Retail In-store Design and Sensory Cues
Master Thesis in Business Administration

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Abstract

Background Female consumers are powerful purchasers; sensory marketing is regarded as an effective marketing strategy to reach female consumer group. The sensory cues in the cosmetic retail environment can be considered as: layout and lighting effect, the ambient scents diffused, the music playing, and the opportunity to test the cosmetic products.

Purpose The purpose of this study aims to investigate what sensory cues in a cosmetic shop have a better capacity to trigger female consumer’s positive emotion, as well as to identify the impact level of these sensory stimuli on female’s purchase intention in the cosmetic retail environment.

Method With the support of the proposed hypotheses and conceptual model from the theoretical framework, a quantitative research was conducted. A total of 188 responses was collected from online questionnaire. The target sampling population of the questionnaire was determined by using a judgmental convenience sampling.

Conclusion The research demonstrated that both olfactory cues and tactile cues enable to trigger female’s consumer positive emotion in a cosmetic store. Furthermore, visual stimuli have the most positive influence on female consumer’s purchase intention in a cosmetic retail store.
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Yuyu Wang and Jingjing Wu
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1. Introduction

The following part is going to give a general introduction of this thesis. To be more specific, it consists of research background, research purpose, research question, contribution, delimitation, limitation and related keywords that used in the whole thesis.

1.1 Background

In the contemporary context of experience economy, the majority of retailers and manufacturers have acknowledged that it is far from enough to satisfy individual consumers or enterprises through providing them with products and service (Carù & Cova, 2003). A major trend that favoured by dozens of customers is that they expect to enjoy a more individualized consumption experience but against the almost same and unified retail design when entering a store (Dowdy, 2008). Hence, under the context of high homogenization of products, empathizing on the interior design can be an appropriate strategy for the retail store to enhance discrimination from a variety of competitors (Castro & Navarro, 2003).

As competition for store-based business has become increasingly strong, in terms of price, convenience, time savings and trading efficiency, it is necessary for retailers to explore and create a new and comprehensive point of competitive predominance and transaction philosophy (Ogden-Barnes & Barclay, 2011). In retail practice, when individual enters a retail store, the whole process can be considered as a sensory experience, including vision, sound, touch, smell and taste, which will affect his or her purchase intention, and the subjective feeling and experience might contribute to make a final purchasing decision (Krishna, 2012). Research also indicates that creating a favourable atmosphere by using the sensory attributes would contribute to enhance the store differentiation (Sakamoto et al., 2017; Chrysi, 2013). Hence, it seems to be an opportunity for majority of retailers to connect with consumers’ five senses. In fact, it is approved by a number of retailers that sensory engagement has played a significant part in reinvigorating the store experience (Ogden-Barnes & Barclay, 2011). For example, Singapore Airlines has developed Stephen Florian perfume for stewardess and nacelle, and the company has made this patent for perfume to ensure that customers have a unique sense of smell on their brand (Linstrom, 2010).

It is acknowledged that consumers are the main determinants of success or failure in the contemporary retail stores (Fiore & Kim, 2007), especially for female consumers. As Huddleston and Minahan (2011, p.5) claimed: “women call the shots in the vast majority of consumer decisions.” Female consumers are mainly hedonic shoppers as they are in the pursuit of an emotionally pleasant shopping experience, in spite of purchase or not (Kim, 2006; Mpinganjira, 2014). In fact, a female consumer's desire to enjoy unique shopping experience could be satisfied through creating an enjoyable and positive store atmospherics, since it is
considered to affect consumer's perception, force positive thinking and encourage consumers to try new products (Puccinelli et al, 2009; Wanger, 2002). Therefore, through attracting female consumer's senses, emotions and values, guiding the retail design of the store and creating an unforgettable customer experience seem to be effective measures for distinguishing between oneself and its competitors in current retail stores (Petermans & Van Cleempoel, 2009). Considering that the retail environment enables to influence customer sentiment and further exert an impact on consumer response, understanding the actual consumer’ in-store performance is necessary for retail studies (Donovan & Rossiter, 1982; Fiore & Kim, 2007). On the other hand, researches could also pay attention to the mediating role of sentiment on consumer response. Namely, in order to figure out female consumers’ understanding of the retail in-store environment, retail investigators should emphasize on identifying how consumers interpret an actual retail environment and which sentiments they experience under this certain environment. (Petermans & Van Cleempoel, 2010)

Hence, there is a pathway for designing more effective, efficient and practical retail interiors, which is to pay attention to the tangible and sensory perspectives of customer engagement (Houliez, 2010). The introduction of sensory effects in retail store generally means “shopping arousal”, which can be considered as an activating factor during the process of purchase decision. However, it exists challenges when applying these sensory cues, and it requires to understand and adopt the suitable tactics so that the sensory cues enable exert maximum impact (Ogden-Barnes & Barclay, 2011). In a word, retailers must re-examine the theories and practices of in-store consumer participation and learn more about how their physical store environments are used to achieve the best results to increase female customers’ purchase intention and ensure customer satisfaction.

1.2 Research purpose

The purpose of this study aims to investigate what sensory cues in a cosmetic shop have a better capacity to trigger female consumer’s positive emotion, as well as to identify the impact level of these sensory stimuli on female’s purchase intention in the cosmetic retail environment. In order to achieve the research purposes, the following research objectives will be set:

The most important is to assess the impact level of each sensory component on female customers’ purchase intention. In addition, to recommend the sensory strategy that would be suitable for increasing female customers’ purchase intention.
1.3 Research question

Based on the research purpose mentioned before, the main objective of this thesis is to answer the research questions:

RQ1. *What sensory cues can trigger female consumer’s positive emotion in a cosmetic store?*

This research question aims to identify which sensory cues have a better capacity of triggering female’s positive emotion. To answer this research question, four hypotheses were proposed. A questionnaire will be constructed to provide results for answering this question. Besides, a statistical analysis technique, SEM (structural equation modeling), will be used to identify the relationship between the sensory cues and positive emotion. The higher magnitude of path coefficient, the better performance of this sensory cue.

SEM enables to present clear relationships among different and numerous variables by using a graphical figure (Suhr, 2006). By comparison with traditional statistical method, SEM seems to have a distinct superiority in the aspect of avoiding measurement errors; besides, a key benefit of SEM is that it enables to evaluate all of the hypothesized relationships and measure the influence of latent variables (Byrne, 2001; Suhr, 2006).

RQ2. *Which sensory stimuli has the most impact on female customers’ purchase intention in the cosmetic retail environment?*

To answer this research question, another four hypotheses were proposed. It is assumed that visual stimuli, olfactory stimuli, tactile stimuli and auditory stimuli all enable to exert a positive influence on female consumers’ purchase intention in a cosmetic retail store. Then SEM will also be used to compare the magnitude of each path coefficient and finally decide the effect size of each sensory stimulus on female’s purchase intention. The highest magnitude of path coefficient indicates this sensory stimulus have the most positive effect on female consumer’s purchase intention.

1.4 Contribution

A number of previous researches have contributed to the topic of using sensory marketing as a strategy have a positive impact on purchase intention (Krishna, 2012; Grębosz & Wronska, 2013). However, till authors’ knowledge very few research has addressed female consumers as an important variable in terms of sensory marketing, especially in the cosmetic retail industry. Huddleston (2017, p.10) has claimed that “female consumers are powerful purchasers yet there is no substantive body of theory on how to target them effectively”. In general, when it comes to cosmetics, people seem to associate them with female groups, and
the fact is that many cosmetic enterprises also regard young female consumers as their main target groups (Kumar et al., 2006). Hence, it is supposed that marketers could consider to apply different strategies according to different gender. Therefore, this thesis will provide guidelines to cosmetic retailers who mainly has female customers as target group.

The result from this thesis would help marketers to figure out how to efficiently use in-store design to attract female consumers and to heighten female consumers’ sensory stimulation. Moreover, findings will give credibility to the field and allow marketers to find a strategy to differentiate from competitors.

1.5 Delimitation

For better comprehensibility of this thesis, there are several points needs to be figured out. Firstly, since there are many types of retailers, according to Baines, Fill & Page (2008), who have classified retailers into six types, including department stores, discount stores, limited line retailers, category killer stores, supermarket, convenience store, however, we only emphasize on research of limited line retailers. For this type of retailer, it is characterized by offering a narrow but deep product classification and consumer service that distinguish from other stores (Baines et al., 2008). Clothing retailers, furniture stores and cosmetic stores that specialize in small amount but relevant product types could be regarded as examples.

Secondly, the research only investigates the four senses: visual sense, auditory sense, olfactory sense and tactile sense, while ignoring the taste sense. Since in this case, unlike the restaurant industry, there leaves a little room for enterprises in the cosmetic industry to adopt gustative marketing strategies. Therefore, the taste sense will not be considered and the other four senses are considered to exert more impact on the target market.

1.6 Limitation of the study

This research is limited in several ways which directly lead to further research implications:

First of all, due to the time constraints, the number of collected questionnaire is limited. Extended time could have allowed to collect a bigger amount of answers. As a result, it would be advisory to collect more answers in the future so that to collect a bigger sample of data.

Secondly, this thesis only surveyed female customers about cosmetic shop, the result may not be able to apply to other type of shops. It is advisory for conduct more researches in different areas according to different genders. According to Liang, Chen, Duan and Ni (2013), sensory marketing will be the mainstream
of future market. How to efficiently use sensory marketing to stimulate purchase and to achieve better result will become the topics for future studies.

1.7 Key words

Sensory marketing: marketing that engages the consumers' senses and affects their perception, judgment and behaviour (Krishna, 2012)

Purchase intention: It is a purchase probability, associated with an intention at the percentage of individuals that will actually buy the product (Whitlar, Geurts, and Swenson, 1993)

Sensory cue: a sense stimulus that evokes a response or a behaviour pattern (Pam, n.d.).

Retailing: is all the activities that directly relevant with the sales of goods and the end customer for private use and non-business use (Baines et al., 2008).

Atmosphere: “the design of the of retail chain outlet that produces specific emotional effects on the buyer that enhances his purchasing probability” (Kotler, 1973, p.74)

Positive emotion: primarily include arousing, exciting, pleasant and relaxing in this case (Russell & Pratt, 1980)

Cosmetic industry: a profitable fast moving but high competitive industry, which mainly sells skin care products, make-up and perfume, etc. (Larsen & Tambo, 2014).

SEM: structural equation modelling
2. **Frame of reference**

*This chapter presents a review of existing literature, concepts and theories on sensory marketing and relevant concept, for example, consumer behaviour, retail atmospherics. The frame of reference will provide a foundation for the whole research.*

2.1 **Sensory marketing**

With the ongoing globalization trend, the competition among brands has become fierce and harsh, brands have to develop new marketing strategies to combat competition. Considering the huge amount of advertisement messages that consumers receive every day, marketers noticed that unconscious triggers that are attracted to the basic senses might be a more efficient way to marketing products (Krishna, 2012). Thus, in order to stand out, the concept of sensory marketing has been introduced. The emergence of sensory marketing also illustrates the transition from a traditional marketing approach which emphasizes on the vision of need recognition, information search, evaluation of alternatives and product’s attributes to a new marketing approach that emphasizes on the vision of creating the experiences, senses as emotional fraction of humans (Rajput & Dhillon, 2013).

Numerous researchers (Krishna, 2012; Lindstrom, 2005; Hultén, 2011) have developed theories on sensory marketing. Krishna (2012, p.332) defined sensory marketing as “marketing that engages the consumers’ senses and affects their perception, judgment and behaviour”. Krishna (2012) also claims that sensory marketing can be used to create subconscious triggers that define consumer perceptions of abstract notion of the product. The following figure 1 shows Krishna (2012) conceptual framework of sensory strategy, which suggests sensory marketing is an application of the understanding of sensation and perception to the field of marketing. The process contains all the sensation elements which creates perception. Further, the perception creates emotion and cognition which then define consumer’s attitude, learning and memory, and behaviour. By using sensory marketing strategy based on this model, marketers are supposed to differentiate their products in a highly individualized manner so as to exert an influence on consumer behaviour (Krishna, 2012).
As previous literature reveals, the five human senses are of importance for the individual’s experience of different purchase and consumption processes (Agapito, Valle, & Mendes, 2012). Hultén (2011) suggests the main purpose of sensory marketing strategy is to facilitate the multi-sensory brand-experience expressed through means as sensors, sensations, and sensory expressions in relation to the five human senses.

As can be seen from the following figure 2, sensors aim at communicating sensations and sensory expressions that reinforce the multi-sensory brand experience for the customer, which can also be defined as communicative means (Hultén, 2011). A sensation is defined as an emotion or feeling that deliberately links the human mind and the senses (Hultén, 2011). The reason for a store to deliver a sensation is to be observed by its customers. This is important since the human senses continually notice every small change in the environment, and it links to memories (Lindstrom, 2005). Sensation helps to attract customer’s attention in a crowded, global marketplace. A sensory expression is defined as an experience trigger that clarifies a brand’s identity and values and it helps to create a deep memory in customers’ mind (Hultén, 2011). To sum up, all the sensations that a customer received will transform a normal shopping to an experience, which brings stores a chance to be differentiated.
As mentioned the five senses have great influence on the individual’s experience of different purchase and consumption. However, the majority of brands merely focus on two senses: sound and sight (Kotler, Keller, Brady, Goodman & Hansen, 2016). As suggested by Lindstrom (2005) that all brands should try to build sense as much as possible into the brand appeal. Managing the sensory experience makes good sense relating to brand image creation and management (Kotler et al., 2016). Thus, retailers have to understand the importance of sensory marketing and efficiently using these sensory stimuli to affect customers.

Sensory marketing aims to create an atmosphere that encourages customers to consume more (Joshi, 2015). In order to provide insights to marketer how to efficiently using sensory marketing strategy, in the following chapter, the five sensory dimension will be explained in details.

### 2.1.1 Tactile dimension

Touching is an especially important sense at the stage of product assessment and store perception (Anıl & Merve, 2015). Customers have different motivation and preferences to touch the products or experience the touch in the service environment (Kolter et al, 2016). According to Krishna (2010), there are four types of touch can be observed. The first three types of touch assume a consumer is engaged in goal-directed, problem solving pre-purchase behaviour, which can also be called instrumental touch. At the simplest level, consumers may touch the product only to make a purchase. At the next level, consumers may touch a product to obtain non-haptic product information, for example touch to visually inspect the product, to smell the product, etc. Finally, consumers may touch a product in order to obtain haptic product information, for example texture, hardness, weight or the temperate of the product. And the fourth type is called hedonic.

<table>
<thead>
<tr>
<th>Sensors</th>
<th>Sensations</th>
<th>Sensory expressions</th>
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<tbody>
<tr>
<td>Smell sensors</td>
<td>Atmospheric</td>
<td>Product congruence, intensity and sex atmosphere, advertency and theme scent brand and signature scent</td>
</tr>
<tr>
<td>Sound sensors</td>
<td>Auditory</td>
<td>Jingle, voice and music atmosphere, attractiveness and theme, signature sound and sound brand,</td>
</tr>
<tr>
<td>Sight sensors</td>
<td>Visual</td>
<td>Design, packaging and style</td>
</tr>
<tr>
<td>Taste sensors</td>
<td>Gastronomic</td>
<td>Interplay, symbiosis and synergies name, presentation and environment knowledge, lifestyle and delight</td>
</tr>
<tr>
<td>Touch sensors</td>
<td>Tactile</td>
<td>Material and surface</td>
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<td>Temperature and weight form and steadiness</td>
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*Figure 2 Five sensory senses (Hultén, 2009)*
touch. The goal of this touch is to generally explore the product and to have fun. Hedonic touch may or may not ultimately result in product purchase.

Unlike other senses, the touch sense is an intimate sense which requires the contact with skin, and it is the most useful when individuals physically touch an object (Hultén, Broweus & Van, 2009). It has been proved that offering ample opportunities for customers to touch or test the products can lead to increased sales (Kolter et al, 2016). When customers touch an object, they create image in minds and touch can trigger connection with product quality (Kolter et al, 2016). Touching an object enables customers to relive memories by feeling the texture, whether it is soft or hard, warm or cold (Hultén, Broweus & Van, 2009). Sometimes, touching the product is supposed to trigger an emotional response from the consumer which might increase the chance of impulsive buying and unplanned purchase (Kolter et al, 2016). Therefore, consciously using texture in sensory marketing can increase the perceived value of a brand for customers (Hultén, Broweus & Van, 2009). Thereby, tactile marketing gives a deeper meaning.

2.1.2 Olfactory dimension

The sense of smell is the only sense that people can not turn off and 75% of human’s emotions are triggered by this sense (Lindstöm, 2005). According to Hultén et al (2009), different sense expressions that can be used to create a smell experience. First is the product congruence, intensity and sex. Product congruence refers to the degree of the odour is congruent of the retail product or the retail environment. For example, if the main colour tone in the shop is yellow, it smells like orange not grape. Intensity is whether a scent is distinct or subtle. Furthermore, sex means a scent can be feminine or masculine. Secondly, scents can be used to create for a certain atmosphere, theme or advertency. Last but not least, a scent can be used as a signature scent or to create a scent brand. Both of them are used to differentiate the brand in the marketplace. For example, Victoria's Secret is a great example for using fragrance as a signature scent in their stores (Goldkuhl & Styvén, 2007).

The sense of smell has been used as a marketing strategy by many marketers to gain consumers’ attention nowadays. This strategy is not only applied by marketers but also studied by academics (Hultén et al, 2009; Bradford & Desrochers, 2009). These academic experts try to figure out the extent of effectiveness of the sense of smell in marketing. According to the conclusion, using scents congruent strategy would lead to a positive outcome for instance strengthening brand image and resulting in additional revenues (Hultén et al, 2009, Herrmann, Zidansek, Sprott, & Spangenberg, 2012).
2.1.3 Auditory dimension

Sound has been applied in mass marketing for a long time, almost all the commercials has to include sound element to convey the message clearly. Many researches indicate that sound has been using as a tool to communicate with customers, or to arousing customers’ subconscious (Meyers-Levy, Bublitz & Peracchio, 2009). For example, from the jingle of a brand commercial to the familiar alert tone that you hear when using your Apple phone, marketers successfully managed in shaping customers’ thoughts, judgments and behaviours by using variety of sounds (Meyers-Levy, Bublitz & Peracchio, 2009).

To create a sound experience, using music is a relatively common way by marketers. According to Yorkston (2010), the influence of music on customers can be studied by mainly following aspects: music tempo, music type and music volume. The music tempo is often correlated with the shopping pace. It was proven slower music keeps consumers stay more in the shop with greater consumption compared with fast music (Milliman, 1982). On the other hand, fast music helps to heightened arousal and increase positive attitudes (Milliman, 1982). The type of music also influences customer behaviour, not only on pace and time perception but also affects product choice. In order to play the suitable music, the type of music should be chosen according to the target demographics’ particular taste (Yorkston, 2010). The volume of music also affect the amount of time spent in a shop. It has been found that customers stay less time in a shop when the music was loud compared with music was soft (Yorkston, 2010).

2.1.4 Visual dimension

It is known that visual stimuli have a strong influence on humans compared with other sense stimuli, about 90% of information transmitted to human brain is visual (Ciprian Pavel, n.d.). Sight helps human perceive different characteristics of an object, notice the changes in environment, many people trust their visual sense completely (Hultén et al., 2009). This might be the reason that vision becomes the most commonly used sense in marketing (Krishna, Cian& Sokolova, 2016).

The usage of visual stimuli in retail store is usually connected to how customers see the service, the environment and particularly the interior design (Kotler, Keller, Brady, Goodman & Hansen, 2016). For example, the wall in the store is painted in plain white, the floor is earth tone and the lighting is bright glaring light. There is one thing to bear in mind when designing a visual experience, the visualization of a store’s sense expressions should clarify a store’s or a brand’s identity in order to create brand awareness and
brand image. Since most of customers’ decisions in daily life are based on sight impression (Hultén et al., 2009).

2.1.5 Taste dimension

Lindström (2010) affirms that taste is detected by special structures: taste buds. Human’s tongue is equipped with numerous taste buds and each bud has 50 to 100 taste cells. These cell convey the information to the brain whenever people are eating food and this process form the basic sense of taste (Krishna & Elder, 2010).

It is believed individuals perceive differently on the taste, not only male and female have a different sensitive levels towards the taste but also with people get old, their taste gradually changes as well (Mojet, Christ-Hazelhof & Heidema, 2001). As a result, the sense of taste is considerably more complex compared with other senses.

To sum up, Krishna (2012, p.2) defines sensory marketing as “marketing that engages the consumers’ senses and affects their behaviours”. The five sensory dimensions do have an effect on the establishment of a sensory experience. The personal sensory experience might enable the individual to develop behavioural, emotional values toward the services or the products offered (Nasermoadeli, Ling & Maghnati, 2013). Although the positive impacts that sensory marketing has, the managerial decision about applying sensory marketing to the retail environment should be made with caution. Therefore, before applying sensory marketing, the knowledge of retail environment should be studied first in order to achieve a better result.

2.2 Retail environment

Kotler (1973, p.74) has defined the atmosphere as “the design of the of retail chain outlet that produces specific emotional effects on the buyer that enhances his purchasing probability”. Kotler (1973) also pointed that the atmosphere of an area seems to increasingly occupy a dominant position than the product itself, and emphasized that the atmosphere of a place could be considered as the prime product. In practical retail environment, customers generally not only react to the tangible products or service that provided by the store, but also pay attention the overall retail store environment (Kotler, 1973). Previous researchers (Donovan & Rositer, 1982; Foxall, 1997; Levy & Weitz, 2012) have pointed that the atmosphere of a store enables to exert an unseen but significant impact on customers’ in-store behaviour. As mentioned above, consumers’ in-store behaviour can also be affected by shoppers’ general perception of the retail environment (Mehrabian & Russell, 1974; Russell et al., 2016). To be more specific, the store environmental factors, including the layout, colour, lighting, music and scent, can exert an impact on consumers’ subjective
feelings that experienced in the store, and subsequently affect their purchase intention, perceived quality, sum of consumption, satisfaction (Olahut et al., 2012; Babin & Attaway, 2000).

Furthermore, Kotler (1973) claimed that store atmosphere could be regarded as an important marketing tool in the industry that has small distinction. Product and price are the most important and discriminative criteria from competitors in the past, however, many retailers have noticed that creating a differentiation advantage has become progressively more difficult through just relying on the application of marketing mix: product, price, promotion and place (Baker et al., 1992; Gou-Fong Liaw, 2007). Besides, McDonald, Rogers and Woodburn (2000) have stated that nowadays consumers are becoming more experienced, more complex and better informed. A major trend that favoured by dozens of customers is that they expect to enjoy a more individualized consumption experience but against the almost same and unified retail design when entering a store (Dowdy, 2008). Hence, under the context of high homogenization of products, empathizing on the interior design can be an appropriate strategy for the retail store to enhance discrimination from a variety of competitors (Castro & Navarro, 2003). In fact, consumer's desire to enjoy unique shopping experience could be satisfied through creating a good and positive store atmospherics, since it is considered to impact consumer's perception, force positive thinking and encourage consumers to try new products (Puccinelli et al, 2009; Wanger, 2002).

It is a fact that cosmetics have existed for a long time, approximately. There are a variety of products types concerning cosmetics, such as make-up, perfume, skin-care, and hair-care, while the general purpose of cosmetics is to beautify oneself (Kumar et al., 2006). Cosmetic industry, nowadays, is regarded as a profitable fast moving but high competitive industry (US Commercial Service, 2015). The statistics have indicated that the global annual consumption on cosmetics have reached $18 billion dollars, additionally, numerous investors in this field scramble to enhance their market shares (Khraim, 2011). Therefore, an innovative marketing strategy is in urgent need in order to survive in the intensely competitive market (Larsen & Tambo, 2014). An appropriate store design is considered as a critical asset for certain brands (Foscht et al., 2014). Research has suggested that sensory marketing plays a prominent part during consumer’s purchase experience in fashion stores (Foscht et al., 2014). Therefore, creating a favorable atmosphere would contribute to enhance the store differentiation, especially in the highly competitive cosmetic industry (Sakamoto et al., 2017; Chrysi, 2013).

To sum up, considering that the atmosphere of a retail store could influence consumers’ emotional and cognitive status (Castro & Navarro, 2003). Therefore, the design of in-store environment should take consumers’ expectations into consideration, especially the target consumers’ requirements (Countryman & Jang, 2006). Therefore, the following part will investigate the consumer characteristics specifically in the retail environment.
2.3 Consumer behaviour

As Krishna (2012, p.2) defines sensory marketing as “marketing that engages the consumers’ senses and affects their behaviours”. The five sensory dimensions do have an effect on the establishment of a sensory experience. The personal sensory experience might enable the individual to develop behavioural, emotional values toward the services or the products offered (Nasermoadeli, Ling & Maghnati, 2013). Although the positive impacts that sensory marketing has, the managerial decision about applying sensory marketing to the retail environment should be made with caution. Therefore, before applying sensory marketing, the consumer behaviour should be studied first in order to better understand customers.

2.3.1 Mehrabian-Russell Model

An environmental psychology model presented by Mehrabian and Russell Model (1974) is applied to this thesis. This model is commonly used in retailing environment (Mehrabian & Russell, 1974). This model assumed that environmental stimuli influences consumer’s mood state On the other hand, mood state exerts influence on consumer’s response, for example on approach or avoidance behaviour. The application of this model enables the study of environmental changes impact on emotions and consumer behaviour (Ryu & Jang, 2008).

The M-R model is based on the Stimulus-Organism-Response (S-O-R) paradigm. The S-O-R paradigm explains the environment (S) impact on approach - avoidance behaviours (R), mediated by the individual’s emotional states (O). The Mehrabian - Russell model is commonly used concerning the study of store atmosphere (Donovan, Rossiter, Marcoolyn & Nesdale, 1994). As the figure 3 illustrated, the model contains three elements, which are environmental stimuli, emotional states and behaviour. The environmental stimuli include stimuli from the store, for instance images, sounds, smell, etc (Sullivan & Adcock, 2002). The basic premise of this model is that a shopper’s mood states are created by the shopping environment, and the behaviour can be affected by the mood states (Sullivan & Adcock, 2002).

As figure 3 illustrated, there are two levels of responses can be observed. The first level of response is the development of a mood state. In this model, a consumer’s mood state is described by two variables, which are pleasure and arousal. Pleasure is used to describe as the extent to which a consumer feels good in the store (Sullivan & Adcock, 2002). Whereas, arousal can be described as the extent to which a consumer feels stimulated or excited (Sullivan & Adcock, 2002). The second level of response is behaviour based on consumer’s mood state. This behaviour can be categorized into approach behaviour and avoidance behaviour.

In this thesis, authors developed the conceptual model based on the Mehrabian-Russell Model. Since the first component of this thesis environmental stimuli has been discussed already, in the following chapter will introduce the second component, the mood.
2.3.2 The impact of mood

According to Yang and He (2011), the emotional experience can generate great impact on shopping experience. Hill and Gardner (1987) have shown that mood states have an important influence on behaviour as well. It has been proved that customers who are experiencing negative emotional responses have higher possibilities to result in avoidance behaviour, for example switching brand (Nasermoadeli, Ling & Maghnati, 2013). On the other hand, emotionally bonded customers tend to have an approach behaviour (Nasermoadeli, Ling, & Maghnati, 2013).

There are two dimensions to determine if a shopper would have a positively or negatively reaction to a store environment: pleasure and arousal (Russell & Pratt, 1980). In fact, the matrix that combines by the dimension of pleasure and the dimension of arousal, which could sufficiently represent huge ranges of human’s emotional response to environmental stimuli (Kang, Boger, Back & Madera, 2011). Different levels of pleasure and arousal combines together leads to a variety of emotional states. As can be seen from figure 4, there are a total of eight types of emotional states, including arousing, exciting, pleasant, relaxing, sleepy, gloomy, unpleasant and distressing (Russell & Pratt, 1980; Solomon et al., 2013). Different levels of pleasure and arousal combines together that subsequently leads to various emotional states. For instance, an individual is in an arousing situation, he or she would be supposed to feel either distressing or exciting, however, the specific emotional state is determined by whether he or she is unpleasant or pleasant. (Russell & Pratt, 1980; Solomon et al., 2013).
Generally, a consumer’s emotional state is supposed to be influenced by a variety of variables when entering a retail store (Solomon et al., 2013). A number of researches have claimed that the sensory attributes of the product itself enables to exert a more influential effect than extrinsic product cues on people’s emotional reactions, including aspiration, satisfaction, and enthusiasm (Hinton & Henley, 1993; Ng et al., 2013). For example, the research has indicated that human’s sensory inputs, such as visual experience, olfactory experience, auditory experience and tactile experience, all enable to affect people’s emotional and cognitive responses (Augustin, 2009). In short, the individual’s emotions enable to be influenced by the sensory stimuli (Chen et al., 2009; Shu & Peck, 2011; Ng et al., 2013). In order to have a deep understanding, the following part will discuss specifically how visual cues, olfactory cues, tactile cues and auditory cues impact on mood.

**The effect of visual experience on mood**

A number of previous researches (Donovan & Rossiter, 1982; Babin & Darden, 1995; Sherman et al, 1997; Brengman & Geuens, 2003) have claimed that the visual cues as one of atmospheric elements, have a potential to affect human’s mood in the retail environment. Nowadays, the visual cues, such as color, layout and lighting effect are widely used in various retail stores for inspiring consumers and increasing brand differentiation. For example, in terms of the lighting effects, as stated by Mehrabian (1976, p.89), “brightly lit rooms are more arousing than dimly lit ones”. It was claimed that the brightness enabled to exert a strong influence on the degree of people’s stimulation and arousal (Areni & Kim, 1994; Miwa & Hanyu, 2006). As for the color in the interior retail environment, blue and green are generally considered to be the most...
arousal in the retail environment (Dijksterhuis et al., 2005). Besides, blue and green interiors are claimed to have better performance than warm interiors in a store (Crowley, 1993). Human’s positive mood, such as hedonism and pleasure, can also be triggered by a well-designed layout in a retail store (Wakefield & Blodgett, 1994; Mirabi & Samiey, 2015). In a word, it is suggested for retailers to consider the appropriate use of visual cues in order to trigger positive mood from consumers in the retail store.

- **The effect of olfactory experience on mood**

The perception of scent includes more than the sensation of the scent itself, but also include the personal experience and mood linked with the sensations (Social Issues Research Centre, n.d). Different people has different scent preference and scents enable to trigger a strong emotional reaction and exert a powerful influence on individual memory (Lindström, 2005). Besides, the ambient scent is more likely to create a positive emotional state (Kotler, 1973; Dani & Vanishree, 2013). However, it seems that there is merely positive relevance and pleasant memory that triggered by scents (Mercola, 2015). A scent can lead to a mixed result, either trigger a positive mood or negative mood, but it all depend on the receivers themselves since the emotional reaction may vary from person (Dani & Panalkar, 2013). In this case, it is suggested for marketers and retailers to carefully used the scents in the retail store.

- **The effect of tactile experience on mood**

In terms of human’s tactile sense, Essick, James and McGlone (1999) has claimed that there is an association between individual’s emotional reactions and tactile cues, such as products’ physical attributes. Research has also indicated that if consumers are allowed to touch or test the product, they would generate a more positive emotional reaction towards their experience of touch, even though there is inadequate information provided by the tactile cues (Peck & Wiggins, 2006). In cosmetic retail environment, consumers seem to be more accustomed that almost every cosmetic store provide free cosmetic samples for consumers to test it (Gannon, 2011). If consumers’ senses are positively triggered through the opportunity of touching or testing the cosmetic products, it is more likely to generate a more positive evaluation towards the cosmetic product (Theofanides & Kerasidou, 2012). This would be an especially effective for female consumers, because their pleasant tactile experience and strong emotional systems would persuade them into impulsive purchasing (Gannon, 2011).

A number of studies seem to emphasize on the importance of positive emotions that triggered by the tactile cues, however, it is inevitable to acknowledge that negative and unpleasant emotions is also possible to be triggered by the tactile cues (Saariluomaand & Jokinen, 2014). Suppose that a consumer has a strong desire to touch or test the product to feel its intrinsic sensory properties, but he or she is not allowed to touch it, then a negative emotion is highly possible to be triggered (Fiore & Damhorst, 1992; Schifferstein & Spence, 2008; Lu et al., 2012) and subsequently generate a less positive product evaluation (Grohmann et al., 2007).
Therefore, it is suggested for retailers to consider whether provide the opportunity to touch or test the product, but it should depend on the product types.

- **The effect of auditory experience on mood**

In order to create a favourable auditory experience, music has been used in the retail environment for communicating with consumers or arousing consumers’ subconscious (Meyers-Levy, Bublitz & Peracchio, 2009). Besides, the potential of music could also be considered a powerful function for inducing consumers’ emotions (Juslin & Sloboda 2010; Van der Zwaag et al. 2012). For example, Vanderark and Ely (1993) claimed that if the music playing with high tempo and high rhythm in the retail store, then the consumers’ arousal feeling would increase accordingly. According to Dube’ et al.’s (1995) research, it also suggested the adoption of music has induced consumers’ feeling of pleasure and arousal in a banking context. Research also indicated that fast tempo music seemed to have a better performance for increasing arousal levels than slow tempo music (Krumhansl 1997, Van der Zwaag et al. 2012). Music is generally acknowledged as a variable mean for triggering consumers’ emotion (Schäfer & Sedlmeier, 2009), however, it seems there still remain controversies that whether the music has the capacity of inducing moods by listeners or not (Kivy, 1990; Van der Zwaag et al., 2012). For example, a research by Van der Zwaag et al. (2012) implied that there was no significant effect between music and arousal level, namely, music seems not enable to induce consumer’s arousing feeling. Van der Zwaag et al. (2012) also claimed that female consumers are more favor of retail environment that without music playing. Therefore, it is suggested for retailers to carefully play music in their store, since music enables to trigger both a consumer’s positive mood and a negative mood (Gancer & Huda, 2010).

To sum up, whether a positive or negative emotional state, it enables to exert impact on the judgments of products or services (Solomon et al., 2013). In other words, if a consumer has a more positive mood that stimulated by the ambience in a store, he or she would be more willing to stay longer or even purchase products from the store. It is said mood do have the power to influence how consumer think and behave (Babin, Darden & Griffin, 1992; Donovan & Rossiter, 1982). Hence, the following section will discuss more about individual’s behavioural intentions.

2.3.3 **Approach and avoidance behaviour**

According to Mehrabian and Russell (1974), individual’s behavioural reactions to the surroundings are generally classified into two types: one is approach oriented behaviour, and the other one is avoidance oriented behaviour. Both two behaviours are on the basis of visitors’ emotional state from the sensory stimulus, including visual stimuli, auditory stimuli, tactile stimuli, and olfactory stimuli (Sullivan & Adcock, 2012). Approach behaviours generally include all individuals’ positive responses, such as visitors’ patronage intentions to certain environment (Baker et al., 2002), intentions to stay longer (Wakefield & Brodgett,
individuals’ increased purchasing intentions (Donovan & Rossiter, 1982), re-patronage intentions as well as the willingness to recommend their visiting store to others (Spies et al, 1996).

Purchase intention is considered to be the indicator of a consumer’s approach behaviour (Pettersson & Söderström, 2015). Whitlar, Geurts, and Swenson (1993) asserted that purchase intention is a purchase probability, associated with an intention at the percentage of individuals that will actually buy the product. And Nasermoadeli, Ling & Maghnati (2013) claimed that intention to buy is the buyer’s prediction of which company he will select to buy. They suggested that the greater the purchase intention is, the greater a customer’s desire to buy a product. (Nasermoadeli, Ling & Maghnati, 2013) Thus, purchase intention can be regarded as a predictor variable of actual purchase. Purchasing an object is the result of decision making process. Kotler & Armstrong (2010) determined decision making process has a five steps, which are problem recognition, information search, pre-purchase evaluation of alternatives, consumption, and post-consumption evaluation. Solomon, Askegaard and Hogg (2013) defined there are several factors would affect the purchase decision, for instance, situational factors, mood and shopping experience. During the five decision making process, customers receive and interpret all possible information related to the purchasing objective in the information search stage, then consumers develop a degree of product preference. There was article claimed that customer experience does influence the customers’ preferences, which then accordingly affect their purchase decision (Yang & He, 2011). Moreover, Nasermoadeli, Ling & Maghnati, (2013) proved that there is a positive relationship between the sensory experience and purchase intention, mediated by emotion. Purchase intention is influenced by the levels of consumer experience by following manner: if the customers have their positive shopping experience, then their chances of intention to purchase the products and services would be higher.

On the other hand, avoidance behaviours substantially represent negative reactions, which can be seen when visitors tend to reduce participation into the surroundings, escape from the environment, and eventually show a decreased tendency to purchase from that store (Sullivan & Adcock, 2012). Hence, it can be summarized that both these two behaviours enable to exert an impact on individuals’ purchasing intentions, but the approach behaviours have a positive influence. In this case, it intends to investigate the positive influence of sensory stimuli on female’s purchase intention, therefore, the avoidance behaviour will not be discussed specifically. Considering that female consumer is main object of study, the following chapter will focus on female consumer characteristics.
2.4 Female consumer characteristics

As Huddleston and Minahan (2011, p.5) claimed: “women call the shots in the vast majority of consumer decisions.” Female customers nowadays are generally considered as powerful purchasers, since they are one half of the population and account for over half of the consumption (Silverstein & Sayre, 2009). Nowadays, it is not surprising that there are an increasing number of shops opened and focused on serving for female consumers. By comparing with female consumers, male consumers seem to become more acceptable and comfortable with a few stores alternatives, especially in the beauty and fashion industry, since retailers are generally providing focused to males. (Huddleston & Minahan, 2011) Moreover, women generally tend to spend twice time in a store by comparing with man, and the majority of window-shopper are female (Kuruvilla et al., 2009).

Female’s consumption can be affected by their age or education (Kaur, 2015), for example, younger woman is generally more willing to spend time on consuming fashion products than older woman (Rich & Jain, 1968) Based on the research result from Mpinganjira (2014), it has suggested that consumers’ purchasing behaviour is supposed to be influenced by a number of potential motivations. Generally, it can be essentially summarized as two main motivations, including utilitarian motivation and hedonic motivation (Mpinganjira, 2014). Utilitarian motivation refers to that consumers intend to improve efficiency and make an achievement, to be more specific, they have a clear shopping orientation and they are in conscious pursuit of these specific product in a shorter period (Babin et al., 1994; Kim, 2006). While as for the hedonic motivation, shopping is regarded as a positive experience which consumers are in the pursuit of an emotionally pleasant shopping experience, in spite of purchase or not (Kim, 2006). In fact, male consumers are mostly utilitarian shoppers but female consumers mainly tend to hedonic shoppers (Mpinganjira, 2014). Considering that women have huge consumption potential, it is suggested for marketers and retailers to create a more pleasant shopping experience and pay more attention to female consumers in the competitive market. (Huddleston & Minahan, 2011). It is also beneficial for marketers to understand the tendencies that different gender may favour for the purpose of better pleasing and satisfying the consumers (Bakshi, 2012).

2.4.1 Female consumer behaviour in cosmetic retail store

There is a common phenomenon that the majority of female individuals are more likely to spend time or browse around on shopping (Mitchell & Walsh, 2004). In this case, female consumers are more likely to have impulse purchase since they lack of the cognitive knowledge to be self control (Faber & Vohs, 2004; Vohs & Faber, 2007). In fact, the research has suggested that female consumers seem to more impulsive than male consumers (Greer, 1999; Kaur, 2015). Since female consumers generally have considerably abundant emotion, especially when they are drawn attention by something fairly interested, they would more likely to generate a higher purchase intention (Luo, 2002). Given that female consumers have rich emotion,
they tend to be more susceptible by their intuitive feeling and show a preference to certain products that have attractive appearance, package or good scents (Pang & Yuan, 2011). Female emotional consumption seems to be more apparent in the cosmetic and fashion retail industry (Kaur, 2015).

In general, female consumer is acknowledged to be the major force in consuming cosmetic product (Vang, 2010). Nowadays, cosmetic product has increasingly become an intermediate tool, especially when female consumer intends to pursue emotional and spiritual satisfaction, and cosmetic products are also regarded as a typical emotional goods (Turban, 2016). On the one hand, cosmetics could be regarded as a carrier of female’s psychology identity, which also be reflected from their emotions, such as their affection and satisfaction. On the other hand, when female consumers are going to purchase cosmetics, their emotional characteristics reflect the vanity. Since there are a group of female consumers like to show off their financial strength or special identity (Turban, 2016).

2.4.2 Female consumer and sensory marketing

Numerous researches (Meyers-Levy & Maheswaran, 1991; Shao et al, 2004) have pointed that there are obvious differences between man and women when process information. In fact, the primary cause that different genders process information differently is supposed to be relevant with behaviour objectives, and therefore make distinct purchasing decisions (Elliot, 1993; Chang, 2007). Generally, a female’s purchasing decision making process is fairly complicated (Johnson & Learned, 2004). To be more specific, when female consumers enter a retail store, all of their five senses would be used for handling the information. They are more willing to touch and test the sample products before purchasing (Holmberg & Öhnfeldt, 2010).

In addition, previous researchers (Kellaris & Altech, 1992; Yalch & Spangenberg, 1990) also indicated that gender differences are embodied in human’s reactions to environmental and sensory stimuli. It is stated by previous studies (Liang et al., 2013) that female seems to be more sensitive to sensory stimuli than male. Valle (1987) and Morrison (2004) claimed that women tend to be especially sensitive to the stimulation from taste, smell, hearing frequency and intensity, as well as touch; however, male show a greater visual sensitivity than female. Since female shopping are not only for seeking and purchasing products, they also for the purpose of pleasure, entertainment and independence (Huddleston & Minahan, 2011). Hence, creating a favourable sensory atmosphere, especially emphasizing on female’s senses, enables to contribute to the increase of the passenger flows and potential profits. Considering that the above theory has been elaborated, the following part will emphasize on proposing hypotheses and conceptual model.
2.5 Hypothesis and conceptual model

In order to answer research questions, the following hypotheses and conceptual model will be proposed based on the theoretical framework. H1a, H2a, H3a and H4a are proposed to answer research question 1, and H1b, H2b, H3b and H4b are aimed to answer research question 2.

2.5.1 Hypothesis

In order to have a better understanding, the following table 1 will demonstrate the hypotheses and their theoretical support. In this case, the taste sense will not be considered and the other four senses are considered to exert more impact on the target market. Since unlike the restaurant industry, there leaves a little room for enterprises in the cosmetic industry to adopt gustative marketing strategies.

Table 1. Overview of hypotheses and theoretical support

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Theoretical support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a. Visual cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
<td>Visual cues have a great potential to affect human’s positive mood in the retail environment (Donovan &amp; Rossiter, 1982; Brengman &amp; Geuens, 2003).</td>
</tr>
<tr>
<td>H2a. Olfactory cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
<td>Ambient scent is more likely to create a positive emotional state (Kotler, 1973; Dani &amp; Vanishree, 2013).</td>
</tr>
<tr>
<td>H3a. Tactile cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
<td>Consumer will generate a more positive emotional reaction if they are allowed to touch or test the product (Essick, James &amp; McGlone, 1999; Peck &amp; Wiggins, 2006).</td>
</tr>
<tr>
<td>H4a. Auditory cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
<td>Music is generally acknowledged as a valuable mean for triggering consumers’ emotion (Schäfer &amp; Sedlmeier, 2009).</td>
</tr>
<tr>
<td>H1b. Visual stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.</td>
<td>Sight is the strongest sense in human’s sensory system, consumers are largely reply on this sense and often make a purchasing decision based on their first impression (Sayadi, Mobarkabadi &amp; Hamidi, 2015).</td>
</tr>
<tr>
<td>H2b. Olfactory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.</td>
<td>Ambient scent enables to exert a positive influence on individual’s actual behaviour, such as purchase intention and store re-patronage (Parsons, 2009; Bone &amp; Ellen, 1999; Hultén, 2012).</td>
</tr>
<tr>
<td>H3b. Tactile stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.</td>
<td>Offering ample opportunities for customers to touch the products can lead to increased purchase intention (Kolter et al., 2016).</td>
</tr>
</tbody>
</table>
H4b. Auditory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.

The potential of music is considered as a powerful function for inducing consumers’ purchase intention (Juslin & Sloboda 2010; Hussain & Ali, 2015)

2.5.2 Conceptual model

The model should serve to design the survey and to solve the research questions. As mentioned, the purposes of this thesis are to find out how cosmetics retailers create positive emotion by using sensory stimuli, and which sensory stimuli have the most positive impact on triggering female’s purchase intention. In addition, how these sensory stimuli impact on female customers’ purchase intention. It is obviously that sensory stimuli are vital part of the model structure. The emotional state is believed to play the role as a mediator to connect the sensory stimuli and purchase intention (Kang et al., 2011).

As can be seen from figure 5, our model is mainly based on the environmental psychology model presented by Mehrabian and Russell (1974). Mehrabian and Russell’s model assumed that environmental stimuli influences a customer’s mood state. The mood state, on the other hand, sway customer’s response, for example, to approach or to avoid. Here we developed our model to be more detailed. According to the model, at the first stage, the sensory stimuli will be evaluated. Then at the second stage, the mood state will be measured by Russell and Pratt (1980) ‘s model. Lastly, the three scale items presented by Shen and Zhao (2005) will be used to measure purchase intention. Purchase intention is considered to be approach behaviours. The avoidance behaviour will not be discussed in following part of the thesis.
Figure 5. The Conceptual model developed based on the SOR-model of Mehrabian and Russell (1974)
3. Methodology

The following chapter represents the structure of the methodology. The whole research methodology part is based on the research onion (see figure 6), which is created by Saunders, Lewis and Thornhill (2009).

![Figure 6. Research onion (Saunders et al., 2009, p.138)](image)

3.1 Research philosophy

According to the research onion, research philosophy is the first layer of research onion, which is defined as the development and nature of knowledge. The research philosophy being adopted clarifies the view of how you perceive the world (Saunders et al., 2009). These assumptions have a vital effect on the choice of research strategy and the method. Johnson and Clark (2006, p.108) explained the significance of knowing the philosophical commitments: “We make through our choice of research strategy since this has significant impact not only on what we do but we understand what it is we are investigating.”

There are three different terminologies of the research philosophy according to Saunders et al (2009), which are positivism, interpretivism and realism. Realism is a philosophy related to scientific enquiry, it relies on the idea of independence of reality from the human mind (Saunders et al., 2009). Interpretivist philosophy is based on the intellectual tradition phenomenology, it is necessary for the researchers to understand the differences between humans as social actors (Saunders et al., 2009). Interpretivist believes human beings can change their behavior if they aware they are being observed (Collins, 1984). In order to understand certain social action, researchers should explore how people really act in daily situation and to look into the
true reasons behind that (Saunders et al., 2009) This approach is usually adopted when the sample is small and an in-depth investigation is needed (Saunders et al., 2009). So this approach is associated with qualitative research method (Malhotra, Birks, & Wills, 2012).

This thesis adopted a positivism research philosophy. Positivism implies that only phenomena that people can observe will lead to the production of credible data (Saunders et al., 2009). The goal of this philosophy is to describe a phenomenon from an objective point of view (Hinkelmann & Witschel, 2013). A positivist believes human’s behavior can be measured by identifying patterns and using quantitative methods (Jones & Bartlett, n.d.). Therefore, it is encouraged to use the existing theory and collected data to explain people’s behavior. This approach deals with numbers which clearly is associated with quantitative method (Saunders et al., 2009), which fits the situation of this thesis.

3.2 Research approach

There are two different research approaches are highlighted by Saunders et al (2009), which are inductive and deductive. The deductive approach moves from the more general to the more specific, which means the approach is based on theories and hypotheses. The purpose is to test if the result is supported or rejected (Bryman, 1988). Whereas the inductive approach works opposed, which moves from specific to general. More specifically, inductive approach aims at looking for patterns in order to build new theories (Bryman, 1988).

Basically, deductive approach is according to the following process: First of all, deductive approach based on the theory about topic of interest. Then deducing hypotheses from the theory. The observation is collected to address the hypotheses. Then all these processes eventually give a result of confirm or reject (Saunders et al., 2012). In this thesis, the research methodology is based on a deductive approach because it is considered to be applicable for positivism philosophy (Saunders et al., 2012). Deductive approach emphasizes on collecting quantitative data, for example through a certain amounts of questionnaires, which also corresponds with our research method (Soiferman, 2010). Moreover, the existing theories for sensory marketing are sufficient for researchers to conduct a deductive research.

3.3 Research design

As mentioned, the whole methodology part is based on the research onion. In this chapter, the research design will be explained in details.
According to Robson (2002), the process of research design is the process turning research questions into a research project. There are generally three approaches to design the research, which are exploratory, descriptive and explanatory (Saunders et al., 2009). Exploratory research is adequate for the situation when the research question is poorly understood (Ghauri & Grønhaug, 2005). It aims to seek new insights, to examine unknown phenomena and then to assess phenomena in a new light (Saunders et al., 2009). Explanatory research and descriptive research better suits structured research question (Ghauri & Grønhaug, 2005). Explanatory research is also known as causal study since it aims to establish causal relationships between variables (Saunders et al., 2009). Last but not least, descriptive research is used to solve problem when it is structured and well-understood (Ghauri & Grønhaug, 2005). The aim of descriptive research is to portray accurate profile for situations, events or persons (Saunders et al., 2009).

The research design of this thesis adapts descriptive approach. This decision was made based on authors’ research questions. If the research question needs to be answered with quantifiable facts, descriptive or causal research is more suitable, otherwise exploratory research should be applied (Kolb, 2008). The descriptive research is usually adopted when the research question is clear and structured (Ghauri & Grønhaug, 2005). In order to answer the questions, numbers and details are needed. Moreover, this method can offer an accurate description to the problem that the thesis is focusing on. And further to reveal an answer to the research questions (Sarstedt & Mooi, 2011).

### 3.4 Data collection

Since this research has used quantitative approach, in this chapter, quantitative approach will be analyzed. In this thesis, authors used a combination of primary data and secondary data collection. The primary data is the data collected and analyzed from the designed survey, whereas secondary data is the previous information within the subject collected by others (Ghauri & Grønhaug, 2005). Secondary sources might have been collected for different purposes other than the current needs of the researcher (Zikmund, 2000).

Secondary data includes books, journal articles, online data sources (Ghauri & Grønhaug, 2005). One of the primary advantage to use secondary data is more efficient and less expensive compared with collecting primary data (Zikmund, 2000). The secondary data in this thesis is mainly obtained from academic books, journals. Besides some searching engines have been used for instance, Google scholar and Jönköping University Library database. Within the wide range of primary data collection, various forms of gathering data can be used, for example, focus groups, observations, surveys, experiments and interviews (Easterby-Smith, Thorpe & Jackson, 2015). In this thesis, the primary data was collected through questionnaire.
3.4.1 Quantitative method

A quantitative research uses numerical analysis to provide proof of a fact or a hypothesis (Kolb, 2008). In other words, it is the research method that uses numerical data to looking for trends and patterns (Saunders et al., 2009). Quantitative research is efficient to answer questions on relationships within measurable variables with an intention to predict, explain and control a phenomenon (Leedy, 1993). In order to avoid researchers’ bias, it is essential to have a large sample size when collecting the data (Tribou, 2011).

Since the research is aimed to find out which sensory stimuli has the most impact on female consumers’ purchase intention, a quantitative approach has been applied. The quantitative data was collected by conducting a survey, as survey is the standard tool to use when conducting quantitative research (Kolb, 2008). The objectives to use survey are to evaluate their perception towards sensory stimuli have been used in cosmetic shops. And to assess the impact of each sensory stimulus on female consumers’ purchase intention. Authors was using the online survey tool Webropol to design the questionnaire. The respondents were reached through the social network media tool such as Facebook. The respondents consist of researcher’s own personal network. The findings were analysed using SEM, the findings and data analysis will be further elaborated in the following chapters.

3.4.2 The questionnaire design

The questionnaire mainly consists of three part, the first part is category questions, the second part is sensory marketing related questions and the last part is to investigate purchase intention. The design of this questionnaire is mainly based on the Likert Scale Approach. Likert Scale Approach indicates how strongly the person agrees or disagrees with a statement or series statements (Saunders et al, 2009). Individuals generally choose from a four, five or seven alternatives which vary from very positive to very negative (Zikmund, 2000).

Question 1 to Question 5 are category questions. The objective of using these questions is to enable each respondent’s answer can fit to a category (Saunders et al, 2009). The first two questions were designed to collect general demographics of the data, regarding gender and age. Question 3 to Question 5 are multiple choice questions in order to collect descriptive data. The information enables researchers to divide them into several clusters according to the three case stores they chosen (The body shop, Rituals and Lush). And all the answers to the questionnaire should be based on the case store they chosen. According to the respondents, authors are able to find out the frequency they visit the store and the time spent during their visit.

Question 6 is to be measured on a 7-point numerical scale. This question asks the respondents to describe their perception about the case store. Respondents are requested to check the place that indicates the nearest
appropriate adjective. The purpose of this question is to find out respondents’ perception towards sensory stimuli have been used in the case store.

Question 7 to 10 intended to investigate the how the sensory stimuli influences customer’s staying time and their shopping experience. The Likert Scale Approach has been adopted here as it is the most popular tool for measuring attitudes (Zikmund, 2000). With the 7-points scale, respondents were asked to indicate their attitudes by checking how strongly they agree or disagree with the statements. Visual dimension, aural dimension, olfaction dimension and tactile dimension have been measured. Whereas, the fifth sense taste is irrelevant for the service environment so it’s not listed in the question.

Question 11 is designed in order to find out the mood state of consumers. The measurement of emotional experience refers to Russell and Pratt (1980), using right items, which is designed to a semantic- differential scale, for instance: sleep - arousing, gloomy - exciting, unpleasant - pleasant, distressing - relaxing.

The aim of last question is to find out respondents’ purchase intention. The measurement tool of purchase intention is based on Shen and Zhao (2005) and it designed on a 7-point scale. The items are: I will often shop in these supermarkets/shopping marts in the future, I will shop for my family and friends in supermarkets/shopping marts., and I will recommend other to shop supermarkets/shopping marts.

3.4.3 Sampling techniques

The sampling techniques could be classified into two two types, including non-probability sampling and probability sampling. In general, non-probability sampling technique primarily depends on the personal and subjective judgments from the researchers, while the probability sampling technique seems to be more precise and objective than non-probability sampling technique since it enables each sampling unit to have a non-zero opportunity of being selected. (Malhotra & Birks, 2007) Before starting collecting data, ensuring the precise selection of target population is also fairly significant, since imprecise definition of the target group will lead to obtain ineffective and misrepresented research results (Malhotra & Birks, 2007). In this thesis, a purposive participant selection was adopted to decide the target group (Saunders, Lewis & Thornhill, 2012), since the authors want to investigate how female consumers are most sensitive to the sensory cues in the cosmetic store.

Considering that the target participants of the questionnaire are required to be female who has shopping experience in cosmetic stores. Hence, a purposive sampling would be considered since it enables to meet certain criteria (Blumberg, Cooper & Schindler, 2008). Judgmental sampling is one type of purposive sampling, although it is claimed that it is subjective and has high participant selection bias (Saunders et al., 2012). Nonetheless, judgmental sampling has great advantages of low cost, great convenience and quick
response, and it is widely adopted in the exploratory research designs (Malhotra & Birks, 2007). Moreover, it also seems to be useful when the researchers intend to choose a biased target group for screening purpose (Blumberg et al., 2008). In this case, the data from the questionnaire planned to be collected from online channels. As for the online survey, the authors planned to contact and send to the specific female group purposively through using their own personal social network (Facebook). Besides, in order to reduce or even avoid sampling errors, the questionnaire is allowed to be answered only once for each respondent.

3.5 **Quantitative data analysis**

In this thesis, a variety of statistical analysis methods would be applied in order to better understand the meaning of data that collected from the questionnaire through SPSS. Firstly, the general information of the respondents’ demographic variables and shopping habits would be analysed through descriptive statistics.

Secondly, it is necessary to check the reliability of the questionnaire, especially for the Likert-scale questions, therefore, Cronbach’s alpha would be adopted for the purpose of testing the internal consistency of the scales. Cronbach's alpha is favourable to measure respondents’ attitude scales in the survey because the alpha levels imply whether the the elements measures the same structure (Burns & Burns, 2008). Besides, this coefficient should be over the range of 0 to 1, but when the value is equal or lesser than 0.6, it commonly implies deficient internal consistency reliability (Malhotra & Birks, 2007).

Generally, it is supposed to be a complicated process for researchers when analysing and interpreting the quantitative research data. There are number of traditional statistical method for analysing quantitative data, such as correlation analysis and regression analysis. However, these statistical methods are less flexible and usually require a default model, and tend to occur more measurement errors (Suhr, 2006).

In this case, in order to identify the relationships between multiple variables and respond the research questions, structural equation modelling (SEM) would be applied by using AMOS 17 software with maximum likelihood (ML) based estimation approach (Ruckdäschel, 2015). The term, AMOS, namely, refers to “Analysis of Moment Structures”, which is generally applied to empirically evaluate structural equation models (Ruckdäschel, 2015). SEM enables to present clear relationships among different and numerous variables by using a graphical figure (Suhr, 2006). By comparison with traditional statistical method, SEM seems to have a distinct superiority in the aspect of avoiding measurement errors; besides, a key benefit of SEM is that it enables to evaluate all of the hypothesized relationships and measure the influence of latent variables (Byrne, 2001; Suhr, 2006). As a sophisticated statistical technique, SEM has been widely in psychological, social sciences and business research (MacCallum & Austin, 2000; Yung, 2008). However, there are some conditions that are supposed to consider before using SEM.
Firstly, a relative large samples of data is expected to be collected. To be more specific, the minimum sample size of 100 should be ensured (Loehlin, 1992; Yang & Chen, 2015), but Kline (2005) claims that it is better to have more than 200. In this case, a total of 224 responses had been received, but there were 188 valid responses, which also can be acceptable for using SEM.

Secondly, the hypothesis of the SEM should be supported by the theory (Yang & Chen, 2015). In this case, all of the hypotheses were proposed on the basis of previous theory.

Thirdly, several evaluation methods could be used to evaluate the fitness degree between parameters and model, such as generalized least square and maximum likelihood method (Thompson, 1998; Yang & Chen, 2015). In this case, a maximum likelihood method would be applied since it is appropriate for data with small sample size and data is non-normally distributed (Suhr, 2006).

### 3.5.1 Evaluation of the fitness of SEM

SEM provides relevant evaluation criteria, such as fitness index, which contributes to examine the fitness between existed theory and proposed hypothesis (Hair, Ringle & Sarstedt, 2011). In order to evaluate the fitness of the model, there are three types of fitness indices that can be served as reference to avoid measurement errors, including absolute fitness index, relative fitness index and simple fitness index (McDonald and Ho, 2002; Hooper, Coughlan & Mullen, 2008; Yang & Chen, 2015). The acceptable level for each fitness are listed in the following table 2. If the various indices can reach the acceptable level, then it indicates a satisfying fitness of model.

<table>
<thead>
<tr>
<th>Fitness index</th>
<th>Index</th>
<th>Acceptable level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute fitness index</td>
<td>X2, P</td>
<td>P&gt;0.05</td>
</tr>
<tr>
<td></td>
<td>GFI</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td></td>
<td>AGFI</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td></td>
<td>RMR</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>RMSEA</td>
<td>&lt;0.05 good</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;0.08 reasonable</td>
</tr>
<tr>
<td>Relative fitness index</td>
<td>NFI</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td></td>
<td>RFI</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td></td>
<td>IFI</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td>Simple fitness index</td>
<td>CN</td>
<td>&gt;200</td>
</tr>
<tr>
<td></td>
<td>NCX2/df</td>
<td>&lt;2</td>
</tr>
</tbody>
</table>

Table 2. The acceptable level for fitness indices (Browne & Cudeck, 1993; McDonald & Ho, 2002)
3.5.2 Evaluation of the relationships among variables

The relationships between each variable can be identified after the model has reached an acceptable level of fitness. SEM is a powerful tool that enables to elaborate and estimate linear relationships among a variety of variables in a model (MacCallum & Austin, 2000). The variables may include independent variable, mediator variable as well as dependent variable (MacCallum & Austin, 2000). In this case, it specifically refers to:

- Independent variable: four sensory stimuli (visual, olfactory, auditory, tactile)
- Mediator variable: positive emotional state (arousing, exciting, pleasant, relaxing)
- Dependent variable: behaviour intention (purchase intention)

3.5.3 Evaluation of the effect size among variables

The application of SEM enables to estimate simultaneously about the direct and indirect influence between variables (Keith, 2006). Both direct effect size and indirect influence size enable to be measured by comparing the magnitude of path coefficient (β) (Suhr, 2006; Keith, 2006). Generally, a positive path coefficient value indicates there is positive effect between two variables, and vice versa. Besides, there is a general guideline for evaluating the effect size through comparing the path coefficient (β) (Pedhazur, 1997; Keith, 2006):

- When β ≤ 0.10, it implies a small but meaningful influence between two variables.
- When 0.11 ≤ β ≤ 0.25, it implies a moderate influence between two variables.
- When β > 0.25, it implies a strong and large influence between two variables.

In this case, it is possible to understand which sensory stimuli has the most important impact on female’s purchase intention in the cosmetic store by comparing the comparing the magnitude of path coefficient.

3.6 Reliability and validity

Reliability and validity are considered as two significant concepts in research because they can serve as testing tools for improving the veracity of assessment (Tavakol & Dennick, 2011). In different types of studies, such as quantitative research and qualitative research, reliability and validity generally indicate different meanings (Creswell, 2014). In this thesis, since only the quantitative research method is adopted, it will focus on the meaning under the context of quantitative study. Moreover, it is feasible that the
measurement is reliable but not valid; nevertheless, if the results of measurement is proved to be unreliable, then it is considered as invalid, either ((Thatcher, 2010; Twycross & Shields, 2004).

In this case, when it comes to measure reliability, it refers to “to the extent to which a scale produces consistent results if repeated measurements are made” (Malhotra & Birks, 2007). In fact, certain questions in the questionnaires would incorporate several terms which are designed in a different way but actually focus on the same terms. Hence, in order to examine the homogeneity, Cronbach’s alpha is an appropriate reliability measurement tool for measuring the internal consistency of the scale questions (Twycross & Shields, 2004).

While in terms of validity, it is the strength of conclusions, inferences or propositions. Validity is defined by Thatcher (2010, p. 125) as “the extent to which any measuring instrument measures what it is intended to measure”. In this case, since all of the responses were collected through online platforms, the findings from online questionnaire are required to be relevant with the reality (Saunders et al., 2009). Furthermore, when it comes to how to examine the validity in the quantitative research, some types of validity, including content validity, criterion validity and construct validity, could to be applied (Chen, 2001; Malhotra & Birks, 2007). In this case, content validity would be used for measuring the validity. Content validity is committed to measuring the effectiveness of each measurement question or item in the survey, or measuring the logical link between the measurement question and research question (Saunders et al., 2009; Kumar, 2011). In this thesis, the questions from the questionnaire was designed on the basis of the previous literature and the objective observation from the store, hence, it assures the content validity of the research, to some extent.

3.7 Summary

In this chapter, the methodological framework has been proposed and explained. To sum up, the philosophy of this thesis is a positivism research philosophy. A deductive approach is applied since the research moves from the more general to the more specific. And the nature of the study emphasizes on the descriptive approaches. The data is collected by the combination of primary data and secondary data. The majority of secondary data is collected from academic books as well as journals. As for the primary data collection, the quantitative method is adopted through distributing the designed questionnaires on the online platforms. And the target sampling population of the questionnaire is determined by using a judgmental convenience sampling technique by the authors. A variety of data analysis methods is also introduced for use of findings part. Eventually, research reliability and validity are introduced accordingly.
4. Findings

According to Saunders et al (2008), quantitative data mainly involves numerical data that could be quantified to answer the research questions. In this chapter, authors will present an overview of the findings based on quantitative data. And the data will be analysed with SEM (Structural equation modelling).

4.1 Response

The questionnaire was collected with the help of the online survey and social media. The online survey was published in Webropol, which is an online research software. Then the survey was distributed through different social media channels for example Facebook. The whole responses were collected in two weeks, between April 8th to April 22nd. After the collecting process, the results can be converted directly to SPSS for further use. The survey can be found in Appendix 1 - Questionnaire.

There were total 224 responses were collected during the time frame. 9 of the responses had to be deleted because they chose the gender as male and therefore did not match authors’ target group. Another 27 responses had to be eliminated because of the uncompleted questionnaires. After processing all data, there were 188 valid answers could be used to analyse.

4.2 Reliability Summary

In order to evaluate the reliability of the Likert-scale questions of the designed questionnaire. The coefficient of Cronbach’s alpha was calculated to check internal consistency of these scale questions.

Table 3. Reliability summary

<table>
<thead>
<tr>
<th>Question</th>
<th>Cronbach’s alpha</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of visual feeling (Q7)</td>
<td>0.83</td>
<td>5</td>
</tr>
<tr>
<td>Evaluation of olfactory feeling (Q8)</td>
<td>0.72</td>
<td>3</td>
</tr>
<tr>
<td>Evaluation of auditory feeling (Q9)</td>
<td>0.76</td>
<td>3</td>
</tr>
<tr>
<td>Evaluation of tactile feeling (Q10)</td>
<td>0.86</td>
<td>3</td>
</tr>
<tr>
<td>Emotional state scale (Q11)</td>
<td>0.82</td>
<td>4</td>
</tr>
<tr>
<td>Purchase intention scale (Q12)</td>
<td>0.85</td>
<td>3</td>
</tr>
</tbody>
</table>
In this case, there are six scale questions, and they were designed to evaluate the respondents’ visual feeling, olfactory feeling, auditory feeling, tactile feeling, emotional state and their purchase intention. In general, as table 3 illustrated, the majority of coefficient Cronbach’s alpha were over 0.8, which indicated there was a high level of internal consistency. Except for the questions concerning respondents’ olfactory feeling and auditory feeling, the coefficient values were 0.72 and 0.76 respectively, which could also be considered as highly favored level of internal consistency. Based on above statistics, it could be concluded that the data from the questionnaire was reliable.

4.3 Respondent introduction

Generally, the basic information from the questionnaire about the respondents was illustrated in the following table 4.

Table 4. Dataset of respondents’ information

<table>
<thead>
<tr>
<th>Item</th>
<th>Response distribution (n=188)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (Q1)</td>
<td>Female</td>
<td>188</td>
</tr>
<tr>
<td>Age (Q2)</td>
<td>Below 20</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>20-30</td>
<td>131</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>51-60</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Above 60</td>
<td>0</td>
</tr>
<tr>
<td>Consumption place (Q3)</td>
<td>Lush</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>The Body Shop</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>Rituals</td>
<td>52</td>
</tr>
</tbody>
</table>

Q1 in the questionnaire is designed to confirm the gender since the objective of this thesis is to discover how the sensory stimuli in cosmetic shop are perceived by female customers. The valid answers for the
questionnaire accounts for totally 188. All the answers are from female respondents, which fits to authors’ target group.

Q2 is designed to identify the age of respondents. There are six age ranges with a ten year range in each alternative. Out of the 188 valid respondents, as table 4 illustrated, 131 female respondents are between the age group 20 - 30 years old, which accounts for 70%. 22 (12%) female participants are under the age of 20-29 (15%) are from 31 to 40 years old. And 6 of female respondents belong to the age group 41 to 50, which accounts for 3%.

Q3 aimes to divide the respondents according to the cosmetic shop they visited recently. As mentioned, there are three cosmetic shops have been chosen, which are The Body Shop, Lush and Rituals. Since different shops have different design and ambiances, it is necessary to analyse the consumers according to different shops. According to data in table 4, there are 94 respondents recently buying products from The Body Shop, which accounted for 50%. While the statistics for Lush and Ritual are pretty similar, which accounts for 22% (42) and 28% (52) respectively.

4.4 Descriptive information

The following descriptive information will be analysed with the help of cross tabulation.

Table 5. Respondents’ purchasing frequency in different stores (n=188)

<table>
<thead>
<tr>
<th>Purchasing frequency</th>
<th>Lush (n=42)</th>
<th>The Body Shop (n=94)</th>
<th>Rituals (n=52)</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than once a week (3%)</td>
<td>10 %</td>
<td>1 %</td>
<td>2 %</td>
</tr>
<tr>
<td>Once a week (13%)</td>
<td>19 %</td>
<td>9 %</td>
<td>15 %</td>
</tr>
<tr>
<td>2-3 times per month (37%)</td>
<td>40 %</td>
<td>27 %</td>
<td>52 %</td>
</tr>
<tr>
<td>Others (47%)</td>
<td>31 %</td>
<td>63 %</td>
<td>31 %</td>
</tr>
<tr>
<td>Total</td>
<td>100 %</td>
<td>100 %</td>
<td>100 %</td>
</tr>
</tbody>
</table>

The objective of Q4 is to find out the frequency consumers visit each of the three stores. As the table 5 shows, most of the Lush’s customers visit the shop 2-3 times per months, which accounts for 40%. 31%
visit the shop few times a year, followed by 19% of the customers visit the shop once a week and only 10% visit more than once a week. While, most of the customers from The Body Shop visit the shop only few times a year, which accounts for 63%. 27% visit the shop 2-3 times per months. And 9% visit once a week and 1% for more than once a week. In addition, there are 52% of Rituals’ customers visit the store 2-3 times per month, followed by 31% of customers who visit the shop few times a year. 15.38% of customers visit the shop once a week and 2% visit more than one time a week.

Table 6. Respondents’ staying time in different cosmetic stores (n=188)

<table>
<thead>
<tr>
<th>Staying time in the store</th>
<th>Have you purchased the cosmetic products from?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lush</td>
</tr>
<tr>
<td></td>
<td>(n=42)</td>
</tr>
<tr>
<td>Less than 10 minutes</td>
<td>15 %</td>
</tr>
<tr>
<td>10-20 minutes</td>
<td>69 %</td>
</tr>
<tr>
<td>21-30 minutes</td>
<td>14 %</td>
</tr>
<tr>
<td>More than 30 minutes</td>
<td>2 %</td>
</tr>
<tr>
<td>Total</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Q5 is designed to find out the individuals’ average staying time in each of three stores. It can be seen from the table 6, in general, the majority of respondents would like to spend approximate 10 to 20 minutes in a cosmetic store, since there are 69%, 56%, 67% of respondents staying 10 to 20 minutes in these three stores respectively. Besides, it is worth noting that respondents seem to stay longer time in Lush, by comparing with the the store of The Body Shop and Rituals. Since there are 16% of respondents are willing to spend more than 20 minutes in Lush, while the other two stores: The Body Shop and Rituals, seem to account for 6% and 10% respectively. At the same time, only 15% of respondents would spend less than 10 minutes in Lush, therefore, it can be implied that Lush seems to create a better atmosphere than other two stores to attract consumers to stay longer in the store.
4.5 Results of structural equation model

Generally, the structural equation model was applied to examine the developed conceptual model (see Figure 5 in the chapter 2.5) and the hypotheses. In this case, it aims to estimate the influence of sensory stimuli on female consumers’ emotional state and their behavioural intention. The results would contribute to answer the research question 2: “Which sensory stimuli has the most impact on female customers’ purchase intention?” Besides, a maximum likelihood method would be applied to test the degree of fitness between the parameters and the model. In a short, the structural equation model is shown as following figure 7.

Figure 7. Initial SEM estimation

4.5.1 Evaluation of initial model fitness

Before examining the impact level of among variables, it is necessary to examine the fitness between theoretical framework and proposed hypothesis (Hair, Ringle & Sarstedt, 2011). The fitness of indices is useful for examining if the fitness of model and data is acceptable, which is shown in the following table 7.
Table 7. Fitness indices of the initial model

<table>
<thead>
<tr>
<th>Index</th>
<th>Observed data</th>
<th>Acceptable level</th>
</tr>
</thead>
<tbody>
<tr>
<td>X2</td>
<td>X2=104.877</td>
<td>Less x2 indicates a better result.</td>
</tr>
<tr>
<td>P</td>
<td>0.000</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>GFI</td>
<td>0.878</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.452</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.225</td>
<td>&lt;0.08</td>
</tr>
</tbody>
</table>

As table 7 illustrated, the test of the overall model implies an unacceptable fitness, since all of the fitness indices do not reach an acceptable level. Under the circumstances, considering that there is unacceptable model fitness, it is suggested to revise the model until the modifications become fit and meaningful (Suhr, 2006).

4.5.2 Model modification

There are two approaches of model modifications when the original model is not appropriate. Essentially, one of the approach is releasing constraints through adding new parameters or paths, which aims to make the model more reliable; the other one is imposing constraints by deleting free parameters or insignificant path, which makes the model clearer (Chou & Bentler, 2002). In this case, in order to obtain an acceptable model fitness, several parameters, such as the auditory stimuli, pleasant and relaxing, were deleted since there are a low significance between these deleted parameters with purchase intention. A revised model was illustrates as following figure 8.
Generally, the overall revised model implies a good fitness with the data after model modification. As for the specific fitness indices, it has been illustrated in the following Table 8.

### 4.5.3 Evaluation of revised model fitness

After model modification, evaluating the fitness indices is also required. The following Table 8 presents the fitness indices of the revised model.

<table>
<thead>
<tr>
<th>Types of fitness index</th>
<th>Index</th>
<th>Observed data</th>
<th>Acceptable level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute fitness index</td>
<td>X²</td>
<td>1.756</td>
<td>Less X² indicates a better result.</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>0.625</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td></td>
<td>GFI</td>
<td>0.997</td>
<td>&gt;0.90</td>
</tr>
<tr>
<td></td>
<td>AGFI</td>
<td>0.978</td>
<td>&gt;0.90</td>
</tr>
<tr>
<td></td>
<td>RMR</td>
<td>0.012</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>RMSEA</td>
<td>0.000</td>
<td>&lt;0.08</td>
</tr>
</tbody>
</table>
As the table 8 shows, all the indicators have reached an acceptable level of fit, which indicates that the revised model can be used to examine the proposed hypotheses. Therefore, the following part will elucidate the concrete results for testing the hypotheses.

### 4.5.4 Results

On the basis of above figure 8, the following table 9 has summarized the relationship among each variable and the path coefficient accordingly.

Table 9. Summary of the path coefficient

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Path coefficient</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct effect (Vision)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual stimuli ⇒ Purchase intention</td>
<td>0.26</td>
<td>***</td>
</tr>
<tr>
<td><strong>Indirect effect (Olfaction)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olfactory stimuli ⇒ Arousing ⇒ Purchase intention</td>
<td>0.26 x 0.21 = 0.0546</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olfactory stimuli ⇒ Exciting ⇒ Purchase intention</td>
<td>0.20 x 0.21 = 0.042</td>
<td>.003</td>
</tr>
<tr>
<td><strong>Both direct effect and indirect effect (Touch)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactile stimuli ⇒ Purchase intention</td>
<td>0.19</td>
<td>***</td>
</tr>
</tbody>
</table>
According to the data, the hypotheses would be tested as following.

- **Hypothesis H1a and H1b test**
  
  Firstly, hypothesis H1a proposes that visual stimuli have an influence on triggering female consumer’s positive emotion in a cosmetic store. As can be seen from figure 8, visual cues do not appear to trigger any positive emotion, either for triggering an arousing emotion or an exciting emotion. Therefore, H1a is rejected.

  Hypothesis H1b proposes that visual stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store. As table 8 illustrates, visual stimuli have a direct and positive significant influence on female’s purchase intention ($\beta = .26$, $p = .000$). Keith (2006) has suggested that when $\beta > 0.25$, it implies a strong and large influence between two variables. Therefore, the path coefficient of .26 implies visual stimuli exert a positive and large influence on female consumer’s purchase intention. Consequently, hypothesis H1b is supported.

- **Hypothesis H2a and H2b test**
  
  Hypothesis H2a suggested that olfactory stimuli have an influence on triggering female consumer’s positive emotion in a cosmetic store. According to table 9, olfactory stimuli have a positive influence on triggering both female’s arousing emotion ($\beta = .26$) and exciting emotion ($\beta = .20$). Keith (2006) has suggested that when $0.11 \leq \beta \leq 0.25$, it implies a moderate influence between two variables. Therefore, H2a is supported.

  Hypothesis H2b suggests that olfactory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store. The results of table 9 have indicated that olfactory stimuli have an indirect effect on purchase intention with the intervention of female consumer’s arousing mood and exciting mood. Warner (2013) and Keith (2006) stated that the indirect effect size can be calculated by multiplying the coefficients for every leg of the path.

  - When female’s arousing mood plays a mediated role, the indirect effect of olfactory stimuli on purchase intention is $0.0546$ ($\beta = .26 \times .21 = .0546$, $p = .001$). As Keith (2006) suggested, when $\beta \leq .25$,
0.10, it implies a small but meaningful influence between two variables. Hence, the path coefficient of .0546 indicates olfactory stimuli have a positive but small influence on female consumer’s purchase intention with the intervention of female consumer’s arousing mood.

- When female’s exciting mood plays a mediated role, the indirect effect of olfactory stimuli on purchase intention is .042 (β = 0.20 x 0.21 = 0.042, p = .003). Therefore, the path coefficient of .042 indicates olfactory stimuli have a positive but small influence on female consumer’s purchase intention with the intervention of female consumer’s exciting mood.

To sum up, with the intervention of female consumer’s arousing mood or exciting mood, olfactory stimuli have a positive, indirect and small influence on purchase intention. Consequently, hypothesis H2b is supported.

**Hypothesis H3a and H3b test**

Hypothesis H3a proposes that tactile stimuli have an influence on triggering female consumer’s positive emotion in a cosmetic store. Based on table 9, tactile stimuli have a significant influence on triggering both female’s arousing emotion (β = .24) and exciting emotion (β = .38). Therefore, H3a is supported.

Hypothesis H3b suggests that tactile stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store. On the one hand, tactile stimuli have a direct and positive influence on female’s purchase intention (β = .19, p = .000). Keith (2006) has suggested that when 0.11 ≤ β ≤ 0.25, it implies a moderate influence between two variables. Therefore, the path coefficient of .19 implies tactile stimuli exert a positive, direct and moderate influence on female consumer’s purchase intention.

On the other hand, the results of table 9 also indicate that tactile stimuli have an indirect effect on purchase intention with the intervention of female consumer’s arousing mood and exciting mood. The path coefficient of .0504 (β = 0.24 x 0.21 = 0.0504, p = .001), .0798 (β = 0.38 x 0.21 = 0.0798, p = .000) indicates olfactory stimuli have a positive but small influence on female consumer’s purchase intention with the intervention of female consumer’s arousing mood and exciting mood respectively.

To sum up, tactile stimuli have a positive influence on purchase intention in the cosmetic store, whether with intervention of female consumer’s arousing mood and exciting mood or not. Consequently, hypothesis H3b is supported.

**Hypothesis H4a and H4b test**
Hypothesis H4a suggests that auditory stimuli have an influence on triggering female consumer’s positive emotion in a cosmetic store. Hypothesis H4b proposes that auditory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store. However, the variable of auditory stimuli has been deleted due to a weak association with positive emotional state as well as purchase intention. Hence, it can be assumed that auditory stimuli have no significant influence on positive emotion and purchase intention. Consequently, hypothesis H4a and H4b is rejected.

4.5.5 Summary of the hypotheses and findings

On the basis of above results of hypotheses, the following table 10 demonstrates an overview of the hypotheses and the outcome.

Table 10. overview of hypotheses results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Evidence</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>Rejected</td>
<td>Visual cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
</tr>
<tr>
<td>H1b</td>
<td>Supported</td>
<td>Visual stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.</td>
</tr>
<tr>
<td>H2a</td>
<td>Supported</td>
<td>Olfactory cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
</tr>
<tr>
<td>H2b</td>
<td>Supported</td>
<td>Olfactory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.</td>
</tr>
<tr>
<td>H3a</td>
<td>Supported</td>
<td>Tactile cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
</tr>
<tr>
<td>H3b</td>
<td>Supported</td>
<td>Tactile stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.</td>
</tr>
<tr>
<td>H4a</td>
<td>Rejected</td>
<td>Auditory cues have an influence on triggering female consumer’s positive emotion in a cosmetic store.</td>
</tr>
<tr>
<td>H4b</td>
<td>Rejected</td>
<td>Auditory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic store.</td>
</tr>
</tbody>
</table>
The above results indicate that both olfactory cues and tactile cues enable to trigger female’s consumer positive emotion in a cosmetic store, while visual cues and auditory do not seem to exert a significant influence on female consumers. Considering that H1b, H2b, H3b is supported and H4b is rejected, it indicates that visual stimuli, olfactory stimuli and tactile stimuli all enable to exert a positive impact on female’s purchase intention in cosmetic retail environment, except for the auditory stimuli. Therefore, by comparing the magnitude of these three sensory stimuli:

- visual stimuli ($\beta = .26$)
- tactile stimuli ($\beta = .19; \beta = .0504; \beta = .0798$)
- olfactory stimuli ($\beta = .0546; \beta = .042$)

The above data indicate that visual stimuli have the most positive influence on female consumer’s purchase intention in a cosmetic retail store. Tactile stimuli have a moderate positive influence, olfactory stimuli have small and positive influence, while auditory stimuli seem to have no significant influence on female’s purchase intention in a cosmetic store. The following chapter will discuss the results in detail by associating with the theory and answer the proposed research questions.
5. Discussion

The literature overview has contributed to propose a developed conceptual model as well as hypotheses. The literature overview also enables to provide a better comprehension of the empirical data. In this section, a detailed interpretation of the research findings with consideration of the literature will be discussed. Meanwhile, the research questions will also be answered: RQ1. What sensory cues can trigger female consumer’s positive mood? RQ2. Which sensory stimuli have the most positive impact on female consumer’s purchase intention?

5.1 Discussion

- Research question 1: What sensory cues can trigger female consumer’s positive emotion in a cosmetic store?

It is believed that if consumers have good mood, then they feel more willing to award themselves and tend to have more impulsive spending (Giraud, 2001). Generally, a consumer’s emotional state is supposed to be influenced by these sensory cues when entering a retail store (Solomon et al., 2013). In this case, the sensory cues primarily include visual cues, olfactory cues, tactile cues and auditory cues. In-store components enable to enhance shoppers’ positive emotion and feeling (Donovan and Rossiter, 1982; Turley & Chebat, 2002). And positive emotion consists of arousing, exciting, pleasant and relaxing. This research question aims to identify which sensory cues have a better capacity of triggering female’s positive emotion. In this case, the proposed hypothesis H1a, H2a, H3a, H4a are tested with the application of SEM.

H1a proposed that visual cues have an influence on triggering female consumer’s positive emotion in a cosmetic retail store. The outcomes of statistical testing imply that visual cues do not appear to trigger a female consumer’s any positive emotion, either for triggering an arousing emotion or an exciting emotion. Therefore, H1a is rejected. However, the finding shows a contradictory conclusion with a number of previous researches (Donovan & Rossiter, 1982; Brengman & Geuens, 2003), which claim that visual cues have a great potential to affect human’s positive mood in the retail environment. In this case, the rejection of the hypothesis can be explained that just because visual cues are widely used in various retail stores, consumers seem to be more accustomed to these visual cues. Their positive mood cannot be easily triggered by these visual tricks, especially for female consumers, they generally seek more hedonism and exciting experience. Hence, it is assumed that the cosmetic retail stores could consider a more unique visual cues to trigger female’s positive mood.

H2a proposed that olfactory cues have an influence on triggering female consumer’s positive emotion in a cosmetic retail store. The outcomes of statistical testing imply that olfactory cues have a positive and
significant impact on stimulating female’s arousing emotion ($\beta = .26, p = .001$) and exciting emotion ($\beta = .20, p = .003$), respectively. Therefore, H2a is supported. In line with various studies (Kotler, 1973; Dani & Vanishree, 2013), it claims that the ambient scent is more likely to create a positive emotional state. Therefore, it is supposed that an appropriate use of olfactory cues in a cosmetic store will contribute to trigger female’s positive emotion.

H3a proposed that tactile cues have an influence on triggering female consumer’s positive emotion in a cosmetic store. The outcomes of statistical testing indicate that tactile cues have a positive and large effect on triggering female’s arousing emotion ($\beta = .24, p = .001$) and exciting emotion ($\beta = .38, p = .000$), respectively. Hence, H3a is supported. The finding is consistent with Essick, James and McGlone (1999), who claim that there is an association between individual’s emotional reactions and tactile cues. In cosmetic retail environment, consumers seem to be more accustomed that almost every cosmetic store provide free cosmetic samples for consumers to test it (Gannon, 2011). But a consumer’s negative emotion is supposed to generate if her desire to touch the product cannot be satisfied (Lu et al., 2012). Therefore, it is suggested for cosmetic retailers to consider whether provide the opportunity to touch or test the product, but it should depend on the types of cosmetic.

H4a proposed that auditory cues have an influence on triggering female consumer’s positive emotion in a cosmetic store. The outcomes of statistical testing imply that auditory cues do not seem to trigger a female consumer’s any positive emotion, either for triggering an arousing emotion or an exciting emotion. The finding is line with Van der Zwaag et al. (2012), who claim that there was no significant effect between music and arousal level. However, it seems there still remain controversies that whether the music has the capacity of inducing moods by listeners or not (Kivy, 1990; Van der Zwaag et al., 2012). Since research also indicate that fast tempo and high rhythm music appear to perform better for increasing arousal levels than slow tempo and low rhythm music (Krumhansl 1997, Van der Zwaag et al. 2012). In this case, the music playing in the cosmetic stores do not seem to exert a significant influence on female positive emotion. It can be assumed that auditory cues do not enable to trigger female’s positive emotion in a cosmetic store.

To sum up, both olfactory cues and tactile cues enable to trigger female’s consumer positive emotion in a cosmetic store. While visual cues and auditory do not seem to exert a significant influence on female consumers.
Research question 2: Which sensory stimuli has the most positive impact on female customers’ purchase intention in the cosmetic retail environment?

Sensory marketing nowadays has gained an increasing popularity by a number of researches, it is also used as a marketing strategy in order to influence on consumer’s purchase intention (Grębosz & Wronska, 2013). The majority of previous studies have been focusing on human’s senses (Suhonen & Tengvall, 2009). However, until authors’ knowledge, little research exists demonstrating which sensory stimuli have the most positive impact on female’s purchase intention, especially in the cosmetic retail environment. Hence, this research aims to identify which sensory stimuli have the most positive impact on female consumer’s purchase intention. In this case, the proposed hypothesis H1b, H2b, H3b and H4b are tested with the application of SEM.

H1b Proposed that visual stimuli have a positive influence on female consumer’s purchase intention in a cosmetic retail store. The outcomes of statistical testing (β = .26, p = .000) imply that visual stimuli have a positive and large impact on female’s purchase intention. Findings also indicate that a female consumer’s purchase intention will be directly influenced by the visual cues that used in the retail environment, without the intervention of consumer’s emotion. Therefore, statistical testing support H1b. This is line with what Sayadi, Mobarkabadi and Hamidi (2015) stated: sight is the strongest sense in human’s sensory system, consumers are largely reply on this sense and often make a purchasing decision based on their first impression. Especially for female consumers, they tend to generate impulsive consumption when they are attracted by something fairly interested, such as attractive appearance or unique design (Greer, 1999; Luo, 2002; Kaur, 2015).

H2b proposed that olfactory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic retail store. The outcomes of statistical testing (β = .0546, p = .001; β = .042, p = .003) indicate that olfactory stimuli have a positive impact on female’s purchase intention. Besides, an interesting finding is that olfactory stimuli, unlike visual stimuli, are not supposed to influence a female consumer’s purchase intention directly. In this case, when female consumers are stimulated by the olfactory cues in the cosmetic store, they will first generate an arousing mood or exciting mood, and then they will have a desire to purchase. Consequently, statistical evidence support H2b. In line with Lodzka (2012) and Hussain and Ali (2015), olfactory cues enable to exert an impact on consumer’s emotion and subsequently on their approach behaviour (e.g. intention to patronage the store or purchase). Actually, female shopping is not only for seeking and purchasing products, they also for the purpose of pleasure, entertainment and independence (Huddleston & Minahan, 2011). The ambient scent of a retail store is more likely to create a positive emotional state (Kotler, 1973; Dani & Vanishree, 2013). Therefore, it can be assumed that the application of
olfactory cues will first influence female consumers’ emotional state, and they tend to generate purchase intentions when they consider the scents are pleasant.

H3b proposed that tactile stimuli have a positive influence on female consumer’s purchase intention in a cosmetic retail store. On the one hand, the outcomes of statistical testing ($\beta = .19$, $p = .000$) suggest that tactile stimuli have a positive and direct impact on female’s purchase intention. This finding is in line with the literature that proposed by Kolter et al (2016), which claim that offering ample opportunities for customers to touch the products can lead to increased purchase intention. On the other hand, an interesting finding is that a female’ purchase intention also enables to be influenced indirectly, but it requires the intervention of consumers’ arousing mood and exciting mood. This finding is also conformed with the literature by Peck and Wiggins (2006), who state that if consumers are allowed to touch or test the product, they would generate a more positive emotional reaction towards their experience of touch, even though there is inadequate information provided by the tactile cues. Especially for female consumers, their pleasant tactile experience and strong emotional systems would persuade them into impulsive purchasing (Gannon, 2011). Tactile stimuli could be very useful for cosmetic stores and female consumers, since only if they a better tactile experience, then they would be more persuaded to purchasing. Consequently, H3b is supported.

H4b proposed that auditory stimuli have a positive influence on female consumer’s purchase intention in a cosmetic retail store. However, the outcomes of statistical testing imply that tactile stimuli have a weak association with purchase intention. Hence, it can be assumed that auditory stimuli have no significant influence on purchase intention. Consequently, hypothesis H4b is rejected. In contrast to authors’ findings, the research has implied that auditory cues, such as music, enable to exert a significant influence on consumers’ purchase intention in the retail environment (Hussain & Ali, 2015). The potential of music is considered as a powerful function for inducing consumers’ purchase intention (Juslin & Sloboda 2010), however, Van der Zwaag et al. (2012) also claim that female consumers seem to be more favor of retail environment that without music playing. Hence, it can be assumed that auditory stimuli exert a less significant influence on female consumers’ purchase intention.

To sum up, the outcomes of statistical testing imply that the magnitude of visual stimuli path coefficient is the biggest. Hence, it is possible to assume that visual stimuli have the most positive influence on female consumer’s purchase intention in a retail store, among other three sensory stimuli. Vision is regarded as the most important sense when individuals perceive a commercial environment (Hultén, 2012). Lindstrom (2005) states that 37% of people regard visual effect as the most important when evaluating the ambient environment, scents have accounted for 23%, auditory effects have occupied 20%, taste have accounted for 15%, while tactile effect rank the last place and occupy only 5%. Lindstrom (2005) also mentioned that visual stimuli usually overrule other sensory stimuli, which has a powerful potential to convince individuals
to reject all logic. Especially for female consumers, they tend to generate impulsive consumption when there is attractive appearance or unique design (Greer, 1999; Luo, 2002; Kaur, 2015). Actually, the application of visual cues is no more a unique advantage, since it is necessary for surviving in the retail environment. Although the statistical data proves that visual stimuli have the most positive effect on female’s purchase intention in a cosmetic store, female seems to be less sensitive towards visual cues since it is a common strategy that used by retail store. Therefore, a combination of other sensory cues would be favored by female consumers in the cosmetic retail environment. Since the statistical outcome from the questionnaire also indicate that tactile cues and olfactory cues also grant a moderate and small effect respectively on female’s purchase intention.
6. Conclusion

Since the findings of the research has been analysed in the discussion chapter. This chapter is going to summarize the most critical point and demonstrate the conclusion of the thesis. Moreover, managerial implications and recommendations for future study will be proposed in the end of the thesis.

6.1 Conclusion

Nowadays, it is undeniable fact that cosmetic consumption has become an essential part of every individual’s life, whether for female or male (Larsen & Tambo, 2014). But to some degree, the cosmetic industry seems to pay more attention to female consumers’ demands than male (Kumar et al., 2006). As Huddleston and Minahan (2011, p.5) claim: “women call the shots in the vast majority of consumer decisions.” Female customers nowadays are powerful purchasers, since they are one half of the population and account for over half of the consumption (Silverstein & Sayre, 2009). Besides, female consumers generally have abundant emotions, and they are more likely to make impulsive purchase and pursue hedonic purchasing experience than male consumers (Greer, 1999; Mpinganjira, 2014; Kaur, 2015). Considering that female consumers have huge consumption, therefore, developing an effective strategy is necessary for cosmetic marketers to reach their target consumer group.

Nowadays, at the age of fierce competition environment and increasing expectations of consumers, a number of enterprises have been forced to seek for new marketing strategy in order to achieve value co-creation with their customers. Sensory marketing attempts to engage human’s five senses and subsequently exert an impact on their emotion, judgment and behaviour (Krishna, 2012). The sensory cues in the cosmetic retail environment can be considered as: layout and lighting effect, the ambient scents diffused, the music playing, and the opportunity to test the cosmetic products. An appropriate use of these sensory cues would contribute to create a favourable retail environment for cosmetic retail industry, and subsequently triggering consumer’s positive emotion and purchase intention.

The concept of female consumers and sensory marketing are the core of this thesis. The purpose of this study aims to investigate what sensory cues in a cosmetic shop have a better capacity to trigger female consumer’s positive emotion, as well as to identify the impact level of these sensory stimuli on female’s purchase intention in the cosmetic retail environment. In order to achieve the research purpose, the authors have proposed the research questions, conceptual model as well as hypotheses. Besides, an online questionnaire is used to collect primary data for the research. The responses from the respondents are from female and their age are mainly in the range of 20 to 40 years old. The conceptual model and the hypotheses are tested by using structural equation model (SEM), which is also rarely used in previous researches. In a
word, all the outcomes are for the purpose of answering research questions. The results are shown as following:

- **RQ1.** *What sensory cues can trigger female consumer’s positive emotion in a cosmetic store?*

Both olfactory cues and tactile cues enable to trigger female’s consumer positive emotion in a cosmetic store, while visual cues and auditory cues do not seem to exert a significant influence on female consumers.

- **RQ2.** *Which sensory stimuli has the most positive impact on female customers’ purchase intention in the cosmetic retail environment?*

Visual stimuli have the most positive influence on female consumer’s purchase intention in a cosmetic retail store. Tactile stimuli have a moderate positive influence, olfactory stimuli have small and positive influence, while auditory stimuli seem to have no significant influence on female’s purchase intention in a cosmetic store.

### 6.2 Managerial implications

According to the existing literature, it can be noticed that there is a lack of study to consider gender as an important variable in terms of sensory marketing, especially in the cosmetic retail environment. Marketers should consider to apply different strategies according to different gender. This research has closed this gaps and confirms that the sensory dimension of tactile and visual stimuli can direct impact female customers’ purchase intention in cosmetic retail environment.

The findings demonstrated that environmental stimuli produced mood state, so that cosmetic shop could use the findings as a guidance in planning exciting and arousing environments. There were some attributes that were more significant than others in enhancing female consumer’s mood states, and purchase intention. So the results of this thesis have implications for how to efficiently allocate business resources for cosmetic retailers. On one hand, visual sense as the most important environmental stimuli that directly influences female consumers’ purchase intention, which implies a cosmetic store’s lighting effect, layout and colours are more likely to differentiate a store from its competitors. On the other hand, tactile dimension among the cosmetic environmental features can also influence female consumers’ purchase intention, which indicates the opportunity to touch or test the products is important in a cosmetic shop.

According to author’s finding, exciting and arousing were two of the most significant mood states that affecting female customers’ purchase intention in cosmetic retail environment. The sensory stimuli of tactile and olfaction can both trigger those two mood states. It is important to recognize that aroma and
opportunities to touch can be controlled by management, and this might be one of the least expensive ways to trigger female customers exciting and arousing mood state. For instance, cosmetic retailers can provide as much opportunities as possible for customers to try and to test the cosmetic products. Therefore, cosmetic retailers should consider using proper sensory stimuli as an operational tool.

The overall results of this thesis reinforced the significant of understanding the impact of sensory stimuli on female customer’s purchase intentions. Some cosmetic retailers may overlook the impact level of each sensory component on female customers. The finding indicates each sensory stimuli has different impact level on female customers. Therefore, cosmetic retailers should understand the significance of physical environment in generating positive mood state so that further increase purchase intention.

6.3 Future research

There are several aspects can be recommended for future research. First of all, since this thesis surveyed customers about cosmetic retailers with a focus on limited line retailers, the types of results examined may not be able to generalized to all forms of retailers. Thus, it is recommended to conduct research in other types of retail shops, for example clothes retailer shops, restaurants, etc.

Furthermore, this study is based on people’s perception towards environment. This means individual differences (e.g.: cultural differences, personalities, ethnicity) could have an influences on the final result. For future study, the study of sensory marketing within Lush, the Body shop and Ritual’s could be conducted by investigating and controlling the individual differences might contribute to a better result.

Another suggestion on future research is to conduct research on male samples. Since this thesis put a focus on female samples, it is also recommended to conduct a similar research on male samples by choosing typical male stores so that to compare how the genders perceive the sensory marketing; and in addition to know which sensory stimuli is the most effective according to male’s perception.
Reference list


Chrysi, A. (2013). Sensory marketing and branding: exploring the power of the senses: a review. 117.


Sensory Marketing Questionnaire

Hello everyone!

We are conducting a research about the influence of sensory marketing on female consumer behavior. We would greatly appreciate if you would like to fill out this short questionnaire. There are a total of 12 choice questions and filling the survey takes approximately 3 minutes. All given information will be treated as confidential material and the anonymity of all participants will be secured.

Thank you for your participation!

1. Gender? *

   ○ Male
   ○ Female

2. Age? *

   ○ Below 20
   ○ 20-30
   ○ 31-40
   ○ 41-50
   ○ 51-60
   ○ Above 60
3. Have you purchased the cosmetic products from? *

(If not, it is not necessary to continue answering the questionnaire.)

- Lush
- The Body Shop
- Rituals

4. How often do you visit the store? *

- More than once a week
- Once a week
- 2-3 times per month
- Others

5. How long do you usually stay in this store? *

- Less than 10 minutes
- 10-20 minutes
- 21-30 minutes
- More than 30 minutes

6. What do you think the atmosphere in this store? *

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<th>3</th>
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<th>5</th>
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<th>7</th>
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  ○ ○ ○ ○ ○ ○ ○ Attractive
  ○ ○ ○ ○ ○ ○ ○ Bright
  ○ ○ ○ ○ ○ ○ ○ Organized
  ○ ○ ○ ○ ○ ○ ○ High volume music
Slow rhythm music
Light fragrance
Stale smell
Limited opportunity to touch and interact with products

Fast rhythm music
Concentrated fragrance
Fresh smell
Plenty opportunities to touch and interact with products

7. How do you feel about the following statements regarding to visual experience in the store? *

(1=strongly disagree, 7=strongly agree)

1 2 3 4 5 6 7

I like the overall color of the store.

I like the layout of the store.

I like the lighting effects in the store.

The interior design (color, layout, lighting effects) is an important factor that influences my staying time in a cosmetic store.

The interior design (color, layout, lighting effects) is an important factor that influences my shopping experience in a cosmetic store.

8. How do you feel about the following statements regarding to smell experience in the store? *

(1=strongly disagree, 7=strongly agree)

1 2 3 4 5 6 7

I like the fragrance in the store.

The scent is an important factor that influences my staying time in a cosmetic store.

The scent is an important factor that influences my shopping experience in a cosmetic store.

9. How do you feel about the following statements regarding to hearing experience in the store? *

(1=strongly disagree, 7=strongly agree)

1 2 3 4 5 6 7

I like the fragrance in the store.

The scent is an important factor that influences my staying time in a cosmetic store.

The scent is an important factor that influences my shopping experience in a cosmetic store.
I like the music playing in the store.

Music is an important factor that influences my staying time in a cosmetic store.

Music is an important factor that influences my shopping experience in a cosmetic store.

10. How do you feel about the following statements regarding to tactile experience in the store? *

(1=strongly disagree, 7=strongly agree)

I feel happy to test the cosmetics.

The opportunity to touch / test the product is an important factor that influences my staying time in a cosmetic store.

The opportunity to touch / test the product is an important factor that influences my shopping experience in a cosmetic store.

11. To what extent of intensity you feel when staying in the store? Please suggest on the following scale. *

1 2 3 4 5 6 7
Sleepy ○○○○○○○ Arousing
Gloomy ○○○○○○○ Exciting
Unpleasant ○○○○○○○ Pleasant
Distressing ○○○○○○○ Relaxing

12. To what extent would you agree with the following statements? *

(1=strongly disagree, 7=strongly agree)

1 2 3 4 5 6 7
I will often shop in this store in the future. ○○○○○○○
I will shop for my friends or family in this store. ○○○○○○○
I am willing to recommend the store to others. ○○○○○○○