

5. Data Analysis and Findings

5.1. Influence of Shoppers Attitude on Store formats/ Type Choice

This primary objective of this research paper attempts to make a few numbers of contributions to the store image and tourists shopping behaviour. First, it models store choice as in which depending on their demographic attributes (are stable in nature), and their present needs (dynamic), the consumers first choose a store format, and then move on to choose a particular store within the chosen store format. It also tries to plug the gap in the literature on store choice, which has looked at either the store attributes or the consumer attributes in isolation. Thirdly, it identifies that the format choice, and store choice are dependent on different customer attributes, and models them differently. This study attempts to combine both of them in the same framework and to plug this gap.

Model

This research use a multinomial logistic regression formulation and model consumers' store type choice decisions to be a two-stage process in which consumers first choose the store format and then the store from which to buy groceries and other items. We use the shopper attributes along with the store/format attributes to model the choice.

The importance of the shopper attributes is emphasized because to demonstrated a systematic relationship between a household's shopping behaviour and store preference. At the same time it has also been shown that store type choice are tend to be different for individuals and households as a consequence of personal differences, household composition, and activity patterns.

Description of the Multinomial logistic regression model

Table 5.1 indicates that there is a likelihood ratio test of the model (Final) against one in which all the parameter coefficients are 0 (Null). As the Table 5.2 indicates that as in the linear regression, the r-square statistic measures the proportion of the variation in the response that is explained by the model. The r-square statistic cannot be exactly computed for multinomial logistic regression models, so these approximations are computed instead. Larger pseudo r-square statistics indicate that more of the variation is explained by the model, to a maximum of 1. As per the analytics, the Pseudo R-Square values are very close to 1, which means it has captured more variance in the model. Table 5.3 indicates that the likelihood ratio tests which check whether each effect contributes to the model. The $-2 \log$ -likelihood is computed for the reduced model, that is, one without the effect. The chi-square is the difference between the reduced model and the final model. If the significance of the test is small (i.e., less than 0.05) then the effect contributes to the model. According to the analysis, all the category variables like cluster variables, different clusters, the demographic variables captures the model. The numerical variables of age and categorical value of the loyalty maintenance status of shoppers maintained by the various store are significantly added to the model at the p-value 0.10 level of the confidence interval. Whereas, all the other categorical variables like Gender, Marital Status, Household Income, Highest Educational Level, Number of Children, Number of Family Members, Current working status, Present Occupation, Loyalty Maintenance and Development are very much significantly accepted i the model at 95 percentage of the confidential interval (p-value is less than 0.05 level).

Demographic variables, Shopper attributes and Store choice

This research emphasizes the need for capturing the shopper attributes in the store image and store choice model, this research initially chooses only the demographic and socio-economic variables for modelling. The reasons are that first and foremost, most of the existing studies have already used such information and the utility of using demographic variables as predictors for store type/format choice has already been demonstrated. Secondly, the demographic details are more freely available, can be objectively measured and have a greater confidence attached to them by managers. Lastly, even the behavioural attributes to some extent can be captured in the model.

In the literature on values, a connection has been recognized between values and brand choice behavior (Erdem, Oumlil, and Tuncalp, S. 1999). It has also been reported (Rokeach, 1973) that different brands of detergents and cars may appeal to consumers who hold different values. Subsequently, Keng (1993) who examined the relationship between value choice and demographics was able to demonstrate that, consumers choosing different personal values differed in their demographic make up. Similarly, attitude toward a store is seen as a function of the consumer's perceptions or beliefs, of store attributes and the demographic, socioeconomic and personality characteristics. Also the household characteristics of the consumer as size, number and age of children also influence the attitude formation process (Solgaard and Hansen, 2003).

Classification of store formats/ types

We have classified the store types like 1) Durables, 2) Food and Grocery, 3) Cosmetics and Fancy, 4) Apparels, Shoes and Fashion Stores, 5) Book, Music and Gift Shops, and 6) Chemists and Medical Shops. As the pre-analysis indicates that the medical and chemists store do not have significance effect on the model, we excluded from the model.

Factors affecting Store type and format choice

The different demographic and socio economic factors can affect the store format/type choice and the store choice in many ways. One is that these factors directly affect the format/type and the store choice. The other way is that, these affect the shopping basket, and the timing of the shopping trip, and therefore indirectly affect the format choice. This research concentrated only on the direct or main effect not of the interaction / indirect effect.

Members of the family and the size and its composition

The evidences of past studies reveals the influences of family size and the composition in store type choice, which is briefly discussed here and so we taken this as the influencing factor in store type/ format choice. Family size and composition implies the total number of members in a family and the distribution between adults and children. Larger families will have higher levels of consumption and will buy larger quantities of products/services to satisfy the consumption. They will also require a wider variety of products, and therefore are likely to get stocked out more frequently than smaller families. It is thus likely that

larger families will have larger basket sizes and larger number of shopping trips. The household composition, will also affect the shopping basket, it has been suggested that for a given household size, the presence of children in the household is likely to lower expenditures relative to an all-adult household due to differences in consumption rates for children and adults. In addition, the presence of children is likely to result in a more diverse basket size, with higher chances of stock outs and greater impulse purchases. Thus the presence of children will induce baskets, with larger baskets in terms of categories, but smaller baskets in terms of size. In a comparison of convenience stores, and the supercenters, demonstrated that, smaller households tend to patronize traditional neighbourhood markets rather than travelling to larger grocery shopping venues such as supercenters. In the light of all the above it is proposed that, the family size should be positively related to a patronage of supercenters (and away from convenience stores). This will happen on account of both a larger basket size and a more diverse basket composition (Bhatnagar and Ratchford, 2004). In addition, as the larger basket size is associated with EDLP formats, the family size should be positively related to shopping in EDLP formats.

Income level of the family

High family income levels, may lead to higher consumption levels, which would imply larger aggregate shopping. Previous research supports the view that a household's income has a major effect on its consumption. In addition the higher income will result in a shopping basket comprising of goods of better quality and is also expected to have a wider variety of assortment in the consumption. Thus

the aggregate shopping is expected to grow with the income levels and also diversify in terms of the objects of consumption. With a higher income level, the impulse shopping will be less drain on the resources and is also expected to increase. In addition high-income households will have a higher opportunity cost for time and should be less willing to spend time on shopping trips for utilitarian consumption. Thus the frequency of shopping trips is expected to be negatively related to household income. Studies found that higher income households tend to shop more frequently. Also as the opportunity cost rises, the shopping trips might become, multi-purpose shopping trips and the shopper might prefer a one-stop convenience.

Thus, higher incomes should be positively related to a patronage of supercenters (and away from convenience stores). The larger income will give rise to differentiated assortments and will therefore be associated with speciality stores. In addition, higher incomes might create the need for higher service; since HiLo stores are associated with higher service, higher incomes might be associated with shopping in HiLo stores. Studies have also obtained results, which point to relation between choosing HiLo stores and higher income levels.

Employment status of the family members

The number of working members in the family is expected to relate to the income of the family, the consumption levels and thus the size of the basket. The increase in the number of working adults will increase consumption in two ways. Firstly it will have a positive effect on the income and the consumption; secondly it might result in higher demand for services and products as a result of the time constraint

of the adults and the opportunity cost of time. For the families with higher number of adult members working, the opportunity cost of time is high, and tends to reduce the frequency of shopping trips and at the same time increase the basket size. Previous studies support that households having working adults have a lower frequency of shopping trips as compared to households in which adults are not working. It also found that households with two working adults shopped less than households with one working adult. A higher number of working members in the family, would imply a higher opportunity cost, and result in lesser number of shopping trips and bigger basket sizes. Also, this might lead to multi-purpose shopping trips and shoppers might rather prefer a one-stop shop than visiting a number of shops. Therefore, the number of working members would be positively related to patronage of supercenters (and away from convenience stores).

Store choice has been seen to be affected by a number of store image variables, to various degrees. Of these some might be similar within formats/types (and hence captured in format choice), and some might be different across stores within the same format. Here we discuss the factors, which might be different across stores within the same format. The various store image variables that influences the behavioural aspect of shoppers are included in the study, they are Ambience, Prior-information, Availability of merchandize, Specific product, Variety, Interaction with sales personnel, Price, Influence of price on brand switching, Indoor display and outdoor promotions related to discounts, Seeks help from sales personnel, Intensive search, Stress on product category, Seek value for money, Seek depth in merchandise, Limited role for salesman, Informed about

promotions, Examine the product thoroughly Influence of store image, Priority over other customers, Friendly attitude of sales personnel, Recommendation to others, Brand conscious.

As there are many variables, this analysis only captures the factor score of all the variables and only the factor score is used for the analysis, The factor score is derived from performing the confirmatory factor analysis. Four major factors are obtained; they are predetermined, economy, variety seeking and familiar behaviours. Apart from this loyalty maintained status by the store and feeling of loyalty by the shopper are also included for the study.

Influences of demographic, socio-economic and other store image based behavioural aspects on store type choice.

The model is formulated for all the store types, they are durable store, food and grocery stores, cosmetics and fancy stores, apparels-shoes and fashion Stores, book-music and gift stores. As the result is unified for the all the stores, the report is presented for each store separately for easy understanding purpose. The model fits for

1. Durable Store

The Table 5.4 indicated the parameter estimates, their standard errors, significance tests, and confidence intervals are provided for the model parameters. The Wald statistic is the square of the ratio of the parameter estimate to its standard deviation. If the significance of the statistic is small (i.e., less than 0.05) then the

parameter is useful to the model. The factors like age, household income, number of children in the family, number of family members, both the genders, graduates of the education kind are having the significance in the model, apart from the the store image behavioural aspect related to variety seeking and economic behaviour are significant to the model, whereas, the variables of familiar and pre-determined shopping behaviour is not significant for the durable store model. Thus, this indicates the variety seeking and economic behavioural aspects of store images have attracted the durable stores. Whereas, the pre-determined and familiar kind of store image behaviour has not attracted. Moreover, Parameters with significant negative coefficients decrease the likelihood of that response. As per the results , it is evident that age has negative impact on durable store, means lesser the age is lower the attractiveness, the durable store have to concentrate on the above the average level of age of the shoppers. Same way, the small family size and members they have at attracted more as these variables show the negative beta value. The values of 0 are indicated in the Table 5.4 represents that the particular variables in the rows are excluded from the model because of insufficiency of data available, so the model cannot converge.

2. Food and Grocery

The Table 5.5 indicated the parameter estimates, their standard errors, significance tests, and confidence intervals are provided for the model parameters for food and grocery stores. The Wald statistic is the square of the ratio of the parameter estimate to its standard deviation. if the significance of the statistic is small (i.e., less than 0.05) then the parameter is useful to the model. the factors like age,

household income and number of children in the family, number of family members, both the genders, marital status of single and married, highest education of all category like high school, graduate, pg/professional, and the current working status of working outside home full time and not working outside, and all the category of present occupation like professional/technical, manager/official/proprietor, clerical/sales, crafts/trades and homemakers, hard core loyal, just loyal, loyalty maintenance status by the store are significance on the model. Among the influencing variables, the variables like lower age, low number of family members, divorced cases, high school as the highest education, working outside full time, professionals, traders and retired people have negatively influencing the model. In food and grocery retail store, economic and pre-determined store image behavioural aspects are influencing positively to the model. Whereas, the other founded store image behavioural aspects related to familiar and variety seeking in not significantly influencing the model. The values of 0 are indicated in the Table 5.5 represents that the particular variables in the rows are excluded from the model because of insufficiency of data available, so the model cannot converge.

3. Cosmetics and Fancy

The Table 5.6 indicated the parameter estimates, their standard errors, significance tests, and confidence intervals are provided for the model parameters for cosmetics and fancy stores. The Wald statistic is the square of the ratio of the parameter estimate to its standard deviation. If the significance of the statistic is small (i.e., less than 0.05) then the parameter is useful to the model. The demographic and

socio-economic factors like age, household income, number of children in the family, number of family members, the gender category of both male and female, marital status category of single and married, the highest education of graduate, current working status including the people work outside home full time, work outside home part time, not working outside, retired, home makers have the significance influence on the model.

The cosmetics and fancy store type retail formats have captured the significance store image based behaviour of variety seeker, economy, and familiar.

Moreover, parameters with significant negative coefficients decrease the likelihood of that response. As per the results, it is evident that number of family members, the highest education qualification of both high school and graduate, the current working status of working at outside home full time, and the present occupation of crafts/trades category, retired persons, and home makers are negatively influencing the model. The values of 0 are indicated in the Table 5.6 represents that the particular variables in the rows are excluded from the model because of insufficiency of data available, so the model cannot converge.

4. Apparels, Shoes and Fashion Stores

Table 5.7 indicated the parameter estimates, their standard errors, significance tests, and confidence intervals are provided for the model parameters for Apparels, shoes and fashion stores. The Wald statistic is the square of the ratio of the parameter estimate to its standard deviation. If the significance of the statistic is small (i.e., less than 0.05) then the parameter is useful to the model. The

demographic and socio-economic factors like the gender category of both male and female are having positive and significant influence on the model, and the marital status category of single and married are also have the positive and significant influence on the model. The graduates have positive and significant impact on the model. Whereas, in the case of, the store image behavioural aspects, the variety seeking behaviour aspects influences the apparels, shoes and fashion stores. Moreover, parameters with significant negative coefficients decrease the likelihood of that response. as per the results, it is evident that the demographic variables like family size, the marital status of widowed category, the education category of high school as the maximum education, and the person who work outside as full-time, the occupation of professional and technicians, craftsmen, managers, retired persons, and typical home makers are negatively influencing the model. The values of 0 are indicated in the Table 5.7 represents that the particular variables in the rows are excluded from the model because of insufficiency of data available, so the model cannot converge.

5. Books, Music and Gift Stores

Table 5.8 indicated the parameter estimates, their standard errors, significance tests, and confidence intervals are provided for the model parameters for books, music and gift stores. The Wald statistic is the square of the ratio of the parameter estimate to its standard deviation. If the significance of the statistic is small (i.e., less than 0.05) then the parameter is useful to the model. The demographic and socio-economic factors

Age, Household Income, Number of Children in the family, Number of Family members are significant and positive effect on the model and the attributes of Books, Music and Gift Stores have significant and positive impact on variety seeking behaviour, and the gender category of both male and female have positive significant influence on the model. Moreover, parameters with significant negative coefficients decrease the likelihood of that response. As per the results, it is evident that the demographic variables of marital status as single, married, widowed have negative impact on the model. Similarly, the categories of high school educated, graduate are having the negative impact on the model. Likewise, the present occupation category of professional/technical, manager/official/proprietor are also having the negative impact on the model. But the loyalty maintenance status by the store has positive impact on the model. The values of 0 are indicated in the Table 5.8 represents that the particular variables in the rows are excluded from the model because of insufficiency of data available, so the model cannot converge.