that innovations could diffuse when there is a greater contact between the rural and the urban regions, to the benefit of the rural regions. Therefore, the proximity to urban regions increases the chances of a rural region being aware of an innovation and thereafter evaluating whether to accept it or reject it. Thence, with an objective of evaluating the proximity and the urbanization of the region, the proportion of urban population was evaluated by assigning it a weightage of ten percent.

(d) Outcome of Stratification

Tables' 5.1 and 5.2 details the status of each of the taluka in the two targeted states. Note 5.2 details the methodology of segregating the talukas. The tables and the note are presented in Annexure A.

In Gujarat state, there are one hundred and eighty-four taluks in nineteen districts. The state average for the relative development index worked out to be 35.844. As mentioned, the taluks were segregated into three different levels of development. The range for below state average development worked to be between 11.9828 and 25.7550; the range for state average development worked to be between 25.7551 and 39.5273; and the range for above state average development worked to be between 39.5274 and 53.2996. Thirty-three talukas, that is 17.93 percent fall under the below state average criteria; 92 taluks which are at the level of the state average, that is 50 percent of the talukas are at this stage; and the rest of the 59 talukas are above the state average, that is, 32.06 percent of the talukas.

In Kerala state, there are fifty-eight taluks in thirteen districts. The state average for the relative development index worked out to be 48.1408. As mentioned, the talukas were segregated into three different levels of development. The range for below state average development worked to be between 41.7070 and 46.4671; the range for state average development worked to be between 46.4672 and 51.2273; and the range for above state average development worked to be between 51.2274 and 55.9875. There are a total of 18 taluks, that is 31.03 percent talukas which fall under the below state average criteria; 31 taluks which are at the level of the state average, that is 53.45 percent of the talukas are at this stage; and the rest of the 9 talukas are above the state average, that is, 15.52 percent of the talukas.

(ii) Urban Stratification

Urban areas too cannot be considered to be "urban" to a uniform extent. Areas are generally delineated as either "rural" or "urban" on the basis of population density. Likewise, the urban areas are also delineated into various classes by their population density.[7] The Census of India delineates urban areas into six broad classes. **Note 5.1 describes these classes.**

The study has sampled from among only those urban areas which fall into the category of Class I, II, and III. It was deemed that the other classes of towns would probably not be much distinguishable, especially in the socio-cultural context, from villages which fall under the taluks which are above the average state average in their relative development index. Since, the study was to distinguish the rural behavior from the urban, it was therefore necessary that households be surveyed from such urban areas which are clearly "urban". Therefore, the decision for the choice of these three

classes was found to be in favor with the objective of the research.

Tables' 5.3 and 5.4 in Annexure A give details of the various classes of towns in each district of the two states. In Gujarat, there are a total of 211 towns. Of which, there are 5, 19, and 42 towns in Class I, II, and III respectively. In Kerala, there are a total of 105 towns. Of which, there are 9, 4, and 14 towns in Class I,II, and III respectively.

2. Second Stage Sampling

In the second stage the target households were identified. The identified target households were those which have a per capita monthly consumption of at least Rs.200/. The 32nd.(1977- 78), 38th.(1983), and 42nd.(1986-87) rounds of the National Sample Survey(NSS) formed the basis for the identification of the households. The results of these three rounds were analyzed for the rural and urban households on the all-India, Gujarat, and Kerala.

The NSS periodically carries out a survey on the consumption pattern of the consumers in the rural and urban areas. The consumption is broken down into broad groups of items falling in the food and non-food categories. The NSS data distinguishes the non-food category into six broad groups of items. These are : i) Pan, tobacco, and intoxicants; ii) Fuel & light, iii) Clothing, iv) Footwear, v) Miscellaneous goods and services which includes items such as education and health; and vi) Durable goods. Since this study pertains to the durable products group, the NSS data was analyzed for the consumption break up in the non-food sector.

Tables' 5.5, 5.6, and 5.7 details the percentage expenditure of these broad groups of items as well as the percentage expenditure of the food category as a percentage of the total expenditure on non-food category. The analysis that follows is on the basis of the results of these three tables.

In the 32nd round which was conducted from June 1977 to July 1978, it is observed that as the per captia monthly expenditure increases the importance of spending only on food items decreases. This is found to be true among all households irrespective of the region, or state.

It is observed that on an average in rural India, with the increase in the expenditure, the weightage of the durable goods expenditure increases. In fact, in the per capita monthly expenditure class of Rs. 200 and above, it is observed that the expense incurred on durable goods are the highest among the non-food items. Similar is the trend in the rural households of Kerala. In rural Gujarat, although the trend of spending more on durable goods is visible, the importance of this group of items is not the same as that observed on an average in rural India or rural Kerala.

Although a similar trend of a greater expenditure on durable goods is observed among the urban households too, there is a greater expenditure on this group, only when the expenditure is above Rs.300 per month, and not Rs. 200 as in the rural areas. Similar trend is observable in the urban households of Kerala. The analysis of urban Gujarat for the per capita expenditure of above Rs.300 could not be carried since there is no such data available. What is observed in urban Gujarat is that, the households with per capita expenditure of more than Rs.200 places the greatest emphasis on durable goods .But another factor that is equally important is, that in urban India lower expenditure classes place more emphasis on spending on durable goods than the residents of rural India in the same per capita expenditure class. This moreover has been noted among the households of both the states. Therefore, it could be surmised that while the urban households place importance on purchase of durable goods, irrespective of their total expenditure, the rural households emphasize purchase of durable goods, to a lesser extent than the urban; and the rural households place a greater emphasis than the urban only when their expenditure exceeds Rs.200 per month per person.

In the 38th round of the NSS, data on consumption pattern was again collected. This was done beginning January 1983 to December 1983. The changes in the expenditure pattern were not as marked as in the 32nd round. But, the same trend of spending relatively more on non-food items was again observed across the expenditure classes for all the regions be it on an all-India basis or any of the two states. Although, there were improvements in the spending on durable goods as a percentage of the total non-food expenditure, the emphasis placed was not at par as that observed in the 32nd round. Nevertheless, a trend observable in this round, was that of the rural regions spending more on durable products in almost every per capita monthly expenditure class than their urban counterparts falling in the same expenditure category, irrespective of whether the state was Gujarat or Kerala, or whether the rural and urban counterparts of India as a whole was compared.

The 42nd round of the NSS carried out a consumption survey again. This survey was conducted from June 1986-July 1987. The trend of spending less on food items as a percentage of the spending on non-food item was preserved in this year too. Similar to the 38th round, in this round too, the emphasis was not as marked on the importance of expenditure on durable goods. Moreover, the trend among the rural consumers to spend more on durable goods in almost every per capita expenditure class was noted on an average among the rural households of the whole country. The rural households of Gujarat as compared to urban households of this state, spent more than their urban counterparts, excepting though, those households who had a per-capita expenditure exceeding Rs.300 on a monthly basis. In Kerala, all rural consumers spending more than Rs.100 on a per capita monthly basis, spent more on durable goods than their urban counterparts.

Over the decade, beginning July 1978 to July 1987, there has been a reduction of expenditure being allocated to the purchase of durable products, as a percentage of the

total expenditure on non-food items. But nonetheless it emerges that, those rural households who spend at least Rs.200 per month spend about six to eight percent of their expenditure on durable goods, taking both the states into consideration and as well as on an all-India basis, while on the other hand their urban counterparts spend about two to six percent, taking both the states into consideration and as well as on an all-India basis. Therefore, it clearly indicates that although the importance of expenditure on durable goods has decreased, in the decade, when compared with the expenditures on other non-food items, the rural households have on an average been spending more on durable goods than their urban counterparts. This observation is especially true for households who spend at least Rs. 200 per month per person. This therefore, was the method employed, to arrive at the decision on the target households of the survey, which were those households having a per capita expenditure exceeding Rs.200 per month per person.

C. Choice Of Sample Size

While working out a sample size for the survey, the following constraints had to be considered : i) The population size was unknown i.e. the size of population having a per capita monthly consumption of at least Rs.200 was not known, ii) Since, the research was being carried out for the behavioral aspects involved in buying decisions, the sample had to be worked out on the basis of the sample proportion, and iii) The research was examining the presence and the level of attributes(p) among the respondents, for which no prior information was available, i.e., the attribute had to be assigned a value of fifty percent so that the sample would be large enough to provide the desired confidence interval no matter what the real value of p might be.

Given all these constraints, it was decided to adopt the methodology enumerated by George Kress,[8] since that methodology accommodated all these constraints before arriving at a sample size.

Ninety-five percent confidence interval of with six percent was decided upon, since the sample had to be worked out in a manner which would consider the restraint imposed on the research due to a single researcher attempting to get at the volume of data within a set time frame. Under such circumstances, the standard error of the proportion(s_p) worked out to be :

$$1.96\, s_p = 0.06$$

$$s_p = \frac{0.06}{1.96}$$

$$= 3.06$$

$$n = \frac{(p)(q)}{(3.06)^2}$$

$$n = \frac{2500}{9.4}$$

$$= 266.$$

The sample size arrived at was 266 households for each state, i.e., 266 households in the state of Gujarat and 266 households in the state of Kerala. This sample was divided equally among the urban and rural regions of the state. Ultimately therefore, the sample size worked out to be 133 households in each of the four locations viz. Gujarat-Rural, Kerala-Rural, Gujarat-Urban, and Kerala-Urban. Table 5.8 in Appendix A gives a pictorial presentation of the distribution of the sample households in the four locations.

D. Design of Data Collection

1. Product Choice

Products were chosen from the five categories, already mentioned. Twenty-six products were chosen from among these classes. The list of products chosen is given in Note 5.3 of Appendix A.

2. Interview-Schedule

Initially, it was decided that a questionnaire would be used to collect data, but this was foregone in favor of an interview schedule. The advisability of employing a self-administered was not sound, especially in the rural areas, since the reliability of the information so collected would then be completely dependent on the extent to which the respondents have understood the question. In order to plug such loopholes in the survey, the interview schedule was found to be a more reliable and appropriate instrument to collect information form the respondents, since the interaction with them would give considerable room for explaining the questions.

In order to test the schedule and to refine it if necessary, a pilot survey was carried out, with a convenient sample size of 120 respondents, divided equally among the rural and urban regions of both the states. The interview of the Male Household Head(MHH) was to be taken, and only in his absence was the interview of the Female Household Head (FHH) was to be conducted.

The schedule had 20 questions in all, and except for three questions all the rest was coded for direct input into the computer. The interview-schedule employed for data collection in the final survey is included in Annexure A, and therefore not detailed here.

3. Pilot Survey

The pilot study was first conducted in the state of Gujarat. For this purpose the schedule was translated into Gujarati, the language of the people of Gujarat. Four villages belonging to the three strata and three urban centers, one each of the three categories of town was visited for data collection. A random sample of the houses was not possible, since that would have been time consuming. Therefore, houses were chosen at the convenience of the researcher. The thirty houses of the rural and the thirty houses of the urban were evenly distributed among the three strata of the respective regions. It was found that a single interview took at the most one hour and a half.

Similarly, the data collection for the state of Kerala was carried out. In this case too, three villages and three towns were visited; the number of households surveyed in each stratum of the urban and rural was evenly distributed; and the households surveyed was at the convenience of the researcher; although the schedule was not translated into Malayalam, the language of the people of Kerala.

Database was created on a Personal Computer AT using DBASE software. Subsequently, the percentage tabulations and t-tests were run with the help of SPSS software package. Statistical analyses were performed individually for each of the products, since the volume of data was relatively small.

The major conclusions with regard to the behavioral differences/similarities of the rural vis-a-vis the urban consumer, from the pilot study were:

a) There was no discernible buying process evident in the purchase of two products, namely, torch light and alarm clock. The purchase of these two products could therefore be considered to be a part of the routine problem solving, as described by Engel et.al..[9]

b) In most households, cupboards were not purchased, since they were using cupboards that were built into the walls of the house. In those few houses where this product was purchased, it was in majority of cases from the local manufacturer. This was in a major part due to the high price differential between the local and national brand manufacturers. Although, quite a few households opined that cupboards had quite a sufficient status value, this awareness was not enough among the households to buy a national brand.

c) While respondents were being questioned on the behavioral process with respect to televisions, they pointed out the differences in their perception with regard to a Color Television and a Black & White Television. This therefore was a pointer to the fact that Television needed to be segregated into two product categories : Color TVs and B&W TVs. But, such a distinction on product features was not discernible for audio equipment devices. Although, there are a number of kinds of cassette players ranging from a mono to a disc, the respondents did not seem to be particularly mindful of the fact that the question did not segregate these products.

d) The respondents were asked to define their understanding of a necessary product. All the respondents were of a singular view that a necessary product is that which is used in the everyday life of a person. Moreover, they also pointed out that usage of the product even though used daily was variant. That is to say that, respondents felt that a necessary product may be used everyday but all the products that they consider necessary would not be used to the same extent.

e) The family decision process was discernible mainly for three roles, viz.: Initiator, Advisor, and Purchaser. All households without any exception mentioned that the ultimate decision of whether to buy a product or not rests with the Male Household Head. The user of the product, was mainly dependent on the function that the product serves. The characteristic of the household determined only the user for bicycles, and wrist watches. That is to say, that in some households, bicycles were purchased for use of the MHH, while in the others it was purchased for use of children. Similarly, the users for wrist watches were either only the MHH, or both the MHH and the FHH, and in the other households, wristwatches were used by even children.

f) The respondents did not discern any differences between an opinion leader and owners among peer group, whilst collecting information and learning about a product. That is to say, the respondents did not perceive their opinion leaders being anyone else than the ones who were the owners among their peer group. Moreover, respondents did not ask for product literature specifically from anybody, but when provided with it pursued it with interest. Moreover, the respondents seemed to consider this as part of their exercise of collecting information from the dealer/retailer.

g) Certain respondents found it confusing to recall whether their choice of brand was influenced due to the prior experience that they have had of the brand while either buying the same product or a different product. Moreover, consumers did not differentiate between the popularity of a brand from that of the popularity of a company manufacturing the product.

h) Most respondents when questioned on the satisfaction derived on purchase of a product, indicated that they had not formed an opinion either way.

4. Modification Of Interview-Schedule

The final interview schedule was a product of the original schedule as well as certain modification made subsequent to the pilot study. This modified version is presented in Note 5.4 in Appendix A. The changes that were incorporated to the final interview schedule are as follows:

a) In order to study the family set-up, the family size class was expanded. One more class was added which therefore totaled to five classes. Moreover, the family structure was ascertained, by asking the respondents whether their household was a joint family unit or a nuclear family unit.

b) The respondents were also to be inquired for the kind of dwelling that they were living in. The kind of dwelling was segregated into three categories : i)Owned, ii)Rented, iii)Co. Quarters or Leased.

c) Occupation was modified from the original four broad classes into nine classes.

d) Income class was also further expanded to eight classes.

e) In order to study the print media habits of the consumers, the respondents were asked to answer either in the affirmative or in the negative to statements which stated that the respondent regularly reads English/Vernacular newspapers, and also the various categories of English/Vernacular magazines, explained elsewhere.

f) Lifestyle characteristics were further expanded to include four more statements. Ultimately the schedule examined twenty-four lifestyle characteristics of the respondents.

g) With regard to testing the perceptions of the respondent for their functional value to them, the question was modified into a five point Likert scale and the respondents were asked their opinion on the extent to which they thought these products useful for everyday life : i) Greatest extent, ii) Great extent, iii) Some extent, iv) Little extent, v) Not at all. The open-ended questions with regard to their definition of a necessity and luxury product were dropped.

h) Over and above the questions on the products that the respondent owns, the ones' s/he bought or was gifted, and the purchase plan, if any, the schedule now also examined the number of each product that they own, and the order in which they were bought.

i) The family decision process was to be examined only to the extent of ascertaining who played the role/s of :Initiator, Advisor, and Purchaser for each of the products.

j) The sources of product information that are relied upon by consumer were

abbreviated to five sources for the final survey. The five sources that were examined in this survey were: i)Owners among peer group, ii)Television advertisements, iii)Radio advertisements, iv)Print advertisements, and v)Dealer/Retailer.

k) The question pertaining to means of product finance was expanded to include the collection of information on the annual discretionary income of the respondents. This formed the second part of the question, where respondents were requested to indicate the class to which their annual discretionary income belonged to for which purpose eight classes were enumerated.

l) The question pertaining to factors influencing brand choice also saw certain modifications. Two factors namely, influence of previous purchase of the same brand for the same product; and influence of the same brand even though the purchase is now for a different product, was clubbed together as the influence of the brand. Another factor was included, which was the influence due to the likablility of the advertisement of the brand. Moreover, the extent of nfluence exerted by the popularity of the company manufacturing a product was also dropped. Therefore, in all the modified version too contained twelve factors of influence.

m) Modifications were made in the measurement method on the extent of purchase satisfaction derived by the consumer. Although, a five point Likert scale was adopted, it was altered to measure the extent of satisfaction/dis-satisfaction in the following manner : i) Satisfied to the greatest extent, ii) Satisfied to a great extent, iii) Indifferent/No opinion, iv) Dis-satisfied to a great extent, and v) Dis-satisfied to the greatest extent.

n) Lastly, modifications were made to the question pertaining to information on savings motivations, by expanding it into two parts. This was for reasons of having a smooth flow in the questions asked of the respondent. The first part of the question ascertained whether the respondents make any savings at all, and subsequently the second part of the question examined the factors influencing these savings. This part of the question was not modified in any manner.

5. Modification In Product Choice

The final survey retained twenty-two of the original products; whereas one product which although was included in the pilot study was now segregated into two by its product feature. One relatively new product was included for the final survey. Therefore, there were totally twenty-five products for the final survey. This modified list of products are detailed in Note 5.5 in Appendix A.

6. Final Data Collection

Data in rural Gujarat was collected from nine villages, three each from the three strata of rural areas. 133 households were distributed among these nine villages in the following manner: 44 households were selected each from the below-state average and state-average talukas; while 45 households were selected from above-state average talukas. Data in urban Gujarat were selected from six urban centers: two from every category of the three classes of towns. Data was collected from 44 households each from Class II and Class III, while 45 households were selected from Class I town.

Data in rural Kerala was collected from nine villages, three each from talukas of above state-average, state-average and below state-average. 133 households were distributed among these nine villages in the following manner: 44 households were selected each from the below-state average and state-average talukas; while 45 households were selected from above-state average talukas. Data in urban Kerala were selected from five urban centers: one from the Class I category, and two each from the Class II and Class III category. Data was collected from 44 households each from Class II and Class III, while 45 households were selected from Class I town. Although data was collected from 133 households in urban Kerala, three of the schedules could not be used for comparative studies due to their inadequacies. Hence the sample size can be deemed to be 529 households.

The modified schedule was translated into Gujarati for survey in the state of Gujarat, but the translation into Malayalam was not found necessary for survey in Kerala. The time taken for data collection ranged from an hour to an hour-and-a-half. **The details of the villages and towns visited is presented in Table 5.9 in Appendix A.**

E. Design Of Statistical Analysis

There were totally eighteen questions in the final survey. Database was created on a Personal Computer AT with DBASE, while statistical analyses were performed on a Personal Computer AT using SPSS software package.

A number of analyses are possible given such a voluminous data as this, but the analyses were restricted to that which explained the behavior of the consumers in the simplest of terms. Therefore, the statistical analyses performed for each of the product classes and not individual products. The methodology for the classification of the products is explained in the first part of this section. Moreover, analyses for these classes of products were carried out to ascertain the differences, if any between the regions, i.e., rural/urban and state, i.e., between Gujarat and Kerala. The second part of the analyses pertains to the behavioral differences, if any, in these product classes among the social classes. The methodology devolved for the segregation of the households into different social classes is described subsequent to

the description of product classification, that is, in the second part of this section.

To ascertain the behavioral pattern between the rural and the urban consumers, Two-Way Analysis of Variance(ANOVA) and percentage tabulation was performed by running the SPSS software package. Seven of the questions were subjected to the Two-Way Anova, while the rest were tabulated for their percentages. Likewise, for the analysis of the social classes, One-Way Anovas and percentage tabulation were performed on seven and the rest of the questions respectively. The rationale for the choice of the analyses and a brief description of the Two-Way Anova and One-Way Anova is explained in the third and fourth parts of this section.

1. Product Classification

For purposes of statistical analyses, it was decided on consultation with experts that the products would be classified into groups which would enhance the meaning of the analyses, since a product by product analyses would lead to a large number of results and interpretation would thereby lead to encumbrances; while the classification of products would also permit an economy of analyses. **The classification of products for statistical purposes is exhibited in Note 5.6 of Appendix A.**

Products were classified into five classes by the following rationale : The twenty-five were at the outset categorized into either i) Brown Goods, or ii) White Goods. Brown Goods were further classified according to the function the products performed : i) Personal Transportation, ii) Entertainment, iii) Personal Effects, and iv) Home and Kitchen Appliances. Statistical analyses have been performed, as mentioned, for these five product classes only.

2. Social Class Formulation

Determination of the social class of an individual is open to many suggestions, although, it is generally considered that social class could be determined by the income, education, and occupation of the individual. The methodology to be employed in determining the classification is also open to many suggestions, arguments and counter-arguments.

It was decided that the sample would be segregated into three classes, i) Low, ii) Middle, and iii) High social class; based on the social class score of the households when compared to the mean score of the sample. The sample was segregated into three classes, only for purposes of simplicity, and a determination of the relative levels of the individual households. The merit of the methodology devolved for determination of social classes lied in its' simplicity.

The variables that have been considered to determine social class in this research

are : the income, occupation and education. Since the determination of the behavioral pattern of the individuals within the family was the object of the research, it was decided that the income of the family, education, and occupation of both the MHH and FHH would be considered, since it was assumed that these two persons play a pivotal role in decision making; which implies that the interest was mainly to determine the social class of the household.

But, on examination of the data that was collected, the variables that were to be included for determination of social class was modified. It was decided that the occupation of the FHH would be eliminated as a determinant of social class, since the majority of FHH in the sample were occupied only in their household work. **Therefore, the determinants of the social class were modified to: i) Family monthly income, ii) Education of the FHH, iii) Education of the MHH, and iv)Occupation of the MHH.**

Segregation of the households into various social classes was carried out in the following manner : Firstly, family income, education, and occupation were ordered into five ranks. Subsequently, a social class score was computed for all the households in the sample. This was computed by, summing up the ranks of the four determinants described, for each of the households. The mean social class score for the total sample was worked out on the basis of the score of the individual households. Lastly, to segregate the households into the social classes, confidence intervals were determined by working out ninety-five percent confidence limits. Thereafter, households were examined for their social class score and assigned to either of the three classes. Note 5.7 in Appendix A details the determination of the social class.

3. Analytical Tools

Two-Way Anovas were performed on seven questions for purposes of analyses on the rural urban differences/similarities, while for the rest percentage tabulation were worked out. Similarly, One-Way Anovas were performed on seven questions for purposes of analyses on the differences/similarities between the social class, while for the rest percentage tabulation were worked out. Anovas were found to be the "best" tool, the rationale for which follows: Defining the variables in terms of dependent variable(DV) and independent variable(IV), the IVs in the case of Two Way Anovas, are: 1) the macro level environment of the state, that is, the development characteristics of Gujarat, and Kerala; and 2) the regional characteristics, that is, the characteristics of rural, and urban; while for One Way Anovas, the single independent variable is the social class. The DV for both the kinds of Anovas is the factor to be tested. It needs to be noted that in the Two Way Anova performed, Gujarat and Kerala represent two levels of an IV, and rural and urban regions represent two levels of the second IV. The three different social classes represent three levels for the single IV in the One Way Anovas that were performed. Since the IVs are categorical in nature and

the DVs are ordinal variables, Anovas are considered to offer the "best" solutions.[10] A brief description of Anovas follows.

Anova test is performed in order to ascertain whether any difference in the mean score of the DV could be attributed due to the actual differences between the IVs, or whether the differences in the mean score are due to any error variation, which could have occurred while collection of data, or while sampling. Anovas not only throw light on whether there is any difference between the groups or the different levels of IVs, that are being tested but also give the parameter estimation, where in the case of Anovas the mean of the groups is the parameter. It also measures the strength of association between the IV and the DV, which implies that, if there are differences between the groups, then performing Two Way Anova also indicates, how much of the difference is attributable to the IVs, and also which of the IVs are relatively more important.

(i) Significance Testing

The basic goal of statistical analysis is to make rational decisions under conditions of uncertainty. Inferences are made about the populations based on the sample taken from these populations. Since samples contain less than complete information samples from the same population differ from one another and from the population. Hence, decisions cannot be made with certainty. The traditional solution to this problem is the application of statistical decision theory. Two hypothetical states of reality are set up, each represented by a probability distribution. Each distribution represents one of two alternate hypotheses about the true nature of events. Given sample results, a best guess is made as to which distribution the sample was taken from, using formalized statistical rules to define "best".

The null hypothesis(Ho) is alone used to define "best guess". The object of Ho is to position a decision axis between deciding in favor of Ho or rejecting it, so that the probability of rejecting it by mistake is small. If it is rejected, then it is done so in favor of the alternate hypothesis. There are two possible errors that could arise under such circumstances: i) The null hypothesis might be rejected when in reality it should be accepted, and ii) the null hypothesis might be accepted when in reality it should be rejected. Such errors are defined probabilistically as Type I error or alpha, and Type II error or beta respectively. In short,

Type I error = = Pr.[Reject Ho/Ho is true]
Type II error = = Pr.[Accept Ho/Ho is false]

The object of the test is that Type I error is reduced while the power of the test, defined as (1-) is sufficiently high. The power of the test determines the probability of accepting the alternate hypothesis. But, this cannot be possible simultaneously. If a is low, then power is reduced while when power is high, a is high; which is not

desirable. Traditionally, the alpha level has been either determined at the .01 or the .05 level. But, between a choice of .01 and .05 level for alpha, .05 level has been opted for in this research, just so that the power of the test is sufficiently high.

(ii) Parameter Estimation

The sample mean for a group provides the single best guess for the unknown population value. It is unlikely that this value of the sample mean is exactly equal to the population parameter, but it is probably not too different. On the basis of the sample mean, it is possible to calculate a range of values that, with a designated likelihood, includes the population. Anova estimates the mean value for the DV for each of the IVs. The estimation of the parameter either could be a point estimation, that is, a single value estimation, or it could be an interval estimation, that is, an interval value which depends on the confidence level desired.

(iii) Strength of Association

Although significance testing, and parameter estimation illuminates the nature of group differences in the context of the DV, they do not convey in a straight forward way the degree to which the IVs and DV are related. Strength of association is different from statistical significance as assessed during hypothesis testing. Probability of chance variation depends on sample size as well as amount of variation.[11] If the null hypothesis is rejected, it can be concluded that there is some association between the IV and DV. Strength of association measures how much association there is between the IVs and the DV.

Given a significant effect, meaning thereby, that the differences between the groups are due to actual differences between the groups, and not due to any chance variation, this measure shows the proportion of score deviation in the DV attributable to the effect. The sum of this measure for all significant effect is the proportion of variation in the DV that is systematic or predictable from knowledge of the IVs.

A detailed description of the hypotheses that were tested in this research, and also a brief description of the Two Way and One Way Anova performed by the SPSS is given in Note 5.8 of Appendix A.

F. Limitations Of The Study

1. The major limitation of the study is due to the fact that the research was being carried out by an individual researcher. Hence, it was not possible to assess such a voluminous data within a set time frame.

2. In stratifying the rural and urban areas, the 1981 Census data was used. This data having been collected in 1981, may not reflect the changes that have occurred since

then. Therefore, the non-availability of more contemporary data for stratification purposes is a limitation that has been imposed on the study.

3. In selecting households from among the target households that was identified for the survey, randomness could not be ensured, since the data on the consumption pattern of each household in a town/village were not available. Therefore, it is possible that all the sampling units in the data may not have a per capita monthly expenditure of at least Rs.200/-.

4. The limitations imposed while selecting the sample size have been discussed earlier.

5. Some of the data collected was qualitative in nature, so the variables were measured on an ordinal scale. The variables were measured on a five point scale which was considered to be one of the "best" means of collecting qualitative responses. Increasing the scale from a five point would not have enhanced the quality of data to any extent, but at the same time it would have fragmented the responses, which would subsequently lead to ambiguity in interpretations. So under such limitations, a five point scale was adopted, as there was no quantitative means (variables scaled as either in the interval or the ratio scale) of measuring behavior.

6. Due to the nature of the variable, being ordinal, the analytical tools that could be applied were limited. The questions on the product purchase, brand choice, product information, and post purchase evaluation, call for an application of a multivariate procedure. But it could not be applied because variation of the variables was over a small range, of between one and five.

7. Questions on product purchase, brand choice, product information, and post purchase evaluation, actually need to be evaluated by some multivariate technique, since there could be a degree of correlation between these with each other. But, the application of Anova implies that each of these factors is considered as being independent of the other.

8. There is a possibility that Type I error is not at the stated level of .05, because as mentioned above, if the factors are in reality correlated with each other, but are yet considered independent, then the chances of the Type I error being in reality more than five percent is high.[12]

9. Although, Anova makes a parameter estimation, this estimation of the parameter, which is the mean, cannot be a measure of the extent to which the factor has influenced the different groups of consumers, due to the nature of the variables being ordinal, and more so because they have a range of between one and five only. Therefore, in order to overcome this constraint, the research has not discussed the estimation of the factors, but rather has concentrated on the direction of the differences or similarities between the groups.

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