

# Store Environment in Organised Retail Outlet: Conceptual Framework and Scale Development

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## **Abstract**

The aim of this paper is to conceptualize, purify, refine and develop the multi-item scale of retail store environment. The authors attempt to develop multi-item scale by following a four-stage approach: defining the construct, item generation and refining, data collection and purification through exploratory factor analysis and validation with the help of confirmatory factor analysis. Data was collected from Chhattisgarh state of Central India. The scale was tested and found to be highly reliable with three factors of store environment, namely, ambience, design and social factors with 15 items in total. Organizations,

academicians and researchers will get insights on the complex and multi-dimension framework of store environment and will be able to measure the dimension of store environment and consumer behaviour relevant to their target group. After identifying the gap on store environment literature, analysis supports that focus on developing scale on all dimensions of store environment was not yet addressed.

**Keywords:** *Ambience, Design, Scale development, Social, Store Environment.*

## 1. Introduction:

According to the report of the Confederation of Indian Textile Industry, the Indian economy will be one of the fastest growing economies with 9.8% compounded annual growth rate (CAGR) between years 2011 and 2020. It's being projected that the Indian retail market will grow at a compounded annual growth rate (CAGR) of 13% with an increase from USD 25 billion in 2007 to USD 124 billion in 2020. The Indian retail market is witnessing a dramatic change in market trends and consumers' buying behaviour, especially in Tier-II and Tier-III cities due to an upsurge in consumerism, increased income levels, fluctuating consumption pattern and spending habits, and change in lifestyle pattern of consumers. India's organised retail market is rigorously planning to expand the number of stores across the country rapidly; that emerged as the biggest challenge for retailers to position brand image among consumers for gaining competitive advantage over prevailing rivals in the offline market. An attractive retail environment can be a possible way to achieve the advantage.

The concept of store environment was addressed and focussed upon by various researchers in recent decades. From the past literature, it has been observed that researchers emphasised on limited store environmental factors. A few researchers constructed a framework by demonstrating in-depth literature review of several store environment variables (Turley & Milliman, 2000; Bohl, 2012). Based on their classification and body of knowledge, the present study attempts to develop and validate the scales for various store environment related items.

## 2. Store Environment – Concept:

Various research studies are directed towards this issue and have addressed its influences. Store environment and atmosphere are used interchangeably by several researchers. One of the

initial research studies by Kotler, (1973) defined store atmosphere as “the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability”. Further, he explained the store as the place where consumers buy products and which is more persuasive than the product itself. Later, store atmosphere is described in sensory terms, aural, olfactory and tactile dimensions. Moreover, he established and explained the causal chain connecting store atmosphere and purchase probability, which reflects that there is a close association between store atmosphere and consumers' perception of retailers. Further, application of store atmosphere was explained in a variety of outlets viz. footwear retail, furniture, antiques, restaurants, airports, offices, etc.

Another interesting research study was conducted on the store environment by Baker (1987), who classified the store environment into ambience, design and social factors. On the other hand, Berman & Evans (1995) suggested another classification where the store was described into four categories viz. exterior of the store, general interior variables, the layout and design variables, point of purchase and decoration variables, which was further extended with a fifth variable, human variable (Turley & Milliman, 2000). However Lin (2003) explained environmental cues in terms of servicescape and identified three dimensions viz. visual cues, auditory and olfactory cues.

Retailers invest a significant amount of capital in designing a pleasant store environment. But at the same time, it becomes a USP for retailers and if planned and implemented properly, it promises good returns for them. It is important to evaluate the impact of store environment on consumers' buying behaviour that ultimately leads to an increase in profitability. A suitable measurement instrument is needed to analyse the perceived importance of store environment and its dimensions which will act as a

guide for retailers to make critical decisions regarding store environment, which is a considerable cost point. Recent studies focussed on selecting and developing a few dimensions of retail store environment and its scale. This study attempts to provide store environment scale to measure the consumers' perception of retailers for practical implementation in the retail environment. Following are the objectives of the present study:

i. To identify and analyse dimensions of store environment through review of literature;

- ii. To propose a scale for measuring the dimensions of store environment and its factors;
- iii. To test the developed scale for reliability and validity, and
- iv. To implement the developed scale in the retail sector.

### 3. Major contribution on store environment and its dimensions:

Several researchers focussed on some dimensions of store environment that can be analysed with the help of Table 1.

Table 1: Major studies in the area of store environment		
Author	Dimension of Store Environment	Items
Kotler (1973)	Visual	Colour, brightness, sizes and shapes
	Aural	Volume and pitch
	Olfactory	Scent, freshness
	Tactile	Softness, smoothness and temperature
Baker (1987)	Ambience	Temperature, Noise, Scent, cleanliness
	Design	Colour, style, materials, décor, shape, texture, pattern, layout, comfort, signage, accessories
	Social	Other customers and service personnel (in terms of numbers, appearances, behaviour)
Turley & Milliman (2000)	External	Exterior signs, entrance, height, size, colour of the building, lawns, location, surroundings, parking, traffic and exterior walls
	General Interior Variables	Flooring, colours, schemes, lighting, music, scents, tobacco smoke, width of aisles, paint, wallpapers, merchandise, cleanliness and temperature.
	Layout and design variables	Space design, placement and grouping of merchandise, placement of equipment, cash registers, waiting areas, traffic flow, racks and cases, waiting cues, furniture , etc.
	Point of purchase and decoration variables	Point of purchase displays, signs and cards, wall decorations, pictures, product display, price displays , etc.
	Human variables	Employee characteristics, crowding, customer characteristics, etc.

#### 4. Gap Analysis Based on Review of Literature:

The table below illustrates the identified gap in previously conducted studies, based on which objectives are formed and an attempt has been made to fill the gap.

SN	Authors	Ambient Factors					Design Factors					Social Factors			
		Lighting	Music	Aroma	Temperature	Air Circulation	Cleanliness	Colours	Decoration	Width of Aisles	Display Boards	Layout	Sales Persons' Behaviour	Crowding	Fellow Shoppers
1	Baker (1987)		✓	✓	✓	✓	✓								
2	Kumar, Garg & Rehman, (2010)	✓	✓					✓	✓			✓		✓	
3	Khare (2010)	✓						✓	✓				✓		
4	Joshi & Kulkarni (2012)			✓	✓					✓			✓		✓
5	Kazakeviciute & Bangte (2012)													✓	
6	Wright, et.al (2009)	✓	✓	✓											
7	Morrison et.al (2011)		✓	✓											
8	Tendai & Crispen (2009)		✓	✓		✓							✓	✓	
9	Matilla & Wirtz (2001)	✓		✓											
10	Han, et.al (2011)	✓	✓				✓						✓		✓
11	You, Park & MacInnis (1998)								✓			✓			
12	Mohan, Sivakumaran & Sharma (2012)	✓	✓	✓				✓			✓		✓		
13	Kumar & Kim (2013)	✓	✓						✓				✓		
14	Singh & Prashar (2011)	✓	✓	✓	✓		✓								
15	Quartier et. Al (2009)	✓													
16	Yalch & Spanberg (2000)	✓													
17	Matilla &Wirtz (2006)												✓	✓	
18	Erglou, Machleit & Chebat (2005)	✓												✓	
19	Hussain & Ali (2015)	✓	✓	✓	✓		✓	✓			✓				
20	Mirabi & Simiey (2015)	✓	✓					✓			✓	✓			
21	Machleit, Erglou & Mantel (2000)													✓	

**4.1 Store Ambience:** Ambient factors refer to the non-visual elements of a space that includes temperature, music and lighting (Baker, 1987) or “background conditions that exist below the level of our immediate awareness”. In other words, ambience factors refer to those factors, whose presence can be felt directly but cannot be seen. These are the factors which influence the shopping behaviour of consumers.

**4.1.1. Music:** Music plays a vital role in creating a pleasant atmosphere in any place. No matter where we are, we all listen to music irrespective of places. It somehow helps create a cheerful mood and enhances the ambience of the place. An individual listens to

music while studying, playing, driving, working and shopping, which makes him feel the ambience in a different way. So, this becomes a significant factor for marketers to consider. Several research studies have examined the impact of music on consumers' behaviour through experiments (Milliman, 1982, 1986; Yalch & Spangenberg, 1990). Spangenberg et al (2005) explained that music can affect an individual's mood (Yalch & Spangenberg, 1988, 1990, 2000), perceptions of time (Kellaris & Altsech, 1992; Kellaris & Kent, 1992), sales in food services (North & Hargreaves, 1998), interactions between buyers and sellers (Dube´ et al., 1995), product selection (North et al., 1999) as well as actual shopping times and

associated purchase quantities (Milliman, 1982, 1986). Bitner (1992) explained the concept of music with the service environment which acts as a mood influencer. Bruner (1990) discussed three primary dimensions of music viz. physical, emotional and preferential dimensions. Milliman (1982, 1986) conducted two separate experiments where he manipulated music tempo and tracks, one in a supermarket and the other in a restaurant. All these findings reflect that music acts as a powerful stimulus for consumer behaviours in a retail store environment and should be addressed by researchers in a different manner. Demoulin, (2011) found that music congruency has a negative effect on arousal in a fast-food restaurant context. Hussain & Ali, (2015) found that music shows an insignificant impact on the consumer purchase intention.

Another study examined the manipulations of scent and music in a 3 (no music, pleasant low arousal and high arousal music) by 3 (no scent, pleasant low and high arousal scents) factorial design in a field setting and found that consumers evaluate more positively towards store environment when the arousal level of scent and music were matched.

**4.1.2 Lighting:** Another important dimension of ambience factor is lighting that influences consumers' behaviour in the form of mood, buying behaviour, preferences, approach behaviour and sales, etc. It has been observed that bright lighting creates a positive mood in shopping, enhances the shopping experience of a shopper and increases the probability of buying. Lighting attracts the eye of the consumer by highlighting the product and leads to effective evaluation of the product. So, retailers spend a huge amount on lighting effects which may increase their sales by exciting the mind and mood of the consumers. Today, almost every retailer is focusing on designing an attractive environment by arranging proper lights in the store. Every store that one comes across has bright

lights to attract consumers' attention towards the displayed products. Hussain & Ali, (2015) explain that there is a significant positive influence of lighting on the purchase intention.

**4.2. Design Factors:** Design factors can be classified as aesthetic or functional. Aesthetic factors are physical cues which customers observe (colour, architecture, style, materials, etc.) and influence the level of pleasure in the service experience (Aubert-Gamet 1997). Functional factors enable the behaviour of customers in the servicescape and include layout, signage and comfort (Baker 1987). Very few studies have been conducted on store design, while some elements of design factors have been considered by researchers.

**4.2.1. Colours:** Bright and vibrant colours are more eye-catching as compared to dull and light colours. Colour is an important element in a retail setting for drawing consumers' attention. As observed, some colours are more pleasant for the eye and capable of evoking consumers' response. Colours directly affect consumers' emotional responses (Pham, Cohen, Pracejus, & Hughes, 2001; Swinyard, 1993; Vida, 2008). Colour has a great impact on the consumer's perception about the merchandise (Yuksel, 2009). It has been observed that different colours stimulate different moods and emotions of consumers. Colour attracts the consumers and evokes emotional aspects of an individual that leads to purchase behaviour, store image, shopping experiences, store patronage and so on. Use of a proper colour scheme on the walls and ceiling of the store is a rational decision while designing a store environment. Hussain & Ali, (2015) explain that colour has an insignificant impact on the consumer purchase intention which means that colour of the retail chain outlets does not impact consumers while shopping.

**4.2.3 Space:** Consumers prefer to visit stores with

sufficient space. It includes width of the aisles, traffic flow, etc. Consumers usually seek an environment where they can easily move and find their products. Mohan et. al, (2013) discussed layout as the way in which products, shopping carts and aisles are arranged; the size and shape of those items and the spatial relationships among them.

**4.2.4 Display Boards:** Display boards in the store provide directions to the consumers within the store regarding where to find different product categories, availability, way to trial rooms, help desks, billing counters, promotional offers, etc. Display boards should be placed properly so that a consumer is conveniently guided to the desired place within the store. Hussain & Ali, (2015) discussed that there is a significant relationship between the consumers' purchase intention and product display/layout.

**4.2.5 Store Design:** Proper store design and its layout encourage more exploration by consumers in the store. This leads to an increase in store browsing and helps the customer closely view the products and varieties. Better the layout, better is the store image in the mind of consumers, which, in turn, results in higher sales, greater satisfaction, positive shopping experience, more footfalls, etc.

**4.3 Social factors:** It's a proven fact that shoppers tend to visit a store based on their past experience and treatment they got during their last visit. On entering any outlet, they come in contact with store employees whose behaviour and skills may convert a prospect into a buyer. Social factors also consist of people within the store environment which includes the number, types and behaviour of other consumers (Baker & Grewal, 1994). Studies conducted examine the influence of salespersons on consumers' emotions, purchase behaviour and so on. Review of the literature suggests that physical appearance of retail employees is critical because it acts as a means to communicate

with customers about the store's image (Solomon, 1985).

**4.3.1 Crowding:** Limited studies have been conducted on the effect of presence of other customers in a retail store, or crowding. Studies on crowding have investigated its influence on emotions (Hui and Bateson, 1991), shopping satisfaction (Eroglu and Machleit, 1990; Machleit, Eroglu and Mantel, 2000), time spent in the store (Harrell, Hutt and Anderson, 1980), interpersonal behaviour (Hui and Bateson, 1991) and re-patronage intentions (Wakefield and Blodgett, 1994). Perceived crowding is a psychological state that occurs when a person's demand for space exceeds the supply (Stokols, 1972).

Eroglu, Machleit, Barr (2005) and Lee, Kim, Li (2011) discuss that consumers perceive retail crowding differently depending on individual characteristics or situational factors. It is quite obvious that if an individual sees many consumers in a limited space of a store, he perceives that the shop is crowded and tends to avoid visiting the outlet at that moment. Many studies conducted on crowding describe an increase in the number of shoppers and objects in a limited store space restrict physical body movement in the store and the store is perceived as crowded. This is known as spatial crowding (Machleit et. al, 2000). While in social factors, the human dimension of crowding, on the other hand, pertains to the number of individuals as well as the rate and extent of social interactions among individuals in a given environmental setting (Machleit et. al, 2000). Literature shows that crowding has a negative influence on consumers' psychology which leads to dissatisfaction, comparisons with other shops, postponement of shopping, negative store image, etc.

**1.3.2 Store Employees:** The store employee is another dimension of social factors that directly and indirectly stimulate sales in the store. It is another environmental cue which triggers the consumer by

their skills. In the present study, sales persons have been measured in terms of their skills and behaviour, number of employees and their appearance which creates an environment in the store. Xu (2007), Tendai and Crispin (2009), Kumar and Kim (2014), Mohan, Sivakumaran & Sharma, (2012) Joshi & Kulkarni (2012) were prominent researchers who focussed on store employees.

## 5. Methodology:

### 5.1 Development of a Store Atmosphere Scale:

After reviewing previous studies on scale development, the following scale development process was adopted. Stages are modified w.r.t. study in-hand, while maintaining the relevant flow of the process.

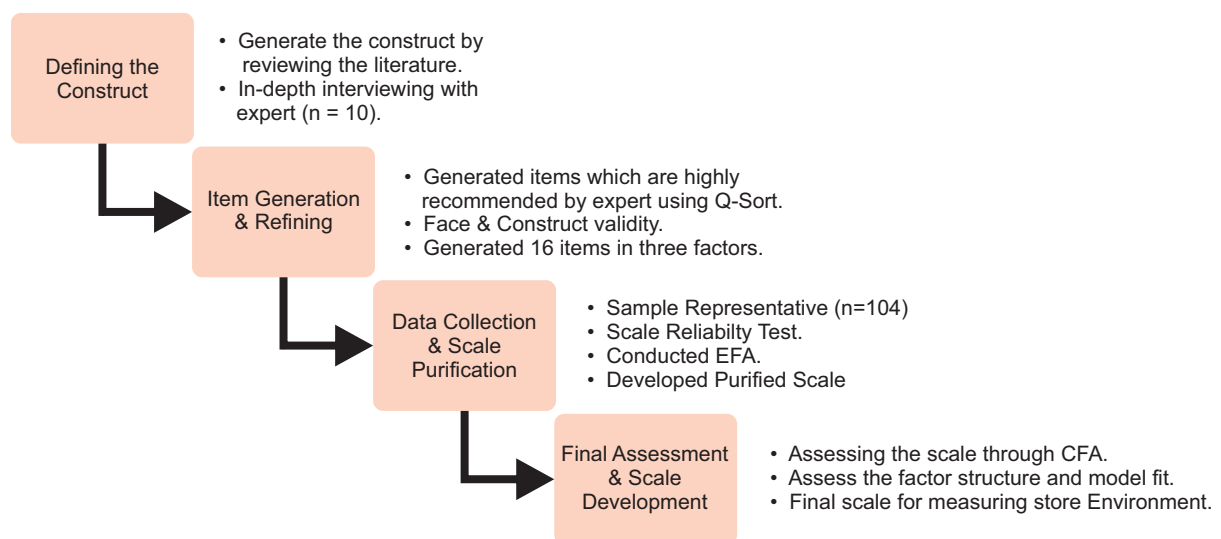


Fig. 1: Scale Development Process.

#### Phase 1 - Defining the Construct:

Due consideration is given to a framework and developing scales for accessing store ambience, design and social factors. After extensive literature review, three environmental factors i.e. ambience, design and social factors, and their dimensions were identified. On the basis of classification, initial sets of items were extracted. Eleven experts (2 academicians, 4 retailers

and 4 doctoral students) were consulted seeking advice on initial sets of items and asked to point out key items which they felt should be included in store environment scale. A set of 34 dimensions of store environment were identified by them as mentioned in Table 3. Some items were renamed and some were removed from the list.

Table 3: Items identification through literature review			
Researcher	Environmental Dimensions Studied	Criterion Variable	Limitations
Machleit, Erglou and Mantel (2000)	Crowding	Shopping satisfaction	Only focussed on crowding
Xu, (2007)	Ambience, design, employees and crowding	Impulse buying	Undefined dimensions of store environment
Tendai & Crispen, (2009)	Music, display, sales people, crowding	Impulse buying	Undefined dimensions of store environment
Kumar, Garg & Rehman, (2010)	Colour, lighting, music, crowding, design and layout, olfactory and tactile factors	Purchase intentions, shopping satisfaction, positive word of mouth	Undefined dimensions of store environment
Chen and Hsieh (2011)	Ambience, design and social factors	Customer perception and customer behaviour	Undefined sub-dimensions of ambience, design and social factors
Khare (2011)	Aesthetics (interior, colour, lighting, decor), social	Mall shopping behaviour	Left some dimensions of store environment
Morrison et. al (2011)	Music and aroma	Shopping behaviour and shopping satisfaction	Only focussed on music and aroma
Maymand & Ahmadinejad (2011)	Store environment	Impulse buying	Undefined dimensions of store environment
Joshi & Kulkarni (2012)	Store interior, store personnel, fellow shoppers, comfort, beauty, aesthetic, display	Consumer shopping experience	Left some dimensions of store environment
Mohan, Sivakumaran & Sharma, (2012)	Music, scent, light, assortment, layout, employee	Variety seeking	Left some dimensions of store environment like temperature, colour, crowding etc.
Kumar & Kim (2014)	Lighting, music, colour, merchandise, store information, display, décor, employees	Customer response	Left some dimensions of store environment like temperature, cleanliness, crowding etc

### Phase 2: Item Generation and Refining:

The store environment scale comprised of 3 second order reflective factors which are each comprised of 5-6 individual factors, which are reflected in 3-scale items. A set consisting 34 items based on the literature reviewed in Table 3 was provided to experts identified in Phase 1 who were asked to rate them on a 5-point Likert scale ranging from 'not at all important' to 'very important'. Based on the items suggested by the experts in the first stage and by Q-sort technique, 16 dimensions were finally sorted out as key store

environment elements representing three factors viz. ambience, design and social factors. All dimensions of store environment were mentioned on the card and experts were asked to put that card on the 3 identified factors. A set of 48 statements were framed based on the literature representing 16 dimensions of store environment mentioned in Table 4. Experts were also asked to suggest on the wordings, clarity, conciseness, readability and response format ensuring content and face validity of the scale.



Table 4: Items included in each dimension and sub-dimension during the item generation, refining and purification stage by expert recommendation				
Factors	Initial Sub-dimension	Initial Purification	Renamed Sub-Dimensions	Final Factors by Q-Sort Technique
General Interior Variables - (Turley & Milliman, 2000)	Flooring and carpeting	Selected	Decoration	Design Factors
	Colour schemes	Selected	Colour	Design Factors
	Lighting	Selected	Lighting	Ambience Factors
	Music	Selected	Music	Ambience Factors
	P. A. Usage	Rejected		
	Scents	Selected	Scents	Ambience Factors
	Tobacco Smoke	Selected	Scents	Ambience Factors
	Width of Aisles	Selected	Space	Design Factors
	Wall Composition	Selected	Décor	Design Factors
	Paint and Wall paper	Selected	Colour	Design Factors
	Ceiling Composition	Selected	Décor	Design Factors
	Air circulation (Baker, 1987)	Selected	Air circulation	
	Merchandise	Rejected		
	Temperature	Selected	Temperature	Ambience Factors
Cleanliness	Selected	Cleanliness	Ambience Factors	
Layout & Design Variables - (Turley & Milliman, 2000)	Space Design and allocation	Selected	Space	Design Factors
	Placement of merchandise	Selected	Layout	Design Factors
	Grouping of merchandise	Selected	Layout	Design Factors
	Workstation placement	Selected	Layout	Design Factors
	Placement of equipment	Rejected		
	Placement of cash registers	Rejected		
	Waiting areas	Selected	Layout	Design Factors
	Waiting rooms	Selected	Layout	Design Factors
	Department locations	Selected	Layout	Design Factors
	Traffic flow	Selected	Space	Design Factors
	Racks and cases	Selected	Layout	Design Factors
	Waiting Queues	Selected	Layout	Design Factors
	Furniture	Rejected		
	Dead areas	Rejected		

Table 4: Items included in each dimension and sub-dimension during the item generation, refining and purification stage by expert recommendation				
Factors	Initial Sub-dimension	Initial Purification	Renamed Sub-Dimensions	Final Factors by Q-Sort Technique
Point of Purchase & Decoration Variables - (Turley & Milliman, 2000)	Point of purchase displays	Rejected		
	Signs and cards	Selected	Display Boards	Design Factors
	Wall decorations	Selected	Décor	Design Factors
	Degrees and certificates	Selected	Décor	Design Factors
	Pictures	Selected	Décor	Design Factors
	Artworks	Selected	Décor	Design Factors
	Product displays	Rejected		
	Usage instructions	Selected	Display Boards	Design Factors
	Price displays	Selected	Display Boards	Design Factors
	Teletext	Rejected		
Human Variables - (Turley and Milliman, 2000)	Employee characteristics	Selected	Store employee assistance	Social Factors
	Employee uniform	Selected	Salespersons' appearance	Social Factors
	Crowding	Selected	Crowding	Social Factors
	Customer characteristics	Selected	Fellow shoppers	Social Factors
	Privacy	Selected	Number of shoppers	Social Factors

### Phase 3: Data Collection and Scale Purification:

The items retained in the previous process were considered for further framing of instrument scale. On the basis of experts' opinion, 48 statements representing 16 dimensions were sorted out and framed as scale statements seeking response. A total of 117 consumers, while exiting the store, were approached seeking response through a structured questionnaire based on selected items at retail outlets in malls in Raipur city. One research assistant was assigned the job to approach and collect responses near the entrance of the store. As soon as a consumer left the store, the research assistant approached the consumer requesting to participate in the survey. He explained the purpose of conducting the research while persuading and assisting the participants to fill the questionnaire. Once the assistant got the

questionnaire filled in, he ensured completeness of the survey form, thereby reducing the chances of error in responses. However, some errors were found and only 104 responses were completed in all aspects and were considered for further analysis. Respondents consisted of both male and female consumers; most of them were young consumers in the age group of 21-40 years.

Further, items of store environment were analyzed for reliability. For this, the length of the questionnaire was shortened for conducting the study so as to encourage respondents to participate (thereby helping reduce time spent by respondents). A very lengthy questionnaire creates boredom among respondents which may lead to biased responses. The complete set of items had Cronbach's Alpha value of more than 0.50

under purification stage. The reliability of the scale was assessed using Cronbach's Alpha. The table illustrates that scale so constructed consists of 48 statements relating to 16 items' scale categorizing three variables viz. ambience, design and social factors. The values of alpha for each item range from 0.838 to 0.947. The overall value of Cronbach's Alpha is 0.914 which shows

the scale is highly reliable. The value of Cronbach's Alpha of ambience factors, design and social factors are 0.896, 0.851 and 0.863 respectively, which represent a highly reliable scale. The values of all the 16 individual items are more than .839 representing higher reliability.

**Table 5: Reliability Stats of the Scale**

Factors	Dimensions & Alpha Value	Items		Alpha
Ambience	Music	X11	Music played in the store was pleasurable	.867
		X12	The store music played was entertaining	
		X13	I was amused by the music played in the store	
	Lighting	X21	The store has bright lighting arrangement	.894
		X22	Lighting of the store was sufficient	
		X23	Store lighting intensity was quite appropriate	
	Fragrance/Aroma	X31	Aroma in the store was gentle	.934
		X32	Fragrance in the store was quite pleasurable	
		X33	Fragrance was appropriate in the store	
	Temperature	X41	Temperature within the store was comfortable	.946
		X42	Store temperature was suitable as per climate	
		X43	Store had a relaxing temperature	
	Air Circulation	X51	There was sufficient air circulation in the store	.934
		X52	Air circulation arrangement of the store was up to the mark	
		X53	Store was suitably arranged for overall air circulation	
	Cleanliness	X61	Proper care was given to cleanliness of the store	.912
X62		Store was appropriately hygienic		
X63		Store was properly maintained for tidiness		

**Table 5: Reliability Stats of the Scale**

Factors	Dimensions & Alpha Value	Items		Alpha
Design Factors	Colour	X71	The colour scheme used in the store was appealing	.838
		X72	The wall of the store was colourful	
		X73	The store had an appropriate colour scheme	
	Decoration	X81	Decoration of the store was appropriate	.847
		X82	Décor used in the store was eye-catching making the store attractive	
		X83	The store had relevant theme based decoration	
	Space	X91	Store was spacious	.880
		X92	It was easy to move and search for products in the store	
		X93	Aisles and racks were placed at an appropriate distance from each other	
	Display boards	X101	Store had proper display boards for information	.908
		X102	It was convenient to search for any information through display boards in the store.	
		X103	Different sections in the store were well located through appropriate sign boards	
	Layout	X111	Store was properly designed	.887
		X112	Layout of the store was easy to understand	
		X113	Design of the store was well planned	
Social Factors	Sales Person Assistance	X121	I got proper assistance from store employees	.917
		X122	Store employees were well trained	
		X123	Store employees were cooperative enough	
	Number of sales persons	X131	There were sufficient sales persons in the store to attend to customers	.917
		X132	Store had sufficient sales persons to cater to customers	
		X133	Sales persons were suitably numbered in the store	
	Appearance of store employees	X141	Store employees appeared neat in uniform	.898
		X142	I found store employees presentable in their appearance	
		X143	Store employees were well dressed and tidy	
	Crowding	X151	Store was too crowded	.941
		X152	There were so many shoppers in the store	
		X153	I found the store was full of other shoppers	

Table 5: Reliability Stats of the Scale				
Factors	Dimensions & Alpha Value	Items		Alpha
	Fellow Shoppers	X161	I found other customers in the store similar to my style	.900
		X162	Fellow shoppers were appropriate in terms of behaviour.	
		X163	Other shoppers in the store were well-mannered	

Before conducting exploratory factor analysis, KMO measure of adequacy test was conducted to establish the suitability of the data for factor analysis and Barlett's test of sphericity was tested to analyse the overall significance of the correlation matrix. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for store ambience factors showed a value of 0.795 and Barlett's test of sphericity (approx. Chi square = 1119.461) were also found at acceptable levels. Similarly, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for design factors showed a value of 0.728 and Barlett's test of sphericity (approx. Chi square = 701.479) were also found at acceptable levels. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for social factors showed a value of 0.766 and Barlett's test of sphericity (approx. Chi square = 895.968) were also found at acceptable levels. The outcome of both of these values for all factors suggested going ahead with further investigation.

Factor analysis with principle component method and varimax rotation was used to validate, reduce and

analyze the factors. Loadings of dimensions of ambience factors can be seen. Music was loaded on 5<sup>th</sup> component, lighting on 3<sup>rd</sup> component, scent on 2<sup>nd</sup> component and cleanliness on 4<sup>th</sup> component while loadings of temperature and air circulation can be seen on a single component 1 which are renamed as temperature. The loading of all the dimensions of store ambience ranges from .715 to .986 respectively.

After that, loadings of design factors were analyzed through EFA. Colour was loaded on 5<sup>th</sup> component, decor on 3<sup>rd</sup> component, layout on 2<sup>nd</sup> component, width of aisles on 4<sup>th</sup> component and display boards on 1<sup>st</sup> component. The loading of all the dimensions of store ambience ranges from .791 to .976 respectively.

Lastly, the loadings of social factors were analysed. Store employee was loaded on 5<sup>th</sup> component, appearance of sales persons on 3<sup>rd</sup> component, number of sales persons on 2<sup>nd</sup> component, number of fellow shoppers on 4<sup>th</sup> component and crowd on 1<sup>st</sup> component. The loading of all the dimensions of store ambience ranges from .755 to .978 respectively.

Table 6: Exploratory Factor Analysis: Ambience factors					
KMO and Bartlett's Test- Ambience factors					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.					0.795
Bartlett's Test of Sphericity		Approx. Chi-Square			1119.461
		Df			153
		Sig.			0
Rotated Component Matrix					
	Component				
	1	2	3	4	5
X51	.881				
X52	.827				
X53	.815				
X42	.767				
X43	.753				
X41	.740				
X32		.916			
X31		.901			
X33		.874			
X22			.843		
X21			.830		
X23			.824		
X63				.896	
X61				.891	
X62				.877	
x13					.751
x12					.743
x11					.733
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 8 iterations.					

Table 7: Exploratory Factor Analysis: Design factor					
KMO and Bartlett's Test					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.					.728
Bartlett's Test of Sphericity	Approx. Chi-Square				701.479
	Df				105
	Sig.				.000
Rotated Component Matrix <sup>a</sup>					
	Component				
	1	2	3	4	5
X101	.917				
X102	.863				
X103	.857				
X112		.892			
X111		.882			
X113		.870			
X82			.881		
X83			.833		
X81			.802		
X91				.857	
X92				.856	
X93				.787	
X71					.897
X72					.832
X73					.799
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 5 iterations.					

Table 8: Exploratory Factor Analysis: Social factor					
KMO and Bartlett's Test					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.					.766
Bartlett's Test of Sphericity	Approx. Chi-Square				895.968
	Df				105
	Sig.				.000
Rotated Component Matrix <sup>a</sup>					
	Component				
	1	2	3	4	5
X152	.943				
X151	.936				
X153	.934				
X133		.866			
X132		.862			
X131		.838			
X141			.890		
X143			.873		
X142			.861		
X162				.900	
X161				.882	
X163				.870	
X121					.884
X122					.871
X123					.757
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 6 iterations.					

#### Stage 4: Final Assessment and Development of Scale:

A set of 15 items representing three factors were further assessed and analysed by applying confirmatory factor analysis. The value of Normed chi square ( $\chi^2/df$ ) for all three factors are below 3 which can be seen from Table 9. The root mean square error of approximation (RMSEA) avoids the issues related to

sample size. All three factors reflect acceptability as values should lie between 0-1. The standardized root mean square residual removes this difficulty in interpretation, and ranges from 0 to 1; all factor values are at an acceptable level. The values of GFI, AGFI and NFI lie within the range, which are at acceptable levels.



Table 9: Model Fit Indices	Ambience Factors	Design Factors	Social Factors
Normed Chi Square	2.3193	1.5345	1.465
RMSEA (Root Mean Square Error of Approximation)	.061	.058	.064
Standardised Root Mean Residual (RMR)	.079	.74	0.69
Goodness-of-fit Index (GFI)	.705	.829	.836
Adjusted Goodness-of-fit (AGFI)	.896	.744	.754
(NFI)	.966	.939	0.980
Comparative Fit Index (CFI)	.848	.935	957

### Discussion and Conclusion:

In the era of globalisation and digitalisation, attracting consumers to visit the store is the biggest challenge for organisations and retailers. To achieve this, they need to attract consumers to prefer visiting the store over online shopping. Research on store environment scale is an area which is addressed by them so as to plan and implement strategy for increasing footfalls and consumers.

The scale developed consists of 15 items representing three dimensions viz. ambience, design and social factors. This was done by following four stages defining the constructs, item generation and refining, data collection and purification, final assessment and scale development. Initially, six dimensions of ambience factors were taken for the analysis, which was reduced to five, namely, music, lighting, temperature, scent and cleanliness. Design factors like colours, décor, space, display board and layout were the final dimensions which were left. Lastly, social factors like store employees' behaviour, number of employees and appearance, crowding, fellow shoppers were left for the final scale. The reliability of the scale was analysed and all items were found to be highly reliable as the values were above .80. Further, confirmatory factor analysis was done for assessing the model fit. Overall, CFA results favoured the three factors of store environment and supported the validity of the scale.

Nowadays the service industry emphasizes on designing an attractive environment for consumers to make their visit pleasant experiences. Further, these scales are not only limited to retail stores but also applied to servicescape like restaurants and hotels industry especially with factors like ambience and design.

### Managerial Implications:

The scale developed under this study has major implications for retailers, academicians and researchers. The store environment model developed in this study helps retailers to gain an insight of store environment. The final factors of store environment identify its various dimensions underpinning apparel retailers and will assist them to target the market accordingly. These dimensions of store environment provide a framework for retailers to build a favourable store environment for consumers. Manipulating these dimensions of store environment will enable retailers to strategically increase footfalls leading to increase in sales. Academicians and researchers will be able to conduct several research studies with the help of these scales that are already tested and validated.

### Limitations and Future Research:

The present study focused on developing scales particularly for store environment of the retail sector and in one country; therefore, one must be cautious while applying this analysis to other sectors. Further,

the study can be done on scales for different sectors as well as for the online shopping environment. This study lacks in analyzing store environment on cultural differences. Cross industry and cross-national data would be more useful and more generalized for future research. Another limitation of this study is the use of a

relatively small sample size and restricted to specific geographical location of Chhattisgarh state. Further research could be undertaken with a large sample representing different parts of India. A separate study can be done on comparison of urban and rural retail scale development.

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