

**FACTOR ANALYZING THE STORE ATTRIBUTES TO IDENTIFY
KEY COMPONENTS OF STORE IMAGE
(A STUDY ON SOME SELECTED APPAREL STORES IN INDIA)**

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Abstract

Retailing in India is gaining attention like never before. Organized retailing especially is creating euphoria amongst Indian consumers drawing them into malls and trade areas in huge numbers. Retailers are offering newer service dimensions to create unique shopping experiences for the customers. However, whether consumers are able to perceive newer service dimensions and getting affected for store patronage in new store formats or not, remains to be found out. Store image is a critical component in store choice and store loyalty. Perceptions about stores are driven substantially by tangible characteristics of stores, such as format or list size, distance of store from home, as well as intangible factors like the environment of the store. The fact that Indian retail environment is going through a sea change due to the introduction of new formats and opening up of retail industry, it becomes important to understand the store image perceptions of consumers here. This paper attempts to find out the key factors that are perceived as important to Indian consumer.

Keywords: *Store Image, apparel stores, Factor Analysis, Regression Analysis*

Introduction

Retailing in India is gaining attention like never before. Organized retailing especially is creating euphoria amongst Indian consumers drawing them into malls and trade areas in huge numbers. Retailers are offering newer service dimensions to create unique shopping experiences for the customers. However, whether consumers are able to perceive newer service dimensions and getting affected for store patronage in new store formats or not, remains to be found out.

Store image is a critical component in store choice and store loyalty. Perceptions about stores are driven substantially by tangible characteristics of stores, such as format or list size, distance of store from home, as well as intangible factors like the environment of the store. Though store Image has been widely studied across the world but yet there is a vast scope for research especially in an evolving Indian retail environment where customers as well as store

owners are in experimentation phase & larger and diverse retail formats by organized retailers being rolled out. What may build strong image and what drives the choice of stores in the longer term here is a myth. The newly established stores are able to attract shoppers into stores due to its ambience, but they are finding conversions into purchases to be lower than expected and hence lower profitability.

With large part of Indian population comprising of middle income class or lower income class, it is natural for Indian consumers to have a price conscious approach.

Store Image has been widely studied across the world. There is still vast scope for research and analysis as the retailing environment changes rapidly, leading to changed shopper expectations and realignment of the Image and choice set of stores. This phenomenon is quite significant in the Indian market with the introduction of larger and more diverse retail formats by organized players. A variety of formats are being rolled out, with mixed success. Both retailers and shoppers are currently in an evaluation phase with no clear verdict as to what may build strong image and what drives the choice of stores in the longer term. The newly established stores are able to attract shoppers into stores due to its ambience, but they are finding conversions into purchases to be lower than expected and hence lower profitability for retailers.

Evidently, there is not much of the research work done on Indian consumer behavior in retailing context. Keeping these things in mind such a timely study was conducted to provide important inputs to apparel retailers in particular and academicians in general.

Review of Literature

The concept of store image was used by Martineau (1958) for the first time. He defined it as “a store defined in customers’ mind partly based on functional attributes and partly based on psychological attributes.” He claimed that store image includes its characteristic attributes and it makes customers feel the store different from others. Functional attributes are assortment of commodities, layout, location, price value relation, and service that consumers can objectively compare with other stores. Psychological attributes are attractiveness and luxuriousness that represent special attributes of that store. Since that effort of Martineau, a lot of researcher carried the research in this area and focused on specific set of attributes and even related store image with store loyalty and store choice.

A research by Jinfeng, W. and Zhilong, T. (2009) indicated the positive effect of store image dimensions such as convenience, perceived price, physical facilities, employee service, and institutional factors on retailer equity dimensions as antecedents of retailer equity. Store image affects purchase intentions indirectly, by reducing perceived risk and increasing Store brand quality perceptions (Liljander, V. et al. 2009). Another study by Yoo-Kyoung Seock (2009) examined the influence of Hispanic consumers’ perceived importance of apparel retail store environmental cues and demographic characteristics (i.e., age and the number of years lived in the US) on their apparel store patronage behavior across various retail store formats. Of the three dimensions, *Customer Service* appeared as a significant determinant in Hispanic consumers’ decision to shop at department stores, specialty stores, and mass merchant stores. *Convenience* was significantly, but negatively, related to the use of specialty stores. *Physical Atmosphere* appeared as significant determinants of Hispanic consumers’ use of Internet websites.

Further, a study by Ulrich R. Orth, Mark T. Green (2009) showed differential effects in how image elements influence customer loyalty directly as well as indirectly through trust and satisfaction. A cross-cultural examination of the effects of social perception styles on consumers' store image formations was conducted by Haiyan Hu, Cynthia R. Jasper (2007) to find out that Chinese students were more significantly affected by the social cues that are embedded within the store environment than American students. Retailer reputation is an important factor that influences consumer's store patronage (Wei-Ming Ou, Russell Abratt, Paul Dion 2006)

Research by Barnett et al., 2006 on corporate identity-image-reputation suggests that stores with favorable store image create customer satisfaction which in turn leads to store loyalty. Store image can be defined as the way that consumers view the store, i.e. their impression or perception of the store (for a review of various definitions of store image see Hartman and Spiro, 2005). The corporate image of the store is defined as a combination of the store as a brand, and the selection of store brands and manufacturer brands offered by the store (Grewal et al., 2004). Prior research has found that store brands contribute to greater store differentiation rather than to greater price sensitivity in the market (Sudhir and Talukdar, 2004). Other researchers conclude that it is important for retailers to retain a balance between store brands and national brands to attract and retain the most profitable customers (Ailawadi and Harlam, 2004). Retailers have used manufacturer brands to generate consumer interest, patronage, and store loyalty (Ailawadi and Keller, 2004).

Grace K. M. Wong, L. Yu (2003) investigated how store image factors and various categories of perceived risk associated with product attributes affect consumer evaluations of store-branded product. Another study by Doreen Chze Lin Thang, Benjamin Lin and Boon Tan (2003) found key store image attributes as significantly influencing consumer preference were merchandising, accessibility, reputation, in-store service and atmosphere of the stores. Store image in the sense of the store as a brand is usually measured as consumers' perceptions of store performance. This choice is based on the notion of a value-percept diversity, i.e. customers are likely to be more satisfied with the offering as the ability of the offering to provide consumers what they need, want, or desire increases relative to the costs incurred (Johnson, 1998; Szymanski and Henard, 2001). A general assumption in the branding literature is that a favorable brand image will have a positive impact on consumers' behavior towards the brand, such as the opportunity to command premium prices, buyers who are more loyal, and more positive word-of-mouth. Translated to a retailing context, it is likely that a favorable store image increases satisfaction with the store which in turn increases store loyalty (Osman, 1993; Bloemer and de Ruyter, 1998). Several studies (Kunkel and Berry-1968, Reynolds, Darden and Martin, Korgaonkar, Lund and Price-1985) have report direct linkages between Store Image and intensity of Store Loyalty. Thus, we can conclude that more positive the Store Image the greater is the degree of loyalty.

After reviewing the relevant literature, following variables have been selected to measure the perceptions of customers regarding apparel store's Overall Image. Product quality, styling, variety, Price, Promotion (Discount, advertising clarity), location, Layout, Employee Behavior, Nature, Customer Service efficiency, ambience and parking

Objectives of The Study

The key objectives of the study are as follows:

1. To identify key store attributes that affect perceived image of apparel stores.
2. To find out the extent to which customer perception vary by customer characteristics for apparel stores
3. To find out the extent to which customer perception vary by the type of apparel stores

Hypothesis

Following hypothesis were formulated and tested for the research study:

H1: There is no significant difference in the perception of customers about apparel store attributes across different demographic characteristics.

H2: There is no significant difference in the perceived image of apparel stores with different retail formats.

Research Methodology

A This study was exploratory in nature and used survey based approach through administering a structured questionnaire to customers of 18 years and above age group who visited 23 selected apparel stores in three cities viz. Dehradun, Haridwar and Haldwani of Uttarakhand state. The logic behind choosing a respondent of 18 years and above was to collect more accurate responses as they could fill the questionnaire with more responsibility and seriousness. The 23 stores were chosen for the study, were categorized into 4 store formats viz. Mini-hypermarkets, Discount Stores, Specialty Stores and Branded Franchisee Store. The customers were intercepted randomly at the exit doors of the store once they had completed their visit to the apparel store. Systematic sampling technique was used to select every fifth customer exiting a given apparel store.

A total number of 345 respondents, 15 each from 23 apparel stores of three cities i.e. Dehradun, Haridwar and Haldwani of Uttarakhand state, were approached to fill up the questionnaire. However, only 309 respondents filled up the questionnaires correctly and therefore were included in the sample for final data analysis.

Instrument Development

Adapting the set of semantic differential items developed by Zimmer and Golden's study and Mary L. Joyce and David R. Lambert study a seven point semantic differential scale with opposite bipolar adjectives was used to measure twenty eight(28) store attributes (extracted after through literature review) and one item to measure Store's Overall Image

The questionnaire was divided into 3 parts. Part-A had questions related to demographic information of respondents. Part-B was related to some basic information regarding respondent's choice to visit a particular store for purchasing an apparel item. Part-C contained semantic differential scale to measure customer perceptions regarding store attribute related to Store Image

Pilot Test

To improve the instrument, a preliminary study was conducted & fifty respondents of two engineering colleges (DIT and IMS) were asked to fill up the initially. Participants of this pilot study were not included in the main study. Respondents evaluated the questionnaire in terms of ambiguity in wording, clarity of polar adjectives, difficulty level of questions, ease of answering questions, overall structure of questions as well as the time necessary to complete the questionnaire. The questionnaire was improved on the bases of their suggestions and feedbacks regarding the appropriate adjectives, format and structure of the questionnaire.

Validity

To establish content validity, Store Managers of different apparel stores, senior faculty members of the department were asked to compare and evaluate the items included in the questionnaire with the research objectives. Store managers' suggestions were especially of great help to identify & refine certain items. For example we included some new variables i.e. store displays carrying information for the customers, Availability of utility services (Drinking water, Toilets etc.) in the final instrument. In fact, bipolar adjectives were suggested & refined with the help of store managers' of various apparel store managers.

Instrument Reliability

Reliability of the instrument was tested using Cronbach's alpha coefficient. According to Hair et al., the acceptable lower limit is .70; however, .60 is acceptable for exploratory research. Scales for this study were considered to have good reliability with a Cronbach's alpha value of .868.

Data Collection

Primary data were collected during the months of June, July, August, September, and part of October in the year 2009. The data were collected through personally administering the structured questionnaire by intercepting customers at the exit doors of retail stores after they have finished their respective visits to the stores. Data was collected, coded and entered into SPSS 15.0 before processing the same for analysis. Statistical tools used to analyze the data as per the objectives included Descriptive Statistics (such as frequencies, Percentages, Arithmetic Averages, Standard Deviations), Correlation, Regression, One-way ANOVA and Factor Analysis.

Results and Interpretation of The Data

Table 1:

Gender	Frequency	Percent
Male	153	49.51
Female	156	50.49
Total	309	100
Age in years	Frequency	Percent
<=20	51	16.5
21-30	131	42.39
31-40	83	26.86
41-50	21	6.8
>=51	23	7.44
Total	309	100
Marital Status	Frequency	Percent
Married	186	60.19
Unmarried	123	39.81
Total	309	100
Income (Rs.)	Frequency	Percent
<=20000	39	12.62
20001- 30000	192	62.14
30000- 40000	56	18.12
>=40000	22	7.12
Total	309	100

Out of total 309 correctly filled questionnaires by the respondents, 153 (49.5%) were filled by the males and 156 (50.5%) were filled by females. In all, the final set of respondents had almost equal percentage of both the genders. A majority (42) % of the respondents belonged to the age group of 21 years to 30 years followed by 27 % belonging to 31 years to 40 years, 16% to less than 20 years and 7% belonging to 41 years to 50 years as well as more than 50 years of age group. In other words, our sample, in a way represents the population more appropriately leading to less-skewed data and hence less sampling error. 186 i.e.60% of the respondents were married and the remaining 123 i.e. 40% were unmarried. In nutshell, we have a sample with proportionate mix in terms of marital status. Therefore, our sample, in a way represents the married and unmarried population more appropriately. A large number of respondents i.e. 192(62%) belonged to monthly Income group of 20001Rs. to 30000Rs. 56(18%) belonged to monthly Income group of 30001Rs. to 40000Rs. 39(13%) belonged to monthly Income group of less than 20001Rs and the remaining 22(7%) belonged to monthly Income group of more

than 40000Rs. we have a well distributed pool of respondents indicating less skewed data with all likelihood of lesser sampling error and hence more representative of the population.

In totality 345 respondents were selected for the final sample and were intercepted at 23 stores of three places i.e. 8 stores of Dehradun, 8 stores of Haridwar and 7 stores of Haldwani of Utrakhnad state. These stores have been operating in 4 different retail formats viz. Mini-Hypermarket (Vishal Mega Mart and Amartax), Discount Stores (Koutons and Priknit), Speciality Stores (Bharati Sarees, Ganga Sagar, Madame, Hakoba) and Branded Franchisee Stores (Levi's and Numero Uno).

A total number of 109 respondents filled the questionnaire correctly at the exit points of the 8 stores of Dehradun city. 13 respondents each filled the questionnaire at Vishal Mega Mart, Amartax, Numero Uno and 14 each filled it at Kuotons, Priknit, Madame Bharati Sarees and Levi's.

Above table and chart exhibit respondents intercepted at various stores of Haridwar city. A total number of 106 respondents filled the questionnaire correctly at the exit points of the 8 stores in Haridwar city. 13 respondents each filled the questionnaire for Amartax, Kuotons Madame and Levi's. 14 each filled it at, Priknit, Numero Uno and Vishal Mega Mart. 12 respondents filled questionnaires at Ganga Sarees.

Above table and chart exhibit respondents intercepted at various stores of Haldwani city. A total number of 94 respondents filled the questionnaire correctly at the exit points of the 8 stores of Haldwani city. 13 respondents each filled the questionnaire at Kuotons Madame, Numero Uno and Hakoba. 14 each filled it at, Priknit, Vishal Mega Mart and Levi's.

Key Store Attributes That Affect Perceived Image of Apparel Stores: Factor Analysis

The above objective can be achieved by applying regression analysis by taking Apparel Store Image as dependent variable and 28 store attributes mentioned in the table 5.12 as independent variables.

However, in the current study, these 28 independent variables were found to be highly correlated distorting the regression results. Therefore, we used the factor analysis to reduce these 28 variables into 5 uncorrelated representative factors.

However, due to large number of store attributes the results appear to be vague and interpretation difficult. Therefore, these 28 variables have transformed into small number of representative factors through factor analysis as below.

Factor Analysis: Suitability for The Data

The table below shows two tests which indicate the suitability of our data for factor analysis.

Table 2 : KMO And Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.915
Bartlett's Test of Sphericity	Approx. Chi-Square	9131.074
	df	378
	Sig.	.000

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is a statistic which indicates the proportion of variance in our variables which is common variance, i.e. which might be caused by underlying factors. High values (close to 1.0) generally indicate that a factor analysis may be useful with the given data. If the value is less than .50, the results of the factor analysis probably won't be very useful. In our case the KMO measure is .915 thus confirming the appropriateness Factor Analysis.

Bartlett's test of sphericity indicates whether a given correlation matrix is an identity matrix, which would indicate that your variables are unrelated. The significance level gives the result of the test. Very small values (less than .05) indicate that there are probably significant relationships among given variables. A value higher than about .10 or so may indicate that your data are not suitable for factor analysis. In our case, the significance level has a very small value i.e. .000 which is less than .05 thus suggesting that the variables are highly correlated.

Factor Analysis: Communalities

Communalities indicate the amount of variance in each variable that is accounted for.

Tables 3: Communalities

Store Attributes	Initial	Extraction
Quality of cloths	1.000	.842
Choice of Cloths	1.000	.789
Styling (Design) of cloths	1.000	.710
Status of Brand(s) carried by the store	1.000	.629
Prices levels of cloths	1.000	.656
Value for Money	1.000	.822
Store displays (Inside and Outside) carrying information	1.000	.910
Store's Advertisements	1.000	.930

Store's Promotional offers (Discounts, schemes etc.)	1.000	.926
Store's Location	1.000	.829
Store Layout	1.000	.842
Display of cloths	1.000	.807
Store's outside appearance	1.000	.865
Store's Inside appearance	1.000	.711
Store Timings	1.000	.781
Store Guarantees	1.000	.874
Return Policies	1.000	.829
Store Employees' Behavior	1.000	.929
Store Employees' Knowledge	1.000	.889
Store Employees' nature	1.000	.712
Customer Service (Billing, Sorting etc.)	1.000	.721
Store atmosphere	1.000	.797
Store Try rooms	1.000	.808
Other Customers at the Store	1.000	.770
Store's Parking	1.000	.769
Distance from Home	1.000	.026
Store Utilities e.g. water, toilets, etc	1.000	.847
Shopping Satisfaction	1.000	.756

Extraction Method: Principal Component Analysis.

Initial communalities are estimates of the variance in each variable accounted for by all components or factors. For principal components analysis, this is always equal to 1.0 (for correlation analyses) or the variance of the variable (for covariance analyses). Extraction communalities are estimates of the variance in each variable accounted for by the factors (or components) in the factor solution. Small values (less than .5) indicate variables that do not fit well with the factor solution, and should possibly be dropped from the analysis. In our case, distance of apparel store from the home has a very small value of .026 therefore it has been dropped from further analysis

Factor Analysis: Total Variance Explained

This table 4 gives eigenvalues, variance explained, and cumulative variance explained for our factor solution.

Table 4: Total Variance Explained

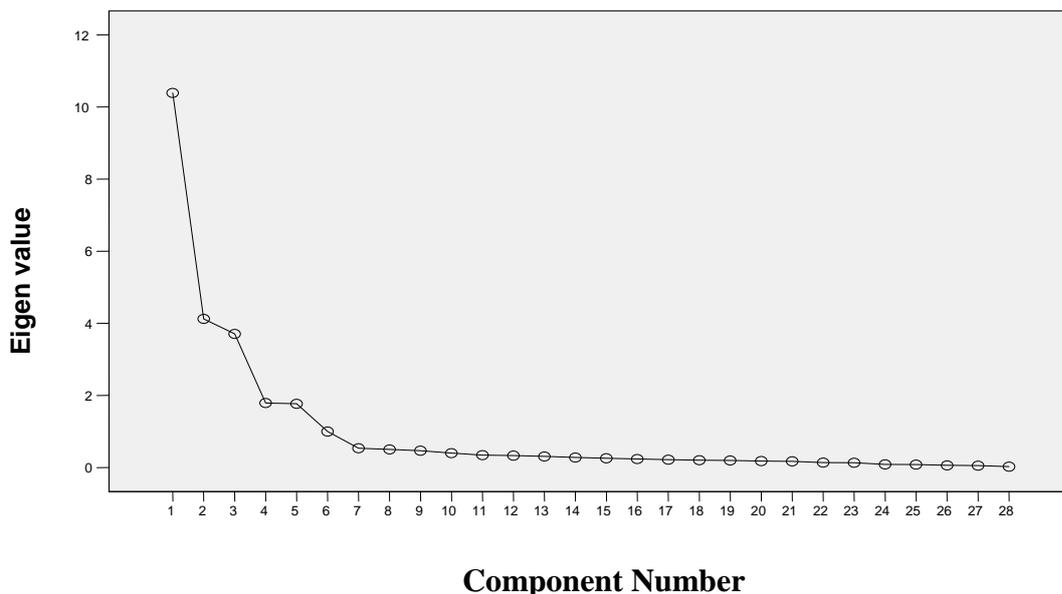
Factors	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	S. No	Total	% of Variance	Cumulative %	Total	% of Variance	Cumu. %	Total	% of Variance
1	10.3876	37.0985	37.0985	10.3876	37.0985	37.0985	8.5158	30.4134	30.4134
2	4.1227	14.7238	51.8224	4.1227	14.7238	51.8224	5.0077	17.8846	48.2980
3	3.7071	13.2396	65.0620	3.7071	13.2396	65.0620	4.0668	14.5241	62.8222
4	1.7897	6.3917	71.4537	1.7897	6.3917	71.4537	2.2844	8.1585	70.9806
5	1.7702	6.3220	77.7757	1.7702	6.3220	77.7757	1.9026	6.7951	77.7757
6	0.9992	3.5686	81.3443						
7	0.5355	1.9124	83.2567						
8	0.5022	1.7935	85.0503						
9	0.4672	1.6685	86.7188						
10	0.4001	1.4290	88.1478						
11	0.3450	1.2322	89.3800						
12	0.3321	1.1862	90.5662						
13	0.3097	1.1062	91.6724						
14	0.2792	0.9972	92.6696						
15	0.2581	0.9217	93.5913						
16	0.2377	0.8490	94.4403						
17	0.2199	0.7855	95.2257						
18	0.2049	0.7319	95.9576						
19	0.1968	0.7028	96.6604						
20	0.1802	0.6435	97.3039						
21	0.1719	0.6139	97.9178						
22	0.1382	0.4937	98.4115						
23	0.1334	0.4764	98.8879						
24	0.0874	0.3120	99.2000						
25	0.0823	0.2940	99.4939						
26	0.0616	0.2201	99.7140						
27	0.0541	0.1932	99.9072						
28	0.0260	0.0928	100.0000						

Extraction Method: Principal Component Analysis

The first panel gives values based on initial eigen values. For the initial solution, there are as many components or factors as there are variables. The "Total" column gives the amount of

variance in the observed variables accounted for by each component or factor. The "% of Variance" column gives the percent of variance accounted for by each specific factor or component, relative to the total variance in all the variables. The "Cumulative %" column gives the percent of variance accounted for by all factors or components up to and including the current one. In a good factor analysis, there are a few factors that explain a lot of the variance and the rest of the factors explain relatively small amounts of variance. Therefore, we can leave all those remaining factors which account for a very small amount of cumulative variance. In our case, we have taken first five components or factors as Eigen value for them is more than one (1) and account for a cumulative variance of 77.7757 % and dropped remaining 28 factors which account for only 22.2243% of cumulative variance.

Fig. 1: Scree Plot



The Extraction Sums of Squared Loadings group gives information regarding the extracted factors or components. For principal components extraction, these values are the same as those reported under Initial Eigen values. Next is "Rotation Sums of Squared Loadings" group. This column is displayed when we have requested for rotation of factors. In our case we have gone for Varimax Rotation. The variance accounted for by rotated factors or components may be different from those reported for the extraction but the Cumulative % for the set of factors or components will always be the same.

Factor Analysis: Rotated Component Matrix

The table 5 displays rotated component matrix and reports the factor loadings for each variable on the components or factors after rotation. Each number represents the partial correlation between the item and the rotated factor. These correlations can help us formulate an interpretation of the factors or components. This is done by looking for a common thread among the variables that have large loadings for a particular factor or component. Factor analysis rotation methods start with the original axes and apply a mathematical rotation which simplifies the relationships between factors and variables.

Table 5: Rotated Component Matrix

STORE ATTRIBUTES	Component				
	1	2	3	4	5
Quality of cloths	.909				
Choice of Cloths	.845				
Styling (Design) of cloths	.818				
Status of Brand(s) carried by the store	.775				
Prices levels of cloths				.782	
Value for Money				.858	
Store displays carrying information		.920			
Store's Advertisements					.956
Store's Promotional offers (Discounts, schemes etc.)					.952
Store's Location			.909		
Store Layout		.880			
Display of cloths		.873			
Store's outside appearance		.918			
Store's Inside appearance		.808			
Store Timings			.881		
Store Guarantees	.880				
Return Policies	.854				
Store Employees' Behavior	.939				
Store Employees' Knowledge	.881				
Store Employees' nature	.808				
Customer Service (Billing, Sorting etc.)	.832				
Store atmosphere		.878			
Store Try rooms			.897		
Other Customers at the Store	.866				
Store's Parking			.872		
Store Utilities e.g. water, toilets etc.			.918		
Shopping Satisfaction				.847	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 5 iterations.

Through Factor Analysis we have been able to extract five (5) factors out of 27 store attributes (one factor i.e. distance from the store was dropped due to very small communality). In other words we have transformed 27 Apparel store attributes into 5 representative Factors. As is visible from the table 11 variables (store attributes) have correlated with first Factor, 6 variables have correlated with second factor, 5 variables have correlated with third factor, 3 variables with fourth factor and remaining 2 variables have correlated with factor five.

Factor Analysis: Factor Transformation Matrix

The factor transformation matrix describes the specific rotation applied to our factor solution. This matrix is used to compute the rotated factor matrix from the original (unrotated) factor matrix. If the off-diagonal elements are close to zero, the rotation was relatively small. If the off-diagonal elements are large (greater than ± 0.5), a larger rotation was applied.

Table 6: Component Transformation Matrix

Component	1	2	3	4	5
1	.865	.447	.013	.203	-.103
2	.099	-.182	.973	-.028	.102
3	-.380	.860	.190	-.280	.015
4	-.047	.111	-.057	.415	.900
5	-.310	.118	.121	.841	-.411

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

From the table it is visible that most of the off-diagonal values are small or close to zero indicating that the rotation required in the current case was small.

For our study the all variables have correlated with 5 factors and have been named and shown in the table no. 7 in the next page:

**Table 7: Names Of Extracted Factors Along With Their Respective Variables
(Store Attributes)**

Factors Extracted				
1	2	3	4	5
Store's Product and Operational Quality	Store's Overall Visual Appeal	Customer Convenience	Perceived Price and Past Satisfaction	Store's Promotional Effectiveness
Quality of cloths	Store displays carrying Info.	Store's Location	Prices levels of cloths	Store's Advertisements
Choice of Cloths	Store Layout	Store Timings	Value for Money	Store's Promotional offers (Discount etc)
Styling (Design) of cloths	Display of cloths	Store Try rooms	Past Shopping Satisfaction	
Status of Brand(s) carried by store	Store's outside appearance	Store's Parking		
Store Guarantees	Store's Inside appearance	Store Utilities e.g. water, toilets etc		
Return Policies				
Store Employees' Behavior				
Store Employees' Knowledge				
Store Employees' nature				
Customer Service (Billing, Sorting etc.)				
Other Customers at the Store				

B) Identifying Key Factors Affecting Retail Store Image: Regression Analysis:

After reducing the 27 variables affecting retail store image into 5 representative uncorrelated factors, regression analysis has been performed to identify those factors that affect store image more. For regression analysis, Store image variable has been taken as dependent variable and the extracted 5 factors as independent variables.

To determine the ratings of newly extracted factors, the original scores of initial variables (Store attributes) correlated with their respective factors have been averaged. For example, to

find out ratings of the first factor i.e. Store's Product and Operational Quality the original ratings of all correlated variables (store attributes) such as *Quality of Cloths, choice of Cloths, styling of cloths, Status of the brands carried by store, Store guarantees, return Policies, Employee Knowledge, Behaviour, Nature, Customer service and other customers at the store* have been averaged. Similarly rests of the factor ratings have been calculated. The descriptive statistics for the 5 extracted factors have been shown in the following table 5.19.

Regression Analysis: Descriptive Statistics

Table 8: Overall Descriptive Statistics of Factors Extracted After Factor Analysis

Factors	N	Mini.	Maxi.	Mean	SD
Store's Product and Operational Quality	309	1.91	5.82	4.2424	.93345
Store's Overall Visual Appeal	309	1.83	6.83	3.9477	1.01958
Customer Convenience	309	1.00	7.00	4.4369	1.20489
Perceived Price and Past Satisfaction	309	2.33	6.33	4.0960	.76479
Store's Promotional Effectiveness	309	1.50	5.50	3.7298	1.10956

The above table displays descriptive statistics for each factor that has been extracted after factor analysis. Though, the mean rating has been highest for third factor but with largest standard deviation making it difficult to decide that it is the most important factor that influence store image. Therefore, we move on to regression analysis for having a clearer picture to identify factors that are important to customers in forming better store image.

Regression Analysis:

Table 9: Regression Analysis (Overall Store Image On Store Attributes)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
0.841	0.707	0.674	0.464	0.707	148.055	5	303	0.000

Predictors: (Constant), Store's Promotional Effectiveness, Customer Convenience, Product and Operational Quality, Perceived Price and Past Satisfaction, Store's Overall Visual Appeal, Store's Dependent Variable: Store's overall Image

The table 6.16 displays R, R squared, adjusted R squared, and the standard error. R, the multiple correlation coefficients, is the correlation between the observed and predicted values

of the dependent variable. The values of R for models produced by the regression procedure range from 0 to 1. Larger values of R indicate stronger relationships. In our case R value is .841 suggesting a high correlation between dependent and independent variables. Also, the p value of significance is .000 and is less than .05 suggesting that relationship is significant.

R squared is the proportion of variation in the dependent variable explained by the regression model. The values of R squared range from 0 to 1. Small values indicate that the model does not fit the data well. The sample R squared tends to optimistically estimate how well the model fits the population. For the data concerning our study, R squared value is 0.707 which though not very high but is also not low as well. In nutshell, the regression model is able to explain 70% of the variation in the dependent variables so as to conclude that regression model fits population to a reasonable degree.

Adjusted R squared attempts to correct R squared to more closely reflect the goodness of fit of the model in the population. In this case the value of adjusted R squared is almost same as of R Squared i.e. 0.674 indicating that model is a reasonable fit for population.

Regression Analysis: ANOVA Table

Table 10: (ANOVA table- Overall Store Image on Store Attributes)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	189.513	5	37.902	148.055	.000(a)
	Residual	77.524	303	0.256		
	Total	267.037	308			

Predictors: (Constant), Store's Promotional Effectiveness, Customer Convenience, Product and Operational Quality, Perceived Price and Past Satisfaction, Store's Overall Visual Appeal, Store's Dependent Variable: Store's overall Image

This table summarizes the results of an analysis of variance. The sum of squares, degrees of freedom, and mean square are displayed for two sources of variation, regression and residual. The output for Regression displays information about the variation accounted for by your model. The output for Residual displays information about the variation that is not accounted for by your model. And the output for Total is the sum of the information for Regression and Residual. A model with a large regression sum of squares in comparison to the residual sum of squares indicates that the model accounts for most of variation in the dependent variable. Very high residual sum of squares indicate that the model fails to explain a lot of the variation in the dependent variable. In our case, the regression value is more than residual value though not significantly large. Thus we can conclude that the regression model is able to explain good amount of variation in the dependent variables.

The mean square is the sum of squares divided by the degrees of freedom. The F statistic is the regression mean square (MSR) divided by the residual mean square (MSE). The regression degrees of freedom is the numerator df and the residual degrees of freedom is the

denominator df for the F statistic. The total number of degrees of freedom is the number of cases minus 1. If the significance value of the F statistic is small (smaller than say 0.05) then the independent variables do a good job explaining the variation in the dependent variable. If the significance value of F is larger than say 0.05 then the independent variables do not explain the variation in the dependent variable.

For the current study, the significance value of F is .000 and is smaller than .05 thus indicating that all the extracted factors have done a good job explaining the variation in Overall Retail store image.

Regression Analysis: Regression Coefficient

Table 11: (Regression Coefficients- Overall Store Image On Store Attributes)

Factors	Unstandardized Coefficient		Standardized Coefficient			Collinearity Statistics	
	B	Std. error	Beta	t	Sig.	Tolerance	VIF
Constant	0.053	0.313		-0.169	0.866		
Store's Product and Operational Quality	0.501	0.046	0.503	10.828	0.000	0.694	1.440
Store's Overall Visual Appeal	0.303	0.039	0.332	7.809	0.000	0.827	1.210
Customer Convenience	0.004	0.030	0.005	0.131	0.896	0.986	1.015
Perceived Price and Past Satisfaction	0.139	0.051	0.114	2.702	0.007	0.838	1.194
Store's Promotional Effectiveness	0.068	0.033	0.081	2.045	0.042	0.959	1.043

Predictors: (Constant), Store's Promotional Effectiveness, Customer Convenience, Product and Operational Quality, Perceived Price and Past Satisfaction, Store's Overall Visual Appeal, Store's Dependent Variable: Store's overall Image

The above table shows the independent variables (Extracted factors) with their unstandardized coefficients, standardized coefficients, these are the coefficients of the estimated regression model. Often the independent variables are measures in different units. The standardized coefficients or betas are an attempt to make the regression coefficients more comparable. The t statistics can help us determine the relative importance of each variable in

the model. As a guide regarding useful predictors, look for t values well below -2 or above +2.

The unstandardised regression coefficient beta values i.e. B for the first factor Store's Product and Operational Quality is .501 and is largest indicating it as the most important factor that affects store image. Other factors (importance wise) that affect are apparel store image are Store's Overall Visual Appeal (with B value .303), Perceived Price and Past Satisfaction (with B value 0.139) and Store's Promotional Effectiveness (with B value 0.068).

More importantly, these factors have been found to be significant with significance values nearing 0.000. However, the factor Store's Promotional Effectiveness has been found significant but has very less B value i.e. 0.068 indicating that discounts, promotional schemes, Advertisements etc have little role in creating a high store image.

Only factor has been found insignificant in explaining Apparel store image is Customer Service indicating that customers may not be concerned about fast billing or sorting so much till they get those clothing items which they like from a store and find operational quality good. Alternatively, the t values for all the factors except one are greater than 2 suggesting that customers may not be concerned too much about customer convenience while forming overall image about the apparel retail store.

Conclusion

One the primary objective of this study was to find out key store attributes which have significant impact on the store image of an apparel store. To achieve this objective, we analyzed responses of 309 customers for 28 store attributes and extracted 5 representative factors through factor analysis. Factor analysis was used due to high correlations between 28 store attributes as regression analysis becomes useless if the inter-correlation of independent variables is high. The five factors extracted through Factor analysis are *Store's Product and Operational Quality*, *Store's Overall Visual Appeal*, *Customer Convenience*, *Perceived Price and Past Satisfaction* and *Store's Promotional Effectiveness*. One store attribute i.e. Distance of the store from home had very less communality indicating that this attribute is not so important to customers when it comes to buying apparel items and therefore was dropped from the further analysis.

After extracting the factors, regression analysis was performed to identify key factors that have significant impact on Store Image. *Store's Product and Operational Quality* came out as the most significant factor in creating high store image with a regression beta value of .501 in comparison to other factors such *Store's Overall Visual Appeal with a beta value of .303*, *Perceived Price and Past Satisfaction with a Beta value 0.139*, *Store's Promotional Effectiveness with a beta value .068* and *Customer Convenience with least beta value .004*.

In other words, Stores' Product and Operational Quality (*representing Quality of cloths, Choice of Cloths, Styling (Design) of cloths, Status of Brand(s) carried by store, Store guarantees, Return Policies, Store Employees' Behavior, Knowledge, Nature, efficiency in Customer Service and status of Other Customers at the store*) plays the most significant role in creating a high image for a store in case of apparel retailing.

The conclusion that Store's Product and Operational Quality is the most important factor determining Overall Image has been evident from the findings that Specialty stores like Bharati Sarees, Madame, Ganga Sagar, Hokaba and Branded franchisee Stores such as Levi's

are perceived carrying high image by the customers for providing quality products ((Product quality includes quality of cloths, Choice availability, styling or design of cloths, *Status of Brand(s) and other customers carried by store*) along with high operational quality (*Store guarantees, Return Policies, Store Employees' Behavior, Knowledge, Nature, efficiency in Customer Service*).

The Discount stores such as Koutons and Prilknit and Mini-hypermarkets such as Amartax on the contrary have been rated low on Product and Operational Quality thus been perceived to have lower Overall Store Image.

Also, these findings confirm to previous research findings by Berry (1969), Bearden (1977), Schiffman *et al.* (1977), Mazursky and Jacoby (1985), Shim and Kotsiopulos (1992), Dotson and Patton (1992), Lee and Johnson (1997), Laszczyc and Timmermans (2001) identifying merchandise quality, Fashionability and appropriateness of merchandise, return policy, delivery, Sales Personnel etc. as key dimensions of store image, most of which are represented by our first factor.

The second-most important factor i.e. Stores Overall Visual Appeal (representing *Store displays carrying Information, Store Layout, Display of cloths, Store's outside and inside appearance*) too has been found to have a sizable impact on Store's Image.

Previous research findings by B. and Natter, M. and Faure, C.¹ (2010), Sirohi *et al.* (1998) and Marks (1976), Bawa *et al.*, (1989); Iyer (1989); Jolson and Spath (1973), identified Store front, Store appearance and Displays respectively as key store image dimensions. Confirming the same, our findings also identify all these dimensions a important store image dimensions through our second representative factor i.e. Store's Overall visual Display

Third important factor i.e. Perceived Price and Past Satisfaction (*Representative of Perceived price, Value for Money and Past Purchase Satisfaction*) too has been found to have a moderate impact on a Store's Image. High price perceptions in some cases may mean high store image provided customers perceive they are getting higher value for money irrespective of the price paid by the customer. Perceptions of receiving a high value for money results in more satisfaction which in turn builds higher image for a store. This conclusion is well supported by the research findings that the stores like Madame, Bharati Sarees, Levis etc. have been perceived to carry high prices by customers but perceived to have provided high value for money to customers resulting in high satisfaction. All this eventually created higher Store image for these stores. However, High prices always do not mean high value. For example, Discount Store like Koutons, Prilknit and mini-hypermarkets like Amartax also carry high prices but heavy discounts and are perceived to be providing low value resulting into Lower Store Image. Importance of the third factor as another store image component confirms to previous studies by Coppett (1988) and Leszczyc and Timmermans (2001) which too have identified price and Past Satisfaction as important store image dimensions.

The fourth factor i.e. Store's Promotional Effectiveness (*Representative of Advertisement Effectiveness, Store Discounts n schemes attractiveness*) has been found to have a somewhat less impact on customers' perceptions regarding a store's image. One reason could be retail

¹ Cornelius, B. , Natter, M. and Faure, C. (2010), "How storefront displays influence retail store image Cornelius", *Journal of Retailing and Consumer Services*, 17 (2), p.143-151.

stores do not indulge in too much advertising and discounts, schemes etc. have been very common and copied by every other retailer very easily making their use ineffective. Moreover, heavy discounts in some cases may result in lower store image perception. Koutons and Prilknit, have been rated high on this attribute but yet perceived to carry lower images. On the contrary, Store's like Levi's, madame, Bharati Sarees etc. have been found to have ineffective Store promotions but still scored high on Store Image ratings.

Surprisingly, past studies identifying parking (Leszczyc and Timmermans 2001), Rest rooms (Berry 1986), Store location, Store hours and distance (Mazursky and Jacoby 1985) and dressing room (Lee and Johnson 1997) as important store image variables, represented by our last factor i.e. Customer Convenience, have been ignored by Indian customers .

Customer Convenience (*Representative of the factors such Store Timings, Quality of Try rooms, Parking Facilities, Utilities such as water, Toilets etc.*) has not been found to be one of the major issues at least for customers buying apparel items as its impact on Store's image has been found to be minimal.

In other words, Customer may ignore the inconvenience such as parking, absence of utilities etc. and still visit a store if he/she finds quality cloths of his/her choice at particular store that is visually appealing and has a good past experience from the store. This is evident from the findings that store's such as Levi's, Numero Uno, Bharati Sarees, Madame etc. have been rated high in terms of store image despite poor parking facilities and not so satisfactory try rooms.

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