Chapter - 3

Methodology and Psychometric Performance of Scales

3.1: Introduction

The preceding chapter provided a review of the literature on the consumer decision-making process. An overview of the consumer decision-making styles was also provided. Individual members of families often serve different roles in decisions that ultimately draw on shared family resources. Some individuals are information gatherers/holders, who seek out information about products of relevance. These individuals often have a great deal of power because they may selectively pass on information that favors their chosen alternatives. Influencers do not ultimately have the power decide between alternatives, but they may make their wishes known by asking for specific products or causing embarrassing situations if their demands are not met. The decision maker(s) have the power to determine issues such as: Whether to buy; which product to buy; which brand to buy; where to buy it; and when to buy. Note, however, that the role of the decision maker is separate from that of the purchaser. From the point of view of the marketer, this introduces some problems since the purchaser can be targeted by point-of-purchase (POP) marketing efforts that cannot be aimed at the decision maker. Also note that the distinction between the purchaser and decision maker may be somewhat blurred: the decision maker may specify what kind of product to buy, but not which brand; the purchaser may have to make a substitution if the desired brand is not in stock; the purchaser may disregard instructions (by error or deliberately).This chapter focuses on the design, performance of the scale and research method utilized in the study. Methodology is an essential part of research in order to find answers to the research objectives that initiate the research and therefore comprises a very important part of any study. In addition, the procedure followed to collect, capture, process, and analyze data is presented. The research approach used in the study is presented below.

3.2: Objectives of the Study

A key focus for researchers exploring the consumer behaviour of the family has been purchase influence. Previous research has concentrated on measuring the relative influence of family members (Belch *et al.,* 1985; Corfman and Lehman, 1987; Beatty and Talpade, 1994). However, this provides little insight into the nature of influence

behaviour. Some researchers (Lee and Collins, 2000; Levy and Lee, 2004) have focused on exploring influence behaviour and the strategies adopted by family members, although there are limitations to this research and a gap exists in the literature concerning how spouse including children influence purchase decisions (Williams and Bums, 2000).

Marketers should comprehend the significance of the family purchase decision making process to segment, target and position the brand in such a manner in order to target the advertising and sales promotion strategies with the objective of reaching and persuading the person making the purchase decision. So many studies have been conducted in the past to assess the relative importance of husband-wife purchase decision making process across different countries having different culture. Studies also have been undertaken to identify the role of children in the purchase decision making process. So far our knowledge goes, very few studies have been addressed by researchers to identify the role of product involvement and brand trust behavior as a moderating variable which is very important to understand the relative influence of husband-wife decision making in a nucleolus family. In our extensive review of literature we have not come across any study that incorporated these two important variables which are supposed to explain a substantial proportion of behavioral typologies of family decision making. In this background, our intension is to explore the impact of these two constructs on the brand choice behavior of married couples.

Moreover, a family purchase was defined as one in which all family members were involved in the decision-making process or consumption. Although the family is of central importance to marketers and consumer researchers. Quantitative research exploring who makes purchase decisions within the family and how much influence family members have has been extensive. (Davis and Rigaux, 1974; Hempel, 1974; Quails, 1982, 1984; Brinberg and Schwenk, 1985; Ekstrom *etal.,* 1987). However, this has meant that little is known about the processes and complexities of family purchasing. The study will mainly concentrate on various issues concerning the degree of spousal influence including children across the decision making process and to investigate the degree of influence in the decision making incorporating the effects of brand trust and product involvement.

In this backdrop the objectives of the study are as listed below:

1. To investigate the relative influence of husband and wife in the family buying decision incorporating the variables listed above.
2. To explore the effects of demographic factors of husband and wives in the decision making process
3. To examine whether the consumption pattern and brand choice behavior of working wives and non-working wives differ significantly.
4. To assess brand loyalty scores across for some selected frequently purchased products.
5. To appraise the role of product involvement and brand trust in the decision making process.
6. To study the influence of children in the purchase decision making and also to assess their Brand Influence Score (BIS).
7. To integrate the findings as stated above and suggest strategies for managerial decision making.

3.3: Rationale of the Study

Family as a consuming and decision making unit is a central phenomenon in marketing and consumer behavior. In the recent past; there has been a further interest in family as a unit of analysis for understanding the roles of different family members which is imperative to target and position a brand in highly competitive market. Research so far as focused mainly on decision outcomes and to a lesser degree on decision processes in family decision making. It is revealed from the literature survey that the effect of several important variables have not been incorporated to explain the purchase behavior of different members of the family including not only the husband and wives but also the role of their offspring's in shaping purchase decision making. A review of research on family consumption and decision making reveals that the prior studies have focused only on the husband and wives, and the role of the children has often been ignored. The three factor interaction namely father-mother-child iterative influence in decision making is more challenging to the researchers working in this field. This study is expected to incorporate some perceptual variables viz. product involvement, brand trust and brand loyalty to explain the behavior of family

members. Keeping in view the objectives of this study, we propose to formulate the following research questions.

3.4: Research Questions

Based on the discussions presented above this study proposes to investigate the following questions:

1. To what extent the decision role vary significantly?
2. Is it possible to identify brands for which autonomic decisions are present in families?
3. Is there any association between higher level of involvement and favoring the same brand in repeat purchase?
4. For which products and services the children play a dominant role to shape the purchasing behavior of their parents?
5. Are the working females' exhibit higher persuasive behaviors than their counterparts?
6. Are demographic variables correlated to purchase behaviour?
7. To what extent the product involvement and brand trust vary significantly among husband and wife for a cross section of products?
8. Is it possible to identify decision making behavior on the basis of product involvement and brand trust?
9. To what extent the responses of husband and wife are similar in nature regarding their role in the decision making?
10. Is it possible to classify the respondents into two distinct groups on the basis of Logistic Regression Model?
11. Is it possible to integrate the findings above and suggest possible managerial implications based on the research work?

3.5: Methodology

3.5.1: Qualitative and Quantitative Approaches

Research methods are defined as the methods of data gathering information from respondents. It is also of the view that methodology is the way in which one makes sense of the object of enquiry. Two research approaches are seen in the research methodology, viz. quantitative and qualitative methods.

Qualitative research establishes the meaning of relationships in terms of influences and actions. It can be used to identify the parameters of a research question or problem and can also be used to develop in-depth information about the nature of interaction. Qualitative research is a paradigm that seeks to discover the meanings that participants attach to their behaviour, how they interpret, and what their perspectives are on particular issues.

In quantitative approach, numbers are often what are considered and these numbers are used in inferential statistics formulae to test the relationship between two or more variables. Researchers who use quantitative research employ experimental methods to test hypothetical generalizations which emphasize the measurement and analysis of causal relationship between variables.

The study makes use of a quantitative research approach. This research method was chosen because quantitative research allows the researcher to examine relationships and differences among variables.

3.5.2: The Sampling Frame

It has been defined that a sample frame is a master list of all the sample units within a population. Shopping malls and shopping centers located within Kolkata and Delhi were used as the sampling frame in the absence of a sampling frame. Moreover, it has also been ensured that the respondents are the user of those products and has say towards purchase decision making.

3.5.3: Pre- Testing Questionnaire

Pre-testing is the trial run of the questionnaires on a small sample of respondents to identify and eliminate potential problems. While preparing for a research instrument

to be used to collect data, there are several mistakes that cannot be easily identified before the actual field work. Conducting a pre-testing study gives an advanced warning to the researcher about where the main research could fail, where research protocols may be followed and even whether the proposed methods or instrument are appropriate or complicated.

It has been noted that pre-testing has a role in ensuring the research instruments as a whole functions well in order to eliminate variation in respondents' understanding and interpretation of the questionnaire in terms of ambiguity. The questionnaire was pre-tested with 30 respondents. Thereafter changes were made to the questionnaire with specific reference to wording, sequence and language.

3.5.4: The Sampling Method

A non-probability convenience sampling procedure was used. Non-probability sampling relies on the personal judgment of the researcher rather than chance to select sample elements and the researcher can arbitrarily or consciously decide what elements to include in the sample. This sampling method was adopted, because it was economical and less time-consuming for the researcher to collect data.

Phase I: Pilot study has been defined as a small version of the full study. The research was conducted in two phases. In phase I, two focus group discussions were conducted in Kolkata and Delhi to identify the decision making behavior. The respondents were asked to report the products for which the major decision is taken by the husband or the wife. Since the decision making is likely to vary among the wives who are employed as well as the wives who take care of their offspring. The group was selected to represent the population as far as possible. The first group of consumers was chosen from Kolkata population (n=12). The second group consisted of persons who hail from Delhi population (n=12). The Kolkata and Delhi metro were selected only because of convenience and constraints of financial resources. The participants were provided with high tea to persuade them to take part in the focus group discussion. The focus group discussion revealed that products like detergent, kitchenware etc. involve autonomic decision making where wives play the dominant

role. On the other hand, the purchases of brands like automobile, digital camera etc. are predominantly influenced by the husbands.

Phase II: In phase II, part of the methodology, it has been tried to identify a cross section of stimulus products in consultation with the participants keeping in view their relative roles in the brand choice behavior. It is very difficult to develop a precise scale which can exactly identify the relative roles of husband and wife in the purchase decision making process. To avoid any sort of complication and response bias, it has been simply asked to give their response on a Likert Scale, starting with Husband mainly and ending with wife mainly. The same questionnaire was applied after selecting the stimulus products to a sample of twenty four respondents out of which twelve participants were males and twelve participants were females. The questionnaires were administered by separating the groups and the respondents were given twenty minutes for giving response on some brands selected after a thorough brainstorming session. The stimulus products selected were: Furniture, detergent, Home decor, and digital camera. Interestingly the studies reveal that in seventy four percent cases the responses of husband and wife were similar.

We have chosen a methodology which is generally adopted in conducting descriptive research. In addition to presenting the various measures of central tendencies, we have adopted parametric method to find out significant differences between the two independent samples. Apart from this, multiple regressions is employed to determine the group membership as well as the beta coefficients along with other measures to establish the fit of the model. The data for the study were gathered from Kolkata and Delhi during the period September 2014 to August 2015. A convenience sample was selected and eight hundred questionnaires have been sent and out of which six hundred and forty one questionnaires completed in full respects were obtained. Before registering their responses, the respondents were asked about their product involvement with regard to the stimulus products chosen for the study. Hence, although the total number of valid responses turned out to be 641, the numbers varied on gender lines due to varying degree of involvement with the decision making process for the particular product e.g. for detergent the number of male responses is found to be 29, but in case of automobile it is much higher at 32. The respondents

were asked to give their response for two product categories since the length of the questionnaire administered contained multiple categories which require more time to comprehend the questions before providing responses. The respondents were approached when they were in relatively in a relaxed frame of mind having finished their shopping and encountered near fast food corners, restaurants inside the shopping mall etc. The respondents were given a good quality gel pen for participating in the study. After comparing the responses of husbands and wives, six hundred and forty-one questionnaires were retained for subsequent analysis.

This research work makes an attempt to describe the attitudinal behavior of the respondents for their respective purchasing patterns. After identifying the relevant attributes and dimensions of purchase decision and purification of the measurement items, the data for the study were derived from consumer belonging to a cross section of population using a convenience sample of respondents. This was done using a survey with the help of a structured questionnaire. Due to the large coverage of the survey area which stretched across cities and towns as distant as Kolkata and Delhi, the study covered a cross section of respondents based on the convenience sampling technique. This was done keeping in mind the logistic related constraints of deploying manpower in various cities and towns across two major metros to contact the respondents and collect the data.

3.5.6: The Target Population

The target population is defined as the totality of cases that conform to some designated specifications. For the purpose of this study, the population included both males', females' and kids', ranging between 11 - 47 years, from Kolkata & Delhi metropolitan city.

The reason for such an inclusion in terms of age was based on international research which found that this segment of the population have a high purchasing power. It has been revealed from the prior study that these age categories have the mental and cognitive capacities to respond to a questionnaire used.

3.5.7: The Sample Size

The study used a sample size of 641 respondents because this was adequate to make a good representation of respondents. The sample size is consistent with past studies conducted for this type of research work.

The data were collected from the two major metros: New Delhi and Kolkata. The study administered questionnaires to 800 respondents across the various locations. Out of 683 responses obtained (through internet, direct mail and personally administered questionnaire), 42 responses were rejected due to errors of omission and commission bringing down the total figure of valid responses to 641. It took almost one year, the period beginning September 2014 to August 2015, to gather all the responses as in many cases reminders had to be sent to generate responses. Scale items were developed from reviewing prior literature and were further refined by conducting reliability and validity tests frequently applied in marketing and psychometric research conducted in this area.

3.5.8: Sample Description and Psychometric Performance of Scales

In addition to employing factor analysis and multiple regressions, other parametric and non-parametric statistical tools were also employed depending on the nature of the data. A brief description of the profile of respondents is given in the subsequent analysis.

Table- 3.1

Demographic Profile of Sample Respondents

3.1.1: Age of the Respondents (Years)			**3.1.2: Gender of the Respondents**		
Categories	**Frequency**	**Percentage**	**Categories**	**Frequency**	**Percentage**
Up to 25	72	11	Husband	318	49
26-30	109	18	Wife	325	51
31-35	173	27	**Total**	**641**	**100.00**
36-40	197	30			
41-45	58	10			
46 & Above	32	4			
Total	**641**	**100.00**			
3.1.3: Education of the Respondents			**3.1.4: Respondents Monthly Family**		

				Income		
Categories	**Frequency**	**Percentage**		**Categories**	**Frequency**	**Percentage**
10th Std	63	9		Up to 20000	83	12
12th Std	58	9		20001-40000	86	13
Graduate	218	35		40001-60000	193	30
Post Graduate	112	18		60001-80000	120	18
Professionally Qualified	190	29		80001& Above	159	24
Total	**641**	**100.00**		**Total**	**641**	**100.00**
3.1.5: Family size of the Respondents				**3.1.6: Family Structure of the Respondents**		
Categories	**Frequency**	**Percentage**		**Categories**	**Frequency**	**Percentage**
Up to 3	297	46		Nuclear Family	377	41
4-5	243	37		Joint	264	59
6 &Above	101	15		Total	641	100.00
Total	641	100.00				
3.1.7: Working Status of the Respondents				**3.1.8: Year of Marriage of the Respondents**		
Categories	**Frequency**	**Percentage**		**Categories**	**Frequency**	**Percentage**
Husband Mainly	267	41		Less than 5 years	61	10
Wife Mainly	11	2		5-10 years	263	41
Both Working	363	56		11-15 years	261	41
Total	**641**	**100.00**		16-20 years	29	4
				More than 20 years	27	4
				Total	**641**	**100.00**

Source: Primary Data

The data have been collected mainly from respondents belonging to A1A2 as well as E1E2 class of the social stratification scale as developed by Market Research Society of India (MRSI) which is mostly followed by the reserchers doing research with different social classes in India particularly by the marketing research practitioners as well as academicians. In order to understand the profile of the respondents, two important explanatory variables have been considered along with the age, gender and income of sample respondents.

3.5.9: Data Collection and Measuring Instrument

The study employed a self-administered survey to conduct the study. It has been revealed that a survey is more flexible and opportunities for interviewer cheating are greatly reduced. The study used structured questionnaires to collect data and the method was chosen for its versatility, as well as the accuracy of the data, since every respondent was asked the same questions.

It is of the view that the researcher, in a structured questionnaire, specifies in detail what is to be observed and how the measurements are to be recorded. A structured questionnaire reduces the potential for observer bias and enhances the reliability of the data. The questionnaire developed was based on closed-ended and Likert scales adapted from previous research studies. The questions were developed on a 5-point Likert scale, anchored with 5 denoting strongly agree, 3 denoting moderately agree and 1 denoting strongly disagree.

Section A consisted of questions related to consumer decision-making styles. Section B comprised seven demographic variables viz., gender, age, marital status, qualification and income.

The respondents were interviewed after they had agreed to answer so that valid measures of the purchase intention and decision making power "could be elicited". The survey took place at various times of the day and on various days of the week. Students of marketing who were trained in fieldwork interviews conducted the interview and the online questionnaire method was also used to collect the data through the email and various social media.

3.5.10: Data Preparation

Data preparations are classified in to three parts, viz. field work, editing and coding. Field work is a method on how to deal with field editing for incomplete questionnaires while the interviews were still in progress. The editing is the review of the questionnaires with the objectives of increasing accuracy and precision. It is defined in the literature that the coding is a technical process whereby codes are assigned to the respondents answer prior to their tabulation. The code includes an indication of the column position (field) and data record it will occupy. For example,

gender of respondents may be coded as 1 for females and 0 for males for the research work.

3.5.11: Statistical Analysis

The following statistical analysis was used in the study in order to draw conclusions based on the empirical research findings. Descriptive and inferential statistics were used for the study. Descriptive statistics were used in assessing the composition of the sample and inferential statistics were employed in order to make inferences about the population.

3.5.11.1: Descriptive Statistics

It has been described that the descriptive statistics is the distribution of responses on a variable, including measures of central tendency such as mean, median and mode measures of the spread or variation in the distribution such as range, variance and standard deviation. The frequency distribution is defined as a graphical or tabular representation of the data obtained, in which the values of a variable are plotted against the number of times of occurrences. Frequency distribution for categorical data is easy to produce since the numbers represent categories and the researcher has to count the number of people in each category and represent this graphically. The frequency distribution indicates how popular the different values of the variable are among the unit of analysis. Frequency distributions are used to analyze the survey data in the current study as shown in section B of the questionnaire. The descriptive analysis is reported in following section.

Cross Table: Brand Trust & Working Status

Product: Durable

Table: 3.2

Descriptive								
BTT					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
0	34	11.0000	3.73355	.64030	9.6973	12.3027	5.00	21.00
1	30	12.1333	3.96305	.72355	10.6535	13.6132	5.00	20.00
Total	64	11.5312	3.85437	.48180	10.5685	12.4940	5.00	21.00

Table:3.3

ANOVA					
BTT	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.471	1	20.471	1.386	.004
Within Groups	915.467	62	14.766		
Total	935.938	63			

Cross Table: Brand Trust & Gender

Table: 3.4

Descriptives								
BTT					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
0	34	10.8438	3.91943	.69286	9.4306	12.2569	5.00	20.00
1	30	12.2188	3.72207	.65798	10.8768	13.5607	5.00	21.00
Total	64	11.5312	3.85437	.48180	10.5685	12.4940	5.00	21.00

Table: 3.5

ANOVA					
BTT	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	30.250	1	30.250	2.071	.015
Within Groups	905.687	62	14.608		
Total	935.937	63			

3.5.11.2: Correlation Analysis

The correlation is defined as the simplest way to understand the association between two metric variables. Relationship is a consistent and systematic link between two or more variables. The study adopted Pearson correlation coefficient to measure the degree of linear association of two categories. Correlation ranges from -1.00 to +1.00, and the value of -1.00 represents a perfect negative correlation while +1.00 represents a perfect positive correlation. The correlation analysis is reported in required section of the study**.**

3.5.11.3: Factor Analysis

Factor analysis is a statistical method used to describe variability among observed variables in terms of fewer unobserved variables called factors. The information gained about the interdependencies can be used later to reduce the set of variables in a dataset. The purpose of factor analysis is for detecting underlying patterns of correlation in data, i.e., for grouping the variables and for reducing a large number of variables to a smaller number of components. For these reasons the study adopted a factor analysis technique with principal components analysis and varimax rotation procedure. The next step in the process is to calculate factor loadings, presenting the significance of each variable within the factor category. It is of the view from the prior literature that factor loadings value of 0.30 is considered to be significant, while a factor loadings of 0.50 is considered very significant. Therefore, within the context of this study, the factors were considered significant if the factor loadings were above the value of 0.50.

Table: 3.6
Product: Automobile

Items	**Rotated Component Matrix**							**Chronbach's Alpha**
	Component							
	1	2	3	4	5	6	7	
C1	**.658**							**.682**
C2	**.673**			**.370**				
C3	**.737**							
AFF1		**.705**		**.328**				**.632**
AFF2		**.908**						
AFF3		**.770**						
CON1		**.328**	**.871**					**.612**
CON2			**.712**					
CON3			**.757**			**.34**		
RI1				**.739**				**.642**
RI2				**.699**				
RI3				**.676**			**.312**	
RP1		**.332**			**.792**	**.336**		**.637**
RP2					**.818**			

Items	Rotated Component Matrix							Chronbach's Alpha
	Component							
	1	2	3	4	5	6	7	
RP3					**.787**			
INV1						**.638**		**.596**
INV2						**.659**		
INV3	**.316**					**.713**		
BT1							**.767**	**.612**
BT2							**.823**	
BT3							**.645**	
BT4							**.601**	
BT5							**.679**	
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.								

Note: C represents cognitive loyalty; AFF represents affective loyalty; CON represents connative loyalty; RI: Risk Importance; RP: Risk Probability; INV: Involvement; & BT: Brand Trust.

Table: 3.7
Product: Children Education

Items	Rotated Component Matrix							Cronbach Alpha
	Component							
	1	2	3	4	5	6	7	
C1	**.631**							**.662**
C2	**.693**					**.390**		
C3	**.719**							
AFF1		**.695**		**.308**				**.622**
AFF2		**.658**						
AFF3		**.710**						
CON1		**.328**	**.771**					**.652**
CON2			**.739**					
CON3			**.757**			**.346**		
RI1				**.709**				**.602**
RI2				**.649**				
RI3				**.616**				
RP1					**.692**			**.617**
RP2	**.352**				**.618**			
RP3					**.687**			
INV1						**.608**		**.696**

Items	Rotated Component Matrix							Cronbach Alpha
	Component							
	1	2	3	4	5	6	7	
INV2						**.579**		
INV3						**.613**		
BT1							**.667**	**.632**
BT2							**.623**	
BT3							**.615**	
BT4							**.671**	
BT5							**.639**	
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.								

Note: C represents cognitive loyalty; AFF represents affective loyalty; CON represents connative loyalty; RI: Risk Importance; RP: Risk Probability; INV: Involvement; & BT: Brand Trust.

Table: 3.8
Product: Detergent

Items	Rotated Component Matrix							Cronbach Alpha
	Component							
	1	2	3	4	5	6	7	
C1	**.591**							
C2	**.633**					**.310**		**.652**
C3	**.619**							
AFF1		**.625**						
AFF2		**.648**						**.612**
AFF3		**.610**						
CON1		**.328**	**.671**					
CON2			**.639**					**.662**
CON3			**.657**			**.376**		
RI1				**.609**				
RI2				**.629**				**.632**
RI3				**.636**				
RP1					**.672**			
RP2	**.332**				**.628**			**.597**
RP3					**.637**			
INV1						**.618**		**.676**
INV2						**.679**		
INV3						**.693**		
BT1							**.607**	**.622**

Items	Rotated Component Matrix							Cronbach Alpha
	Component							
	1	2	3	4	5	6	7	
BT2		**.348**					**.643**	
BT3							**.675**	
BT4							**.681**	
BT5							**.669**	
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.								

Note: C represents cognitive loyalty; AFF represents affective loyalty; CON represents connative loyalty; RI: Risk Importance; RP: Risk Probability; INV: Involvement; & BT: Brand Trust.

3.5.11.4: Reliability

Reliability refers to the extent to which a scale produces consistent results if repeated measurements are made. It has been defined in the literature that the coefficient alpha is a measure of the internal consistency of a measurement/test and it shows the degree to which all the items in a measurement/test measure the same attribute.

It has been suggested in the literature that the reliability analysis on measurement instruments in empirical research is essential, because empirically validated scales can be used directly in other studies in the field for different population and for longitudinal studies.

The study made use of the Cronbachs' alpha technique in establishing the reliability of the instrument. A reliability benchmark value of 0.60 and above was used in the study. Cronbachs' alpha statistics were also undertaken on the seven dimensions of consumer decision-making styles to ensure that there were satisfactory levels of internal consistency in terms of reliability.

3.5.11.5: Validity

Validity is the strength of conclusions, inferences or propositions. The validity is the "best available approximation to the truth or falsity of a given inferences, proposition or conclusion". In other words, do the differences in the dependent variable found through experimental manipulations of the independent variables really reflect a

cause-effect relationship? Three types of validity tests were considered in this study, namely, content, construct, and discriminant validity.

A measure has content validity if there is general consensus among researchers that the instrument includes items that cover all aspects of the variables measured. It is not numerically evaluated but subjectively assessed by researchers. It has been pointed out from the prior literature that if the instrument contains a representative sample of the universe of subject matter of interest, then content validity is deemed to be good. The pilot study was conducted to perform content validity, after which changes were made to the questionnaire.

Construct validity addresses the question of what construct or characteristic the scale is, in fact, measuring. A measure is valid when the differences of observed scores reflect true differences on the characteristic one is attempting to measure. It is stated that construct validity can be viewed as the extent to which variables under investigation are completely and accurately identified prior to hypothesizing any functional relationships. The study performed construct validity by computation of the Chronbachs' alpha coefficient for the scale and sub-dimensions of the scale.

In addition factor analysis was also undertaken on each of the seven constructs to determine the percentage of variance that was explained by each factor.

Discriminant validity is determined when a variable does not correlate with other constructs from which it is supposed to differ. It involves demonstrating a lack of correlation among differing constructs. Within the context of this study, the discriminant validity was measured by applying Pearson's correlation coefficients.

Table: 3.9
Product: Automobile

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.61	.578	.535	1.66101	1.799

a. Predictors: Working Status, Automobile, Affective Loyalty, Gender, Conative Loyalty Cognitive Loyalty

b. Dependent Variable: Involvement

Table: 3.10

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6975.980	6	1162.663	421.413	.000[a]
	Residual	160.020	58	2.759		
	Total	7136.000[b]	64			
a. Predictors: Working Status, Automobile, Affective Loyalty, Gender, Conative Loyalty Cognitive Loyalty						
b. Dependent Variable: Involvement						

Table: 3.11

Coefficients								
		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	Cognitive Loyalty	.067	.135	.072	.497	.021	.203	.337
	Affective Loyalty	.815	.121	.891	6.715	.000	.572	1.059
	Conative Loyalty	.070	.141	.065	.500	.019	.211	.352
	Automobile	.024	.570	.001	.041	.007	1.164	1.117
	Gender	1.108	.499	.004	2.220	.010	2.108	.109
	Working Status	.148	.222	.019	.669	.006	.295	.592
a. Dependent Variable: Involvement								

Table: 3.12

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.590	.540	.511	3.18048	1.819
a. Predictors: Risk importance, Automobile, Working Status, Gender, Conative Loyalty, Risk Importance, Affective Loyalty, Cognitive Loyalty					
b. Dependent Variable: Brand Trust					

Table: 3.13

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8879.535	8	1109.942	109.727	.000[a]
	Residual	566.465	56	10.115		
	Total	9446.000[b]	64			
a. Predictors: Risk importance, Automobile, Working Status, Gender, Conative Loyalty, Risk Importance, Affective Loyalty, Cognitive Loyalty						
b. Dependent Variable: Brand Trust						

Table: 3.14

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	Cognitive Loyalty	.242	.281	.225	.863	.012	.320	.805
	Affective Loyalty	.496	.267	-.471	1.859	.008	1.030	.039
	Conative Loyalty	.864	.272	.698	3.178	.002	.319	1.409
	Automobile	1.297	1.110	.057	1.168	.004	.927	3.521
	Gender	.717	.965	.042	.742	.001	1.217	2.651
	Working Status	.337	.450	.038	.749	.007	.565	1.240
	Risk Importance	.195	.173	-.207	1.129	.264	.541	.151
	Risk probability	.705	.275	.632	2.561	.013	.154	1.257
a. Dependent Variable: Brand Trust								

In another part of the thesis, the objective is to relate the teenager's product involvement and brand trust behavior incorporating the various demographic factors. In this research work, factor analysis is employed to establish scale dimensionality. In addition to this, multiple regression analysis is employed to assess the importance of different variables in predicting the brand trust of teenagers considered in our study.

Regression analysis is also employed to ascertain the predictive validity of the proposed measure of involvement and brand trust. Highly involved consumers find fewer brands acceptable (narrow categorizers) and tend to be more loyal. On the other hand brand switchers are likely to have more brands in their consideration set (broad categorizers) that are likely to be less loyal to their brands.

Teenagers play a significant role in deciding the brands they purchase for themselves as well as they shape the brand choice behaviour for other brands purchased for family consumption which are technically known as pester power. In our study, we have developed a seven item five point scale to measure the Brand Influence Score (BIS) of teenagers which is likely to influence the brand trust of teenagers. The detailed methodological procedures followed in our study are briefly discussed in the subsequent discussions.

3.12: Scale Development

While developing the scale to measure the involvement construct, we have followed the recommended scaling procedures which are very commonly found in psychometric literature (Nunnally, 1978). Following Churchill's (1979) suggestion, we generated a pool of items for each facets from different involvement scales developed by Laurent and Kapferer (1995b), Jain and Srinivasan (1990), Lastovicka and Gardner (1979), Traylor and Joseph (1984) and Zaichkowsky (1985). In addition to the above, a preliminary in-depth discussion with a sample of respondents (n=21) pursuing management programme was also an important source from which we generated a few other items (Bhattacharya, 2000).

Altogether, 17 five point semantic differential items were initially developed to reflect the involvement and brand trust. These items were then judged for content validity by a small panel of experts resulting in 12 semantic differential statements. The panel comprised of both academicians and marketing professional is having adequate knowledge in this field. These 17 items were then administered to an initial sample over two products categories per student.

Following suggestions of Zaichkowsky (1985) and Gaski and Etzel (1986), statements with items to total correlation (within each component) of r = 0.50 or more were

retained. In this process four more items were dropped and finally 8 items were retained to measure teens' involvement and brand trust behaviour.

Data for the teen's behaviour are obtained from a convenience sample of 181 teens drawn from the two major metros in India. In addition to meeting the socio-demographic criteria, the choice of the convenience sample is made so that the teenagers have to be a user of the product on which their responses are sought. Due to financial constraint, it was not feasible for us to adopt a probability sampling technique. Convenience sample, though not very scientific, helps in getting over this limitation. Moreover, since our objective is to determine the degree of involvement and their influence on the teenagers' loyalty behavioral aspect and no generalizations about the sample teenagers were envisaged, a convenience sample was considered adequate for this study. The sample size was not very large but previous research in this area also conducted similar type of studies covering a sample size ranging from 150 to 250 in most of the cases. The data for the study was collected from different schools by personally administering the questionnaire. The respondents were given a complementary gel pen as a token gift for participating in the study.

3.13: Selection of Stimulus Products

In our present study, a good deal of exploratory work has been done to select the products to be included in the study. While selecting the stimulus products for the study we have considered some important issues. First, the individual considered for the interview has a user of the products for which his/her response is sought. Secondly, products are deliberately chosen to represent contrasting profiles on various dimensions of involvement associated with the product. The final list of products retained for this study is done through a series of qualitative in-depth interviews with the teenagers.

3.14: Psychometric Performance of the Scale

The three-item involvement scale and 5 items brand trust scale was initially administered to a sample of respondents to assess the reliability and validity of the proposed measure where each respondent had to give response on two product categories. We have computed internal consistency reliability by Cronbach's alpha as

well as by test-retest reliability. It is quite evident from the table that the reliability coefficients are reasonably high and it can be concluded that the scale which we intend to use in our study possesses sufficient degree of internal consistency despite a small number of items in each scale. It has to be remembered that consistency is a necessary but not sufficient condition for validity (Nunnally, 1978). Therefore, in the subsequent discussion we address this important issue in detail. The assessment here will begin with construct validity, which refers to the extent to which the hypothetical, unobservable construct of interest correspond to the purported measure of it (Peter, 1981). In order for a measure to have construct validity, each of the measurement items must relate to the characteristics of the construct, and each item must be free from contamination by elements of other constructs. These two requirements are operationalised by two validity tests, viz. (a) Content Validity and (b) Scale Dimensionality. These two issues are briefly addressed below:

3.14.1:Content Validity

When a test is constructed so that it's content of term measures what the whole test claims to measure, the test is said to have content or circular validity. It was done essentially by a systematic examination of the items included by researchers while capturing the domain of the construct. In addition to this, initial scale items were judged by a small sample of experts who expressed that these items could be used to capture the domain of the construct. Moreover, statistical tests also have been applied to ensure content validity. In our study, the level of internal consistency measured by Cronbach's alpha provided sufficient evidence for the content validity.

3.14.2: Scale Dimensionality

The scale dimensionality may be reviewed via factor analysis which is a collection of mathematical procedures for determining which variables belong to which factor or underlying construct. Through factor analysis, specific expectations concerning the number of factors and their loadings are tested on sample data. Campbell (1960) and Nunnally (1978) suggest that each scale should measure a single facet if it is considered to have construct validity. Discriminant validity, on the other hand, represents the distinctiveness of each scale vis-à-vis others. To test simultaneously

construct and discriminant validity, we conducted a factor analysis of the items using samples for two different product categories.

With a few notable exceptions, the scale items loaded on the factors they were supposed to measure. Apart from this, for other applications, factor analysis led to the results we expected one factor per item, all items from an antecedent on the same factor, one factor per antecedent.

The results of factor analysis presented in **Tables-3.15a and Table-3.15b**, amply demonstrate that the proposed measure is not contaminated with elements from the domain of other constructs or error. The systematic extraction of two factors can be interpreted as supportive evidence of construct validity.

Table-3.15a **Table-3.15b**

Factor Analysis Results

Product: Vacation Choice

Items	F1	F2
INVT 1		.791
INVT 2		.803
INVT 3		.722
BT 1	.740	
BT 2	.749	
BT 3	.857	
BT 4	.831	
BT 5	.834	

Loadings above 0.30 are reported.

Product: Computer

Items	F1	F2
INVT 1		.649
INVT 2		.812
INVT 3	.374	.746
BT 1	.713	
BT 2	.703	
BT 3	.786	
BT 4	.779	
BT 5	.626	

Loadings above 0.30 are reported.

3.15: Conclusion

This research work aims to provide an in-depth understanding of the family purchase decision making process through quantitative methods which included the whole family, and emphasised the role of children as active participants. A structured questionnaire has been used to collect data from the spouses as well as from the population of teenagers. More specifically, the study performs constructs validity by computation of the Chronbach's alpha coefficient for the scale and sub-dimensions of the scale. The scale dimensionality has been reviewed by factor analysis. Regression

analysis is also employed to ascertain the predictive validity of the proposed measure. An exploratory work is considered to select the products to be included in the study. Data for the survey are obtained from a convenience sample drawn from the two major metros in India.

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