Segmenting Indian Consumers: A Psychographic Approach

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Abstract

Segmentation is the need of modern marketing because to serve the entire market is no more profitable. The very first step of market segmentation is to identify which variables are most important to segment or to group the customers into homogeneous groups. Usually more than one variable is used to give the description of market segments. The most common variables used are demographic, geographic, psychographic, and behaviuoral. In the present study demographic and psychographic variables are taken into consideration. The human behavior is dominated by the internal psycho of the individual and the way they treat with the society. The main psychographic variables as values, social interest, attitude and lifestyle are broadly taken into consideration. Cluster analysis is used to segment the market. Factor analysis is used to identify the factors for segmentation.

Index terms— segmentation, psychographic variables, factor analysis, clusters analysis.

1 Introduction

emographic segmentation is perhaps the most commonly used and most easy or natural segmentation to assess. It has been widely described in the literature that demographic characteristics are important factors to determine fruit intake ??Turrell et. al, 2002). But demographic variables are losing their importance because of the cultural and social changes. Demographic factors are no more good for segmentation ??Yenkelovich, 1968). However, they are useful only when they are correlated with the relevant objective function, such as purchase behavior or brand preference ??Matsuno, 1998). The present study is related with the purchase behavior of consumers influenced by psychographic variables.

The main purpose of psychographic segmentation is based on attitude, lifestyle, value and interest. Lifestyle segmentation has been used for several marketing and advertising purposes ??Wells and Tigers, 1977).

2 II.

Objectives 1. To identify the psychographic factors affecting the purchase behavior of consumers. 2. To segment the Indian market on the basis of psychographic factors.

The most widely used measures of lifestyle segmentation are Rotech's value survey, List of Values (LOV), Values and life Style (VALS2), and Activities, Interest, and Opinions (AIO).In the present study twenty five psychographic variables are used to segment the consumers. To reduce the data set or to make feasible study explanatory factor analysis is used, by which six meaningful factors are found.

One of the most common scales is used in the study that is Likert scale. It was developed by Rensis Likert in 1932. The Likert scale can be four-point, fivepoint, six-point, and so on. The even-numbered scale usually forces a respondent to choose while the oddnumbered scale provides an option for indecision or neutrality. The five point scale is used in the study as 1=strongly disagree, 2=disagree, 3=not sure, 4=agree, and 5=strongly agree.

A sample of 400 consumers selected through multi stage random sampling is used to draw the results by using factor analysis and cluster analysis. Statistical software PASW 18 is used to get the results.

IV.

3   Results and Discussion

Before segmenting consumers market factor analysis is done to reduce the data set and to get the variables affecting the purchase behavior of consumers. An explanatory factor analysis is applied on twenty five psychographic variables.

For factor analysis, the problem of multicollinearity has been checked. For this purpose the correlation coefficient of each and every variable is calculated. Correlation coefficients are not excessively large and each variable is reasonably correlated with other variables. Therefore none of the variable is dropped out. However, principal component analysis is used for factor extraction which indicates that there is no problem of multi collinearity. .000 **??**aiser (1974) recommends a bare minimum of 0.5 and that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb **??**Hutcheson & Sofroniou, 1999). Here in the present study the value is 0.828, which falls into the range of being great, so we should be confident that the sample size is adequate for factor analysis. Barlett's measure tests the null hypothesis that the original correlation matrix is an identity matrix. For factor analysis to work there should be some relationship between variables because if correlation matrix were an identity matrix then all correlation coefficients would be zero. Therefore Bartlett's measure tests that whether there is significant relationship between variables or not. Therefore a significant Bartlett's test tells that correlation matrix is not an identity matrix. For the present study data, Bartlett's test is highly significant (p < .001), and therefore factor analysis is appropriate.

4   D KMO and Bartlett's Test

Here in the present study a principal component analysis was conducted on 25 variables or statements with orthogonal rotation or varimax. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = 0.828 (great according to field, 2009) and all KMO values for individual items were > 0.7, which is above the acceptable limit of 0.5. Bartlett's test of sphericity ? 2 (300) = 6680.173, p < 0.001, indicated that correlations between items were sufficiently large for principal component analysis. An initial analysis was run to obtain the eigenvalues for each factor. The factor analysis retained only six components in the final result and the table below shows the factor loadings after rotation. The items that grouped same factor indicate that factor 1 represent the personal values, factor 2 work values, 3 social interests, 4 general attitude for life, 5 prudent and factor 6 is of brand conspicuous. The above tables related to factor of prudent and general attitude for life are showing that the items are positively contributing in the scale. If any item deleted then the reliability will decrease. It means that six factors extracted from factor analysis are really influence the purchase decision of consumers.

5   Rotated Component

After defining the factors that are going to be used in the present study, it is necessary to define the segmentation technique. Firstly the purpose of segmentation is to be understand, segmentation is to link consumer characteristics with the brand preference.

Here in the present study cluster analysis is used to segment the market. When conducting a cluster analysis, the first step is to define the variables on which the clustering will be based. Here in the study six factors were already defined on which basis market is to segmentation. The second step involves selecting an appropriate distance measure which is going to determine how similar or not the objects being clustered are. The most common measure is the Euclidean distance, which is the squared root of the sum of the squared differences in the values for variable **??**Malhotra, 2009). The third step is selecting the cluster procedure. Clustering procedures can be hierarchical and nonhierarchical. The hierarchical is the most common procedure, and can be agglomerative or divisive. The divisive method starts with all respondents in one group, then it divide each respondent in a separate cluster. In the agglomerative method each respondent starts in a separate cluster. This last technique is very common in marketing research, and consist of linkage (single, complete, average), and variance (Wards, centroid) methods. The variance method seeks to generate clusters to minimize the within-cluster variance. In the Wards procedure, the means of the variables in each cluster are computed, and for each object the squared Euclidean distance is calculated. The distances are summed for all objects and at each stage, the two clusters with the smallest increase in the overall sum of squares within cluster distance are combined (Malhotra, 2009).

Once the cluster procedure is defined, it is necessary to select the number of clusters require for study. In a hierarchical clustering, the distances between clusters can be used as criteria to select the number of clusters with the agglomeration schedule (in the column of coefficients, look for large increases between stages), another technique is using a dendogram. In the present study four segments were identified. With the help of K-Mean cluster analysis characteristics of four identified clusters were discussed.

After defining six factors extracted from factor analysis the next step was to create segments based on those factors. Four clusters were identified based on the coefficients with large increase between stages, with the technique of dendogram and centroides. The four clusters were distributed 11.3% of the sample, 23.8%, 6.5% and 58.5% of the sample.

Four clusters seem to be more meaningful than three and five cluster grouping. The interpretation for clusters was done after examined the clusters centroides. The centroides are the mean values of the objects contained in the cluster on each variable. The high values in each cluster were taken in to consideration. Cluster 2 is

male dominating cluster with 23.8 % of the total consumers respondents (N= 95). This cluster is quite young and initial career starter consumers groups(N=78 0f the consumers below age of 45). This cluster is having the young and fashionable consumers those who are prudent and spend thrift as well as they are emotional due to the age factor and devoted towards their work. The cluster is basically consist the consumers who are getting good income , young and want to spend money but do not have any specification of brands. Usually personal care products are purchased by this group more as a trail bases because these are no t brand loyal. Cluster 2 is a group of young, active, enthusiastic and emotional male and female. Cluster 3 is the smallest cluster of the population (N=26) and only 6.5% of the population. This cluster is having highest number of male i.e 57.7%. This cluster is having more male with age 18-35 and the

6 Number of Cases in each

7 Gender

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Volume XIV Issue III Version I Year ( ) income of the cluster is also low. The consumers of this cluster are of different nature they are having positive attitude towards life as they are young, ready to take risks. The cluster is dominated by the persons those who are spend thrift and brand conscious. This cluster is formed with the individuals those who are free from Cluster 1 is 11.3% of the population (N= 45). This cluster is having 25female and 20 male that means the cluster is dominating by female. The middle age group of 36-45 is higher than the other groups in this segment. Middle income group is dominating the segment. The cluster 1 is the group which has the individuals those who are socially very active as well as segment tends to be of lower income, which makes sense being the younger age group is more likely to make a lower income. Gender *Income for cluster 4 The cluster 4 is the largest cluster with 55.8% of the consumer respondents (N= 234). This cluster is also dominating by male, middle aged and middle income group. This cluster consist the individuals those who are not serious about their work but talk about public issues, emotional, extravagant, want to show off. The cluster 4 is having the different personality characteristics which make a person to buy more and branded products but related to their emotion.

The clusters were labeled according to the characteristics of the cluster. As cluster 1 was labeled as the doers, cluster 2 as the nurtures, cluster 3 as the mechanics and the fourth cluster was labeled as the reformers.

All four clusters are significantly different from each other in the six factors of human psycho. The factor of personal values is having positive mean score in cluster 2 and cluster 3. The factor of work values is positive in cluster1 and cluster 2. Cluster 1 and cluster 4 are having social interest common where as cluster 3 and cluster 4 are influenced by general attitude of life factor. The cluster 2, cluster 3 and cluster 4 are of prudent and brand conspicuous. Cluster 1 is of more work oriented as well as socially active kind of individuals as work values average for cluster 1 is 0.471 and social interest average is 0.192. cluster 2 is a emotional work oriented and spend thrift group of individual. The score of personal values is 0.36, score of work value is 0.72 and score of prudent is 0.11. the cluster 3 is having prudent score maximum it means this group is having the individual those who love to shop and outings. This cluster is a group of persons with positive attitude and those who want to maintain the status by branded products. Cluster 4 is different from all other because it is group of those who are not work oriented but still positive towards life and want to spend for branded product and even they are emotional it means this group is a group of arrogant type of personalities.

To sum up of the present study it may be said that now a day's people are not bounded with the demographics they are more driven by their psychographic variable and personality. As the present study showed that the different clusters of population are not significantly differently for gender, age and income. It means that the old assumption of demographic segmentation is no true but still companies do believe in demographic segmentation which may not give good results as psychographic segmentation can give. The main reason behind this is that the human behavior like purchase behavior is driven by the internal psycho of human being. People behave according to the internal personality. The result showed that the six factors that influence the purchase behavior of consumers and segments were based on the six psychographic factorsf. The study states that Indian market do consist four different type of psychographic cluster which may prove to be good information for the marketers.

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Figure 1: Segmenting

Segmenting Indian Consumers: A Psychographic Approach Segmenting Indian Consumers: A Psychographic Approach

The table of transformation matrix provides the information about the degree to which factors were rotated to obtain the final solution. If no rotation were necessary this matrix would be identity matrix. If orthogonal rotation were completely appropriate then a symmetrical matrix will appear. Component Transformation Matrix Component 1 2 3 4 5 6 Dimension 1 .977 -.025 .081 .108 -.026 .159 2 -.003 -.163 .807 -.539 .179 -.024 3 -.030 .688 -.037 -.105 .540 4 -.138 -.584 .113 .476 .447 5 -.158 .248 .419 .319 -.644 .471 6 .010 .310 .391 .599 .248 -.575 Extraction Method: Principal Component Analysis. Inter-Item Correlation Matrix for personal values Cronbach's Alpha on Standardized Items N of Items Inter-Item Correlation Matrix for general attitude for ife Cronbach's Alpha Based For Scale of General Attitude for Life: For Scale of Social Interest: Reliability Statistics for scale of social interest .448 For Scale of personal Value Scale: s25 14.41 13.194 .704 .924 .692 .470 s8 12.26 5.405 .550 .303 .791 Reliability Statistics for prudent Sub scales: 1. Sub scale1(Personal Values Scale) -Items 9,12,13,20,23,24 2. Sub scale 2 (Work Values) -items 1,2, 10,21 3. Sub Scale 3 (social interest) -items 16,17,18,19,25 4. Sub scale 4 (general attitude for life) -6,7,22 5. Sub scale 5 (prudent) -4, 14,15 6. Sub Scale 6 (Brand Conspicuous) -3,5,8,11 Scale Mean if Item Deleted Scale Variance if Item Deleted Corrected Item-Total Correlation s11 12.23 5.035 .672 .457 .733 Squared Multiple Correlation Cronbach's Alpha if Cronbach's Reliability Statistics for scale of brand conspicuous Alpha Based Item Deleted s16 14.57 14.442 .498 .252 .763 s17 14.40 15.157 .463 .234 .772 s18 14.66 15.202 .447 .219 .778 s19 14.38 13.279 .697 .923 .695 on Cronbach's Alpha Cronbach's Alpha Based on Standardized Items Cronbach's Standardized N of Items .806 .807 Alpha Items N of Items 4 .907 .908 3

Matrix Component 3 4 .880 .875 .664 .623 .587 .933 .931 .928 Extraction Method as Principal Component Analysis and Rotation method as 1 2 5 6 s24 .854 s12 .852 s23 .821 s13 .809 s20 .752 s9 .698 s10 .844 s1 .833 s2 .821 s21 .806 s25 s19 s16 s17 s18 s7 s6 s22 s4 .924 s15 .908 s14 .905 s11 .830 s5 .807 s3 .801 s8 .732 varimax with Kaiser Normalization were used to get the factors. Rotation Method: Varimax with Kaiser Normalization. The table of summary shows the factor loadings of each and every variable on the related factor .The table of summary indicates the percentage of variance explained by each of factor. It is depicted from the table that first factor is explain the major percentage of the variance. The six factors are explaining in total maximum variance. The above table also shows the eigen values for each factor that is more than 1. Items Personal values Work values Social interest General attitude for life Prudent Brand conspicuous I feel secure because of current economic situation. 0.844 I respect authority. 0.833 I will consider product value when I buy it. 0.801 I spend a constant amount of money every month. 0.924 I usually buy well-known brands. 0.807 I like a routine life. 0.931 I do not like to take risks. 0.933 I will think things over before I buy a product. 0.732 I am emotional. 0.69 I can usually achieve my goals. 0.821 I like to buy something that can express my status 0.830 I often care about others. 0.852 I have a lot of friends. o.809 I like to go for shopping. 0.905 I usually go for cinema. 0.908 I always ready for debates on public issues. 0.664 I keep my eye on current affairs. 0.623 I am influenced by social media. 0.587 I am interested in national events. 0.875 I always care for my family health in every sense. 0.752 My work emotion will not affect my family. 0.806 I look life as a challenge. 0.928 I love to talk with friends. 0.821 I like to help others. s9 s12 s13 s20 s23 s24 s9 1.000 .500 .470 .506 .466 .783 .783 5 s22 s6 s7 s22 1.000 .801 .812 .502 s12 .500 1.000 .488 .575 .510 .970 No item is to be deleted s6 .801 1.000 .816 s13 .470 .488 1.000 .493 .920 .498 s20 .506 .575 .493 1.000 .509 s7 .812 .816 1.000 For Scale of Work Values: .570 s23 .466 .510 .920 .509 1.000 .515 s24 .502 .970 .498 .570 .515 1.000 Item-

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