

The Impact of Sensory Environments on Spagoers' Emotion and Behavioral Intention

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ABSTRACT

The research objective is to identify and verify the relationships among environmental sensory components (i.e., sight, sound, smell, and touch), consumer emotions, and consumer behavioral intentions in a spa context by applying the Mehrabian-Russell's Stimuli-Organism-Response model. The results showed the acceptable level of model fit ($\chi^2/df = 2.144$, $P < 0.001$, $RSMEA = 0.06$, $CFI = .94$, and $NNFI = .93$) for the proposed model. Sight and touch had significant impacts on pleasure of emotion, and sound had a direct impact on customer behavioral intention. Pleasure had a significant influence on customer behavioral intentions; however, arousal did not. This study results have important implications for the spa industry in understanding how to create and manage their sensory environmental resources to affect customer's emotion and behavioral intentions.

Keyword: *MR model; Sensory environment; Consumer behavior; Consumer emotion; Spa industry; Multi-sensory effect*

INTRODUCTION

Spa is one of the fastest growing areas in the hospitality industry with an estimated growth rate of approximately 20% per year in the U.S. (Cohen & Bodeker, 2008). Since it has been recently noticed as a wellness business in the global hospitality industry, spa services are being recognized and integrated into various businesses such as beauty, massage, fitness, and alternative medical treatment. Although it has extended its service areas, the most essential characteristic of a spa is "place for emotional sensitization" (Lempa, 2000, p.58). To gain a differential advantage, the spa industry has focused more efforts on designing, building, and embellishing its environment to create a more attractive atmosphere. Spa owners invest capital on designing sensory stimuli, such as background music, aroma, mood lights, soft fabrics, fragrant flowers, and physical architecture to induce positive emotion in customers. Despite these large investments, little research has examined the sensory (atmospherics) factors that may affect customer behavioral intention in spa operations.

This study, therefore, aims to propose a suitable model to identify and verify the impact of atmospheric sensory factors on the customers' emotional and behavioral response in the spa setting. The three objectives of this research are: 1) to assess and develop the measurement of each sensory stimulus in spas, 2) to assess the impact of each sensory component on customers'

emotions and behavioral intentions, and 3) to assess the relationship between the sensory stimulation and the emotions that affect customer behavioral intentions in the spa experience by applying the Mehrabian and Russell's environmental psychology paradigm.

CONCEPTUAL BACKGROUND

Kotler (1973/74) introduced the term "atmospherics" – the impact of environmental sensory stimuli, such as sight, sound, smell, and touch, on consumer behavioral intention. Mehrabian and Russell developed the Stimuli-Organism-Response (SOR) model that environmental stimuli (S) induce emotional reaction (O) and influence consumers' behavioral response (R) (1975). Building on this line of research, Bitner (1992) introduced the concept of "servicescape" to examine the effect of "physical surroundings" on behavior of customer and employee by modifying the MR model in the service industry. This modified MR model has extended to test various service settings such as hotels (Countryman & Jang, 2006), restaurants (Jang & Namkung, 2009; Han & Ryu, 2009), casinos (Hirsh, 1995; Wakefield & Blodgett, 1996), sports stadiums (Wakefield & Blodgett, 1996), and events (Nelson, 2009). Due to the sensory and emotional nature of the spa service experience, this research has more focus on environmental sensory factors such as sight, sound, scent, and touch.

Environmental Sensory Stimuli

Kotler (1973/74) suggested color, brightness, size, and shapes as a visual dimension that impact consumers' purchase intention. A cool color (e.g., blue) is more affective on pleasure - arousal emotions that influence the customer's spending money and time (Bellize & Hite, 1992). Bright and colorful environment is correlated with pleasure and arousal (Mehrabian & Russell, 1974) that attract consumer patronage (Summers & Hebert, 2001). Color, décor, and design were examined to affect customer's emotion and behavior (Baker et al, 2002; Spies, Hesse, & Loesch, 1997; Tai, & Fung, 1997). The physical environment such as lighting, color, signage, style of furnishings, layout, and wall décor could be controlled by the organization to increase customers' affective behavior (Bitner, 1992).

The background music influences on consumer's moods, service/product evaluation, and consumer decision, as a part of atmosphere and a part of ambience (Matilla & Wirtz, 2001; Milliam, 1982; 1986; Han & Ryu, 2009). The tempo of music significantly affect the pace of in-store traffic flow and sales volume in a supermarket (Milliam, 1982) and dining speed, money spent, and length of stay in a restaurant (Milliam, 1986). The characteristics of music (i.e., tempo, tonality, and texture) stimulate customer's emotion and induce customer's behavioral reaction (Bruner, 1990; Kellaris & Kent, 1994; Yalch & Spangenberg, 2000).

Scent is a powerful medium to evoke consumer's interaction e.g., a bakery's sales with its congruent scent increase a bakery's sales by as much as 300% (Hirsh, 1991). Scents impact on the amount of money spent on slot machines in a casino (Hirsh, 1995). The existence of scent itself affects evaluation of the store and merchandise quality and induced revisit and purchase intention (Spangenberg, Crowley, & Henderson, 1996). Pleasant scent and congruent scent elaborated its power of presence to increase spending money and time in the retail context (Mattila & Wirtz, 2001).

The servicescape includes touch sensory cue such as weather condition, temperature, and air quality (Bitner, 1992). A comfortable seating is considered as an important element for perceived quality in the casino context (Wakerfield & Blodgett, 1996) and in the restaurant (Han & Ryu, 1992). Sonneveld and Schifferstein (2008) presented various descriptions of tactual experience such as hardness-softness, rough-smooth, soft-hard, sticky-slippery, bumpy-flat, and thin-thick. They also found that pleasant tactual experience is related to the pleasure-arousal state and affective behaviors.

Emotional Response as a Mediator

Pham (2004) stated that feelings are “the primary medium of humans’ judgment and decision making system (p.367).” The moment consumers make a decision based on what they see, listen to, smell, and touch in their surrounding situation they are immediately operating their emotions as valuable signals. Russell and Pratt (1980) uncovered that two dimensions of pleasure (pleasure-displeasure) and arousal (arousal-sleepiness) are orthogonal, which are sufficient to represent a wide range of humans’ emotional response to a broad spectrum of environmental stimuli. Empirically MR’s pleasure-arousal dimensions of response to environmental stimuli have demonstrated remarkably well (Donovan & Rossiter, 1982; Havlena & Holbrook, 1986; Sherman et al, 1997).

Behavioral Intentions

Human’s behavioral responses to an environment and emotional state were defined as approach-avoidance by Mehrabian-Russell (1974). Approach behaviors represent all positive behaviors or behavioral intentions directly or indirectly affected by the environment. The affective environmental component such as pleasant music, fresh scent, bright light, and soft fabrics evoke pleasure and arousal to lead to patronage intentions (Baker, Parasurman, Grewal, & Voss, 2002), consumers’ willingness to buy (Baker et al., 1992; Kotler, 1973/74), spending more time and money (Bellizi & Hite, 1992; Donovan & Rossiter, 1982; Sherman et al., 1997), revisit intentions (Spies et al., 1996; Wakefield & Brodgett, 1996), desire to stay more and longer (Wakefield & Brodgett, 1996), and liking to the extent of recommending the experience (Sherman et al., 1997; Spies et al., 1996). In the spa industry, most spa goers are required to book a service before their visit. Behavioral intentions as strong predictors of actual behaviors have thoroughly been researched. As Zwang (2009) stated that 45% of spa goers are driven to visit a spa by recommendation of friends or family.

RESEARCH METHODOLOGY

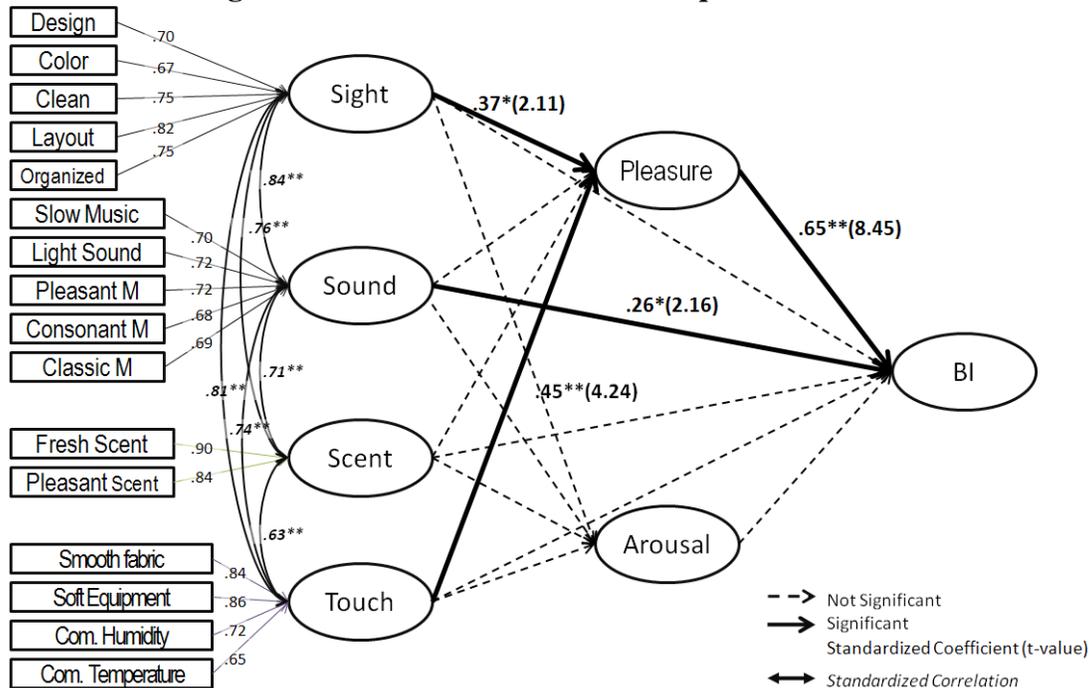
The data was collected from spa goers at eleven Texas locations of a spa chain that offer limited spa services with consistent environments throughout their locations. A convenience sampling approach was used. Spa personnel of each spa distributed a survey questionnaire to the spa goer after their spa service experience. A total of 887 questionnaires were distributed, and 307 were useable for the data analysis, resulting in an effective response rate of 34.6%. The data was analyzed using SPSS 17 and AMOS 18. To assess the measurement model, the research conducted a confirmatory factor analysis (CFA) with reliability and construct validity checks. To assess the overall fit of the proposed model and test hypotheses, structural equation modeling (SEM) was conducted as recommended by Anderson & Gerbing (1988).

RESULT

All standardized factor loading of each construct was high (above .64) that ensured the convergent validity. Cronbach's alpha was between .84 and .96 and composite reliability for seven latent constructs was between .74 and .95 that ensured the internal consistency. The average variance extracted (AVE) from all constructs exceeded the cut-off criterion of .5, and were greater than the squared correlations between any pair of constructs. The CFA showed the goodness-of-fit indices ($\chi^2 = 1007.9$, $df=344$, $\chi^2/df = 2.93$, $p < 0.001$), root mean square error of approximation [RMSEA] = .08, comparative fit index [CFI] = .87, and non-normed fit index [NNFI] = .85. Since this measurement model fit indices did not meet the conventional cutoff criteria (i.e., 0.9 for CFI and NNFI; 0.06 RMSEA), exploratory factor analysis was conducted. The results of the exploratory factor analysis suggested two sensory constructs instead of four sensory constructs. The CFA results of the exploratory model revealed goodness-of-fit indices ($\chi^2 = 1110.6$, $df=298$, $\chi^2/df = 3.727$, $p < 0.001$, RMSEA = .09, CFI = .86, and NNFI = .83) that were not superior to the proposed model. In addition, Hu and Bentler (1999) suggested that combinational cutoff criteria with NNFI and CFI $< .90$ and RMSEA $> .06$ be accepted for misspecified models to minimize Type I error and Type II error rates. Therefore, this research tested the proposed measurement model for further process.

The SEM showed the goodness-of-fit indices $\chi^2 = 651.7$, $df=304$, $\chi^2/df = 2.144$, ($p < 0.001$), RMSEA=0.06, CFI= .94, NNFI= .93. The result showed that sight and touch had positive impacts on pleasure and sound had a direct impact on behavioral intentions without the intervention of emotion. Only pleasure had a significant role as a predictor of behavioral intentions. In addition, this research shows that the four exogenous sensory factors are highly correlated.

Figure 1. The Result of Structural Equation Model



Note: ** $p < 0.01$, * $p < 0.05$.

CONCLUSION

This research indicates that touch components such as smoothness, softness, comfortable temperature, and humidity are the most important sensory stimulation to please customers in spas. Sight components such as a comfortable and well organized layout; cleanliness; stylish design; and warm color were proved to be important factors to please spa goers. Since those sight and touch sensory factors showed insignificant relationship with customers' behavioral intentions, pleasure is regarded as a full mediator of sight and touch with customers' behavioral intentions. In addition, this result indicates that only pleasure of emotion is what spa goers seek through spa service, which is different from the previous MR model research in a retail setting (Donovan & Rossiter, 1982; Havlena & Holbrook, 1986; Sherman et al., 1997) and the restaurant setting (Ryu & Jang, 2007). This result indicates that customers are seeking for spa service is dissimilar from other service experience.

This research contributes to the literature by examining the sensory channels as an independent construct. Kotler's "atmospherics" concept has been referenced in various marketing studies while his four sensory channels have rarely been examined empirically. Recently, Lindstrom (2005) presented the "Sensogram" to explore five sensory components composed of an individual brand and developed the sensory branding model to demonstrate how five sensory components affect brand loyalty. Even though he launched sensory research on marketing, sensory channel has been limited examination in the service industry. As sensory marketing has recently received big attention, the current research sensory channel measurement model can be applied to evaluate and analyze the sensory impact on customer's experience in the service industry.

This research suggests a multi-sensory phenomenon. While sight, sound, and touch sensory show relationship to endogenous variables, each sensory factor is highly correlated exogenously. Lindstrom (2005) revealed that although certain sensory components are highly correlated, each sensory component has a discriminant effect to explain the relationship among sensory components, brand experience, brand identity and the brand characteristics. Furthermore, Lindstrom presented the synergy effect of sensory combination. Consistent with Lindstrom's (2005), this research reveals that each sensory component is highly correlated. This result indicates that each of the sensory components might have influenced each other, such that a negative perception of one sensory component can also negatively affect other sensory components. Otherwise, a positive perception of one single sensory component can positively affect other sensory components. Therefore, spa operators and managers should consider having a balance of sensory components to take advantage of the synergic effect through the sensory combination.

Much research regarding the impact of environmental factors on customer emotion and behavior has been done on retail shops, restaurants, games, and other service organizations, while limited research has been done on the spa industry. This study employed the scales from previous research that was conducted in retail, advertising, and restaurant. It is strongly recommended to explore and develop scales of sensory components and emotions in the spa industry.

This research survey was conducted in limited service spas. There is, therefore, a need for further examination of this model in different types of spas. Furthermore, individual differences (e.g., personality, types of spa goers, motivations, gender, and ethnicity) could be moderating the relationship among sensory environment and customer's emotional and behavioral responses (Donovan & Rossiter, 1982; Kotler, 1973/74). For future study, investigating the individual differences would contribute to understanding how to customize environmental resources of a spa to please each type of a spa goer.

The research result can assist the spa industry in understanding how the sensory aspects of a spa impact both the emotions of the spa goers as well as their behavioral intentions in the future. In the spa industry, managers should make an effort to create a favorable environment and an entertaining experience for the consumer using environmental sensory resources. Environmental factors may assume a variety of strategic and tactical functions in service marketing and management. These sensory environments can be valued as powerful tactics to increase each customer's satisfaction and as a strategic differentiator of spas in the competitive market. It is critical for owners and operators of spa to understand how to position themselves in a very competitive spa environment and to focus their resources.

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