

Chapter 3 Statement of the Problem

This research addresses issues related several aspects on segmentation of shopping tourism retail shoppers based on their behavioural pattern towards store images. As there are several issues to be addressed, this research follows scientific approach for defining the various issues in stepwise procedural manner.

First and foremost, this research addresses the behavioural aspect of shoppers based on the store images and how they select the store choice. Store patronage involves the consumer's choice for a particular retail store (Shim & Kotsiopoulos, 1992). Past retail and marketing studies have identified several consumer oriented store attributes or images (e.g., price, quality, variety, discounts, and store reputation) and their behavioural aspects to store patronage and store choice, but these studies overlooked how the store image affects retail store choice based on their behavioural pattern. So, the basic problem of the research is to study and examine the influences of various store image dimensions on store patronage for tourists shoppers in Puducherry, India. This research primarily examines the behavioural attitude toward the store images and store choice.

Next, the most exciting aspect of this research is to find the behavioural pattern of shopping tourism retail shoppers and to segment them. Most research has segmented shopper based on store images. Point to ponder here is that, the research previously conducted are resulted in hard partitioning form, that is to say, the segments are formed based on various clustering methods results in hard formation which means a member or a

sample will belong to one group. Some research has adopted overlapping clustering methods which resulted as a member or a sample has a chance to belong in multi group. The results of hard partitioning has exhibited that the attitude of the shopper towards store images are assumed to be constant during the shopping time or over period of time. But, in real situation it is not so, though a member is belong to a particular segment she may have different or multiple choices to choose and make decision based on various priorities, preferences and other influencing external factors. So, the choice set of a typical shopper will vary from one shopper to the other shopper even though the members belong to same cluster or segment, which clearly indicates that the members in a particular segment will behave similar pattern but not the same pattern. The issue is to find the differences of the pattern within the segment and between the segments is the real issue to be addressed. To intrinsically find the differences of behavioural pattern among the members in the same segment and to find the differences of behavioural pattern between the members of the segment is the real and plausible research issues to be addressed. On the other hand, the next issue of this research is to define the market boundaries or to state in other words, the issue of the research is to find the optimum number of clusters to be used for initial iteration purpose of segmentation process.

It is not only enough to just identify and mark the differences of behavioural pattern of members among the segment and between the segments, but also, the research has to bring a valid and reliable model to predict the likeliness of a new

member to be or being belong to the a particular segment and if so, how she could be reached?.

In this chapter the statement of problem, research objectives, conceptual definitions, assumptions, and limitations are presented.

The Gap in the Literature: The Problem

This research attempts to find and fill various gaps in the retail market segmentation literature. This research adds value to the existing literature by contributing an enhanced method of developing retail market segmentation based on store images. The major contributions of the research on several aspects are mentioned below.

1. Design of the market segmentation:

Design concerns whether the market segments are defined by management or the researcher (a priori design) or are based on the responses of the subjects (clustering- based design). A priori segmentation is especially valuable when management has a clear idea about the relevant basis of segmentation. However, it is often difficult to establish a relevant basis for segmentation a priori and to capture the complexities of the market. Once all of the bases for segmentation have been considered, the marketing organisation must then decide which descriptors they will use to segment the market and describe their market

segments. Demographic descriptors such as age, gender and income are easy to measure but they can be misleading. Psychographic descriptors may be more useful, in particular for lifestyle products.

A multi-descriptor approach to segmentation allows the firm to arrive at a richer, more comprehensive description of the target market. However, the high cost and time of segmenting the market means that firms should avoid over-segmentation of the market. Over segmentation may lead to segments that are too small to be profitable, or segments that really do not differ significantly in their needs from other similar segments. Some products, including lifestyle products, such as clothing and music lend themselves to extensive segmentation. Conversely, standardised products, such as electricity, gas, water, salt, flour, and sugar may require less segmentation. However, these days it is difficult to identify many 'mass-marketed' products. The following segmentation descriptors are usually relevant for typical segmentation research and that will suit to our requirement as well. They may of

1. Geographic: Shoppers in regional/rural areas of India may consume more than city people. Men who reside in urban areas are more comfortable than country men with cosmopolitan modern looking packaging.
2. Demographic: which includes age, gender ratio, family life cycle, Income.
3. Psychographic: which includes value and lifestyle, personality.
4. Behavioural: Which includes benefit sought, usage rate, loyalty status, where purchased.

This research gives emphasis on behavioural based and it also attempts to integrate on the said market segmentation descriptors.

By turning around the past research of segmentation of retail market, the descriptors or the basic design on bases of segmentation reveals the some interesting details. Shopping as an information search process signifies that behaviour may differ with type of store, association with store and type of product bought. Therefore, while other segmentation variables, such as demographic or psychographic, may help retailers understand shoppers attitudes they may not explain the behaviour of shoppers directly. It has also been found that even when a shopper has a list, there is a difference between the list and the product bought (Kollat and Willet, 1967). Thus, it is safe to assume that such behaviour is caused by the variables in the store. The hypothesis can be extended to assume that it is possible to mould shopper behaviour to suit the retailer s requirements. Under this assumption, shoppers behaviour at the store may prove to be an alternate segmentation basis. Several attempts have been made to develop a typology of shoppers. The typologies have been developed based on attitude towards shopping and the motives/gratification derived. Perhaps it stems from the fact that an activity like shopping can best be explained by attitudes that leads to certain behaviour. Some of them are based on psychographics. However, they suffer from a few limitations.

These typologies do not consider the impact of the context. They are presented as stable shopper orientations and are not sensitive to situational influences (Reid and Brown, 1997), (Hibbert and Tagg, 2001). It is known that context affects shoppers behaviour. Tai and Fung (1997) found that environment-induced emotional states have a positive association with in-store behaviour of the

shoppers, which in turn, impacts upon the pleasure felt in the store and the in-store rating of the environmental stimuli. By inducing shoppers to stay for a longer duration, a retail outlet may lead them to increase spending (Donovan et al., 1994). Falk (1997) stresses that retailers provide an opportunity for shoppers to interact at close quarters with the scopics and derive aesthetic stimulation.

The format and ambience of a store has its own impact on shoppers. Its effect is seen in dressing patterns, language, and interaction with store personnel as well as response to communication within the store. It is likely that even a shopping apathetic would behave in the same manner as a shopper who has a liking for shopping, in a given store environment. It was found in a study that even a stereotype's behaviour changed when the store context changed (Otnes and McGrath, 2001). Since retailing is a service business, and is not just a place where goods are sold, it is a place where various variables that lead to creation of a customer franchise (Baker et al., 2002).

The methodology used in all but one of the aforementioned studies, is statistical. It is quantitative in nature using scales to measure attitude. In India, where retailing is still evolving, it is very likely that the expectations of shoppers would be comparatively basic and limited to tangible aspects only. Also, retailing in India is at a flux and hence attitude measurement may not yield the required results. Behaviour at the store, as factual information, may be a more reliable measurement. It is posited that a contextual stance increases understanding of the behaviour of a shopper. It is useful because the intentional stance may not always

predict accurately or may do so only when situational correspondence is extremely high. It is also indicated that such an approach prompts innovation in data collection and analysis that has not been generated by previous, non-contextual, consumer research (Foxall,2000). This methodology becomes especially appropriate for store-level research, as the context of a store is different from closed setting experiments that have been used to understand operant behaviourism (Foxall, 1998), behaviour in this case is defined as the act of information search as well as reaction to the cues at the store such as layout and displays, salespeople, POP Communication and other facilities such as carts, bins, etc (operationally defined as store images). It encompasses activities that may not always lead to purchase, such as browsing of a magazine or use of a listening post in a music store. There have been attempts to study consumer behaviour with regard to product usage, but none to segment shoppers. Thus, segmenting the shoppers based in their behavioural aspect at the store (store images) is not dealt in previous studies. In addition, Sinha and Uniyal (2005) has stated that the retail industry is still evolving in India and the expectations of shoppers would be comparatively basic and limited to tangible aspects only and further they argue that the shoppers behavior at the store will provide the factual information and may be more reliable measurement than using scales to measure shopping attitude. Therefore, an alternative method developing the segmentation descriptors based upon both qualitative and quantitative on behaviour pattern on store images at different retail store formats is not yet developed in the earlier studies.

Martineau, 1958 was among the first to link store image or what he called as personality of the store, to the image that a shopper has of oneself. Martineau suggested that a shopper is unable to differentiate based only on price amongst various grocery stores and would tend to shop at that store which is congruent

184 | Page

b jdrfl f dmefel! jdf! i jdi! i fl! j dmef! j! i fl! g d j bngbd ! i f fl! j! b
 force operative in the determination of a store s customer body besides the
 obvious functional factors of location, price ranges and merchandise
 ggf j h) h!58! i fl! g d ! gi j! b jdrfl j! drflb m! !f bn j fl i fl! cb j! g jn bhf!
 k eh n f ! h j f ! i b! jggf f ! drh f ! b e! e jggf f ! f ! g i f ! i b fl
 different psychological outlooks ! i fl! m! b e! e jggf f ! b ! g n j f !) h!61
 When proposing the four *element* ! g jn bhf! i fl! b f ! i f fl! b fl! n b ! frfn f --
 -architecture, color schemes, advertising, sales people, and *others*) h!62! i j
 j ejdb f ! i b! b j fb ! b! m! b fn j h! ! ej d ! i fl! n ! jn b
 psychological aspects impacting store image.

A careful reading of the article also suggests that Martineau proposed that these
 are more salient than functional aspects in determining store image, a view
 subsequently supported by Sirgy and Samli, and several others. This leads us to
 examine the classification not from the store elements perspective but from the
 perspective of the consumer orientation to interpretation of the store elements.
 What elements are seen as functional by one consumer may be
 emotional/psychological triggers for another. What is important for a retailer then
 is to obtain information on how cues from the retailing mix elements are
 perceived, processed and the resultant image created. In effect, this would entail
 distinguishing between the functional cues which as Martineau indicated, do not
 contribute much to store image formation, from those symbolic cues which have a
 much greater impact on store image. This knowledge can be used to identify
 segments based on similarity of interpretation orientations and resultant cue

processing. To the extent that this information is specific and not limited to broad based overall store image statements i.e. the underlying factors for broad image statements are known, the retailer can then provide/adjust the necessary cues to achieve the desired effect in the minds of the consumers. This process then enables formulation of strategies based on image research. Another and a more recent attempt to develop a common understanding of image was by Dobni and Zinkhan, 1990. They classify image definitions based on the emphasis of the definition into

five categories:

1. blanket definitions
2. symbolism oriented
3. meanings and messages oriented
4. personification, and finally
5. image as a reflection of the brand's personality

They also list down sources of variations in image studies as emanating from

- (1) the brand's image
- (2) the brand's image
- (3) the brand's image
- (4) the brand's image

the components of brand image, (4) the instruments that have been used to measure it and (5) perspectives on the origin, creation, formulation and definitions of brand image as being most commonly accepted in literature since

image definitions have been inconsistent (pg 117). These definitions however, do not contribute to reducing the confusion surrounding image. After this, there have been no other attempts to reconcile image definitions and bring order into this area regarded as critical in marketing. And this confusion about brand image studies is reflected exceptionally well in store image studies. Going by present

literature, store image is anything from the perception of a store in the mind of a consumer to a reflection of the attitude of the consumer toward the store to complex of associated meanings and symbols.

To understand and put in perspective the several ways that importance of various store images, the literature broadly classifies the approaches into two. The two basic approaches to obtain store image attribute importance are: (1) subject rate the importance of the various attributes (self-stated importance); and (2) attribute importance are statistically estimated based on the subject's overall evaluation of stores (derived importances). There is considerable evidence that statistically derived importances represent people's actual weight more accurately than their self-stated weights (Fishbein and Ajzen, 1975), (Slovic and Lichtenstein, 1971), see (Gentry and Burns 1977-1978) for criticism on self-stated weights in store image research). The store attributes, and its importance that are ultimately respected and followed by the shopper or the consumer from the retail store. On typically vocalizations, The consumer for a store is anyone, who is an existing as well as a potential shopper, essentially all those that comprise the target segment and ultimately one who relay reflects the exactness of the store image (Brand Personality). So, the shopper attitude will reflect in her behaviour and her behaviour is the response from the attributes of the store images which is emotionally involved with the psychological aspects of the shopper which in turn reflects the self image of the person or the shopper. So, behavioural based segmentation is plausible contribution to the literature.

On the other hand, by turning the pages of the past history on store image researches, it is evident that shopping as an information search process signifies behaviour that may differ with type of store, association with store and type of product bought. Therefore, the other segmentation variables, such as demographic or psychographic, may not help the retailers understand the shoppers in their true form. Behaviour may be a better base of profiling the shoppers and hence taking decisions that would improve the profitability of the store. It is also possible to mould shopper behaviour to suit the retailer's requirements, especially in Indian context where retailing is opening up as an organised activity.

There have been attempts to study consumer behaviour with regard to product usage, but none to segment shoppers. Behaviour in this case is defined as the act of search and choice as well as reaction to the cues at the store such as layout and displays, salespersons, POP Communication and other facilities such as carts, bins etc. Therefore, an alternate methodology for developing a typology of shoppers based on behaviour is needed. Behaviour has been studied using one or a combination of few methods. The first method is based on the manipulation of the store variables such as display or promotions and measuring the change in sales pattern through inventory and purchase audit (Cox, 1964). The second method involves entry and exit interviews to understand planned and unplanned purchases and the causes of deviation from plan (Kollat and Willet, 1967). The third approach has been to directly observe the shoppers while they perform their shopping activity (Wells and LoSciuto, 1966). In many cases it has been preferred over interviews and laboratory experiments. It is felt that while interview data is

subject to distortion and memory error, the laboratory experiment produces data that is artificial. Hicks and Kohl (1955) were, perhaps, the first to use this method. They called this method as memomotion study. Wells and LoSciuto (1966) studied the influence of children on cereal decision making and found that most of the children attempted to influence their parents and many of them succeeded. Supporting this method, Rubens (1975) suggested that a camouflaged study could bring out several aspects of behaviour that shoppers may not be able to verbalise. Atkin (1978), Rust (1993) and Darian (1998) have used this method to understand children behaviour while shopping. Some researchers do point out that the observational research relies heavily on deduction (and hence speculation) and has limited use (Granbois, 1978). However, observational research is very commonly used in social sciences, especially anthropological studies. It is used since it has the ability to uncover unconscious consumer actions, small product annoyances that might otherwise go unnoticed, or potential unfulfilled needs of emerging markets (Wimmer and Stiles, 2001). The informants may not recall all behaviours as not they may not be carefully thought through. Some of the respondents may also have limited reporting capabilities. In such a situation, ethnography may help in not only establishing the context and subjective significance but also in interpretation of these behaviours (Arnould and Wallendorf, 1994). Underhill (1999) has demonstrated through several studies that observational research can be used to design retail strategies for providing delightful experiences to the shoppers and increased profitability to the retailers.

By considering various issues related to development of the descriptors and to know how to develop the segment descriptors, the researcher here wish to use a better combination approach that could yield a better understanding of the behavioural pattern of the shoppers based on store images. Thus, this study has used a blend of qualitative enquiry and quantitative analysis. The research decided to use observation research for developing the typology of the shoppers and the resulted segment descriptors will be used for major survey purpose.

Thus, this research attempts to frame the research design that concentrates both qualitative and quantitative approach is adding new methodological move to the existing knowledge in the literature.

3. Types of clustering procedure and other technical tools for segmentation:

The most popular statistical technique used for market segmentation is cluster analysis. Cluster analysis is an exploratory data analysis technique designed to reveal natural groupings within a collection of data. As such, cluster can be expected to suggest potentially useful ways of grouping customers. Cluster analysis has been performed on different classes of marketing data: psychographics, behaviour, product ratings, usage information, and perceived needs or benefits. Which of these types you choose is largely a function of the goals of the study. At a fundamental level, cluster analysis is based on the simple concept of partitioning your data observations into homogeneous groups based on their proximity (closeness) to each other. Clustering can also be performed using a neural network method (Kohonen network). Factor analysis is an exploratory data

analysis technique often used as a data reduction method. That is, it suggests ways of reducing the number of variables you have into a smaller set of composite variables that capture (ideally) much of what was measured by the original set. In market segmentation work factor analysis is used as a data reduction step, prior to clustering or running response based segmentation methods, in situations where there are many potential variables, especially attitude rating scale variables, to be used in the analysis or when you expect that there is some redundancy among the variables. The new composite variables created by factor analysis (factor scores) are then used as the basis for segmentation analysis.

Response based market segmentation is an umbrella term covering methods that try to determine which customer characteristics lead to a specific action (a purchase, a renewal, an upgrade). As such, these are predictive methods and the result is either an equation or a set of descriptions useful in identifying those likely to fall into the desired target group.

Discriminant analysis and logistic regression are predictive models in which the outcome measure is categorical (buy, don't buy) and the predictor variables are interval scale measures (numeric). As in regression, the idea is to construct a predictive model, evaluate it, and if successful provide an equation. In practice they give similar results, although discriminant makes more assumptions about the nature of the predictor variables.

Chi-square automatic interaction detection (CHAID analysis) can be used when the predictor and outcome variables are categorical or discrete (continuous predictor variables can be employed after collapsing their values into ordered categories). CHAID provides a heuristic method of examining many categorical predictor variables to identify the combinations of categories that produce the highest percentages in the desired outcome condition. It is often used in direct mail test studies to identify the demographics of those most likely to accept the offer. In addition to CHAID analysis, other tree-based methods can be applied to such data: C&RT (Classification and Regression Trees) and QUEST (Quick, Unbiased, Efficient, Statistical Tree). Neural networks have also been applied to the response-based segmentation problem.

In summary, cluster analysis is a popular method for market segmentation based on psychographics, behavior, product ratings, usage information, and perceived needs or benefits. Factor analysis, as a data reduction technique, can support market segmentation as a step prior to the segmentation analysis when there are many related variables used in the analysis. If there is an outcome state (category) that you wish to predict based on customer information, response based segmentation methods can be employed. Traditional statistical methods, discriminant and logistic regression, are used if the predictor or input variables are interval scale, while CHAID analysis (or other tree-based methods) can be performed when the input variables are categorical or discrete. Methods developed outside the areas of traditional statistics (neural networks, rule induction methods) are being successfully applied to clustering and response based segmentation, and

given the growing popularity of data mining, we expect they will be used with increasing frequency.

The clustering procedures can be distinguished according to the type of partitioning obtained: nonoverlapping, overlapping, or fuzzy (Hruschka, 1986). In nonoverlapping clustering subjects belong to a single segment only, while in overlapping clustering subjects may belong to multiple segments. In fuzzy clustering the hard membership or non-membership for a subject in one (nonoverlapping) or multiple (overlapping) clusters is replaced by gradual membership indicating the nearness of the subject to the cluster. Overlapping and fuzzy clustering approaches are consistent with the notion that consumers may belong to different segments when they desire to several aspects in a store, possibly in relation to different buying and consumption situations (Howell and Rogers, 1983), (Srivastava, Alpert, and Shocker, 1984). There is a risk of oversimplification and loss of explanatory power when clusters are assumed to be mutually exclusive in store image segmentation research (Arabie et al, 1981).

An integration of cluster based and response based model of segmenting is found rare in the image based segmentation of the retail shoppers. The blend of various techniques and tool for market segmentation will provide us a remarkable contribution to the literature by various means. (i) it can pave way for better understanding on the shopper behavioral segmentation, (ii) it enhances in profiling the segment and (iii) it helps for better prediction by offering the result in equation

form or in a set of descriptions form, that can be used for further indentifying and classifying the subject/sample/member likely to fall into the desired target.

4. Number of stores and Type of retail format:

Some approaches require the number of stores to be evaluated by the subject to exceed the number of predictor variables (i.e., the number of store image attributes or the number of dummy variables in conjoint designs) and /or require that each subject evaluates an equal number of stores. Whereas, retailing in India is at a flux and hence attitude measurement may not yield the required results. Behaviour at the store, as factual information, may be a more reliable measurement. It is posited that a contextual stance increases understanding of the behaviour of a shopper. It is useful because the intentional stance may not always predict accurately or may do so only when situational correspondence is extremely high. It is also indicated that such an approach prompts innovation in data collection and analysis that has not been generated by previous, non-contextual, consumer research. This methodology becomes especially appropriate for store-level research, as the context of a store is different from closed setting experiments that have been used to understand operant behaviourism. As the research design, especially on developing and validating the segmentation descriptors and data collection from the shoppers is an innovative approach (integration of both qualitative approach and quantitative analysis), validation is not unsophisticated. As this research aims to find choice of retail store, this research takes cues from previous studies to define and identify the various retail store formats for study. That includes various store formats, such as convenience stores, supermarkets, supercenters and mass

merchandisers. However, for the purpose of the study, we conceptualize, the differences, as the width and depth of assortment, in creasing from convenience to mass merchandisers and the prices decreasing again from the convenience store to the mass merchandiser, i.e. as we move from a convenience store to a mass merchandiser, we encounter lower prices, and wider and deeper assortments. Another way these will be different is that we observe a pyramidal structure in the number of store of each format. Because of the cost structure and the target population needed to sustain each of the store formats (large population for mass merchandisers, and small one for convenience stores), they will vary in number, and accordingly will their average distance for any customer. Other formats that exist are, category killers and specialty grocers, offering product assortment differentiation and customer relationship management. All the customers naturally, do not prefer a cheaper store or the one-stop convenience. A cheaper store might be offering lower levels of service, poor presentation, poor atmospherics, and even crowding, which might reduce the benefits drawn and increase the costs. Similarly, all the customers might not need a wide assortment, and indulge in multi-store shopping, because of category dependence, narrow range in the shopping basket, low opportunity cost of time. Hence, we say that in a heterogeneous base, different shoppers will choose different store formats depending on their own characteristics, and the values being offered by the formats.

5. Optimization criterion:

Some methods of cluster subjects based on similarity on variables of interest (e.g., attribute importances), while other maximize the (within-segment) ability of the store images attributes to predict overall store image. The former type of method does not necessarily lead to cluster whose store image attribute importances best explain the overall evaluation of the stores of each individual in the sample (Kamakura, 1988). One may obtain a good cluster solution (in terms of the homogeneity of estimated-image-attribute weights) without any appreciable increase in predictive power over the unsegmented model, as was indeed found in the context of store image by (Howell and Rogers, 1983). It has been argued that predictive fit of the estimated store image functions should be maximized, as it is a key measure for evaluating market segmentation results and for developing a marketing strategy (Hauser and Urban, 1977), (Kamakura, 1988). In this research it has been desired to utilize the following (Xie and Beni's function, the Dunn's Index (DI) and Alternative Dunn Index (ADI)) algorithms that can efficiently determine a reasonable number of clusters/segments to return from any non-hierarchical clustering/segmentation algorithm. In order to identify the correct number of clusters to return from a non-hierarchical clustering/segmentation algorithm, this research utilizes the above mentioned cluster validity function.

Market researchers have discussed on store image based market segmentation in the perspective of various partitioning and clustering methods, but such studies have toiled with unsupervised clustering approaches. But, no studies have identified the integration of fuzzy c-means with subtractive clustering for

obtaining store image based market segmentation. This research attempts to make use of the above mentioned cluster validity function for this research, The above mentioned cluster validity functions are usually used for image processing analysis where the data is images in nature. But such validity functions are rarely used in social science research. So, utilizing such validity function in social science research and finding its merit and value in social science research is reasonable value addition to the literature.

6. Statistical test:

Does the procedure incorporate significance tests for the effect of the various store images attributes on the overall evaluation (store choice) and if so, which type of significance test is used?. Previous studies have well utilized various test statistics to validate the influencing behavior of store attributes on store format choice. Study conducted by Verhallen and DeNooy (1982) and Hortman et al. (1990) used t test to ascertain the similarities in attribute importance for the stores. They have used t test for non-overlapping clusters. Wedel and Steenkamp, (1989) have used test of Monte- Carlo for FCR method. As a validation point of view, very few researches are there to measure the significances of attributes on either on various store formats or on store choices.

This research uses chi-square with Monte Carlo exact test procedure for evaluating the effect of the various store images attribute segmentation on the overall evaluation of store type choice. Typically the shoppers evaluate various store formats and later they select and decide on their store types are they are ultimately

segmented and they have visited the store. The particular store becomes the store chosen by the retail shopper. So, analyzing the segmented members and with of the store chosen by the shopper will reveal the attribute evaluation of various stores.

Research Objectives

Given the foregoing problems due to lack of enhanced approach in segmenting retail market based on store image, the objectives of this research are:

1. To bring an alternate methodology for developing a typology of shoppers based on behavior pattern towards various retail store images
2. To develop a measurement scale based on the shoppers typology
3. To evaluate the influences various store images of different store type choice.
4. To find the number of clusters for determining the market boundaries by resorting to segment the market using subtractive cluster algorithm and other soft computation based cluster validation techniques.
5. To measure the fuzziness level of each membership in the identified market segments in order to validate the range of fuzziness in the market.
6. To compare the results of the fuzzy segments with crisp clusters for identifying the stability of the resulted segments.
7. To build a predictive model of group membership based on the observed characteristics of each membership.
8. To create an answer-tree based classification model for crisp segments in tune with demographic variables for the purpose of gridding the market.

Limitations

Like all studies, this one is not without limitations. One limitation is the response rate, that is the entire food and grocery retail market in the country is under transition period. Every retail chain in the country is upgrading the retail formats. In this situation, the study on store image has achieved the response rate of only 67.57 percent against the standard 80 percent.

The current study is exploratory in nature and, due to observation as the methodology, it does not capture any informant information that could not be observed. Thus, areas such as extent of planning and deviation from the plan could not be brought out. An interview before and after shopping could be conducted to map the shopper in this regard. Also, the study does not bring out the motives for the behaviour as exhibited. An attitudinal survey of shoppers after they have been observed could be attempted. Another area that has not been captured by this research is orientation of shoppers and its relationship with behaviour as exhibited in the store. Further, it has been found that a shopper would exhibit different behaviour at different stores and possibly, at different time periods of the day or month. A study to understand the randomness of such behaviour may prove useful. This study is concerned with information processing at the store only. Any impact of pre- or post-purchase information has not been captured. Also it is based on tourists shopping behavior.

The other limitation is the indent of the research. According to the CII and d j f ! f fb di ! ! f bjnj hl j ! e jb ! i fl g e! b e! h df ! n bl f ! j fl j ! the country has about 12 million outlets, where 96 percent of outlets are largely

unorganized and only the remaining 4 percentage of the market is organized and the market does not have any clear base. So the samples (well formatted food and grocery stores, fashion retails, supermarkets, etc.,) taken for the study cannot be claimed to have been from an organized sector as compared to developed countries.