An Empirical Study to Understand the Consumer Buying Behaviour in Ethnicwear Market in India Through the Application of Factor and Cluster Analysis

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Abstract

In the study the researchers tried to cover up the present scenario of ethnicwear market in India and the consumer behaviourism. Thirty-one variables were selected from the study of (Gurunathan & Krishnakumar, 2013) . 10 variables were taken on consumer characteristics, 3 variables on promotional techniques of the brand, 5 on influence of reference group, 5 on product attributes and 8 on store attributes were chosen from the study and Five point Likert Scale for opinion and responses. Exploratory factor analysis was run to understand the consumer buying styles in ethnicwear market and to identify the important indicators behind the purchase decision. Ten components or ten distinct types of customers were extracted through Varimax method and rotated component matrix namely Rational Purchasers, Influenced Shoppers, Quality Gift Purchasers, Promotion Driven Customers, Unplanned Purchasers, Passionate Consumers, Planned Purchasers, Customers looking for Card Facilities, Customers having Brand Knowledge and Brand Aware Customers. Four indicators on the basis of highest factor loading extracted from exploratory factor analysis were chosen for cluster analysis namely parking facilities, brand consciousness, preferences of parents and advertisement. Cluster analysis was done first by hierarchical method to deduce number of clusters which can be formed, and then the data was further processed through Ward Method in K-Means Cluster Method. Four distinct and differentiating segment namely emotional, rational, value driven and traditional modern

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were concluded with discrete characteristics.

Keywords: *Consumer Behaviour, Customer types. Ethnicwear, Factor Analysis, and Cluster Analysis*

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Hereby, we are declaring that this research paper is original and genuine work of us and has not formed part of any publications. We also certify that the manuscript is not presently under review for publication in any other Journal / Conference Proceedings. We permit the Editors / Publishers to carry out copy editing, grammar corrections and formatting of the case.

INTRODUCTION

Products have different meanings to different consumers. The meaning of products may ultimately depend more on the nature of consumers rather than the nature of products (Martin, 1998) (Csikszentmihalyi, 1981). Understanding how involved consumers become in their apparel - that is, their attachments to them- provides a deeper understanding of the dynamics of consumer behaviour and the nature and role of the product category of fashion (Martin, 1998).

The purpose of this study is to expand the knowledge of consumer buying behaviour of Indian consumers in ethnic wear market. Understanding the factors which influence consumer buying behaviour is extremely actionable for branded ethnic wear retailers seeking to standardize or adapt their strategy for the Indian consumers. Consumer behaviour is influenced by the demographics and household structures, needs, emotions, values and personality, group influences, information processing and decision making along with purchase behaviour.

According to ((Pandey, 2011). India is one of the fastest growing markets of the world. The potential not only lies in the urban area in India but in the rural India too. The huge population of this country helps to increase the potential market in different sectors. Apparel is one the sector in this potential market where we find increasing growth rate in this current scenario of Indian market.

It was concluded in the study of (William, 1963) and (Michael, 1982) that consumer behaviour analysis is important in formulating marketing strategy. Proper analysis of the consumer behaviour helps to get the idea of their needs & demand from the particular brand.

Ethnic wear is helping Indian women to reflect their new personalities of savvy women of the world, reflecting the merger of modern and ethnic. (Chakrabaty, 2010). For a newly launched female ethnic wear brand, has to find out the gap in current market scenario in India keeping in mind different consumer perceptions. Marketers have to study different factors based on consumer behaviour and make a appropriate strategy to grab potential customers.

Current Ethnic wear Market Share in India

Presently valued at USD39 billion, the Indian Apparel market is expected to grow at a CAGR of 9.5% to reach USD 60 billion by 2017(Saxena, 2013). The women's wear segment contributes a large share of 38% to the total market and will continue to grow at a CAGR of 10% over the next decade. The optimistic growth of the sector is due to the increase in the number of working women. Over the next decade, India will witness an increase of more than 10 million ladies within the working middle class across the top 115 urban Indian cities, thus presenting a potential of 35 million consumers by the year 2020 in the relevant cities (Gugnani & Saxena, 2013). Further, since this growing population of women includes a large proportion of working women, there will be a corresponding increase in the disposable income of families. This surplus income within households will directly impact the consumption of both essential and lifestyle products, such as various apparel categories (Gugnani & Saxena, 2013). Currently, ethnic wear is dominated by the unorganized sector. Interestingly, the unbranded and unorganized sectors straddle all segments of the Indian ethnic wear market and continue to dominate 85% of the market (Saxena, 2013)

Literature Review

Market researchers have focused on identifying the different consumer's behaviour towards the ethnic wear brands.

In the study of (Elizabeth, 1977) lifestyle analysis, for segmenting the users of Slim wear Branded apparels was successfully applied. Psychographic analysis is also used to build the customers profiles of specific segments like working women and their buying behaviour. It is applied in the study of (Fred, 1977) life style analysis which is a psychographic part of consumer behaviour for market segmentation,

the development of product strategy and the development of the most appropriate communication strategy.

There is a growing need to evaluate the drivers of shopping behaviour in the Indian context (Banerjee & Sinha, 2002).The knowledge of consumer shopping behaviour is an essential input to the development of an effective marketing strategy, which is required for the effectiveness, and success of any business. The study of (Howell WR, 1987) further suggested that consumers are using shopping strategies rather than brand strategies in solving many consumption problems.

In the study it was concluded (Damille, 2005) that female consumer fashion involvement could be predicted analysing their personality traits, price Perceptions and selected demographic characteristics. Demographic characteristics decide purchase behaviour of the consumer towards branded clothes. Consumers of different income group show different behaviour when selecting a brand.

Consumer decision making is complex and involves a number of constructs. Several aspects consumer decision making have been reviewed by researches. Consumer decision-making is defined as the behaviour patterns of consumers that proceed, determine and follow the decision making process for the acquisition of need satisfying products, ideas or services. In addition, some researchers have advised that consumers are "value driven" (Zeithamal, 1988)) and (Levy, 1999). The most widely used consumer decision-making theory was written by (Mowen, 2001). There were five steps in decision making process that included recognizing problems, searching for solutions, evaluating alternatives, choosing among options, and evaluating the outcomes of the choice.

The study of (Krishnan, 2011) confirmed that there was a significant association between the lifestyle of the consumers and the brands of products used by them. It was concluded that consumers are associated with a certain lifestyle, choose their products, services and activities over the others.

In a study of (Hareem, Kashif, & Bilal, 2011) concluded that consumers who perceive higher self-concept will generally hold a high level of involvement in branded clothing various brand related variables including brand status, brand attitude, willingness to pay premium, self-concept and reference groups using fashion clothing brands as the focal object showing their effect on consumer behaviour towards fashion clothing.

In a study of (Kartikeyan, Murugan, & Devi, 2013) it was found that most of the customers are expecting reduced price and wider choice of colour and design. Indian consumers are influenced by the factors such as durability, reference groups, wider choice of colour and design, attractiveness, price range and celebrity endorser.

According to (Lindquist, 1974), store image consists of a combination of tangible (or functional) and intangible (or psychological) factors that consumers perceive to be found in retail stores. Consumers use store image as an evaluative criterion in the decision-making process of selecting a retail outlet (Varley, 2005).Store attributes refer to the underlying components of a store image dimension (like merchandise, physical facilities, services, atmospherics and so on). Research on store image has yielded a large number of attributes. Store image has been found to be linked to store loyalty and patronage decisions (Wong, 2003).

In a study (Dentscher, 1978) used a base of 485 consumers in Ohio and examined the relative importance of the various aspects of retail image to different consumer segments. They made comparison of different attributes across departmental and grocery stores to indicate congruence and concluded that the same attributes are important across different types of stores.

In a study (Kaul, 2005) shows store attributes are appealing for self-image of consumers and their impact on in-store satisfaction and patronage intentions. She concluded that service expressiveness value is distinct from the performance value obtained from service delivery. Consumers satisfied with service quality are most likely to become and remain loyal (Sohal, 2003). (Kaul, 2005) further observed that a store having modern equipment, good and clean physical facilities and ease in transactions would be able to yield satisfaction and patronage intentions.

(Tripathi, 2006) has studied retail store choice not from the perspective of an individual but of the family. They argue that it is mostly the family and not the individual who is the consumer of the retail offering. (Visser, 2006) studied the importance of apparel store image attributes as perceived by female consumers by means of eight focus groups. Results indicated that merchandise and clientele were perceived as the most important dimensions, followed by service; physical facilities were the least important.

(Koelemeijer, 1999) had conducted research on the roles of store and brand names in consumers' choice of a retail outlet and concluded that a high-quality brand or high-quality store is sufficient to attract the customer to a retail store. The study also revealed that store names have a larger

impact on store choice than the brand names of the products that these stores have on offer.

In a research paper (Herdick, 2005) propose that store environment and store atmospherics can influence customer's expectations on the retail salesperson. They conducted a study on sales people and store atmosphere, and identified that customer's perceptions of a salesperson's attributes and relationship building behaviours' were important drivers of customer satisfaction. In retail, intentions are usually determined by a willingness to stay in the store, willingness to repurchase, willingness to purchase more in the future and willingness to recommend the store to others. Consumers evaluate alternative stores on a set of attributes, and depending on their individual preferences, would patronize the best store (Tripathi, 2006).

Research Objectives

This study primarily tried to focus and identify on the different factors affecting the consumer buying decision in ethnicwear market in India, which can classify the types of customer purchases. Secondarily after identification of some important variable influncing the buying decision, the study tried to segment the ethnicwear market on the basis of such variables. The study also tried to give a brief description about the consumer behaviourism and the present status of the ethnicwear market.

Research Methodology

The research design of the study is partly exploratory and partly descriptive in nature. The objective of exploratory research is to explore or search through a problem or situation to provide insight and understanding (Malhotra & Birks, 2006). The major objective of Exploratory Research is to identify and define the problem and scope by helping to arrive at the best research design, method of data collection and sample, which is characterized by highly flexible, unstructured and at times informal research methods (Easwaran & Singh, 2010).

In the study, the researcher tried to use both primary and secondary data. *Primary Data* is originated by the researcher for the specific purpose of addressing the problem at hand (Malhotra & Birks, 2006)**.** Thus primary data are the raw data, which is needed to be further, processed and secondary data are the published data.

As a data collecting tool, the researchers have used, structured *non-disguised questionnaire* with both open and close ended questions.

A *Questionnaire* is called a scheduled interview form or measuring instrument including formalized set of questions for obtaining information from respondents (Malhotra & Birks, 2006). *Non-disguised approach* is a direct approach in which purpose of the project is disclosed to the respondents or is otherwise obvious to them from the questions asked. The reason for asking structured questions is to improve the consistency of the wording used in doing the study at different places which increases the reliability of the study by ensuring that every respondent is asked the same question (Nargundkar, 2004) and the survey instrument was used to collect data through personal interviews.

Thirty-one, five point Liker Scale with a rating of 1-5 where 5 is strong agreement with the statement, 4 is agreement with the statement, 3 is neither agreement nor disagreement, 2 is disagreement and 1 is strong disagreement with the statements were formed on the factors and the respondents were asked for their opinion and responses. All the thirty-one variables or indicators were taken from the study of (Gurunathan & Krishnakumar, 2013). 10 variables were taken on *consumer characteristics*, 3 variables on *promotional techniques* of the brand, 5 on influence of *reference group*, 5 on *product attributes* and 8 on *store attributes* were chosen from the study.

In the research study, we have implemented *Probability Sampling Technique* (Nargundkar, 2004), where each *sampling unit* has a known probability of being included in the sample. Systematic sampling technique has been used in the study, where the sample frame is the list of loyal customers in the ethnicwear stores in Kolkata and Mumbai. The *Sample size* was calculated to 100. Statistical Inferences were drawn from the primary data collected by applying statistical tool like SPSS 19 and statistical analysis like Exploratory Factor Analysis and Cluster Analysis.

Findings & Analysis

Factor Analysis

Factor analysis is a statistical analysis which denotes a class of procedures primarily used for data reduction and summarisation and is used to reduce a large number of variables, most of which are correlated and which are reduced to such a level where maximum variation of the factors is explained. The researchers have followed Varimax Method in Factor Analysis. In statistics, a *Varimax rotation* is a change of coordinates used in principal component analysis and factor analysis that maximizes

the sum of the variances of the squared loadings (squared correlations between variables and factors). We tried to implement Factor analysis in our attempt to study the factors which affects the consumer buying behaviour in the kidswear market. Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables and is used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables.

The Key Statistics Associated with Factor Analysis are as Follows

Bartlett's test of sphericity: Bartlett's test of sphericity is a test statistic used to examine the hypothesis that the variables are uncorrelated in the population. In other words, the population correlation matrix is an identity matrix; each variable correlates perfectly with itself (r = 1) but has no correlation with the other variables (r = 0). *Communality:* Communality is the amount of variance a variable shares with all the other variables being considered. This is also the proportion of variance explained by the common factors. *Correlation matrix:* A correlation matrix is a lower triangle matrix showing the simple correlations, r, between all possible pairs of variables included in the analysis. The diagonal elements, which are all 1, are usually omitted. *Eigen value:* The Eigen value represents the total variance explained by each factor. *Factor loadings:* Factor loadings are simple correlations between the variables and the factors. *Factor loading plot:* A factor loading plot is a plot of the original variables using the factor loadings as coordinates. *Factor matrix:* A factor matrix contains the factor loadings of all the variables on all the factors extracted. *Factor scores:* Factor scores are composite scores estimated for each respondent on the derived factors. *Kaiser-Meyer-Olin (KMO) measure of sampling adequacy:* The Kaiser-Meyer- Olin (KMO) measure of sampling adequacy is an index used to examine the appropriateness of factor analysis. *Percentage of variance:* The percentage of the total variance attributed to each factor (Malhotra & Birks, 2006).

To study the reliability of the data collected, reliability test was done on the data collected on thirty-one Likert Statements. Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability (Cronbach, 1951). In the study a very high Cronbach Alpha Value was deduced (the more it tends to 1 the better it is) ie .834 which proves that the data is highly reliable. It was tested on all the thirty-one statements or indicators selected for the study.

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.834	31

A structured questionnaire was administered in order to understand of the psychographic/ lifestyle characteristics of luxury shoppers using the AIO scale (activities, interests, opinions). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is an index used to examine the appropriateness of factor analysis. The data is adequate as Kaiser-Meyer-Olkin Measure of Sampling Adequacy value is .734. The KMO statistic varies between 0 and 1. A value of 0 indicates that the sum of partial correlations is large relative to the sum of correlations, indicating diffusion in the pattern of correlations (hence, factor analysis is likely to be inappropriate). A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. Most of the researchers recommend accepting values greater than 0.5 as acceptable. Furthermore, 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 excellent. For this data the value is 0.734, which falls into the range of good. So we should be confident that factor analysis is appropriate for these data. Bartlett's measure tests the null hypothesis that the original correlation matrix is an identity matrix. A significant test tells us that the R-matrix is not an identity matrix; therefore there are some relationships between the variables we hope to include in the analysis. For this data, Bartlett's test is highly significant ($p<0.05$ as $p= 000$), and therefore factor analysis is appropriate.

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.734
Bartlett's Test of Sphericity	Approx. Chi-Square	2858.095
	df	465
	Sig.	.000

Correlation Matrix: A correlation matrix shows the simple correlations, *r*, between all possible pairs of variables included in the analysis. The Pearson correlation coefficient between all the variables chosen for the study and the matrix has been used to study the pattern of relationship. After the evaluation, it was concluded that there was no problem of singularity or high correlation in data as none of the correlation coefficients were greater than 0.8. To sum up all variables in the study correlate fairly well

either negatively or positively and none of the correlation coefficients is particularly large; therefore there is no need to consider eliminating any variable at this stage.

Total Variance Explained: *Table 4* lists the Eigen values associated with each factor before extraction, after extraction and after rotation. First few factors explain relatively large amounts of variance whereas subsequent factors explain only small amount of variance. The first *ten components* with Eigen values more than 1 have been extracted which define 83.125 % of variance. Principal Component analysis has been used for extraction in the study. Principal components analysis is recommended when the primary concern is to determine the minimum number of factors that will account for maximum variance in the data for use in subsequent multivariate analysis. The factors so extracted are called principal components.

Communalities indicate the amount of variance in each variable that is accounted for ie the table of 'Communalities' explains how much of the variance in each of the original variables is explained by the extracted factors. As per Kaiser's criterion from communalities, those factors must be extracted for further research whose extraction value is greater than .07 for a smaller sample and for bigger sample whose value remains .06. The amount of variance in each variable that can be explained by the retained factors is represented by the communalities after extraction. Here it can be observed that all the indicators taken in the study have a very high factor loading of more than .7 apart from Indicator 1 which is .690.

Table 4: Communalities

	Initial	**Extraction**
Readymade garment preference	1.000	.690
Fashion consciousness	1.000	.841
Brand consciousness	1.000	.922
Ethnic wear as gift	1.000	.827
Store image	1.000	.852
Impulse buying	1.000	.849
Store loyalty	1.000	.820
Brand loyalty	1.000	.788
Brand awareness	1.000	.834
Emotion	1.000	.865
Advertisement	1.000	.880

Pricing technique	1.000	.878
Visual display	1.000	.799
TV shows	1.000	.844
Magazines	1.000	.761
Celebrity	1.000	.873
Friend influences	1.000	.782
Preferences of parents	1.000	.898
Fit	1.000	.845
Style	1.000	.818
Price	1.000	.728
Brand name	1.000	.758
Quality	1.000	.786
Parking facilities	1.000	.946
Stock availability	1.000	.878
Trial room	1.000	.849
Plastic Cards	1.000	.772
Alteration facilities	1.000	.860
Membership cards	1.000	.838
Online facilities	1.000	.836
Location of stores	1.000	.851

Extraction Method: Principal Component Analysis.

The Rotated Component Matrix; *Table 5* shows the factor loadings for each variable. Across each row the factor on which the variable loaded most strongly on was selected. The factors were examined conceptually and it was inferred that the factors represent four types of psychographic profiles of consumers namely young & secure, aware, family oriented & quiet & introvert.

The Rotated Component Matrix shows the factor loadings for each variable under all the extracted components. It helps us to formulate an interpretation of the factors or components by looking for a common thread among the variables that have large loadings for a particular component. We went across each row, and highlighted the factor that each variable loaded most strongly on. Based on these factor loadings, we think the factors represents are:

Table 5: Rotated Component Matrix

	Component									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Readymade garment preference	.185	.136	-.007	.376	.352	.154	.097	.226	.504	-.183
Fashion consciousness	.213	.389	.379	-.320	.146	.047	.429	-.104	.233	.354
Brand consciousness	.419	.146	-.296	.110	.221	.150	.056	-.116	.731	.052
Ethnic wear as gift	.097	.168	.855	.027	.218	-.054	-.062	.006	.040	-.042
Store image	.337	.035	-.029	.064	.785	.252	.095	.057	-.148	.132
Impulse buying	-.197	-.176	.029	.377	.731	.014	-.063	-.119	.264	.116
Store loyalty	.832	.053	.221	-.032	.144	-.108	.092	.026	.135	.127
Brand loyalty	-.197	-.009	.265	-.043	-.190	-.069	-.165	.097	.772	-.060
Brand awareness	.137	-.100	.021	.010	.174	.062	.178	.075	-.071	.853
Emotion	-.150	.004	.139	.254	.318	.743	-.070	.298	.082	.073
Advertisement	.231	.268	-.210	.697	.209	-.039	.212	.228	-.094	.272
Pricing technique	.375	.113	.314	-.188	.517	-.451	.125	-.033	-.077	.310
Visual display	-.082	-.167	.142	.822	.106	.151	.004	.096	.134	-.080
TV shows	.107	.404	-.167	.297	.169	.639	-.197	.066	.177	-.204
Magazines	.270	.116	.189	.234	-.043	.414	.415	.133	-.324	-.341
Celebrity	.342	.543	.317	.008	.134	-.051	.258	-.506	-.048	-.123
Friend influences	.128	.420	-.365	.521	.018	.016	.086	.033	.060	-.414
Preferences of parents	-.245	.855	.271	-.055	-.068	.015	-.129	-.048	.084	-.010
Fit	.554	.202	-.258	.206	.395	-.316	.061	-.341	.090	.060
Style	.827	-.132	.012	.118	.084	.047	.199	.073	-.134	.174
Price	.076	.280	.277	-.167	.044	.091	-.686	.070	.227	-.045
Brand name	.553	.099	-.124	.158	-.053	-.165	.148	-.507	.078	.294
Quality	-.142	.167	.749	.058	-.284	.169	-.218	.052	.037	.112
Parking facilities	.079	.501	.445	.591	.045	-.005	.229	-.235	-.178	.004
Stock availability	.418	.516	.284	-.029	.373	-.146	-.370	.143	-.046	-.189
Trial room	.367	.794	.029	.137	-.076	-.057	-.117	.184	.062	-.059
Plastic cards	.152	.083	.151	.245	-.082	.130	-.127	.765	-.037	.184
Alteration facilities	.825	.275	-.153	-.084	-.025	-.032	-.024	.051	.017	-.262
Membership cards	.012	.072	-.150	.025	.083	-.124	.423	.756	.170	-.092
Online facilities	.351	-.031	-.055	.050	.094	-.049	.802	.089	.046	.204
Location of stores	.177	.293	-.056	.252	.120	-.742	-.048	.226	.064	-.210

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 13 iterations.

Table 5: Components

Component	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Indicator 5
1. Rational Purchase	Store loyalty	Fit	Style	Brand name	Alteration facilities
2. Influenced	Celebrity	Preferences of parents	Stock availability	Trial room	
3. Quality Gift	Ethnic wear as gift	Quality			
4. Promotion Driven	Advertisement	Visual display	Friend influences	Parking facilities	
5. Unplanned Purchase	Store image	Impulse buying	Pricing technique		
6. Passionate	Emotion	TV shows	Location of stores		
7. Planned Purchase	Fashion consciousness	Magazines	Price	Online facilities	
8. Card Facilities	Plastic cards	Membership cards			
9. Brand Knowledge	Readymade garment preference	Brand consciousness	Brand loyalty		
10. Brand Aware	Brand awareness				

The different factors affecting the consumer buying decision, which have been obtained, are as follows:

Rational Purchase: They are store loyal customers, preferring to buy products from those stores which are tested and have high reliability. They give high priority to fit and style of the products, as they are trendy and focal on how they are carrying the garment. They look into the brand name also as they feel branded apparels can only give them the best deliverables they want. As they are very choosy on the fits of the garment, availability of alteration facility has also high priority in their choice set.

Influenced: These customers are influenced by celebrity endorsements and what celebrities wearing. At the same time they give priority of the preferences of their parents before choosing their garment. The availability of stock in terms of varieties also influences their purchase decisions. The facility of trial rooms in the stores influences them to test with various

stocks, which further helps in their purchase decision.

Quality Gift: These customers prefer to buy ethnic wear as quality gifts. They believe Ethnicwear can be a value based gift items which commensurate taste, class and purpose.

Promotion Driven: These customers are been influenced by advertisements and a keen viewer of various advertisements in various media. The visual display or the visual merchandising in the store and attracts them for purchasing. Friends also influence them strongly and they are influenced by the brands and the products promoted and referred by their friends. The availability of parking facility of the store drives their purchase decision and store selection, which is also a strong mode of promotion in the congested city life.

Unplanned Purchase: These customers are impulse buyers influenced by the store image and the promotional pricing techniques of the store. They are not planned purchasers and are been influenced by their exposures of store image and promotional pricing.

Passionate: They are very emotional purchasers influenced by TV Shows and location of stores. They feel connected with the characters shown in TV Shows and the dresses they are wearing. These people prefer always to go to a particular market place or malls as they are passionate with their choices of shopping zone. Accessibility and convenience may increase their passion more as per the location of the store is concerned.

Planned Purchase: These are fashion conscious customers who follow fashion magazines. They are informed purchasers who checks the prices of the products both offline and online. Most of the purchases are much planned for them. They check the price, their convenience in online availability and choose their brands. The spend time in information search about product, trend and price before making the final decision.

Card Facilities: These customers look into their convenience regarding payments for their purchases by credit or debit cards. At the same time they want to gain maximum through the loyalty programs of the store, so they check the availability of the loyalty card before taking a purchase decision.

Brand Knowledge: These are the customers who prefer to wear readymade garments, highly brand conscious and brand loyal. They are knowledgeable about the integrities and the market offerings of the brands in the Ethnicwear market and prefer to make repeat purchases because of their high trust on their conscious decision making.

Brand Aware: They are the customers who have got very high brand awareness. It is likely that consumers with high brand awareness recognize

the existence and availability of various brands in the market and their association with various types.

Cluster Analysis

It is a data reduction tool that creates subgroups that are more manageable than individual datum. Cluster analysis (CA) is an exploratory data analysis tool for organizing observed data (e.g. people, things, events, brands, companies) into meaningful taxonomies, groups, or clusters, based on combinations of factors, which maximizes the similarity of cases within each cluster while maximizing the dissimilarity between groups that are initially unknown (Banerjee & Agarwal, 2013).

Using cluster analysis, a customer 'type' can represent a homogeneous market segment. Identifying their particular needs in that market allows products to be designed with greater precision and direct appeal within the segment. Targeting specific segments is cheaper and more accurate than broad-scale marketing. Customers respond better to segment marketing which addresses their specific needs, leading to increased market share and customer retention.

Cluster analysis, like factor analysis, makes no distinction between dependent and independent variables. The entire set of interdependent relationships is examined. Whereas factor analysis reduces the number of variables by grouping them into a smaller set of factors, cluster analysis reduces the number of observations or cases by grouping them into a smaller set of clusters.

In this study the researchers tried to select strong indicators, having factor loadings more than .07 from the Communalities Table of Exploratory Factor Analysis, to do cluster analysis for segmenting the market. But it was been observed that in the analysis many strong variables were obtained. To simplify the process and to obtain distinct clusters on few variables, random number 4 was selected and top four indicators on the basis of highest factor loading were chosen for cluster analysis namely *parking facilities*, *brand consciousness*, *preferences of parents* and *advertisement* (See Table 4).

TECHNIQUE ADAPTED

As we don't know the number of groups or clusters that will emerge in our sample and because we want an optimum solution, a two-stage sequence of analysis occurs as follows:

1. A *hierarchical cluster analysis* using *Ward's method* applying *squared Euclidean Distance* as the distance or similarity measure was carried out. This helped to determine the optimum number of clusters we should work with.
2. In the next stage the hierarchical cluster analysis was rerun with the selected number of clusters, which enabled us to allocate every case in our sample to a particular cluster.

Hierarchical Cluster Analysis

This is the major statistical method for finding relatively homogeneous clusters of cases based on measured characteristics. It starts with each case as a separate cluster, i.e. there are as many clusters as cases, and then combines the clusters sequentially, reducing the number of clusters at each step until only one cluster is left. The clustering method uses the dissimilarities or distances between objects when forming the clusters. The SPSS programme calculates 'distances' between data points in terms of the specified variables.

Ward's Method

This method is distinct from other methods because it uses an analysis of variance approach to evaluate the distances between clusters. In general, this method is very efficient. Cluster membership is assessed by calculating the total sum of squared deviations from the mean of a cluster. The criterion for fusion is that it should produce the smallest possible increase in the error sum of squares.

The results start with an agglomeration schedule which provides a solution for every possible number of clusters from 1 to 100 (the number of our cases). The column to focus on is the central one which has the heading 'coefficients'. Reading from the bottom upwards, it shows the agglomeration coefficient for one cluster to another.

If we rewrite the coefficients as in the below mentioned Table 7 (as it is not provided on SPSS) it is easier to see the changes in the coefficients as the number of clusters increase. The final column, headed '*Change*', enables us to determine the optimum number of clusters. In this case it is 4 clusters as succeeding clustering add very much less to distinguishing between cases. A clear demarcation point seems to be there after 4th Row.

Table 6: Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	90	100	.000	0	0	10
2	89	99	.000	0	0	11
3	66	98	.000	0	0	34
4	82	97	.000	0	0	18
-------	-------	--------	--------	---------	---------	---------
93	3	42	57.338	80	0	94
94	3	7	70.276	93	88	96
95	4	5	92.415	92	87	97
96	1	3	136.188	91	94	98
97	2	4	180.420	89	95	98
98	1	2	277.176	96	97	99
99	1	9	427.450	98	90	0

Table 7: Reformed agglomeration table

No. of clusters	Agglomeration last step	Coefficients this step	Change
2	427.450	277.176	150.274
3	277.176	180.420	96.756
4	180.420	136.188	44.232
5	136.188	92.415	43.773
6	92.415	70.276	22.139
7	70.276	57.338	12.938

K-Means Clustering

This method of clustering is very different from the hierarchical clustering and Ward method, which had been applied previously when there is no prior knowledge of how many clusters there may be or what they are characterized by. K-means clustering is used when you already have hypotheses concerning the number of clusters in your cases or variables. This is the type of research question that can be addressed by the *k*-means clustering algorithm. In our study we have used both the hierarchical and the *k*-means techniques successively. The former (Ward's method) is used to get some sense of the possible number of clusters and the way they merge as seen from the dendrogram. As from Table 7 we have deduced 4 Clusters. Then the clustering is rerun with only a chosen optimum number

in which to place all the cases (*k* means clustering). One of the biggest problems with cluster analysis is identifying the optimum number of clusters. As the fusion process continues, increasingly dissimilar clusters must be fused.

Table 8: Final Cluster Centres

	Cluster			
	1	**2**	**3**	**4**
Brand Consciousness	4.28	3.80	2.78	4.04
Advertisement	4.22	2.42	3.89	4.65
Preferences of Parents	1.50	3.30	2.11	3.74
Parking Facilities	2.17	2.16	3.00	4.61

It is at this point that clear distinguishing characteristics of the clusters are visible and the Cluster 2 is the most attractive cluster as the market size is the highest (See Table 9). Cluster 1 has 18%, Cluster 2 has 50%, Cluster 3 has 9% and Cluster 4 has 23% of sample size.

Table 9: Number of Cases in each Cluster

Number of Cases in each Cluster		
Cluster	1	18.000
	2	50.000
	3	9.000
	4	23.000
Valid		100.000
Missing		.000

The ANOVA Table indicates which variables contribute the most to our cluster solution. Variables with large mean square errors and lowest F statistics provide the least help in differentiating between clusters. In the study no variables have this symptom and so it can be concluded that all the variables are very significantly different among the clusters.

Table 10: ANOVA

	Cluster		Error		F	Sig.
	Mean Square	**df**	**Mean Square**	**df**		
Brand Consciousness	4.876	3	.251	96	19.403	.000
Advertisement	32.798	3	.369	96	88.949	.000
Preferences of Parents	21.529	3	.503	96	42.769	.000
Parking Facilities	34.434	3	.403	96	85.421	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Table 11: Distances between Final Cluster Centers

Cluster	1	2	3	4
1		2.592	1.852	3.349
2	2.592		2.307	3.351
3	1.852	2.307		2.725
4	3.349	3.351	2.725	

The differences between Final Cluster Centres Table, shows the Euclidean distances between the final cluster centres. Greater distances between clusters mean there are greater dissimilarities. So Cluster 2 & 4 has the highest dissimilarity and Cluster 1& 3 are the most similar one. The dissimilar cluster groups have been ranked as per the Table 12:

Table 12: Cluster Groups and Distances

Rank	Cluster Groups	Distances
1	Cluster 2 & 4	3.351
2	Cluster 1 & 4	3.349
3	Cluster 3 & 4	2.725
4	Cluster 1 & 2	2.592
5	Cluster 2 & 3	2.307
6	Cluster 1 & 3	1.852

When cluster memberships are significantly different they can be used as a new grouping variable in other analyses. The significant differences between variables for the clusters suggest the ways in which the clusters differ or on which they are based, the more the difference the more the uniqueness in the segment. This helps the marketers if they want to enter into multiple similar segments with their product lines or can target the next segment in their growth strategy. It is never advisable to cater to multiple dissimilar segments. Cluster 4 is quite different from any other cluster. These differentiations do not indicate any positive or negatives aspects of a cluster, it depends on subjective evaluation of the marketers. Table 13, which explains the market characteristics of the four different clusters, is formed from Table 8.

Table 13: Final Clusters Attributes

Cluster Name	Cluster Attributes			
	Brand Consciousness	**Advertisement**	**Preferences of Parents**	**Parking Facilities**
Cluster 1 Emotional	Strongest preference for wearing branded Ethnicwear and highest brand consciousness.	High influence of Advertising on purchase decision of ethnic wear clothes.	Preferences of parents do not matter at all in the purchase decision of ethnic wear clothes.	Purchase decision of Ethnic wear is not motivated or influenced by the parking facilities of the store.
Cluster 2 Rational	Moderate preference for wearing branded Ethnicwear and moderate brand consciousness.	Moderate influence of Advertising on purchase decision of ethnic wear clothes.	Preferences of parents slightly affect the purchase decision of ethnic wear clothes.	Purchase decision of Ethnic wear is not motivated or influenced by the parking facilities of the store.
Cluster 3 Value Driven	Preferences and consciousness for Branded Ethnicwear is not the priority. Can wear even non-branded clothes. They are in both the side of the quantum.	The purchase decision of branded ethnicwear clothes is neither influenced nor dissuade by Advertisement.	Preferences of parents do not affect the purchase decision of ethnic wear clothes.	Purchase decision of Ethnic wear is neither motivated nor demotivated by the parking facilities of the store.
Cluster 4 Traditional Modern	Strong preference for wearing branded Ethnicwear and high brand consciousness.	Highest influence of Advertising on purchase decision of ethnic wear clothes.	Preferences of parents affect the purchase decision of ethnic wear clothes moderately.	Purchase decision of Ethnic wear is highly motivated and influenced by the parking facilities of the store.

CONCLUSION

In the study the researchers tried to cover up the present scenario of ethnicwear market in India, which is one of the growing and popular segments in the apparel market and the various factors affecting the consumer behaviourism in the apparel market. Thirty-one variables were selected from the study of (Gurunathan & Krishnakumar, 2013) . 10 variables were taken on *consumer characteristics*, 3 variables on *promotional techniques* of the brand, 5 on influence of *reference group*, 5 on *product attributes* and 8 on *store attributes* were chosen from the study. Five point Likert Scale with a rating of 1-5 where 5 is strong agreement with the statement, 4 is agreement with the statement, 3 is neither agreement nor disagreement, 2 is disagreement and 1 is strong disagreement with the statements were formed on the factors and the respondents were asked for their opinion and responses. Exploratory factor analysis was run to understand the consumer buying styles in ethnicwear market and to identify the important indicators behind the purchase decision. Ten components or ten distinct types of customers were extracted through Varimax method and rotated component matrix namely *Rational Purchasers, Influenced Shoppers, Quality Gift Purchasers, Promotion Driven Customers, Unplanned Purchasers, Passionate Consumers, Planned Purchasers, Customers looking for Card Facilities, Customers having Brand Knowledge* and *Brand Aware Customers.* Four indicators on the basis of highest factor loading extracted from exploratory factor analysis were chosen for cluster analysis namely *parking facilities, brand consciousness, preferences of parents* and *advertisement.* Cluster analysis was done first by hierarchical method to deduce number of clusters which can be formed, and then the data was further processed through Ward Method in K-Means Cluster Method. Four distinct and differentiating segment namely *emotional, rational, value driven* and *traditional modern* were concluded with discrete characteristics. The study tried to give a logical insight about the ethnicwear customers to the marketers.

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ANNEXURE QUESTIONNAIRE

Code	Statements	Strongly Disagree 1	Disagree 2	Neither Agree Nor Disagree 3	Agree 4	Strongly Agree 5
C1	I prefer readymade garment, which influence me to purchase branded ethnic wear.					
C2	Purchasing a branded ethnic wear adds to the quality of my fashion conscious life.					
C3	I more conscious about branded cloth, so prefer branded ethnic wear.					
C4	I prefer to purchase ethnic wear as a gift in different cultural festivals					
C5	Store image always influence me to purchase branded ethnic clothes.					
C6	Impulse buying offers from brands always influence me to purchase ethnic wear					
C7	At the time of buying decision, i think on loyalty of the store.					
C8	I am always loyal customer to my preferable brand while purchasing ethnic clothes					
C9	Brand awareness effects my buying decision while purchasing ethnic wear					
C10	My emotion play important role at the time of purchasing branded ethnic wear cloths.					

PR1	Advertising of the products affects me to purchase branded ethnic wear clothes.					
PR2	Pricing techniques for promotion of the brand in ethnic wear play important role in my purchase decision					
PR3	Visual display influence a lot on my buying decision while purchasing ethnic clothes.					
R1	TV shows influence me to purchase my desired ethnic clothes					
R2	Different types of magazines affect my buying behaviour towards ethnic clothes					
R3	I try to match myself with celebrity who has been endorsed for brand promotion					
R4	My planned purchase is influenced by my close friend s occasionally.					
R5	My buying decision always influenced by parents					
P1	I like to buy branded ethic wears as these provide perfect fit					
P2	I like to buy branded ethnic wears as these offer different style.					
P3	Price is the key factor to me while I purchase ethnic wear clothes.					
P4	Brand name is the most important factor which influences my purchase decision.					
P5	I buy branded ethnic wear as it gives proper quality.					

S1	Parking facilities provided by a store motivates me to visit the store					
S2	Availability of the stock in different style motivates me to visit the store.					
S3	Proper trial room influences me to buy branded ethnic wears					
S4	Payment through debit card always motivates me to visit the store.					
S5	Alternation facility of purchased clothes inspires me to visit the branded ethnic store.					
S6	Membership card facility always motivates me to purchase.					
S7	Online facility provided by store, motivates me to purchase					
S8	Location of a store influences me to visit the store frequently					

C = Consumer characteristics, PR = Promotion R = Reference Group P = Product Attributes S = Store Attribute