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**Thesis for the Degree of Doctor of Philosophy**

An examination of the relationship between  
multisensory marketing, emotion, memory, and  
post-purchase behavior in the hotel industry



by

Kyoungok Kim

Department of Business Administration

The Graduate School

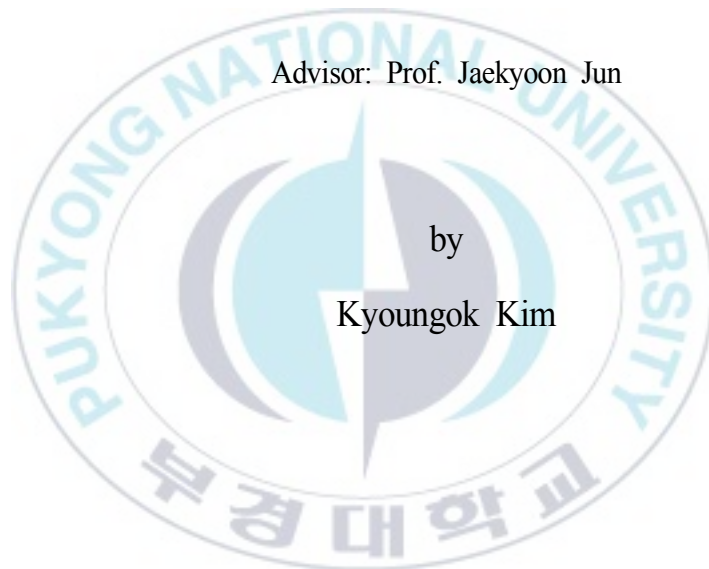
Pukyong National University

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구매 후 행동 간의 영향 관계 연구

Advisor: Prof. Jaekyoon Jun



by

Kyoungok Kim

A thesis submitted in partial fulfillment of the requirements  
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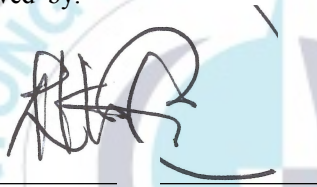
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An examination of the relationship between  
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A dissertation  
by  
Kyoungok Kim

Approved by:



(Park, Kiyong)



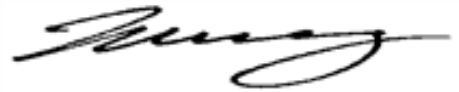
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(Hong, Jaebum)



(Woo, Eunju)



(Jun, Jaekyoon)

February 22, 2019

## DEDICATION

This dissertation is dedicated to my loving husband, Muncheol Park, my daughter, Jihoo Park, and advisor professor, Jaekyoon Jun.

항상 저를 사랑으로 응원해 준 남편과 딸, 그리고 지도교수님께  
이 논문을 바칩니다.



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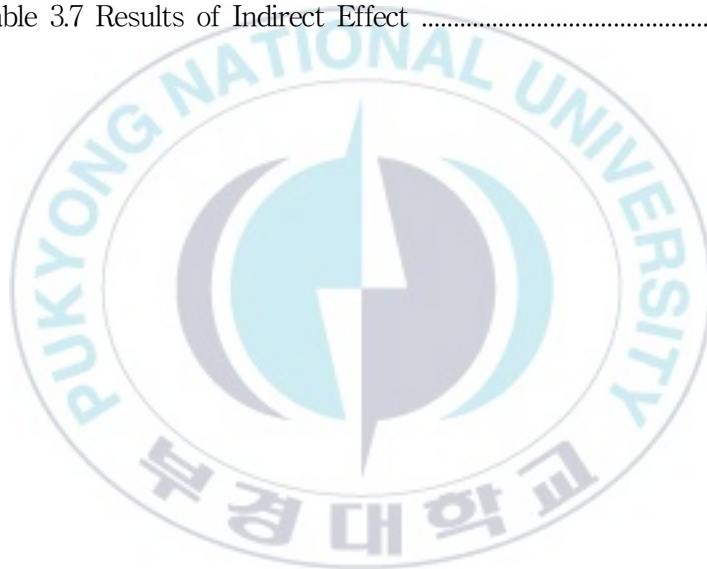
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# 호텔 기업의 오감마케팅, 감정, 기억 및 구매 후 행동 간의 영향 관계 연구

김 경 옥

부경대학교 대학원 경영학과

## 요 약

호텔 업계는 다양한 숙박시설의 양적 성장과 진화하는 공유 경제를 통한 공급 증가로 경쟁이 심화되고 있다. 따라서 마케팅 전략의 개발과 관리는 더욱 중요해지고 있으며, 최근 인간의 오감을 토대로 한 다각적인 마케팅 전략이 새롭게 부상하고 있다. Krishna(2012)는 제품이나 서비스에 대한 고객의 잠재 의식 유발을 위해 오감마케팅 전략의 활용을 제기함에 따라, 본 연구는 고객의 다양한 감각이 자극될 수 있는 호텔산업을 대상으로, 체험마케팅에서 파생된 오감마케팅 전략 모델을 개발하고 검증하기 위해, 감각(sensation)-인식(perception)-행동(behavior) 모델(Krishna, 2012)을 이용하여, 고객의 다양한 심리적 반응과 후속 행동을 유발하는지를 검증하고자 하였다. 첫째, 호텔기업에 대한 고객의 오감 마케팅 경험을 이해하기 위해 Wiedmann, Labenz, Haase & Hennings(2018)의 전체론적인 오감 마케팅 전략을 이용하였다. 둘째, 고객의 내적체험은 다차원적이라는 체험마케팅 이론의 주장에 근거하여 오감마케팅이 감정과 더불어 기억에 미치는 영향 분석하였다. 셋째, 감각마케팅 연구 분야에서 아직 정량적 연구가 부족한 상황에서, 실제 호텔 기업에 대한 높은 충성도의 가능성을 내포한 고객의 후속 행동을 실증적으로 분석하였다. 설정된 연구모델을 검증하고자 국내 특급호텔을 이용한 고객들을 대상으로 총 492개의 설문데이터를 수집하였다. 수집한 데이터의 분석 결과, 시각·청각·촉각·후각·미각의 5가지 오감 마케팅 경험은 호텔 이용객 긍정적인 감정 및 기억을 자극하였고 이를 통해 자기 고양의 구전 및 서비스 실패에 대한 관용의

후속 행동에 긍정적 영향을 미치는 것으로 나타났다. 본 연구의 이론적 시사점은, 감각-인식-행동 모델을 바탕으로 오감 마케팅 전략이 긍정적 감정과 기억에 미치는 영향, 그리고 이러한 무의식적으로 생성된 긍정적 감정과 기억이 호텔 이용객의 후속 행동에 미치는 영향을 확인함으로써 오감마케팅 전략의 가치를 확인한 것이다. 실무적 시사점은, 차별화된 전략적 방안을 모색 중인 호텔 기업의 마케터 및 관리자들에게 오감마케팅 전략을 통해 고객에게 최적의 영향력을 제공하여, 경쟁 우위를 확보할 전략들을 제시한 것이다.

Key words: Multisensory marketing, Emotion, Memory,  
Subsequent Customer Behavior, Luxury hotel



# CHAPTER 1. INTRODUCTION

## 1.1 Research Background

According to the report of World Tourism Barometer(2018) of UNWTO(United Nations of the World Tourism Organization), fueled by strong demand from major source markets and supported by an upswing in the global economy, international tourist arrivals grew 6%(2018) compared to the same period of 7%(2017). Especially, Europe and areas of Asia & the Pacific led growth in the first six months of 2018, with arrivals increasing 7% in both regions, followed by the Middle East(5%), Africa(4%), and the Americas(3%).

Also, in 2016, UNWTO reported Asia and the Pacific received 308 million(9%) arrivals, showing outstanding performances came from the Republic of Korea (30%), Vietnam (26%), Japan (22%) and India (11%). To be specific, the number of visitors visiting Korea has been increasing thanks to the influence of the Korean Wave since 1998. Amongst them, Asia accounted for 71.3% in 1998 and 83.5% in 2014, indicating that the proportion of Asians, the center of the Korean Wave, has increased, and recently, not only Asians, but visitors from other countries such as the U.S. and Europe, are also on the rise(Kim, Kim & Lee, 2014).

In addition to the increase in such foreign visitors, the number of domestic visitors are increasing along with the change in the travel trends of Koreans. Koreans enjoy the so-called "Hocance(Hotel+Vacance)", which visitors make domestic trips to spend their vacation in Korea instead of overseas(Maeil

Business News Korea, 2018).

Along with this phenomenon, thus, the hotel industry is changing in a number of ways such as quantitative growth of hotel brand and the ever-evolving sharing economy to meet its supply and demand(Mody, Suess, & Lehto, 2017). To be specific, as the high-end hotel industry is faced with economic growth, considering needs of customer and change, the hotel industry is upping its enhancement of competitiveness to cater to rapidly changing customer needs(U.S. News & World Report, 2018).

Likewise, as competition of hotel industry has intensified, how to develop and manage the marketing strategies to satisfy their customers is getting more significant, and in recent years, multisensory marketing strategy based on the human five senses is becoming a new marketing strategy. In this regard, scholars have suggested alternative perspectives concerning experiential marketing(Pine & Gilmore, 1998; Schmitt, 1999).

The sensory impact on the customer's senses is a relatively new tool of supporting the marketing communication process, specially in experiential marketing from the customer attitude, subsequent behavior from consumer behavior-are in the limelight of both theoretical and practical fields-to be beneficial to hotel customers, managers, and marketers. Multisensory technologies are becoming more and more common in the sector of tourism services(Kuczamer-Klotowska, 2017). In particular, Krishna(2012) argued sensory marketing can be used to create subconscious triggers that characterize customer perceptions of abstract notions of the product and service. There are some cases for multisensory applications in various sectors and brands(Kumar, 2014), in addition to this, scholarly interest has increased recently(Harvard

Business Review, 2015).

According Harvard Business Review(2015), Krishna argued that when designing products and services, the other sectors of industry as well as hotels should consider a holistic approach that leverages the effects of sensations to create and enhance the brand personality they value and remember. Due to using every sense of customer before making a decision about a behavior, recent literature has brought multisensory aspects of experiential marketing into focus for scholarly interest beyond one human sense such as sight dominated the marketing practices(Pawaskar & Goel, 2014). Thus, to keep up with the expectations and demands of the customers, the hotel industry needs a paradigm shift from single dimension to all senses so as to overcome their counterparts.

This research, therefore, answers the question by expending Krishna's model in the context of hotel industry and to perform multisensory strategy to survival and succeeding in the hotel business due to environmental dynamism and competitiveness.

## 1.2 Problem Statement

Although the recent studies regarding multisensory marketing, perception, and customer behavior have offered the substantial insights for the better understanding of the application in various sectors, they still have several questions to be examined and resolved. Because even though new connections with customers by multisensory marketing strategy may be a less salient phenomenon in most traditional marketing settings(Rieunier, 2002), multisensory marketing can be applied to all sectors and allows customer to valuable

experience recently(Kumar, 2014). More specifically, the previous research on multisensory marketing has been concerned more with single or two dimension aspects, and less with integration of the five dimensions of human senses(Pawaskar & Goel, 2014).

Indeed, to create experience and feelings of authenticity among customers, integration of visual, acoustic, haptic, olfactory, and gustatory should be stimulated with tourism marketing. In particular, the luxury hotel sectors, which occupy the highest turnover and contribution generated in the luxury tourism industry(WTTC, 2015; Liang, 2008), have a strong potential to evoke emotional reactions through holistic and memorable experiences(Nasution & Mavondo, 2008; Wu & Liang, 2009; Scott & Mowen, 2007). In short, if customers are served the highest levels of services, each of the individual hotel customers' five senses is continuously stimulating during their stay(e.g., by the use of appropriate colors, scents and materials) (Park et al., 2010).

Accordingly, it needs to focus on relationship between human sensory stimuli and perception such as emotion and memory within the customer's mind in order to accurately grasp what multisensory marketing really is and what its effect is. In other words, as the customers are likely to behave according to their impulses and emotions, more than their reasoning, most of literature based on the experiential marketing regards emotion as mediating role, which may affective source through the generation of moods, feelings, and emotions(Bitner, 1992; Brakus et al., 2009; Gentile et al., 2007; Schmitt, 1999; Sheth et al., 1991).

Also, due to service intangibility, it is crucial to form their memory and can be more meaningful when remembered by customers in the tourism

sector(Clawson & Knetsch, 2013). Therefore, it is necessary to investigate why customers feel different levels of emotion and memory.

Lastly, in terms of subsequent behavior, extant studies acknowledge that customer is able to take an attitude of making decisions, which has been designated as repurchase intention, royalty, and word of mouth(Finn, 2005; Oliver et al., 1997). The subsequent customer behavior, which is post-purchase behavior, that seems to be an active role by more individual sub-dimensions such as self-enhancing WOM(Word of Mouth) and tolerance to failure, in that customers focus on themselves(Park & Hyun, 2018).

There has been, however, little interest in this behavioral nature of self-enhancing WOM and tolerance to failure, which may accurately understand of subsequent behavior in the hotel industry where these occasions frequently happen. As a result, previous researches revealed that senses of customer have a much deeper influence on human attitudes, moods, and even memories, (Lwin, Morrin & Krishna, 2010). Thus it needs to clarify sub-dimensions of subsequent behavior, which is thus one of the major challenges to be solved for contributing theoretical development and providing managerial directions.

### **1.3 Research Objectives**

As discussed above, the marketing strategies of today has changed and it is becoming increasingly important to fully understand customers and behavior.

Thus, the this study aims to resolve the issues discussed or discovered in the previous literature on multisensory marketing that is a part of experiential marketing, and further to identify the relation between the stimuli of the sensation, emotion, memory, and behavior. In particular, this study pays

attention to the influence of multisensory marketing strategy on subsequent behavior compared with previous research with focused on the relationship from service encounter.

Therefore, it is necessary to do further empirical and theoretical research on the multisensory experience by posing the following research question:

- (1) To identify that the hotel industry can use multisensory marketing strategy with the human five senses of visual, acoustic, haptic, olfactory and gustatory as a means to provide a positive emotion and memory for hotel customer;
- (2) To examine that the positive emotion and memory of hotel customer impact subsequent behavior;
- (3) To suggest that potential of multisensory marketing communication in the relationship between the five senses of humans and customer's subsequent behavior through the positive emotion and memory.

## 1.4 Conceptual Model

As depicted in Figure 1.1, which demonstrates the overall scheme of this study. It suggests a conceptual model of encompassing associations between multisensory marketing, perception, and behavior. The model of the present study is in line with the basic premise that describes how marketing strategies are useful and induce the perception response of customer, and affect behavior(Krishna, 2012). On the basis of this model, this study examines how the configurations of multisensory marketing directly affect the both facets of

perceptions, and potentiality to affect indirectly the aspects of subsequent customer behavior through perception response of customer.

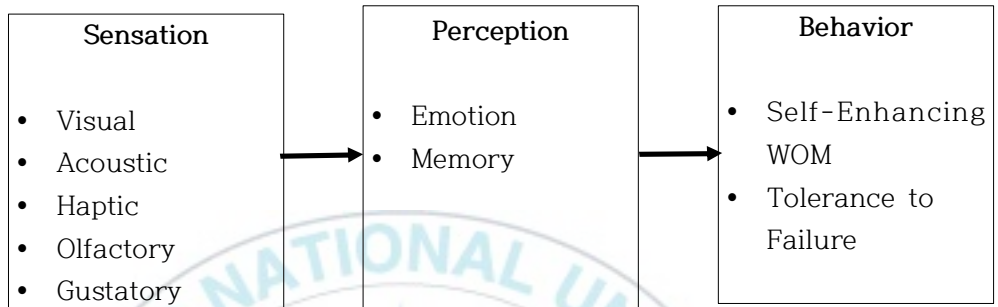


Figure 1.1 Conceptual Framework of Multisensory Marketing.

# CHAPTER 2. LITERATURE REVIEW

## 2.1 Sensory Marketing

Unlike traditional marketing approaches that use marketing mix, it is necessary to maintain business continuity by adapting to new marketing strategy with development of service industry. Experiential marketing, being one part of the contemporary marketing approach that is progressively becoming more individualized and experience-based, with copious comparable brands, manufactured goods and services. It integrates the elements of emotion, logic and general thought processes to bond with the customer and appeals to multiple senses(Kumar, 2013).

This research on the senses has been discussed for a long time in the process of the customer's information processing, such as the influence of the marketing stimulation on the purchase activity by the understanding and the awareness and recognition of the product (Bertil, 2011; Ditoiu & Caruntu, 2014; Kim & Fesenmaier, 2015). When external stimuli are entered into the information processing system through the five senses, the raw information is converted into meaningful information through the process of perception in the brain (Lee, 2014). Especially, it is proved that customer's senses and emotional factors play an important role in purchase decision rather than reason, so customer's interest is increasing.

Sensory marketing is a component of experiential marketing(Kumar, 2013) and defined as "marketing that engages the consumers' senses and affects their

perception, judgment and behavior”(Krishna, 2012).

According to Soares(2013), sensory marketing is a set of sensations provided by the physical space of the company, which complements the construction of products on display, stimulates the senses and offers customers valuable moments. From a managerial aspect, sensory marketing can be used to create subconscious triggers which define customer’s perceptions of abstract notions of the product(e.g., its quality, sophistication, elegance, modernity, innovativeness, interactivity) and the brand’s personality. It can also be used to influence the perceived quality of an abstract attribute such as color, taste, smell, or shape. In this regard, senses of consumers play a key role in this situation. Because sensory marketing relates to making a decision whether to purchase or not and the experiences of the consumer with all the human senses: sensory, emotional, cognitive and behavioral, therefore, the use of sensory stimuli provides a culturally rich and highly sophisticated language to an individual in a particular situation.

The initial research(Kotler, 1973) on in-store senses is well recognized in physical environment (e.g. sight, sound, scent, touch etc.) aspect that is told to “Atmosphere as a marketing tool” in producing customer’s specific emotional effects and enhancing purchase probability(Huh, 2005). In addition, Schmitt(1999) suggests that sensory experience is created through the five senses of the customer, appealing to the senses rather than the rationality in terms of experiential marketing due to involvement an emotional bond subconsciously(Lovelock, Wirtz, & Hemz, 2011).

In terms of brands, the five senses not only play a key role in making a brand stand out form its competitors and are important to create a positive

image in the minds of consumers, but also try to fill in the deficiencies of the 'traditional marketing' which is too rational(Rieunier, 2002).

Due to the importance of the sensation, it has spilled into different disciplines including tourism and service sector as well as product, the conceptual and empirical insufficiencies of it still have been recognized and discussed. As for each sensation, Blessa(2011) informs that there are different proportions on the importance of each sense for the learning of a human being: 83% of the learning and perception of new information absorbed by an individual are acquired through vision while hearing represents 11% of participation, smell represents 3.5%, touch represents 1.5% and taste represents 1%. Being aware of this information, it is possible to analyze the role of the human senses in the perception and learning of specific topics, such as facts, places and people.

Next, an individual analysis of the importance of each sense will be carried out to explain their role and how each acts in the sensory marketing, in order to involve the customers.

### **2.1.1 Visual Dimension**

As mentioned above, according to Kotler(2000), the sense of vision is the most effective one for processing information regarding goods and services, giving customers more information than the other senses, exploring their perception of the environment, because it is through the eyes that promotional campaigns, through colors, sizes and shapes, are perceived and absorbed by customer' subconscious until their emotions are fully attained. Thus, due to the rapid perception that the human being possesses through vision, this sense is

one of the major decision makers of purchase. Marketers use wide variety of powerful and specifically selected visual stimuli, such as color, lighting, packaging or decoration to influence consumer's implicit(unconscious) and explicit(conscious) consumer purchase behavior(Branding Brazil 2015). Customers, exposed to more than 80,000 visual marketing messages per day, the flow of the information obtained is activated and retained first of all in the sensory memory.

According to Aitamer and Zhou(2011), the visual aspect of a store should be considered to match four different functions: first, the alert function, the environment should have a contrast with the store, to capture the consumers' attention. Second, the function of attracting: the product must be attractive, able to make people want to explore the store through its appearance. Third, the welfare function: the consumer can easily find the products and information he needs. And finally, the coherence of the visual aspect: with the offer and expectations of the consumer.

Therefore, sensations and perception regarding one product, service or brand cultivated longer in the memory are much more valuable from the company's point of view.

This is because the visual sensory system facilitates brand recall and brand recognition. The most difficult level to obtain—the top of the mind awareness—can be achieved only with the use of visual stimuli. Therefore sensations attained through visual cues are so immensely important.

### **2.1.2 Acoustic Dimension**

Blessa(2011) states that, after the vision, the sense of smell is the most

easy to arouse emotions, because through the stimulus of this sense, one can create personality to the environment, arousing memories, desires and feelings to the consumers, and creating a specific and unique aroma will make consumers remember the brand whenever they feel it, stimulating good memories, and, thus, bring the brand closer to the customer.

Acoustic cues, such as tempo, volume or style of music contributes to evaluation of the product, service. Especially music is a powerful tool for evoking emotions. Music is absorbed by the individual through the ear and is transmitted to the brain, where it reaches regions that respond for the emotions and motor activities in the human body. In other words, when listening to music endorphins are released, which generates sensations of pleasure(Gobe, 2001), which can be a very powerful way to bond customers emotionally to a brand(Schmitt & Simonson, 1997).

Study developed by Milliman(1982) proved that slow pace of background music influences time spend in the supermarket and thanks to this the gross sales exhibit higher values. Moreover, studies have been conducted where the tempo of the music has been identified to be of significance(Gundlach, 1935; Wedin, 1972). Bruner(1990) states that fast tempo is usually recognized as pleasant and happy while music of slow tempo has been proved to evoke more sentimental feeling. Furthermore, music interpreted as either pleasant or unpleasant will create different responses usually resulting in a positive or negative emotion(Gorn et al., 1993). Utilizing the right type of music has been shown to offset negative effects of waiting for service (Hui et al., 1991).

Also, being more aware of these factors, companies within the service industry are putting more effort on using background music that will provide

their customers with a pleasant experience as well as an appropriate atmosphere(Dubé & Menon, 2000).

### **2.1.3 Haptic Dimension**

Haptic is an essential mean of objects identification. It enables acquiring information on texture, hardness, temperature and weight of an object (Klatzky & Lederman, 1993).

Consumers have a need to physically interact with products(Citrin ei al., 2003), where touching have been found to have a positive impact on customer attitudes as well as intentions to purchase a product(Peck & Childers, 2003).

Moreover, haptic perception influences individual's judgment and evaluation of an item. These findings have been confirmed in recent years by several studies, which elaborate on the impact of the touch on product perception. According to Lindstrom(2005), it is therefore becoming more important for companies to acknowledge the need to apply the aspect of touch to a brand, thinking about texture a specific brand has, or should incorporate. Touch plays an important role in customer perception and cognition for buying behavior and product evaluation. Touch enhances the buying experience, leading to greater confidence in product judgments, and leads consumers willing to pay more for products(Acevedo, 2017).

In general, service companies should recognize the importance of physical contact for customers, since touch is not only an important source of information for customers, but also in behavior decision(Aitamer & Zhou, 2011).

### 2.1.4 Olfactory Dimension

The influence of scent has not been discussed as broadly as other sensory stimuli, especially the visual or auditory one. It is an overlooked area by retailers, despite the fact, that scent has been proved to impact positively consumer behavior and purchase intentions(Parsons, 2009). Pleasant ambient aroma can conjure good memories not only about the store, but also about the product or service itself. Consequently, this cognitive process of recollection can influence the customers' willingness to purchase in the future in this specific place, which they associate with a likable scent (Mitchell et al., 1995).

Some researchers assert that olfactory cues prompts in general more detailed and arousing memories and positive feelings, than for instance, auditory cues. Moreover, even up to 75% of our emotions can be generated by the smell (Bell & Bell, 2007). For this reason scent becomes steadily more and more popular, as retailers realize that bolstering customers' positive emotions plays significant role in purchase decision making process.

A good example of using smell is the diffusion of a pleasant coffee aroma in front of a bakery shop. This not only encourages passersby to enter the venue, but also makes them more alert and willing to stay longer in the venue. Naturally, the longer such client stays in the restaurant or cafeteria, the more money he is likely to spend there. Above mentioned olfactory marketing strategies has been used in hospitality industry for a long time.

In addition, Bell and Bell(2007) state that all human senses evoke equally precise memories, but the smells evoke the most emotional.

### **2.1.5 Gustatory Dimension**

The sense of taste is considered one of the most distinctly emotional, because of its ability to facilitate social exchange between people, with internal connections to other senses(Acevedo, 2017).

Taste can alter mood and brand perception. Gustative sense can be enhanced by different marketing actions. Food sampling of salad dressing or a wine tasting is a common way of enticing customers to buy the product. This is known as one of the most convincing promotional activities connected with experiential marketing strategies. Also, TV commercials frequently present images which invoke the gustative impressions.

In terms of advertising influencing taste, Elder and Krishna(2010) state that an ad highlighting multiple sensations(e.g., taste, touch and smell) results in better taste perception than one highlighting taste alone. They show that this effect works through sensory stimulation.

Taste is a total sensation because it includes everything from taste, flavor, sound, texture, and design(Bertil, 2011). Taste, flavor, and texture cause not only eating food but also sensitivity to the place(Krishna, 2012), and more research is needed because of the rich taste experience by the other senses, emphasizing the olfactory sense.

### **2.1.6 Multisensory Marketing**

Many researchers have no doubt that visual cues play an vital role in influencing customers experience and behavior(Belizzi et al., 1983; Belizzi & Hite, 1992; Bitner, 1992; Crowley, 1993; Donovan & Rossiter, 1982; Kotler,

1973). As Lindstrom and Kotler(2006) also mentioned, visual sense is the most important and persuasive among the senses, thus there are many previous studies.

Nevertheless, as Pawaskar and Goel(2014) stressed, many researchers emphasized there should be constantly research efforts to widening our knowledge spectrum by incorporating human five senses. The reason why is that the human senses have interdependent and mutually promoting relationships, and thus, they are more effective when they receive multiple sensory stimuli rather than a single sensory sensation (Kim, Kim, & Lee, 2014). Also, study conducted by Millward Brown(2003), a global marketing research firm, found that the value of multi-sensory products is higher than that of single-sensory products.

Multisensory marketing can be defined marketing by using the combination of the five senses of human, visual, auditory, olfactory, taste, and tactile, that engages the consumers' senses and affects their perception, judgement and behavior(Krishna, 2012). For brand management, appealing to the five senses of humans(sight, hearing, touch, smell and taste) has great potential; it affords the possibility to evoke favorable emotions and create a positive mood that may be transferred to the brand and thereby create a unique impression on the consumer(Hultén 2011). Lindstrom(2005) emphasized that multisensory marketing using sensory experience can lead to positive customer response to the brand and company.

Furthermore, as sensory marketing has become more interested in the interaction between senses, it has developed into multisensory marketing that integrates the five senses and is applied variously to product development and

sales as well as communication(Rodrigues, Hulten, & Brito, 2011). As a example of applying multisensory marketing in product, P & G attempted to combine the sense of smell(olfactory) and vision(visual) by studying the technique of printing a particular scent on paper.

In the retail sector, according to Charles and Michon(2003), customer's perceptions of the retail circumstance and product quality mediate the effects of ambient scent cues on spending behaviors and emotions.

There are also studies that show a positive correlation between the usage of scent and the increase of sales(Spangenberg et. al., 1996; Morrin & Chebat, 2005). According to Morrison, Gan, Dubelaar, and Oppewal(2011), music and aroma impact on shoppers' emotion, satisfaction levels, behavior in shopping setting.

There are the existence of research results that sensory marketing experience have a significant effect on consumption emotion(Park & Bae, 2006), on satisfaction and on positive emotional relationship in the retail setting(Huh, 2005). Not only these, there are still few researches in service industry in spite of many applications, for example, Singapore Airlines matches the aroma in the cabin(olfactory) with the interior color(visual)(Giordmaina, 2008) and Bellagio hotel and casino in Las Vegas still operate the original slot machines, because of the satisfactory clank of falling(acoustic)(Pawaskar et al., 2014).

Indeed, in the service industry, multisensory marketing is useful for shaping customers' positive emotions for service firms by efficiently utilizing the sensory touch points of customers(Lindstrom, 2006). As clients do declare they are attracted not to the information about services but to the place where they are sold, the application of sensory strategies in service sales seems

necessary—which was already discussed in the literature in the 1970s and the 1980s(Levitt, 1981). As more senses are memorized by using the customer’s sensory contact points, which leads to a stronger bond with the service company and a favorable attitude of the customer(Lindstrom, 2006). In order to confirm strong bond, a combination of the five senses in the service industry needs emotions, memories, and an in-depth look at what kind of customer behaviors(Lindstrom, 2006).

This aspect is vital in service industry studies, given the phasic nature of the customer experience anticipation and recollection during which the perception of the experience can change and influence future behavior(Cutler & Carmichael, 2010; Larsen, 2007). Especially, sensory marketing is a great add-on to the traditional forms of marketing communication and an integral part of a multisensory brand image for a hotel. All the positive, multisensory factors stimulating customers’ senses build a precise sensory strategy for a brand and create emotional ties between customers and a hotel, supporting customers’ loyalty and affinity towards the brand(Potrykus-Wincza, 2014).

In terms of luxury hotel, it offers appealing to the five senses, the practice of multisensory marketing to create a positive experience for the hotel customers(Kim & Perdue, 2013; Lindstrom, 2005). It can lead to outstanding sensations with regard to the visual stimuli(high-end interior decoration, acoustic stimuli(sounds in the lobby) as well as haptics(premium furnitures in the room and restaurant), including olfactory (signature scents) and gustatory experience(extraordinary taste of cuisine)(Wiedmann et al., 2016). In other words, Kim and Perdue(2013) proved when customers select a hotel, they consider affective(e.g., comfortable feeling) and sensory(e.g., overall atmosphere)

attributes as well as cognitive(e.g., price and brand).

Therefore, in order to gain an edge over competitors, marketers and managers in hotel industry must develop new and innovative marketing strategies that needs a paradigm shift from 2-D(e.g. sight and sound) to 5-D marketing to catch up with the demands and expectations of the customers.

Recently, Agapito et al.(2017)'s findings emphasize the important role of the sensory dimension of tourist experiences, and supported by a multidisciplinary perspective on the part of the five senses in human perception, memory, and behavior. The results of Wiedmann et al.(2018)'s study also advocate the assumption that multisensory marketing is an important tools to creating brand experiences. Both are key triggers of customer perceived value and significantly influence the brand strength. While researches in the hotel industry remain focused on traditional visual cognitive attributes, recent studies holistically approach the sensory dimension and focus on the facilitating of each sense to the overall customers' experience, for managerial purposes(Agapito et al., 2014; Gretzel & Fesenmaier, 2003, 2010; Isacsson et al., 2009).

Consequently, because separated sensations are aggregated in the consumer's mind and merge into an overall experience with the hotel(Hulte'n, 2011; Lindstrom, 2005), hotel management must prevent sensory overload and precisely harmonize all of the sensory stimuli to create an optimal and impactful experience(Krishna 2012).

### **2.1.7 Multisensory Marketing Applications**

Table 2.1 shows multisensory applications in the various sectors such as airlines and other hospitality industries.

Table 2.1 Multisensory Practices in Various Sectors

Sector	Case study
Airlines	Singapore Airlines The branding reached the peak during 1990s by using aroma called 'Stefan Floridian Water'(Lindstrom, 2005).
	Korean Airlines Most of the advertisement appears to be a luxury fashion(the glimpse of a Korean Air jumbo jet and an attractive flight attendant)
	United Airlines It was used the theme of George Gershwin called Rhapsody in Bule in the advertisements.
Beverage & Hospitality	Coca-Cola The design and color of the bottle reminds the a consumer of the form of a woman.
	Starwood Hotels & Sheraton Hotels They introduced the fragrance of Fig, Clove and Jasmine in the hotels(Bell, 2006).
	Westin & Four points They introduced a white the a flavor and cinnamon respectively(Bell, 2006).
	Bloomin- dale's To influence the smell experience of the customers and strengthen the brand image by selecting and using scents like baby powder in the baby section and suntan lotion near the bathing suits.

\* Source: Edited from Kumar(2013)

## 2.2 Perception

Sensation and perception are stages of processing of the senses. Sensation is when the stimulus impingers upon the receptor cells of a sensory organ-it is biochemical(and neurological) in nature. Perception is the awareness or

understanding of sensory information(Krishna, 2012).

Within the field of psychology, perception is considered to be our process of acquiring sensory information, interpreting it, selecting what is of interesting and then organize it(Peck & Childers, 2008). While sensation refers to an early process of both detecting and encoding the environment around us, perception is referring to what is called the product of psychological processes including context, relationships, meaning, past experiences and memory as key factors(Schiffman, 1979).

According to Solomon et al.(2010), we are stimulated through the senses, and how we select, organize and interpret these sensations(stimuli) figure out the process of perception. Hoyer and MacInnis(1997) state that when a stimuli is registered by one of our senses, a perception occurs. Humans ourselves have a perceptual selection that Gabbott and Hogg (1998) refer to as “a mechanism for limiting information”.

Indeed, perception is said to be a very complicated process to grasp and we usually take for granted, where different stimuli like visual impression get us to respond and behave accordingly to that stimuli (Groome et al., 2010).

Therefore, the understanding of perception triggers application to customer behavior to meet tremendous need for research within the domain of multisensory marketing, because it is experienced through multiple senses and our senses link our memory to the right emotions(Lindstrom & Kotler, 2005).

### **2.2.1 Emotion**

Research on emotion is often conducted in terms such as emotion, affect, and feeling, and the concepts are defined differently by researchers(Bai & Han,

2015).

Generally, emotion is defined as a state of subjective experience (Westbrook, 1987) or a subjective state of feeling (Ashforth & Humphrey, 1995) with affect and feeling. Zajonc (1986) referred to emotions as a kind of feelings about stimulating relative preferences. In consumer behavior research, emotions are characterized by internal senses resulting from consumer experiences and can be expressed outside or in a positive or negative form (Lee, 2012).

The representative types of emotional responses are the PAD model of Mehrabian and Russell (1974), and the factors of pleasure, arousal, and dominance are mentioned by analyzing the emotional responses of consumers.

On the other hand, in the field of consumer behavior, various emotional models are presented, however emotions are divided into two dimensions: positive emotions and negative emotions, focused on mutual independence, based on research by Watson and Tellegen (1985), Westbrook (1987), Watson, Clark and Tellegen (1988).

In the previous studies on the service industry, it has been conducted single dimension of positive emotions (Maeng & Han, 2017; Bai & Han, 2015; Chung, 2015) as well as two dimension such as positive emotions and negative emotions. In this regard, a few researchers (e.g. Jang, 2012; Jang & Namkung, 2009; Liu & Jang, 2009; Pan et al., 2008) are eager to amalgamate emotions together into separate positive and negative summary cues, but Machleit and Eroglu (2000) warn that the positive-negative approach could result in missing important information in accordance with the specific nature of the effects. Despite of this limitation, it has recognized with the mediating role of emotional response.

Emotions are an important factor in today's marketing where advertising and marketing of different kind is characterized by a content that is used with the purpose of putting us individuals in a specific emotional state (Söderlund, 2003; Lindstrom, 2005). Emotional experience is referred as the customer's affective system through the creation of moods, feelings, and emotions by a large number of scholars and researchers (Bitner, 1992; Brakus et al., 2009; Gentile et al., 2007; Schmitt, 1999; Sheth et al., 1991).

According to Lindstrom(2005), the reason for applying emotions to marketing is that they can offer us opportunity to better understand consumer behavior and why consumers choose specific brand with loyalty. Hultén et al.(2008) stress the significance of emotional segments by describing that they are key factors for the customer's total experience. Martin(2008) emphasizes that our emotions let us know what is worth noticing and remember, and it is necessary to become aware of the emotional components that influence and attract us.

Further, it is argued that emotions offer information to us, which is behavior and attitude specific and the experienced emotion can influence our emotion and thereby has an influence on how we behave(Cohen et al., 2008). Carver(2003) describes that if a person is in a good mood, positive emotions have the ability to generate attention more greatly and provide him or her positive associations to what he or she is experiencing. This is supported by Gordon(2001) who asserts that an emotional codification can determine our reaction to a certain brand and its stimuli, where our emotions are guided by our previous experiences and emotions. Because experiential marketing treats emotion importantly because customers are perceived as emotional rather than

rational human beings(Schmitt, 1999), the dimension of emotion is more related to hedonic aspects of experience such as fun, joy, escape, and other pleasurable feelings in the hotel industry.

Meanwhile, Rapaille(2006) concludes that there is a close relationship between emotions and learning, where the stronger an emotion is, the more likely we are to learn and remember something. In addition, Belk(1976) mentioned emotion only account for situational effects partially and introduced other types of psychological processes, such as cognitive, learning, or motivational responses.

In this context, the following section provide information on memory which is the other part of the perception process.

### **2.2.2 Memory**

Memory is defined as conscious awareness of events, behaviors, and experiences that have occurred in the past(Schacter, Chiu & Ochsner, 1993) and may be able to recall experience and information through memories of customers(Schacter, 1997). In addition, memory can be defined including factors selected from the customer's experience, emotion, affect, recall, clarity, and so on.(Tung & Ritchie, 2011; Dube & Menon, 2000).

According to a number of previous studies, experience in travel has an unusual speciality compared to experience in everyday life(Cohen, 1979; Kim, 2010). In other words, experience in travel is a special and different experience compared to experience in everyday life, so it can be stored in memory (Myers, 2003). Also, in cognitive psychological approach, it is said that the information that comes in by external stimuli is the activity of repetitively coding, storing,

and withdrawing processes in the brain, in various situations, such as personal, collective, and social motivation, memories actively reconstruct the situation of experience(Cho, 2016).

The formation of customer memories in the hospitality industry is very important because when products and services are intangible experience good, they can become more meaningful and important when remembered to customers(Clawson & Knetsch, 2013). If the experience is not memorized in the service industry, it becomes meaningless, and conversely, the experience of remembering has a positive or negative impact on subsequent behavior(image, attitude, revisit, recommendation intention, word-of-mouth)(Lee et al., 2016). This is because memory through experience of the customers can be a leading factor for present or future behavior(Kim, 2010).

In fact, the so-called five senses are responsible for receiving sensory information from the external environment that is crucial for individual perception, memory, and behavior(Damasio, 2009; Goldstein, 2010; Krishna, 2010, 2012). In addition, according to Oh et al.(2007), positive memories and pleasures about experience increase overall satisfaction and positively affect loyalty in the long term.

On the basis of this, it is essential to manage the customer's experience factors and analyze how they affect their memories, in order to lead the company's positive reputation and behavior.

## **2.3 Subsequent Customer Behavior**

Subsequent customer behavior is a concept that includes revisit intension, recommendation intension, and word of mouth intentions(Oh et al., 2011). That

means a subjective behaviors consumers' self-consciousness and beliefs after an attitude toward an object has been formed(Woo, 2017). As we have seen, the delighted emotion that an individual feels affects subsequent customer behavior(Collier et al., 2018). And also the relationship between memory, acting important filtering mechanism to link an experience, and behavior has been firmly established in the hospitality literature(Mody et al., 2017). Thus, the subsequent behavior of customers has been steadily studied in a variety of industries including the service industry, which is directly related to the company's ultimate goal of profit.

Collier et al.(2018) investigated the effects of two variables, extended the range of subsequent customer behavior of repurchase/revisit intention and word-of-mouth. In this research, as dependent variables such as self-enhancing WOM and tolerance to failure were chosen, one would expect the spread of word-of-mouth with a highly emotional and memorable reaction from a unique experience in the service industry. Furthermore, a more self-focused word-of-mouth may make customers actively spread the positive experience to others while at the same time enhancing their sense of self due to the experience customized and unique.

Meanwhile, some of service mistake can be expected in service contexts such as hotel, so the service firm needs to create the environment to buffer the negative reactions that might be occurred.

In conclusion, these variables can provide more insight into the benefits of the customers who have the positive emotion and memory.

### 2.3.1 Self-Enhancing Word-of-Mouth

Self-enhancing word-of-mouth is defined as word-of-mouth behaviors driven, implicitly or explicitly, by one's desire for positive recognition from others and to increase one's effect of self-esteem (Angelis, Bonezzi, Peluso, Rucker, & Costabile, 2012).

While traditional word-of-mouth behavior concentrates on the customer relaying information to others about the offering itself, self-enhancing word-of-mouth is much more focused on the individual aspect rather than the informing. Notably, the emotional response from a customer's special experience generates a word-of-mouth effect (Collier et al., 2018), and this is not just the word of mouth to provide information for others, but a self-awareness enhancement through their own experience, as well as a tendency to want to make themselves positive perception to others.

According to Wojnicki and Godes (2008), due to the inward-directed pride, self-enhancement is a persistent motivation for word-of-mouth behavior, arising from a positive experience, is, therefore, there is a sense of ownership and self-attachment in this kind of communication. Another study demonstrated that WOM regarding positive, successful experiences can serve as an indicator, or signal, of favorable behavior (Wojnicki, Andrea, Godes, & David, 2017).

Previous research has shown a positive relationship between customer positive emotion and word-of-mouth (Chitturi et al., 2008), and Berger and Milkman (2012) revealed customer pleasure could lead to this word-of-mouth. Recently, with the increased presence of social media in customers' lives, there is a growing trend of posting positive word-of-mouth about an experience with

the underlying goal of increasing one's self-image(Toubia & Stephen, 2013).

Extending to the current context, as the emotional and memorable experience should similarly promote these self-enhancing behaviors, this research is focused on a specific type of self-enhancing word-of-mouth behavior.

### **2.3.2 Tolerance to Failure**

The "Zone of tolerance" concept has been cited in the service quality and customer satisfaction literature over the past decades to model the relationship between different expectation levels(Berry & Parasuraman, 1991; Parasuraman, Berry, & Zeithaml, 1991; Zeithaml, Berry, & Parasuraman, 1993).

Thus, the generally accepted notion of the zone of tolerance is the recognition that it falls between two expectation standards—the desired service level and the adequate service level(Berry & Parasuraman, 1991; Lovelock, 2001; Zeithaml et al., 1993).

If a services is delivered above the desired service level then the customer will be satisfied, if not delighted; whereas if a performance falls below the adequate level of expectation, customers might be frustrated and dissatisfied. If the service performance is within the range of the zone of tolerance, performance is acceptable and customers will be satisfied(Zainol, Lockwood, & Kutsch, 2010).

Tolerance to failure is defined as relationship between customer and the provider grounded in confidence, dedication, and trust(Gwinner, Gremler, & Bitner, 1998; Sirdeshmukh, Singh, & Sabol, 2002) when a customer's heightened sense of leniency shown toward the service provider when faced with a less

than desired service experience.

Service failures should not occur in a service situation, but they are inevitably faced, so companies need to find ways to mitigate customer negative reactions. According to Hess, Ganesan, & Klein(2003), in the event of a future service failure, these continual relationships allow for lower service recovery expectations and provide an overall buffer for service providers. While tolerance to failure has been examined in other contexts, the relationship from the emotion of the customer to failure tolerance has not been explored.

In this regard, because of experiencing the multisensory marketing and the resulting customer's positive emotion, the customer has increased relational switching costs. Indeed, in practitioner writings, Keiningham, Vavra(2001) and Berman(2005) suggest that an important aspect of a delighted customer is that they are less sensitive to competitors' offerings, and thus, more difficult to lure away.

Within the context of the current research, we are interested in the impact that multisensory marketing have on customer emotion, and in turn, the impact the positive emotion and memory have on subsequent customer behavior such as self-enhancing word-of-mouth and tolerance for future failure.

## **2.4 Research Hypotheses and Model**

### **2.4.1 Relationship between Multisensory Marketing and Emotion**

In this research, conceptual model uses multisensory marketing as the

starting point and, hence, as the basic key driver.

In the previous study of each sensory aspect, first, about visual among the five human senses, it is widely agreed that the visual experience such as ambient and design cues directly influence consumer's emotion in various environmental settings(e.g. Liu & Jang, 2009; Nisco & Warnaby, 2014; Pan et al., 2008; Sherman et al., 1997). Also, Pan et al.(2008) discovered that interior and exterior design help share emotion in the winery environment.

In the relation with acoustic, the research literature showed that music have the ability to affect shoppers' emotional states(Fulberg, 2003). On another study, Machala(2014) found that the treatment group were mostly highly aware about the ambient music, which positively arouse consumer's emotional state(Stout & Leckenby, 1988), should be a part of each restaurant environment. Milliman(1982, 1986) maintained that background music tends to be soothing, thus creating a pleasurable atmosphere. Loud music, if of a preferred genre, is expected to contribute positively to the emotional states of shoppers in the target group.

As well as Grohmann et al.(2007) emphasized that haptic stimuli will have a positive impact on the customer positive response that can influence on customers' impulse purchasing where the encouragement to physically contact with a product(Peck & Childers, 2006).

The research literature discovered that olfactory experience such as aroma have the ability to affect shoppers' emotional states(Gulas & Bloch, 1995). Similarly, when shoppers encounter a pleasant sent, they may experience some elevation in mood(Gulas & Bloch, 1995; Spangenberg et al., 2005). Vanilla aroma has been shown to be perceived as pleasant by both males and

females(Spangenberg et al., 2006).

As it was found the importance of gustatory experience which is result of the multisensory integration of touch, taste and smell by Smith(2012) and the effect of taste among the five senses on the emotions was relatively significant, emphasizing the appropriate harmony of the sensory marketing, helpfulness and accessibility in generating emotional experiences and increasing the chance of favorable behavior(Elder & Krishna, 2010).

Furthermore, the study on the interplay with acoustic and olfactory showed Morrison et al.(2011) demonstrated the results that music and aroma significantly affected pleasure each other, and then a significant interaction of both is revealed. In addition, Wiedmann, K. P., Labenz, F., Haase, J., and Hennigs, N.(2018) provided the result of strengthening ties with customers using multisensory marketing.

In this discuss above, it is important for the luxury hotel sector, offering manifold opportunities for the implementation of multisensory marketing to establish a positive experience for the hotel customer(Kim & Perdue, 2013; Lindstrom, 2005). Those five separated sensations are then aggregated in the consumer's mind and merge into an overall experience for the hotel customer (Hultén, 2011; Lindstrom, 2005).

Therefore, the quality of the experience increases with the number of senses that are addressed in a congruent way(Soars, 2009). This phenomenon is considered a super additive effect(Lwin et al., 2010). In this context, hotel management must prevent sensory overload and precisely harmonize all of the sensory stimuli to create an optimal and impactful experience(Krishna, 2012). As a result, a positive relationship between multisensory marketing and

emotion is proposed:

H1 Multisensory marketing has a positive effect on emotion.

H1a: Visual experience will positively affect the emotion response of hotel customers' during staying.

H1b: Acoustic experience will positively affect the emotion response of hotel customers' during staying.

H1c: Haptic experience will positively affect the emotion response of hotel customers' during staying.

H1d: Olfactory experience will positively affect the emotion response of hotel customers' during staying.

H1e: Gustatory experience will positively affect the emotion response of hotel customers' during staying.

#### **2.4.2 Relationship between Multisensory Marketing and Memory**

Campos, Mendes, Valle, and Scott(2015) stress that multisensoriality leaves a permanent imprint on memory and that the sensory dimension has a vital importance in experiences for tourists, asserting that more research is required on the “impact of the sensory dimension of customer experiences on memorability, but also exploration of the multiple senses as attention capturers and maintainers during these experiences”.

Indeed the exploratory study by Agapito et al.(2017) was conducted in loco and six months after tourists' visits to Southwest Portugal. The findings

suggest that perceived richer sensory tourist experiences may have a significant role in the memory of individuals' experiences, encouraging favorable tourist behavior towards destinations.

In the both studies of B & B guests(Oh et al., 2007) and Cruise tourists, visual experience such as the aesthetic was associated with memory. In a study on mountain tourists in Yeongnam Alps in Korea, sensory experience showed a positive influence on the vivid memories of tourists(Kim et al., 2018).

After all, multisensory marketing strategy(i.e. visual, acoustic, haptic, olfactory, gustatory) are expected to work as a means to develop positive memory. Based on these literature reviews, this study aims to apply to hotel area. So I deduced the following hypothesis.

- H2: Multisensory marketing has a positive effect on the hotel customers' memory.
- H2a: Visual experience has a positive effect on the hotel customers' memory.
- H2b: Acoustic experience has a positive effect on the hotel customers' memory.
- H2c: Haptic experience has a positive effect on the hotel customers' memory.
- H2d: Olfactory experience has a positive effect on the hotel customers' memory.
- H2e: Gustatory experience has a positive effect on the hotel customers' memory.

### **2.4.3 Relationship between Emotion and Subsequent behavior**

Positive emotions, such as enjoyment and comfort at the store where the service environment is provided, make customers want to spend more time and stay (Morrison et al., 2011). Therefore, it can induce subsequent behaviors such as satisfaction or approaching behavior. The emotional response experienced by the customers in the service is caused by the interaction with various environments and affects the future behavior of the customers according to the emotional response experienced by the individual (Finn, 2012; Gardner, 1985; Menon & Kahn, 2002).

The major interest in customer's positive emotional state such as delight arises from research that has shown delighted customers can be profitable for the service firm. For example, numerous studies have shown a positive relationship between the positive emotion of delight and purchase intentions (Finn, 2005, 2012; Oliver et al., 1997). Moreover, unlike customers who have been shown to switch even when satisfied (Keaveney, 1995), customers of positive emotional state are thought to have greater loyalty and commitment (Barnes, Beauchamp, & Webster, 2010; Keiningham & Vavra, 2001).

Indeed the study of relation between the emotion and subsequent behavior by Collier et al. (2018) was conducted in a service encounter and thus the results of the study found that positive emotion lead to a higher tolerance to future failures and stimulated self-enhancing word-of-mouth. Park et al. (2018) showed the impact of the positive emotion on the subsequent behaviors in the three specific areas: self-enhancing word-of-mouth and tolerance to service

failure.

As the change of the subsequent customer behavior is the goal of the service firm, it is sensible to assume that positive emotional experience can increase subsequent behavior while staying in the hotel.

H3: The positive emotion response of hotel customers will positively affect their subsequent behavior.

H3a: The positive emotion response of hotel customers will positively affect their self-enhancing WOM.

H3b: The positive emotion response of hotel customers will positively affect their tolerance to failure.

#### **2.4.4 Relationship between Memory and Subsequent Behavior**

According to discussion above, it is acknowledged that tourist experiences involve complex psychological processes, with a special focus on memory(Larsen, 2007) and that remembered experiences may be predictors of future behavior (Mitchell, Thompson, Peterson, & Cronk, 1997; Wirtz, Kruger, Scollon, & Diener, 2003). As a result, a connection between recalled experiences and destination loyalty has been revealed in tourism literature (Lehto, O'Leary, & Morrison, 2004).

It is very important for the service industry to form memories of customers because their products and services are intangible experiences and can become more meaningful and important when remembered to customers(Clawson & Knetsch, 2013). In this regard, Lee et al.(2016) argued if

the experience at the tourist destination is not remembered, it will be meaningless, and conversely, the experience at the sightseeing tourism will have a positive or negative effect on the subsequent action(sightseeing image, attitude, revisit, recommendation intention, word of mouth).

This is because memories through tourists' experiences can serve as a leading factor for present or future behavior(Kim, 2010). Kim & Kim(2018) studied the vivid memories of mountain tourists in Yeongnam Alps showed significant influence on subsequent behaviors such as word of mouth and recommendation intention.

Based on these studies, it is hypothesized the following relationship between the memory and subsequent customers behavior.

- H4: The positive memory of hotel customers will positively affect their subsequent behavior.
- H4a: The positive memory of hotel customers will positively affect their self-enhancing WOM.
- H4b: The positive memory of hotel customers will positively affect their tolerance to failure.

## 2.4.5 Proposed Research Model

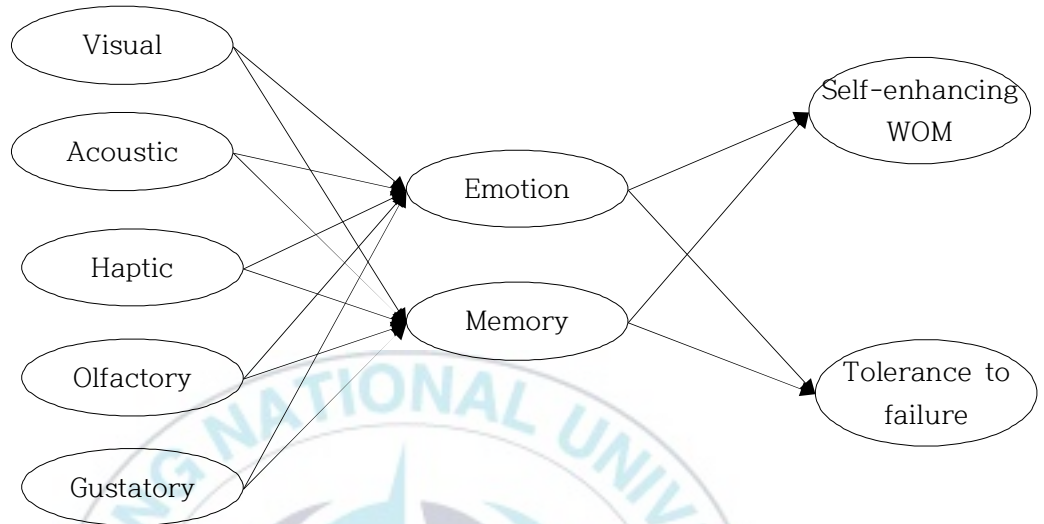


Figure 2.1 Proposed Research Model

Based on the hypotheses, this study proposes the research model, as illustrated in Figure 2.1. The model is composed of three main parts, namely multisensory marketing, perception, and Subsequent Customer Behavior. It is adapted from Krishna's(2012) model in three meaningful ways. First, the model moves beyond holistic 5 sensory marketing strategy with optimistic harmony that have been relatively under-investigated. The configuration of the multisensory marketing strategy can give more insight in which part of luxury hotel affect guests's perception. Second, the model incorporates emotion and memory. The hotel customers' experience can give a better idea of how people react to the multisensory environment. Third, the model specifically focuses on the self-enhancing WOM and tolerance to failure as part of subsequent behavior, which is critical to hotel marketers and managers.

# CHAPTER 3. RESEARCH METHOD

## 3.1 Research Design

This section gives an overview of two important parts of the research method, namely research design and results. It demonstrates in detail how the questionnaire was designed based on previous research and the literature review, panel reviews, and pretest results, as well as how data were collected from the sample group. It is followed by key statistical results of the collected data.

### 3.1.1 Sample

As indicated, the level of hotel brand affects customer's response for sensation, perception, and behavior. Therefore, in order to control the level of hotel brand, the current study selected five luxury hotels, with a similar size of city based on the number of tourists:

Seoul: Hotel Shilla Seoul, Lotte Hotel Seoul.

Busan: Park Hyatt Busan, Hilton Busan.

Jeju: Hotel Shilla Jeju.

According to the Ministry of Culture, Sports and Tourism in Korea, 78.8% visitors came to Seoul in 2017(Appendix A)-the greatest number in Korea, followed by Gyeonggi(15.6%), Busan(15.1%), and Jeju(10.8%). Even within the

same city has a different level of hotel brand and attracts a different number of customer. To be specific, as indicated index from "Big Data Analysis of Brand Reputation by Institute of Korea Company Reputation" with 4,258,667 hotels branded in 2016(Appendix B), in the order of ranking was as follows; Lotte Hotel, Shilla Hotel, Western Chosun Hotel, Marriott Hotel, Hilton Hotel and Hyatt Hotel. Additionally, hotel ranking in 2015 by hotel & restaurant(Appendix C) showed Hotel Shilla Seoul, Park Hyatt Busan, and Hotel Shilla Jeju were the top hotels in each region.

According to comprehensive judgment, Lotte Hotel in Seoul and Hilton Hotel in Busna were included in the study.

### **3.1.2 Questionnaire Design**

To empirically test the proposed conceptual framework, the questionnaire was designed into five different sections; (a) screening question, (b) multisensory experience, (c) customer's emotion and memory, (d) subsequent behaviors, (e) respondent profile.

Measurement items validated in the previous studies were pooled to develop an initial questionnaire draft. Since scales selected were English-based, the questionnaire was translated into Korean using a back-to-back translation procedure as recommended by Brislin(1970).

In order to improve reliability and validity, the translated questionnaire was subjected to two stages of examinations. First, the content validity assessment of the questionnaire draft (9 constructs and 48 items) was tested through its distribution to a panel of two luxury hotel managers, four professors, and five doctoral students familiar with the topic. Provision was made for critical

evaluation and feedback on the clarity, appropriateness, length, format, and design of the instrument in context of hotel environment. Based on received recommendations, the initial questionnaire was refined by modifying ambiguous translations, merging similar questions, and adding real examples to the questions on multisensory experience. Second, the pretest was undertaken using 60 who stayed in this year in order to ensure the reliability and validity of the scales. After dropping those items with low factor loadings, the finalized questionnaire was composed of 4 parts with 9 constructs and 28 items, as summarized in Table 3.1.



Table 3.1 Measurement Items

Construct	Measurement Items	Reference
Visual	The appearance of luxury hotels is very attractive.	Wiedmann, Labenz, Haase & Hennings (2018) Acevedo & Rairbanks (2017)  Dennis, Brakus & Alamanos (2013)  Kastenholz, Carneiro, Marques & Loureiro (2012)  Collier, Barnes, Abney & Pelletier (2018)  Giovanis & Athanasopoulou (2018)
	Luxury hotels are very nice to look at.	
	Luxury hotels have an appealing style.	
	Luxury hotels have a premium design.	
Acoustic	The music in luxury hotels is very nice to listen to.	
	The sound scape in luxury hotels is very pleasant.	
	The sounds in luxury hotels are wonderful.	
Haptic	The spa area in luxury hotels is very cozy.	
	The furnishings in luxury hotels are nice to touch.	
	Luxury hotels offer a cushy comfort.	
Olfactory	The scent in luxury hotels is very pleasant.	
	The odor in luxury hotels is delightful.	
	The aroma in luxury hotels is very enchanting.	
Gustatory	The meals in luxury hotels are a real culinary delight.	
	The meals in luxury hotels are a real pleasure.	
	The food in luxury hotels is very delicious.	
Emotion	Visiting this hotel is pleasure.	
	Visiting this hotel induces positive feelings.	
	I enjoy staying this hotel for its own sake.	
Memory	I have wonderful memories about hotel.	
	I won't forget my experience at the hotel	
	I like going back and re-experiencing the hotel in my mind.	
Self-Enhancing WOM	Talking about this experience with others:	
	Boosts my self-esteem.	
	Makes me feel like the center of attention.	
Tolerance to Failure	Makes me feel like I stand out.	
	Based on my current experience, if a service failure did occur in the future I would be more:	
	Likely to overlook a mistake.	
	Willing to excuse a mistake.	
	Forgiving for a exception.	

Notes: Each construct was measured using a 7-point scale (1=strongly disagree and 7=strongly agree).

In order to enhance the accuracy by adding screening items to ask hotel brand, region, and multisensory experience, so that respondents could understand previous experience in the first part of the questionnaire. Second part was related to multisensory experience. Visual experience(4 items), acoustic experience(3 items), haptic experience(3 items), olfactory experience(3 items), and gustatory experience(3 items) were measured based on Wiedmann et al.(2018)'s study and Acevedo &Rairbanks(2017)'s study. Respondents rated each item using a 7-point scale(1=strongly disagree, 7=strongly agree).

The third part of the questionnaire measured hotel customers' perception by asking about 'emotion' and 'memory'. Emotion was measured with three items based on Dennis, Brakus and Alamanos(2013). Memory was measured with three items based on Kastenholz et al.(2012). Respondents rated each item using a 7-point scale(1=strongly disagree, 7=strongly agree).

The fourth part of the questionnaire was related to subsequent behavior, including 'self-enhancing WOM' and 'tolerance to failure'. They all have three items based on Collier et al.(2018) and Giovanis et al.(2018). The constructs were measured using a 7-point scale(1=strongly disagree and 7=strongly agree).

The fifth part of the questionnaire addressed the profile of the respondents. Regarding hotel brand, respondents were asked to indicate what kind of hotel brand they were stayed and propose for visiting such as business, leisure and so forth. Additionally, the number of past visits to the same hotel were asked to understand the depth of hotel customer's experience. Questions to identify the respondent's profile included age, gender, and education.

### 3.1.3 Data Collection

The investigation of the proposed research model was initiated on the basis of a quantitative study among customers in Korea. Therefore, an online survey was run on August 15–September 5, 2018, and participants were recruited through invitation links([www.google.com](http://www.google.com)) to distribute the questionnaire to respondents. As a fundamental requirement, only those people who were stayed at the luxury hotels were allowed to participate in the study. More precisely, a filter question at the beginning of the survey was used in relation to the respondents' previous experiences frequency with luxury hotels in general and, more specifically, with the best known luxury hotel brands (e.g., Hilton Hotel, Shilla Hotel, Lotte Hotel, Park Hyatt Hotel). Only those respondents with an adequate knowledge about luxury hotels were invited to answer the questions presented in our model. In detail, the specific requirement was the familiarity of at least one renowned luxury hotel brand. All others were screened out by the filter question.

## 3.2 Research Results

This section presents profile of respondents, reliability and validity, hypotheses testing, and post hoc analysis.

### 3.2.1 Profile of Respondents

Table 3.2 Summary of the Sample Characteristics

Sample characteristics (N=492)			
Gender	Female	293	59.6%
	Male	199	40.4%
Age	20-29 years	154	31.3%
	30-39 years	90	18.3%
	40-49 years	174	35.4%
	50-above	74	15%
Marital status	Single	191	38.8%
	Married	301	61.2%
Education	High school diploma	40	8.1%
	College	50	10.2%
	University degree	314	63.8%
	Postgraduate	88	17.9%
Monthly net income	< 1,000,000₩	128	26%
	1,000,000-2,000,000₩	47	9.6%
	2,000,000-3,000,000₩	83	16.9%
	3,000,000-4,000,000₩	87	17.7%
	4,000,000-5,000,000₩	66	13.4%
	> 5,000,000₩	81	16.5%
Purpose	Business	36	7.3%
	Leisure	439	89.2%
	others	17	3.5%
Frequency	1 time	342	69.5%
	2 times	56	11.4%
	3 times and Above	94	19.1%

The total of 537 responses were collected via survey. After screening data by deleting cases with more than 8% missing values, 492 valid responses were retained and deemed appropriate considering the complexity of the model. The sample characteristics are outlined in Table 3.2.

In order to control the level of hotel brand, the current study selected five brands with a similar grade of hotel based on the number of the hotel customers.

However, each hotel appeals to different target markets and location(metro area; seashore located).

Therefore, their perception and attitudes regarding the possible impacts of using the hotel could be different.

A series of ANOVA was conducted to see if there is any difference in the perception of impacts of using the hotel in sensation experiences, customer's emotion and memory, and behavior in relation to the hotels selected in this study.

The results showed that there were some variations regarding the experience of sensation impacts in acoustic and gustatory. However, there was no statistical difference about the experience of sensation impacts in visual, haptic, and olfactory including emotion, memory, self-enhancing WOM, and tolerance to failure(Appendix D).

### **3.2.2 Reliability and Validity**

As summarized in Table 3.3, all of the composite reliabilities(CR) of the constructs were over the cutoff value of .70, ensuring adequate internal

consistency of multiple items for each construct(Hair et al., 1998). Convergent validity was satisfied in that all confirmatory factor loadings were significant and exceeded .60(Hair et al., 1998). The average variance extracted(AVE) of all constructs exceeded the minimum criterion of .50, indicating that a large portion of the variance was explained by the constructs(Fornell & Larcker, 1981; Hair et al., 1998). According to Hair et al.(2006), evaluation of model fit should consider different sample size, model complexity, and degrees of error in model specification. For this study, it is required to have CFI(Comparative Fit Index) or TLI(Tucker-Lewis Index) above .90(Hair et al., 2006), RMSEA (Root Mean Square Error of Approximation) less than .05(Hair et al., 2006), and SRMR(Standardized Root Mean-square Residual) less than .06(Kline, 2005). The goodness-of-fit statistic for the best-fit model was significant( $\chi^2$  (314)=503.149,  $p < 0.001$ , CFI=.981, TLI=.978, RMSEA=.035 SRMR=.0352). Additionally, as presented in Table 3.4, discriminant validity was confirmed as all average variance extracted(AVE) were greater than the squared correlations between any pair of constructs(Fornell & Larcker, 1981).

Table 3.3 Measurement Items and Construct Evaluation

Construct	Measurement Items	Unstandardized				Standardized		AVE	CR
		factor loadings	S.E.	t-Value	P	factor loadings			
Visual	Vis1	1.000	-	-	-	.811	.618	.814	
	Vis2	1.169	.080	14.606	.000	.861			
	Vis3	1.174	.078	15.067	.000	.820			
	Vis4	1.132	.078	14.505	.000	.631			
Acoustic	Aco1	1.000	-	-	-	.784	.636	.815	
	Aco2	.898	.050	17.907	.000	.793			
	Aco3	.880	.050	17.719	.000	.815			
Haptic	Hap1	1.000	-	-	-	.754	.697	.843	
	Hap2	.996	.043	23.246	.000	.845			
	Hap3	.840	.043	19.753	.000	.899			
Olfactory	Olf1	1.000	-	-	-	.790	.777	.876	
	Olf2	1.004	.031	32.393	.000	.930			
	Olf3	.852	.036	23.526	.000	.917			
Gustatory	Gus1	1.000	-	-	-	.867	.762	.886	
	Gus2	1.039	.041	25.338	.000	.877			
	Gus3	1.015	.041	24.941	.000	.875			
Emotion	Emo1	1.000	-	-	-	.868	.687	.823	
	Emo2	1.252	.065	19.325	.000	.855			
	Emo3	1.175	.060	19.610	.000	.759			
Memory	Mem1	1.000	-	-	-	.891	.764	.852	
	Mem2	1.080	.044	24.542	.000	.910			
	Mem3	.910	.038	23.878	.000	.819			
Self-Enhancing WOM	SEW1	1.000	-	-	-	.802	.778	.834	
	SEW2	.953	.031	30.279	.000	.914			
	SEW3	.817	.034	23.970	.000	.925			
Tolerance to Failure	TTF1	1.000	-	-	-	.918	.833	.884	
	TTF2	1.061	.034	31.230	.000	.938			
	TTF3	1.040	.034	30.148	.000	.881			

Model Fit Statistics:  $\chi^2(314)=503.149$ ,  $p<0.001$ , CFI=.981, TLI=.978, RMSEA=.035, SRMR=.0352

Table 3.4 Discriminant Validity

	1.Vis	2.Aco	3.Hap	4.Olf	5.Gus	6.Emo	7.Mem	8.SEW	9.TTF
1.Vis	<b>.618</b>								
2.Aco	.546**	<b>.636</b>							
3.Hap	.542**	.367**	<b>.697</b>						
4.Olf	.514**	.544**	.555**	<b>.777</b>					
5.Gus	.521**	.415**	.497**	.504**	<b>.762</b>				
6.Emo	.507**	.447**	.514**	.505**	.491**	<b>.687</b>			
7.Mem	.514**	.421**	.464**	.484**	.475**	.719**	<b>.764</b>		
8.SEW	.281**	.264**	.280**	.356**	.350**	.465**	.466**	<b>.778</b>	
9.TTF	.111*	.193**	.197**	.251**	.177**	.213**	.227**	.132**	<b>.833</b>
Mean	5.6875	5.4356	5.4478	5.2656	5.4600	5.7364	5.5942	4.6782	4.6260
SD	.98759	.95220	1.00699	1.12065	1.02160	1.06131	1.17603	1.33811	1.32146

Note: Values on the diagonal(in bold) represent the AVE.

Lower diagonal values indicate factor correlations; \* p<0.05, \*\* p<0.01.

### 3.2.3 Results of Hypotheses Testing

Given an acceptable measurement model fit, SEM was conducted to assess the overall fit of the structural model and test the proposed hypotheses. As summarized in Table 3.5, the model fit indices suggest that the hypothesized model fits the data at the satisfactory level ( $\chi^2(326)=684.831$ ,  $p<0.001$ , CFI=.965, TLI=.959, RMSEA=.047, SRMR=.0574). Hypothesis 1 posited that the five-dimension multisensory experience are positively related to hotel customers' emotional response during the staying.

Five kinds of multisensory experience, namely visual( $\beta=.136$ ,  $p<.05$ ), acoustic( $\beta=.157$ ,  $p<.05$ ), haptic( $\beta=.238$ ,  $p<.001$ ), olfactory( $\beta=.131$ ,  $p<.05$ ) and gustatory( $\beta=.219$ ,  $p<.001$ ), played a significant role in promoting positive

emotion response during the staying.

Hypothesis 2 argued that the five-dimension multisensory experience are positively associated with hotel customers' memory. As same as the emotion, five kinds of multisensory experience were revealed to be significant in relation to the memory during the staying, including visual ( $\beta=.210$ ,  $p<.01$ ), acoustic( $\beta=.125$ ,  $p<.05$ ), haptic( $\beta=.172$ ,  $p<.01$ ), olfactory( $\beta=.120$ ,  $p<.05$ ) and gustatory( $\beta=.199$ ,  $p<.001$ ).

Hypothesis 3 stated that the hotel customers' perceived emotion will positively affect the customer subsequent behavior. The results confirmed that emotion response significantly and positively affects both self-enhancing WOM ( $\beta=.319$ ,  $p<.001$ ) and tolerance to failure( $\beta=.124$ ,  $p<.05$ ). More precisely, its impact on self-enhancing WOM was more powerful in comparison to tolerance to failure.

Hypothesis 4 asserted that hotel customers' memory will positively affect the customer subsequent behavior. The same as the results of Hypothesis 3, the memory of hotel customers' influenced both self-enhancing WOM( $\beta=.262$ ,  $p<.001$ ) and tolerance to failure( $\beta=.151$ ,  $p<.01$ ).

Table 3.5 Results of Hypotheses Testing

Structural paths	Unstandard Regression Weights	Standard Regression Weights	t-value	Hypothesis Test
H1a: Visual → Emotion	.154	.136	2.018*	Supported
H1b: Acoustic → Emotion	.206	.157	2.481*	Supported
H1c: Haptic → Emotion	.260	.238	3.971***	Supported
H1d: Olfactory → Emotion	.126	.131	2.177*	Supported
H1e: Gustatory → Emotion	.240	.219	4.032***	Supported
H2a: Visual → Memory	.244	.210	3.091**	Supported
H2b: Acoustic → Memory	.168	.125	1.975*	Supported
H2c: Haptic → Memory	.193	.172	2.866**	Supported
H2d: Olfactory → Memory	.119	.120	1.987*	Supported
H2e: Gustatory → Memory	.224	.199	3.646***	Supported
H3a: Emotion → Self-Enhancing WOM	.327	.319	5.968***	Supported
H3b: Emotion → Tolerance to Failure	.147	.124	2.204*	Supported
H4a: Memory → Self-Enhancing WOM	.261	.262	5.024***	Supported
H4b: Memory → Tolerance to Failure	.173	.151	2.722**	Supported
Squared multiple correlation( $R^2$ )				
Emotion			.502	
Memory			.446	
Self-Enhancing WOM			.249	
Tolerance to Failure			.056	
Model Fit Statistics: $\chi^2(326)=684.831$ , $p<0.001$ , CFI=.965, TLI=.959, RMSEA=.047, SRMR=.0574				

Notes: \*  $p<0.05$ , \*\*  $p<0.01$ , \*\*\*  $p<0.001$ .

### 3.2.4 Result of Post Hoc Analysis of Moderation & Mediation Effects

As summarized in Table 3.6, the significance of moderation effect of the age (high & low) was tested using multiple group analysis.

As a result of verifying the  $\chi^2$  difference between the constrained model and the unconstrained model in order to confirm the existence of the moderating effect of the relationship between the multisensory strategy and the customer behavior through emotion and memory according to age, the path between acoustic and emotion ( $b=5.329$ ,  $df = 1$ ,  $\Delta\chi^2 >3.84$ ), the acoustic and memory ( $b=9.733$ ,  $df = 1$ ,  $\Delta\chi^2 >6.63$ ) was statistically significant.

The positive effect of acoustic among the five senses on both of emotion and memory was found to be higher for the over 40-year-old ( $40 \leq$ ) than for the under 40-year-old ( $<40$ ).

These results should be considered as the music around the hotel affects emotions and memory when it comes to over 40-year-old customers.

As a result of the analysis, it is presumed that the reason why the difference between the two groups is not significant except two paths, is powerful of the effect of the multisensory marketing.

Table 3.6 Results of Moderation Effect of Age

Paths	<40(n=244)		40≤(n=248)		Un- constrained	Constrained	$\Delta\chi^2$ (df=1)
	$\beta$	t-value	$\beta$	t-value	df=652	df=653	
Visual → Emotion	.219	1.827	.168	2.054	1106.490	1106.674	0.184
Acoustic → Emotion	-.076	-.640	.267	3.646	1106.490	1111.819	5.329*
Haptic → Emotion	.226	2.479	.175	2.159	1106.490	1106.565	0.075
Olfactory → Emotion	.276	2.907	.033	.410	1106.490	1109.612	3.122
Gustatory → Emotion	.143	1.841	.292	3.754	1106.490	1109.096	2.606
Visual → Memory	.321	2.620	.255	3.120	1106.490	1106.852	0.362
Acoustic → Memory	-.201	-1.660	.273	3.734	1106.490	1116.223	9.733**
Haptic → Memory	.141	1.549	.111	1.380	1106.490	1106.523	0.033
Olfactory → Memory	.269	2.815	.047	.598	1106.490	1109.129	2.639
Gustatory → Memory	.175	2.250	.216	2.815	1106.490	1106.827	0.337
Emotion → Self-Enhancing WOM	.254	3.455	.404	5.218	1106.490	1107.057	0.567
Emotion → Tolerance to Failure	.127	1.658	.115	1.353	1106.490	1106.514	0.024
Memory → Self-Enhancing WOM	.315	4.299	.212	2.866	1106.490	1107.499	1.009
Memory → Tolerance to Failure	.232	3.067	.084	1.001	1106.490	1107.677	1.187

Note: \*  $p < 0.05$  (df=1,  $\Delta\chi^2 > 3.84$ ), \*\*  $p < 0.01$  (df=1,  $\Delta\chi^2 > 6.63$ )

As summarized in Table 3.7, the significance of two mediation effects to find out the possibility of each sense was tested respectively using bootstrapping(N=5000, confidence intervals=95%; procedure according to Preacher and Hayes, 2008) in the spss macro. It was found that emotion and memory significantly mediates the paths from multisensory marketing(i.e. visual, acoustic, haptic, olfactory, and gustatory) to self-enhancing WOM, as well as tolerance to failure.

It was examined 20 mediation effects using bootstrapping approach(N = 5000; confidence intervals=95%; Preacher & Hayes, 2008), which is recognized as a re-sampling technique that investigates the accuracy of the estimates, coefficients and their standard error in this study, from random samples with replacement. As indicated in Table 3.7, in the first column of the mediation path, the bootstrapped estimation of the indirect effect of customer experience of visual, acoustic, haptic, olfactory and gustatory for the luxury hotels on self-enhancing WOM with the mediation of emotion separately was statistically significant(b= 0.2980, 95% confidential interval [CI] [0.2208:0.3849] ), (b=0.2726, 95% confidential interval [CI] [0.2015:0.3553] ), (b=0.2979, 95% confidential interval [CI] [0.2242:0.3769] ), (b= 0.2309, 95% confidential interval [CI] [0.1726:0.2955] ), (b= 0.2483, 95% confidential interval [CI] [0.1764:0.3314] ).

The second column that is the bootstrapped estimation of the indirect effect of customer experience of visual, acoustic, haptic, olfactory, and gustatory for the luxury hotels on self-enhancing WOM with the mediation of memory separately, was statistically significant(b=0.3045, 95% confidential interval [C I] [0.2289:0.3908] ), (b= 0.2558, 95% confidential interval [CI] [0.1881:0.335

7] ), (b= 0.2642, 95% confidential interval [CI] [0.1938:0.3419] ), (b= 0.2223, 95% confidential interval [CI] [0.1589:0.2897] ), (b= 0.2413, 95% confidential interval [CI] [0.1729:0.3200] ).

In the third, the bootstrapped estimation of the indirect effect of customer experience of visual, acoustic, haptic, olfactory, and gustatory for the luxury hotels on tolerance to failure with the mediation of emotion separately was statistically significant (b= 0.1426, 95% confidential interval [CI] [0.0690:0.2305] ), (b= 0.0980, 95% confidential interval [CI] [0.0311:0.1707] ), (b= 0.1021, 95% confidential interval [CI] [0.0295:0.1833] ), (b= 0.0687, 95% confidential interval [CI] [0.0074:0.1328] ), (b= 0.1049, 95% confidential interval [CI] [0.0366:0.1811] ).

The last column showed the bootstrapped estimation of the indirect effect of customer experience of visual, acoustic, haptic, olfactory, and gustatory for the luxury hotels on tolerance to failure with the mediation of memory separately was statistically significant (b= 0.1589, 95% confidential interval [CI] [0.0834:0.2451] ), (b= 0.1038, 95% confidential interval [CI] [0.0474:0.1735] ), (b= 0.1054, 95% confidential interval [CI] [0.0443:0.1789] ), (b= 0.0789, 95% confidential interval [CI] [0.0234:0.1442] ), (b= 0.1135, 95% confidential interval [CI] [0.0537:0.1864] ).

In sum, we confirmed that the positive relationship between the multisensory experience and the customer behavior was fully and partially mediated by emotion and memory.

Table 3.7 Results of Indirect Effect

Mediation Path	Total b	CI low	CI High	Direct b	CI low	CI high	Indirect b	Boot CI low	Boot CI high	Indirect effect
Specific Indirect(procedure according to Preacher and Hayes, 2008)										
Vis→Emo→SEW	.3810	.2655	.4964	.0829	-.0405	.2063	.2980	.2208	.3849	Full
Aco→Emo→SEW	.3706	.2503	.4909	.0980	-.0253	.2213	.2726	.2015	.3553	Full
Hap→Emo→SEW	.3723	.2591	.4855	.0744	-.0473	.1961	.2979	.2242	.3769	Full
Olf→Emo→SEW	.4246	.3256	.5237	.1937	.0862	.3011	.2309	.1726	.2955	Partial
Gus→Emo→SEW	.4585	.3496	.5674	.2102	.0935	.3270	.2483	.1764	.3314	Partial
Vis→Mem→SEW	.3810	.2655	.4964	.0765	-.0474	.2004	.3045	.2289	.3908	Full
Aco→Mem→SEW	.3706	.2503	.4909	.1148	-.0066	.2361	.2558	.1881	.3357	Full
Hap→Mem→SEW	.3723	.2591	.4855	.1081	-.0094	.2256	.2642	.1938	.3419	Full
Olf→Mem→SEW	.4246	.3256	.5237	.2024	.0966	.3081	.2223	.1589	.2897	Partial
Gus→Mem→SEW	.4585	.3496	.5674	.2172	.1018	.3326	.2413	.1729	.3200	Partial
Vis→Emo→TTF	.1488	.0307	.2668	.0062	-.1285	.1410	.1426	.0690	.2305	Full
Aco→Emo→TTF	.2677	.1468	.3885	.1697	.0358	.3035	.0980	.0311	.1707	Partial
Hap→Emo→TTF	.2583	.1441	.3725	.1562	.0242	.2883	.1021	.0295	.1833	Partial
Olf→Emo→TTF	.2958	.1945	.3972	.2272	.1103	.3440	.0687	.0074	.1328	Partial
Gus→Emo→TTF	.2296	.1166	.3426	.1247	-.0037	.2531	.1049	.0366	.1811	Full
Vis→Mem→TTF	.1488	.0307	.2668	-.0101	-.1451	.1248	.1589	.0834	.2451	Full
Aco→Mem→TTF	.2677	.1468	.3885	.1638	.0322	.2954	.1038	.0474	.1735	Partial
Hap→Mem→TTF	.2583	.1441	.3725	.1529	.0255	.2803	.1054	.0443	.1789	Partial
Olf→Mem→TTF	.2958	.1945	.3972	.2169	.1019	.3319	.0789	.0234	.1442	Partial
Gus→Mem→TTF	.2296	.1166	.3426	.1161	-.0107	.2429	.1135	.0537	.1864	Full

# CHAPTER 4. CONCLUSIONS

## 4.1 Discussions

The main purpose of this study was to find the critical issues in the relationship between the stimuli of sensation, perception, and behavior recently emerged in terms of experiential marketing, and to clarify specific links between them. To answer the research question, the original Krishna(2012) model was expanded to meaningful application to the hotel industry in the three ways shown below.

First, unlike previous studies using single or two dimensions, this study applied multisensory marketing as a hotel sector from a holistic perspective applying all five senses.

Second, sensory marketing, which is one part of Schmitt's(1999) experiential marketing theory, is incorporated into the model and the mediating roles of the two relevant and unconscious perception, namely emotion and memory, are taken into account.

Third, among some broad and holistic concepts of customer behavior, specially, the study focuses on the subsequent behavior as post-purchase behavior because of its importance to ensure new customers and to induce the tolerance to service failure at hotel.

Overall, the findings of this study generally support the hypotheses regarding comprehensive links between the experiences of multisensory marketing strategy, the individual perception of the emotion and memory, and

the individual aspects of subsequent behavior such as self-enhancing WOM and tolerance to failure. The details of the results are as follows.

The first hypothesis is fully supported as multisensory marketing strategy significantly and positively affects customer's emotion. The experience of visual, acoustic, haptic, olfactory, and gustatory play a critical and affirmative role in influencing customer's emotions at the hotel. These findings provide invaluable insight on which configuration of hotel marketing stimuli can help to induce the positive feelings of customers. The under-explored multisensory marketing by using the five senses of humans is considered the most influential factors to be implemented to compel a more holistic customer's emotional experience. Thus, those visual, acoustic, haptic, olfactory, and gustatory aspects of sensation experience can be utilized to strengthen delighted psychological response in the hotel industry.

The second hypothesis is also fully supported as multisensory marketing strategy. Therefore, customers who visit the hotel need a comprehensive multisensory marketing strategy so that they can have a positive memory of the hotel. Not only this, the third and fourth hypotheses are fully supported as customer's emotion and memory significantly and positively affect self-enhancing WOM and tolerance to failure.

These two hypotheses address the notion of this study by showing which customer perception from emotion and memory should be taken into account for the promotion of hotel to secure the more customers and to relieve discomfort.

It is learnt that much more holistic multisensory marketing approach, embracing emotion and memory, is more powerful in maximizing positive

post-purchase behavior. Especially, for the post-purchase behavior, emotional dimension seems more useful than memory dimension in impressing customers' word of mouth through being proud of themselves even after using the hotel.

The following sections provide detailed discussions on multisensory marketing strategy, perception of customer's emotion and memory, and subsequent behavior.

#### **4.1.1 Multisensory Marketing in the Hotel Industry**

This study proposed five dimensions of sensory experience, namely visual, acoustic, haptic, olfactory, and gustatory as a marketing strategy. The empirical test results revealed some interesting findings.

First, the original concept of the model for the sensation-perception-behavior by Krishna is supported in this study, and in particular, one should be aware of the fact that it is the integrated aspect of multisensory marketing experience (i.e. visual, acoustic, haptic, olfactory, and gustatory) that plays a significant role in increasing subsequent behavior through emotional experience in the hospitality sector such as hotels.

A number of researchers have emphasized the importance of the five senses of humans, lifting up people emotionally and promoting favorable behaviors. It seems valid in the case of a hotel firm (Bitner, 1992). Since multisensory experience is each individual perception by all senses from a surrounding object and background area, they usually have an effect at the subconscious level (Baker, 1987; Hightower et al., 2002) and therefore this result implies that multisensory stimuli may indirectly and unconsciously motivate customers' behavior.

Second, the integration of five senses is important in generating positive emotion of customer, in the case of the hotel industry.

This is consistent with previous some various findings that each sensory or two-dimensional interaction affects positive emotions; visual sensory cue impact on customers' attention(Eriksson & Larsson, 2011), the combination of sight and sound resulted in positive feelings with customer(Holbrook & Hirschman, 1982), acoustic stimuli such as music causes customers to arouse positive emotion(Stout & Leckenby, 1988; Machala, 2014), haptic stimuli has a positive impact on the customer positive response to purchase impulsively(Peck & Childers, 2003), both of music and aroma impact shoppers' more pleasure(Morrison et al., 2011; Mehrabian-Russell's, 1974), gustatory experience is result of the multisensory integration of touch , taste and smell(Smith, 2012).

Like this, each of sense is to connect each other as well as indispensable variables in multisensory marketing. Therefore, five senses on the emotions is significant, emphasizing the appropriate harmony of the sensory marketing, helpfulness and accessibility in generating emotional experiences and increasing the chance of favorable behavior(Elder & Krishna, 2010). In this regard, marketing managers need to focus on customers' emotion by holistic multisensory marketing.

Third, as mentioned earlier, the empirical results of this study proved that integral sensory marketing strategy play a significant and positive role in stimulating memory as well as emotion for customer during the staying the hotel. This result is supported by some findings in the tourism destination literature suggesting that impressions related to senses contribute to the recollection of tourist experiences and that sensorily richer experiences may

have an important role in encouraging favorable behavior towards destinations (Agapito et al., 2017).

As well as the result on emotion in this study, memory captures specific qualities of the hotel (e.g. appearance, music, cushy furniture, odor, and delicious cuisine). Hence, the process of analyzing the perceived sensory stimuli that last a long time in customers' memory is crucial for the marketing and the management of the hotel as a composite product. However, they are surprisingly the least investigated five sensory stimuli in hotel industry. Thus, it is worthy to discuss more in depth regarding the multisensory aspect.

The results of this study also empirically supports the findings of Hultan et al.'s (2009) exploratory study that the customer's sensory experience leads to "the experience logic" that contributes to forming behavioral, emotional, cognitive, relational, or symbolic values that often can replace the functional values of goods or a service. Consequently, because the well-coordinated sensory stimuli of the customer proves that multisensory marketing strategy are powerful in inducing emotional and memorable experiences, hotel management must prevent sensory overload and precisely harmonize all of the sensory stimuli to create an optimal and impactful experience (Krishna, 2012).

#### **4.1.2 Hotel Customers' Emotion and Memory**

This study demonstrates the emotion and the learned memory on sensory perception the model of Krishna (2012) in explaining subsequent behavior.

In other words, the holistic impression from the pleasure, feeling, and enjoy is critical in checking in the hotel and after checking out to return the ordinary life to remind the hotel. Therefore, emotional response, based on the more

effects of emotions than memory on the subsequent behavior, is unquestionably a salient contributor to customer post-purchase behavior.

This study also shows that memory plays an critical role in reinforcing subsequent behavior as the other supporter of the hotel experience which is consistent with Borghini et al.'s (2006) finding that memory is associated with the WOM, proud of their experience to boost their self-esteem as well as tolerance to failure, as customers retain memorable experience to induce positive behavior to promote the hotel.

In short, the congruence of emotional and memorable experiences can accelerate the likelihood of subsequent favorable behavior(Rinallo et al., 2010) in the future, therefore, emotional and memorable experiences should be considered useful in improving the effectiveness in the hotel industry.

As shown in the results, because the integration of five senses is more powerful in generating emotion than memory in the hotel industry, therefore, it is important to strategically use multisensory stimuli together.

### **4.1.3 Subsequent Behavior**

Eriksson & Larsson(2011) showed that the human senses are key factors for customers' certain behavior based on the theoretical reasoning of Hulten et al.(2009) and Pine and Gilmore(2000, 2008), and that the role of mixed sensory experience is important in generating the positive emotion response, as well as the memory, in hotel industry.

First, a proper combination of sensory stimuli is likely to be required to facilitate experiential marketing and increase customers' broad-mindedness when employee make a mistake at the service field. Therefore, embodied

cognition helps unconsciously sense through the body to help decision-making, which results in people acting congruently when their surroundings are warm(Xun Huang, 2015).

Second, the both of emotional and memorable aspects for the hotel play a more effective role in securing the more customers through the self-enhancing WOM. Especially, it is crucial because of advantages that WOM is more effective than advertisement and has carryover effect compared to traditional marketing means(East, Uncles, Romaniuk & Riley, 2015).

As shown this study, self-enhancing WOM and tolerance to failure are a communication result from emotional and memorable experience and both of them positively effects on next step such as the revisit, promotion, royalty, etc. are expected, either immediately at field or after some period of time(Yu & Dean, 2001). Consequentially, this study extends to the hotel industry of the Krishna's model which is a framework to reply the research question by revealing which multisensory stimuli contribute to post-purchase behavior through the dual mechanisms of the emotional and memorable experiences.

## 4.2 Theoretical Contributions

This study has three theoretical contributions by addressing the causal relationships identified in Krishna's model and proposing an extended conceptual framework.

First, this study moves beyond single or two dimension of sense and expands the spectrum of multisensory marketing strategy by incorporating and applying the human five senses which have not been examined in the accommodation facility. While sensory marketing have been somewhat

discussed in retail and tourism destination studies, multisensory marketing strategy relatively need a more studies in the hotel industry.

There are two possible interpretations as follows: First, through a coherent and holistic multisensory approach, emotions can be intensified and linked to an overall experience, which can lead to enhanced customer perceived value and, hence, decision making and actual consumer behavior (Wiedmann et al. 2013; Turley & Milliman 2000; Zeithaml 1988; Sheth et al. 1991; Bolton & Drew 1991). Second, due to the many interactions along the touch-points, the implementation of memorable experiences is necessary, particularly in the service sector such as hotels (Hui & Bateson 1991; Brakus et al. 2009).

In this context, this study revealed that the simultaneous response of the five senses—sight, hearing, touch, smell and taste—becomes vital to better appeal to the customer (Schmitt 1999). Therefore, the combination of five human senses are the most salient integration in creating holistic customer's experience during the staying hotel.

Second, this research expands the Krishna's model in the dual mechanisms by encompassing not only emotional response but also memory as a cognitive aspect. By adopting multisensory marketing aspect as a part of Schmitt's (1999) experiential marketing approach, it becomes easier to understand customers' emotional response, as well as to compare with other aspects of memorable customers' experience.

Lastly, it broadens knowledge on the complex mechanism of interactions between multisensory stimuli, corresponding customers's positive emotion and memory, and post-purchase behaviors. This provides more specific and practical insight by focusing on self-enhancing WOM and tolerance to failure, as part of

subsequent customer behavior, which has surprisingly not been investigated to a great extent despite of being the important means to induce the performance of hotel industry.

### 4.3 Managerial Implications

The empirical findings of our study provide several managerial implications for hotel marketers and managers, supporting that the assumption that a multisensory marketing strategy has incredible potential to induce a emotional and memorable experience that further creates customer self-enhancing WOM and tolerance to failure, particularly in the luxury hotel industry.

First, hotel managers and marketers should concentrate on integrated and holistic multisensory impressions stimulated by the hotel management, in results proofed that an experiential marketing approach, properly orchestrated stimulation of the senses, can affect two dimensions of customer perceived process including emotion and memory.

This is because various customers' services, such as outstanding accommodations with interior and premium merterial, local cuisine, and perfumed treatments in luxury hotels have possibility to evoke emotional and memorable experiences(Nasution & Mavondo 2008; Wu & Liang 2009). Therefore, hotel managers need to strive to stimulate continuously each of the individual hotel guests' five senses during their stay(Park et al., 2010).

Second, hotel managers can apply multisensory marketing strategy for specific types of classified customers, as well as provide more information on how to utilize and manipulate the specific condition of hotels. First, in terms of the customer's individual characteristics, for example, for those leisure-purposed

customers who expect pleased and memorable experience(e.g. resort hotel), it is effective to satisfy, offering scent for relaxation or culinary highlights as well as a good mixture of an appearance of hotel and the tourism destination to enjoy the vacation. Meanwhile, for those business-purposed customers(e.g. metropolitan hotels), hotel managers should provide proper combination of the interiors, lighting, music, colors and cuisine that can focus on their business to make it successful.

Third, in terms of condition of the hotel, located closely with the natural scenery, marketers can focus on visual points to see through the window, as well as promotion emphasizing the landscape. In contrast, hotel managers without special landscape can improve design elements in terms of interior, art work, and colors to strengthen different types of customers' experiences.

In addition, it is possible to utilize sensory stimuli such as aroma, lighting, and fluffy furniture suitable for a resting area such as a room, on the other hand, to use the incense, music, and lighting to enhance concentration in a meeting room of the hotel, hence, hotel management can gain further insights into what customers experience and how to better appeal to them.

Consequently, the results may provide important insights in the hotel industry, into the ways in which the understanding of how customer - hotel relationships can be managed and improved by a deliberate placement of sensory stimuli and a proper implementation of customer experience.

Lastly, managers of the sales department and marketers can develop strategies to improve long-term management performance as well as to reduce the customer complaint occurred by the service mistake. In detail, due to the highest levels of customer services, continuously stimulating each of the

individual hotel guests' five senses(e.g., by the use of appropriate colors, scents and materials) (Park et al., 2010), so that customers, having delighted emotions and wonderful memories, are more likely to willing to excuse a mistake at the service field during stay, and to make favorable WOM behavior to boost themselves after stay.

Additionally, it has been shown that the these customers' evaluations builds a positive behavior that results in affective and self-esteemed responses to the hotel firm.

#### **4.4 Limitations and Suggestions**

As the sample used in this study serves as a verification for the korea, future research dedicated to detecting the full potential of an multisensory marketing approach should also incorporate the global population visiting luxury hotels to identify the customers' experience drivers that generate a positive customers' behavior. Besides, understanding of such relationships between the customers' specific experience and the behavior to design a promising sensory-oriented marketing for the other industries is an constantly question for future research.

Second, this study extends the Krishna's model by addressing both of emotion and memory dimensions. As Schmitt (1999) also suggested that customer experience is holistic comprising sensorial, emotional, intellectual, and behavioral experience, in the psychological perspective, it is needed the other types of perception and behavior can be explored in future studies.

Third, this study did not take consideration of moderating effects that the identification of demographics and cultural differences regarding customers'

response may provide important insights and implications for a beneficial marketing strategy. Additional research efforts should be placed to examine not only the moderating effects of personal characteristics of customers and types of the purpose to visit on the linkages between multisensory stimuli, perceived process of emotion and memory, and subsequent behavior, but also the mediating effects considering holistic models with all senses simultaneously.

## 4.5 Conclusion

Today, with everything interconnected, we expect our customers to be able to interact with businesses across multiple channels. To gain customer support, business should choose the right strategy to maximize value by optimizing customer interactions along the touch points of contact. Multisensory marketing strategy is a powerful marketing strategy because it enables you to acquire and maintain profitable customers who are in stronger ties through the provision of tailored special interactions as they are searched for the optimal communication method for each customer.

Therefore, it is important to strategically use the proper combination of sensory stimuli to positively reinforce customers' experiences for the both emotion and memory at the accommodation context.

Appendix A. Top Cities Visited by Oversea Tourists: 2012-2017(%)

City	2012	2013	2014	2015	2016	2017
Seoul	82.5	80.9	80.4	78.7	78.0	78.8
Jeju	12.0	16.7	18.0	18.3	20.2	10.8
Gyeonggi	21.3	17.9	13.0	13.3	13.1	15.6
Busan	12.2	11.7	8.0	10.3	10.4	15.1
Incheon	7.7	7.8	5.0	6.8	6.2	10.0
Gangwon	9.7	9.2	7.1	6.4	6.4	6.8
Gyeon-nam	2.4	1.7	3.6	3.2	1.9	2.2
Gyeon-buk	4.2	4.0	2.4	2.5	2.0	2.6
Jeon-nam	2.2	2.1	1.6	1.8	0.9	0.7
Jeon-buk	1.6	1.5	1.2	1.7	1.3	1.5
Ulsan	1.8	1.8	1.4	1.0	0.6	1.4
Chung-nam	1.5	1.7	0.9	1.3	1.0	1.3
Daejeon	2.2	2.1	1.1	1.2	1.0	1.7
Gwangju	1.2	1.3	0.4	0.8	0.5	1.2
Daegu	3.1	2.9	1.2	1.6	1.2	2.5
Chung-buk	0.9	0.6	0.5	0.6	0.4	0.9
Sejong	-	-	0.1	0.2	0.2	0.4
Others	0.3	0.6	0.2	0.1	0.1	0.2

Source: 2017 International Visitor Survey by Ministry of Culture, Sports and Tourism in Korea

Appendix B. Hotel Bigdata Brand Reputation Index in Korea: 2016

Hotel	Participation Index	Communication Index	Community Index	Social Index	Brand Reputation Index
Lotte	73,620	818,532	110,542	358,776	1,361,470
Shilla	126,947	469,260	69,508	164,773	830,488
Westin Chosun	21,756	318,879	44,644	18,645	403,924
Marriott	14,189	295,119	14,748	52,871	376,927
Hilton	23,770	301,950	28,102	11,321	365,143
Hyatt	19,726	222,057	26,111	87,979	355,873
Grand Walkerhill	35,826	126,126	13,339	75,732	251,023
Inter-continental	13,081	126,225	9,208	22,620	171,134
Renaissance	16,535	49,995	8,354	-	74,884
Ambassador	3,344	44,847	5,151	14,459	67,801

Source: www.datanews.co.kr, Big Data Analysis of Brand Reputation by Institute of Korea Company Reputation

Appendix C. Korea Five-stars Hotel Reputation Index by Region: 2015

City	Brand	Service	Room & Facility	Overall value	Rate
Seoul	Hotel Shilla Seoul	4.3977	4.2589	4.2962	4.3176
Busan	Park Hyatt Busan	4.0967	4.1957	4.2229	4.1717
Jeju	Hotel Shilla Jeju	4.2159	4.2039	4.0162	4.1453
Incheon	Grand Hyatt Incheon	3.9583	3.8543	3.7326	3.8484
Gangwon	Gangwon land	3.7505	3.6023	3.7189	3.6905
Gyeong-bu k	Hilton Gyeongju	3.5000	3.4286	3.5833	3.5040
Ulsan	Lotte Hotel Ulsan	3.6168	3.5074	3.2884	3.4709
Daegu	Novotel Ambassador Daegu	3.4349	3.4426	3.4015	3.4263
Jeon-nam	Hotel Hyundai	3.4911	3.3710	3.2532	3.3718

Source: www.hotelrestaurant.co.kr, Korea Five-stars hotel reputation index by Hotel & restaurant

Appendix D. The results of ANOVA analyses

		Sum of Squares	df	Mean Square	F	Sig.
Visual	Between Groups	50.233	19	2.644	1.348	.148
	Within Groups	925.759	472	1.961		
	Total	975.992	491			
Acoustic	Between Groups	84.137	14	6.010	3.214	.000
	Within Groups	891.854	477	1.870		
	Total	975.992	491			
Haptic	Between Groups	36.557	12	3.046	1.553	.102
	Within Groups	939.435	479	1.961		
	Total	975.992	491			
Olfactory	Between Groups	36.482	14	2.606	1.323	.189
	Within Groups	939.510	477	1.970		
	Total	975.992	491			
Gustatory	Between Groups	113.216	15	7.548	4.164	.000
	Within Groups	862.775	476	1.813		
	Total	975.992	491			
Emotion	Between Groups	27.197	17	1.600	.799	.695
	Within Groups	948.795	474	2.002		
	Total	975.992	491			
Memory	Between Groups	39.428	17	2.319	1.174	.282
	Within Groups	936.564	474	1.976		
	Total	975.992	491			
Self-Enhancing WOM	Between Groups	21.568	15	1.438	.717	.768
	Within Groups	954.424	476	2.005		
	Total	975.992	491			
Tolerance to Failure	Between Groups	19.686	15	1.312	.653	.830
	Within Groups	956.306	476	2.009		
	Total	975.992	491			

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# Questionnaire

Questionnaire code : ( \_\_\_\_\_ )

This research is conducted by the Pukyong National University. It aims to understand how to develop and manage a profitable hotel environment that can promote your positive multisensory experience and post-purchase behavior after staying the luxury hotel.

Data collected as part of this research will remain confidential, as only aggregate results will be reported in any subsequent papers or publications. If you have any concerns or questions regarding to the research, please do not hesitate to contact the researcher at okson334@daum.net. It takes about 10minutes to complete the questionnaire. Your cooperation is highly appreciated.

## Part I. General Information

1. What are the brand and region of luxury hotel you stayed in a year recently in Korea?

(brand: \_\_\_\_\_ , region: \_\_\_\_\_ )

2. What is your purpose for the hotel?

① business    ② leisure    ③ other( \_\_\_\_\_ )

3. How many times did you visit to the hotel that you mentioned above?

① 1 time                      ② 2 times( total \_\_\_\_\_ times)

## Part II. Multisensory Experience

The following items are about your five senses (visual, acoustic, haptic, olfactory, gustatory) experiences that you have experienced at the hotel you answered above.

Please indicate your level of agreement with each of these statements

by ticking (✓) one appropriate number, where 1=strongly disagree, and 7=strongly agree.

Statements	Strongly disagree			Strongly agree			
<b>1. Visual</b>							
The appearance of luxury hotel is very attractive.	①	②	③	④	⑤	⑥	⑦
Luxury hotel is very nice to look at.	①	②	③	④	⑤	⑥	⑦
Luxury hotel has an appealing style.	①	②	③	④	⑤	⑥	⑦
Luxury hotel has a premium design.	①	②	③	④	⑤	⑥	⑦
<b>2. Acoustic</b>							
The music in luxury hotel is very nice to listen to.	①	②	③	④	⑤	⑥	⑦
The sound scape in luxury hotel is very pleasant.	①	②	③	④	⑤	⑥	⑦
The sounds in luxury hotel is wonderful.	①	②	③	④	⑤	⑥	⑦
<b>3. Haptic</b>							
The spa area in luxury hotel is very cozy.	①	②	③	④	⑤	⑥	⑦
The furnishings in luxury hotel are nice to touch.	①	②	③	④	⑤	⑥	⑦
Luxury hotel offers a cushy comfort.	①	②	③	④	⑤	⑥	⑦
<b>4. Olfactory</b>							
The scent in luxury hotel is very pleasant.	①	②	③	④	⑤	⑥	⑦
The odor in luxury hotel is delightful.	①	②	③	④	⑤	⑥	⑦
The aroma in luxury hotel is very enchanting.	①	②	③	④	⑤	⑥	⑦
<b>5. Gustatory</b>							
The meals in luxury hotel are a real culinary delight.	①	②	③	④	⑤	⑥	⑦
The meals in luxury hotel are a real pleasure.	①	②	③	④	⑤	⑥	⑦
The food in luxury hotel is very delicious.	①	②	③	④	⑤	⑥	⑦

### Part III. Hotel customers' Emotion & Memory

The following items are about your emotion response and positive memory that you have experienced at the hotel you answered above. Please indicate your level of agreement with each of these statements by ticking (✓) one appropriate number, where 1=strongly disagree and 7=strongly agree.

Statements	Strongly disagree			Strongly agree			
<b>1. Emotion</b>							
Visiting this hotel is pleasure.	①	②	③	④	⑤	⑥	⑦
Visiting this hotel induces positive feelings.	①	②	③	④	⑤	⑥	⑦
I enjoy staying this hotel for its own sake.	①	②	③	④	⑤	⑥	⑦
<b>2. Memory</b>							
I have wonderful memories about hotel.	①	②	③	④	⑤	⑥	⑦
I won't forget my experience at the hotel	①	②	③	④	⑤	⑥	⑦
I like going back and re-experiencing the hotel in my mind.	①	②	③	④	⑤	⑥	⑦

### Part IV. Subsequent Behavior after Staying Hotel

The following items are about your behavior after using the hotel that you have experienced at the hotel you answered above. Please indicate your level of agreement with each of these statements by ticking (✓) one appropriate number, where 1=strongly disagree and 7=strongly agree.

Statements	Strongly disagree			Strongly agree			
1. Talking about this experience with others:							
Boosts my self-esteem.	①	②	③	④	⑤	⑥	⑦
Makes me feel like the center of attention.	①	②	③	④	⑤	⑥	⑦
Makes me feel like I stand out.	①	②	③	④	⑤	⑥	⑦

2. Based on my current experience, if a service failure did occur in the future I would be more:							
Likely to overlook a mistake.	①	②	③	④	⑤	⑥	⑦
Willing to excuse a mistake.	①	②	③	④	⑤	⑥	⑦
Forgiving for a exception.	①	②	③	④	⑤	⑥	⑦

**Part V. Personal Profile**

Please tick (✓) as appropriate or write an answer to the following questions.

1. What is your gender? ① Male ② Female

2. What is your age?

- ① 20s                      ② 30s                      ③ 40s                      ④ 50s                      ⑤ 60s

3. What is your educational level?

- ① Middle school                      ② High school                      ③ Undergraduate  
 ④ Post graduates                      ⑤ Others

4. What is your income monthly?

- ① <100Million                      ② 100-200Million                      ③ 200-300Million  
 ④ 300-400Million                      ⑤ 400-500Million                      ⑥ 500Million<

**Thank you very much for your cooperation.**