QSR Consumer's Essence: a cluster analysis approach

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Abstract

The rise in demand of quick foods has made it a competitive ground for many players, especially several multinational companies paved the way for their entry into several countries of the world, Schlosser, (2001). The thought of the same was difficult in India where fresh and home cooked food is preferred and cultural differences have been observed in response of consumers vertically as well as horizontally. But some multinational organizations with deep pockets kept their patience for the pertinent environment, infrastructure and studied the cultural and societal notions for such types of fast foods. To be able to meet the taste and choice of such a diverse population was a real daunting task but greater research work and in depth knowledge paved the way for several multinationals towards becoming the favorite taste for Indian consumers. Thus, the present study aims at finding the preference of dimensions of service quality and level of satisfaction about QSR, clustering techniques are used in mapping consumer's preference with their Demographic and psychographic profiles and have been used to segment the consumers of QSRs of Delhi and NCR through purposive and convenience sampling of 400 consumers of which only 316 were usable. The results have led to the formation of twelve such clusters with subtle differences in the preference of consumers. Cluster 1, 7 and 10 consists of such respondents who are looking for tangibility factors as cues to judge the quality of QSR. Cluster 2 comprises of consumers for which assurance or commitment to assurance is the utmost priority that QSR would be committed to deliver perceived services. Cluster 3, 8 and 11 consumers look at the level of satisfaction more than anything else, if they get satisfaction, they would be happier. Cluster 4 and 12 consumers get more attracted to responsiveness at first: that is they are interested in best services. Cluster 5, 6 and 9 consumers are looking for more reliability so that in their repeat visits same level of service quality is sure to receive.

Keywords-*QSR industry, Cluster analysis, Consumer satisfaction, service quality determinants, Fast Food Restaurants*

I. Introduction

In recent times there has been an increase in the outlets serving quick food and every cluster of retail market is seen with the opening up of fast food joints in organized form or in unorganized form. Both forms of fast foods are occupied fully in the snack time especially in the evenings. This has been witnessed in almost all retail markets of Delhi and NCR where all such outlets formal or informal are attracting large number of customers. All forms of fast foods are on menu and customers are availing the benefits of it either by enjoying it there or by taking home. This trend is visually a soothing scene in metropolitan cities and catching up fast by Tier2 cities also, serving the needs and tastes to pallets of not just urban and semi urban customers but rural customers are also not lagging behind in setting the trends of eating out of the home and eating fast foods (Kaynak&Marandu, 2006). The change in paradigm at national, urban, semi-urban and rural can be attributed to lack of time as women at most of the places are also coming up for jobs and shouldering the responsibility of partner in meeting out the expenses of the house. This can also be traced back to the betterment in the level of education to girls and women and empowerment to women has made them stand confident with men at the workplace. Thus the change is forced upon them to deal with things in faster manner and life has become faster for them (Platania,&Privitera, 2005). Due to the busy life schedule and both partners working, less time is available for cooking meals and having sumptuous breakfast (Atkins, & Bowler (2001). Easy replacement is provided by fast foods, for working professionals as they can easily find places accessible near their office locations, for children as they love to have different tastes along with variety and above all, affordable to all the segments of customers. Thus many youngsters do not like to cook for long for fine dining or they don't like cooking to be a regular long time activity and wanted to find a shortcut which has easily been provided by these fast foods.

In our country cooking meal and serving it to the family is considered to be the prime responsibility of lady of the house and generally a willful prohibited area for men. But with the passing of time and necessity of both partner working culture, more men are coming to assist women at this household work and at the same time, more often the families are opting to go for eating out, since both partners are working now, so financial status have also improved and affordability for such choice have made its place in Indian families. So studying this trend in urban and semi urban culture will give deeper knowledge and insights into the pulse of the consumer and such a study will benefit marketers as well.

Trail (1994) and Key note, (2003), has pointed out on the sustaining increase in demand of quick foods from several years globally. The rise in demand of quick foods made it a competitive ground to play for many players into fast food sector; especially several multinational companies paved the way for their entry into several countries of the world, Schlosser, (2001). It was tough in India where cultural resistances occur when prepared food is consumed after so many days. To prepare to meet the taste and choice of such a diverse population was a real daunting task but greater research work and in depth knowledge paved the way for several multinationals towards occupying the favorite place for Indian consumers. How has all this been achieved creates the need for such a study. Thus, current study is being conducted to find out the determinants of service quality that customers pay attention in QSRs and to segment QSRs customers demographically and psychographically.

II. Literature review

Fast food industry is on rise constantly globally, so it has become imperative to find the factors responsible for such growth of fast food industry. Fast food has made its entry in our country even after such a great cultural and social diversity (Gilbert, Veloutsou, Groode&Moutinho, 2004). Globalization has made the path of fast food easy in India and paved the way to reach to all nooks and corner of the diverse culture and sectors of economy. Kara, et al. (1997) points out that fast foods are not restricted to geographical boundaries of any particular country but invaded every country across the globe. Changing life style, affordability and changing preferences of the customers are the main reasons for the growth of quick food restaurants industry (Davies & Smith, 2004). Like in other parts of the world, QSRs industry captured the ground fast and it became one of the growing industries in our country (Arshad M., Shamoon S., Tehseen S., Nousheen A., 2012).

Fast food is defined as foods with limited menu which is modified through technology and supply chain close association, products such as hamburgers, pizzas, chicken or sandwiches are example in this category,(Bender and Bender, 1995). What is the opinion of people towards fast foods whether they have knowledge about nutritional content or not, has been the matter of study by several researchers. Perception of fast foods in country like USA can be traced as people believe that it saves time and money and Koreans consider fast foods as reliable source of food, Lee and Ulgado (1997). Fast foods are consumed by all age people but it appeals most attractive to youngsters and children, Australian Division of General Practice (2003). Pettigrew & Roberts, (2006) studied that to attract children towards the fast food, marketers have used several techniques which not just lured the children, through providing free toys to them, also ensured the footfall through using the influencing power of children, Raymond (2000). Reasons for the exceptionally high acceptance and growth of fast food sector, as researched by some authors, can be the structure (franchisee model) through which organizational entry of fast food organizations have taken place Liu and Chen (2000) and also on development of simulation software which has increased the operational efficiency which has led to better production and such service delivery systems which can effectively reduce the time taken in operations, thus improving the service delivery, Church, Newman, (2000). Early growth of the segment was majorly the effects of initial trials and lack of awareness of the methods used to prepare fast foods and what is the effect of fast foods on the health of customers, all these factors were overlooked. But later on, more such research started to reveal the ills effects of fast food on the health of customers. Goyal and Singh (2007) pointed out that over a period of time people started talking about nutritional content of the fast food. They wanted more information on the contents of the food, its nutritional value and raised their hygiene concerns towards fast foods. More and more people getting alert on what goes inside and what makes this segment so appealing from service point of view also. So, Min (2011) introduced this point in discussion among fast food researchers that service features are especially critical in fast-food restaurant and customers. Demographic factors like age and gender were also studied by Fanning, Marsh and Stiegert (2010) to find out their impact on the growth of fast food segment. Whether the attraction of fast food is to younger generation or not, has also been the subject matter of study in Kobayashi (2009), he also studied and found out if there is any kind of relationship exists between academic performance of the students consuming fast food of America and Japan.

Kara et al., (1995) has formed the opinion that young American fast food consumers get attracted to it due to features like affordable price, variety and accessibility to them, whereas he observed that Canadian consumers are more interested in prices and new variety offered to consumers. Elderly aged consumers of fast food get attracted to QSRs due to other features of cleanliness, quality and taste of food, whether it is prepared

and served hygienically or not, what are the nutritional contents which are present in this food. Canadian consumers are more concerned with nutritional value, of course, but they are more interested in enjoying it in nice ambience, so they are particularly looking for good seating capacity. Similar study has been taken up by Brown et al., (2000) where he has focused that young consumer of fast food should be made aware of the nutritional content in fast food, so that he must make informed decisions about his choice of fast foods. Richardson and Aguir, (2003) have emphasized that the growth in this segment is mainly because of change in tastes of consumers and globalization of taste since consumers overseas travel has increased and since these organizations have also introduced ethnic diversity in their tastes and preferences, take away is the next reason which has made this segment more popular. Locational advantages are the key to the success of these quick serve foods as they choose to remain available at such convenient locations like near office places, along the roadside outside the school, college or university, on the bus terminals, between the shopping markets, outside the famous parks etc.(Platania and Donatella, 2003).

Nine such factors have been identified in the study made by Keynote (2003) which are contributing towards growth of fast food joints, five such factors are from macro environment such as social development, political growth, economic capabilities of populations, technological developments which have made this industry to work effectively and efficiently in such a short span of time to meet the expectation of consumers, credit goes to technological advancements to a large extent, that has made supply chain to be more responsive and efficient, then there are such factors like ecological awareness which are making people conscious towards their environment. Other microenvironment factors include demands from the market, influence of reference groups, paying capacity of consumers and regulatory framework of any area.

2.1 QSR industry in India

Cullen (1994) mentioned in his study that in American culture of eating out led to the increase in consumption of fast food along with convenience that it offered. Shetty (2002) supported the point stating that increase in fast food consumption in India particularly is the result of choice of youngsters called demographic dividends and improved economic status of consumers and more of females becoming empowered and independent. Huang &Howarth (1996) study has supported that there has been structural changes, economic changes and massive urbanization, which is the main reason for increase in the fast foods in Asian countries and the same will be continued for more numbers of years till the time this movement is continued. Similar studies have been conducted in Asian countries and results are also same which are showing growing trends of fast food in India and making their ways into college and school canteens also.

Study on the growth of fast foods in India is conducted by Harsh Kumar, RajdeepPalaha and AmandeepKaur, (2013), they worked on the fast food habits of the hostlers and also checked whether the consumer is taking fast food with the sufficient knowledge of those fast food. Role of parents and advertisements in promotion of fast foods was also studied. The trend of indulging in fast food consumption are available in every level of generation and income category, the evidences of which have been observed in Asian countries also.

2.2 Service Quality in Fast Food Restaurants

Service quality variables are different in different service industries, as propagated by Cronin and Taylor (1992) also, where he has mentioned that if high contact service industry is taken then measuring variables are different as compared to variables under consideration in low contact services. Thus, such literature review is taken into consideration which is concentrated on researches done in fast food context.

Lot of research studies are focusing Service quality in fast food restaurants in recent years (Min & Min, 2011). These have focused on perceived quality and customer satisfaction, in some studies behavior intention and the interrelationships among them are discussed, (Qin &Prybutok, 2008) are of the view that previous literature about fast food restaurants has emphasized. Brady, Robertson, & Cronin (2001) have studies customer perceptions and their relationship to cultural differences. Kwun (2011) has considered campus dining. Ladharia, Bruna, & Morales (2008) have talked about determinants of customer satisfaction. Michael, 2000; Min & Min (2011) research was aimed at examining perceived quality and its relation with different forms of fast food joint management forms, such as franchising.

Min and Min (2011) studied the service quality of fast food franchised restaurants in the United States. It was revealed that service delivery process in fast food restaurant can be checked at several points during service-delivery process. In that study customers perceived the taste of the food at the topmost priority attribute of service quality in fast food restaurants. This study also worked out a correlation between the overall customer satisfaction and a restaurant's word-of-mouth reputation, it comes out to be a positive correlation between the quality of the service provided and the reputation of the restaurant or word of mouth popularity. Min & Min (2011, p. 294) thus came out that active benchmarking as an effective way of sustaining service excellence.

The study of Qin and Prybutok (2008) concluded that food quality is an important factor is customer satisfaction. This was done by using a modified SERVPERF instrument on college students of a university. The results of this study has brought several factors of food quality and service quality in lime light, which every marketer should pay attention. Previous studies of Kim et al. (2009), Min & Min (2011) and Qin &Prybutok (2008) in fast food restaurants literature emphasize upon parameters such as the food quality. Service quality has been emphasized by Heung et al.(2000), Kim et al.(2009) and Qin &Prybutok (2008). Kim et al(2009) and Qin &Prybutok (2008) all have concluded with fact on the determinants of the perceived quality and what is its relation with customer satisfaction, repurchase and word-of-mouth. The differences that exist between fast food restaurants and fine dine restaurants are categorized into prompt service and low price.

Consumer satisfaction is defined by Oliver (1997) as the how fulfilled a customer is, which a consumer is able to tell only after the consumption and deciding by the customer when he gets contented with the service. Another author Boshoff and Gray (2004) have defined Satisfaction that it does not come with product or service, but it depends on the customer's perceptions of the features of the product or service. Hence for the same level of services different consumers will encounter different amount of satisfaction. Hence varying levels of satisfaction is observed among consumers of fast food segment for the same experience (Ueltschy et al, 2007).

2.3 Need for the study

Since QSR segment is characterized by presence of several players and there are very less points of demarcation among various options in product in fast food category. This has made the industry highly competitive and players have indulged in cut-throat competition among themselves. They are trying unique value addition tactics to differentiate the product and services from each other. The battle is so fierce that it is eating out the chunk of margin also in many of the fast foods products. It, thus, becomes imperative to segregate the cluster of consumers and segment them into specific variations on basis of consumer'spreferences so that QSRs customers get product and service in an effective and efficient manner leading to the moments of truth for them. This is not just going to influence the loyalty of the consumers but would also assist in maintaining long term relationship with customers.

2.4 Objectives of the Study

The objective of the study is"To identify the factors underlying service quality and consumer satisfaction". To segment the QSR consumers on demographic and psychographic basis through cluster analysis. Also interpret several possible clusters in QSR industry and draw implications for marketers. Hence, the study involves application of cluster analysis to segment the customers on the basis of the differences in their preferences of QSRs service quality features towards the determinants of satisfaction.

III. Research Methods

Research methods includes adoption of self- administered questionnaire to find out the responses of the customers towards the determinants of quick serve food, through purposive and convenient sampling. **Research Design**: Exploratory research design method is followed for the research. The data collection is completed through Survey method. Primary data was collected through non probability sampling method, purposive and convenient sampling was conducted for the purpose of collection of data from sampling units, who were consumers of service at any branded QSR outlets Delhi NCR. Tool used for collecting data was questionnaire which was being filled by researcher by asking questions to consumers face to face or sometimes handed to consumers to fill it by themselves. A structured questionnaire consisting of demographic data in initial questions and then 25 statements were presented to consumers on 1-5 Likert type scaleshowing variation from strongly disagree to strongly agree. The questionnaire type was undisguised.

IV. Results and Discussions

The questionnaire was administered to a total of 400 respondents who were adequately informed of the purpose of the research and assured that their responses would be treated confidentially and only for the purpose of academic research. In all, 316 respondents constituting 79.67 per cent of the total responded to the questions asked and others showed no interest in filling or showed missing values in it.The study approach is quite similar to the one adopted by Goyal and Singh (2007) where respondents who are willing to answer voluntarily were invited to participate. Respondents included all aged customers of quick serve food offered by QSRs. The questionnaire was divided into two parts, first to capture the demographic and psychographic profile of the respondents and other part of the questionnaire was consisting of 25 statements on service quality and customer satisfaction

4.1Reliability: Cronbach's Alpha method was used to check reliability scale which came out to be 0.9, which is a good indicator of selection of questions in questionnaire. Reliability of the 25 measures used for the study is

0.959, which are clear indication that measures are highly reliable and consistent. Secondly, the 14 variables were analyzed through principal components analysis (PCA) with varimax rotation. It was observed that factor loadings are being explained upto 70% and then factors were named according to the variables where they are showing the highest loadings. All the 25 statements related to service quality and customer satisfaction are put into factor analysis through SPSS. The results of factor analysis showed that 25 statements could be collated to 6 factors. The results of factor analysis were taken to Hierarchical cluster .analysis

Reliability Statistics	
Cronbach's Alpha	N of Items
0.959	25

Table 4.1: Reliability Measure:Cronbach's Alpha Score

4.2Kaiser – Meyer – Olkin Measures of Sampling Adequacy and Bartlett's Test of Sphericity, results are shown in the table 4.2.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.962
Bartlett's Test of Sphericity	Approx. Chi-Square	16003.143
	Df	300
	Sig.	0.000

Table 4.2: Kaiser – Meyer – OlkinTest Score

Kaiser – Meyer – Olkin Test is applied to check the normality of data and whether the data is adequate for application of quantitative statistical measures or not. Chawlaand Sondhi, (2011) has suggested that if the value of KMO lies between 0.5 to 1 then it can be said that data is normally distributed,the table 4.2 shows that the measure have value greater than the 0.5 hence it can be concluded that data is adequate and can be used as input for factor analysis.

Whether item-to-item correlation matrix was an identity matrix was checked through null hypotheses through application of Bartlett's Test of Sphericity (Roy, 2017). Chi- Square test is applied to test the hypothesis,the value of Chi- Square test for service quality and customer satisfaction (16003.143) is found to be significant at 0% level of significance.

4.3Factor Analysis: Principle component factor analysis with varimax rotation was applied to find out the underlying factors of the questionnaire. The factor analysis for service quality resulted in 5 factors of service quality and one factor of customer satisfaction and thus a total of 6 factors were obtained. The details about factors of service quality and customer satisfaction, Eigen value andfactor loadings and Rotated sums of square loadings are shown in Table 4.3, which shows that there are six factors with Eigen value more than one. Eigen values are used to explain the % of variance explained. As there are 25 variables, total variance equal to 77% and variance shown by each factor is also represented in Table 4.3 where factor one represents 50% of variance, factor 2 and 3 are responsible for 6 and 5% variance respectively. Factor 4, 5 and 6 are contributing 5, 4 and 4 % of variance.

Total Variance Explained									
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.614	50.457	50.457	12.614	50.457	50.457	3.675	14.702	14.702
2	1.628	6.514	56.970	1.628	6.514	56.970	3.633	14.531	29.233
3	1.422	5.689	62.659	1.422	5.689	62.659	3.276	13.106	42.339
4	1.313	5.250	67.910	1.313	5.250	67.910	3.236	12.946	55.284
5	1.182	4.730	72.639	1.182	4.730	72.639	3.069	12.276	67.560
6	1.059	4.237	76.877	1.059	4.237	76.877	2.329	9.316	76.877
7	0.465	1.859	78.736						
8	0.430	1.719	80.455						
9	0.409	1.636	82.090						

10	0.383	1.531	83.621						
11	0.370	1.480	85.101						
12	0.349	1.398	86.499						
13	0.334	1.337	87.837						
14	0.314	1.255	89.091						
15	0.299	1.196	90.287						
16	0.294	1.177	91.464						
17	0.273	1.092	92.556						
18	0.262	1.050	93.606						
19	0.256	1.025	94.630						
20	0.252	1.010	95.640						
21	0.233	0.931	96.571						
22	0.230	0.919	97.490						
23	0.227	0.909	98.399						
24	0.212	0.849	99.248						
25	0.188	0.752	100.000						
Extraction Method: Principal Component Analysis.									

Table 4.3 Principal Component Analysis

Communalities an indicator of how much of each variable is accounted for by the underlying factors taken together. It is said to be a measure of percentage of variable's variation that is explained by the factors. When there a comparatively high value of communality it is an indicator that there is not much of variable is left over after whatever the factors represent has already taken into consideration. The table of communalities is presented in **Table 4.4 in Annexure-3**. The table shows that no measure is less than 0.6 communality, which means not much of the measure valueis left over after taking this much into account in factors.

Factor rotation is the approach which is undertaken to interpret factor loading matrix called component matrix. The first factor comprising of statements of empathy, second factor is resulted from measures of reliability, similarly, third factor is the outcome of measures of responsiveness, fourth factor has measures from assurance, fifth factor consists of measures of tangibility and sixth one is from customer satisfaction.Value of 0.6 is taken as cut off point, the results of rotated component matrix are depicted in table 4.5, which is representing high factor loading of Empathy on Factor one. Factor two has high loadings for Reliability and Factor three has high loadings for Responsiveness. Similarly, Factor four, five and six has high loadings for variables assurance, Tangibility and customer satisfaction respectively.

Rotated Component Matrix[a]							
		Component					
		1	2	3	4	5	6
QSR employees are able to provide individual attention	EMPATHY	0.79					
Customers get individual attention in this QSR		0.79					
QSRs staff understands the need of their customers		0.74					
QSR employees are bale to serve customers 'best interest at heart'		0.72					
QSR has convenient operating hours		0.67					
QSR provides service at the promised time	RELIABILTY		0.76				
QSR staff serves food on promised time			0.76				
QSR has always given dependable and consistent timely service			0.72				
QSR has error free service order			0.69				
QSR staff is sympathetic and reassuring on every demand of customer			0.69				
QSR staff is always willing to help customers	RESPONSIVENESS			0.81			
QSR staff conveys the customer exactly when services will be provided				0.81			
QSR provides the prompt service				0.75			
QSR staff is never too busy to respond to customer request promptly				0.74			
Staff gets adequate support from QSR to do their job well	ASSURANCE				0.79		

| Item	Factor						
QSR is able to pass on the feeling of being safe					0.78		
QSR is able to provide comfortable and confident feeling					0.78		
QSR staff is very polite and courteous					0.77		
QSR has visually appealing physical facilities	TANGIBILITY					0.79	
QSR has décor and materials associated with best services						0.76	
QSR has visually attractive dining area with modern and up to date facilities						0.74	
QSR staff is neat well dresses and visually appealing						0.72	
This QSR is always my first choice	CUSTOMER SATISFACTION						0.77
Overall I am satisfied with the quality of services provided at this QSR							0.77
I would certainly recommend this QSR to my friend							0.75

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 4.5 Rotated Component matrix

Labeling or naming the factors is not a tedious task here as most of factors have clear cut loadings of same measures which were used in standardized form by Cronin (2000), which include Empathy, Tangibility, Reliability, Responsiveness and Assurance and sixth factor is loaded with variable of customer satisfaction.

4.4 Cluster Analysis

The results which came from factor analysis were taken into consideration for their use as inputs in the hierarchical cluster analysis. This helps in judgingthe number of expected clusters by the use of average linkage between groups as one of the criteria. Agglomeration process is conducted for the reduction of the amount of variation explained by a model presented in Annexure-1, **Table 4.6,** which is read from backwards and shows that there is high jump in values at stage number 150, 151, 157, 171, 180, 212, 243, 250, 274, 284, 302 and 314.
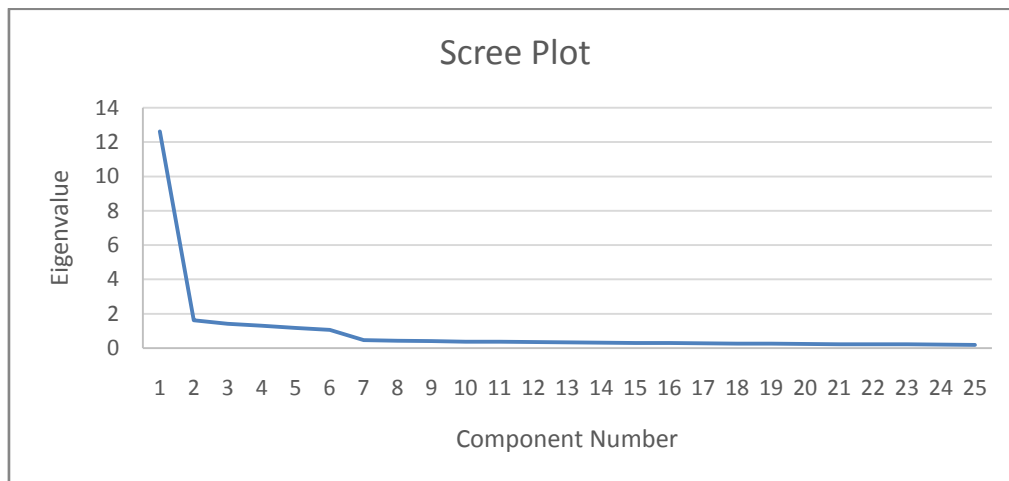
Figure 4.1 –Scree Plot

Estimated R-squared values were transformed into unexplained variances and plotted to visualize the location of the ``elbow'' point (Hair et al., 2006). The elbow is found to be at twelve clusters as shown in **Figure 4.1-Scree plot**. Here in this case twelve-group cluster solution is suggested. When look atthe complete linkage dendrogram is done, it suggests that cases can suitably be divided into 12 clusters as shown in **Annexure-2, Figure 4.2.**

For cluster Analysis when k-means clustering procedure is applied, then the variables used in the clustering process are needed to be specified. Here the variables resulted from factor analysis are used for getting clusters where the number of clusters are needed to be set by the researcher, set to 12 clusters in this study. The resulting cluster output is shown in **Table 4.6.**

There are three tables which come out as outcome of SPSS cluster analysis. First, "Iteration History" table which indicates that the algorithm has converged, second, "Final Cluster Centers" and third table is about "Number of Cases in each Cluster" which describes the final cluster solution. In k-means clustering, the cluster centers are determined by the means of the variables across cases belonging to the cluster. Cluster1 and 11 consist of values showing 4 positive values of factors. Cluster 2 consists of 3 positive values of factors. Cluster 3 has such factors with higher negative values of factors in it. Cluster 4 comprises of factors which are having all positive values except one, whereas cluster 5,9 and 10 comprises of one negative value, cluster 6, 7 the factor is showing two negative values. Cluster 8 containsfour negative values and cluster 12 has unique combination of all negative values of factors as shown in **Table 4.7.**

Final Cluster Centers													
		Cluster											
		1	2	3	4	5	6	7	8	9	10	11	12
REGR factor score 1 for	EMPATHY	0.726	1.089	-1.603	0.469	0.308	0.658	1.221	0.293	-1.215	0.540	-2.152	-0.885
REGR factor score 2 for	RELIABILITY	0.817	-3.301	-1.522	-0.275	0.712	1.137	1.076	-1.657	0.758	0.222	0.748	-0.630
REGR factor score 3 for	RESPONSIVENESS	-1.788	-0.329	-1.291	0.483	0.620	-0.512	-1.955	-0.214	0.545	-1.647	-0.553	-0.114
REGR factor score 4 for	ASSURANCE	0.663	1.273	1.189	0.473	-0.177	0.671	-3.127	-1.851	0.298	0.392	1.082	-0.949
REGR factor score 5 for	TANGIBILITY	0.934	1.165	0.799	0.143	0.192	-2.169	1.273	-1.035	0.644	0.687	-1.752	-0.722
REGR factor score 6 for	CUSTOMER SATISFACTION	-2.824	-0.070	1.470	0.225	0.195	0.482	0.916	1.610	0.116	0.443	1.391	-1.140

Table 4.7 Final Cluster Centers

As it is identified from the expectation score wise cluster 4 and 5 have the maximum number of members 76 and 78 respectively followed by cluster 12 (46) and 9 (30). So, cluster number 4 and 5 are significant for the decision making based on service quality determinants and customer satisfaction.

Number of Cases in each Cluster		
Cluster	1	7.000
	2	5.000
	3	12.000
	4	76.000
	5	78.000
	6	15.000
	7	9.000
	8	13.000
	9	30.000
	10	15.000
	11	10.000
	12	46.000
Valid		316.000
Missing		0.000

Table 4.8 Number of cases in each cluster

Now interpreting and profiling of the cluster is required to be done. This is carried out by examining the cluster centroids. This take place in two steps, first step requires examination of F values from ANOVA **Table 4.9** which tells the discriminating power of each clustering variable**.** It can be observed in this table that all the variables are found to be significant at 5% level of significance thus can be used for the interpretation.

ANOVA						
	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
EMPATHY	19.626	11	0.325	304	60.359	0.000
RELIABILITY	21.707	11	0.308	304	70.373	0.000
RESPONSIVENESS	16.599	11	0.348	304	47.749	0.000
ASSURANCE	22.225	11	0.268	304	82.896	0.000
TANGIBILITY	18.006	11	0.329	304	54.660	0.000
CUSTOMER SATISFACTION	19.206	11	0.314	304	61.199	0.000

Table 4.9 ANOVA

In the next step each cluster is to be looked for the values which are higher in it which are presented in **Table 4.10**

Cluster number	Factor numbers	Specifications of segment	Description
1	5, 2,1	Tangibility, Reliability, Empahty	Tangible Cues about quality of QSR, Repeat visitand care seeker
2	4,5,2	Assurance, Reliability and Tangibility	Commitment from QSR staff, attractive QSR, regular commitment, tangible cues and repeat visit seeker
3	6,4,5	Customer satisfaction, assurance and Tangibility	Satisfaction seeking, commitment from QSR staff, Tangible cues seeker
4	3,4,1	Responsiveness, Assurance and Empathy	Responsive service expectation, trust in transection, commitment and care seeker
5	2,3,1	Reliability, Tangibility and Responsiveness	Reliability, Responsiveness and Empathy,Regular, good service and care seeker
6	2,1,4	Reliability, Empathy and Assurance	Regular visit, care and trust seeker
7	5,1,2	Tangibility, Empathy and Reliability	Good ambience as cues, care seeker and regular visitor
8	6,1	Customer satisfaction and empathy	Satisfaction through care giving nature
9	2,5,3	Reliability, Tangibility and Responsiveness	Repeat going, Cues Believing and response seeking
10	5,1,6	Tangibility, Empathy and customer satisfaction	Cues, concern and satisfaction seeker
11	6,4,2	Satisfaction, Assurance and Reliability	Satisfaction, Commitment and Repeat seeker
12	3	Responsiveness	Quick Response seeker

Table 10 Descriptions of clusters

QSR industry is characterized to serve customers quickly, which has evolved over time due to the efficient utilization of technology and its up gradation from time to time to take best use of it in reducing the preparation time, serving time and this has assisted in standardization of several tasks in QSR. Robust supply chain, technology based infrastructure in storing half cooked and half-baked foods, minimum human intervention, trained manpower and optimal service process has made QSR industry to flourish and multiply exponentially. QSR offer not many barriers to entry, hence so many multinational companies and Indian companies have also jumped into bandwagon making the battle all the fiercer. There is not much differentiation that can be offered to product and services offered with quick serve foods are bare optimum. Thus, segmenting the customers is the primary objective for all the marketers in quick serve industry. This study is an attempt to identify demographic and psychographic factors that have crucial effect on the customer satisfaction for quick food segment. Hence, the attempt to first identify which measures of service quality are most influential in quick serve food and then clustering the cases of customers on the basis of identified measures, has resulted in twelve varied clusters of customers with minor differences in their choice of service quality measures. Clusters have also been framed on the basis of demography and psychographic of consumers, the primary step for doing such cluster analysis, is first to create the clusters and then visualize that these can be developed in a way so that they can be considered as market segments. In this study to meet this purpose, expectation wise the entire set of consumers are divided into twelve clusters. The name of the psychographic segments are as follows:Cues, Repeat and care seeker, Commitment, cues and repeat seeker, Satisfaction, commitment and cues seeker, Service, commitment and care seeker, Regular, service and care seeker, Regular, care and trust seeker, Cues, care and repeat seeker, Satisfaction through care giving nature, Repeat going, Cues and response seeking, Cues, concern and satisfaction seeker, Satisfaction, Commitment and Repeat seeker and Quick Response seeker.

Members of each of these clusters are also identified in the research. It is also proved in the research that —there is significant association between clusters based on expectation of the customers and with some of the demographic factors like —Household monthly income and —Gender of the respondents. So it can be conclude that there are twelve psychographic segments in QSR quality service expectations in Delhi and NCR and these psychographic segments have significant association with some of the demographic segments, namely —Age, Education, Monthly household income, occupation, Marital Status, Gender, Visit frequency.

4.5 Demographic and psychographic segmentation

The respondents were from different age groups as show in **Figure-4.3,** young students below 20 years of age, office going males and females of age group 21-30, middle aged consumers with age groups 31-40, and there were consumers above 40 years of age, thus falling in more than 40 categories. Profiling of consumers can be done on the basis of demographic and psychographic clustering, which shows that in cluster 4 and 5 highest number of consumers are of 21-30 years of age who don't have time and they are actually seeking faster service

and commitment by service provider that same type of faster service should be there at every time. They are also expecting concern of service providers towards taking care of customers and paying attention to their needs in personalized way.
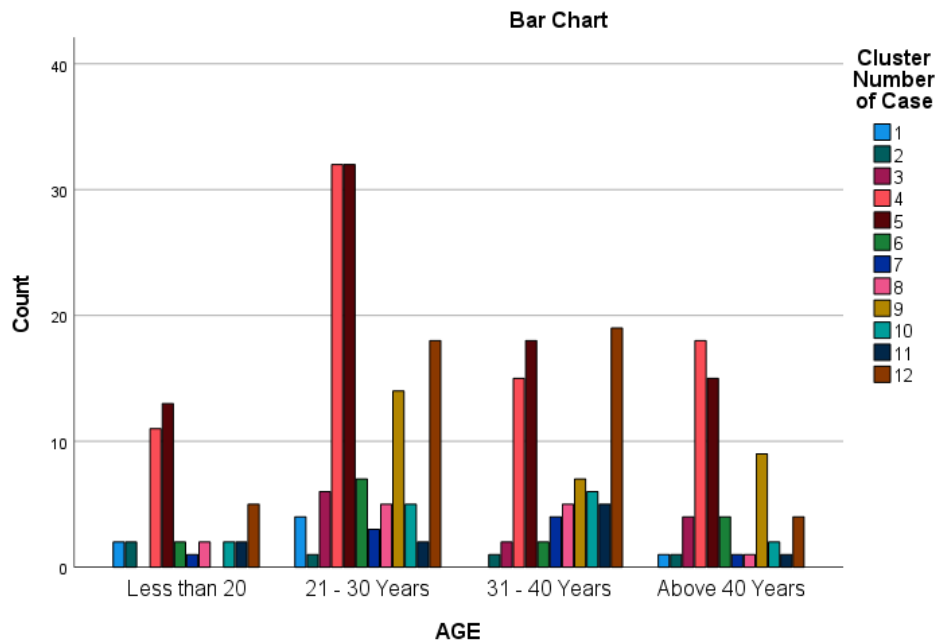
Figure 4.3 Cluster Profile Age

Respondents with graduation as their education background are majorly a part of cluster number 4 and 5, same applies with cluster number 9 and 12 respondents also. Similar trends are observed in post graduate respondents also where high concentration is observed of 4, 5, 9 and 12 cluster respondents for which Responsiveness, Assurance and Empathy and Reliability, Tangibility and Responsiveness is the order of priority.

Figure 4.4 Cluster Profile Education Status

The representation of males and females is there in every cluster in in more or less equal proportion but here again cluster 4 and 5 whose characteristics are those individuals who don't have time and they are actually seeking faster service and commitment by service provider that same type of faster service should be there at

every time. More females are showing typical choice as seen in cluster 4 and 5, which is Responsiveness, Assurance and Empathy and Reliability, Tangibility and Responsiveness is the order of priority. They are also expecting concern of service providers towards taking care of customers and paying attention to their needs in personalized way as shown in Cluster profile Gender in figure 4.5.

Figure 4.5 Cluster Profile Gender
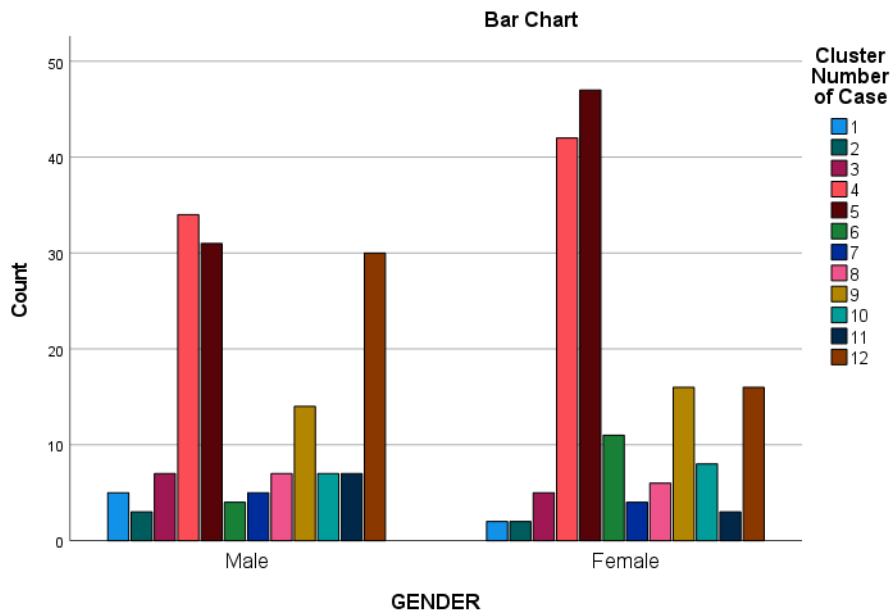
Figure 4.5

Demographic and psychographic profile of respondents with respect to income group is revealed in Figure 4.6. Highest number of respondents in income bracket of less than 6 lakhs is majorly a part of cluster 4, 5 and 9. This shows an interesting phenomenon as typical characteristics of respondents in cluster 4 and 5 are the one who don't have time and they are actually seeking faster service and commitment by service provider that same type of faster service should be there at every time. The reason behind their nature is that they are busy in earning their bread and butter also. They are also expecting concern of service providers towards taking care of customers and paying attention to their needs in personalized way. Consumers with income category less than 6 lakhs fall in each cluster but majorly high concentration is seen cluster 4, 5 and 12 showing that consumers are highly concern with Responsiveness, Assurance and Empathy and Reliability, Tangibility and Responsiveness is the order of priority.

Figure 4.6 Cluster Profile Income
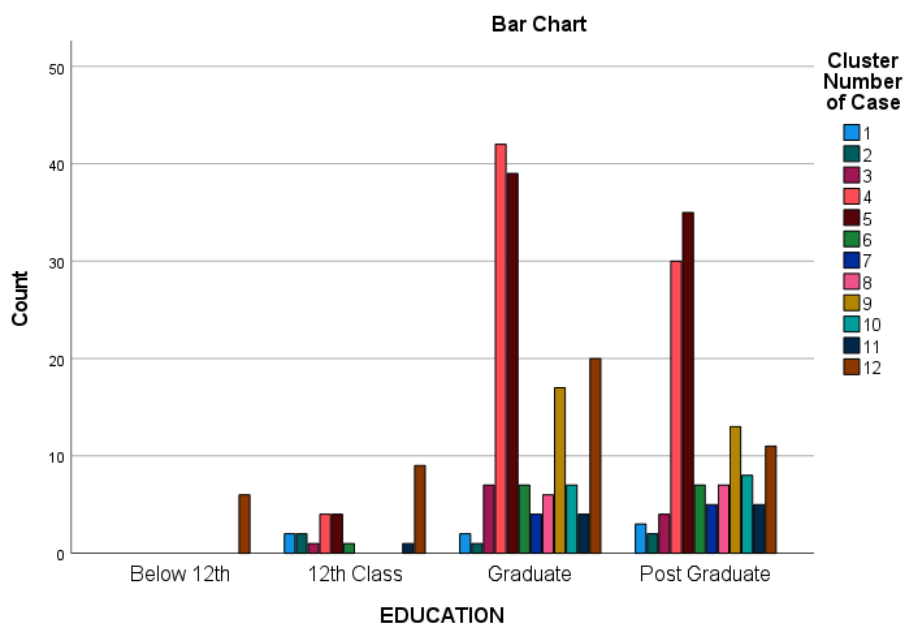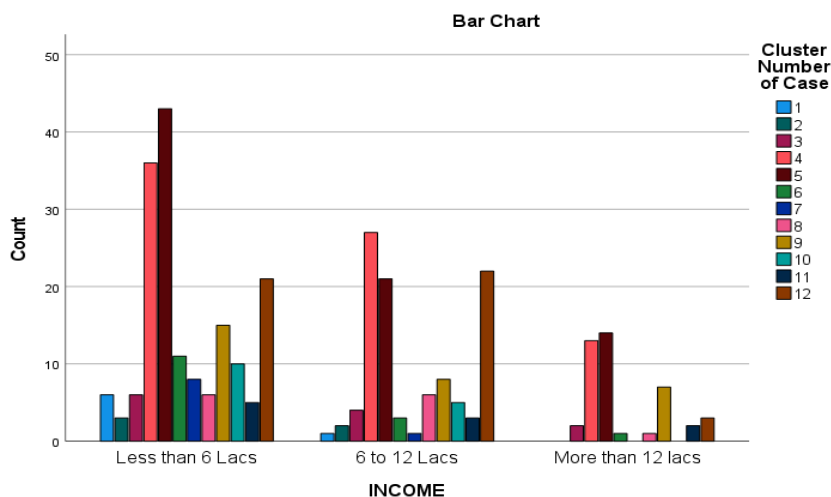

Figure 4.6

Segmentation of consumers on the basis of frequency of visit reveals that frequent visitors to QSR are present in every cluster but again cluster number 4 and 5 comprise of more of such type of people who are more frequently going for eating out in QSR as shown in figure 4.7.Visit frequency of respondents show high concentration towards 2 and 4 days in a month, here also cluster number 4 and 5 have shown typical behavior as captured in figure 4.7.
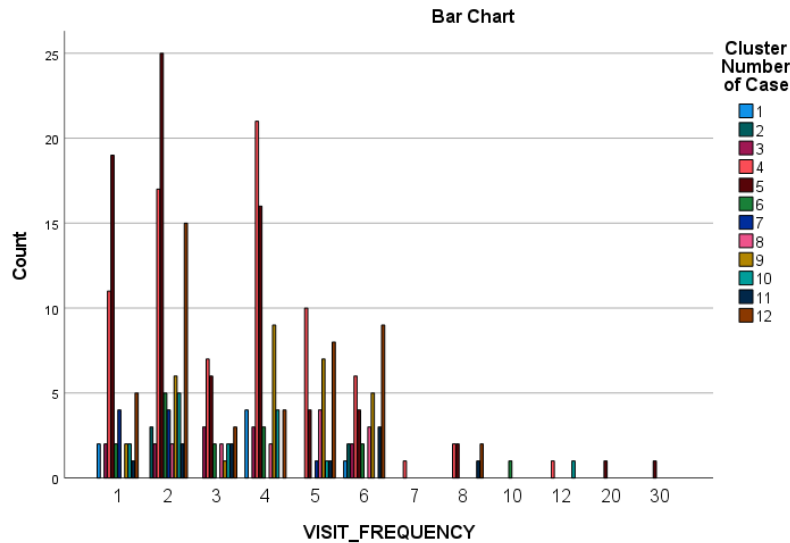
Figure 4.7

Marital status of the respondents when compared with customer satisfaction, it was found that respondents have proportionate spread in all the clusters in both married and Unmarried category but specially cluster 4 and 5 and 12 are typically consisting of large chunk of unmarried respondents as shown in figure 4.8.
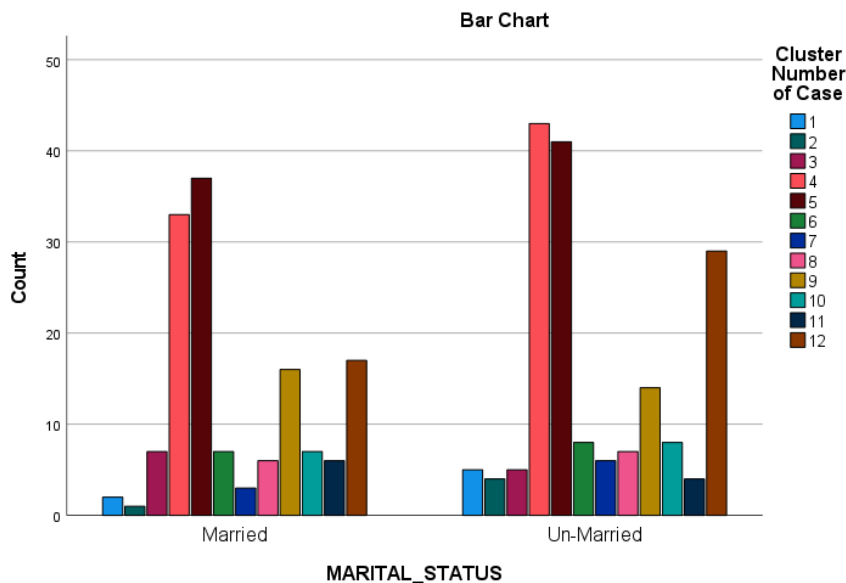
Figure 4.8

The respondents are showing wide spread among all clusters but peaks in all different type of profession is seen in cluster number 4 and 5 followed by cluster number 12 among students. Respondents in government service show resemblance to cluster 4, 5, 9 and 12. Respondents in private service typically show resemblance to cluster 4, 5, 9, 10 and 12 and business professionals again show resemblance to 4,5,8,9 and 12 clusters. Professional consumers are generally a part of cluster 4 and 5 type of groups as shown in Figure 4.9.
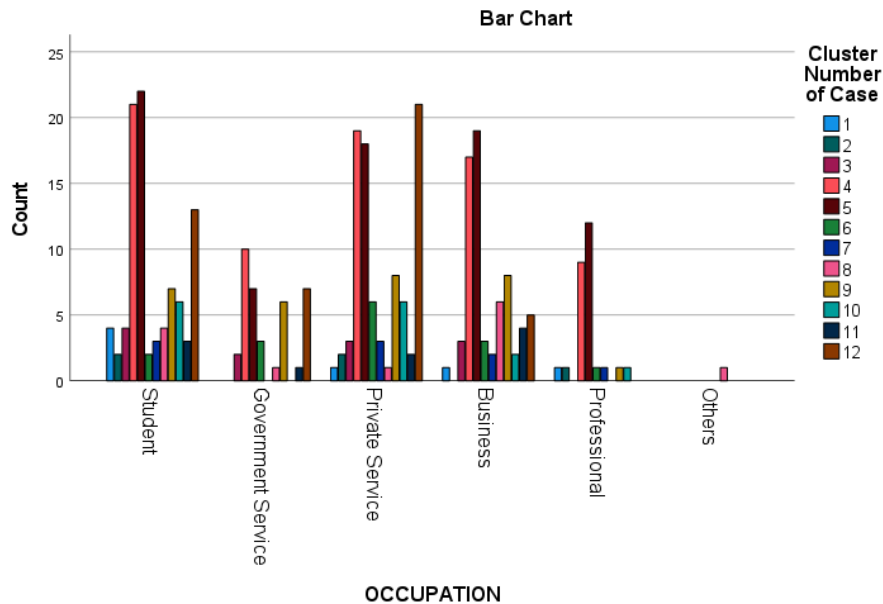
Figure 4.9

V. Conclusion and managerial implications

Quick serve restaurants consumers can be classified into twelve different types with some major and some minor differences among them. These have also been grouped into demographic and psychographic segments. It is also found that these demographic and psychographic segments have significant association with clustered consumer characteristics.

This study can provide important direction to the players planning to enter in quick serve segment and to those who are already a player in this market. The market appears to be attractive for outside marketers as it appears to offer good margin on the products with minimal amount of services but it is very complicated in terms of understanding the expectation of the customers, meeting out their expectation with limited amount of time and extending feeling of personalized services, which has become very critical with more and more players entering into the segment.

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Annexure-1
Table-4.6 agglomeration Schedule

	Cluster Combined			Stage Cluster First Appears		
Stage	Cluster 1	Cluster 2	Coefficients	Cluster 1	Cluster 2	Next Stage
1	139	160	0.129	0	0	178
2	191	309	0.138	0	0	97
3	152	203	0.140	0	0	110
4	15	90	0.140	0	0	65
5	173	180	0.156	0	0	16
6	144	151	0.160	0	0	61
7	63	100	0.170	0	0	79
8	97	272	0.175	0	0	43
9	103	208	0.177	0	0	31
10	99	254	0.181	0	0	52
11	77	156	0.188	0	0	141
12	182	190	0.196	0	0	152
13	84	288	0.200	0	0	99
14	220	258	0.202	0	0	129
15	233	268	0.206	0	0	122
16	23	173	0.212	0	5	51
17	238	246	0.215	0	0	111
18	262	264	0.217	0	0	60
19	37	250	0.218	0	0	110
20	38	135	0.226	0	0	83
21	10	30	0.239	0	0	189
22	12	47	0.249	0	0	94
23	122	194	0.253	0	0	41
24	9	189	0.257	0	0	83
25	222	223	0.261	0	0	104
26	82	239	0.262	0	0	128
27	95	287	0.263	0	0	108
28	181	300	0.267	0	0	107
29	1	153	0.271	0	0	198
30	2	273	0.272	0	0	112
31	69	103	0.275	0	9	93
32	168	243	0.276	0	0	62
33	113	202	0.281	0	0	72

34	29	83	0.292	0	0	57
35	6	121	0.293	0	0	77
36	206	207	0.294	0	0	273
37	174	178	0.304	0	0	116
38	75	119	0.308	0	0	96
39	85	303	0.314	0	0	158
40	18	145	0.316	0	0	170
41	72	122	0.321	0	23	113
42	115	195	0.333	0	0	82
43	97	259	0.348	8	0	127
44	8	209	0.348	0	0	196
45	274	282	0.351	0	0	91
46	56	184	0.373	0	0	128
47	227	257	0.377	0	0	101
48	170	271	0.395	0	0	138
49	214	278	0.399	0	0	140
50	36	102	0.400	0	0	131
51	23	241	0.402	16	0	85
52	91	99	0.408	0	10	92
53	177	315	0.414	0	0	186
54	185	212	0.417	0	0	214
55	79	120	0.417	0	0	88
56	187	284	0.421	0	0	242
57	29	313	0.422	34	0	103
58	92	240	0.422	0	0	161
59	64	155	0.425	0	0	109
60	201	262	0.425	0	18	99
61	96	144	0.428	0	6	132
62	136	168	0.431	0	32	130
63	143	188	0.433	0	0	115
64	71	267	0.437	0	0	120
65	15	265	0.446	4	0	169
66	147	226	0.449	0	0	192
67	186	285	0.455	0	0	164
68	7	35	0.463	0	0	134
69	255	290	0.471	0	0	95
70	40	219	0.471	0	0	84
71	109	292	0.472	0	0	106
72	59	113	0.473	0	33	129
73	133	296	0.474	0	0	98
74	142	275	0.479	0	0	166
75	158	211	0.485	0	0	230
76	31	193	0.486	0	0	173
77	6	11	0.488	35	0	161
78	175	204	0.488	0	0	163
79	63	198	0.490	7	0	124
80	50	87	0.491	0	0	179
81	221	305	0.491	0	0	118
82	93	115	0.498	0	42	126
83	9	38	0.501	24	20	123
84	17	40	0.504	0	70	191
85	23	125	0.506	51	0	116
86	126	163	0.516	0	0	203
87	225	263	0.517	0	0	93
88	53	79	0.546	0	55	134
89	16	116	0.557	0	0	172
90	44	218	0.559	0	0	127
91	179	274	0.562	0	45	270
92	52	91	0.569	0	52	124
93	69	225	0.572	31	87	131
94	12	291	0.573	22	0	120
95	210	255	0.574	0	69	162
96	75	242	0.576	38	0	122
97	66	191	0.580	0	2	169
98	110	133	0.581	0	73	117
99	84	201	0.582	13	60	147
100	13	289	0.583	0	0	142
101	216	227	0.583	0	47	168
102	251	311	0.587	0	0	248
103	29	260	0.598	57	0	149
104	222	249	0.600	25	0	269

105	124	295	0.601	0	0	154
106	108	109	0.602	0	71	205
107	86	181	0.607	0	28	181
108	95	301	0.610	27	0	132
109	64	128	0.616	59	0	166
110	37	152	0.619	19	3	197
111	213	238	0.621	0	17	176
112	2	34	0.625	30	0	177
113	72	252	0.628	41	0	167
114	39	302	0.659	0	0	135
115	130	143	0.659	0	63	159
116	23	174	0.663	85	37	187
117	110	280	0.664	98	0	174
118	221	283	0.665	81	0	210
119	104	244	0.670	0	0	251
120	12	71	0.679	94	64	173
121	49	101	0.682	0	0	212
122	75	233	0.694	96	15	143
123	9	88	0.718	83	0	185
124	52	63	0.719	92	79	147
125	14	21	0.719	0	0	187
126	93	131	0.728	82	0	152
127	44	97	0.742	90	43	144
128	56	82	0.742	46	26	150
129	59	220	0.745	72	14	200
130	136	256	0.753	62	0	208
131	36	69	0.759	50	93	141
132	95	96	0.770	108	61	179
133	33	94	0.770	0	0	160
134	7	53	0.790	68	88	213
135	39	65	0.806	114	0	165
136	106	132	0.810	0	0	224
137	41	67	0.820	0	0	222
138	170	235	0.836	48	0	171
139	166	308	0.852	0	0	254
140	214	230	0.854	49	0	182
141	36	77	0.867	131	11	162
142	13	127	0.868	100	0	227
143	75	304	0.870	122	0	167
144	44	234	0.870	127	0	220
145	4	20	0.875	0	0	213
146	176	297	0.877	0	0	221
147	52	84	0.879	124	99	200
148	192	232	0.879	0	0	206
149	29	253	0.885	103	0	171
150	5	56	0.900	0	128	232
151	43	299	0.919	0	0	237
152	93	182	0.920	126	12	209
153	46	245	0.936	0	0	265
154	22	124	0.952	0	105	259
155	68	183	0.953	0	0	202
156	138	197	0.983	0	0	219
157	55	107	1.012	0	0	214
158	85	224	1.013	39	0	211
159	130	148	1.016	115	0	185
160	33	117	1.020	133	0	239
161	6	92	1.024	77	58	188
162	36	210	1.031	141	95	188
163	175	229	1.036	78	0	234
164	186	312	1.039	67	0	175
165	39	277	1.055	135	0	218
166	64	142	1.074	109	74	207
167	72	75	1.081	113	143	216
168	24	216	1.088	0	101	201
169	15	66	1.092	65	97	226
170	18	51	1.092	40	0	217
171	29	170	1.122	149	138	208
172	16	149	1.125	89	0	212
173	12	31	1.129	120	76	209
174	110	215	1.135	117	0	182
175	154	186	1.156	0	164	228

176	213	217	1.179	111	0	239
177	2	199	1.181	112	0	310
178	139	279	1.183	1	0	231
179	50	95	1.190	80	132	196
180	28	57	1.210	0	0	215
181	58	86	1.214	0	107	202
182	110	214	1.216	174	140	241
183	45	73	1.229	0	0	280
184	112	228	1.229	0	0	246
185	9	130	1.230	123	159	216
186	177	205	1.250	53	0	233
187	14	23	1.278	125	116	236
188	6	36	1.299	161	162	223
189	10	307	1.303	21	0	282
190	19	70	1.306	0	0	260
191	17	172	1.310	84	0	274
192	118	147	1.314	0	66	205
193	3	165	1.337	0	0	275
194	261	314	1.348	0	0	220
195	105	236	1.362	0	0	219
196	8	50	1.371	44	179	223
197	37	81	1.392	110	0	224
198	1	76	1.400	29	0	263
199	129	164	1.412	0	0	235
200	52	59	1.424	147	129	225
201	24	150	1.427	168	0	232
202	58	68	1.435	181	155	226
203	32	126	1.439	0	86	245
204	60	270	1.487	0	0	260
205	108	118	1.518	106	192	229
206	192	316	1.530	148	0	296
207	64	171	1.535	166	0	240
208	29	136	1.536	171	130	228
209	12	93	1.546	173	152	229
210	80	221	1.548	0	118	237
211	85	248	1.581	158	0	258
212	16	49	1.634	172	121	238
213	4	7	1.670	145	134	271
214	55	185	1.709	157	54	236
215	28	74	1.714	180	0	261
216	9	72	1.716	185	167	225
217	18	310	1.769	170	0	277
218	39	48	1.770	165	0	252
219	105	138	1.788	195	156	266
220	44	261	1.822	144	194	240
221	169	176	1.823	0	146	252
222	41	111	1.825	137	0	275
223	6	8	1.848	188	196	243
224	37	106	1.856	197	136	245
225	9	52	1.929	216	200	243
226	15	58	1.960	169	202	257
227	13	114	1.986	142	0	246
228	29	154	1.999	208	175	247
229	12	108	2.001	209	205	238
230	25	158	2.014	0	75	301
231	89	139	2.032	0	178	256
232	5	24	2.047	150	201	273
233	134	177	2.071	0	186	281
234	157	175	2.097	0	163	249
235	129	200	2.101	199	0	270
236	14	55	2.112	187	214	251
237	43	80	2.150	151	210	250
238	12	16	2.151	229	212	257
239	33	213	2.152	160	176	255
240	44	64	2.189	220	207	247
241	110	293	2.231	182	0	294
242	26	187	2.253	0	56	250
243	6	9	2.303	223	225	255
244	231	294	2.311	0	0	278
245	32	37	2.320	203	224	284
246	13	112	2.392	227	184	277

247	29	44	2.428	228	240	261
248	251	269	2.438	102	0	278
249	146	157	2.459	0	234	287
250	26	43	2.594	242	237	279
251	14	104	2.595	236	119	267
252	39	169	2.620	218	221	274
253	54	167	2.638	0	0	266
254	166	276	2.668	139	0	264
255	6	33	2.727	243	239	262
256	89	161	2.800	231	0	268
257	12	15	2.801	238	226	262
258	85	137	3.001	211	0	279
259	22	159	3.013	154	0	264
260	19	60	3.047	190	204	285
261	28	29	3.049	215	247	286
262	6	12	3.060	255	257	267
263	1	27	3.100	198	0	282
264	22	166	3.275	259	254	295
265	46	141	3.330	153	0	269
266	54	105	3.388	253	219	291
267	6	14	3.395	262	251	285
268	62	89	3.479	0	256	299
269	46	222	3.488	265	104	305
270	129	179	3.535	235	91	306
271	4	61	3.560	213	0	304
272	237	266	3.578	0	0	288
273	5	206	3.608	232	36	284
274	17	39	3.701	191	252	286
275	3	41	3.749	193	222	298
276	162	286	3.789	0	0	283
277	13	18	3.802	246	217	305
278	231	251	3.803	244	248	288
279	26	85	3.856	250	258	292
280	45	98	3.866	183	0	298
281	134	281	3.954	233	0	300
282	1	10	4.125	263	189	291
283	162	298	4.260	276	0	300
284	5	32	4.431	273	245	287
285	6	19	4.444	267	260	289
286	17	28	4.447	274	261	303
287	5	146	4.562	284	249	289
288	231	237	4.699	278	272	308
289	5	6	4.745	287	285	295
290	123	140	4.772	0	0	294
291	1	54	4.931	282	266	302
292	26	42	5.167	279	0	296
293	196	306	5.775	0	0	304
294	110	123	5.944	241	290	301
295	5	22	6.075	289	264	297
296	26	192	6.211	292	206	297
297	5	26	6.460	295	296	299
298	3	45	7.275	275	280	306
299	5	62	7.778	297	268	302
300	134	162	7.882	281	283	307
301	25	110	7.912	230	294	309
302	1	5	9.898	291	299	303
303	1	17	10.265	302	286	308
304	4	196	10.991	271	293	315
305	13	46	11.500	277	269	311
306	3	129	11.890	298	270	312
307	78	134	12.917	0	300	313
308	1	231	13.318	303	288	309
309	1	25	15.652	308	301	311
310	2	247	17.349	177	0	314
311	1	13	17.789	309	305	312
312	1	3	19.010	311	306	313
313	1	78	21.357	312	307	314
314	1	2	24.279	313	310	315
315	1	4	25.666	314	304	0

Annexure-2

Figure 4.2- Dendogram

Dendrogram using Average Linkage (Between Groups)
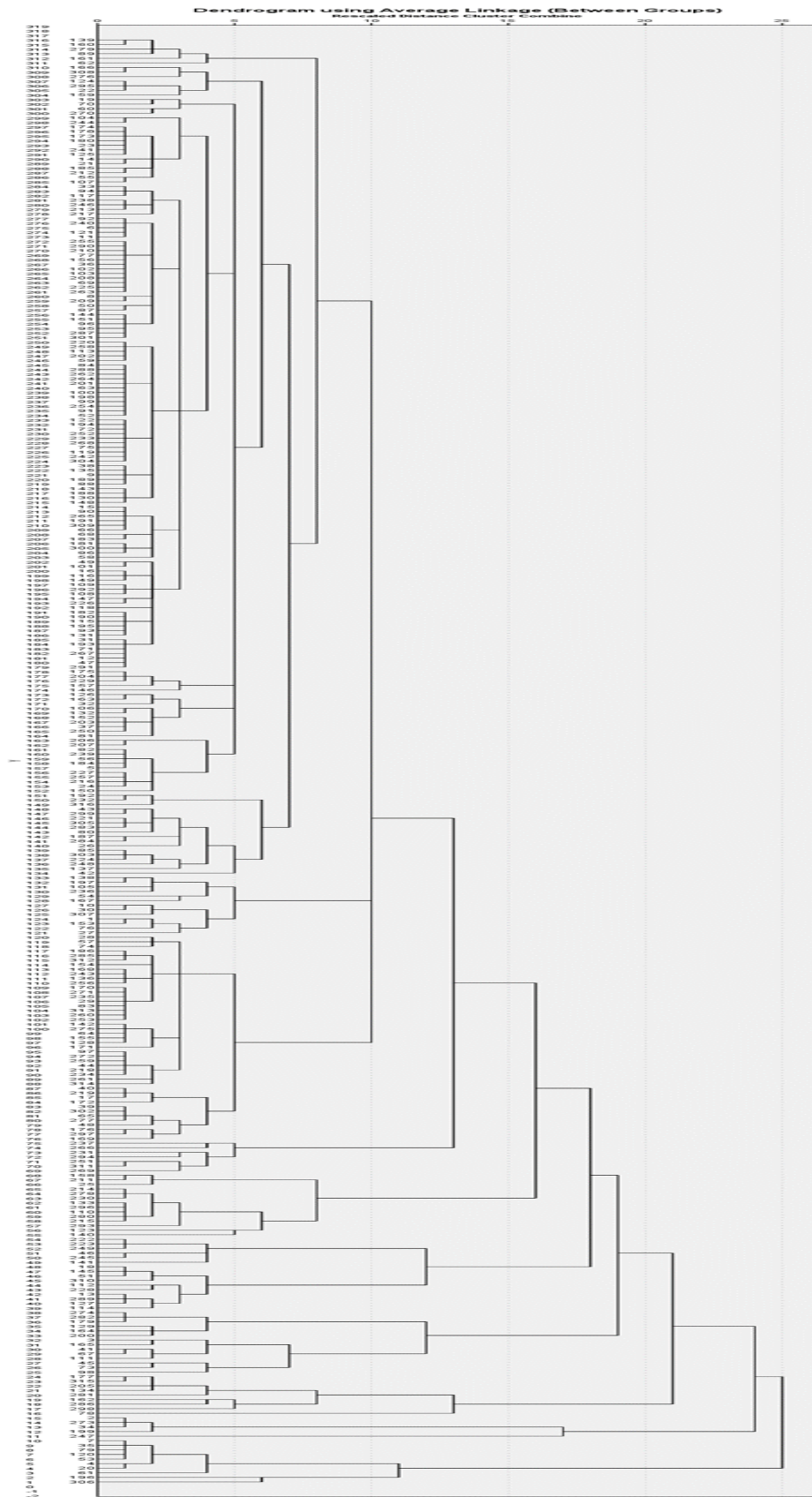
Annexure-3, Table-4.4 Communalities

Communalities		
	Initial	Extraction
Tan1	1.000	0.772
Tan2	1.000	0.753
Tan3	1.000	0.779
Tan4	1.000	0.729
Rel1	1.000	0.752
Rel2	1.000	0.697
Rel3	1.000	0.732
Rel4	1.000	0.779
Rel5	1.000	0.671
Res1	1.000	0.792
Res2	1.000	0.747
Res3	1.000	0.810
Res4	1.000	0.738
Assu11	1.000	0.798
Assu22	1.000	0.787
Assu33	1.000	0.811
Assu44	1.000	0.763
Emp1	1.000	0.770
Emp2	1.000	0.710
Emp3	1.000	0.772
Emp4	1.000	0.733
Emp5	1.000	0.776
CS1	1.000	0.849
CS2	1.000	0.839
CS3	1.000	0.858
Extraction Method: Principal Component Analysis.		