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Moderating Effect of Color on Store Atmospheric Predictors

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Abstract

Purpose - Pleasing ambient colors, music, scent, layout and salespeople are hypothesized to positively impact shoppers' perceptions about the atmosphere of a store. Few studies on the interactive effect of these atmospheric factors have earlier been undertaken. This paper looks at the interactive effect of color on the other predictor variables.

Research design, data, and methodology - This study is from field locations in the shopping malls located in Delhi NCR. A descriptive study was undertaken to decipher the interactive effect of color with music, scent, layout and salespeople. Moderation of color on music, scent, layout and salespeople is regressed on store atmospheric. The authors investigate the effects of color, light, music, scent, layout and salespeople on store atmospheric in a retail context. They also study the interactive effect of color with predictor variables which significantly influence the perception of store atmospheric.

Results - The paper reveals that music, scent, layout and salespeople influence customer's perception about store atmospheric. The interactive effect of color with scent, layout and sales people influence customer's perception about store atmospheric significantly. It does not moderate with layout and music.

Conclusions - Store color is important in predicting store atmospheric. Care is needed to ensure that the effects of different environmental stimuli match.

Keywords: Store Atmospheric, Moderation, Color, Odor, Layout, Salespeople.

JEL Classifications: M3, M30, M31, L81.

1. Introduction

It is difficult to differentiate retail stores except for its brand name. To begin with, retailers position their stores on the basis of range, price, experience and convenience. It is tricky to discern from those of competition on such attributes. However, it is the atmospheric of a store which plays the role of a distinguisher. Retail atmospheric has been defined as the mishmash of all things material and

non-material rudiments belonging to a store, proscribed and managed by the retailer to augment shopping behavior of the customer which benefits the seller (Eroglu & Machleit, 1989). For the first time a notion of atmospheric was coined by Kotler (1973) as the endeavor invested to build a desirable retail environment in order to tempt exact poignant responses in consumers and finally, to boost the likelihood of their acquisition.

It would not be wrong to say how shoppers perceive ambiance within a store is store atmospheric. Ambiance is made up of lighting, scent, layout, merchandise mix, color, personnel, music and etc. Opus of store atmospheric should set with the category. A rife conception is that in fruit and vegetable or food categories, a customer is not affected by the atmospheric; while for non-food categories like consumer durables, apparel, home furnishings, it plays the fundamental function (Gandhi et al., 2010). Tangibles backed

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by intangible products are important for such categories. It has been researched that along with store layout, merchandise mix, music, layout and scent also influence consumer buying behavior (Chebat & Dube, 2000).

It is known that consumers perceive stores in multi-dimensional ways and that these aspects differ considerably across a range of kinds of stores (Sinha & Banerjee, 2004). Since undifferentiated retail stores keep popping up in India, ambience shall be the dominant differentiator of these newly opened stores. Ambience shall essentially be measured by lighting, music, scent, layout, color and sales people.

Store atmospherics is vital for a retail organization. Causal relationships have been established with individual store atmospheric parameters like light, sound, scent, layout, color etc., to study their impact on consumer buying behavior. The focus of this paper is to analyze the effect of a mixture of atmospheric parameters as a whole and with color as a moderator on the buying behavior of customers towards a retail store. For this study, the primary atmospheric parameters of lighting, music, scent, layout, color and salespeople have been considered since Indian consumers have been exposed to retail atmospherics for only a few years.

The paper has been organized as follows: Literature review of the concepts and hypotheses are in the next section. It is followed by research methodology. Data analysis is the next section. The paper finishes with discussion and limitations.

2. Literature Review

This paper reviews the concepts of store atmospherics, scent, salespeople, music, lighting, color and layout. It also proposes a hypothesis for each of the concepts with store atmospherics.

2.1. Store Atmospherics

Retailers offer comparable products and services to their consumers. The struggle is not only exterior but also the interior, meaning, there is infighting as firms possess competing retail formats. While visiting a store, consumers invoke several criteria like the proximity of the store, assortment, product availability, etc. According to a research done by Sinha and Banerjee (2004), more than 70 percent of the respondents signified these store atmospheric parameters as their reason for patronizing. Indian consumers are looking forward to the organized retailing. In course of time, organized retail will progress, consumers will experience newer formats and observe fierce competition, and atmospherics will materialize as the key differentiator. Atmospherics enhances the retail environment. The

environment can either be a sum of individual parts or be composed of individual parts.

A retail store's environment creates atmospherics that have an effect on shopping behavior. (Donovan & Rossiter, 1982; Kotler, 1973). Mehrabian and Russell (1974) used Pleasure-Arousal-Dominance (PAD) framework to analyze the impact of store environments on productivity. This PAD framework was used to analyze retail shopping behavior, and a noteworthy correlation between emotional states and factors such as time exhausted in the store were found along with the inclination to make a purchase and contentment with the experience (Dawson et al., 1990; Kellaris & Kent, 1992; Sherman & Smith, 1987; Yalch & Spangenberg, 1990). Environmental factors such as aroma, lights, music, colors, crowds, safety and sales employees will affect shoppers' shopping habits, and these factors are termed atmospherics. Disposition of the customer is considerably impacted by treatment of the atmospherics factor (Cheng, 2009).

A large number of psychological researches have proven that individuals judge their emotional state by their behavior. However, the causal role of emotional reactions to environmental factors in determining shopping behaviors remains uncertain (Schachter & Singer, 1962). Similarly, a sway of retail store atmospherics towards purchase disposition has received quiet consideration even though it is accepted as a vital constituent of store image (Lindquist, 1974). This paper looks at the purchase intention due to manipulation of color on aroma, music, layout and salespeople.

Controlling the environmental factors experimentally results in a better controlled test environment for atmospheric factors and the moderating role of subsequent emotional states on shopping behavior. Various studies have examined the impact of atmospheric factors like crowding (Eroglu & Machleit, 1990; Hui & Bateson, 1991), colors (Bellizzi, Crowley, & Hasty, 1983), music (Kellaris & Altsech, 1992; Milliman, 1982, 1986; Yalch & Spangenberg, 1988, 1993), and olfactory cues (Spangenberg et al., 1996) on shopping behaviors like satisfaction with the shopping experience (Bellizzi et al., 1983; Eroglu & Machleit 1990), purchase quantity (Milliman, 1982, 1986), shopping times (Kellaris & Altsech, 1992; Milliman, 1982; 1986, Yalch & Spangenberg, 1988) and intention to visit the store again (Spangenberg et al., 1996). However, with few exceptions (Hui & Bateson, 1991; Yalch & Spangenberg, 1988), none of these studies have examined the emotional states of pleasure, arousal, and dominance postulated by Donovan and Rossiter (1982) as factors mediating the effect of retail environments on behavior.

The longer time a prospective customer stays in a positive store environment, he is more likely to spend more money. Positive store environment also creates loyal customers, with an acceleration in their repeat shopping purchase behavior (Bagdare & Jain, 2013). For this paper,

store atmospherics is the dependent variable, and the impact of each predictor on store atmospherics is studied.

2.2. Aroma

When exposed to stimuli in a store, shoppers evaluate such information presented to them, their insight of the information being likely to affect their skepticism and their attitude toward the store. Put differently, stimuli like atmospherics and ambient aroma may be perceived and interpreted in a way that leads to skepticism which may impinge on assessment processes and actions. In his research, Lunardo (2012) suggests that consumers perceive that ambient scent is used as a tactic by retailers to persuade them to purchase more which helps the retailers achieve their corporate goals.

Ambient aroma has not received much interest it deserves from researchers even though it is one of the key elements of a retail atmosphere (Turley & Milliman, 2000). The perception and interpretation of scent is a complex phenomenon that involves a mixture of biological responses, psychology, and memory (Wilkie, 1995). Of the five senses, smell is considered to be the most closely attached to emotional reactions because the olfactory bulb is directly connected to the limbic system in the brain, which is the seat for immediate emotion in humans (Wilkie, 1995). This makes ambient scents in a retail environment an important atmospheric variable to study because fragrances have an increased likelihood of producing an emotional reaction from consumers.

During a review study on olfaction by Bone and Ellen (1999), little evidence was found to support the belief that an aroma is likely to affect a retail behavior. According to them, using aroma as a tactical atmospheric predictor is risky because scent effects are difficult to predict. In their work, they include studies that assessed the effects of scent presence, scent pleasantness, and scent fitness on mood, elaboration, affective, and evaluative responses and intent and behavior (i.e., time spent, information search, and choice). In a retail environment, Indians give value to olfactory and tactile factors such as air conditioning facility, ambient aroma, and soothing atmospherics.

A holistic view is developed by retailers to check how aroma or smell in the ambience influence buying behavior of the shoppers. Daucé (2000) study shows the aroma or scent has positive effect on pleasure, cognitive (evaluation of time spent, general evaluation of store) and behavioral (presence time) responses. Based on the above studies, it is pertinent to test the effect of odor on store atmospherics in Delhi malls. A hypothesis is proposed to test the influence of odor on store atmospherics as follows:

<H1> Increase in negative odor affects store atmospherics negatively

2.3. Salespeople

Elements like lights, sounds, employee clothing, store layout, the visible configuration of shelves and merchandise create positive feelings amongst customers (Retail Digital Signage, 2009). In order to sell luxury merchandise, the store needs to have elegant fittings, colors and gear, and at the same time, their employees should get into this stylish atmosphere. At times, sales personnel persuade different consumers to purchase different brands based on their perceived attitude, clothing and knowledge of the products (Kiran et al., 2012). Perception of store atmospherics can be influenced by the salespeople. Therefore, it is proposed to test the influence of salespeople on store atmospherics.

<H2> Better trained sales people affect store atmospherics positively.

2.4. Music

Through their in-depth studies, Milliman (1982) and Yalch (1988) noticed that music is an important atmospheric factor. It is easily visible, and its effect can be measured with great accuracy. The effects of music have been explored in advertising (Alpert and Alpert, 1989) and service environments (Areni & Kim, 1993; Yalch & Spangenberg, 1990; Milliman, 1986, 1982). Dimensions along which music can vary are timbre (the texture of music, which incorporates volume), rhythm (the pattern of accents given to notes) and tempo (the speed or rate at which the rhythm progresses). The effect of music on behavior has been suggested to operate via its effect on cognitive and emotional processes. Much of the research that has considered the effects of music on individuals' emotional states draws on Berlyne's (1971) arousal hypothesis that preference, and thus pleasure for aesthetic stimuli such as music, is related to the arousal potential of the stimuli. Highly arousing music is characterized as loud, unpredictable, which is difficult to forecast, and having a quick tempo; whereas music with low arousal qualities is soft, monotonous, and having a slow tempo (Berlyne, 1971).

Customers spent less time shopping when loud music was played in a supermarket (Smith and Curnow, 1966). The speed with which consumers move around a store is affected by the music tempo (Milliman, 1982). The tempo of music in a restaurant affects the time that people spent in the restaurant, in a way such that individuals dining under fast music conditions spend less time at their tables than individuals dining under the slow tempo condition (Milliman, 1986). Consumers are more likely to visit new service environments that play music they like (Broekemier, Marquardt, & Gentry, 2008). Individuals reported shopping longer when listening to familiar music; whereas observation studies show consumer spending less time when they listen to unfamiliar music (Yalch & Spangenberg, 1990). Based on

the review of literature, it is proposed to test the influence of music on store atmospherics.

<H3> Appropriate music affects store atmospherics positively.

2.5. Lighting

Lighting is measured majorly by parameters like luminance, brightness ratio, and color rendering index. A grocery store would require higher luminance as compared to a bookstore. The brightness ratio is uniform for a grocery store but contrast in a jewelry store. Color rendering index is important for apparel stores. Retailers change the store layout intermittently to create novelty. There is little documentation of atmospherics related to lighting in an Indian context.

Store atmospherics describe the special sensory qualities of retail spaces that are often designed to evoke particular consumer responses. Lighting is a significant component of store atmospherics. A more appealing store with better illuminated merchandise may entice shoppers to visit the store, linger, and hopefully make a purchase (Summers, 2001). Areni and Kim (1994) found more items were examined and handled by customers under bright lighting than under soft lighting. Arousal and pleasure resulted due to increased levels of lighting, and the approach behavior of customers is positive (Mehrabian, 1976). In this research, it is proposed to test the influence of light on store atmospherics.

<H4> Appropriate light affects store atmospherics positively.

2.6. Color

Meaning of color is different in different cultures, and the retailers need to have full understanding of colors and their meanings. Color is light carried on wavelengths absorbed by the eyes that the brain converts into colors that we see. Red, orange, yellow, green, blue, and violet are the six distinct color spectrums of light. Violet is the shortest wavelength; whereas, red has the longest. An object appearing yellow absorbs all of the colors in the spectrum except the yellow light. This unabsorbed light is reflected back from the object into the eyes from where it travels to the brain and is interpreted as yellow. Research suggests that bright flood (soft) lights and warm colors are more consistent with a discount (prestige) store concept (Baker et al., 1992; Bellizzi & Hite, 1992). Research findings show that short wavelength colors are preferred, leading to a linear association between affective tone and wavelength. Blue environments evoke positive feelings than other color environments (Valdez & Mehrabian, 1994). That cool colored store environments are preferred over warm-colored store environments has been proven by experimental research (Bellizzi et al., 1983; Crowley, 1993).

Prior empirical studies have investigated the relationship between color and states of people's moods. Warm color is associated with arousal and higher levels of anxiety; whereas, cool colors have been found to reduce arousal levels and elicit such emotions as peacefulness, calmness, and love (Wu et al., 2008). In marketing literature, the effect of color has been studied at four levels: color of products (Tom et al., 1987), color of packaging (Margulies, 1970), color in atmospherics (Bellizzi et al., 1983; Bellizzi & Hite, 1992), and color in advertising (Lee & Barnes, 1990). We have adopted the perspective that color contributes to the atmospherics of the retail store and limited our discussion here to the reported effects of color on the retail environment.

Researchers have reported the importance of visual appeal (Loiacono et al., 2007; Vance et al., 2008) and visual design (Cyr, 2008). Cyr indicates that colors contribute to visual design. Our current interest is in color. Hence, we focus the discussion on the effect of color in the shopping environment. In the physical store environment, Bellizzi et al. (1983) examined the effect of color on approach orientation and on physical attraction. They found no relationship between color and approach orientation but did find that color was associated with physical attraction. Subjects were significantly more attracted to warm colors (yellow and red) than to the cooler colors (blue and green), but subjects found cooler colors to be more positive and pleasant. Subsequently, Bellizzi and Hite (1992) found that a blue environment led to more simulated purchases, fewer purchase postponements, and a stronger inclination to shop and browse than a red environment. Babin et al. (2003) found that a blue interior was considered more likeable by subjects and was associated with greater shopping and purchase intentions than an orange interior. Middlestadt (1990) has shown that ambient color had a significant effect on attitude toward buying a pen, but not on attitude toward buying a bottle of perfume or mineral water. Curiously, the subjects believed that the pen displayed against the blue background was of good quality, and although not statistically significant, more expensive. Color is one visual component that contributes to the aesthetic assessment or visual appeal (Lee & Rao, 2010).

Color communicates non-verbally the pleasant impression, distracts consumers away from the negative product attributes, and creates an impression of prestige (Caudill, 1986). According to Danger (1969), flavor is associated with richness of color by people. Display color is a stimulus for the customer who may in turn respond through their behavior. Strangely, colors confuse customers emotionally (Babin, 2003). Displays use color to have emotional connection with the customer. It is proposed to test the influence of color on store atmospherics.

<H5> Favorable color affects store atmospherics positively.

2.7. Layout

During different stages of a store environment formulation, a number of people are involved in the design of a store. Bitner (1992) notes that the initial design of service and retail spaces is often performed by personnel from the outside of the main-line marketing functions. The actual field level retail managers are often brought into the store design and redesign discussion, after a direction has already been chosen by the architects and store designers and when only little bit of fine tuning of the store atmosphere is possible. (Turley & Milliman, 2002).

The interior design of a store maintains customer interest, encourages customers to lower their psychological defenses and changes purchasing decisions within the store (Bitner, 1992; Davies & Ward, 2002; Kotler, 1973; Omar, 1999; Walters & White, 1987). Therefore, marketers have recognized that visual merchandising makes a significant effect on consumer buying decisions (Schiffman & Kanuk, 1996). Kerfoot, Davis, and Ward (2003) have found that visual merchandising is the main element of store choice behavior. But a study conducted by Sinha and Banerjee (2004) found that the in-store environment is not important on store choice decisions in an evolving market. Shopping is a recreational activity, and selecting a store is perceived to be high on entertainment value. (Woodside et al., 1992). It is proposed to test the influence of layout on store atmospherics.

<H6> Better organized store layout affects store atmospherics positively.

2.8. Interactive Color

Color impacts store atmospherics indirectly as well. The concept of layout shall change under different colors. A soft light may make the same space appear larger as compared to bright light. Similarly, the courtesy of salespeople can be influenced by the color of their dress etc. Therefore, it is proposed to test the interactive influence of color on aroma, salespeople, layout, and music on the perception of store atmospherics. Dark color may be perceived with bad odor in comparison with lighter colors. A white background may offset any negative odor.

People dine slowly in warm colors as compared to cool colors. In such situations, food consumption increases. Light color is associated with slow music tempo which dark colors are associated with fast tempo of music. Therefore, the researchers propose that colors interact with diverse atmospheric factors differently, and this paper tests their influence as follows:

<H7> Interaction of favorable color on negative odor affects store atmospherics negatively

<H8> Interaction of favorable color on better trained

salespeople affects store atmospherics positively

<H9> Interaction of favorable color on inappropriate music affects store atmospherics negatively

<H10> Interaction of favorable color on appropriate light affects store atmospherics positively

<H11> Interaction of favorable color on better organized layout affects store atmospherics positively

Ghosh et al. (2010) in their study observe that when consumer spending is on a decline, success will lie with those retailers who can create customer loyalty by responding to the demands of the consumer. Khare (2011) in her study found that consumers' gender and age play an important role in determining their attitude towards shopping in malls. While planning malls in smaller cities, influence of mall attributes such as décor, layout, services, store varieties, and entertainment facilities must be considered as they have an effect on consumers' buying behavior. The mall shopping behavior of metropolitan city shoppers should not be generalized with that of shoppers in smaller cities.

A pleasant store atmospherics can be created in stores if their management philosophy and practices are perfectly aligned with the expectations of shoppers. For doing so, it is necessary to understand the meaning and composition of store atmospherics. Present research aims at finding the factors influencing retail store atmospherics for mall shoppers in Delhi. This research has following objectives:

- To predict the antecedents of store atmospherics; and
- To find the interaction effect of any store atmospherics variable.

3. Research Methodology

The study pertains to the most growing hubs of retail i.e. Delhi National Capital Region (NCR), which includes the fastest growing towns besides Delhi, such as Gurgaon, Faridabad, Noida and Ghaziabad. A sampling element is an individual shopper who visits the malls for shopping, while the sampling unit for the study is shopping malls from where the elements are to be drawn. The extent to which people included in the sample can be expressed as persons carrying a minimum of one shopping bag in their hands while coming out of a store in the mall. Non-probabilistic quota sampling method was used in this study. The malls selected for this research were similar in terms of size, period of existence and tenant mix.

The study was conducted at the popular stores (malls) in Delhi NCR, with the customers as the subjects. Three hundred and twenty-four (n=324) valid responses were collected from participants. Participants were requested to complete a questionnaire, in which they recorded their perceptions of store atmospherics for the store they visited. The mode of contact was store intercept. The questionnaire

which was adopted in this study required the respondents to rate perception attributes pertaining to store atmospherics on a Likert scale ranging from 1 to 5 (strongly disagree to strongly agree).

A pilot survey was conducted on a sample of 30 respondents in the actual store environment. The results from the pilot test were used to delete redundant statements. In addition, feedback from the pretest sample was incorporated into the wording of the questions and the survey layout.

Sample depicted the composition of working population in Delhi as it comprised predominantly of males. Eighty-eight per cent of respondents were in the economically productive age group 20 years to 50 years, with majority (59.5%) of them being in the prime years of 20 to 35 years. More than half the population was married (but not necessarily accompanied by the spouse during data collection). Equal number of the respondents was graduates. Twenty-nine per cent of the respondents was either postgraduates or having a higher qualification. Respondents with an only school education or professional education constituted a minor fraction of the total sample with 7.5% and 13.5% respectively. Understandably, more than half the sample (54.5) was employed in the private sector, while the remaining proportion of the sample was divided between four occupations.

4. Data Analysis

A multivariate analysis was undertaken before testing specific relationships. This model used all independent variables to predict dependent variable store atmospherics. Regression analysis was performed to predict store atmospherics by the independent variables layout, light, music, aroma, salespeople and color. <Table 1> elaborates the scale details.

<Table 1> Scales

Sales People	(Sharma & Stafford, 2000)	3	0.579	0.546	10.74	2.020
Color	(Babin, Hardesty, & Suter, 2003)	4	0.652	0.545	8.48	2.998
Aroma	(Lunardo, Negative effects of ambient scents on consumers' skepticism about retailer's motives, 2012)	6	0.246	0.251	17.43	2.531
Layout	(Prashar, Verma, Parsad, & Sai, 2015)	4	0.619	0.480	12.78	3.088
Music	(Areni C. S., 2003)	11	0.411	0.2346	38.45	4.523
Light	(Quartier, Christaans, & Van Cleempoel, 2008)	4	0.426	0.382	16.12	2.471

<Table 2> Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.791a	.626	.619	.45481	.626	88.349	6	317	.000	
2	.849b	.721	.711	.39562	.096	21.389	5	312	.000	1.902
a. Predictors: (Constant), Layout, Light, Music, Scent, Salespeople, Color										
b. Predictors: (Constant), Layout, Light, Music, Scent, Salespeople, Color, colourlayout, coloursalespeople, colourscent, colourlight, colourmusic										
c. Dependent Variable: Luxury atmospherics										

<Table 3> ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.648	6	18.275	88.349	.000a
	Residual	65.571	317	.207		
	Total	175.219	323			
2	Regression	126.387	11	11.490	73.410	.000b
	Residual	48.833	312	.157		
	Total	175.219	323			
a. Predictors: (Constant), Layout, Light, Music, Aroma, Salespeople, Color						
b. Predictors: (Constant), Layout, Light, Music, Aroma, Salespeople, Color, modlightcolor, modmusiccolor, modsalespeoplecolor, mododorcolor, modlayoutcolor						
c. Dependent Variable: atmospherics						

<Table 4> Coefficients of Predictors

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics		
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF	
1	(Constant)	3.159	.498		6.342	.000					
	Aroma	-.661	.071	-.379	-9.304	.000	-.616	-.463	-.320	.712	1.404
	Salespeople	-.236	.052	-.216	-4.531	.000	.015	-.247	-.156	.521	1.920
	Music	-.288	.073	-.156	-3.933	.000	-.435	-.216	-.135	.751	1.331
	Light	.458	.055	.315	8.307	.000	.211	.423	.285	.819	1.221
	Color	-.031	.057	-.032	-.546	.586	-.294	-.031	-.019	.351	2.852
	Layout	.453	.071	.475	6.377	.000	.531	.337	.219	.213	4.696
2	(Constant)	2.230	.473		4.715	.000					
	Aroma	-.472	.071	-.271	-6.680	.000	-.616	-.354	-.200	.545	1.836
	Salespeople	-.065	.050	-.059	-1.294	.196	.015	-.073	-.039	.427	2.340
	Music	-.369	.071	-.200	-5.210	.000	-.435	-.283	-.156	.608	1.646
	Light	.343	.050	.236	6.895	.000	.211	.364	.206	.759	1.317
	Color	.092	.060	.094	1.544	.124	-.294	.087	.046	.244	4.106
	Layout	.521	.066	.546	7.860	.000	.531	.407	.235	.185	5.410
	Mododorcolor	-.167	.028	-.249	-6.011	.000	.005	-.322	-.180	.519	1.927
	Modsalespeoplecolor	-.209	.036	-.253	-5.785	.000	-.506	-.311	-.173	.466	2.145
	Modmusiccolor	.023	.027	.037	.841	.401	.208	.048	.025	.457	2.188
	Modlightcolor	-.087	.027	-.118	-3.284	.001	-.150	-.183	-.098	.686	1.458
	Modlayoutcolor	-.011	.049	-.012	-.235	.814	-.290	-.013	-.007	.323	3.094

a. Dependent Variable: atmospherics

SPSS was used to test the hypotheses proposed in the current research model.

Aroma, Salespeople, Music, Light, Color and layout were centered by converting them to Z scores with a mean of zero and an interaction variables mododorcolor, modsalespeoplecolor, modmusiccolor, modlightcolor and modlayoutcolor were created. By multiplying the respective Z scores together. The independent variables, Aroma, Salespeople, Music, Light,

Layout and the presumed moderator Color were entered into a hierarchical regression as a group followed by the interaction variables of mododorcolor, modsalespeoplecolor, modmusiccolor, modlightcolor and mod layout color. From <Table 2> it can be seen that the value of the R2 change when the interaction variables were added to the predictor and moderator variables was 0.096 and was significant. <Table 3> is the Anova test which proves that both the regression models are significant.

<Table 5> Correlations between the predictorvariables

		Odor	Salespeople	Music	Light	Color	Layout
Aroma	Pearson Correlation	1	-.045	.265**	-.007	.158**	-.419**
	Sig. (2-tailed)		.417	.000	.904	.004	.000
	N	324					
Salespeople	Pearson Correlation	-.045	1	.112*	-.059	-.175**	.514**
	Sig. (2-tailed)	.417		.044	.290	.002	.000
	N	324					
Music	Pearson Correlation	.265**	.112*	1	.038	.209**	-.338**
	Sig. (2-tailed)	.000	.044		.493	.000	.000
	N	324					
Light	Pearson Correlation	-.007	-.059	.038	1	.408**	-.213**
	Sig. (2-tailed)	.904	.290	.493		.000	.000
	N	324					
Color	Pearson Correlation	.158**	-.175**	.209**	.408**	1	-.707**
	Sig. (2-tailed)	.004	.002	.000	.000		.000
	N	324					
Layout	Pearson Correlation	-.419**	.514**	-.338**	-.213**	-.707**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	324					

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

<Table 4> shows that first model of regression did not find the significance of color as a predictor variable. But when color was moderated with other variables, by itself it did not prove to be significant but has a moderating effect on odor, salespeople and light. It did not moderate music and layout. <Table 5> is the correlation between the predictor variables.

The results of the analysis obtained here show that seven factors have been statistically found to impact significantly. Store atmospherics is influenced by aroma (<H1> $\beta=-0.472$, $p<0.05$), and Music (<H3> $\beta=-0.369$, $p<0.05$) negatively. Light (<H4> $\beta=0.343$, $p<0.05$) and Layout (<H6> $\beta=0.521$) influence store atmospherics positively. Color x Aroma (<H7> $\beta=-0.167$, $p<0.05$), Color x Salespeople (<H8> $\beta=-0.209$, $p<0.05$) and Color x Light (<H9> $\beta=-0.087$, $p<0.05$) influence store atmospherics negatively.

Layout has the greatest positive impact in determining store atmospherics, whereas aroma has the largest negative impact in determining store atmospherics. The moderation of color on aroma, salespeople and light is supported. Color's interaction on music and layout is not supported. The researchers had proposed the interaction of color and salespeople to be positively correlated but the relationship turned negative.

The regression was checked for multi collinearity. The VIF values are less than 10 (Chatterjee & Hadi, 2014). Moreover the standard errors of the coefficients are reasonable.

<Table 6> Path Coefficients of the regression equation

H1	Aroma → Atmospherics	-.472	Supported
H2	Salespeople → Atmospherics	-.065	Not Supported
H3	Music → Atmospherics	-.369	Supported
H4	Light → Atmospherics	.343	Supported
H5	Color → Atmospherics	.092	Not Supported
H6	Layout → Atmospherics	.521	Supported
H7	Color x Odor → Atmospherics	-.167	Supported
H8	Color x Salespeople → Atmospherics	-.209	Supported
H9	Color x Music → Atmospherics	.023	Not supported
H10	Color x Light → Atmospherics	-.087	Supported
H11	Color x Layout → Atmospherics	-.011	Not Supported

5. Discussions

This study has empirically shown that the color dimension moderates the influence of aroma, salespeople and light on store atmospherics. The current findings have revealed that color is not a specific predictor of store atmospherics. This is supported in the study of Kaiser (1984) where physiological responses to colors were part of the human experience but the evidence linking specific colors to specific responses was inconclusive.

Color was found to have a significant and positive moderating effect on the outcome dimension of store atmospherics in a retail store. While little support was found for a direct moderating effect of the color on music, the collective interactive influence of color on aroma, salespeople and light is likely to be negative in nature. The support of these hypotheses suggests that with the moderating effects of color, the three dimensions of atmospherics do not have an equal impact on customer perceptions of store atmospherics. In other words, the color appears to moderate the three dimensions of store atmospherics differently in various contexts.

In sum, the empirical results of this study highlight the complex nature of the relationships between color and light, scent and salespeople most of which have been identified by prior studies. A similar complex relationship between color and image was found in consumer affective response on visual stimulus in stores by considering the aesthetic and symbolic aspects of a function oriented product like intimate apparel (Law, Wong, & Yip, 2012). That is, in addition to the main effects of the individual store atmospherics, this study also recognizes that these attributes not only operate in non-linear fashions but jointly affect store atmospherics as well. Color lighting effects on store atmospherics perceptions suggest that combinations change the cognitive representation of store atmospherics.

A retail store's customers may be more influenced by a correct combination of color, aroma, color light, color salespeople than color music and color layout; thus, in stores investments in choosing and applying the correct color may deliver greater payoffs. This was not questioned when influence of visual merchandising did not impact affective response of the customer (Kerfoot, Davies, & Ward, 2006). Color by itself is not an important determinant of store atmospherics.

The results of the present research have clear managerial implications for visual merchandisers and store managers who are interested in maximizing the product quality perceptions to shoppers. Enhancing the store atmospherics of a store can clearly benefit its managers. Prudent use of colors in restaurateurs on the walls or carpets should increase food sales (Singh, 2006). When consumers evaluate the store's atmospherics positively, they infer higher product quality among the store wares. This has been corroborated by the fact that bad lighting, music, bad color, pungent odor would reduce/curtail the stay of the customers in the store (Yildirim, Cagatay, & Hidayetoglu, 2015). Thus, color interactions could be used not only to more effectively manage consumers' store atmospheric perceptions, but also as a way to establish a unique competitive advantage vis-a-vis other retailers.

The results also allow for an examination of how the impact of color translates to perceptions of store atmospherics. The results obtained in previous sections have categorically established that there was a very good fit of

the data to the model conceptualized in the current study. In other words, the model is empirically fit for further analysis such as hypothesis testing.

6. Limitations

This study examined the color effects in a retail store. It is also possible that color effects are significantly affected by type of store involved. Consumers understand color associations, which lead them to then prefer certain colors for certain product categories. This study pertains to one culture only. People in different cultures are exposed to different associations and develop color preferences based on their own culture's associations. Therefore, the impact of color with cultures can also be studied.

The impact of different color was not studied. Specific color like red, blue, green, etc., can be researched further and their influence on store atmospherics calculated. Type of lighting creates different impact. The impact of bright light is different from that of dim light in a store. Light source can be white or yellow. Hence a study of moderation of white light or yellow light on store atmospherics can be studied.

Similarly, impact of female staff would be different from male staff. A study on gender specific salesperson's influence on store atmospherics can be studied. Tempo and pitch of music creates different types of impact on store atmospherics. This can be another area of study.

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7. Conclusions

This study suggests that store color is important in understanding store atmospheric choice. However, the relationships between color and store atmospherics is not simple and depend considerably on other moderating factors like light, layout and salespeople.

This study suggests that consumer's process store atmospheric characteristics holistically more than piecemeal. This study provides evidence that improving a store's ambient conditions enhances consumers' evaluations and behaviors in the shopping experience. Strategically manipulating the environment's arousing qualities via aroma, music, layout, color and light can help retailers to differentiate their stores from otherwise similar competitors. Moreover, appropriate color might encourage shoppers to engage in impulse buying. However, great care is needed to ensure that the effects of different environmental stimuli match. As this study has shown, consumers respond more positively towards the environment, when the stimuli match to provide a coherent ambience.

Because the novelty and stimulation of a particular color might wear off relatively fast, retail stores that rely on heavy frequent visit patterns might not be prime candidates for this type of environmental manipulation.

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