

Words decide what we eat – How sensory descriptive attributes on restaurant menus influence our food choice

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Affidavit

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Abstract

Sensory marketing has become increasingly important in the way brands present their products. Especially food presentations make use of consumers' senses in many ways already. Restaurant menus for example can be seen as such a form of presentation, with the goal of describing the dishes the restaurant offers as appealing as possible for customers. Food presentations extensively use sensory descriptive attributes, however little research has been done so far on the specific benefits of using sensory descriptive attributes. This thesis intends to answer the question to what extent the use of sensory descriptive attributes on restaurant menus influences a customer's taste evaluations, quality evaluations and purchase decision. A field experiment tested the theoretically developed conceptual framework. In the field experiment, the menus from the restaurant Karma Food in Vienna included descriptive attributes in the experimental condition, while these attributes were absent in the control condition. Mean differences among the constructs of interest revealed that sensory descriptive attributes on restaurant menus have a significant influence on the customers' food consumption behavior. The results not only contribute to the understanding of the role sensory attributes in explaining consumer behavior, but also offer important practical implications for other restaurants on their menu presentation strategy.



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1 Introduction

Marketing influences with all available means to increase purchases of certain products. Simply showing an advertisement to existing or potential customers will not suffice anymore to achieve this goal. Instead, all senses should be used to create a more intense purchase desire for products. Emotions get triggered through our senses, which will subsequently influence purchase decisions and relationships with brands. Hence, a brand must transform itself into a sensory experience that goes further beyond what we see on the surface (Lindstrom, 2010).

It is no surprise that sensory marketing has become more prominent and better applied in preceding years as marketers have realized that sensory branding enhances the appeal of certain products. Additionally, sensory branding can create the strongest form of commitment between consumers and brands (Lindstrom, 2010). Sensory marketing primarily focused on hearing and vision before taking into account more of our senses. Nevertheless, marketing does not take extensive advantage of taste yet (Swahn, Mossberg, Öström, & Gustaffson, 2012).

The importance of senses, including taste, in marketing is highlighted when dealing with food. Decisions concerning food quality are often made with a "sniff-and-feel" test. Sensory descriptions may also add another perspective of evaluating between different food product choices merely from perceiving and processing the labels (Swahn et al., 2012). Although taste was not considered a primary factor in sensory marketing before, especially food presentations can make use of taste related attributes.

Consumers' response to food is mostly driven by the way the product or dish is described (Piqueras-Fiszman & Spence, 2015). The way food is presented in the first place, and how this presentation is evaluated by consumers, is a vitally important factor for restaurants to consider in their food presentation. The menu is one of the main reasons for consumers to choose a dining place and it functions as a substantial communication tool between the restaurant and the consumer (McCall & Lynn, 2008). McCall and Lynn (2008) regard the menu as the core of a restaurant's marketing plan. Consumers are eager to find dishes on the menu that satisfy their needs and that will meet their current expectation (Wansink, Painter, & Van Ittersum, 2001). Presuming



an appropriate description of the offered food, restaurant menus can be regarded as advertisements for the food the restaurant offers.

Although descriptive labels are already used in some restaurants, most of them are only pointed at health information or nutritional labels (Wansink, Painter, & Van Ittersum, 2001), or even geographic and nostalgic labels (Wansink et al., 2001). However, descriptions that highlight our senses are a way to make the offered dishes look even more appealing. Sensory labels could consequently be able to provide a better idea of what to expect for the consumer, if they accurately describe the taste, smell and mouth sensation of the offered products (Wansink et al., 2001). Although, descriptive food names are considered a confirmation of good quality and influence food choices (Fernquist & Ekelund, 2014), only little research has been done concerning the impact that sensory descriptions on food menus might have on the customers' behavior. Considering the above-named benefits of applying sensory marketing, descriptive names could also have a considerable impact on sales in restaurants (Swahn et al., 2012).

Based on the preceding discussion, the central focus of this thesis is to elaborate on the question of how sensory descriptions of food on menus influence customers' food consumption behavior in the restaurant.

The central research question of the thesis is: To what extent does the presence of sensory descriptive attributes on food menus in restaurants influence the customers' food consumption?

The aim of this thesis is to provide a clear picture of how the food service industry can benefit from sensory descriptions. Another goal is to give an example of how restaurants can successfully apply sensory descriptive attributes to affect customer's perceived value, purchase decisions, perception of food quality, behavioral intentions and overall satisfaction.

Based on current literature the author assumes that sensory descriptive attributes do have a significant impact on the customers' behavior. In the field experiment, the menus from the restaurant "Karma Food" in Klosterneuburg include descriptive attributes in the experimental condition, while these attributes are absent in the



control condition. Main differences among the constructs of interest will reveal whether the presence of sensory attributes on menus will influence consumer behavior. The results will not only contribute to the understanding of the role sensory attributes in explaining consumer behavior, but also offer important practical implications for other restaurants on their menu presentation strategy.



2 Theoretical Background

This chapter introduces the main marketing methods that use costumers' senses to implement successful strategies. The first section will touch upon sensory marketing in general. Following, the thesis focusses on the role sensory marketing plays in the food industry. The cue utilization theory will also offer an explanation of the influences sensory marketing has in the food industry. Consequently, the importance of sensory descriptive attributes is revealed and explained in order to understand the backgrounds of the subsequently performed field experiment.

2.1 Sensory Marketing

Sensory marketing uses fragrances, sounds, textures to raise the attractiveness of products for consumers. This enables a brand to go beyond its superficial perception. Furthermore, it supports the transition from being just a brand into being a full sensory experience for consumers to bond with. Senses trigger emotions and affect consumer's decision-making process accordingly. Brands who successfully take advantage of a sensory experience, are proven to create a strong emotional bond with their client base. However, many brands have not yet realized the benefits of using senses in the marketing strategy (Lindstrom, 2010).

An example is the label Abercrombie & Fitch (A&F). The company took into account many of the human senses when creating their marketing strategy. Besides the attractive models on billboards attracting the visual sense, A&F is known for its unique store design. The dark interior, loud music and distinctive fragrance stand out significantly from competitors' store design concepts. The fragrance in particular, has such a specific aroma that people recognize a piece of garment from A&F just by its smell. This particular phenomenon of identifying and also assessing a brand just by its aroma is known as "Proust phenomenon" (Lindstrom, 2010).

It is important for brands to consider that 80% of all impressions formed are sensory when communicating with their client base (Lindstrom, 2010). The distinction of a product by a third dimension, besides vision and hearing, makes it possible to be identified without displaying a logo (Lindstrom, 2010). Additionally, the more positive and consistent the connection between the various senses, the stronger the



connection between brand and consumer is. Therefore, it can be inferred that the human senses are able to seduce people in a way that lets them crave for something. The influence of the senses further leads to people desiring the craved product and finally buying it. Sensory branding fosters a consumers' relationship with a brand by attracting interest. The emotions are influenced and lead to impulse purchases that succeed over rational decision making. In such a way, sensory branding can acquire the most binding form of engagement between brand and consumers.

To conclude, it is easier for customers to build more sensory memories, when there are more sensory points of contact with the brand. Subsequently, the higher the number of active sensory memories, the stronger the bonding between the customer and the brand will be. Therefore, if a brand wants to gain and retain consumer loyalty, it has to incorporate all senses into their marketing strategy (Lindstrom, 2010). For the food industry it is important to include the taste sense into their marketing strategy. The food industry can take advantage of taste when labelling food with sensory descriptive attributes. Hence, the next section will focus on sensory marketing in the food industry.

2.2 Sensory Marketing in the Food Industry

The practices of sensory marketing indicate that brands should consider taste as a primary influence to enhance product's attractiveness, besides vision and hearing. Decisions about food purchases are complex and are easily influenced by marketing and psychology. Taste can serve as such a strong sensory influence. Sensory marketing with a focus on taste can have a positive impact in the marketing of food regarding consumers' decision-making (Swahn et al., 2012).

Lindstrom (2010) confirms this assertion by stating that brands who incorporate taste into their strategy will have a lot of success. Additionally, he states that taste is not one sensation alone, but actually set up of smell, sound, sight and texture (Lindstrom, 2010). Brands that consider all of these senses will have a significantly high impact on consumers' taste (Lindstrom, 2010).

Taste as well as smell are considered to be quite prominent, which proved to be an advantage for sensory marketing in the food industry. Products are perceived as being



of higher quality, when the sensory characteristics of them are highlighted (Swahn et al., 2012). Wanksink, Van Ittersum, & Painter (2005) hold that the sensory characteristics, to be precise, the hedonistic aspects, have a more significant influence on decision-making than the utilitarian attributes. Providing sensory information about a food item activates the parts of the brain where sensory and hedonic knowledge is stored. This particular knowledge is based on previous experience and further turns into expectation about the presented product (Piqueras-Fiszman & Spence, 2015). As a consequence, consumers develop inferential opinions about a product or brand based on superficial information (Cho, 2019). Providing a name for the food or beverage before the consumer evaluates its taste is known to have a bigger impact, than when the name is provided after tasting the item (Piqueras-Fiszman & Spence, 2015). Consequently, it can be said that information about a product like its name, considered as extrinsic cue, impacts consumers' imagination and actual sensory expectations (Cho, 2019). In particular, the consumer will build expectations about the product's quality, ingredients, origin, how it will be prepared and also the possible texture the food item might have (Piqueras-Fiszman & Spence, 2015).

A figurative exposition depicts the relationship between these factors:

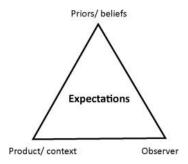


Figure 1: Expectation triangle (Piqueras-Fiszman & Spence, 2015)

Figure 1, provided by Piqueras-Fiszman and Spence (2015), demonstrates that the product in a given context, the individual perception of the observer and the previously made experiences, considerably influence the expectations.

In conclusion, incorporating senses into the marketing strategy will be an advantage for brands. Especially the taste sense influences decision making when purchasing food. The superficial information on a product that influences opinions about the



product is also known as extrinsic cue. However, sensory descriptive attributes on products not only provide extrinsic cues, but also intrinsic cues. To better understand how the different kinds of cues affect consumers' decision making, the next section will concentrate on the cue utilization theory.

2.3 Cue Utilization Theory

The preceding chapters addressed the notion that sensory descriptive attributes do have an impact on consumers' decision-making. However, sensory attributes, related to taste, can influence consumers just when being mentioned (Wanksink et al., 2005). The cues underlying sensory descriptive attributes provide another important aspect for sensory marketing in the food industry.

Consumers develop concluding beliefs about new products only by relying on a small number of information, in the form of extrinsic and intrinsic cues (Cho, 2019). More precisely, whenever consumers come in touch with food or beverage items in a consumption context, their brain interprets and integrates previously experienced information with the newly presented cues about the item (Piqueras-Fiszman & Spence, 2015). This means that not only profound cues can easily influence expectations about food products (Cho, 2019), but also every information already stored in the brains of consumers, has an impact on how they assess food (Piqueras-Fiszman & Spence, 2015). Wansink at al. (2005) further highlight that odors and scents, presenting taste related cues, can create either a negative or positive influence just when being displayed.

Consumers look for opportunities to save time and therefore build upon different cues on the products when making purchase decisions. These cues are selected depending on their availability and the selection is in turn biased by each consumer's preferences, characteristics, beliefs, awareness, abilities and also by contextual factors (Fejes & Wilson, 2013). Additionally, the extent to which a cue is utilized in assessing the product quality varies with its informational value and the availability of other cues (Wang, Cui, Huang, & Dai, 2016). The value of the information presented by certain cues is based on either predictive value or confidence value (Fejes & Wilson, 2013). Predictive value refers to the probability with which a costumer associates a given cue with the presence or absence of a desired product attribute. Confidence



value is the degree to which consumers are assured in their ability to accurately judge a cue (Fejes & Wilson, 2013). Research shows that consumers actually prefer appointing a high informational value to a small number of cues with a high predictive value, whenever only cues with low confidence values are presented (Fejes & Wilson, 2013).

Olson's two stage model, which is the basis of many studies concerning cue utilization theory, is presented in detail by Fejes and Wilson (2013). As a first step in this model, consumers perceive and discriminate between product cues and select the ones that best fit their concept of product quality. Next, they combine their judgements about the product cues to one judgement about the product quality. For this evaluation, consumers use intrinsic or extrinsic cues, however, only if they are aware of them (Fejes & Wilson, 2013).

A more precise explanation of intrinsic and extrinsic cues is presented by Olson and Jacoby (1972). According to the researchers, intrinsic cues cannot be changed or experimentally manipulated without changing the offered product (Olson & Jacoby, 1972). This entails that intrinsic cues are the most important when deciding on quality and are considered to be more powerful than their counterpart, the extrinsic cues. Extrinsic cues, in contrast, are not part of the physical product (Olson & Jacoby, 1972). Although one could argue that intrinsic cues have a greater impact on the evaluation process, the relative importance of extrinsic and intrinsic cues are dependent on their predictive and confidence values (Fejes & Wilson, 2013). According to Szybillo and Jacoby, also analysed by Fejes and Wilson (2013), intrinsic cues have a higher predictive value and therefore have a greater impact on the product evaluation. This is supported by Miyazaki (cited by Fejes & Wilson 2013), who also states that intrinsic cues generally dominate extrinsic cues, since consumers consider them to be more useful (Fejes & Wilson, 2013). Another interesting factor for this thesis is demonstrated by Fernquist and Ekelund (2014) who showed clear evidence that sensory expectations are generated by external cues and affect perception and hedonic liking.

An additional differentiation of cues is highlighted by Wang et al. (2016), namely the distinction of high-scope and low-scope cues. High-scope cues are established over a longer period of time and are therefore more credible and reliable for consumers.



Low-scope cues, in contrast, are more easily manipulated, hence they are a rather uncertain source of quality indication. Consumers that are faced with various cues will prefer relying on high-scope cues (Wang et al., 2016). Furthermore, the product involvement is very influential regarding the consumers' judgement in the context of cue utilization. When the product involvement is high, both high-scope and low-scope cues have a considerable influence on decision making. However, if there is low involvement on the consumer side, a simple judgement is made based on easily accessible and diagnostic information, hence based on low-scope cues (Wang et al., 2016).

Cue utilization theory is the basis to understand how cues related to sensory descriptions affect consumers, which is of utmost importance in the food industry. Therefore, the next section elaborates on the impact sensory descriptive food names have on consumers' decision making.

2.4 Sensory Descriptive Food Names

Consumers' expectation of food is mostly influenced by the way the food is described (Piqueras-Fiszman & Spence, 2015). Consumers will search menus for benefits that meet their expectations (Wansink et al., 2001). Sensory descriptive attributes raise these expectations (Piqueras-Fiszman & Spence, 2015).

Restaurants can use the influence that sensory descriptions have on food to enhance the customers' perception of the food. Research by Yang, Kimes & Sessarego (2009) proved that the food assessment is more satisfactory when sensory descriptive terms were used on menus. The menu of a restaurant can be seen as the advertisement of the dishes it offers, placed directly into the consumers' hands (Yang et al., 2009). Tom Feltenstein cited by McCall and Lynn (2008), even goes a step further when stating that the menu is the number one tool in a restaurant's marketing strategy and is therefore the driver for guests to enter the restaurant. To give a good first impression and attract consumers, restaurants intentionally post their menu outside for everyone to see (McCall & Lynn, 2008).

Although the menu is the center of a restaurant's marketing strategy, it is often designed more intuitively rather than objectively and based on data. For that reason,



the Food Services of America advises to only offer a small selection of items that are carefully and objectively chosen on the menu. Additionally, one should place profitable items perfectly noticeable for the customers and eventually use pictures. The description should be more complex for products that should be perceived of higher quality (McCall & Lynn, 2008).

The menu proves to be a very important communicative tool between the consumers and the restaurant. If a menu is carefully designed, the wording affects the consumer, leads to distinct items and seems to facilitate the selection (McCall & Lynn, 2008). Menus therefore promote an awareness of value to the costumer while its main purpose is to sell the offered dishes. Only a small change in the description of the dishes can positively influence sales by as much as ten percent (McCall & Lynn, 2008). The labeling of menu items can influence consumers purchase behavior as well as value and quality assessment (Yang at al., 2009).

Sensory descriptive labels allow customers to concentrate more on their feelings and expected taste during their purchase process (Swahn et al., 2012). People are automatically affected by the context in which a certain stimulus is presented (Civille & Lawless). From a psychological perspective, a sensory descriptive attribute should not only help to differentiate between similar sensations, but also help to identify the object it describes and assist to recognize the item when seeing it (Civille & Lawless). Certain factors are important to consider when using sensory descriptive attributes in the food industry. Important are the right type of words, the manner of the language used and how the label is categorized (Swahn et al., 2012). Although some sensory descriptions may be more informative than others, a good description of a food item is characterized by being easily recognizable after someone else has described it (Civille & Lawless). Especially for olfaction, that means the sense of our smell, it is challenging to find stimulus identification. Therefore, it is advised to use words for the description of terms that are unrelated to each other but still related to the underlying structure of the item. Also, the words should be based on a broad reference set and have a precise definition (Civille & Lawless).

For this thesis, it is important to note that information on food labels is strongly associated with the purchase decision and assists consumers with their decision-making (Swahn et al., 2012). Food labels should be carefully designed to successfully



communicate indications of high quality to the consumers. Consequently, the information on the food labels influences consumers in their further search for purchases (Swahn et al., 2012).

Only some research has been discussed about the influence of sensory description of food on consumers' perception (Wansink et al., 2001). Sensory descriptive attributes are considered to have a strong influence on food choices and serve as signals for food quality (Fernquist & Ekelund, 2014). Especially odors and scents provide valuable taste related cues. Decisions about the food choices can be influenced just by mentioning the odors and scents (Wanksink, Van Ittersum, & Painter, 2005). For example, the presence of soy was manipulated in a study conducted by Wansink et al. (2005). People were convinced they tasted soy and evaluated the food items accordingly, even though they did not contain soy. The flavor descriptions of various ingredients therefore create expectations that affect the hedonic liking of consumers (Fernquist & Ekelund, 2014). Sensory descriptive attributes could further enhance the positive attitudes towards certain products and help decide between different food options (Swahn et al., 2012). Particularly, when consumers are confronted with unfamiliar food options to choose from, consumers must rely on the food's descriptions. Sensory descriptions are often the only information available to consumers and therefore might significantly influence quality experiences (Fernquist & Ekelund, 2014). On the opposite, the better a product is known, the less influence various cues have on the potential buyer (Wanksink et al., 2005).

An example for the influence sensory descriptions can have is provided by Swahn et al. (2012). The researchers conducted a study about the influence sensory descriptive attributes have on the purchase of apples. Swahn et al. (2012) found out that consumers are indeed affected by sensory descriptive attributes on apples. Consumers showed more involvement when buying the fruit described with sensory attributes. In contrast, whenever no additional descriptions were used, consumers showed low involvement in the purchase of the apples (Swahn et al., 2012).

Wansink et al. (2001) found out that using sensory descriptive attributes can enhance sales by 27%. Sensory descriptive attributes stimulate the first consumption and also encourage additional sales (Wansink et al., 2001)



Descriptive labels are already used by some restaurants in order to affect consumer's choices and attitudes towards the products. If descriptive labels accurately address taste, smell and texture of the food item, restaurants will benefit since consumers are able to form expectations about the product and end up buying it (Wansink et al., 2001).

Sensory descriptive attributes increase the attractiveness of meals on the menu and help restaurant guests to decide between food options. (Wansink et al., 2001). Simultaneously, the whole consumption experience is positively influenced through sensory descriptive attributes (Wansink et al., 2001). Hence, the visual appeal of the meals might be enhanced, the perceived taste might be better, and the guests might rate the meal to be more satisfying.

Whenever the product satisfies the initial assumptions, the resulting halo effect will positively influence the purchase and post-purchase assessment (Wansink et al., 2001). The evaluation of the consumed food will automatically be more positive whenever the consumer associates a positive experience with the descriptive label. Consequently, consumers will rate the food item as being of higher quality and the whole consumption experience appears more pleasant (Wansink et al., 2001).

An example for the positive halo-effect that may occur is given by Wansink et al. (2005). When a dish is described as "Grandma's homemade chocolate pudding", consumers most probably associate Grandma's cooking as being flavorful. Subsequently, the assumptions of Grandma's cooking are combined with the sweet and tasteful characteristics of chocolate pudding. Altogether, the evaluation will be very positive thanks to the prior made positive associations (Wanksink et al., 2005). In addition to the positive halo-effect that occurs, the favorable associations also affect the perception of how satisfying the food ultimately was (Wanksink et al., 2005). If food is positively cued by a sensory descriptive attribute, people give a more favorable feedback about the consumed food than people who did not observe sensory descriptive attributes (Wanksink et al., 2005).

However, the concept of the halo-effect works both ways: if the expectation made by the costumer before tasting the food is not met when consuming the product, the sensory descriptive attributes might aggravate the consumers' product perception



(Wansink et al., 2001). In the worst case this leads to a bad appraisal of the restaurant (Wansink et al., 2001). Consequently, the use of sensory descriptive attributes should be monitored in order to avoid exaggeration (Wansink et al., 2001).

The halo-effect, occurring through sensory descriptive attributes, proves that cues provided by the name of a food item have a strong influence on consumers' perception (Wanksink et al., 2005). This applies to taste-related cues, as well as the visual appeal of an item or the presentation and garnishment (Wanksink et al., 2005). Additionally, the design of a menu is of high importance. The design has a direct influence on the customers' perception (McCall & Lynn, 2008) because the attractiveness of menu items can be enhanced (Wansink et al., 2001).

Considering the affect sensory descriptive attributes on food items generally have, the next chapter will focus particularly on how taste perception and quality evaluation are influenced by sensory descriptive attributes. Furthermore, other parts of the food consumption behavior will be displayed to provide a clear understanding of the vast influence sensory descriptive attributes have.

2.5 Hypotheses Development and Conceptual Model

Sensory descriptive attributes affect consumers' food consumption experience. In particular, sensory descriptive attributes can considerably influence consumers' perception of taste. This section will better explain the affect sensory descriptive attributes have on taste evaluation and quality perception. Additionally, other components of food consumption behavior will be highlighted, which will then set the frame for the theorized hypotheses and the conceptual model.

2.5.1 Taste Evaluation

When assessing sensory satisfaction, consumers do not use all four sensory modalities of a food item, namely the food's appearance, odor, taste and texture. In this given context, consumers pay most attention to the liking of taste (Vad Andersen, Brockhoff, & Hyldig, 2019). Liking of taste is also the primary modality to determine the overall liking of the product and sensory satisfaction (Vad Andersen et al., 2019). Cho (2019) also recognized the importance of taste: regarding bottled water for example, apart from price, the most important characteristics are taste, purity and



the water source. Taste is used to refer to basic aspects like sweet, sour, bitter and salty. Additionally, taste includes factors that occur during consumption like the odor, feeling sensation or texture (Cairncross & Sjöström, 2004).

Presenting a name before tasting a food or beverage has often proved to be more influential than when the same information is provided after tasting (Piqueras-Fiszman & Spence, 2015). Reading a name of a food item or ingredient with a particular aroma is enough to create a desire in costumers' brains (Piqueras-Fiszman & Spence, 2015). Sensory descriptive attributes create an expectation before consuming the food item. However, taste and texture attributes will be evaluated after the consumption of the product (Swahn et al., 2012).

Generally, products that deviate from expectations are very interesting for consumers. In contrast, food that exactly matches expectations will not affect overall hedonic appraisal and seem rather uninteresting (Piqueras-Fiszman & Spence, 2015). Expectations are based on a variety of information. The consumer's memories from past experiences play an important role, as inferences are drawn from similar experiences. In addition, the degree of familiarity is influential, because the expectations get more certain, the more familiar they seem (Piqueras-Fiszman & Spence, 2015).

When a disparity between the expectation and the actual evaluation of food items occurs, consumers react in various ways (Piqueras-Fiszman & Spence, 2015). One option could be that customers adjust their perception of the food to what was expected. Another possibility is for the consumer to magnify the difference between expectation and actual perception (Piqueras-Fiszman & Spence, 2015). In the worst case, if the evaluation does not fit the first perceived attributes, the consumer might lose confidence in the product or brand (Swahn et al., 2012).

A primary aspect to decide upon the overall sensory satisfaction of a food item are sensory attributes related to taste (Vad Andersen et al., 2019). This indicates that the evaluation of taste is closely related to the overall perception of quality, which will be illustrated next.



2.5.2 Quality Perception

The way consumers perceive quality is influenced by a variety of factors. These include intrinsic cues, such as taste, tenderness, texture or temperature of a food item, which can only be detected through consumption (Fernquist & Ekelund, 2014). Additionally, the quality expectations affect the subsequent evaluation. The quality expectations are divided into intrinsic cues, like color and size, and extrinsic cues, like brand or label (Fernquist & Ekelund, 2014). Consumers perceive and discriminate between product cues and concentrate on the cues that best fit their values (Fejes & Wilson, 2013). Subsequently, all the judgements made about the cues are merged into one judgement concerning the product quality (Fejes & Wilson, 2013).

In addition, consumer's judgement and information processing is influenced by the product involvement, which is in other words, the individually perceived relevance of extrinsic cues based on needs, values and interests (Wang et al., 2016). Accordingly, both high-scope and low-scope cues can affect decisions in high involvement situations (Wang et al., 2016).

To aid in decision-making under complex or uncertain situations, heuristics serve as simple rules, which consumers use to choose from various offered food items (McCall & Lynn, 2008). With the help of "Goodness of fit" product attributes are examined by potential buyers, who then identify whether a product fits into a certain category or not (McCall & Lynn, 2008). Furthermore, food items are rated lower in sensory intensity when they are presented within a more complex situation than when displayed in simpler contexts. This means that complex situations can actually enhance the expectation pre-consumption (Cardello, 1995). A perfect example for this phenomenon would be the different quality evaluation of wines either with corks or screw caps. Therefore, wines with corks will be rated being of higher quality, given a more complex situation, while wines with screw caps will be rated being of lower quality (McCall & Lynn, 2008).

Another indicator of perceiving a higher product quality are complex descriptions of food, while more simple descriptions might express the opposite (McCall & Lynn, 2008). Items with more complex descriptions also increase the tendency to purchase and simultaneously raise the expected price. Providing added value on the label can



lead to higher price margins for the seller. The consumers might consequently be willing to pay more for products having a label highlighting product quality (Swahn et al., 2012). The pricing can actually be adjusted in order to be consistent with consumers' reactions to price-quality assumptions (McCall & Lynn, 2008).

Since customer perceived value leads the evaluation process from image to satisfaction, the restaurant quality affects restaurant image, which further influences perceived value and results in customer satisfaction (Ryu, Lee, & Woo Gon, 2012). All the mentioned factors play an important role in reinforcing the loyalty of restaurants' guests (Ryu et al., 2012).

Ultimately, the perceived quality of food depends on the person, on the time and on the place of consumption. There are no absolutes when it comes to the quality evaluation, rather it is perceived within a context. The context is built upon either food related factors, for example other foods or drinks served coincidentally or non-food related factors, like the social setting (Cardello, 1995).

In conclusion, both taste evaluation and the perception of food quality are considerably influenced by sensory descriptive attributes on food items. Additionally, taste evaluation and perception of food quality are closely related to customers' perceived value of the offered meals and customers' overall satisfaction.

2.5.3 Hypotheses

Sensory descriptive attributes on food items lead the consumers to be more aware of the product's expected taste and consumers' feelings towards the product (Swahn et al., 2012). Food labels in general assist consumers with their food choice and are at the same time associated with the purchase decision (Swahn et al., 2012). Sensory descriptive terms may increase positive beliefs about items and help evaluate them (Swahn et al., 2012). In this thesis it is assumed that the presence of sensory descriptive attributes has a positive influence on the food consumption behavior of restaurant guests.

The perceived quality of the food items offered in a restaurant can be increased through sensory descriptions and affect the whole consumption experience (Wansink et al., 2001). Consumers pay a lot of attention to the liking of taste and use it as their



primary approach to assess their overall quality evaluation and satisfaction (Vad Andersen et al., 2019). Providing a name or description of a food before tasting it even proved to be more influential than when provided after tasting. Hence, the awareness of a name of a food item stating a particular aroma can create a desire in the minds of consumers (Piqueras-Fiszman & Spence, 2015). The evaluation of taste is closely related to the consumers' overall quality evaluation, which affects customer satisfaction. Therefore, it is assumed that sensory descriptive attributes on restaurant menus have a positive influence on costumers' perception of food quality which will further affect customers' overall satisfaction.

Sensory descriptive attributes on food not only proved to be assessed of higher quality but also simultaneously enhanced sales (Wansink et al., 2001). It is assumed that the sensory descriptive attributes on the menu let costumer believe that the restaurant offers great value for the price of the meals. Additionally, it is theorized that sensory descriptive attributes not only enhance the purchase and post purchase assessment, but even influence to consume more. Taking into account the influences sensory descriptive attributes have on the food consumption behavior, it is believed that the overall satisfaction will be reflected in costumers' behavioral intentions. The hypotheses are postulated accordingly:

Hypothesis 1: Sensory descriptive attributes have a positive influence on costumers' perceived value regarding the products offered.

Hypothesis 2: Sensory descriptive attributes motivate people to consume more than only one meal during one visit.

Hypothesis 3: Sensory descriptive attributes have a positive influence on costumers' perception of food quality.

Hypothesis 4: Sensory descriptive attributes have a positive influence on costumers' behavioral intentions.

Hypothesis 5: Sensory descriptive attributes positively influence customer satisfaction.

The developed hypotheses are summarized in the following conceptual model. The first hypothesis states that customers' perceived value on the presented products is



dependent on sensory descriptive attributes (H1). Sensory descriptive attributes not only encourage the initial purchase but also motivates to consume more than originally planned (H2). Sensory descriptive attributes do also positively affect consumers' perception of food quality (H3). Additionally, the sensory descriptive attributes are reflected in the consumers' overall behavioral intentions (H4). Ultimately, the whole consumption experience is anticipated to positively influence customer satisfaction (H5). Figure 2 illustrates the conceptual framework of this research.

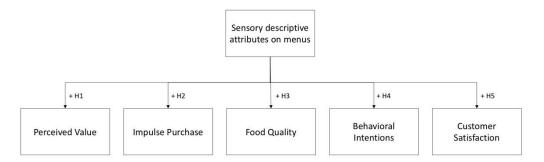


Figure 2: Conceptual Model



3 Methodology

The following chapter is dedicated to the empirical testing of the conceptual model. In order to answer developed hypotheses, a field experiment using questionnaires is performed. This section explains how the research was conducted, how the field experiment was administered and what method was used to analyze the data. The development of the different menus and the questionnaire used in the experiment is explained. Each construct of interest is presented. Additionally, all other details concerning the data collection process are stated in this section.

3.1 Field Experiment

For the purpose of this thesis, a one factor between-subjects quasi experimental design is chosen to test the proposed hypotheses. The experiment demonstrates the cause-effect relationship between sensory descriptive attributes and costumers' perceived value, impulse purchases, food quality, behavioral intentions and customer satisfaction (Weismayer, 2018). This means that hypothetically presumed causes or conditions are manipulated, while other disruptive factors are controlled in order to obtain an effect (Berger-Grabner, 2013). A field-experiment takes place in a natural environment, which brings the advantages of being very realistic about the outcomes A field-experiment also offers a better condition for generalization (Weismayer, 2018). One disadvantage is that during a field-experiment controlling all conditions and reactions might be hard (Berger-Grabner, 2013).

Three conditions are required to conduct an experiment, the first one being that at least two experimental groups are part of the research. The random allocation of the test subjects to the test groups is the second condition (Berger-Grabner, 2013). It is only called a "true" experiment when individuals are assigned randomly to the treatment groups and no systematic bias exists (Creswell, 2014). The third condition is the presence of a manipulative variable, namely the independent variable (Berger-Grabner, 2013). The manipulated variable are sensory descriptive attributes (Weismayer, 2018), while the dependent variables are costumers' perceived value, impulse purchases, food quality, behavioral intentions and customer satisfaction. The dependent variable measures the effect of outcomes that result from the manipulation of causing variables (Weismayer, 2018). Other variables that are used



to describe demographics of the sample (Creswell, 2014) are the age, gender, level of education and nationality. Control variables are used to avoid their effect on the relationship of independent and dependent variables (Weismayer, 2018). There is one open-end question in the survey, giving individuals the opportunity to indicate some personal feedback.

In order to investigate the effect sensory descriptive attributes on menus have on customers' food consumption behavior, information will be gathered using a questionnaire. The collaboration with the restaurant Karma Food has made a field experiment possible. Hence, customers of Karma Food were asked various questions regarding the offered menu and dishes.

3.1.1 Karma Food

Karma Food was established in 2014, opening one restaurant in Klosterneuburg, Austria. Meanwhile, it has opened four other stores in Klosterneuburg and Vienna. The concept is based on healthy and sustainable food. Every day, Karma Food serves breakfast and lunch, which customers can either eat in the restaurant or take away. Primarily interesting for this study was the lunch menu. Every week Karma Food offers a different lunch menu, with three meal variations for each day. These include curries, bowls, lasagna and soups. One of the dishes is always vegetarian or vegan, while there are some options of curry with chicken and lasagna with beef. Additionally, Karma Food serves coffee and desserts, such as cake, muffins or take-away options in jars. The majority of ingredients are organic, while also taking care of food intolerances, for example, it offers gluten-free ore lactose-free options (Karma Food, 2018).

The restaurant in Klosterneuburg at Stadtplatz was chosen for the field experiment in this thesis. It was the first Karma Food that opened in 2014 and soon established as a very popular restaurant for lunch. The restaurant is $20m^2$ in size. There is space for eight customers, during summer seven more customers can sit outside in the garden (see Figure 3). From Monday through Friday Karma Food is open from 10.00am until 03.30pm. On Saturday Karma Food is open from 09.00am until 01.00pm. While the main focus lies on lunch, coffee and desserts, Karma Food Stadtplatz also serves breakfast. The questionnaires for the field experiment, however, were only given to customers who ordered lunch.





Figure 3: Karma Food Stadtplatz, 3400 Klosterneuburg

3.1.2 Stimulus material

The experiment was conducted in two different weeks being one month apart. The control group was examined from Monday, April 8th until Friday, April 12th. Saturday was not included in the experiment, because most customers order breakfast on weekends. The stimuli material thereby were the normal weekly menus in the restaurant. The menu consists of three different meals to choose from per day, one curry, one bowl and a soup. Prices range from €4,50 to €7,50, depending on ingredients like vegetables, chicken or beef. Customers were asked to fill out a questionnaire about the restaurants' menu and their overall dining experience. As a compensation for a completed questionnaire, customers received a coffee for free. In the second week of the experiment from Monday, May 6th until Friday, May 10th, the experimental group was examined. Therefore, the same menu was used as in April, with the difference that sensory descriptive attributes were included. The same questionnaire is given to customers with the same reward. Following, the two different menus are pictured. The first menu for April, without sensory descriptive



attributes (see Figure 3) and the second menu including the manipulation for May (see Figure 4).



Figure 3: Menu April



Follow us on Instagram @karmafood_vie

KLOSTERNEUBURG

WOCHENMENÜ

06.05.-10.05.2019

Frag uns a	auch nach unserem leckeren Dessert im Glas!	T
Montag	×Süßes Dörrobst & cremiger Feta & Couscous Bowl vegan (Feta optional), reich an Magnesium und Eiweiß	€ 7,5
	×Spicy Green Power-Veggie Curry evegan/glutenfrei, voll mit Antioxidantien	€ 6,5
	×Fruchtig-cremige Kürbis-Mango Suppe vegan/glutenfrel, gute Quelle für Elwelß	€ 4,5
Dienstag	×Süßes Dörrobst & cremiger Feta & Couscous Bowl vegan (Feta optional), reich an Magnesium und Eiweiß	€ 7,5
	× Aromatisches Balinesisches Chicken Curry aktosefrei/glutenfrei, reich an Elweiß	€ 7,5
	×Mild-sämige Karotten-Süßkartoffel Suppe vegan/glutenfrei, gute Quelle für Kallum und Phosphor	€ 4,5
Mittwoch	Doctor's Dish of the Week, von unserem Freund Dr. Christian Matthai für euch zusammengestellt:	
	×Saftiger Schmorkürbis & nussige Berglinsen Bowl vegan/glutenfrei, hoher Vitamin B-Gehalt & Magnesium	€ 7,5
	*Cremiges Karfiol-Korma Curry mit Bio-Naturreis vegan/glutenfrei, reich an Kalzium	€ 7,5
	×Pikantes Quinoa & Kichererbsen Chili sin Carne vegan/glutenfrei, reich an Eiweiß	€ 6,5
Donnerstag	× Saftige Rote Rüben-Beef Vollkornlasagne mit Blo-Rind, enthält Kalium und Vitamin B	€ 7,5
	×Erfrischendes Melanzani-Kefirlime-Kokos Curry vegan/glutenfrei, gute Quelle für Eiweiß und Phosphor	€ 6,5
	XHerzhafter Steckrüben-Räuchertofu Eintopf vegan/glutenfrei, reich an Ballaststoffen und Elweiß	€ 6,5
Freitag	×Biryani mit fruchtigem Granatpfel & Walnüssen vegan/glutenfrei, enthält Kalium und Vitamin B	€ 7,5
	×Aromatisches Tofu-Thai Curry mit Rotem Reis vegan/glutenfrei/mit Blo-Tofu, gute Quelle für Elweiß und Phosphor	€ 7,5
	×Würzig-cremiges Kurkuma-Linsen Dal vegan/glutenfrei, reich an Ballaststoffen und Elweiß	€ 5,5

Figure 4: Menu May



3.1.3 Questionnaire

In order to investigate the effect of sensory descriptive food names on the guests' behavior, information will be gathered using paper-and-pencil questionnaires. This enables to actively invite customers to fill out the survey. Also, a completed questionnaire is the "voucher" for the compensation.

The introduction is a very important part in the questionnaire and helps to inform the subjects about the research. As a first step, the purpose for the study is introduced and clearly explained. Additionally, the confidentiality and anonymity are promised to participants. Then, the importance of participation is highlighted again. The length and estimate time are also indicated (Weismayer, 2018). For the purpose of this study, also a compensation for participation is mentioned in the introduction. In the end of the introduction the researcher thanks the participant.

Karma Food at Klosterneuburg - Stadtplatz received 100 questionnaires to distribute within each of the two weeks. The staff of Karma Food was instructed to ask every customer who eats in the restaurant between 11.00am and 02.00pm to fill out a questionnaire. The questionnaire was given to customers together with their food so they could fill it out while they were eating. Some guests filled out a questionnaire while they waited on their food to be packed to take away. Every guest who filled out the questionnaire was offered a coffee as a compensation for their participation.

The survey (Appendix) contains 25 questions, made up of short and simple sentences (Weismayer, 2018). Most constructs were measured by a seven-points Likert-type scale, ranging from 1-Strongly agree to 7-Strongly disagree. This provides an advantage, as seven-points scales allow for nuances in the respondents' answers and hence gives greater insights and the possibility to spot smaller differences in the results (Weismayer, 2018). The variables and their respective constructs are listed in the following section. The questions for each variable are presented in English. The original version, in German, is included in the Appendix.

3.1.4 Measures

Manipulation check (MP) (self-constructed)

MP1 The description of the dishes in the menu card gives information about the expected taste of the meal.



MP2 The description of the dishes in the menu card gives information about the expected texture of the meal.

MP3 The provided description was sufficiently detailed

Purchase propensity (PP) (adapted from Amsteus, Felici.a, Markovic, & Månsson, 2016) **PP1** The description of the dishes encourages me to consume more than one item during one visit.

Factor 2: Food Quality (FQ) (adapted from Ryu et al. 2012)

FQ1 The food is delicious.

FQ2 The food is nutritious.

FQ3 Karma Food offered a variety of menu items.

FQ4 The food presentation was visually attractive.

Factor 6: Customer Satisfaction (CS) (adapted from Ryu et al. 2012)

CS1 I am very satisfied with my overall experience at Karma Food.

CS2 I have really enjoyed myself at Karma Food.

Factor 5: Customer Perceived Value (VAL) (adapted from Ryu et al. 2012)

VAL1 Karma Food offered good value for the price.

VAL2 Karma Food provides me great value as compared to others.

Factor 7: Behavioral Intentions (BI) (adapted from Ryu et al. 2012)

BI1 I will come back to Karma Food in the future.

BI2 I will recommend Karma Food to my friends and others.

BI3 I will enjoy staying in Karma Food for some time.

Visit intentions (VI) (adapted from Elder & Krishna, 2012)

VI1 How often do you visit Karma Food?

Purchase propensity (PP) (adapted from Amsteus et al. 2016)

PP2 How many items (including drinks and dessert) did you order?

PP3 What was the total amount you spent?

Controls (C) (Self-constructed)

C1 The menu is very important for me when choosing a restaurant.

C2 I have some dietary restrictions/food preferences (e.g., allergies), that influence my food choice.

C3 Would you like to tell us something else?

C4 Have you already filled out this questionnaire in April?

Education

Age

Gender

Nationality

Apart from the constructs that were measured using a seven-point Likert scale (Weismayer, 2018), the construct Purchase Propensity (PP1, PP2, PP3) was measured using a metric scale (Berger-Grabner, 2013). Control items were measured by a



nominal scale, namely a Dichotomous scale, with "yes" or "no" answer possibilities (Berger-Grabner, 2013). In addition, there was one open-end question asking the customers "Would you like to tell us something else?", which was also measured by a nominal scale (Berger-Grabner, 2013).

3.2 Data analysis and results

Table 1: Sample Characteristics

Sample characteristics		N=158
Age	Mean age	43
Gender	Women	70%
	Men	30%
Education	University	58%
	High School	29%
	Vocational School	5%
	Apprenticeship	5%
	Compulsory School	3%
How often do you visit Karma Food?	Mean visit per month	5,5

The sample built 158 respondents with 86 in the control group who received menus without sensory descriptive attributes and 71 in the experimental group offered menus manipulated by sensory descriptive attributes. The mean age of the respondents is 43 years and the average visit intention per customer per month is 5,5 times. Table 1 refers to the sample characteristics of the experiment.



Table 2: Cronbach's Alpha

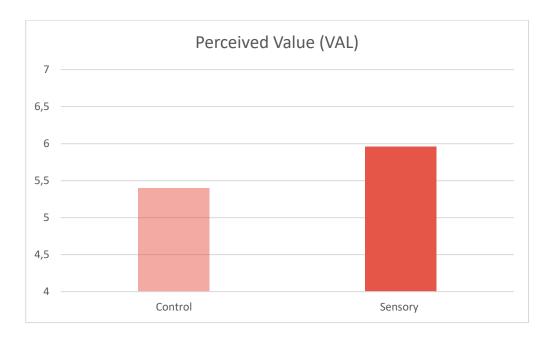
Measures	Cronbach's Alpha
Manipulation check (MP1, MP2)	0,823
Food quality (FQ1, FQ2, FQ3, FQ4)	0,884
Customer Satisfaction (CS1, CS2)	0,952
Perceived Value (VAL1, VAL2)	0,882
Behavioral Intentions (BI1, BI2, BI3)	0,684
Purchase Propensity (PP1, PP2, PP3)	0,332

The reliability statistics allow to comprehend the consistency of the measures in the questionnaire. Table 2 displays the Cronbach's Alpha for each measurement construct, indicating the level of reliability of the construct. Each construct was measured using a seven-point Likert scale (1= Strongly agree, 7=Strongly disagree). The analysis of variance (ANOVA) was used to test the effectiveness of the menu manipulation with sensory descriptive attributes. The responds differed significantly between groups (F(1,155)=3.967, p=0.048). The menus manipulated by sensory descriptive attributes positively influenced customers' food consumption behavior (Mean sensory group = 5.84), compared to menus with no sensory descriptive attributes (Mean non-sensory group = 5.42).



3.2.2 Hypotheses testing

Table 2: Hypothesis 1



A multivariate of analysis (MANOVA) tested the hypothesized conceptual model. The theoretical model assumed that Karma Food offers good value for the price of the meals and even greater value compared to other restaurants. Therefore, the first hypothesis postulated a positive influence of sensory descriptive attributes on consumers' perceived value regarding the offered products. In support of the first hypothesis, the manipulated menu did convey a significantly greater value to customers compared to the control group (F(1,153)=6.35, p=0.013). The respondents that were offered the menu with sensory descriptive attributes indicated a greater value for the price and a greater value compared to other restaurants (Mean sensory group =5.41) than the participants who received the normal menu (Mean non-sensory group =5.66), as displayed in Table 2. Therefore, it can be generally assumed that sensory descriptive attributes on restaurants' menus influence costumers' perception of value and price in favor of the restaurant.



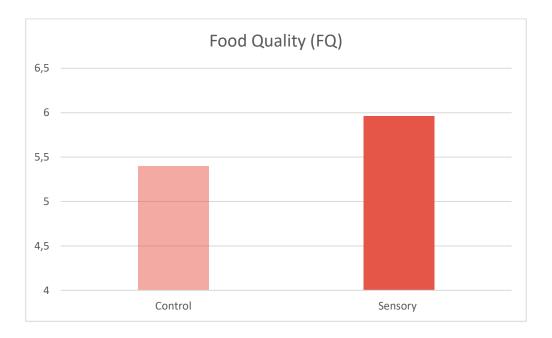
Table 3: Hypothesis 2



The conceptual framework further predicts additional sales for consumers that received the menu with sensory descriptive attributes. Hypothesis 2 theorized that sensory descriptive attributes influence costumers to consume more than one meal during one visit. In confirmation of Hypothesis 2, the manipulated menu did significantly influence customers to consume more than one food item during the visit at the restaurant (F(1, 153)=4.919, p=0.028). Table 3 shows that costumers that were offered the menu with sensory descriptive attributes were more likely to buy an additional food item during their visit at Karma Food (Mean sensory group =4.59) than customers who were not manipulated by the sensory descriptive attributes (Mean non-sensory group =5.9).



Table 4: Hypothesis 3



Hypotheses 3 and 4 postulated a positive influence of sensory descriptive attributes on costumers' perception of food quality and behavioral intentions, respectively. The results confirmed hypothesis 3 (F(1,153)=15.01, p=0,0001): respondents that received menus with sensory descriptive attributes perceived the food of higher quality (Mean sensory group =6.4). than the participants in the control group (Mean non-sensory group =5.63), as demonstrated in Table 4. In relation to the perceived food quality, costumers perceived the menu items offered to be of greater variety than customers did in the control group. Additionally, the food presentation was visually more attractive for participants in the experimental group than for the sample in the control group.

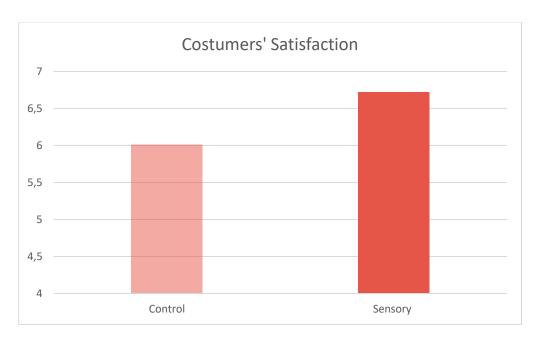


Table 5: Hypothesis 4



Furthermore, in support of hypothesis 4, sensory descriptive attributes on the menus had a significant influence on costumers' behavioral intentions (F(1,153)=9.93, p=0.002). In comparison with respondents in the control group (Mean non-sensory group =6.14), participants in the experimental group were more likely to come back to Karma Food in the future, stay longer in the restaurant and recommend it to friends and others (Mean sensory group =6.84). The results of H4 are displayed in Table 5.

Table 6: Hypothesis 5





The conceptual model also hypothesized that customers of the experimental group would be more satisfied during their visit at Karma Food than the control group. Hypothesis 5 theorized that sensory descriptive attributes have a positive influence on customer satisfaction. In confirmation of Hypothesis 5 (F(1, 153)=10.71, p=0.001), customers who received the manipulated menu were more satisfied with their overall experience at Karma Food (Mean sensory group =6.72) than costumers who received the normal menu (Mean non-sensory group =6.01) as Table 6 demonstrates. In addition, respondents of the experimental group enjoyed their stay at Karma Food significantly better than the participants of the control group.

Sensory vs. Non-sensory descripitve attributes

7
6,5
6
5,5
4,5
4
VAL PP1 FQ BI CS

Control Sensory

Table 7: Hypotheses testing

To conclude, all hypotheses showed significant results. The hypotheses in comparison are displayed in Table 7. The most significant differences between the control condition and the experimental condition occurred for Hypothesis 3, indicating the influence on food quality. The least difference between the control group and the experimental group resulted for the influence of sensory descriptive attributes on customers' perceived vale namely Hypothesis 1.



4 Conclusion

The research of this thesis aimed to identify to what extent sensory descriptive attributes on food menus in restaurants influence the food consumption behavior in restaurants. Furthermore, the aim was to provide an example of how businesses in the food service industry can successfully apply sensory descriptive attributes to affect customers' taste evaluations, quality perceptions and purchase decisions.

Many restaurants already use descriptive labels, however most of them point at health information, nutritional labels, geographic or nostalgic labels. Only little research has been done on the affect sensory descriptive attributes have on customers' food consumption behavior. Therefore, the results of this research could be seen as an extension of the already existing knowledge. Furthermore, this research could be relevant for the management of other restaurants who want to positively influence the food consumption behavior of their customers.

Drawing on the theoretical argument that sensory descriptive attributes on restaurants' menus have a positive influence on the customers' food consumption behavior, the results confirmed the hypotheses postulated in the theoretical model. The hypotheses were tested in a field experiment in collaboration with the restaurant Karma Food. The restaurant's menu was manipulated with sensory descriptive attributes for one week, while the menu in the other week did not have any manipulation. Questionnaires were given to customers to determine a difference between the control group and the experimental group. The measures used in the questionnaire were developed in consideration of the already existing research.

Consumers decision making is influenced already by the practices of sensory marketing. Especially sensory marketing with a focus on taste impacts the marketing of food. In general, when the sensory characteristics of products are highlighted, the respective products will be perceived as being of higher quality (Swahn et al., 2012). In addition, the costumers are more satisfied and evaluate food items better, when sensory descriptive attributes were used on the products (Yang et al., 2009).

The reference to a particular aroma on a product can easily lead to a desire in consumers' minds (Piqueras-Fiszman & Spence, 2015). The labels on food items help



customers choose between products and are strongly associated with the customers' purchase decision (Swahn et al., 2012). Therefore, Hypothesis 1 assumed a positive influence of sensory descriptive attributes on costumers' perceived value. The results of the experiment supported H1. Customers who were offered a menu manipulated by sensory descriptive attributes, rated the perceived value for the price higher than customers receiving the normal menu. Additionally, Karma Food provided greater value compared to other restaurants to customers offered the manipulated menu, than to participants in the control group.

Sensory descriptive labels that precisely address smell, taste and also texture of food, will provide an advantage for restaurants. Customers are able to form expectations about the offered food and end up buying it (Wansink et al. , 2001). Food items described by sensory attributes are evaluated of higher quality than dishes without sensory descriptions and simultaneously enhance sales (Wansink et al., 2001). The theoretical model assumed that sensory descriptive attributes not only enhance sales and the post-purchase evaluation, but that sensory descriptive attributes affect consumers to consume even more than originally planned. Hypothesis 2 postulated that sensory descriptive attributes motivate people to consume more than only one meal during one visit. The results differed significantly between the control condition and the experimental condition. Therefore, the results reaffirm the idea that costumers purchase additional items to what was originally planned.

Positive attitudes towards certain products can be further intensified by the use of sensory descriptive attributes on products' labels (Swahn et al., 2012). Many customers perceive complex descriptions of food to be an indicator of higher products quality (McCall & Lynn, 2008). The perception of quality is related to how costumers perceive taste (Vad Andersen et al., 2019). Therefore, it was assumed that sensory descriptive attributes affect how food quality is evaluated in restaurants. Hypothesis 3 theorized that sensory descriptive attributes have a positive influence on costumers' perception of food quality. The assumption was confirmed as the experiment showed significantly different results for responds of the experimental group and participants of the control group. Hence, Hypothesis 3 can be affirmed: sensory descriptive attributes have a positive influence on customers' perception of food quality.



Sensory descriptive attributes not only influence the post-consumption perception of food quality, but also increase the attractiveness of meals on a menu before consumption. Simultaneously, the whole consumption experience is positively influenced by sensory descriptive attributes (Wansink et al., 2001). The theoretical model hypothesized that costumers will be more likely to enjoy staying at the restaurant and come back in the future, if the menu is manipulated by sensory descriptive attributes. In addition, it was assumed that costumers will recommend the restaurants to friends and family. Hypothesis 4 was accepted, since costumers' behavioral intentions were significantly influenced by sensory descriptive attributes in the experiment.

In a food consumption context, costumers pay a lot of attention to their liking of a product's taste to evaluate the overall food quality. With regard to the influence of sensory descriptive attributes on taste, the customers' overall satisfaction depends on sensory descriptive attributes (Vad Andersen et al., 2019). The products' quality influence the restaurants image which affects customer satisfaction as a result (Ryu et al., 2012). Considering the influence sensory descriptive attributes have on taste and food quality, it was hypothesized that as a consequence, customers' satisfaction will also be influenced by sensory descriptive attributes. The results of the experiment supported Hypothesis 5, stating that sensory descriptive attributes have a positive influence on costumers' satisfaction.

4.1 Theoretical implications

When comparing prior research to the field experiment performed in this thesis, the assumptions about the influence of sensory descriptive attributes are reaffirmed. The field experiment proved a significant influence of sensory descriptive attributes on various factors contributing to the food consumption experience of customers in a restaurant. The central research question of this thesis: *To what extent does the presence of sensory descriptive attributes on food menus in restaurants influence the customers' food consumption behavior?* can be answered with regard to the five hypotheses measuring the general food consumption behavior of restaurant guests. Furthermore, the experiment highlights various factors that affect consumers' food consumption behavior with the use of sensory descriptive attributes. Besides the perception of taste and quality, the overall satisfaction was also influenced by sensory



descriptive attributes on menus. In addition, the behavioral intentions of costumers staying at the restaurant changed when presented the menu manipulated by sensory descriptive attributes. Furthermore, the perceived value changed positively with the presence of sensory descriptive attributes. Prior research relies on studies in supermarkets, cafeterias and also questionnaires presenting a menu. In this thesis, the findings rely on a field experiment performed in a highly frequented restaurant. Hence, the results applying primarily to the restaurant Karma Food can be generalized. Other restaurants may take the findings of the experiment as an example for their own future marketing strategies.

4.2 Practical implications

When using sensory descriptive attributes to manipulate the menu, it is important to consider the menu as the center of a restaurant's marketing strategy (McCall & Lynn, 2008). The experiment reaffirms the idea that the sensory descriptions of menu items can influence consumers purchase behavior and quality assessment (Yang et al., 2009). The results suggest that customers food consumption behavior is more positive overall, when costumers are offered food items described by sensory attributes. Hence, including sensory descriptive attributes on menus can benefit other restaurants as well. Manipulating menus with sensory descriptions is an affordable marketing tool that is easy to implement. As a consequence of including sensory descriptive attributes in the menu, customers will rate the food as being of high quality and good taste. Costumers will be satisfied by the whole food consumption experience, while consuming more than originally planned. Since the food consumption experience is perceived very positively, customers will consider coming back to the restaurant. Subsequently, the restaurant can build a loyal customer base and retain devoted guests.

4.3 Limitations

Despite the significant results of the experiment, this thesis' conclusions have some limitations that should be addressed. First of all, the experiment was performed in only one restaurant, namely Karma Food which already has a very good reputation. Most participants in the experiment felt very positive about the restaurant. In the future, it is advisable to conduct the experiment in various restaurants to discover



differences. Second, the restaurant is situated in Klosterneuburg. Karma Food has a very original business concept, making it the only one of its kind in the immediate surroundings. The competitors are limited in Klosterneuburg and costumers will enjoy staying at the restaurant, regardless of the manipulation of the menu with sensory descriptive attributes. Thirdly, the restaurant has a large customer base, that has high expectations of the restaurant. Although the experiment showed significant results, the rather small difference is explicable by the popularity Karma Food has. Fourth, it was hard to persuade customers to fill out the questionnaire in the second week of the experiment. Many customers had already filled out the questionnaire in April and refused to do it again in May. Subsequently less questionnaires were collected in the experimental group. However, a sample was created that was more reliable, because redundancies were prevented.

Although the experiment is subject to some limitations, the main findings of this thesis balance out these constraints. In conclusion, the results proved a positive influence of sensory descriptive attributes on restaurant menus. The findings reassured the influence of sensory descriptive attributes on previously known elements of costumers' food consumption behavior. In addition, the experiment discovered other important factors that are affected by the presence of sensory descriptive attributes on menus. Not alone Karma Food can profit from this experiment in their future, but this research might be relevant for other restaurant looking to improve their strategy. This thesis is also a contribution to research in the field of sensory marketing that is currently conducted.



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Appendices

Appendix 1 – Questionnaire April

Hallo!

Vielen Dank, dass du an dieser Studie teilnimmst. Um uns weiter verbessern zu können, interessiert uns deine Meinung zu unserem Menü! In Zusammenarbeit mit der Modul University Vienna haben wir diesen Fragebogen erstellt, der nur 2 Minuten deiner Zeit in Anspruch nimmt! All deine Antworten bleiben anonym.

Als Dankeschön für deine Teilnahme, bekommst du einen Kaffee, wenn du den Fragebogen ausgefüllt abgibst!

Vielen Dank für deine Zeit, dein Interesse und deine Mithilfe!





Inwieweit stimmst du den folgenden Aussagen zu?

	stimme ich vollkommen zu				stimme ich überhaupt nicht zu			
	1	2	3	4	5	6	7	
Die Beschreibung der Speise gibt Aufschluss über den zu erwartenden Geschmack der jeweiligen Speise.				0				
Die Beschreibung der Speise gibt Aufschluss über die zu erwartende Konsistenz der jeweiligen Speise.	О	О	О	О	О	О	О	
Die Beschreibung war ausreichend detailliert.	О	О	О	О	О	О	О	
Die Beschreibung der Speisen hat mich dazu angeregt mehr als nur ein Gericht während meines Aufenthaltes zu konsumieren.	0	О	О	О	О	О	0	
Das Essen ist köstlich.	O	0	0	0	0	0	О	
Das Essen ist nahrhaft.	О	О	О	О	О	О	О	
Karma Food bietet eine Vielzahl an Gerichten.	О	0	О	О	0	О	0	
Das Essen ist schön angerichtet.	О	О	O	О	О	О	О	
Der Gesamteindruck von Karma Food stimmt mich zufrieden.	О	О	О	О	О	О	О	
Ich fühle mich im Karma Food wohl.	О	О	O	О	О	O	О	
Karma Food bietet ein gutes Preis-/Leistungsverhältnis.	0	О	О	0	0	О	О	
Karma Food hat ein besseres Preis-/Leistungsverhältnis als andere Restaurants.	О	О	О	О	О	О	О	
Ich werde Karma Food in Zukunft besuchen.	О	О	О	О	О	О	О	
Ich werde Karma Food Freunden und Bekannten weiterempfehlen.	О	О	О	О	О	О	О	
Im Karma Food werde ich gerne lange verweilen.	О	О	0	О	О	О	О	
Das Menü ist mir bei der Wahl eines Restaurants sehr wichtig.	О	О	О	О	О	О	О	



Wie oft besuchst du Karma Food? x i	m Monat.				
Wie viele Speisen (inklusive Desserts und Getränke) hast du konsumiert?					
Wie hoch war dein Rechnungsbetrag?€					
Ich habe Nahrungsmittelunverträglichkeiten, wodurch meine Auswahl beeinflusst wurde. \square ja \square nein					
Möchtest du uns noch etwas mitteilen?					
Höchste abgeschlossene Ausbildung					
☐ Universität, FH, Akademie ☐ AHS, BHS, Kolleg (Matura)	Alter				
Berufsbildende mittlere Schule Lehre	Geschlecht				
Pflichtschule (Volksschule, Hauptschule)	männlich weiblich				
Nationalität:					

Vielen Dank für deine Teilnahme!!!



Appendix 2 – Questionnaire May

Hallo!

Vielen Dank, dass du an dieser Studie teilnimmst. Um uns weiter verbessern zu können, interessiert uns deine Meinung zu unserem Menü! In Zusammenarbeit mit der Modul University Vienna haben wir diesen Fragebogen erstellt, der nur 2 Minuten deiner Zeit in Anspruch nimmt! All deine Antworten bleiben anonym.

Als Dankeschön für deine Teilnahme, bekommst du einen Kaffee, wenn du den Fragebogen ausgefüllt abgibst!

Vielen Dank für deine Zeit, dein Interesse und deine Mithilfe!





Inwieweit stimmst du den folgenden Aussagen zu?

	stimme ich vollkommen zu				stimme ich überhaupt nicht zu			
	1	2	3	4	5	6	7	
Die Beschreibung der Speise gibt Aufschluss über den zu erwartenden Geschmack der jeweiligen Speise.				0				
Die Beschreibung der Speise gibt Aufschluss über die zu erwartende Konsistenz der jeweiligen Speise.	О	О	О	О	О	О	О	
Die Beschreibung war ausreichend detailliert.	О	О	О	О	О	О	О	
Die Beschreibung der Speisen hat mich dazu angeregt mehr als nur ein Gericht während meines Aufenthaltes zu konsumieren.	0	О	О	О	О	О	0	
Das Essen ist köstlich.	O	0	0	0	0	0	О	
Das Essen ist nahrhaft.	О	О	О	О	О	О	О	
Karma Food bietet eine Vielzahl an Gerichten.	О	0	О	О	0	О	0	
Das Essen ist schön angerichtet.	О	О	O	О	О	О	О	
Der Gesamteindruck von Karma Food stimmt mich zufrieden.	О	О	О	О	О	О	О	
Ich fühle mich im Karma Food wohl.	О	О	O	О	О	O	О	
Karma Food bietet ein gutes Preis-/Leistungsverhältnis.	0	О	О	0	0	О	О	
Karma Food hat ein besseres Preis-/Leistungsverhältnis als andere Restaurants.	О	О	О	О	О	О	О	
Ich werde Karma Food in Zukunft besuchen.	О	О	О	О	О	О	О	
Ich werde Karma Food Freunden und Bekannten weiterempfehlen.	О	О	О	О	О	О	О	
Im Karma Food werde ich gerne lange verweilen.	О	О	0	О	О	О	О	
Das Menü ist mir bei der Wahl eines Restaurants sehr wichtig.	О	О	О	О	О	О	О	



Wie oft besuchst du Karma Food? x i	m Monat.				
Wie viele Speisen (inklusive Desserts und Getränke) hast du konsumiert?					
Wie hoch war dein Rechnungsbetrag?€					
Ich habe Nahrungsmittelunverträglichkeiten, wodurch meine Auswahl beeinflusst wurde. ☐ ja ☐ nein					
Hast du diesen Fragebogen schon einmal im April ausgefüllt? ☐ ja ☐ nein					
Möchtest du uns noch etwas mitteilen?					
Höchste abgeschlossene Ausbildung					
☐ Universität, FH, Akademie ☐ AHS, BHS, Kolleg (Matura)	Alter				
Berufsbildende mittlere Schule Lehre	Geschlecht				
Pflichtschule (Volksschule, Hauptschule)	☐ männlich ☐ weiblich				
Nationalität:					

Vielen Dank für deine Teilnahme!!!