

Bachelor's Degree in International Business

Title: Sensory Marketing in Physical Retail Stores: A Focus
on Visual and Olfactory Stimuli

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ABSTRACT

In an increasingly competitive retail landscape, creating positive and memorable in-store experiences has become essential for attracting and retaining customers. This bachelor's thesis explores the role of sensory marketing in physical retail stores – with a particular focus on visual and olfactory stimuli – as a means of influencing consumer perception and behavior, and shaping the overall shopping experience across different cultural and geographical contexts. Incorporating evidence from academic literature, scoping reviews, an expert interview, and a consumer survey, the findings support that sensory marketing significantly enhances consumer experience and purchase behavior. Visual strategies – such as color, lighting, or store layout – prove to be highly effective and consistently impactful across diverse cultural settings. Olfactory strategies, especially the use of ambient scent, also show a positive impact on consumer perception and decision-making. However, their application in product presentation remains limited and under-researched. These results highlight the effectiveness of carefully designed sensory marketing strategies in retail environments and point out the need for further research into underexplored areas, including olfactory cues in product and packaging, and cross-cultural variations in sensory responses.

Keywords: sensory marketing, visual marketing, olfactory marketing, cross-cultural marketing, physical retail stores, customer perception, purchase behavior, shopping experience
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RESUM

En un entorn comercial cada vegada més competitiu, la creació d'experiències positives i memorables a les botigues s'ha convertit en un element essencial per atreure i retenir clients. Aquest treball de fi de grau explora el paper del màrqueting sensorial en les botigues físiques de venda al detall – amb un enfocament particular en els estímuls visuals i olfactivs – com a mitjà per influir en la percepció i el comportament del consumidor i modelar l'experiència global de compra en diferents contextos culturals i geogràfics. A través de l'anàlisi de literatura acadèmica, revisions sistemàtiques, una entrevista amb un expert, i una enquesta a consumidors, els resultats obtinguts confirmen que el màrqueting sensorial millora significativament l'experiència del consumidor i el comportament de compra. Les estratègies visuals – com el color, la il·luminació o la disposició de la botiga – demostren ser altament efectives i amb un impacte constant en diversos entorns culturals. Les estratègies olfactivs, especialment l'ús d'aromes ambientals, també tenen un efecte positiu en la percepció i les decisions dels consumidors. No obstant això, la seva aplicació en la presentació del producte continua sent limitada i poc estudiada. Aquests resultats destaquen l'eficàcia de les estratègies

de màrqueting sensorial dissenyades amb cura en entorns de venda al detall i assenyalen la necessitat de continuar investigant àrees encara poc explorades, com els estímuls olfactivs aplicats als productes i embalatges, així com les variacions culturals en les respostes sensorials.

Paraules clau: màrqueting sensorial, màrqueting visual, màrqueting olfactiv, màrqueting intercultural, botigues físiques de venda al detall, percepció del client, comportament de compra, experiència de compra

RESUMEN

En un entorno comercial cada vez más competitivo, crear experiencias positivas y memorables en tienda se ha vuelto esencial para atraer y retener a los clientes. Este trabajo de fin de grado explora el papel del marketing sensorial en tiendas físicas – con un enfoque particular en los estímulos visuales y olfativos – como medio para influir en la percepción y el comportamiento del consumidor y para moldear la experiencia de compra en distintos contextos culturales y geográficos. A partir de evidencia recopilada en literatura académica, revisiones sistemáticas, una entrevista con un experto y una encuesta a consumidores, los resultados respaldan que el marketing sensorial mejora significativamente la experiencia del cliente y su comportamiento de compra. Las estrategias visuales – como el uso del color, la iluminación, o la disposición de la tienda – demuestran ser altamente efectivas y tener un impacto constante en diversos entornos culturales. Las estrategias olfativas, especialmente el uso de aromas ambientales, también muestran un efecto positivo en la percepción del consumidor y en su toma de decisiones. Sin embargo, su aplicación en la presentación del producto sigue siendo limitada y poco investigada. Estos resultados destacan la efectividad de las estrategias de marketing sensorial cuidadosamente diseñadas en entornos de venta al detalle y señalan la necesidad de seguir investigando en áreas aún poco exploradas, como los estímulos olfativos aplicados al producto y al embalaje, y las variaciones culturales en las respuestas sensoriales.

Palabras clave: marketing sensorial, marketing visual, marketing olfativo, marketing intercultural, tiendas físicas de venta al detalle, percepción del cliente, comportamiento de compra, experiencia de compra

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Introduction

We have all been to a store that immediately created a positive impression the moment we walked in – maybe it had a pleasant scent, calming music, or lighting that made the space and products look especially appealing. These details are not accidental: they are part of sensory marketing. Retailers carefully use visuals, sounds, scents, textures, and even tastes to shape how we feel in a store, how we perceive their products, and whether we decide to make a purchase. In this way, sensory marketing has a strong influence on our everyday shopping experiences and plays a key role in shaping our choices as customers.

The decision to focus this thesis on sensory marketing in physical retail stores is driven by both academic interest and personal curiosity. During my exchange year in Norway, I took a course called Multisensory Experiences, which I found to be one of the most fascinating subjects of my academic journey. The course offered valuable insights into how brands engage consumers through the senses, and it sparked a strong interest in me to explore this topic in greater depth. Beyond the classroom, I often find myself thinking about these strategies when I walk into a store – wondering how brands are using scents, sound, lighting, and other sensory elements to influence how I feel, what I pay attention to, and what I choose to buy. This thesis gave me the opportunity to further develop that interest and gain a deeper understanding of how sensory marketing is applied in retail environments.

Since this is a bachelor's thesis with limited scope and space, the focus will be narrowed to explore two key aspects of sensory marketing in greater depth: visual and olfactory marketing. I chose these two areas due to my personal interest and prior knowledge of their relevance to current retail practices.

Therefore, the aim of this thesis is to test three hypotheses:

H₁ = Retailers that implement sensory marketing strategies – such as color, music, texture, scent, and taste – in physical store environments are more likely to positively influence consumer experience and purchase behavior.

H₂ = Visual marketing strategies applied in retail stores to both product presentation and store environment lead to more favorable consumers' perception of the products offered by shaping their decision-making and overall shopping experience, regardless of the cultural or geographical context.

H₃ = Olfactory marketing strategies applied in retail stores to both product presentation and store environment lead to more favorable consumers' perception of the products offered by shaping their decision-making and overall shopping experience, regardless of the cultural or geographical context.

In order to test the hypotheses proposed, the methodology of this thesis combines both secondary and primary data:

- Secondary data comes from two main sources. First, a selection of academic books and articles was used to develop the theoretical foundations of the research. Second, additional secondary data was collected through three structured scoping reviews: one covered sensory marketing in general, another focused on visual marketing, and the third one explored olfactory marketing.
- Primary data includes two parts. First, an expert interview was conducted with Carlos Velasco, a leading researcher in the field of sensory marketing. Second, a consumer survey was carried out to gather first-hand responses from shoppers.

The main objectives I want to achieve through this thesis are to expand my knowledge of sensory marketing, and to contribute to academic research by exploring how sensory elements – especially visual and olfactory cues – influence consumer perception and behavior in physical retail environments. Lastly, I also aim to examine whether these strategies work well across different cultural and geographical contexts.

This paper aligns with some Sustainable Development Goals. It supports SDG 12 (Responsible Consumption and Production) by exploring how sensory marketing can lead to more thoughtful and meaningful consumer experiences, encouraging responsible purchasing decisions. SDG 9 (Industry, Innovation, and Infrastructure) is reflected in the thesis' focus on innovation within retail, as it highlights how sensory strategies can enhance store design and customer engagement in creative and human-centered ways. Finally, SDG 5 (Gender Equality) is also relevant, as the thesis recognizes the importance of inclusivity and equality in retail environments.

The thesis is structured into three main chapters. Chapter I covers the basics of how the five senses contribute to how we perceive the world. Chapter II explores sensory marketing in physical retail stores, presenting theoretical foundations, research findings, and a discussion of the first hypothesis. Chapter III focuses on visual and olfactory marketing across cultures, with scoping reviews, empirical findings, and evaluations of the related hypotheses. Together, these chapters provide a comprehensive understanding of sensory marketing in physical retail stores.

CHAPTER I: FUNDAMENTALS OF SENSORY EXPERIENCES

Sensory experiences refer to the way individuals perceive and interpret the world through sight, sound, smell, touch, and taste, shaping emotions, decision-making, and behavior. Each sense operates through complex physiological and neurological processes that allow the brain to process external stimuli and construct a cohesive perception of reality (Velasco & Obrist, 2020).

This chapter provides a detailed exploration of the five senses, focusing on their biological mechanisms. Establishing this scientific foundation is crucial, as it will serve as the basis for understanding how sensory stimuli are later used strategically in marketing and retail environments.

1. How the Senses Form Our Experiences

The word “experience” is often used to describe various events in people’s lives. For instance, we might say, “it was an amazing experience” when talking about a recent concert we attended or a memorable meal we had at a restaurant. According to Velasco and Obrist (2020), an experience consists of meaningful impressions of events in the world around us, and the only way we can gather and interpret these impressions is through our senses.

Our experiences are not only determined by the physical (e.g. light) and chemical (e.g. flavor) information our senses capture from the environment, but also by the value or meaning that our brain gives to such information, such as how it makes us feel or what it means to us (Velasco & Obrist, 2020). Moreover, this process is influenced by our past experiences, making each encounter unique. As a result, no two individuals perceive the world in the exact same way, as experiences emerge from personal interactions with the environment and the impressions that remain (Alurian, 2023).

Therefore, sensation is input about the physical world obtained by our sensory receptors, and perception is the process by which the brain selects, organizes, and interprets these sensations. In other words, sensation is the immediate response of our sensory receptors to basic stimuli (e.g. color, sound), whereas perception of the same sensory input may vary from one person to another, as each brain interprets stimuli differently based on that individual’s learning, memory, emotions, and expectations (*Sensation and Perception | Introduction to Psychology*, n.d.).

For instance, see Figure 1, which initially appears as a random collection of black and white patterns. However, after viewing Figure 2, which clearly shows a sunflower field, our perception of the first image changes, allowing us to recognize the hidden subject (Velasco & Obrist, 2020). This demonstrates how our brain interprets sensory information by combining what we perceive in the moment with expectations shaped by past experiences.

This concept is highly relevant to sensory marketing, as it highlights how consumer perceptions are shaped by both sensory input and prior experiences. By strategically designing sensory cues – such as visual elements, sounds, scents, textures, and even tastes – brands can influence how customers interpret and engage with their products or environments (Krishna, 2011). Just as the second image reshaped the perception of the first, sensory marketing can guide consumer expectations and enhance brand associations, ultimately creating more memorable and impactful interactions.

2. The Science of the Five Senses

Since the fourth century BCE, when the Greek philosopher Aristotle identified the five major senses, these have been recognized as sight, hearing, touch, taste, and smell (Brandt et al., 2024). However, today the scientific community widely accepts that we have more than the five basic senses. For example, proprioception, also known as kinesthesia, is the sense that allows us to track the position and movement of our body, and interoception allows us to recognize internal body cues like heart beats or respiration (*Proprioception & Interoception: Making Sense of It All!*, 2023).

In this thesis, the focus will be on the five major senses, as they are the most frequently used in sensory marketing strategies within the retail sector.

2.1. Vision: How We See and Interpret the World

After the brain, the eye is the most complex organ in the human body, and the fastest and most active muscle (*Interesting Facts About the Eyes*, 2021). Around 80% of the information we absorb is through our sense of sight. Seeking to create a clear visual representation, the internal structures of the eye work together to capture visual input and transform it into an image that the brain can interpret (Lazarus, 2021).

The process of vision (Figure 3) begins when light enters the eye through the cornea, a clear and protective layer that bends and refracts the incoming light. From there, the light passes through the pupil – the black opening in the center of the iris – which expands or contracts to control the amount of light that enters the eye (Lazarus, 2021). Next, the lens bends and refracts the light again, ensuring it lands correctly on the retina at the back of the eye, where nerve endings receive the image. Finally, the optic nerve transfers electric signals from the retina to the brain, where they are processed into the images we see (Baskin, n.d.).

2.2. Hearing: How We Perceive Audio

Hearing gives us the ability to navigate our daily lives without constraints, as it allows us to socialize, work, and communicate effectively. Additionally, it keeps us connected to the world around us and ensures our safety by alerting us to potential danger (*Why Hearing Is Important*, n.d.).

The human ear is divided into three main sections (Figure 4): the outer ear, middle ear, and inner ear, and each one of them has a crucial role in the hearing process (*How The Ear Works*, n.d.).

In the outer ear, the auricle – the visible part of the ear – captures sound waves and directs them into the ear canal, where they are amplified. These sound waves then travel toward the eardrum, a flexible oval-shaped membrane at the end of the canal. When the sound waves reach the eardrum, they cause it to vibrate, marking the first step in the hearing process (*How The Ear Works*, n.d.).

In the middle ear, these vibrations set the ossicles – the three smallest bones in the human body: malleus, incus, and stapes – into motion, which work together to amplify the sound waves and transfer them to the inner ear. Additionally, the Eustachian tube helps equalize air pressure between the external environment and the middle ear, ensuring proper sound transmission (*How The Ear Works*, n.d.).

The sound waves travel into the inner ear and reach the cochlea, a snail-shaped organ. Inside the cochlea, fluid moves in response to vibrations from the eardrum. As this happens, approximately 25,000 nerve endings are activated, converting the vibrations into electrical impulses. These impulses are then transmitted through the auditory nerve to the brain, where they are processed and interpreted as sound, allowing us to hear (*How The Ear Works*, n.d.).

2.3. Touch: The Role of Tactile Sensation

Touch is the process in which specialized neurons sense tactile stimuli from the skin and other organs and transmit this information to the brain, where it is perceived as sensations like pressure, temperature, vibration, and pain (Caruso, 2024).

The process of touch (Figure 5) begins when specialized receptors in the skin generate signals in response to tactile stimuli. Next, these signals travel along sensory nerves made up of bundled fibers that connect to neurons in the spinal cord. From there, the signals move to the thalamus, which relays information to the rest of the brain. The signals then reach the somatosensory cortex, where they are processed and transformed into touch perception (Blumenrath, 2020).

The somatosensory cortex contains a topographic map of the body that curls around the brain, in which different regions correspond to specific body parts. A region's sensitivity depends on the number of receptors per unit area and the distance between them. For example, the lips and fingertips contain a high concentration of receptors closely spaced together, making them highly sensitive, whereas areas like the back have fewer receptors spread farther apart, resulting in lower sensitivity (Blumenrath, 2020).

2.4. Smell: The Olfactory System and Scent Perception

The olfactory system is responsible for forming the base of our sense of smell. Along with taste, it is one of the two chemical senses, relying on the interaction between molecules and specialized receptors. Furthermore, smell has a unique connection to emotions, as specific aromas can trigger both positive and negative feelings by recalling past memories (Bailey, 2021).

The smelling process (Figure 6) begins when odorant molecules enter the nose and flow over the olfactory mucosa, a membrane in the upper nasal cavity that contains sensory cells that detect smells. This mucosa contains approximately 350 different types of olfactory receptor neurons (ORNs), each responsible for detecting specific odor molecules, which allow us to identify 100,000 or more different odors (Goldstein, 2009).

Once the odorants reach the olfactory mucosa, they stimulate olfactory receptors located in the ORNs. This stimulation activates the ORNs, which process chemical information. Then, signals from the ORNs are transmitted to the glomeruli in the olfactory bulb, a neural structure that organizes and processes smell-related information. Finally, these signals are sent to the higher cortical areas of the brain, where the perception of smell is formed and integrated with emotions and memories (Goldstein, 2009).

2.5. Taste: The Gustatory System and Flavor Perception

Taste refers to the sensation that occurs when a food constituent chemically reacts with taste receptor cells located on a large portion of the tongue. Together with smell, it determines the flavors of foods (Cole & Kramer, 2015). As mentioned above, it is one of the two chemical senses.

The process of tasting (Figure 7) begins when receptors on the tongue are stimulated by taste stimuli. The tongue's surface is covered with papillae, which are classified into four types: filiform, fungiform, foliate, and circumvallate. There are around 10,000 taste buds on the tongue, located in all papillae except filiform, which causes the central part of the tongue to produce no taste sensation (Goldstein, 2009).

Each taste bud contains 50-100 taste cells with tips that extend into taste pores. When chemicals interact with receptor sites on these cells, electrical signals are generated, which are transmitted via various nerves. The fibers from the tongue, mouth, and throat connect in the brainstem at the nucleus of the solitary tract. From there, the signals travel to the thalamus and then to the taste-processing regions in the frontal lobe, including the insula and frontal operculum cortex, where specific taste perceptions are identified (Goldstein, 2009).

There are five basic taste sensations, which serve as indicators of the nutritional and safety qualities of foods: salty, sour, sweet, bitter, and umami. Each taste bud has sensory cells that respond to at least one of the five basic taste qualities, and all tastes are detected across the tongue – they are not limited to specific regions (Blumenrath, 2020).

3. Multisensory Integration: How the Brain Combines Sensory Input

Our senses do not act independently of each other, as each of them contributes collaboratively to form our experiences and decipher how we perceive the world around us. Flavor perception is a good example of this sensory interaction. While we often associate taste solely with how we experience food and beverages, flavor perception is actually a multisensory process that involves also the sense of smell. By obstructing the nose while eating, one can observe a noticeable reduction in the overall sensory experience, as this action partially eliminates the olfactory input that plays a crucial role in detecting flavor (Velasco & Obrist, 2020).

There are five key concepts that are useful for analyzing and explaining how the senses interact with each other, as well as their potential implications for multisensory experiences and sensory marketing: spatiotemporal congruence, semantic congruence, crossmodal correspondences, sensory dominance, and sensory overload (Velasco & Obrist, 2020).

Multisensory spatiotemporal congruence refers to the alignment of different sensory stimuli in both space and time, which is essential for a seamless perceptual experience. For instance, at the cinema, while the visual stimulus originates from the screen in front, the audio comes from speakers positioned around the room. However, our brain integrates sight and sound into a unified experience, allowing us to perceive them as occurring together (Velasco, 2024).

Semantic congruence refers to the alignment of sensory stimuli with a conceptual or semantic attribute. For example, consumers can identify labels on product packaging quicker and more accurately when the packaging color corresponds to the expected flavor, such as red for tomato-flavored chips. In contrast, when color and flavor are incongruent, reaction times slow down, and the likelihood of errors increases (Velasco, 2024).

Crossmodal correspondences describe the natural tendency to associate sensory attributes from one modality with specific features in another sensory modality. For instance, larger objects are commonly linked to low-pitched sounds, while smaller objects are associated with high-pitched sounds (Velasco, 2024).

These three concepts play a crucial role in shaping multisensory experiences and marketing strategies. Their effects can be sub-additive, when incongruence among them results in less compelling experiences; non-additive, when congruence or incongruence does not necessarily enhance or diminish the experience; or super-additive, when alignment in terms of these three concepts leads to more compelling experiences (Velasco & Obrist, 2020).

Sensory dominance can be defined as the relative importance of different sensory modalities in shaping a given experience. When consumers buy a product, they are likely to initially focus on its visual attributes. However, over time, other senses can become more significant. For example, while the appearance of new shoes may be the primary concern at the time of purchase, their comfort – perceived through touch – becomes more important during use. As the shoes age, other sensory factors, such as their smell (olfaction) and the sounds they produce while walking (audition), also gain relevance in the overall experience (Fenko et al., 2009).

Sensory overload arises when the amount of environmental stimuli exceeds an individual's capacity to perceive and process information and sensory inputs, leading to negative consequences like confusion, frustration and withdrawal (Doucé & Adams, 2020). For example, when visiting a place like Times Square in New York City, it can be difficult to make sense of the environment because of all the lights, sounds, smells, and so on (Velasco & Obrist, 2020).

Understanding these fundamentals of sensory experiences provides a crucial foundation for exploring how our senses shape perception, decision-making, and overall shopping experience within physical retail stores.

CHAPTER II: SENSORY MARKETING IN PHYSICAL RETAIL STORES

Sensory marketing can be defined as “marketing that engages the consumers’ senses and affects their perception, judgment and behavior”. From a managerial perspective, sensory marketing can be used to create subconscious cues that shape consumer perceptions of abstract product attributes, such as its sophistication or quality (Krishna, 2011).

In a marketplace characterized by high levels of brand parity and where consumers are constantly exposed to hundreds of products and explicit marketing communications, customers no longer purchase products solely for their functional and monetary value, but also base their decisions on the experiences offered by brands (Aydinoğlu & Sayın, 2016). Therefore, an essential objective for any retail store, whether physical or digital, is to create a positive and memorable customer experience. Among the many factors that shape this experience, sensory stimuli play a particularly powerful role (Biswas, 2019).

This chapter explores the sensory marketing techniques applied in physical retail stores and serves as the foundational base for this research project. Its primary objective is to evaluate the first hypothesis proposed:

H₁ = Retailers that implement sensory marketing strategies – such as color, music, texture, scent, and taste – in physical store environments are more likely to positively influence consumer experience and purchase behavior.

To address this goal, the chapter is divided into two main sections. The first one provides the theoretical foundations of sensory marketing in physical retail stores by exploring strategies related to each of the five senses, as well as the concept of multisensory integration. The second section focuses on the research findings, beginning with a scoping review of existing literature, followed by the results of primary research – which includes an expert interview and a consumer survey. The chapter concludes with a discussion of the findings in relation to H₁.

1. Theoretical Foundations

This section provides the theoretical grounding for understanding sensory marketing in physical retail environments. To develop it, I expanded upon my existing knowledge by examining key literature in the field. This included two foundational books – *Sensory Marketing in Retail* by Lindblom (2024) and *Sensory Marketing* by Hultén, Broweus, and van Dijk (2009) – as well as a selection of academic articles and publications by leading researchers such as Carlos Velasco, Charles Spence, and Aradhna Krishna. This theoretical framework provides an overview of how each of the five senses, along with multisensory strategies, can be used to influence consumer perception and behavior in physical retail environments.

1.1. Visual Marketing: The Power of Sight in Retail

Vision is often considered the most dominant sense when it comes to perceiving and evaluating goods or services, as visual elements – such as color, shape, orientation, or lighting – are among the first and most impactful stimuli that shape customers' impressions and guide their purchasing decisions (Aydinoğlu & Sayın, 2016).

1.1.1. Product and Packaging

Research has shown that visual cues relating to packaging design can strongly influence the impressions consumers form about a product, as package is a key tool to capture consumer attention and convey product information at the point of purchase (Lindblom, 2024).

According to Spence (2016), color plays a crucial role in product packaging, influencing consumers' overall purchase behavior. In fact, more than 90% of brands on supermarket shelves utilize color to convey essential information about a product, including flavor, intensity, or even quality. The expert also states that packaging color has a huge impact in shaping how consumers perceive a product. One example is that participants rated 7-Up as tasting more lemony/limey simply because it was served in a can that was slightly more yellow than usual. Similarly, Coca-Cola received complaints from North American consumers who claimed that the drink tasted different when presented in a limited-edition white Christmas can, even though the formula remained unchanged. Moreover, packaging color can also be used to reinforce brand identity. Some examples include Coca-Cola's red, Cadbury's purple, and Heinz's bluey-green, which have become strongly associated with their respective brands over time (Spence, 2016).

Research has shown that, while certain color meanings are consistent across different cultures (e.g. blue is commonly associated with peacefulness), other color associations are more culture-specific (e.g. black is linked to formality in Brazil, Colombia, and China, whereas it is associated with masculinity in Austria, Hong Kong, and the United States) (Velasco et al., 2014). For instance, it has been suggested that Cadbury's failure to penetrate the Japanese market may have been partially due to the fact that the signature purple color of their Dairy Milk bar is associated with mourning in that part of the world (Spence, 2016).

Also, a study by Velasco et al. (2014) that examined color-flavor correspondences in crisp packaging and compared Colombian, Chinese and British participants revealed that, while some associations were consistent across cultures, others varied significantly. The results showed that most of the Colombian (86.2%) and British (87.9%) participants matched the burgundy color with the "BBQ" flavor, while only about one third (34.5%) of the Chinese participants did. Additionally, all the participants from Colombia associated green with "lemon", while all the

British participants and 65.5% of the Chinese associated it with yellow. However, almost all the participants in all three countries matched red to “tomato”.

Another crossmodal correspondence that is of interest to marketers is that between shape (or angularity) and flavor of foods and beverages. For instance, studies have demonstrated that round shapes tend to be associated with sweetness, while angular shapes tend to be associated with sourness (Escobar et al., 2022). Thus, research suggests that milk products and creamy yogurts should be presented in more rounded packaging, while fruit juices and other products with acidic or bitter tastes should be presented in more angular packaging. To test this, participants in a study were asked to evaluate yogurt presented in various packaging formats, and the yogurt’s taste was rated as more intense when it was shown in an angular package, as opposed to a more rounded one (Spence, 2011).

Moreover, research has found that visual textures can influence the perception of basic tastes. For example, potato crisps sampled from a cup with a rough texture were perceived as saltier compared to those from a smooth textured cup. Additionally, consumers rated both vanilla and lemon ice cream as sweeter when tasted from a smooth textured cup, as opposed to a sharp one. These results revealed the existence of crossmodal associations between fluffy visual textures and sweetness, and crunchy or rough textures and saltiness (Escobar et al., 2022).

Krishna et al. (2016) argue that altering a product packaging’s visual orientation (e.g. to the right or to the left) can also influence how viewers mentally simulate interacting with the product, which in turn can increase purchase intention. Specifically, research shows that when there is a match between the viewer’s dominant hand and the product’s orientation (e.g. a right-handed person viewing a bowl of soup with the spoon placed on the right), the mental simulation of using the product becomes more natural and vivid. Therefore, this congruence facilitates a stronger sense of interaction, making the product feel more usable and appealing, and ultimately increasing the likelihood of purchase.

Furthermore, Velasco et al. (2015) suggest that the orientation of, for example, shapes and lines can influence how people perceive visual objects. To investigate this, participants were asked to rotate a central visual element from various food packages – the central images of the pasta from the Barilla brand (Campanelle, Pipette, and Gemelli) and a triangular icon on the label of Izadi red wine – to their preferred orientation. Results (Figure 8) showed that for the Campanelle and Pipette packaging, which had irregular design elements, participants expressed clear orientation preferences. In contrast, multiple orientation preferences were documented for the Gemelli pasta and the triangular icon on the wine bottle label.

Finally, Spence (2016) points out that the image mold is also a key concept of visual marketing. It refers to a specific packaging shape that becomes strongly associated with a particular product or, in some cases, its brand in the consumer’s mind. One example is the silhouette of the Wishbone salad dressing bottle, which many North Americans immediately associate with salad

dressings. However, the most iconic image mold is the Coca-Cola contour bottle, first introduced almost a century ago. What is particularly interesting is that companies like Coca-Cola and Heinz often choose to feature a black silhouette of their classic packaging design on the side of newer packaging formats (e.g. Coca-Cola cans, Heinz ketchup sachets), reinforcing their strong brand identity.

1.1.2. Store environment

Store environment includes both design and ambient cues. Design cues refer to the aesthetic elements in the retail environment that help consumers interpret and understand the purpose of the shopping space. Key visual design cues are store design, store layout, and product display. In contrast, ambient cues are atmospheric factors in the background of the store environment, with lighting being the most visually significant (Lindblom, 2024).

Lindblom (2024) suggests that store design shapes customer experience by influencing how inviting a retail space feels. Visually coherent environments – those with balance, harmony, and clarity – are typically easy to understand and evoke a sense of pleasure. Nevertheless, overly simple or perfectly symmetrical designs may come across as boring (Murray et al., 2015). On the other hand, complex store designs – those that feature a rich mix of elements, colors, and materials – can stimulate interest and excitement by engaging customers' cognitive resources, but if they require excessive effort to process, they may lead to feelings of exhaustion or anxiety (Lindblom, 2024). Furthermore, according to Liu et al. (2018), round shapes in store design tend to convey warmth and friendliness, while angular shapes suggest competence and efficiency. Baker et al. (1994) state that free-form layouts and wide aisles create a sense of prestige and high quality, whereas grid layouts and narrow aisles are linked to affordability. For instance, Apple effectively reinforces its image of innovation and quality through its flagship store design, as the modern, grey-white aesthetic, the strategic use of materials like glass and light-colored wood, and the spacious product displays communicate a sense of high quality and sophistication (Lindblom, 2024).

Additionally, Lindblom (2024) points out that the store layout can significantly have an impact on the shopping experience. For instance, Underhill (2001) mentions that customers naturally tend to turn right upon entering a store, which retailers can use to optimize product placement. Moreover, in accordance with Baker et al. (2002), spacious layouts that allow free movement help reduce stress compared to rigid grid layouts with forced routes. Ebster & Garaus (2015) posited that a clear, intuitive path also encourages browsing and increases the likelihood of purchases, as if the environment feels confusing or disorienting, it can lead to frustration and even drive customers to leave. Additionally, store cleanliness and organization also affect perception – disorder suggests low quality and cheap products, while a tidy and well-maintained

space generates an impression of high quality and higher prices. For example, IKEA's labyrinthine store layout is designed to guide customers through the entire store before reaching the exit, aiming to make them spend more time in the store and increase the likelihood of impulse purchases (Lindblom, 2024).

Regarding product display, Chandon et al. (2006) conducted an eye-tracking study that showed that products placed near the center of a shelf – especially between eye and waist level – are noticed more easily and can boost sales by up to 40%. Raghurir and Valenzuela (2009) observed that consumers tend to associate top-shelf placement with high quality and price, bottom shelves with cheaper options, and middle shelves with the best price-quality balance. Also, in accordance with Lindblom (2024), products on the right side of a display are perceived as more expensive than those on the left.

Finally, Park & Farr (2007) state that lighting can influence how consumers perceive a store, and that people find warm light more pleasing. According to Baker et al. (1994), soft lighting communicates dignity and quality, while bright lighting suggests affordable prices. In addition, a study found that when bright spotlights were installed in a sales area, consumers tended to touch and add more products to their shopping baskets compared to when the spotlight was turned off (Summers & Hebert, 2001). The fashion chain H&M is an example of a retailer that uses bright LED spotlights to highlight specific product areas. Moreover, the white color scheme combined with reflective surfaces makes the stores seem brighter and larger than they actually are. However, bright lighting may also create an unintended price impression, reduce the coziness of the environment, and make the store feel stressful. Therefore, it is important for lighting to be aligned with other cues and marketing strategies (Lindblom, 2024).

1.2. Auditory Marketing: The Impact of Sound on Retail Spaces

Auditory marketing involves using sound elements – ranging from product packaging noises and background music to jingles and brand name phonetics – as part of marketing strategies to shape and enhance people's shopping experience (Mixer & Pack, 2022).

1.2.1. Product and Packaging

According to Spence (2016), although often overlooked, the sounds a package makes when a product is picked up off the shelf or opened by the consumer can significantly contribute to the consumer's overall experience with the product. A well-known example is the signature “Snapple Pop”, an audible pop that occurs when the cap is removed from an unopened Snapple bottle. The company claims this sound signals freshness and confirms to the consumer that the

drink is sealed and ready to enjoy (Spence & Wang, 2015). Such sounds might even have the power to trigger physiological responses, such as salivation, by enhancing sensory expectations. For example, Spence et al. (2011) demonstrated that participants rated the chips as approximately 5% crunchier when they ate them while simultaneously hearing the loud, familiar rattling noise of a crisp packet. However, it can also backfire if not carefully considered. A notable example is the case of Sun Chips' biodegradable packaging, which produced an unexpectedly loud noise – around 100 dB – when gently agitated in the shopper's hands. Due to numerous complaints about the excessive noise, the company was forced to pull the product from shelves just eighteen months after its release (Sahba, 2010).

Another important auditory element that can shape how users perceive a product comes from the sound it makes during use. For instance, a study by Spence & Zampini (2007) showed that aerosol sprays were rated as significantly more pleasant but less forceful when either the overall sound level was lowered or when high-frequency sounds were reduced.

1.2.2. Store features

Background music, one of the most researched ambient cues in retail, is frequently used to enhance the store atmosphere, making it more enjoyable and appealing, as well as to differentiate the store from competitors and communicate brand identity (Kemp et al., 2019). According to Lindblom (2024), the characteristics of background music – such as tempo, volume and genre – have distinct effects on consumer behavior.

Regarding tempo, slow-tempo music (typically 60–70 BPM) tends to relax shoppers, making them move slower through the store and spend more time browsing, which can result in increased purchases. Fast-tempo music (around 100–120 BPM), by contrast, increases arousal and encourages quicker shopping. Furthermore, research shows that in-store crowding can reduce customer spending. However, a study by Knoeferle et al. (2017) that analyzed six European retail stores and over 40,000 shopping baskets found that this effect can be mitigated by adjusting in-store music tempo, such that fast music strongly increased spending under high-density conditions.

Volume is another important factor. High-volume music tends to elevate arousal, increasing heart rate and blood pressure, and can lead to faster shopping and shorter store visits. On the contrary, lower-volume music can produce relaxation, encouraging customers to stay longer (Garlin & Owen, 2006). In contexts where staff-customer interaction is important, softer music supports communication, while louder or more upbeat music may be more suitable in self-service settings (Yalch & Spangenberg, 1990).

The genre of background music can also shape customer behavior. For example, a widely cited study by North et al. (1997) showed that playing French music in a grocery store led to increased sales of French wine, while German music boosted German wine sales. Similarly, classical music has been shown to make customers spend more money and associate the store with high quality and prestige, while pop music is linked to affordability (Baker et al., 1994). Building on this idea, some retailers are now using music genre more strategically to enhance customer experience. The Australian youth clothing retailer Cotton On, for example, has experimented with a system based on Radio Frequency Identification technology, in which the music played in fitting rooms changes depending on the clothes the customer tries on. For instance, with a specific type of jeans, the customer would hear either rock, indie or pop music, tailoring the atmosphere to match the product (Lindblom, 2024).

Ultimately, the chosen background music (e.g. genre, tempo, volume) should align with the brand identity of the store and cater to the preferences of the target customer group. Choosing inappropriate music can create confusion or annoyance, which may lead to customers leaving the store or generating a negative impression. Ideally, a store should develop a signature musical atmosphere that becomes part of its brand and evokes the desired emotional and behavioral responses from its customers (Lindblom, 2024).

Jingles also play a significant role in reinforcing brand identity through sound, using short melodies that are engaging and easy to remember (Hultén et al., 2009). A clear example of this is Mercadona's iconic jingle, which has become a key element of the Spanish supermarket chain's marketing strategy and can be heard in all its stores (Llorca, 2018). Likewise, the Swedish fashion retailer Lindex incorporated a jingle into both in-store environments and television commercials that was subtly adapted to align with specific marketing themes. For example, during the "Fashion Report Paris" campaign, an accordion sound was added to the jingle to evoke the ambiance of Paris. However, despite these seasonal variations, the core melody of the jingle remained consistent, ensuring a stable and recognizable brand identity (Hultén et al., 2009).

Another element that can serve as a powerful marketing tool for retailers is the store name. According to Robertson (1989), an effective name should be simple, distinctive, and carry some form of meaningful association. Moreover, Song and Schwarz (2009) state that names that are difficult to pronounce are often associated with negative reactions, such as feelings of risk or uncertainty. They explain this through the fluency theory: names that are processed easily and fluently tend to elicit more favorable responses. Therefore, retailers should carefully consider the pronounceability of a name when developing or selecting a brand identity.

An even more intriguing aspect of naming is sound symbolism – the idea that the sounds embedded in brand names can evoke specific associations about a product's qualities. The contrast between front and back vowels plays a significant role in shaping perception. Front vowels – like the [i] in "bin" or "hit" – are generally higher in pitch and are associated with qualities such as softness and lightness. On the other hand, back vowels – like the [o] in "home"

or [u] in “bun” – suggest heaviness and richness (Spence, 2011). These sound associations have been demonstrated in many different cultures and product categories. For example, in a study conducted by Yorkston and Menon (2004), participants perceived that an ice cream would taste creamier and smoother when it was given the brand name ‘Frosh’ than when it was called ‘Frish’ instead. Even though neither word has a literal meaning, Frosh carries a rounder vowel sound that consumers instinctively associate with richer textures and flavors through some form of crossmodal correspondence. Similarly, research has shown that, for instance, crispy and crunchy foods – such as chips – are often matched with words that begin with harder, plosive sounds, such as ‘tuki’ or ‘takete’. In contrast, foods with a creamier texture are commonly paired with more rounded speech sounds like ‘lula’ or ‘maluma’ (Spence, 2011). This principle extends to real-world branding as well. In the United Kingdom, many successful budget retailers like Aldi, Lidl and Londis often share the inclusion of the letter “i”. According to Spence (2011), this is not coincidental, as the vowel sound [i] is typically associated with low prices.

1.3. Tactile Marketing: The Role of Touch in Retail Experiences

Tactile marketing involves using the sense of touch to engage consumers by emphasizing the physical qualities of products – such as texture, weight, temperature, hardness, or shape – with the aim of creating a holistic shopping experience (Roy, 2021).

1.3.1. Product and Packaging

To show the importance of targeting the touch sense in sensory marketing, IKEA’s Furuset store (Norway) invited shoppers to spend the night in 2007. Guests could choose between a basic dormitory, a family room, or a marriage chamber, all free of charge. By letting people sleep in their beds, IKEA created an immersive tactile experience in which customers felt its products and then took the bedclothes home as souvenirs, extending the sensory connection.

Because not everyone has the same need for physical contact, the Need-for-Touch (NFT) scale, developed by Peck and Childers (2003), measures individual differences in the desire to engage in tactile experiences with products. It includes two sub-scales: instrumental need for touch, which is for functionality (e.g. touching to assess a product’s quality before purchase), and autotelic need for touch, which captures the emotional enjoyment of touch for its own sake (e.g. touching products for fun). For example, in a study where participants evaluated a sweater and a cellphone, those with high overall NFT were more confident and less frustrated about their product evaluations when they could feel the product. In contrast, those with low NFT were unaffected by whether or not they could physically interact with the product (Krishna, 2011).

According to Spence (2016), textures represent an important, though relatively underexplored, aspect of the consumer's overall sensory experience with a product. For instance, Aydinoglu & Sayin (2016) state that consumers who have a higher need for touch find the texture of a shirt more critical in the purchasing decision, and they often are willing to pay premium prices because they enjoy the soft fabric. Additionally, in a study conducted by Piqueras-Fiszman and Spence (2012), participants were presented with either yogurt or pieces of digestive biscuit served in plastic yogurt pots. These packages featured either their original smooth surface or were modified to have a rough texture by attaching sandpaper to the exterior. Participants were then asked to evaluate the texture and overall appeal of the food, and the findings indicated that the perceived texture of the digestive biscuits – but not the yogurt – was significantly influenced by the tactile feel of the packaging (rough versus smooth).

Packaging texture can also act as a marketing tool by encouraging consumers to physically interact with products and pick them up from store shelves, which can increase purchase likelihood. Remarkable examples include the Heineken can that had been covered with tactile paint, and various bottles or cans featuring raised logos on the front side. However, while these tactile innovations may offer marketing advantages, they often come with additional production costs. Consequently, they are frequently removed during cost-cutting phases, potentially diminishing their impact on consumer engagement (Spence, 2016).

Hultén et al. (2009) point out that the material from which a product or its packaging is made can also shape consumers' perceptions. For example, plastic materials are usually associated with everyday use and simplicity, while glass symbolizes quality. Thus, exclusive drinks are rarely packaged in plastic. Furthermore, products made of materials perceived as unattractive may be judged badly even though their functional attributes are known.

Another aspect that influences the consumer's product experience is, in accordance with Piqueras-Fiszman and Spence (2012), its weight. A notable example comes from the products of the Danish electronics manufacturer Bang & Olufsen (e.g. remote controls, sound systems), which are relatively heavy and distinctive to signal high quality and attention to detail (Hultén et al., 2009). In addition, research has shown that the perceived properties of various food and beverage products can be significantly altered simply by modifying the weight of the packaging. In general, products presented in heavier packaging tend to be rated as having a more intense smell, as likely to be more satiating, and to be of better quality (Kampfer et al., 2017). Moreover, there appears to be a strong correlation between packaging weight and product price across a wide range of product categories (e.g. wine bottles, cosmetics), suggesting that consumers often associate heavier packaging with premium value. However, this presents a challenge, as many companies are increasingly under pressure to reduce packaging weight for environmental and economic reasons, which may diminish perceived product quality (Spence, 2016).

How easily a package is opened can also shape consumers' perceptions of the product inside. Early research showed that packaging that demands a little extra effort to be opened can be

associated with a higher quality product. For example, potato chips in bags that were harder to open were rated as better-tasting, likely because consumers thought that they were better sealed and fresher (McDaniel & Baker, 1977). Similarly, Stuckey (2012) notes that a beer bottle that requires a traditional opener, as opposed to an easy twist-off cap, may be perceived as more premium, suggesting that the difference in effort might impact the consumer experience whether the consumer realizes it or not.

One other important issue when creating asymmetrical packaging relates to the handedness of the consumer. According to Spence (2011), if the average right-handed consumer can easily open, use, or pour the container, the product gains a competitive advantage over items that are a little more difficult to manipulate (Figure 9).

Products touching each other in retail environments can also influence consumer perception, especially when one of the items is associated with disgust. Research shows that when products considered unpleasant (e.g. diapers, trash bags, cigarettes) come into direct contact with neutral or desirable products (e.g. potato chips) the appeal of the latter decreases. However, if the items are near each other but not touching, this negative effect is avoided (Krishna, 2011). This principle also applies to interactions between people and products. For instance, in a study by Argo et al. (2006), participants were asked to try on a specific t-shirt, which was placed in one of three locations: the regular shopping rack, the return rack in the dressing room, or inside the dressing room itself. Although all t-shirts were in perfect condition and had not actually been touched by others, the results showed that both product evaluations and purchase intentions were highest for the t-shirt on the shopping rack and lowest for the one in the dressing room, which demonstrates how even the idea of prior contact can negatively affect consumer perceptions.

1.3.2. Ambient Temperature

The temperature of a product or retail environment, according to Hultén et al. (2009), is also considered to be a haptic cue that affects the tactile experience and overall consumer response. For instance, in a grocery store, a dairy section that is too cold may create discomfort and an unwelcoming atmosphere for customers. Similarly, in other retail settings, products such as glass perfume bottles, when exposed to lower temperatures, can feel unpleasantly cold to the touch, potentially taking away the perceived luxury or desirability of the item.

Ambient temperature can also influence consumer behavior on a cognitive level. Cheema and Patrick (2012) demonstrated that shoppers exposed to higher ambient temperatures (around 25 °C) were more likely to avoid making complex decisions and chose simpler products compared to those in cooler environments (around 19.5 °C). Complementing this, research by Zwebner et al. (2013) showed that participants experiencing elevated temperatures were willing to pay higher prices for the same products than those in colder conditions. This suggests that

when the ambient temperature is higher, consumers may be more willing to spend, whereas cooler temperatures appear to encourage more thoughtful and cautious purchasing decisions.

Therefore, determining the ideal temperature for different retail environments or shopping situations is challenging, as preferences can vary widely. However, it is generally suggested that most people tend to feel comfortable at around 22 °C (Cheema and Patrick, 2012). At the same time, some retailers deliberately manipulate in-store temperature to enhance the customer experience and align it with the nature of their products. An illustrative example is seen in select flagship stores of Canada Goose, a premium outerwear brand, which feature a “Cold Room” that simulates extreme cold, with temperatures reaching approximately –25 °C. The purpose is to provide customers with an environment where they can test and experience the performance of the brand’s clothing in the conditions for which they were designed (Hultén et al., 2009).

1.4. Olfactory Marketing: Influence of Scent in Retail Environments

Olfactory marketing involves using scents to capture consumers’ attention, enhance the consumption experience, and improve product evaluation through semantic and emotion-based associations (Spence, 2015).

1.4.1. Product and Packaging

According to Spence (2015), the sensory aspects of packaging play a crucial role in shaping consumers’ product experiences, with olfactory attributes becoming an increasingly important factor. Thus, many companies are exploring ways to incorporate scent cues into their packages or products. For instance, one strategy involves embedding scent-encapsulated components in the glue or packaging materials, releasing an aroma when the consumer opens the package to enhance the perceived freshness and appeal of the product. This technique is particularly useful for frozen goods (e.g. chocolate ice cream), where low temperatures inhibit natural aroma release (Spence & Piqueras-Fiszman, 2012). Also, several coffee brands have successfully used scent valves to release product aromas, increasing consumer and sensory engagement. However, Spence (2011) notes that it remains a missed opportunity that the packages of many aromatic products (e.g. chocolate, tea) rarely allow consumers to experience the scent prior to purchase.

One interesting example of olfactory innovation in packaging comes from PepsiCo’s 2013 U.S. patent application to incorporate aroma compounds into the closure mechanisms of their ready-to-drink beverages. This system would release aroma compounds encapsulated in gelatin capsules that would be broken when the container was opened. The inventors Naijie Zhang and Peter Given stated that:

“Consumers evaluate many products by the aroma emitted from the product or the container in which the product is made available. Edible products, such as juices and coffee, are expected to have a fresh aroma that replicates or evokes memory of the expected flavor of the product. Research has shown that aromas can in some instances have substantial impact on consumer perception of the taste of a food or beverage, trigger a favorable emotional response, elicit a favorite memory, and improve overall product performance” (Bouckley, 2013).

Also, according to Hultén et al. (2009), brands have a valuable opportunity to express their identity, strengthen their market positioning, and deepen emotional connection with consumers through the strategic application of scents. Some major car producers illustrate an example of this, as research conducted in the United States and Europe shows that 86% of Americans and 69% of Europeans consider scent an important factor when purchasing a car. The French car manufacturer Citroën has leveraged this opportunity with the Citroën C4 model, offering customers a selection of nine different interior scents, including vanilla, lavender, citrus, and lotus flower. The scents, developed in collaboration with the MAESA creative beauty group to ensure consistency with the brand’s identity, last for approximately six months, after which customers receive a scented letter encouraging them to purchase a new scent package.

Lastly, research by Krishna et al., (2010) found that product scent also improves memory for product-related information. In one of their experiments, participants who received a pine-scented branded pencil along with a list of ten selling points remembered an average of 3.67 points two weeks later, compared to only 0.87 points of sale recalled by participants who received an unscented pencil. These results show that consumers recall attributes of a scented product more effectively than those of an unscented one. Furthermore, the researchers also noted that once consumers form an association between a particular scent and a brand, their memories regarding the brand are recalled every time they are exposed to the same smell, thereby strengthening brand recognition and loyalty.

1.4.2. Ambient Scents

Lindblom (2024) states that another important ambient cue in the retail sector is scent, as it has a significant impact on shopping behavior. Generally speaking, pleasant scents cause positive emotional reactions, while unpleasant scents result in unfavorable emotional responses. Moreover, scents can also influence product perception by activating semantic associations. For example, some specific scents (e.g. leather, rose) are often associated with luxury, and some others (e.g. citrus) may be associated with hygiene and cleanliness. Nevertheless, Spangenberg et al. (2006) point out that it is crucial to consider the intensity of scents, as an increase in intensity may reduce consumers’ positive reactions to otherwise pleasant scents.

A notable example of how ambient scents can be used in retail comes from the Net Cost supermarket in New York, which installed strategically located scent machines to release artificial aromas of chocolate, fruit, and baked bread into the store – each one of them near relevant product sections (e.g. chocolate near the candy aisle, bread by the bakery). While the store actually sells those products, the artificial aromas are intentionally placed to enhance the shopping experience and encourage impulse purchases (Spence, 2015). Similarly, the M&M's store in London – which was the world's largest store when it opened – also uses artificial scent to deliver a chocolate aroma with the aim of creating a more immersive environment, as the products that they sell are pre-packaged and do not release any fragrance (White, 2011).

Lastly, scents that are used to strengthen brand identity and facilitate long-term recognition through a specific fragrance are known as signature scents (Errajaa et al., 2021). Some companies using this olfactory marketing strategy are Victoria's Secret and Samsung, but a particularly interesting example is Sony, which looked through almost 1,500 different aromatic oils to find the combination that could capture the essence of the brand and create a positive environment in its stores. The company wanted to expand its target demographic and include more women, so it searched for a female-friendly scent that would also be appealing to men. Therefore, Sony ultimately chose to add a scent of orange and vanilla (pleasing to women), with a hint of cedar wood (pleasing to men) (Hultén et al., 2009).

1.5. Gustatory Marketing: Taste in Enhancing Retail Experiences

Gustatory marketing refers to the strategic use of taste to influence consumer behavior and enhance brand experience (Hultén et al., 2009).

In the previous sections, some crossmodal correspondences that influence taste – such as the color, sound, or texture of the packaging, or the scent of the product – have been mentioned. However, these are not included in the gustatory marketing fragment of this thesis, since the dominant sensory modality in those cases is not taste itself, but rather sight, hearing, touch, or smell. Consequently, they have been discussed in relation to the sense that primarily drives the effect. This approach aligns with Krishna (2011), who notes that taste is highly susceptible to external influences (e.g. physical attributes, product packaging, advertising). Building on this idea, Herz (2007) showed that, without the help of vision and smell, individuals are unable to distinguish between a potato and an apple. Therefore, by incorporating multisensory cues and providing information about the product, brands offer consumers more pleasurable and engaging taste experiences (Aydinoğlu & Sayın, 2016).

According to Spence (2016), there is growing interest in the development of edible packaging. For instance, in 2012, the start-up WikiFoods introduced WikiPearls, which are small balls of ice cream or frozen yogurt surrounded by an edible shell that was designed to serve the same

function as traditional plastic packaging. With this, the company aimed to reduce waste while enhancing the sensory experience by making the packaging itself edible (Kaye, 2013). However, Spence (2016) notes that the main challenge to the success of edible packaging is that consumers may not wish to eat something that could have come into contact with unsanitary conditions (e.g. unclean hands, contaminants) during transportation, storage or display, raising concerns about hygiene and food safety.

Hultén et al. (2009) point out that taste is often overlooked in marketing strategies, which can limit a brand's ability to build awareness and establish a sustainable image. While some companies – such as Colgate, which is considered as one of the leading brands when it comes to the taste of its products – have a natural advantage in engaging the gustatory sense, firms whose core products do not appeal to taste can still benefit from incorporating it into their brand experience (e.g. bookstores selling coffee, clothing stores offering snacks). A significant example is IKEA, the Swedish home interior retail giant, which has cleverly integrated food into its customer experience. Its affordable in-store restaurants reinforce the brand's values of low prices, simplicity, and accessibility. Additionally, the opportunity to take a break to eat and relax encourages customers to stay longer, which may result in increased purchases. Other brands such as Emporio Armani, Donna Karan, and Bloomingdale's have also incorporated the sense of taste into their retail stores by offering food and beverages, aiming to enhance customer engagement and create a more immersive shopping experience.

1.6. Multisensory Marketing: Integrating Multiple Senses

Many of our senses are stimulated at once in physical retail stores, as when we shop, we are exposed to a wide variety of cues. Even without being aware of it, our senses are continuously collecting data on visual, auditory, olfactory, tactile, and gustatory stimuli as we move through a store. Therefore, the multisensory nature of the environment highlights the idea that sensory cues should not be considered independently, but rather as a whole (Lindblom, 2024). This concept, known as multisensory integration, is defined as follows:

“The process by which inputs from two or more sensory modalities are combined by the nervous system to form a stable and coherent percept of the world. Multisensory integration enhances our ability to perceive and understand our environment, enabling us to move and interact with objects” (Yau et al., 2015).

An important aspect of multisensory integration is the effect known as super-additive multisensory response, which, according to Spence et al. (2014), occurs “when presenting two or more sensory inputs simultaneously gives rise to a response that is significantly greater than the impact of the individual signals”. This means that combined sensory stimuli can have a significantly greater effect than when presented individually. What is more, super-additivity is

most likely to arise when the individual sensory cues are relatively subtle, yet meaningfully aligned. Thus, cue congruence is considered a prerequisite for enhanced customer responses in physical retail environments.

A compelling example of a super-additive multisensory response was observed in a 12-week study by Helmefalk and Berndt (2018), conducted in the lighting department of a furniture store, that examined the effects of three distinct but congruent sensory cues on shopping behavior. Specifically, the olfactory cue involved a faint scent dispersed through a hidden diffuser, the auditory cue was soft jazz music, and the visual cue consisted of red curtains placed behind the product shelf. Each stimulus was designed to engage a different sense, but they were carefully selected to be congruent in context and meaning. The results showed that when all three cues were presented simultaneously, the impact on consumer behavior was significantly greater than when only one cue was used. Shoppers exposed to the full multisensory environment spent more time in the store and were up to three times more likely to make a purchase compared to other cue settings that were tested, which suggests that well-coordinated multisensory stimuli can improve the retail experience and boost consumer engagement.

The Dunkin' Donuts initiative in Seoul (Figure 10) is another successful example of a multisensory marketing strategy that aimed at increasing the brand's coffee consumer base. To do so, the company launched a campaign called "Flavor Radio", which used sound, scent, and vision to create a memorable sensory experience. They installed machines on public buses that recognized the Dunkin' Donuts jingle when the radio advertisement came through the speakers and, at the same time, released a coffee aroma into the bus, in order to influence passengers' desire for coffee. Then, when they got off, they were met with Dunkin' Donuts advertisements placed at the bus stops, reinforcing the association between the scent and the brand, which increased the likelihood that passengers would visit a nearby Dunkin' Donuts store. By the end of the campaign, it had reached over 350,000 people, store visitors increased by 16%, and the sales of stores located near bus stops rose by 29% (Tam, 2012).

However, the joint effect of cues may lead to sensory overload, which occurs when individuals are exposed to more sensory information than they can effectively process, resulting in negative emotional and cognitive responses (Lindblom, 2024). In accordance with Jang et al. (2018), the simultaneous use of three high-arousal cues (e.g. fast-paced music, visual complexity, bright lights) often triggers sensory overload. A clear example of this phenomenon can be seen in some open-air markets, which are usually known for their rich sensory atmosphere characterized by loud noise, large crowds, bright colors, and strong smells. Nevertheless, it is important to note that individual tolerance for multisensory environments varies significantly, meaning that while some people enjoy rich sensory experiences, others may find them overwhelming (Lindblom, 2024). Spence et al. (2014) highlight that a crucial factor that influences the number of cues that people can process is age, as younger people may enjoy cue-rich environments, while older customers tend to have negative responses. Therefore, this approach suggests that retailers

should adopt a “less is more” strategy to enhance the consumer experience while avoiding sensory overload. This means that, instead of assuming that more sensory input and stimulation always leads to better outcomes, it is important to carefully manage the number and intensity of the sensory cues used.

2. Research Findings

Following the theoretical foundations – which identify key sensory marketing strategies with the potential to influence consumer perception and behavior – this section presents the results of the research process conducted. It includes three different components: a scoping review of recent academic literature on sensory marketing in physical retail environments, a customer survey, and an in-depth interview with Carlos Velasco. Together, these methods provide a well-rounded perspective on sensory marketing strategies, and the insights gained form the basis for the subsequent discussion and evaluation of H_1 .

2.1. Scoping Review

This section presents a scoping review of recent academic literature on sensory marketing in physical retail environments. The objective is to support the evaluation of H_1 and validate or contrast the information presented in the previous sections. Later in this thesis, separate scoping reviews and analyses will be conducted focusing specifically on visual marketing and olfactory marketing. However, the current review is broader in scope, addressing the general concept of sensory marketing.

The literature search was conducted using the databases Scopus and Web of Science, and targeted articles that had the word “sensory” in the title, and “marketing” and either “retail” or “store” in the title, abstract, or keywords. Also, the review was limited to articles published between 2020 and 2025 in English. This process initially identified 171 articles. After removing 45 duplicates, 126 unique articles remained for screening based on titles and abstracts. Of these, 97 articles were excluded for not meeting the inclusion criteria. The remaining 29 full-text articles were assessed for eligibility and, ultimately, 6 articles were selected for data extraction. Find below a table summarizing the inclusion and exclusion criteria (Table 1), and a diagram outlining the search and screening process (Diagram 1) is presented in the Appendix.

Table 1. Scoping Review of Sensory Marketing in Physical Retail Stores: Inclusion and Exclusion Criteria.

	<i>Inclusion Criteria</i>	<i>Exclusion Criteria</i>
<i>Publication types</i>	Articles	Books, magazines, conference papers, reviews
<i>Linguistics</i>	Written in English	Written in other languages
<i>Time period</i>	Published between 2020 and 2025	Published before 2020
<i>Study characteristics</i>	Examining sensory marketing in physical retail environments	Examining sensory marketing in digital retail environments Examining sensory marketing in other physical/digital environments Examining only one sensory modality rather than sensory marketing as a whole

Note. Author's own elaboration.

Several studies have explored how sensory cues influence emotions, perceptions, and decision-making processes. Pal et al. (2024) show that sensory experiences provided by retailers enhance shoppers' hedonic emotions (e.g. pleasure) and increase their intention to revisit the store. Zha et al. (2022) demonstrate that sensory cues in retail environments form sensory brand experiences, which play a crucial role in shaping customer satisfaction, emotional attachment, and brand loyalty. Similarly, Kim et al. (2021) point out that sensory perceptions and mental imagery influence behavioral intentions through anticipatory emotions and decision confidence in store-based retailing. Shahid et al. (2022) further emphasize the value of sensory marketing in retail, revealing that such cues enhance brand experiences and emotional attachment, especially when aligned with the store's image.

Moreover, some studies focus on multisensory integration – the interaction of different senses to produce stronger consumer responses. Duong et al. (2022) highlight that increasing the number of sensory modalities stimulated in-store positively influences consumers' emotional responses (e.g. enjoyment, arousal), perceptions of the store image, and overall brand attitude. Lastly, Biswas et al. (2021) state that the sequence of sensory cues matters, as encountering visual cues before olfactory ones leads to more favorable consumer responses, such as improved taste perception and increased product preference.

The results of the scoping review support H₁ and are closely aligned with the theoretical background previously outlined. Both suggest that sensory marketing can positively influence consumer perception and purchase behavior in physical retail environments, which provides a strong and coherent basis for primary research.

2.2. Primary Research Results

This section presents the empirical findings from both the consumer survey responses and the expert interview in relation to sensory marketing in physical retail stores.

On the one hand, the survey received a total of 127 responses from participants representing 17 different countries – Australia, Austria, China, Ecuador, Equatorial Guinea, France, Germany, India, Italy, Morocco, the Netherlands, Norway, Pakistan, Poland, Spain, the United Kingdom, and Uruguay. This culturally diverse and international sample offers a broader understanding of how sensory marketing strategies are perceived and experienced across different consumer backgrounds. In this general discussion of sensory marketing, the survey serves primarily to provide contextual relevance, but its role will become more significant in the following sections, which focus specifically on visual and olfactory marketing.

On the other hand, to further strengthen this research and explore perspectives that have not been widely discussed in the existing academic literature, I conducted an in-depth interview with Carlos Velasco, a leading expert in the field of sensory marketing whose work has been frequently cited throughout this thesis. With over 100 academic publications and eight authored or edited books (Carlos Velasco, n.d.), Velasco offers profound insight into how sensory marketing shapes consumer perception and behavior. Moreover, his extensive cross-cultural background – having lived in Colombia, Canada, the United Kingdom, the United States, Malaysia, Singapore, Sweden, and Norway – further enhances the relevance of his perspective, providing understanding on how sensory cues operate across different cultural contexts. Overall, his reflections provide valuable context for the practical implications of sensory marketing strategies, shedding light on both the opportunities and challenges retailers may encounter.

The findings from the consumer survey (provided with more detail in the Appendix) offer valuable insight into the relevance of sensory marketing in physical retail environments. A significant majority of respondents (55.1%) report visiting physical stores several times per week, with an additional 9.4% doing so daily. Therefore, retailers have a significant opportunity to influence consumer perception and shopping behavior through carefully designed sensory strategies. Furthermore, when asked which sensory stimuli have the greatest impact on their shopping experience, the majority of participants (90.6%) identify visual elements as the most influential. This is followed by olfactory stimuli (44.9%) and auditory cues (31.5%), while tactile (16.7%) and gustatory (8.7%) stimuli have lower impact. These responses suggest that visual and olfactory cues play a particularly central role in shaping perceptions and influencing decisions in-store, which supports the decision to focus more specifically on visual and olfactory marketing in the following sections of the thesis.

These consumer-based findings are further supported by expert insights from Carlos Velasco, who offered relevant perspectives on several key questions related to sensory marketing (full transcription of the interview provided in the Appendix). When asked about the current success of sensory marketing strategies in physical retail stores, Velasco emphasizes that the “research in sensory marketing is still in an early stage, so there is a lot of trial and error”. He explains that many retailers start by experimenting with sensory stimuli in their own stores in order to

determine what works best. Once they identify effective strategies tailored to their context, these approaches often lead to sustainable improvements.

In response to the question “What role does congruence between sensory stimuli play in the effectiveness of a sensory strategy? What are the potential risks – or possible benefits due to the element of surprise – when multisensory stimuli are not well-coordinated?”, Velasco states that sensory congruence is essential for creating effective in-store experiences, although not always easy to achieve. He clarifies that non-premium or standard brands should stick to congruence, unless they are well-positioned and supported by strong communication. For luxury or innovative brands, however, it can be worthwhile to experiment with well-planned incongruence. Velasco illustrates this point with an example: if a local bar serves a product that looks like an egg but tastes like ice cream, consumers may react negatively due to the mismatch. Nevertheless, if this happens in a high-end restaurant, where unusual experiences are expected, the response is more likely to be positive. Therefore, Velasco recommends a strategy of “partial incongruence”, where a planned sensory mismatch is balanced with clear cues to help consumers understand it. This approach turns confusion into a positive surprise, enhancing consumer engagement (C. Velasco, personal communication, May 14, 2025).

Regarding sensory overload, the expert explains that while some forms are obvious – such as extremely loud music or bright lightning – others are more subtle and depend on personal sensitivity. Velasco notes that “sensory sensitivity varies greatly between individuals”, making it difficult to define a universal threshold, and that culture also plays a role: “For example, Norwegians tend to be more sensitive to sensory input than Spanish people, which may cause them to perceive Spain as overly loud”. Thus, he suggests that companies should understand their target markets and test how different consumer segments react to sensory stimuli, aiming to find the right balance and avoid overload. He also mentions that sensory overload remains underexplored in academic research, exposing a clear gap in the field (C. Velasco, personal communication, May 14, 2025).

Addressing the question “How does culture influence the application of sensory marketing, and to what extent do companies adapt their sensory marketing strategies to each country rather than standardizing them globally?”, Carlos Velasco points out that the international dimension is still largely underexplored in academic research. From a business perspective, he explains that companies often rely on “trial and error” to adapt sensory strategies to local contexts. Moreover, he notes that sensory perception is often shaped by cultural and environmental factors, recommending that global brands “understand which sensory regularities exist in specific cultural contexts in order to adapt their strategies effectively”. He also presents concrete examples, such as Oreos being less sweet in China due to lower tolerance for sweetness or McDonald’s offering regionally adapted menu items to align with local taste preferences, which illustrate how brands adjust their sensory approaches to better resonate with cultural expectations and sensory norms (C. Velasco, personal communication, May 14, 2025).

Lastly, in relation to the question “What limitations might the implementation of sensory marketing strategies have – such as costs, ethics, and so on?”, Velasco highlights cost as a major limitation in sensory marketing. Regarding ethics, he states that ethical concerns depend on the company’s intention: “If a company uses sensory strategies to encourage harmful behaviors, such as smoking, ethical concerns arise. However, if the goal is simply to create a more enjoyable experience for customers or to differentiate products, then there should be no problem”. He further notes that ethical considerations are even more relevant in digital retail, where consumer data is constantly tracked and manipulated to shape experiences, raising serious concerns about privacy and autonomy (C. Velasco, personal communication, May 14, 2025).

This primary research results reflect the growing relevance and complexity of sensory marketing in physical retail settings, and build on the foundation established in both the theoretical base and the scoping review. Additionally, the insights from Carlos Velasco highlight practical considerations such as sensory congruence, sensory overload, cultural adaptation, and ethical implications, offering a deeper understanding of how sensory marketing can be effectively applied in retail contexts.

2.3. Discussion of Findings and Evaluation of Hypothesis 1

This final section of Chapter II aims to test the first hypothesis proposed:

H₁ = Retailers that implement sensory marketing strategies – such as color, music, texture, scent, and taste – in physical store environments are more likely to positively influence consumer experience and purchase behavior.

To evaluate this hypothesis, the discussion considers evidence from three key components of the research process: the theoretical base, the findings from the scoping review, and the results from the primary research – including both a consumer survey and an expert interview.

The theoretical background established that each of the five senses plays a meaningful role in shaping consumer perception, decision-making, and behavior in retail environments. Visual stimuli – such as color, shape, lighting, and layout – can influence impression and guide purchasing decisions (Aydinoğlu & Sayın, 2016). Auditory elements – including product-related sounds and background music – can enhance the shopping experience and influence consumer behavior (Mixer & Pack, 2022). Tactile features – such as texture, weight, and temperature – shape consumers’ perceptions of the product and influence purchase intent (Roy, 2021). Olfactory cues – whether ambient or product-specific scents – positively affect shopping behavior and enhance customers’ perception of store and products (Spence, 2015). Gustatory stimuli, although more limited in application, can enhance brand experience and encourage purchases (Hultén et al., 2009). What is more, the use of multisensory strategies – those that involve the simultaneous use of

multiple sensory cues – tends to produce a stronger impact on consumers than individual stimuli, particularly when sensory elements are congruent and sensory overload is carefully avoided (Spence et al., 2014; Lindblom, 2024).

These theoretical insights are supported by the results of the scoping review, which further confirm that sensory cues influence emotional responses, perception, and overall brand attitude (Pal et al., 2024; Zha et al., 2022; Kim et al., 2021; Shahid et al., 2022) – particularly when multiple sensory cues are used in a coordinated and congruent way (Duong et al., 2022; Biswas et al., 2021). Overall, the scoping review aligns closely with the theoretical framework and provides strong support to H₁, reinforcing the idea that implementing sensory marketing strategies contributes positively to consumer experience and purchase behavior in physical retail environments.

The results of the primary research further support H₁. The consumer survey, with a sample of 127 respondents from 17 different countries, provides empirical evidence that sensory marketing is perceived as an influential factor in the shopping experience. Most respondents identified visual elements as the most impactful, followed by olfactory stimuli and auditory cues. Tactile and gustatory inputs were seen as less influential, although still relevant. These findings suggest that certain sensory modalities – particularly vision, scent, and sound – have a stronger perceived influence on consumer behavior.

Expert insights from Carlos Velasco (C. Velasco, personal communication, May 14, 2025) add further depth to these findings by offering practical and theoretical reflections. He notes that while sensory marketing is gaining importance, it is still an emerging field often driven by trial and error. Moreover, Velasco highlights the importance of sensory congruence, which aligns with earlier insights from the theoretical background (Spence et al., 2014; Helmefalk & Berndt, 2018) and the scoping review (Duong et al., 2022; Biswas et al., 2021). However, he suggests that partial incongruence can be effective, especially for premium or innovative brands. Furthermore, Velasco's comments on sensory overload reinforce the theoretical view that overstimulation can lead to negative consumer reactions (Lindblom, 2024). He emphasizes that sensitivity to sensory input differs widely across individuals and cultures, and for that reason advises brands to adapt their sensory strategies to the specific preferences of their target audiences. Lastly, his reflections on cost and ethics introduce crucial considerations: while sensory marketing can be effective, it must also be implemented responsibly and with awareness of both budget and ethical boundaries.

In conclusion, the insights from the theoretical foundations, the scoping review, and the primary research provide strong and consistent evidence in support of H₁. Therefore, based on the alignment across these sources, H₁ is accepted, meaning that retailers that implement sensory marketing strategies in physical retail stores are more likely to positively influence consumer experience and purchase behavior.

CHAPTER III: VISUAL AND OLFACTORY MARKETING IN PHYSICAL RETAIL STORES ACROSS CULTURAL CONTEXTS

This chapter examines the role of visual and olfactory marketing in physical retail environments across cultural and national contexts. It aims to explore how these sensory elements are used to shape consumers' experiences, influence perceptions, and drive purchasing behavior within retail settings. Therefore, the chapter is structured into two main sections: one dedicated to visual marketing, and the other to olfactory marketing. To ensure consistency and depth of the analysis, both sections follow the same format.

1. Visual Marketing in Physical Retail Stores

The aim of this first section is to examine the role of visual marketing in physical retail stores across different cultural and national contexts. It begins with a scoping review of the existing literature to identify key concepts, commonly applied strategies, and relevant cultural considerations. This is followed by the presentation of primary research findings, which include insights from an expert interview and a consumer survey designed to gather both professional and consumer perspective on visual marketing practices. The final part is dedicated to a critical discussion of the findings in relation to H₂.

1.1. Scoping Review

This fragment provides a scoping review dedicated to exploring visual marketing strategies in physical retail settings, with the aim of gathering and synthesizing relevant literature to evaluate H₂. By outlining existing studies that examine visual elements such as packaging, color, shapes, lighting, and store design, this review supports the assessment of how visual cues influence consumer perception and behavior within retail environments.

To identify relevant literature, a structured search strategy was used in the academic databases Scopus and Web of Science. The first part of the query looked for articles that had the word “packaging” in the title, and the terms “sensory”, “marketing”, “color”, and “shape” in the title, abstract, or keywords. The second part targeted articles that included the words “visual”, “merchandising”, and “retail” in the title, abstract, or keywords. Furthermore, the review was limited to articles written in English and published between 2000 and 2025. This search process initially identified 201 articles from both databases. After removing 42 duplicates, 159 unique articles were screened based on their titles and abstracts. Of these, 116 did not meet the inclusion criteria and were excluded. The remaining 43 full-text articles were assessed for eligibility,

resulting in the exclusion of 27 articles. Ultimately, 16 studies were included for data extraction. Find below a table summarizing the inclusion and exclusion criteria (Table 2), and a diagram illustrating the search and screening process (Diagram 2) is provided in the Appendix.

Table 2: Scoping Review of Visual Marketing in Physical Retail Stores: Inclusion and Exclusion Criteria.

	<i>Inclusion Criteria</i>	<i>Exclusion Criteria</i>
<i>Publication types</i>	Articles	Books, magazines, conference papers, reviews
<i>Linguistics</i>	Written in English	Written in other languages
<i>Time period</i>	Published between 2000 and 2025	Published before 2000
<i>Study characteristics</i>	Examining visual marketing strategies in physical retail environments Providing sufficient data and measurable outcomes	Examining visual marketing strategies in digital retail environments Examining visual marketing in other physical/digital environments Providing insufficient data and unmeasurable outcomes

Note. Author's own elaboration.

The table below (Table 3) presents a summary of the selected articles that examine the effects of various visual marketing strategies within physical retail settings. These studies were conducted across different geographical locations and employed diverse methodological approaches, including field studies, laboratory experiments, and online surveys. The table outlines the independent and dependent variables examined in each study, the research setting, and the main findings, providing an overview of the existing literature on visual marketing and its influence on consumer perceptions and shopping behavior.

Table 3. Summary of Selected Studies on Visual Marketing in Physical Retail Environments.

<i>Authors</i>	<i>Independent V.</i>	<i>Dependent V.</i>	<i>Setting</i>	<i>Main findings</i>
Becker et al. (2010)	Packaging shape (angular vs. round) and color of yogurt containers	Taste perception, product evaluation, price expectations	Supermarket (The Netherlands)	Angular (vs. round) package shapes lead to stronger taste impressions, especially among consumers with high design sensitivity, and influence overall product evaluations and price expectations. However, color saturation has no significant effects
Veflen et al. (2022)	Packaging shape (round vs. angular), color brightness (high vs. low), and color saturation (high vs. low) of cheese packages	Expectations of taste and liking	Laboratory experiment (Norway)	Consumers associate round (vs. angular) packaging, high (vs. low) color brightness, and low (vs. high) saturation with mild-tasting cheese. In contrast, angular shapes, low color brightness, and high saturation signal a sharper taste. Moreover, round packaging also leads to higher expected liking.
Hair et al. (2025)	Packaging of eco-friendly laundry detergent: label color (silver vs. green) and packaging shape	Perceived product strength and purchase likelihood	Grocery stores (United States)	Silver (vs. green) labels and angular (vs. round) packaging significantly enhance perceived product efficacy and increase purchase likelihood of eco-friendly detergent without reducing perceived eco-friendliness, meaning that packaging design can counteract the

Authors	Independent V.	Dependent V.	Setting	Main findings
Carvalho et al. (2025)	(angular vs. round) Packaging color of coffee bags	Taste and flavor expectations through crossmodal correspondences	Online survey (United States)	“weakness bias” linked to sustainable products Pink coffee bags are associated with sweetness, yellow with acidity, and brown/black with bitterness. Brown and black evoke expectations of flavor notes like cocoa, roasted nuts, and brown sugar, while pink, yellow, and blue suggest floral, citrus, and berry notes. Color also conveys conceptual meanings: green is linked to ‘organic’, and pink to ‘modern’
Crisinel and Spence (2012)	Packaging design elements of Walkers’ Sensations crisps (color, patterns, pictures of musical instruments)	Associations between visual elements and flavor	Laboratory experiment (United Kingdom)	Participants consistently match crisp flavors with specific colors, mainly yellow and orange, influenced by the crisps’ actual appearance. Flavors are also associated with different pitch levels, but not with specific musical instruments or visual patterns. Therefore, to set accurate expectations, packaging should reflect natural food colors rather than abstract cues
Mabalay (2024)	Packaging design elements of coffee bags (graphics and materials)	Consumer impressions, and willingness to buy	Online survey (Philippines)	Packaging design significantly influences consumer perceptions and purchase intentions. Graphics have a stronger impact than materials, with females being more influenced by visuals and males by materials. Paper packs with patterned graphics are most attractive for coffee
De Sousa et al. (2020)	Typefaces on packaging label (round vs. angular typefaces) of coffee bags	Associations between typefaces and flavor, and purchase intention	Coffee store (Brazil)	Angular typeface increases both expectation and actual perception of the coffee intensity as well as purchase intention. However, no association was found for round typeface on perceived sweetness
Huddleston et al. (2015)	Type of signage on plant display (price vs. product information)	Visual attention (measured via eye-tracking) and purchase likelihood	Garden retailers (Australia and United States)	Although price (vs. product information) signs attract slightly more visual attention, product information on signage encourages closer inspection and increases purchase likelihood of minimally package products
Kpossa and Lick (2019)	Color of the surface (black vs. white) against which pastries are presented	Flavor perception, and purchase intention	Laboratory experiment (France)	Plate color has no main effect on taste perceptions or purchase intention overall. Moreover, flavor evaluations and purchase intention are significantly higher after tasting, highlighting the stronger impact of tasting over visual cues
Burke and Leykin (2014)	Target product packaging, and shelf display	Search speed, brand findability	Laboratory experiment (United States)	Distinctive product packaging improves brand salience and helps the product to be identified faster and more accurately. Neat shelves increase shopping efficiency, while

Authors	Independent V.	Dependent V.	Setting	Main findings
Reynolds-McIlInay et al. (2017)	Product-environment brightness contrast, and product presentation (organized vs. disorganized)	Product choice, and purchase likelihood	Outlet stores of a multinational apparel retailer (United States)	disorganized displays slow down the search process High product-environment brightness contrast (e.g. dark products in bright stores) increases visual attention and purchase likelihood when neatly displayed. However, when products are disorganized, this contrast draws attention to the messiness, leading to reduced preference and a shift toward less visually salient alternatives
Burke and Leykin (2014)	Product presentation (standard display vs. enhanced presentation)	Sales, store traffic, and product interaction	Apparel retailer (United States)	Making browsing easier and more intuitive by grouping related products and using simple, shopper-friendly folding on tables drives store traffic and product interaction, and increases unit sales by 18%
Jang, Baek, et al. (2018)	Visual complexity (low vs. medium vs. high), and store order (low vs. high)	Approach behaviors (desire to explore the store, shopping time, purchase likelihood)	Online survey (South Korea)	Consumers generally prefer a moderate (vs. low vs. high) level of visual complexity in store environments, but when there is a high (vs. low) degree of order in terms of organization and coherence, higher levels of visual complexity can enhance approach behaviors
Yilmaz (2018)	Store lighting design (general lighting vs. general + accent lighting vs. accent lighting)	Perceived shopping environment, and perceived product value	Laboratory experiment (Turkey)	Accent lighting significantly enhances customer perception of the overall environment and is associated with higher product value. General lighting alone is the least effective
Nell (2017)	Lighting (bright vs. warm vs. dark)	Consumer mood, time spent, and purchase behavior	Apparel retail stores (South Africa)	Warm (vs. bright vs. dark) lighting creates a pleasant, inviting environment that encourages time spent and positive purchase behavior, and shapes perceptions of product quality and brand image
Law et al. (2012)	Store display elements (color combinations, product selection, lighting)	Consumer affective responses, and purchase intention	Intimate apparel retail store (China)	Visual displays that evoke overly sexual or Westernized feminine images trigger negative emotional responses due to cultural incongruity. Subtle, modest displays are preferred and more likely to support positive affective responses and purchase intention
Helmeffalk and Hultén (2017)	Multisensory congruent cues (visual vs. auditory vs. olfactory) in a visually dominant store atmosphere	Shopper emotions (valence, arousal), time spent, and purchase behavior	Lighting department of a furniture store (Sweden)	Adding multisensory congruent auditory and olfactory cues to a visually dominant store atmosphere positively influences shopper emotions, time spent, and purchase behavior. In contrast, including only additional visual cues (lighting and aesthetics) has no significant effect

Note. Author's own elaboration.

In summary, the reviewed studies highlight the impact of visual design on consumer perception and behavior. Regarding product presentation, round shapes are often associated with milder flavors, while angular designs suggest intensity (Becker et al., 2010; Veflen et al., 2022; De Sousa et al., 2020). Colors can also trigger flavor expectations through crossmodal correspondences, influencing how products are perceived (Carvalho et al., 2025; Crisinel & Spence, 2012). In-store, elements such as lighting or layout play a crucial role. Warm and accent lighting enhance the perceived quality of products and the overall atmosphere (Yılmaz, 2018; Nell, 2017). Moreover, organized displays and intuitive layouts improve navigation and drive sales (Burke & Leykin, 2014; Reynolds-McIlroy et al., 2017), and moderate visual complexity is generally preferred – especially when accompanied by high store order (Jang, Baek, et al., 2018). Cultural factors also influence design preferences; for instance, in China, modest and culturally congruent displays elicit more positive reactions than overly Western or sexualized visuals (Law et al., 2012). Finally, incorporating multisensory congruent cues – beyond just visual design – can further enhance emotional responses and purchase behavior (Helmefalk & Hultén, 2017).

The results of the scoping review support H₂ and align closely with the theoretical background presented in Chapter II. The literature consistently suggests that visual marketing strategies in retail settings play an important role in shaping consumer behavior and shopping experience across different cultural and geographical contexts, which provides a strong foundation for further exploration through primary research.

1.2. Primary Research Results

Following the results from the scoping review and in order to support the evaluation of H₂, this section presents the primary research findings derived from the expert interview and the consumer survey. These are the same sources used in the previous section on sensory marketing, but here the focus shifts specifically to the questions related to visual marketing.

1.2.1. Expert Interview

This section provides key insights from the expert interview with Carlos Velasco, whose relevance to this study has been previously outlined. As a leading figure in the field of sensory marketing, Velasco offers a deeper understanding of the role and impact of visual elements in physical retail stores (full transcription of the interview provided in the Appendix).

When asked “How does the visual design of a store impact customer behavior and purchase intentions?”, Velasco explains that elements like “shapes, colors, symmetry, and curvature” significantly influence how customers perceive and interact with products or retail

environments. Among these elements, he highlights color as one of the most powerful cues, as it offers consumers immediate signals about what to expect. However, Velasco notes that “the impact of these cues depends on the specific behavior the retailer wants to encourage, such as making customers feel more relaxed or spending more time in the store”. Since retailers usually pursue several objectives at once, the expert points out that they should “prioritize and strategically select visual and sensory cues that help them meet those goals” (C. Velasco, personal communication, May 14, 2025).

Regarding product packaging, Velasco affirms that visual changes can significantly affect how a product is perceived. He mentions the previously discussed example of 7-Up, noting that when the can was made more yellow, “it was perceived as more lemony, despite the actual flavor remaining the same”. However, he warns that if the packaging is too different from the actual product, it may result in a “disconfirmation of expectations”, which can lead to negative responses. For example, he shares the case of a Colombian fruit called lulo, which tastes very sour but has a name that suggests sweetness. As a result, European consumers expecting a sweet taste are surprised by its acidity, which enhances their perception of sourness rather than balancing it (C. Velasco, personal communication, May 14, 2025).

In response to the question “How can crossmodal correspondences influence the non-verbal communication of products?”, Velasco highlights that they are “especially effective when consumers are unfamiliar with the product”. In these situations, when people lack prior knowledge or expectations, the brain relies more heavily on visual cues to form an impression. In contrast, crossmodal effects are limited when it comes to familiar products. He uses Coca-Cola as an example, stating that because consumers already know how it tastes, changing small visual elements will not alter expectations or perceptions in a meaningful way (C. Velasco, personal communication, May 14, 2025).

Lastly, Velasco mentions Heineken’s packaging design as a great example of a visual marketing strategy, pointing out that the red star on the green background creates a strong contrast that draws attention. He explains that “the angular red star is a bold visual element, but the slight angle of the “e” letters in the logo resembles a smile and softens the overall impression, creating an effective and balanced design”. On the contrary, he critiques when Coca-Cola launched a pink can, which was unsuccessful because it was “too different from the brand’s well-established visual identity”, leading to confusion or dissatisfaction among customers (C. Velasco, personal communication, May 14, 2025).

The expert interview with Carlos Velasco reinforces key ideas found in the existing literature while also introducing new insights that had not been previously covered in the thesis. His perspective enriches the overall understanding of visual marketing and offers valuable input to support the assessment of H₂.

1.2.2. Customer Survey

The consumer survey results (provided with more detail in the Appendix) offer additional insights into how visual elements influence consumer expectations and preferences. Respondents were shown different images and asked to make judgments based solely on visual appearance, aiming to test the influence of some visual marketing strategies discussed throughout the thesis.

First, respondents were shown two versions of 7-Up cans: Can 1 featured a yellow and green color scheme, while Can 2 had a darker green background and included an image of a lemon. Despite the literal image of the lemon on Can 2, 65.4% of participants selected Can 1 as the one they believed would have a stronger lemon/lime flavor.

Then, participants were presented with two yogurt containers that were identical in labeling and color but differed in shape. Yogurt 1 had a more angular packaging, while Yogurt 2 was rounder. When asked “Which yogurt do you think has a milder flavor?”, 79.5% of participants chose Yogurt 2, and 87.4% reported that they would prefer to buy it.

The following questions focused on two chocolate packages labeled “chocolate negro” (dark chocolate). Both packages were red, featured images of dark chocolate pieces, and were nearly identical. The only notable visual difference was the font: Chocolate 1 used an angular typeface, while Chocolate 2 used a more rounded font. Despite this subtle variation, a large majority of respondents (86.6%) thought Chocolate 1 would have a more intense flavor. Moreover, this chocolate was also the preferred option for purchase, as 63.6% of respondents chose it over Chocolate 2 when asked “Which chocolate would you prefer to buy?”.

Next, participants were presented with the silhouette of a Coca-Cola glass bottle – shown without any logo, color, or text – and were asked “Which brand would you associate with this silhouette?”. Nearly all respondents (97.6%) correctly linked the image mold to Coca-Cola, while only 1.6% wrote Fanta and 0.8% mentioned Heineken.

Lastly, participants were shown two images of different clothing store interiors: Store 1 featured a more spacious layout with neatly arranged clothing displays and warmer lights, whereas Store 2 presented a higher degree of visual complexity and bright lighting. When asked where they would rather shop, a strong majority of respondents (71.2%) chose the first store. The perception of quality was even more pronounced, as 98.4% of participants selected Store 1 when asked “Which store do you think offers higher-quality products and higher prices?”.

The consumer survey results align with key concepts explored throughout the thesis and offer practical evidence of how specific visual cues can shape consumer perceptions and buying preferences. Moreover, these insights contribute to the assessment of H₂, which will be evaluated in the following section.

1.3. Discussion of Findings and Evaluation of Hypothesis 2

This section aims to test the second hypothesis:

H₂ = Visual marketing strategies applied in retail stores to both product presentation and store environment lead to more favorable consumers' perception of the products offered by shaping their decision-making and overall shopping experience, regardless of the cultural or geographical context.

To evaluate this hypothesis, the discussion is based on the same three sources of evidence used earlier for sensory marketing: the theoretical foundations, the scoping review, and the primary research – which includes an expert interview and a customer survey.

The theoretical foundations show that visual marketing plays a key role in shaping how customers view products and experience retail spaces. Elements like color, shape, texture, lighting, store layout, and product display affect how people perceive and interact with a store. For instance, packaging can shape expectations about perception or quality (Spence, 2016; Spence, 2011; Escobar et al., 2022), and a store's layout and lighting can make the store feel more appealing, which can guide behavior and influence the overall shopping experience (Lindblom, 2024; Park & Farr, 2007; Baker et al., 1994). Moreover, while some cultural differences seem to exist in color or design preferences (Velasco et al., 2014; Spence, 2016), the overall impact of visual strategies appears to be consistent across contexts, supporting H₂.

The findings from the scoping review closely align with the theoretical foundations discussed, reinforcing the validity of H₂. A strong overlap exists in how packaging design affects product expectations and evaluations. For instance, both the theoretical framework (Escobar et al., 2022) and studies such as Becker et al. (2010) and Veflen et al. (2022) show that angular packaging is linked to stronger or more intense flavors, while round shapes convey softness or mildness, influencing product expectations and preference. Furthermore, they also show consistent patterns regarding color associations. Both the theoretical section (Velasco et al., 2014; Spence, 2016) and the scoping review results (Carvalho et al., 2025; Crisinel & Spence, 2012) discuss crossmodal correspondences where colors evoke expectations of specific flavors or qualities. Store environment factors are also supported across sources. Theoretical insights emphasize the importance of lighting in shaping shopping experience and perception (Park & Farr, 2007; Baker et al., 1994). This is mirrored in studies by Nell (2017) and Yılmaz (2018), which demonstrate that warm and accent lighting influence time spent, customer perceptions, and purchase behavior. Likewise, the positive impact of visual coherence noted in Lindblom (2024) is reflected in empirical findings by Jang, Baek, et al. (2018), where moderate complexity paired with high order increased shopping time and purchase likelihood.

Importantly, the scoping review includes studies conducted across 12 different countries – Brazil, China, France, the Netherlands, Norway, the Philippines, South Africa, South Korea,

Sweden, Turkey, the United Kingdom, and the United States – which suggests that visual marketing strategies are effective regardless of the geographical context. While some cultural differences exist (Law et al., 2012), the overall consistency of findings supports that visual cues can effectively influence perception and behavior across diverse contexts.

The interview with Carlos Velasco (C. Velasco, personal communication, May 14, 2025) adds further depth to these findings and highlights several key insights about the role of visual marketing in physical retail stores. He explains that visual features – particularly color – play a significant role in shaping how consumers perceive both products and store settings. Regarding product packaging, he references the 7-Up example mentioned in the theoretical foundations (Spence, 2016) to illustrate how even slight color changes can influence taste expectations. Moreover, he adds depth to the discussion by warning that a mismatch between visual cues and product reality can lead to a disconfirmation of expectations and negatively affect consumer responses, an idea less explored in the literature but crucial for practical application. Additionally, Velasco notes that crossmodal effects are particularly strong for unfamiliar products, as consumers rely more heavily on visual information in the absence of prior experience. Lastly, the expert highlights the importance of consistent visual branding.

The consumer survey results also reinforce key concepts from the theoretical foundations, the scoping review, and the expert interview. Across all examples, the survey illustrates how visual cues impact consumer expectation, product perceptions, and purchase preferences. The fact that most participants selected the yellow-green 7-Up can as the one they believed would have a stronger lemon/lime flavor reflects how subtle color shifts influence taste expectations, and parallels with Spence (2016) and Velasco's discussion of the same case (C. Velasco, personal communication, May 14, 2025). Moreover, the association of angular yogurt packaging with stronger flavor, and the rounded version with a milder taste and higher purchase intent aligns with research from Becker et al. (2010) and Velfen et al. (2022). Similarly, the chocolate packaging question shows that most participants associate the angular typeface with a more intense flavor and they would be more likely to choose it for purchase, supporting the findings from De Sousa et al. (2020). Furthermore, the fact that nearly all participants identified the Coca-Cola bottle silhouette highlights the power of consistent and distinctive visual branding, reinforcing both the theoretical concept of image molds and brand recognition (Spence, 2016) and Velasco's remarks on the importance of maintaining a clear and recognizable visual identity (C. Velasco, personal communication, May 14, 2025). Lastly, participants selected the store that combined moderate visual complexity, high organization, and warm accent lighting as a preferred shopping environment and as the one offering better quality and higher-priced products, which aligns with the theoretical foundations (Lindblom, 2024; Park & Farr, 2007; Baker et al., 1994) and findings from Jang et al. (2018), Nell (2017), and Yılmaz (2018).

In conclusion, the findings from the theoretical framework, scoping review, expert interview, and consumer survey provide strong and consistent evidence in support of H₂. Moreover, the

international scope of the research adds further strength to the findings, as the scoping review includes studies from 12 different countries, and the consumer survey gathered responses from participants of 17 nationalities. Therefore, H₂ is accepted, meaning that visual marketing strategies applied in retail stores to both product presentation and store environment lead to more favorable consumers' perception of the products offered by shaping their decision-making and overall shopping experience, regardless of the cultural or geographical context.

2. Olfactory Marketing in Physical Retail Stores

The second section focuses on the role of olfactory marketing in physical retail stores, aiming to explore how scent-based strategies influence shopper behavior across different cultures and countries. Following the same structure as the previous section on visual marketing, it begins with a scoping review of the relevant literature to identify commonly used practical implementations, while also examining how cultural factors may influence their effectiveness. It then presents the findings from primary research, which consists of an expert interview and a consumer survey aimed at gathering insights from both professionals and consumers regarding their experiences with scent-based strategies. The section concludes with a discussion of the findings in relation to H₃.

2.1. Scoping Review

This part presents a scoping review intended to gather and synthesize existing research on olfactory marketing in physical retail environments. It aims to gain perspective into how scent-based strategies – such as ambient aromas – are employed within retail settings to enhance the shopping experience, while also contributing to the evaluation of H₃.

A systematic search was carried out in the databases Scopus and Web of Science to identify relevant literature, and targeted articles that had the words “marketing”, “retail”, and either “olfactory” or “scent” in the title, abstract, or keywords. In addition, only articles written in English and published between 2000 and 2025 were considered. Initially, 107 articles were identified from both databases, with an additional 9 identified through citation searching of reference lists. After removing 22 duplicates, 94 unique articles remained for title and abstract screening. Of these, 56 were excluded for not meeting the inclusion criteria. The remaining 38 full-text articles were then assessed, resulting in the exclusion of 21 articles. Therefore, 17 articles were selected for data extraction. Find below a table summarizing the inclusion and exclusion criteria (Table 4), and a diagram outlining the search and screening process (Diagram 3) is presented in the Appendix.

Table 4: Scoping Review of Olfactory Marketing in Physical Retail Stores: Inclusion and Exclusion Criteria.

	<i>Inclusion Criteria</i>	<i>Exclusion Criteria</i>
<i>Publication types</i>	Articles	Books, magazines, conference papers, reviews
<i>Linguistics</i>	Written in English	Written in other languages
<i>Time period</i>	Published between 2000 and 2025	Published before 2000
<i>Study characteristics</i>	Examining olfactory marketing strategies in physical retail environments Providing sufficient data and measurable outcomes	Examining olfactory marketing strategies in digital retail environments Examining olfactory marketing in other physical/digital environments Providing insufficient data and unmeasurable outcomes

Note. Author's own elaboration.

The following table offers a summary of the selected articles that examine the impact of olfactory marketing strategies in physical retail environments. These studies, conducted in diverse geographical locations and retail contexts, explore how scents influence consumer perceptions and behavior. Using the same format as the scoping review table on visual marketing (Table 3), this table outlines the independent and dependent variables investigated in each study, the research context, and the main findings (Table 5). Together, these selected articles provide an overview of the existing literature on olfactory marketing.

Table 5. Summary of Selected Studies on Olfactory Marketing in Physical Retail Environments.

<i>Authors</i>	<i>Independent V.</i>	<i>Dependent V.</i>	<i>Setting</i>	<i>Main findings</i>
Chatterjee & Bryla (2024)	Ambient scent (vs. no scent)	Shopping time and money spent	Shopping mall (India)	Ambient scent (vs. no scent) has a positive effect on shopping time and money spent
Ward et al. (2007)	Ambient scent (vs. no scent)	Perception of the store environment, shopping time	Large electrical store (United Kingdom)	Ambient scent (vs. no scent) leads to improved store environment evaluation, but does not affect the time customers spend in the store
Duong & Cao (2021)	Ambient scent (vanilla scent vs. no scent)	Money spent, time spent, and revisit intention	Fashion store (Vietnam)	Ambient scent (vs. no scent) has a significant positive effect on the amount of money spent, the time spent in store, and the intention of revisiting the store
Chebat & Michon (2003)	Ambient scent (citrus scent vs. no scent)	Perception of product quality and shopping environment	Shopping mall (Canada)	Ambient scent (vs. no scent) positively impacts consumers' perception of both product quality and shopping environment, leading to increased consumer spending
Morrison et al. (2010)	Ambient scent (vanilla scent vs. no scent)	Satisfaction with the shopping experience	Retail store (Australia)	Ambient scent (vs. no scent) substantially increases pleasure levels, which in turn positively influence shopper behaviors, time and money spent, and satisfaction with the overall shopping experience
Phillips et al. (2024)	Ambient scent (herbal scent vs. no scent)	Product choice	Grocery store (New Zealand)	Exposure to ambient herbal scent (vs. no scent) increases purchase of

Authors	Independent V.	Dependent V.	Setting	Main findings
Neomániová et al. (2023)	Ambient scent (freshly roasted coffee vs. no scent)	Sales, and consumer emotional responses (conscious vs. unconscious)	Pastry and bakery section of a grocery store (Slovakia)	wholesome foods due to semantic associations with home cooking Ambient scent increases sales in the product categories observed by 12%, enhances unconscious happiness by 5,3% (biometric data), but slightly lowers conscious evaluations of the shopping environment
Chatterjee et al. (2024)	Ambient scent moderated by companionship and culture (vs. no scent vs. no companionship)	Shopping time, money spent, impulse purchases	Shopping malls (Poland and India)	Ambient scent (vs. no scent) positively influences shopping time, money spent, and impulse purchases, especially when shoppers are accompanied (vs. no companionship), and with a stronger effect in India than in Poland
Biswas & Szocs (2019)	Ambient scent (indulgent vs. non-indulgent)	Product choice	Supermarket (United States)	Prolonged exposure (over 2 minutes) to an indulgent ambient scent (cookie scent) decreases the purchase of unhealthy food compared to exposure to a non-indulgent scent (strawberry scent). However, brief exposure to the indulgent scent increases unhealthy food purchases.
Yu et al. (2024)	Arousal level of ambient scent (high vs. low arousal)	Time perception and store evaluation	Coffee store (China)	Consumers exposed to low-arousal (vs. high-arousal) ambient scent showed quicker time perception of the services and enhanced store evaluations
De Luca & Botelho (2020)	Pleasantness of ambient scent (pleasant vs. unpleasant vs. no scent)	Consumer categorization, recall, and choice	Laboratory experiment (Brazil)	Pleasant ambient scent (vs. unpleasant vs. no scent) enhances memory for scent-congruent brand logos, improves categorization of odor-congruent visual objects, and influences consumers to make choices congruent with the scent
Leenders et al. (2016)	Intensity level of scent (high intensity vs. low intensity vs. no scent)	Evaluations, time perception, and purchases	Large store of a major supermarket chain (The Netherlands)	High intensity ambient scent (vs. low intensity vs. no scent) significantly increases consumers' store evaluations, time spent in store, and both planned and unplanned purchases
Herrmann et al. (2012)	Simplicity of scent (simple vs. complex scent)	Sales	Home decoration store (Switzerland)	Consumers spend more money in the presence of a simple ambient scent (vs. complex scent vs. no scent)
Errajaa et al. (2019)	Congruence (vs. incongruence) of ambient scent and brand image	Spending, emotions, and store perception	Men's clothing store (France)	Olfactory and brand image congruence (vs. incongruence) has a positive effect upon consumer spending, attitude, emotions, and perception of the store atmosphere
Spangenberg et al. (2006)	Congruence (vs. incongruence)	Store evaluation, time	Clothing store (United States)	When the gender orientation of an ambient scent is congruent (vs.

Authors	Independent V.	Dependent V.	Setting	Main findings
	of ambient scent's gender orientation and gender-based products	perception, money spent, revisit intention		incongruent) with the marketed gender of the products, consumers evaluate the store more favorably, spend more money, perceive longer shopping time, and show higher intention to revisit
Kivioja (2017)	Congruence (product-congruence vs. category-congruence) of ambient scent	Product and product-category sales	Hypermarkets (Finland)	A common category-congruent ambient scent (chocolate scent) significantly increases product and product-category sales compared to a specific product-congruent scent (strawberry scent) or no scent
Mattila & Wirtz (2001)	Congruence (vs. incongruence) of ambient scent and music	Shopping behavior, satisfaction, and store evaluation	Gift shop (Singapore)	When ambient scent and music are congruent (vs. incongruent) in terms of their arousing qualities, consumers show more favorable shopping behavior, stronger satisfaction, and enhanced store evaluations

Note. Author's own elaboration.

In summary, the studies reviewed demonstrate that ambient scent significantly influences consumer perception and behavior. Across various contexts, the presence of scent increases time spent, money spent, and overall satisfaction (Chatterjee & Bryla, 2024; Duong & Cao, 2021; Chebat & Michon, 2003; Morrison et al., 2010), although the impact may be stronger in some countries than in others (Chatterjee et al., 2024). The effectiveness of scent also depends on its characteristics: low-arousal and simple scents tend to improve evaluations and time perception (Yu et al., 2024; Herrmann et al., 2012), while high-intensity scents boost store evaluations and purchase likelihood (Leenders et al., 2016). Furthermore, the studies demonstrate that congruence matters: when scent matches product category, brand image, or even the marketed gender of products, it enhances consumer responses and sales (Kivioja, 2017; Errajaa et al., 2019; Spangenberg et al., 2006). Finally, specific scents also influence product choices (Phillips et al., 2024; Biswas & Szocs, 2019).

The findings of the scoping review are partially consistent with the theoretical background presented in Chapter II. The studies highlight how ambient olfactory cues can influence consumer perception and shopping behavior across different cultural contexts, but no articles that addressed the use of scent applied directly to products or their packaging were identified. These observations provide relevant areas for further exploration through primary research.

2.2. Primary Research Results

To support the evaluation of H₃, this section presents the primary research findings derived from the expert interview and the consumer survey. While the sources remain the same as in the previous sections, here the focus shifts to the questions related to olfactory marketing.

2.2.1. Expert Interview

This section presents key insights from the expert interview with Carlos Velasco, whose significance to this research has been outlined earlier. As a leading expert in the field of sensory marketing, Velasco offers a deeper understanding of the role and impact of olfactory cues in physical retail stores (full transcription of the interview provided in the Appendix).

When asked whether consumers are typically aware of scents, Velasco emphasizes that “many times they are not conscious of them, unless the smell is very strong”. He explains that they are a powerful tool for triggering emotional reactions and memories, often unconsciously. Additionally, he notes that people quickly adapt to smells: “after a few minutes of exposure, we start to lose awareness of the scent, although this does not mean it stops affecting us” (C. Velasco, personal communication, May 14, 2025).

Discussing the question “What impact can scented packaging have on product perception? Do you consider its use as an emerging trend or more of a niche marketing strategy?”, Velasco states that it remains a niche strategy, mainly used by luxury brands that can afford its cost. However, he notes that even unintentional scents can still be impactful – for example, the “smell of opening an Apple product”, which, although not being deliberately designed, contributes to a memorable unboxing experience. The expert adds that in certain categories – such as food, beverages, and cosmetics – scent is used more intentionally. Velasco cites the example of an “ice cream packaging sealed with chocolate-scented glue, allowing the aroma to reach the consumer before tasting the actual product” (C. Velasco, personal communication, May 14, 2025).

Regarding ambient scent in retail environments, Velasco advises that “the chosen scent should be congruent with the brand”, and selected based on the type of experience the retailer wants to create. For example, a sports store might want to convey energy and activity, while also encouraging customers to spend more time in-store. In such cases, he suggests conducting research to determine “which scent best fits within the semantic space of the brand and supports the desired associations” (C. Velasco, personal communication, May 14, 2025).

In relation to the question “Are measures commonly implemented to protect customers who are sensitive to scents or have allergies?”, Velasco notes that “while research usually takes these factors into account, they are rarely addressed in practice”. He explains that companies often try to avoid using scents that are too strong to prevent sensory overload, but individual differences are not typically considered. As an example, he mentions that women generally have a more sensitive sense of smell than men, which “should ideally influence scent-related decisions when targeting female consumers”. However, he emphasizes that these kinds of demographic considerations are “still not commonly applied” (C. Velasco, personal communication, May 14, 2025).

Finally, Velasco highlights a successful example of olfactory marketing in the clothing stores of Abercrombie & Fitch. The brand consistently uses a “very specific scent” across all its stores, complemented with low lighting to create a distinctive atmosphere. He explains that “as light levels decrease, olfactory sensitivity slightly increases, making the scent more noticeable and impactful”. This coordinated use of sensory elements enhances the overall store experience and reinforces the brand’s identity (C. Velasco, personal communication, May 14, 2025).

The expert interview with Carlos Velasco introduces new perspectives that had not been addressed earlier in the thesis, while also supporting several key concepts identified in the existing literature. These contributions expand the understanding of olfactory marketing and offer valuable insights for the evaluation of H₃.

2.2.2. Customer Survey

The consumer survey results (provided with more detail in the Appendix) offer additional insights into how olfactory cues influence consumer behavior within physical retail environments. Respondents were presented with a series of questions designed to evaluate their perceptions, preferences, and behavioral responses to scent in both product and stores.

When asked about their impressions of a product whose scent matches its expected taste or function (e.g. a juice that smells like the corresponding fruit), 94.5% of respondents indicated that it enhances their experience, while only 3.1% reported that it does not affect them and 2.4% found it unpleasant. In relation to the question “Would you like to be able to smell a product before buying it, especially if it is something with a strong sensory component (like tea, coffee, chocolate, or cosmetics)?”, 90.6% of respondents showed a clear preference for being able to do it, whereas only 9.4% disagreed. Similarly, the vast majority of participants (98.4%) indicated that a product with a distinctive scent is easier to remember or recognize later on.

Regarding ambient scent in stores, the majority of respondents preferred moderate (50.4%) or subtle (39.4%) scents, while only a small portion liked intense scents (9.4%) or any aromas at all (0.8%). When asked “Do you think a pleasant aroma in a store can enhance your shopping experience and make you stay longer, thus increasing the likelihood of making a purchase?”, 89.8% of participants responded affirmatively, whereas only 10.2% disagreed. Similarly, 98.4% of respondents indicated that a bad smell can worsen their shopping experience. Finally, in relation to the question “Do you think it is important for a store’s ambient scent to align with its brand image or the type of products it offers?”, a large majority of respondents (91.3%) expressed that scent-brand consistency is important, while only 8.7% thought otherwise.

The consumer survey results align with key concepts discussed in the thesis and offer evidence of how olfactory cues can shape consumer perceptions, enhance product recognition, and

influence in-store behavior. Additionally, the findings introduce perspectives that had not been widely explored in earlier sections and contribute to the assessment of H₃, which will be conducted in the following section.

2.3. Discussion of Findings and Evaluation of Hypothesis 3

This section aims to test the third hypothesis:

H₃ = Olfactory marketing strategies applied in retail stores to both product presentation and store environment lead to more favorable consumers' perception of the products offered by shaping their decision-making and overall shopping experience, regardless of the cultural or geographical context.

To evaluate this hypothesis, the discussion is based on the same three sources of evidence used earlier for sensory and visual marketing: the theoretical foundations, the scoping review, and the primary research – including an expert interview and a customer survey.

The theoretical foundations show that olfactory marketing can shape how customers perceive products and experience retail stores. For example, adding pleasant aromas to packaging or releasing scents when a product is opened can enhance its appeal and perceived freshness (Spence, 2015; Spence & Piqueras-Fiszman, 2012). Furthermore, ambient scents can influence perception, time spent in-store, and purchase behavior (Lindblom, 2024; Spence, 2015). Scent can also be used to reflect brand identity, helping consumer form lasting connections and improving product memory (Hultén et al., 2009; Krishna et al., 2010; Errajaa et al., 2021). However, while these findings highlight the effectiveness of olfactory strategies, they only partially support H₃, as the potential influence of cultural and geographical factors is not explored.

The scoping review findings present a wide range of applications and outcomes related to olfactory marketing in physical retail stores, many of which align with the theoretical foundations. Studies consistently show that ambient scents enhance consumers' perceptions of the store and products, and increase time and money spent (Chatterjee & Bryla, 2024; Duong & Cao, 2021; Chebat & Michon, 2003; Morrison et al., 2010) – confirming claims by Spence (2015) and Lindblom (2024) that scent shapes shopping behavior. Additionally, several studies highlight the importance of scent congruence with brand image (Errajaa et al., 2019), product category (Phillips et al., 2024; Neomániová et al., 2023; Kivioja, 2017), product gender (Spangenberg et al., 2006), or music (Mattila & Wirtz, 2001) – an aspect briefly mentioned in the theoretical foundations (Spence, 2015; Hultén et al. 2009) – emphasizing the importance of multisensory alignment in retail spaces. Some studies also explore scent intensity (Leenders et al., 2016) and complexity (Herrmann et al., 2012), with findings suggesting intense and simple scents increase evaluations and purchases, expanding on Spangenberg et al.'s (2006) caution about intensity. Nevertheless, while the

theoretical base addresses the role of scent in products and packaging (Spence, 2015; Spence & Piqueras-Fiszman, 2012; Hultén et al., 2009; Krishna et al., 2010), the studies in the scoping review focus exclusively on ambient scent, highlighting a lack of research on product-related applications.

Cultural variation was addressed in the study by Chatterjee et al. (2024), which found that ambient scents have a stronger impact in India than in Poland, suggesting that olfactory strategies may not have an equal effect across different geographic or cultural contexts. However, the scoping review includes studies reflecting positive responses to scent across 16 different countries – Australia, Brazil, Canada, China, Finland, France, India, New Zealand, Poland, Singapore, Slovakia, Switzerland, The Netherlands, United Kingdom, United States, and Vietnam – which suggests that ambient scents can effectively influence consumer perception and behavior across diverse contexts.

The expert interview with Carlos Velasco (C. Velasco, personal communication, May 14, 2025) provides insights that both reinforce and extend the theoretical foundations and scoping review findings on olfactory marketing in physical retail stores. Velasco points out that, although consumers are often unaware of ambient scents, these still influence them subconsciously, which had not been mentioned throughout the thesis. Furthermore, he also explains that scented packaging is still a niche strategy, and his examples from food and beverage packaging align with what the theoretical base describes (Spence & Piqueras-Fiszman, 2012; Spence, 2011). However, this was not discussed in the scoping review, suggesting that scent product or packaging is not commonly applied in physical retail stores. In relation to ambient scent congruence, Velasco's emphasis on matching scent to brand identity and desired consumer behavior is consistent with the theoretical foundations (Spence, 2015; Hultén et al. 2009) and the scoping review (Errajaa et al., 2019; Phillips et al., 2024; Neomániová et al., 2023; Kivioja, 2017; Spangenberg et al., 2006). Regarding customer sensitivities and demographic differences, the expert highlights a gap between academic awareness and practical application. He states that although research acknowledges variation in scent perception, these insights are rarely integrated into real-world applications.

The consumer survey results deepen the understanding of olfactory cues in retail environments, reinforcing and expanding on the theoretical foundations, scoping review, and expert interview insights. Most respondents feel that when a product's scent matches its expected taste or function, it enhances their experience, supporting theoretical claims that scent strengthens product perception and quality expectations (Spence, 2015; Spence & Piqueras-Fiszman, 2012). Furthermore, the vast majority of consumers report a strong preference for smelling products before purchase – especially those with strong sensory components like tea, coffee, and cosmetics – and that products with distinctive scents are easier to remember or recognize later on, which is consistent with Krishna et al. (2010). However, since scent product or packaging strategies are not commonly applied in physical retail stores, these findings reinforce Spence's (2011) perspective that it remains a missed opportunity.

Regarding ambient scents, respondents show a clear preference for moderate or subtle aromas, supporting the caution raised in the theoretical foundations about scent intensity and consumer comfort (Spangenberg et al., 2006). Yet, a study by Leenders et al. (2016) suggests that higher intensity scents have stronger effects. The survey's finding that pleasant scents improve the shopping experience and encourage longer visits and higher purchase likelihood aligns closely with multiple scoping review studies (Chatterjee & Bryla, 2024; Duong & Cao, 2021; Chebat & Michon, 2003; Morrison et al., 2010) and theoretical claims about scent's influence on shopping behavior (Lindblom, 2024; Spence, 2015). Similarly, nearly all participants agreed that unpleasant smells negatively affect their shopping experience, reinforcing the significant role scent plays in shaping customer perceptions. Lastly, the strong agreement that ambient scent should align with brand image and products offered supports the theoretical foundations (Spence, 2015; Hultén et al. 2009), scoping review findings (Errajaa et al., 2019; Phillips et al., 2024; Neomániová et al., 2023; Kivioja, 2017; Spangenberg et al., 2006), and Velasco's insights (C. Velasco, personal communication, May 14, 2025).

In conclusion, based on the findings from the theoretical framework, scoping review, expert interview, and consumer survey, H₃ is partially accepted. The evidence clearly supports the effectiveness of ambient scent in shaping consumer perception, decision-making, and the overall shopping experience. This conclusion is further strengthened by the broad international scope of the research, as the scoping review includes studies from 16 countries, and the consumer survey gathered responses from individuals of 17 different nationalities, indicating that the impact of ambient scent is consistent across cultural and geographical contexts. However, there is not enough evidence to support H₃ in relation to olfactory marketing strategies applied to product presentation or packaging. The scoping review found no studies exploring this aspect, and the expert interview confirmed that scented packaging is still a niche strategy, meaning that it is not commonly used in physical retail. While theoretical literature highlights its potential benefits, these have not yet been widely implemented or studied in practice. Therefore, although ambient scent strategies are well-supported, the current research does not provide enough evidence to confirm the broader application of olfactory marketing to product presentation within retail stores.

Conclusions

This section brings together the key insights and findings presented throughout the thesis, and provides a final reflection on the role of sensory marketing strategies in shaping consumer experiences within physical retail environments.

Each hypothesis has been assessed based on the strength and consistency of the evidence gathered. The following paragraphs outline the outcomes of these evaluations and discuss their broader implications for retail marketing.

The findings strongly support H₁, which proposed that “*retailers that implement sensory marketing strategies – such as color, music, texture, scent, and taste – in physical store environments are more likely to positively influence consumer experience and purchase behavior*”. The evidence from all sources was consistent in demonstrating that a carefully applied sensory approach can enhance customer satisfaction, create stronger emotional engagement, and improve the overall in-store experience. However, for these strategies to be effective, it is essential that retailers avoid sensory overload, which can lead to confusion or discomfort. Additionally, when multiple sensory cues are used in a coordinated and cohesive way, they can significantly strengthen the intended impact, helping retailers create memorable experiences and stand out in a competitive marketplace.

The findings also provide strong support for H₂, which states that “*visual marketing strategies applied in retail stores to both product presentation and store environment lead to more favorable consumers’ perception of the products offered by shaping their decision-making and overall shopping experience, regardless of the cultural or geographical context*”. The evidence gathered from the theoretical framework, scoping review, expert interview, and consumer survey consistently confirms that visual elements – such as color, lighting, or store layout – play a crucial role in influencing consumer perception and behavior. Although some cultural differences in visual preferences and interpretations do exist, the overall effectiveness of visual marketing strategies has been observed across a wide range of cultural and geographical settings. This suggests that while cultural adaptation can enhance impact, well-designed visual strategies are a powerful tool for influencing consumer behavior in retail stores globally.

Lastly, the results partially support H₃, which proposed that “*olfactory marketing strategies applied in retail stores to both product presentation and store environment lead to more favorable consumers’ perception of the products offered by shaping their decision-making and overall shopping experience, regardless of the cultural or geographical context*”. The research provides clear and consistent evidence that ambient scents, when used strategically in the store environment, can positively influence consumer perception and decision-making. Although some cultural differences in scent preferences and responses do exist, the overall effectiveness of ambient scents in enhancing the shopping experience has been demonstrated across diverse

cultural contexts. However, the hypothesis has only been partially accepted because there is insufficient evidence to support the influence of olfactory strategies applied to product presentation. The scoping review identified no relevant studies exploring this aspect, and the expert interview confirmed that scented packaging remains a niche and underutilized strategy in physical retail. While the theoretical literature recognizes its potential, this approach has yet to be widely implemented or empirically validated. Therefore, while ambient scent has proven to be effective across contexts, further research and practical applications are needed to explore the broader use of olfactory marketing in product presentation.

All the main objectives set out at the beginning of this thesis have been successfully achieved. Through an in-depth exploration of theoretical foundations, existing literature, and primary research, I have significantly expanded my knowledge of sensory marketing, gaining a comprehensive understanding of how sensory elements – particularly visual and olfactory cues – influence consumer perception and behavior in physical retail stores. Furthermore, this thesis contributes to the academic field through evidence-based insights into the effectiveness of these strategies. Additionally, by incorporating studies from 12 countries on visual marketing and 16 countries on olfactory marketing, along with gathering primary data from participants representing 17 nationalities, I have been able to critically assess the cross-cultural relevance of visual and olfactory marketing. These findings confirm that, while some cultural variations exist, sensory marketing strategies are effective across different contexts, addressing the final objective of determining their global applicability.

Several areas remain open for further research. As noted by Carlos Velasco, retailers still largely rely on trial and error when implementing sensory strategies, highlighting a clear need for more systematic and evidence-based approaches. Moreover, future research should explore cross-cultural differences and the international applicability of sensory marketing strategies, particularly how cultural norms and consumer expectations influence the impact of sensory cues. Furthermore, olfactory marketing strategies applied directly to products and their presentation represent a significant research gap. Although the theoretical literature emphasizes their potential, these strategies are still rarely used in practice, and no empirical research exists to validate their effectiveness. Addressing these gaps would strengthen academic understanding and provide retailers with practical insights for creating more effective and culturally sensitive sensory experiences.

In conclusion, this thesis provides evidence that sensory marketing enhances consumer experiences in physical retail stores. The findings demonstrate that, when carefully implemented, these strategies are effective across cultures, offering a solid foundation for practical applications in global retail settings.

Appendix

Figure 1. Black and white patterns without much meaning.



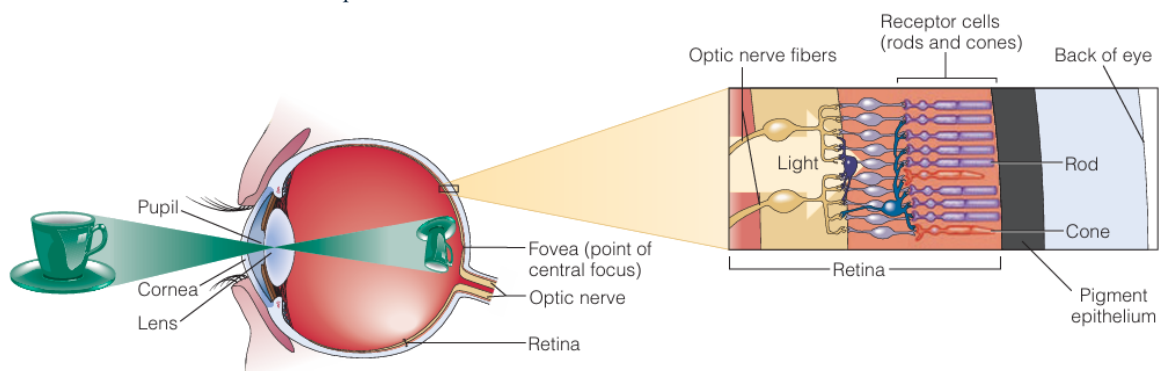
Note. From *Multisensory experiences: Where the senses meet technology*, by Velasco, C., & Obrist, M. (2020).

Figure 2. The sunflower field from which the previous black and white patterns were created.



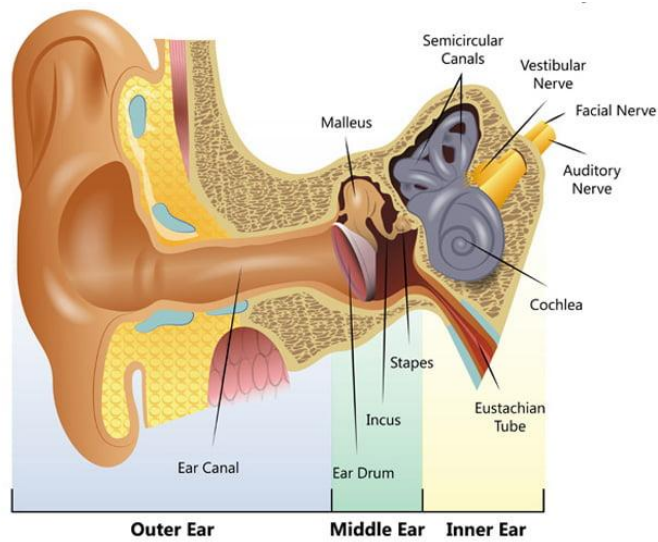
Note. From *Multisensory experiences: Where the senses meet technology*, by Velasco, C., & Obrist, M. (2020).

Figure 3. An image of the cup is focused on the retina, at the back of the eye. The close-up of the retina on the right shows the receptors and other neurons that contribute to its structure.



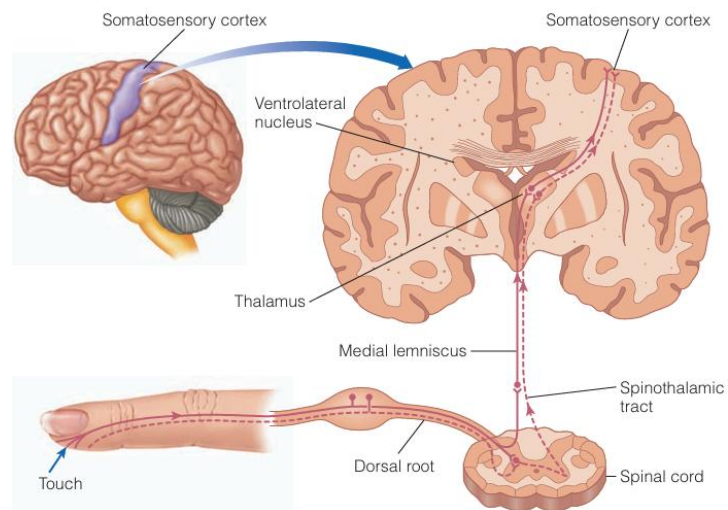
Note. From *Sensation and Perception (8th ed.)*, by Goldstein, E. B. (2009).

Figure 4. Main parts of the hearing system.



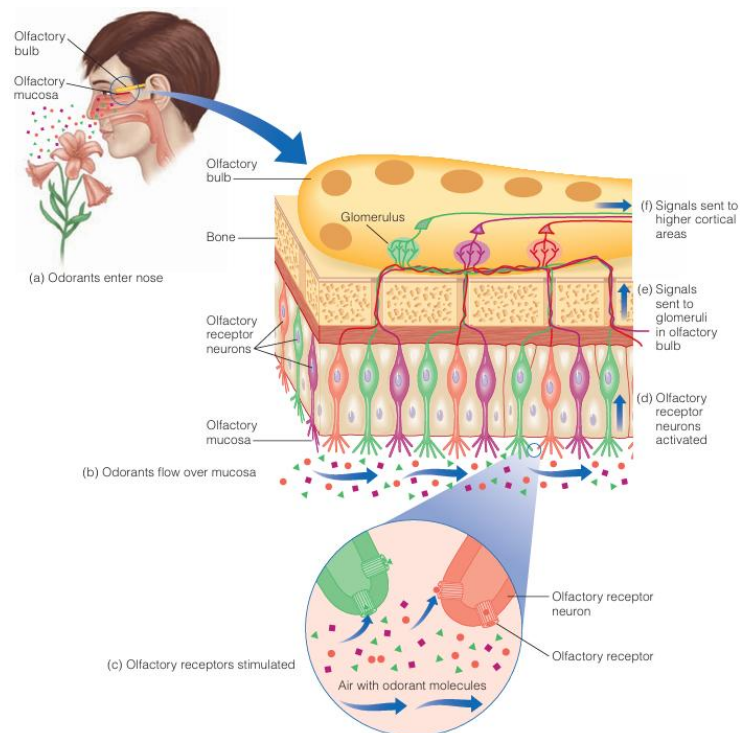
Note. From *How the ear works*, by Hearing Link Services (2024).

Figure 5. The pathway from receptors in the skin to the somatosensory receiving area of the cortex.



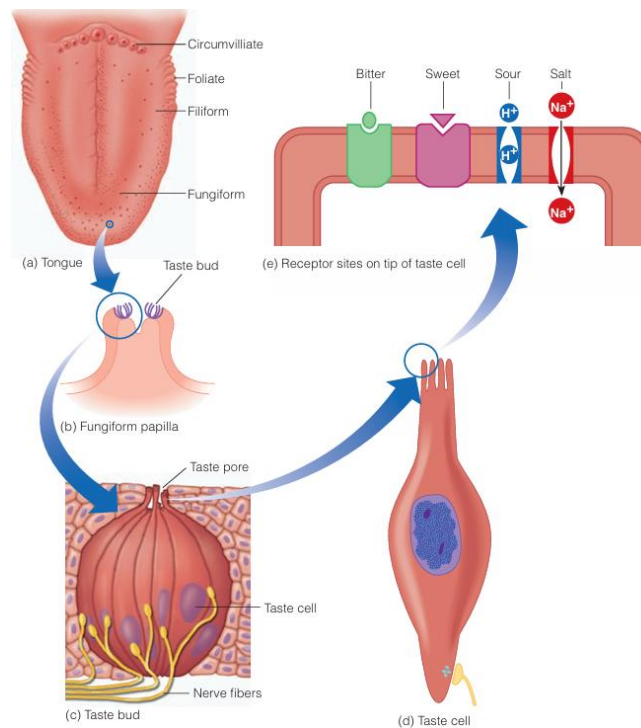
Note. From *Sensation and Perception (8th ed.)*, by Goldstein, E. B. (2009).

Figure 6. The structure of the olfactory system.



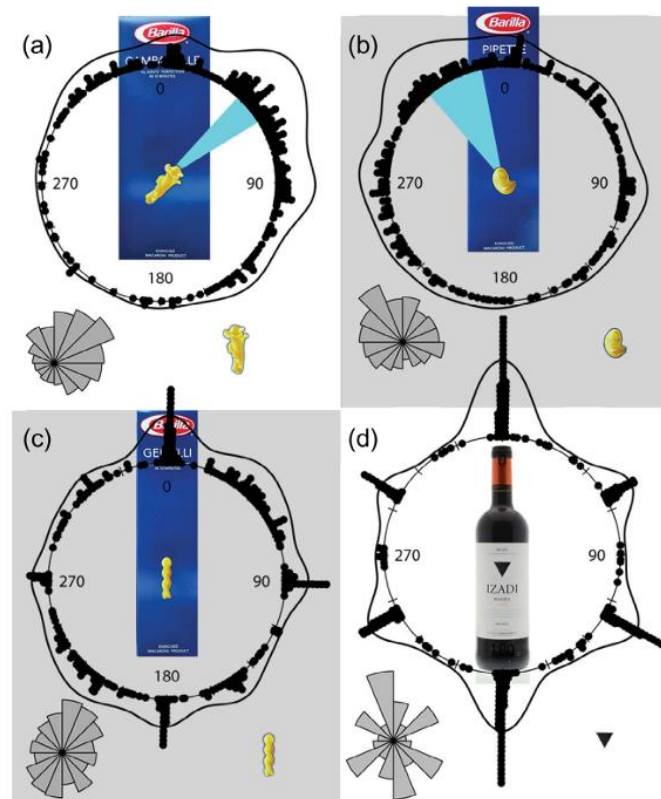
Note. From *Sensation and Perception (8th ed.)*, by Goldstein, E. B. (2009).

Figure 7. The structure of the tongue.



Note. From *Sensation and Perception (8th ed.)*, by Goldstein, E. B. (2009).

Figure 8. Four circular data plots (center of each image) and rose diagrams (bottom left) of the orientations selected by the participants for the different design element in each exemplar of the product packaging.



Note. From *Evaluating the orientation of design elements in product packaging using an online orientation task*, by Velasco et al. (2015)

Figure 9. Two pourable packages. One easier for right-handed consumers (on the right), one easier for left-handed consumers (on the left).



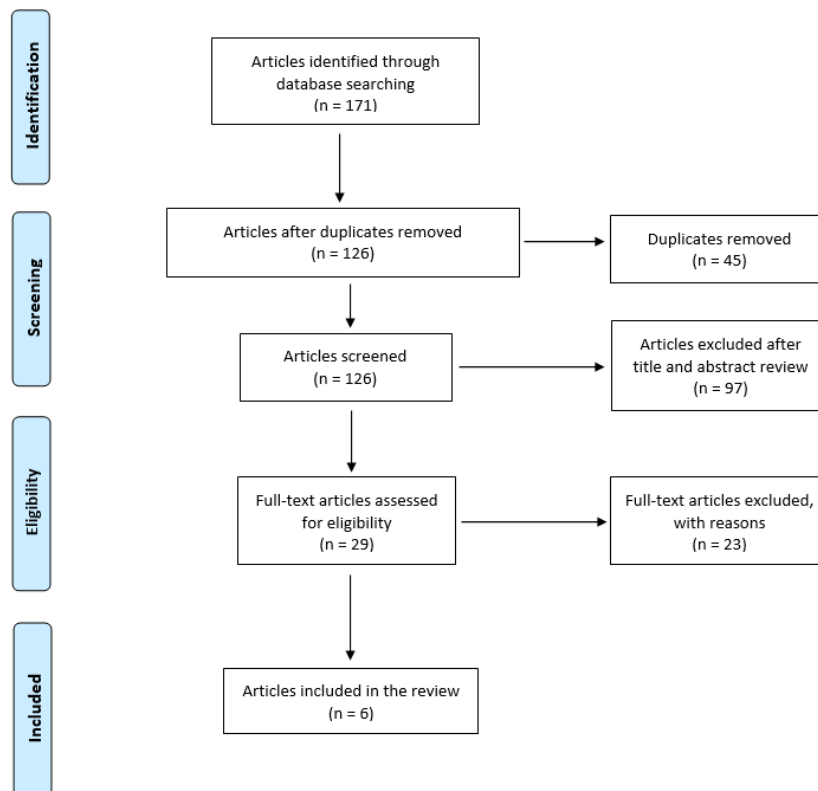
Note. From *Multisensory Packaging Design: Color, Shape, Texture, Sound, and Smell*, by Spence (2011).

Figure 10. Multisensory marketing sequence used in Dunkin' Donuts "Flavor Radio".



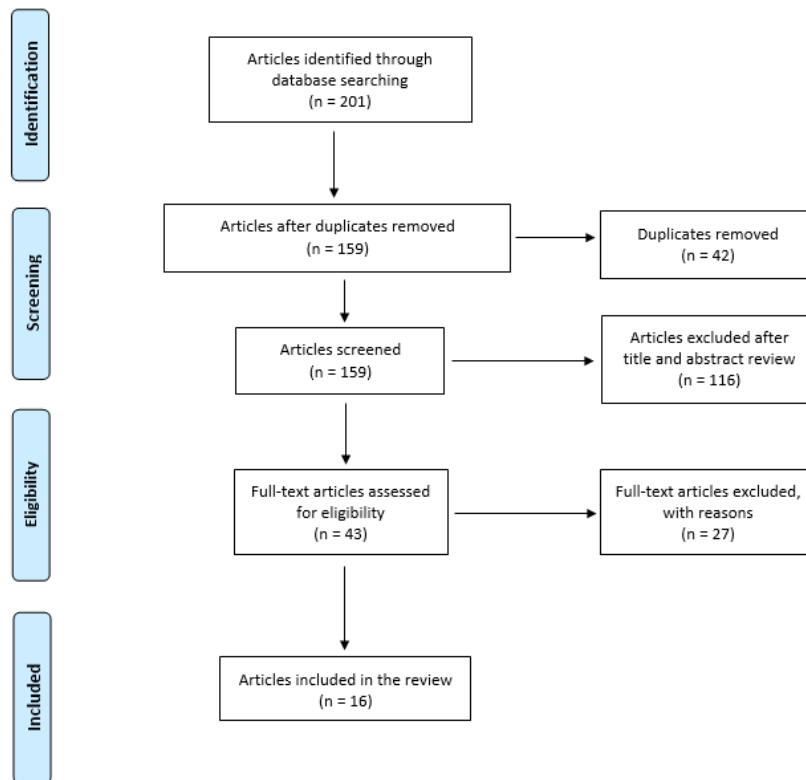
Note. From *Caso Dunkin' Donuts y su eficaz campaña 360°*, by Airmooding (2022).

Diagram 1. Scoping Review of Sensory Marketing in Physical Retail Stores: Search and Screening Process.



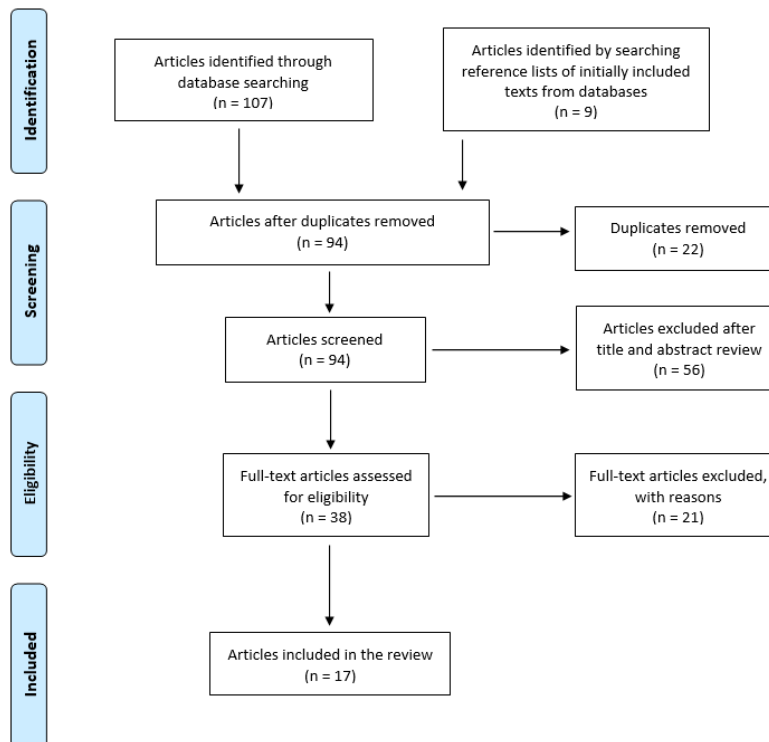
Note. Author's own elaboration.

Diagram 2. Scoping Review of Visual Marketing in Physical Retail Stores: Search and Screening Process.



Note. Author's own elaboration.

Diagram 3. Scoping Review of Olfactory Marketing in Physical Retail Stores: Search and Screening Process. Author's own elaboration.

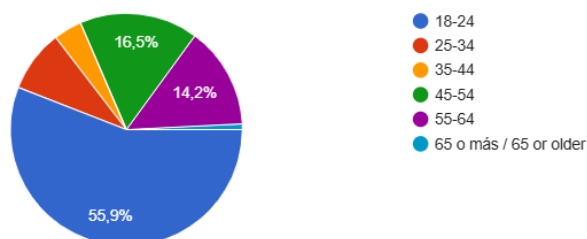


Note. Author's own elaboration.

Survey Results

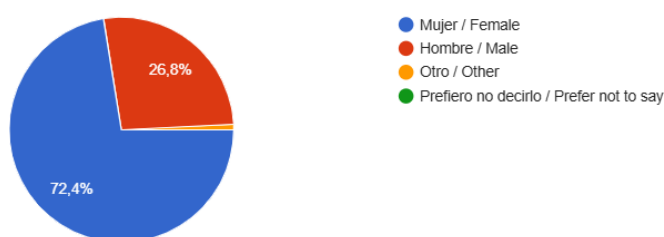
¿Qué edad tienes? / How old are you?

127 respuestas

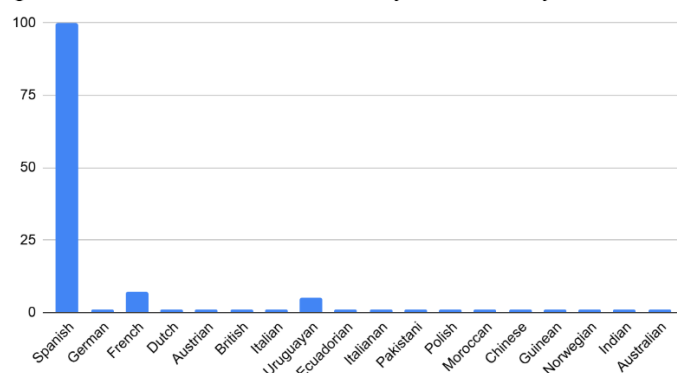


¿Cuál es tu género? / What is your gender?

127 respuestas

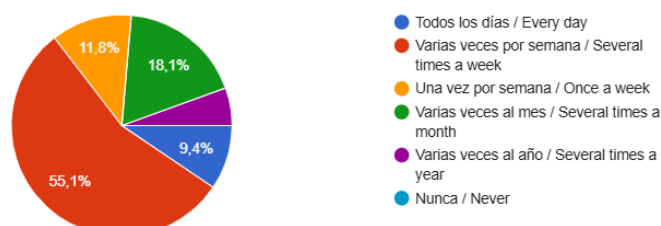


¿Cuál es tu nacionalidad? / What is your nationality?



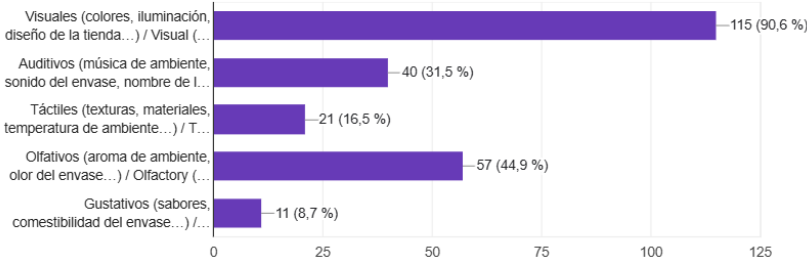
¿Con qué frecuencia sueles visitar tiendas físicas (supermercados, tiendas de ropa...)? / How often do you visit physical stores (supermarkets, clothing stores...)?

127 respuestas



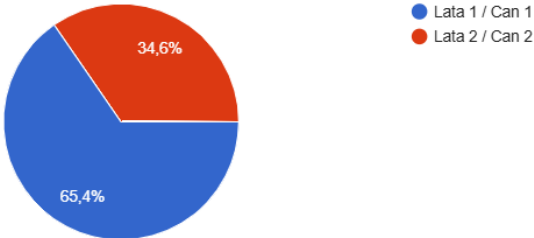
Quando visitas una tienda física, ¿cuáles de los siguientes estímulos sensoriales tienen mayor impacto en tu experiencia de compra? / When visiting a physical retail store, which of the following sensory stimuli have the greatest impact on your shopping experience?

127 respuestas



Observa las siguientes dos latas de bebida. Sin haberlas probado, ¿cuál crees que tendrá más sabor a lima/limón? / Look at the following two beverage cans. Without having tasted them, which one do you think has a stronger lemon/lime flavor?

127 respuestas



☐ Lata 1 / Can 1

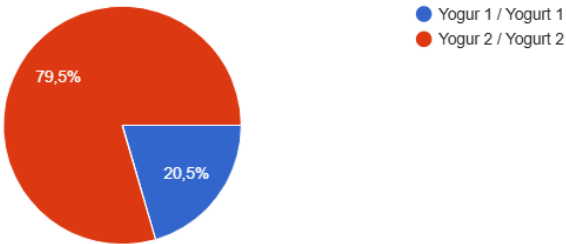


☐ Lata 2 / Can 2



¿Qué yogur consideras que tendrá un sabor más suave? / Which yogurt do you think has a milder flavor?

127 respuestas



☐ Yogur 1 / Yogurt 1

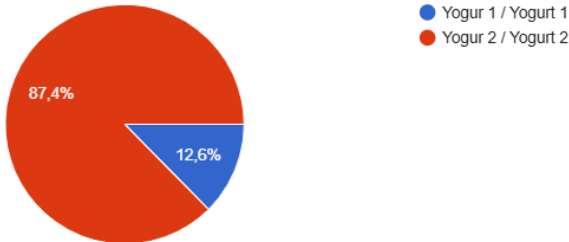


☐ Yogur 2 / Yogurt 2



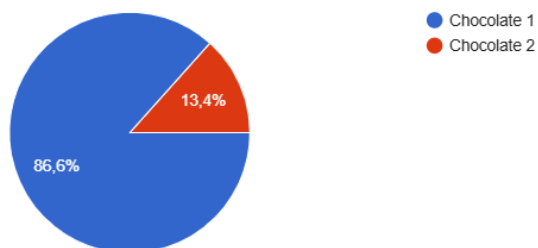
¿Qué yogur preferirías comprar? / Which yogurt would you prefer to buy?

127 respuestas



¿Qué chocolate consideras que tendrá un sabor más intenso? / Which chocolate do you think has a more intense flavor?

127 respuestas



☐ Chocolate 1

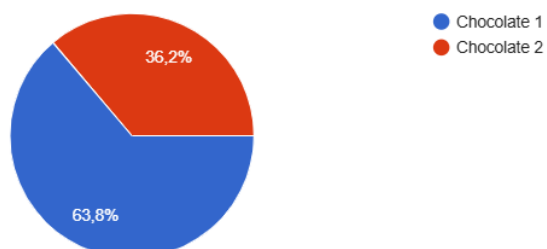


☐ Chocolate 2

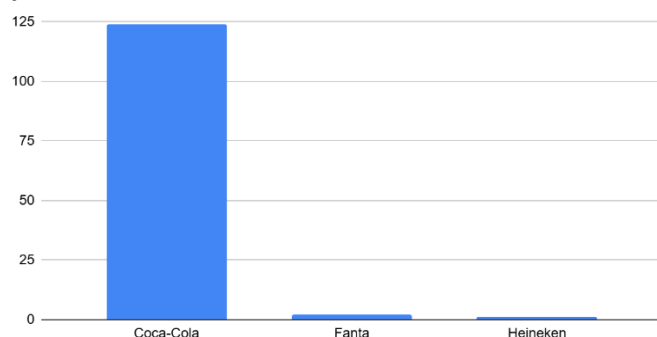


¿Qué chocolate preferirías comprar? / Which chocolate would you prefer to buy?

127 respuestas

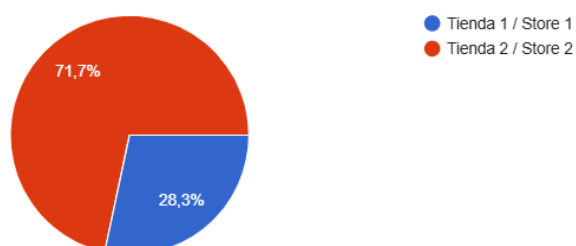


¿Con qué marca asociarías esta silueta? / Which brand would you associate with this silhouette?



¿Basándote únicamente en el diseño de la tienda, en cuál preferirías comprar? / Based only on store layout, in which store would you prefer to shop?

127 respuestas



☐ Tienda 1 / Store 1

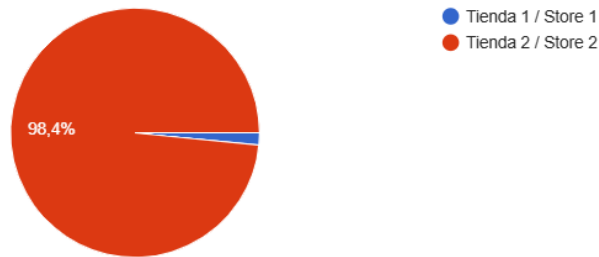


☐ Tienda 2 / Store 2



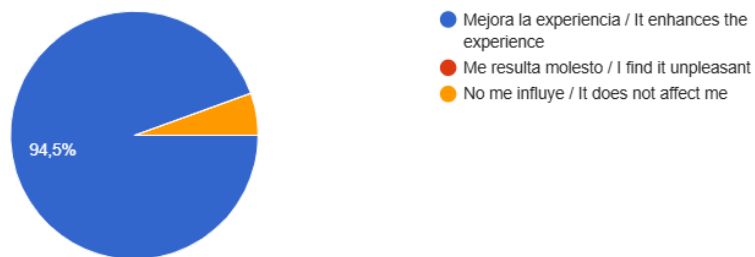
¿Qué tienda crees que ofrecerá productos de más calidad y precios más elevados? / Which store do you think offers higher-quality products and higher prices?

127 respuestas



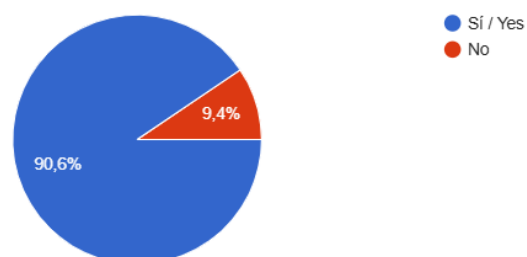
¿Qué impresión te genera que el aroma que se percibe al abrir un producto coincida con su sabor o función esperada? Por ejemplo, que un zumo huela a la fruta correspondiente / What impression do you get if the aroma you perceive when you open a product matches its expected taste or function? For example, a juice smelling like the corresponding fruit.

127 respuestas



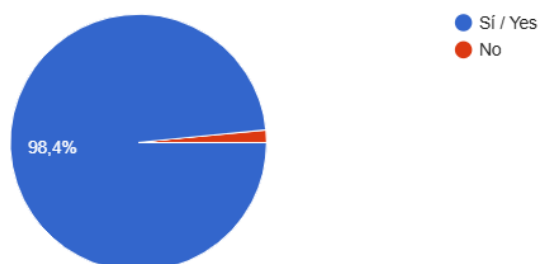
¿Te gustaría poder oler un producto antes de comprarlo, especialmente si se trata de uno con fuerte carga sensorial (como té, café, chocolate o cosméticos)? / Would you like to be able to smell a product before buying it, especially if it is something with a strong sensory component (like tea, coffee, chocolate, or cosmetics)?

127 respuestas



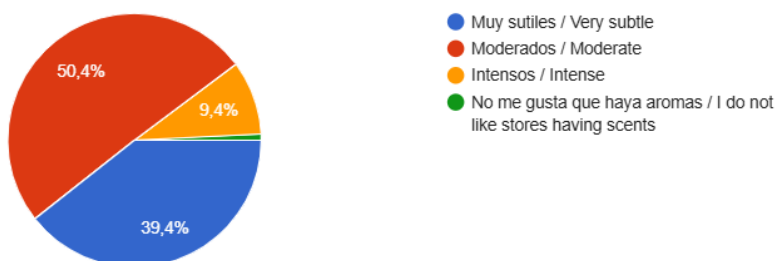
¿Crees que un producto con un aroma característico es más fácil de recordar o reconocer en el futuro? / Do you believe that a product with a distinctive scent is easier to remember or recognize in the future?

127 respuestas



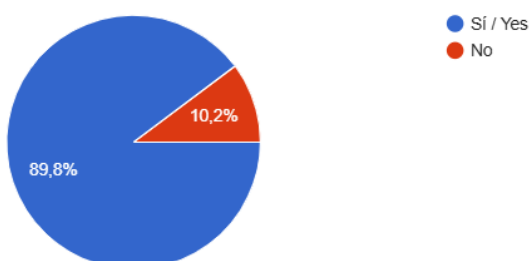
¿Consideras que los aromas de ambiente en tiendas deben ser sutiles o más intensos? / Do you think ambient scents in stores should be subtle or more intense?

127 respuestas



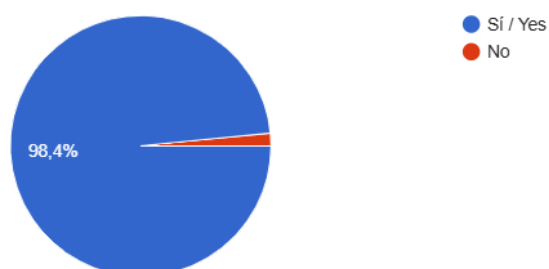
¿Consideras que un aroma agradable en una tienda puede mejorar tu experiencia de compra y hacer que te quedes más tiempo, aumentando así la posibilidad de que realices una compra? / Do you think a pleasant aroma in a store can enhance your shopping experience and make you stay longer, thus increasing the likelihood of making a purchase?

127 respuestas



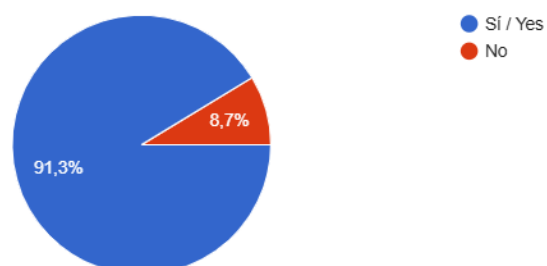
¿Crees que un mal aroma puede hacer que tu experiencia de compra empeore? / Do you believe a bad smell can negatively impact your shopping experience?

127 respuestas



¿Consideras importante que el aroma utilizado en una tienda esté alineado con su imagen de marca o con los productos que ofrece? Por ejemplo, que una tienda de ropa deportiva tenga un aroma fresco y energizante, o una tienda de lujo un aroma más sofisticado y elegante / Do you think it is important for a store's ambient scent to align with its brand image or the type of products it offers? For example, a sportswear store having a fresh and energizing scent, or a luxury store using a more elegant and sophisticated fragrance

127 respuestas



Interview with Carlos Velasco (Full Transcription)

Section 1. Sensory Marketing

To what extent would you say that sensory marketing strategies are currently successful? Do you think this number will increase in the future, once the field is more thoroughly studied?

Research in sensory marketing is still at an early stage, so there is a lot of trial and error. Many retailers begin by experimenting with sensory cues in their own stores in order to determine what works best, thereby generating improvements that are sustainable over time.

What role does congruence between sensory stimuli play in the effectiveness of a shopping experience? What are the potential risks – or possible benefits due to the element of surprise – when multisensory stimuli are not well-coordinated?

Congruence is essential, but it is not easy to achieve. In some cases, incongruence can be more effective. For instance, if in your regular bar you are served something that looks like an egg but tastes like ice cream, the reaction would likely be negative because of the incongruence. But if this happens in a high-end restaurant, the reaction might be different because you are expecting a surprise element. This means that if you are a non-premium brand offering standard products, incongruence is not the best strategy – unless it is accompanied by very strong communication and the brand is well-positioned. However, in luxury or innovative contexts, it may be worth experimenting with well-planned incongruence. If the gap between consumer expectations and what actually happens is too large and there is nothing to help bridge it, it will lead to a negative reaction. The best approach is partial incongruence, that is, doing something incongruent but giving consumers the means to resolve it. This turns confusion into a positive surprise.

How can retailers detect the point at which sensory stimulation becomes overwhelming and creates cognitive overload in the consumer? Would you say it varies depending on culture or individual preferences?

There is a very obvious form of sensory overload – when the music is extremely loud, or the lighting is excessively bright. But the less obvious part is that, as intensity decreases, some people still respond as if the intensity remained high, and others do not. Finding that point is key, because sensory sensitivity varies greatly between individuals. At this moment, sensory overload is one of the least explored topics in research. My recommendation to companies is to

understand their target market and observe how different consumer segments respond to the intensity of sensory stimuli. With that, they can create a balance. These differences can be personal or cultural. For example, Norwegians tend to be more sensitive to sensory input than Spanish people, which may cause them to perceive Spain as overly loud.

How does culture influence the application of sensory marketing, and to what extent do companies adapt their sensory marketing strategies to each country rather than standardizing them globally?

Academically, the international dimension of sensory marketing has not been studied in depth. From the business side, companies usually rely on trial and error regarding adaptations to the local culture, as there are cultural differences in how sensory input is interpreted. For example, regarding chips packaging, lemon flavor is associated with yellow in Europe, whereas in Colombia it is associated with green. In China, the color red has strong political connotations, while in other countries it may be associated with danger or alert. Preferences regarding smells also depend on the context in which a person grows up. Therefore, one of the big challenges is to understand which sensory regularities exist in specific cultural contexts in order to adapt strategies effectively. For example, Oreos in China are less sweet because the local sensitivity to sweetness is higher, and McDonald's also adapts its flavors to specific preferences in each region.

What limitations might the implementation of sensory marketing strategies have – such as costs, ethics, and so on?

Cost is a major factor. For example, implementing olfactory marketing may be neither cheap nor particularly practical, since diffusers need to be programmed and refilled. In terms of ethics, it really depends on the company's intentions. If a company uses sensory strategies to encourage harmful behaviors, such as smoking, ethical concerns arise. However, if the goal is simply to create a more enjoyable experience for customers or to differentiate products, then there should be no problem. This becomes more concerning in digital retail, where consumer behavior is constantly tracked to design controlled experiences. In addition, data collection is used to shape every aspect of the consumer journey. Another issue is that many companies are competing for consumers' attention, which is a limited resource. This prevents people from using their attention on things that really matter to them.

Section 2. Visual Marketing

How does the visual design of a store impact customer behavior and purchase intentions?

It has a significant influence. Elements such as shapes, colors, symmetry, and curvature all play a role. Research shows that, in general, color is one of the most important cues, as it gives people hints about what they are going to find. The impact of these cues depends on the specific behavior the retailer wants to encourage, such as making customers feel more relaxed or spending more time in the store. Usually, there is more than one behavioral objective, so companies need to prioritize and strategically select visual and sensory cues that help them meet those goals.

When it comes to product packaging, can a change in color, orientation, or shape affect how a product is perceived, even if the content stays the same?

Yes, and there is more research in this area. For example, the label on a beer bottle can significantly alter how consumers perceive the flavor. Also, there is the case of 7-Up that when the can was made more yellow, it was perceived as more lemony, despite the actual flavor remaining the same. This means that a change in packaging can affect product perception. However, if you go too far and create a large contrast between the packaging and the product itself, it can cause a disconfirmation of expectations, which can lead to negative responses. A good example is the Colombian fruit called lulo. It tastes very sour, but the name suggests sweetness. So, in the European market, people expect a sweet taste, and when they try it, the strong contrast actually increases the perception of sourness rather than changing it to sweet.

How can crossmodal correspondences influence the non-verbal communication of products?

Crossmodal correspondences are especially effective when consumers are unfamiliar with the product – for instance, with new or unknown products. In such cases, when people do not have any prior knowledge or expectations, the brain relies much more on visual cues for forming an impression. On the other hand, crossmodal effects are limited when it comes to known products. Take Coca-Cola, for example. People already know how it tastes, so changing small visual details would not meaningfully alter their expectations or perceptions.

Could you give an example of a visual marketing strategy that worked successfully? And one that did not achieve the expected results?

One strategy that worked really well is Heineken's packaging design, especially the red star on the green background. The angular red star is a bold visual element, but the slight angle of the "e" letters in the logo resembles a smile and softens the overall impression, creating an effective and balanced design. A less successful case is Coca-Cola's pink can, which was launched some decades ago. It did not perform well because it was too different from the brand's well-established visual identity, which lead to consumer confusion or dissatisfaction.

Section 3. Olfactory Marketing

Are consumers generally aware of scents, or do they react to them unconsciously?

Many times, people are not conscious of them, unless the smell is very strong. Smell has a very direct effect, since it is a chemical sense, and it often triggers deeply rooted emotional memories. This makes scent a very powerful stimulus for creating emotional impact, often unconsciously. In addition, there is a fast adaptation process; after being exposed for a few minutes, we begin to lose awareness of the scent. However, this does not mean it stops affecting us – even if it is not present in our conscious awareness, it can still influence our behavior.

What impact can scented packaging have on product perception? Do you consider its use as an emerging trend or more of a niche marketing strategy?

It is mainly a niche strategy, especially used by luxury brands that can afford it. However, there are also unintentional smells that still have an impact. For example, people have reported that the smell of opening an Apple product, which is not deliberately designed and results only from the packaging process, contributes to a memorable unboxing experience. In some categories, such as food, beverages, and beauty products, scent is used more intentionally. An example could be ice cream packaging sealed with chocolate-scented glue, allowing the aroma to reach the consumer before tasting the actual product.

What are brands trying to achieve when scenting physical stores, and what factors should be considered when selecting a scent?

It is a complex decision. I recommend that the chosen scent should be congruent with the brand, meaning it should make sense within the brand's concept. Another consideration is the type of experience the store wants to create – for example, communicating that it is a sports store while also encouraging people to stay longer. This leads to the need to determine which scent best fits within the semantic space of the brand and supports the desired associations. Many times, the best course of action is to conduct a study to identify the most effective scent.

Are measures commonly implemented to protect customers who are sensitive to scents or have allergies?

While research usually takes these factors into account, they are rarely addressed in practice. Most companies try to avoid sensory overload by not using overly strong scents, but they do not go much further. For instance, women generally have a more sensitive sense of smell than men, which should ideally influence scent-related decisions when targeting female consumers. Unfortunately, these kinds of considerations are still not commonly applied.

Could you give an example of an olfactory marketing strategy that was successful? And one that did not meet the expectations?

One of the best examples is Abercrombie & Fitch's clothing stores. They consistently use a very specific scent in all locations, combined with low lighting. As light levels decrease, olfactory sensitivity slightly increases, making the scent more noticeable and impactful, which helps reinforce the brand's identity and the intended shopping experience. On the other hand, I cannot recall any examples of olfactory marketing strategies that did not meet the intended objectives.

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