

**CARINA CRISTINA SANTOS VIEGAS**

Sensory Marketing: The role of sensory stimuli in consumer behaviour in retail  
environment



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**CARINA CRISTINA SANTOS VIEGAS**

**SENSORY MARKETING: THE ROLE OF SENSORY STIMULI IN  
CONSUMER BEHAVIOUR IN RETAIL ENVIRONMENT**

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**Trabalho efetuado sob a orientação de:**

PROFESSORA DOUTORA DORA LÚCIA MIGUEL AGAPITO

PROFESSORA DOUTORA PATRÍCIA SUSANA LOPES GUERRILHA DOS  
SANTOS PINTO



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# **SENSORY MARKETING: THE ROLE OF SENSORY STIMULI IN CONSUMER BEHAVIOUR IN RETAIL ENVIRONMENT**

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Declaro ser o autor deste trabalho, que é original e inédito. Autores e trabalhos consultados estão devidamente citados no texto e constam da listagem de referências incluída.

Carina Cristina Santos Viegas

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(assinatura)

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*“As lágrimas que choro não são penas, são só sonhos.” – The Gift*

## RESUMO

Consumidores são seres humanos individuais, com o desejo crescente de imprimir às marcas e aos produtos, a sua personalidade. A visão holística com que o marketing sensorial aborda esse facto trará ao retalho do futuro um entendimento dos ambientes como palcos de experiências, lugares que proporcionarão o prazer da vivência pré-consumo; um movimento ainda embrionário no mercado. Com as estratégias de marketing, acionadas através das pistas sensoriais, o objetivo é que os consumidores vivam a experiência em pleno, criando *awareness* e a consequente recompra (Pine & Gilmore, 1999; Schmitt, 1999).

O consumidor está cada vez mais informado e exigente, refinando as suas escolhas e mostrando mais sofisticação na forma como se expressa e identifica, relativamente às marcas. À medida que os consumidores avançam nesse caminho, a comunicação e as estratégias de marketing das marcas devem voltar-se para atender a exigência dos consumidores (Hülten *et al.*, 2009; Schmitt, 1999).

O mercado atual requer uma adaptação à mudança dos hábitos dos consumidores e a indústria tem um papel fucral na criação de produtos e serviços que atendam as emergentes procura. Com o aumento da concorrência, as empresas devem destacar-se, proporcionando aos clientes táticas que visem a vivência de experiências associadas à oferta dos seus produtos ou serviços. Neste parâmetro, o seu desenvolvimento, incentiva o afastamento do marketing tradicional, dando lugar a estratégias assentes no marketing de experiências de Schmitt (1999). O marketing de experiências coloca o desejo e as emoções do consumidor como objeto central do momento de consumo. Na sua abordagem, o autor salienta dois pontos importantes: os modelos experimentais estratégicos (SEMs) e os provedores de experiências (ExPros). Os primeiros (modelos experimentais estratégicos - SEMs), definidos por cinco tipos de experiências distintos, podem ser combinados de forma a fomentar a criação de experiências para os consumidores, sendo colocados em prática através dos segundos (provedores de experiências – ExPros). Os provedores de experiências (ExPros), por sua vez, traduzem-se na forma prática de exploração dos modelos experimentais estratégicos, através de: meios de comunicação, identidade visual e verbal, media eletrónica e pessoal, presença do produto e da marca e, ambiente envolvente. Pode-se então afirmar que as lojas que representem as marcas a nível holístico (lojas conceito) são apontadas como modelos de

provedores de experiências (ExPros). Sob esse pressuposto, o marketing de experiências promove a atuação das empresas a nível emocional, de forma a explorar os estímulos sensoriais (tátil, visual, olfativo, gustativo e auditivo). O objetivo é proporcionar uma experiência positiva para os consumidores durante a sua jornada de consumo, nas lojas de retalho. A experiência de compra, marcada por um momento prazeroso e memorável, fará com que o consumidor associe sensações positivas à marca (Pine & Gilmore, 1999; Schmitt, 1999; Urdea *et al.*, 2021).

O marketing sensorial e o estudo das pistas multissensoriais congruentes vêm complementar as práticas tradicionais de marketing e dar respostas sobre como trabalhar o ambiente de retalho. As lojas de retalho, como palcos de experiências, precisam estar alinhadas às novas tendências de consumo, de forma a manterem o seu ciclo de vida (Pine & Gilmore, 1999). Nesta linha de pensamento, o Marketing Sensorial é definido como “[...] *marketing que envolve os sentidos dos consumidores e afeta as suas percepções, julgamento e comportamento.*” (Krishna, 2012: 332). Krishna (2010: 412) define ainda congruência sensorial no marketing sensorial como “[...] *o grau de ajuste entre as características de um estímulo*”. Por outras palavras, refere-se à congruência como um grau de ajuste entre a harmonização das pistas sensoriais, num determinado ambiente.

Devido à recente tendência dos estudos com uma abordagem multissensorial (mais do que um estímulo sensorial), o objetivo da investigação desta dissertação foca-se no impacto de múltiplos estímulos sensoriais no comportamento do consumidor, no ambiente de retalho; explorando, também, a congruência entre os sentidos. Esta dissertação contempla como metodologia uma revisão sistemática da literatura, que consiste num tipo de investigação científica que mapeia os estudos anteriores e permite identificar lacunas e pistas para investigação futura. Permite ainda sintetizar os resultados de diversos estudos e identificar que tipos de metodologias foram usadas numa determinada área. A revisão sistemática da literatura é um instrumento essencial para acompanhar o desenvolvimento do conhecimento científico num determinado tópico, sendo indicada para auxiliar na tomada de decisão na área profissional ou para facilitar os investigadores em estudos futuros (Alves *et al.*, 2016; Moher *et al.*, 2009; Page *et al.*, 2021; Tranfield *et al.*, 2003).

Nesta dissertação, a revisão sistemática reúne e sintetiza, através de uma análise descritiva, registos de pesquisa sobre a questão de investigação formulada, nos últimos

11 anos (2009-2020). Os estudos foram extraídos das bases de dados *Web of Science* e *Scopus*. Como tópico emergente, de acordo com o número de publicações a ganhar maior expressividade desde 2019, a análise do tema em questão proporciona uma descrição detalhada sobre os tipos de retalho contemplados. O setor que mais recebe atenção quanto à investigação do ambiente de consumo é o retalho offline, mais concretamente, lojas físicas de bens de consumo e *foodservice*. Outros tipos de retalho offline também são analisados, porém com menos expressividade (ambiente em centro comercial e saúde e bem-estar). Nos últimos anos (2019-2020), valorizam-se os estudos que focam no retalho online e offline. Turismo e desporto são também sectores que recebem um grande interesse quanto ao estudo do seu ambiente de consumo em eventos; e hotéis e cruzeiros, respetivamente. Na análise dos estímulos sensoriais mencionados nos estudos, verifica-se que os estímulos visual e auditivo são abordados na totalidade dos artigos. A investigação relativamente a outros estímulos (tato e paladar) deve, portanto, ser desenvolvida (Doucé and Adams, 2020; Fürst *et al.*, 2020).

A abordagem da congruência entre os sentidos é escassa na literatura contemplada na investigação, com representação de apenas um quarto dos artigos publicados. Existe uma lacuna neste sentido, dando oportunidade a pesquisas futuras (Biswas, 2019; Helme Falk, 2019). Quanto aos artigos que estudam a congruência, os estímulos visual, auditivo e olfato são o conjunto mais explorado, demonstrando que esta denominação e este número são os estímulos, efetivamente, mais estudados. De acordo com os critérios usados, apenas um artigo aborda todos os cinco estímulos sensoriais de forma integrada, o que reflete a escassez de estudos de mais de três estímulos na investigação na área da congruência. Ainda sobre os estímulos presentes nos estudos de congruência, o tato e o paladar são os menos explorados (Doucé and Adams, 2020; Fürst *et al.*, 2020).

Relativamente aos tipos de estudo em geral, estudos exploratórios e experimentais são os que ganham destaque, representando mais de metade das publicações. Os estudos experimentais, com investigação no terreno, têm maior expressividade quando três estímulos são explorados; e estudos exploratórios são os que apresentam maior destaque quando são explorados os cinco estímulos. A maioria dos autores usam apenas um método para a recolha de dados e apenas um utiliza três métodos. Estudos com mais do que três métodos de análise não se encontram presentes na base analisada. Métodos tradicionais de recolha de dados são os mais utilizados, sendo o questionário o principal, apresentando

maior importância para a abordagem quantitativa. Segue-se a observação participante e a entrevista. Qualitativamente, realizou-se uma análise das palavras-chave usadas pelos autores nos artigos, identificando “Marketing Sensorial”<sup>1</sup> como o conceito principal, seguido de “Comportamento do Consumidor”<sup>2</sup>.

As conclusões apuradas sugerem que o tema do marketing sensorial é ainda pouco explorado. Cronologicamente, é um tópico de estudo recente com oportunidade de desenvolvimento na investigação. O registo de autores a publicar sobre o impacto das pistas multissensoriais no ambiente de retalho é ainda reduzido. Daqui decorre que mais relações entre as pistas multisensoriais devem ser investigadas; a este ponto, deve ser adicionado ao objeto de estudo maior complexidade. Também a congruência entre maior número de estímulos multisensoriais deve receber maior atenção, para que se entenda o impacto do ambiente no comportamento do consumidor em contexto do retalho.

Os sentidos tato e paladar apresentam ainda vastas oportunidades na investigação de marketing. Os estudos têm-se focado em estímulos com menos complexidade de análise e de investimento financeiro (visão, audição e olfato). Assim, identifica-se a oportunidade de se aprofundar outros sentidos como tato e paladar (Doucé and Adams, 2020; Fürst *et al.*, 2020). As lacunas podem direcionar futuras investigações de forma a que os seus resultados contribuam para uma robustez da literatura, assim como no auxílio da gestão de marketing, particularmente na tomada de decisão.

**Palavras-Chave:** marketing sensorial; comportamento do consumidor; estímulos multisensoriais; ambiente de retalho; congruência multisensorial

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<sup>1</sup> Na pesquisa realizada a autora utilizou os termos técnicos originais, em inglês: *sensory marketing* e *consumer behaviour/consumer behavior*

<sup>2</sup> *Idem.*



## **ABSTRACT**

Consumers are individuals with a growing desire to match their personality to brands and products. The holistic vision of sensory marketing approach brings to the retail of the future an understanding of environments as stages of experiences, places that will optimize the pleasure of the pre-consumption experience; a still embryonic movement in the market. With marketing strategies driven by sensory cues, the goal is generating a full experience for the clients, creating awareness and the consequent repurchase within retail contexts.

This research aims to map previous studies using a multisensory approach to understand the impact of sensory stimuli on consumer behaviour in the retail environment, and exploring the congruence between the senses.

A systematic review of the literature was used as the methodological approach. This approach is an important instrument to develop replicable reviews in a scientific manner, to observe the development of studies on a specific topic, and offer support to future research and to decision-making process in the professional area.

In this study, the systematic literature review compiles and synthesizes, through descriptive analysis, articles regarding the research objective, in the last 11 years (2009-2020). As an emerging topic, gaining expression since 2019, the analysis provides a detailed description of the types of retail. The sector that receives the most attention, in terms of researching the consumer environment, is offline retail. The approach of congruence between the senses is scarce in the coverage of this research, representing only a quarter of the published articles. There is a gap regarding this topic, providing an opportunity for future research.

A multisensory approach in sensory marketing (addressing three or more stimuli in a single empirical study) is still an unexplored area (Biswas, 2019; Helme Falk, 2019). Chronologically, it is a recent topic with an opportunity for research development; in this case, to know more about the relationship between multisensory cues. Also, the study of congruence between more multisensory stimuli should be deepened, to understand the impact of the sensory environment on consumer behaviour in a retail context.

The senses of touch and taste still present notable opportunities for further investigation (Douc   and Adams, 2020; F  rst *et al.*, 2020). Gaps can lead future research to contribute to the robustness of the literature and support marketing management in the decision-making operations.

**Keywords:** sensory marketing; consumer behaviour; multisensory stimuli; retail environment; multisensory congruence

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## CHAPTER 1 - INTRODUCTION

### 1.1 Contextualization of the research topic

With the effects of globalization, consumers have more access to information, looking for brands and companies that fit the lifestyle and consumption of the current era (Schmitt, 1999). As the competitiveness of companies grows, it is necessary to search for methods that differentiate them from their competitors (Hülten, 2011). Using only the strategies inherent to traditional marketing no longer make sense when consumer demand is more complex. Consumers aspire to live experiences related to consumption, demanding alternatives to the traditionality offer by companies, a movement becoming part of the industrial revolution era (Hülten *et al.*, 2009; Schmitt, 1999). Experience marketing stops perceiving the consumer as just a rational and decision-maker, looking only for the benefits and functional features of the product, to understand him as an emotional being who also wants to achieve pleasurable experiences (Schmitt, 1999; Urdea *et al.*, 2021).

Schmitt (1999) advocates five types of experiences that companies could develop for customers: the “SEMs” that summarise into sensory experiences (sense); affective experiences (feel); creative cognitive (think); social-identity experiences that come from relating to a reference group or culture (relate); physical experiences, behaviours and lifestyles (ACT); implemented by the “ExPros”, designated providers of experiences. Examples of experience providers are: communications, visual and verbal identity, electronic media, people, co-branding, among others. The aim is to position the experience at the centre of the consumption, being holistic and using emotion as a driver.

Sensory marketing emerges in the discussion, providing strategies that aim to reach the consumer's senses, influencing them emotionally, and impacting behaviours and attitudes (Hultén, 2015). Sensory marketing, and the study of the congruent multisensory cues, complements the traditional marketing practices and offer responses regarding how to work the retail environment aligned with the new consumer trends lifestyles (Krishna, 2012). Sensory Marketing is defined as “[...] *marketing that engages the consumers’ senses and affects their perceptions, judgment and behaviour.*” (Krishna, 2012: 332). In sensory marketing, the conventional division of five human senses (vision, hearing, smell, taste and touch) has been used as a support in marketing research to understand consumer emotions and purchase behaviour (Helmefalk, 2017).



Sensory cues (stimuli) can be used in the environment to be captured by the five senses. The theory of congruence appears for the first time in the field of psychology by Osgood and Tannerbaum (1955). The authors argue that if the elements of the environment are perceived by the consumer as consistent, coherently organized and aligned with the brand identity, the consumer will be more likely to show positive attitudes and favourable evaluations about the product or service. Regarding the theory related to sensory marketing, Krishna *et al.* (2010) characterise congruence of the senses as a degree of adjustment of sensory cues and how they harmonize in the environment. Helmeffalk (2016) complements that cue congruence is described as two or more cues fitting among them and impacting aspects such as behaviour, cognition, and emotion.

If multiple sensorial cues affect behavioural performance in consumption contexts (Laurienti *et al.*, 2004), companies should adjust the exposure of their products and position their services, respecting the congruence in the retail environment in which they operate (Helmeffalk, 2016). To understand further consumer behaviour in stores, retailers should thus consider investing in the design of retail stores (physical and digital), including environmental stimuli that can influence consumers' emotions and cognitions, which can result in affecting their purchasing behaviour (Hultén and Helmeffalk, 2017:1).

## **1.2 Research objectives**

The recent interest of marketing research in using a multisensory approach in researching retail context justifies the interest in researching the topic in this dissertation. Biswas (2019) and Helmeffalk (2019) state that there is a need for research around the sensory marketing topic using an integrated approach. Also, there is a demand for more research on sensory congruence in the retail environment, not only in terms of fit but also in terms of intensity (Helmeffalk, 2016; Ranaweera *et al.*, 2020). Existing studies in the area do not delve into the issue of congruence between several stimuli. Some articles have analyzed the effect of congruence between two or three senses (Krishna, 2012; Riedel and Mulcahy, 2019; Yoganathan *et al.*, 2019; Doucé and Adams, 2020).

The complexity of the retail environment (multiple sensory attributes related to product and environment) demands that marketing managers understand the congruence between all sensory cues, requiring considerable efforts in terms of time and financial investments

(Babin and Attaway, 2000; Ballantine *et al.* 2010; Biswas, 2019; Fürst *et al.*, 2020; Helmefalk, 2016; Helmefalk and Hultén, 2017; Hultén *et al.*, 2009; Krishna and Morrin, 2008; Spence *et al.*, 2014; Turley and Milliman, 2000). The literature helps to reduce implementation costs by providing answers about, for example: is enough a single adjustment of all sensory attributes with the primary function of the product for enough favourable responses from consumer behaviour or an adjustment of only a few sensory attributes (in terms of responses consumer) is sufficient (in terms of effort to obtain consumer responses)? There are few solutions in the current literature, having available investigation regarding the congruence of sensory attributes with a focus on the existent versus non-existent congruence among various sensory attributes. However, there is still lack of research on the impact of the congruence of these attributes with the primary function of the related product/environment (e.g, Fürst *et al.* 2020).

In this context, the main objective of this dissertation is to map previous studies, through a systematic literature review methodology, using a multisensory approach to understand the impact of sensory stimuli on consumer behavior in the retail environment and explore the congruence between the senses. Specifically, the systematic literature review methodology, which is relevant in monitoring scientific knowledge on a given topic, supports the decision-making process in professional areas and benefits researchers in future studies. In this study, the application of the methodology compiles and synthesizes research documents on the formulated research question through descriptive analyses.

The principal motivation behind this investigation is the author's professional experience in market research consultancy, specifically in consumer insights. The author's previous experience is focused on the understanding of consumer behaviour in physical stores, having observed an effort by companies to place the consumer at the centre of their business, and add value to their shopping experience. In some studies, the author verified that the approach of multisensory stimuli is still very scarce, and the study of the cue congruence is inexistent, despite its importance for the application of strategies related to experiential marketing. The interest in the subject explains the development of this dissertation, aiming to contribute to improving the recommendations at a business level.

### **1.3. Relevance and contribution**

An integrated approach to sensory marketing is an emerging topic of research. This study aims to contribute to determine where and how sensory marketing strategies related to sensory cues in the retail environment have evolved, the outcomes, types of methods used, as well as what are research opportunities and trends that can be applied in marketing management practice. There is a need to understand the impact of multisensory cues in store environments so that marketing managers can assertively invest, avoiding high costs and waste of time. In this view, this research can support the best decision-making process.

Furthermore, systematic literature reviews are relevant instruments to map previous research in a scientific manner, contributing as a basis for future researchers who wish to further study a specific topic. This methodology aids the synthetization about specific investigation topics available in the literature.

### **1.4. Structure of the thesis**

The dissertation follows a structure of five chapters. The first chapter addresses the research problem, the relevance and expected contribution of the study, and the research objectives. The second chapter is dedicated to the literature review. This section presents the definition of sensory marketing, as well the application in the retail context and the adjacent topics. The third chapter depicts the methodology and justifies the research design for the study. The fourth chapter discusses the data results and the related analysis. Chapter five presents the conclusions, recommendations, implications, and limitations of the study, together with suggestions for future research.

## CHAPTER 2 - THEORETICAL BACKGROUND

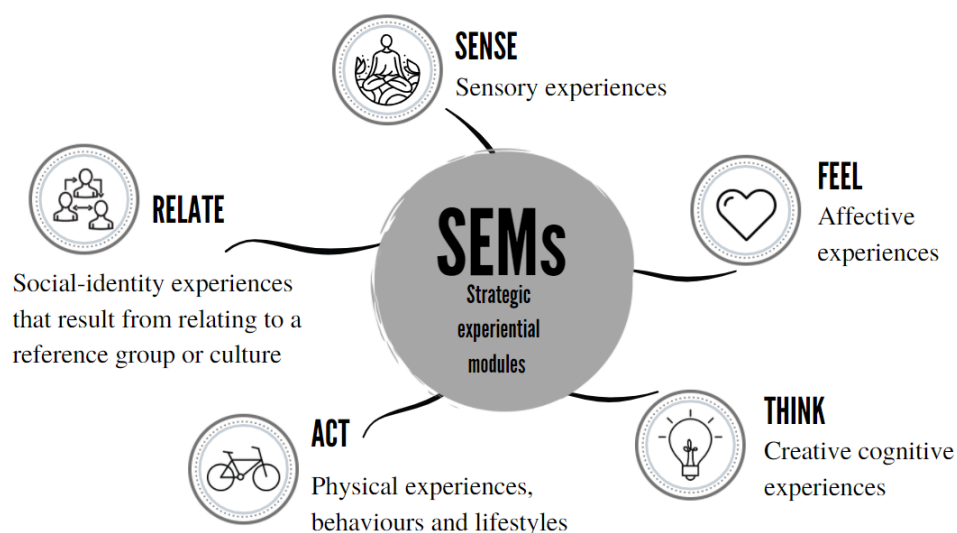
This chapter intends to review the literature topics around sensory marketing that contribute to the theory of this dissertation, analysing its relevance for the current study and contributing to the theoretical background.

### 2.1 Sensory marketing

Previous studies confirm that shoppers react to different stimuli. Sensory marketing, which is in line with experiential marketing, proposes creating the conditions for a connection between product/brand and consumer through a process of value creation generated within the shopping experience that can be enhanced through sensory stimuli (Schmitt, 1999).

Schmitt is a pioneer on the use of the approach of Experiential Marketing (1999). The author structures the experiential marketing in two perspectives: 1) five kinds of experience dimensions, designated strategic experiential modules (SEMs), which determine the strategic basis of experiential marketing, as shown in the figure 2.1; and 2) experience providers (ExPros), the tactical tools.

Figure 2.1 – SEMs – Strategic experiential modules



Source: Own elaboration

Schmitt (1999: 55) affirms that “[...] *traditional marketing presents an engineering-driven, rational, analytical view of customers, products and competition that is full of untested and outmoded assumptions.*”. This approach does not address the emotional and psychological reactions from the perspective of the consumer relative to the products and marketing environment. In traditional marketing, consumers are considered rational decision-makers with a focus on functional features and product’s benefits, as demonstrated in the table 2.1.

**Table 2.1 – Fundamental characteristics of traditional marketing, according to Schmitt (1999)**

<b>Four Key Characteristics of Traditional Marketing</b>	<b>Definition</b>
1) Functional characteristics and benefits are the focal points.	Product designers and marketers believe that customers determine their choices regarding the importance they place on the product’s available features and compare them for a final negotiation of their choice to choose the most beneficial product.
2) Product categories are closely defined relative to their competitors.	The competition occurs into product categories strictly defined (product and brand).
3) Customers are perceived as making decisions rationally.	The decision-making process involves several steps for solving problems. Consumers consider and substantiate several factors until they purchase and proceed with consumption to satisfy their needs.
4) Methodology and instruments are analytical, quantitative, and verbal.	Includes regression analysis, analysis using the likert scale as support, positioning maps and focus group.

**Source:** Own elaboration

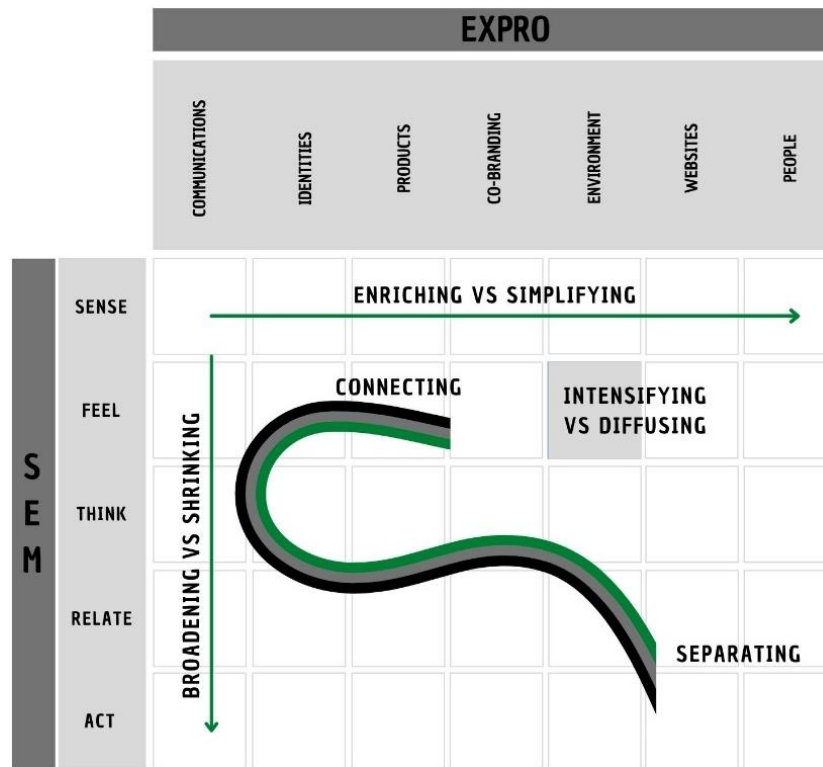
In turn, experiential marketing understands consumers as emotional individuals, looking for enjoyable experiences and considers four main aspects, according to the table 2.2.

**Table 2.2 – Fundamental characteristics of experiential marketing, according to Schmitt (1999)**

<b>Four Key Characteristics of Experiential Marketing</b>	<b>Definition</b>
1) Customer Experience	Focus on consumer experience rather than the functional features and benefits of the product. Experience comes from the living, providing sensorial, emotional, cognitive, and behavioural stimulus, replacing the rational values during the purchase.
2) Consumption as a holistic experience	It is considered the experience around the moment of the consumption. The set of products used in a consumption situation is also assumed and not focused on purchasing one specific product. An example that illustrates it is a friend's barbecue, englobing several products' categories like drinks, snacks, and pastry: and not the individual product as beer, chips, and bread. It is crucial to understand the social-cultural context of the market, expanding the concept of products' category instead of the isolated product.
3) Customer as rational and emotional individual	Clients are rationally and emotionally guide for the purchase. It means that clients could develop rational choices guided by emotions.
4) Methods and tools are eclectic	Experiential marketing is eclectic, is not connected to an only methodological conception. It means that some applied methods should be analytical and quantitative, and others could be more qualitative and instinctive. This assumption consists of two main strategic concepts: strategic experiential modules ( <i>SEMs</i> ) and experience providers ( <i>ExPros</i> ), as explicit in figure 2.2. <i>SEMs</i> are experiential strategic modules managed in Experiential Marketing that provide different experiences for customers, having their objectives, structure, and goals. It indicates that each module includes sensorial experiences ( <i>SENSE</i> ), affective experiences ( <i>FEEL</i> ), creative and cognitive experiences ( <i>THINK</i> ), physical, behavioural and lifestyle ( <i>ACT</i> ), and social identity occurrences that occur from a living or culture group ( <i>RELATE</i> ). Then, the experiences providers <i>ExPros</i> comes to implement the necessary tools for <i>SEMs</i> modules. <i>ExPros</i> should be conducted in three steps: coherently, consistently across the period and with meticulous details, leveraging each <i>ExPro</i> to the maximum to create experiences. <i>ExPros</i> involves communications, explicit identity, product presence, co-branding, environments, as well as computerised media and people.

**Source:** Own elaboration

**Figure 2.2 – “Strategic experiential modules (SEMs) can be used to create different types of customer experiences”, by Schmitt (1999)**



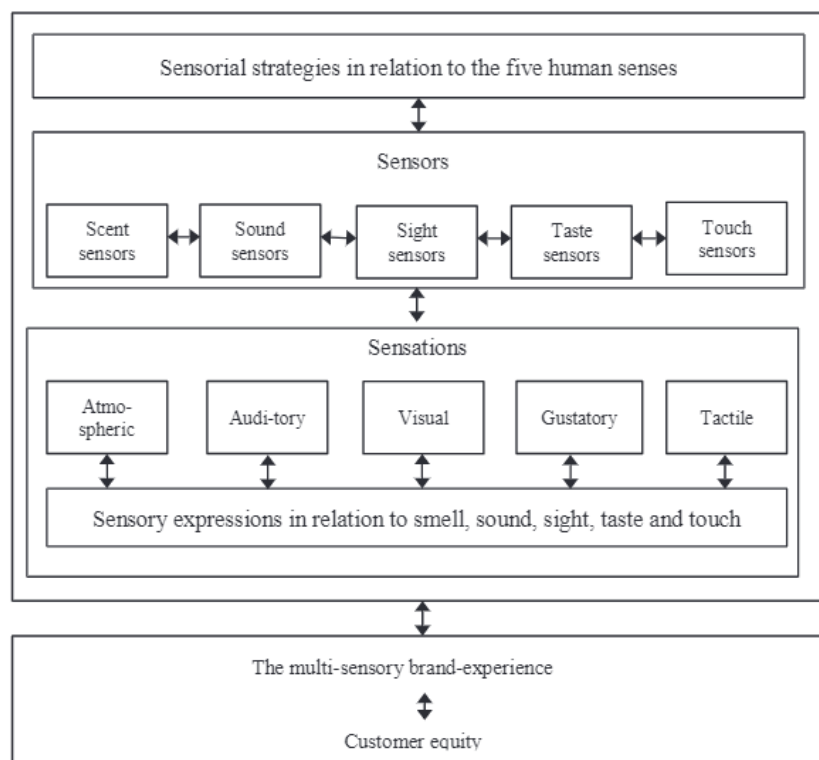
Source: Adapted from Schmitt (1999: 63)

Sensory marketing consists in the five human beings used as a fundamental basis of marketing research with the primary objective of understanding consumer emotions and purchase behaviour. The knowledge around the human senses is used as an instrument to apply marketing strategies. Marketing strategies, using technologies (sensors) to affect five human senses, positively intensify brand experiences. For example, companies may use technologies that influence consumer emotions and purchase behaviour, such as odour dispersers, speakers, among others (Helmefalk, 2017). The fusion of sensory cues applied with the proper intensity generates remarkable multisensory experiences. The first sensorial marketing representation of Hultén's model (2009) shows that the fusion of applied sensory signals with the appropriate intensity generates remarkable multisensory experiences (figure 2.3). To the author, the representation of sensory marketing model reflects that sensory marketing is adjacent to strategic marketing, bringing identity and values through different sensory expressions, creating positive brand awareness in the consumer's mind. The sense of vision, characteristic of mass and relationship marketing, loses relevance when consumers' goal is to live a more complete shopping experience.

The author argues that a holistic view of sensory experience must be at the heart of the definition of sensory marketing, characterizing it as one (Hülten *et al.*, 2009).

The central basis of customer service strategies is the concepts of sensors, sensations, and sensorial expressions, being the foundations of the sensorial marketing approach. Sensors are the equipment used in both the online and physical environment to stimulate the senses of consumers. Sensations consist of the transmission of stimuli unconsciously through sensory expressions to the brain. That is, the author argues that if sensations are not created through sensory expressions, the consumer's individual sensory experience will not occur. It is important that companies create sensations that lead consumers to live experiences that mark them, creating brand awareness. The sensations created must be based on the characteristics that the brand wants to convey to customers. In short, companies must apply sensors, sensations, and sensory expressions, to create experiences at the sensory level through the human senses (Hülten *et al.*, 2009).

**Figure. 2.3 - “Sensory Marketing Framework” by Hülten et al. (2009)**

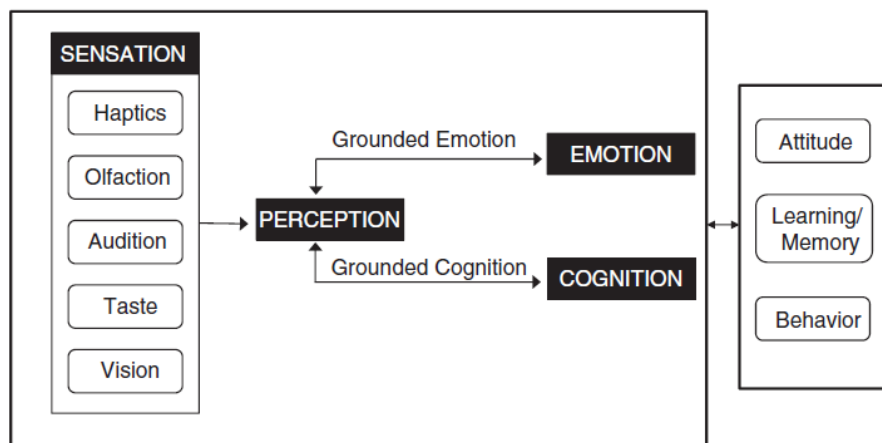


**Source:** Hultén *et al.* (2009: 161)



Krishna (2012: 333) defines Sensory Marketing as "[...] marketing that engages the consumers' senses and affects their perceptions, judgment and behavior.". The author highlights in the model of “grounded cognition” the difference between perception and sensation, using examples from psychology and marketing. The model is psychological oriented to consumer's perception, emotion, learning, preferences, choices, and evaluation, applied to marketing. The author first emphasizes the distinction between sensation and perception; expounds on each of the five senses, focusing on critical elements that can generate future big-step insights within each of them, impacting consumer behaviour. The model of figure 2.4 describes how the mental process works when a sensory cue touches a sensory organ. The brain is a filter that recognizes sensations through past experiences. This is the basis of perception, which impacts emotion and cognition. Previous experiences are crucial about how consumers react to sensorial stimuli, focusing on cultural and geographical differences, influencing different behaviours; emotion and cognition influence the notion of attitude, learning/memory, and behaviour. The researcher argues that the five senses present the proper structure for building the discussion of grounded cognition grounded in the senses.

**Figure. 2.4 – “A conceptual framework of sensory marketing” by Krishna (2012)**

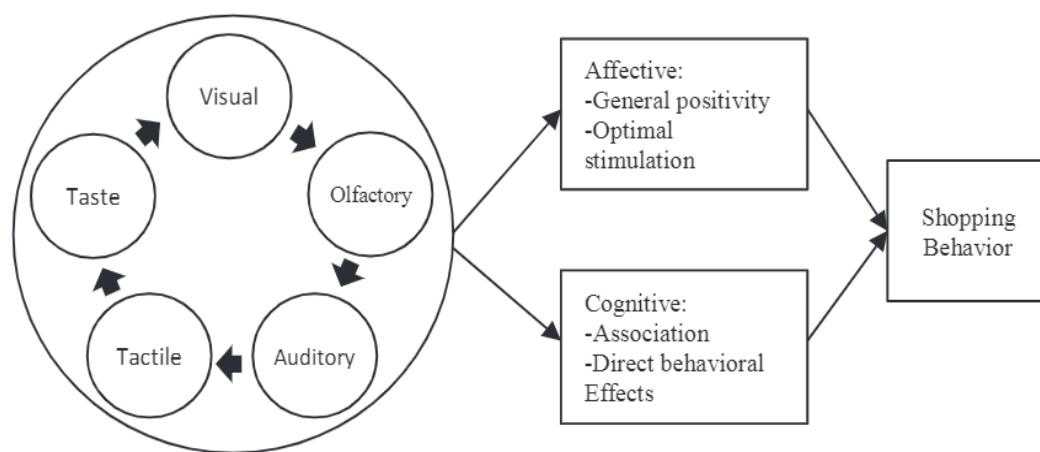


**Source:** Krishna (2012: 335)

The model proposed by Spence *et al.* (2014) in the figure 2.5, discusses how sensory cues influence cognition, emotion, and behaviour, such as Krishna’s (2012) model. Different from Krishna, the Spence *et al.*’s model is directly related to retail practice. It presents how sensory cues influence positive and negatively cognitive affect and behaviour in the retail environment. The model is thus highly appropriate in retail contexts since it explains how manipulating cues separately and how customers feel, think and act (Hultén, 2017).

In their research, Spence *et al.* (2014) affirm that proper stimulation of the sensory cues, shapes customers' affect, and stimulation levels could reach through a correct composition; customers feel more gratified or show a more positive behaviour when exposed to a sensory cue. When sensory cues are applied independently, the effects on customers seem to be negotiated by cognition, which looks to benefit from their connections among explicit products, especially atmospheric cues. In the cognitive area, effects also exist that result from nonconscious associations and, consequently, affect the behaviour directly.

**Figure 2.5 “Framework for multisensory shopping behavior.” (Spence *et al.*, 2014)**



**Source:** Spence *et al.* (2014: 473)

Table 2.3 helps gather the preliminary information about the concept of sensory marketing, summarizing the main topics concerning the most relevant authors in the area and already mentioned.

**Table 2.3- Definition of Sensory Marketing**

Author	Definition
Schmitt (1999)	It is a concept that proposes to seduce the consumer through information that reaches emotion instead of using means that reach reason.
Hülten <i>et al.</i> (2009)	Sensory marketing places the five human senses as a fundamental basis of marketing. The concept of sensory marketing should be used as a marketing strategy to define the company identity and values, in the consumer's mind. It creates brand awareness and establishes a sustainable brand image.
Krishna (2012)	The author defines sensory marketing as "[...] <i>marketing that engages the consumers' senses and affects their perceptions, judgment and behavior</i> "(Krishna, 2012:332). From a managerial perspective, sensory marketing builds a subconscious stimulus that defines consumer perceptions of abstract concepts of the product - the brand's personality. It also affects the perceived quality of an abstract characteristic as colour, taste, odour, or form.

**Source:** Own elaboration, based on Hülten *et al.* (2009), Krishna (2012) and Schmitt (1999)

## **2.2 Sensory Marketing in a retail context**

This session discusses and presents the theoretical concepts that work as foundations of sensory marketing in the retail area.

### **2.2.1 Consumer behaviour in the retail environment**

In the retail environment, consumers are exposed to different sensory stimuli that impact their behaviour. In sensory marketing research, constructs such as cognition and emotion are key in the process of understanding behaviours (Helmefalk and Hultén, 2017; Krishna, 2012; Krishna and Schwarz, 2014; Peck and Wiggins, 2006; Spence *et al.*, 2014; Yalch and Spangenberg, 2000; Teller and Dennis, 2012). In this context, it is important to highlight the interconnection between environmental psychology and sensory marketing research (Helmefalk, 2017).

In sensory marketing and retail research, the study of emotions has been of considerable interest. Consumer emotions are more challenging to measure than behaviour since they are subjective and difficult to self-explain. There is quite a development of research focused on emotion; however, there is a need to explore its grounded nature (Krishna, 2012). Rimkute *et al.* (2016) address cognition as another variable in controlling

behaviour, in addition to emotion. Helme Falk (2017) approaches valence and arousal as satisfactory for describing how consumers react to sensory stimuli in a retail context, exposing the behavioural concepts of consumer's purchase behaviour: time spent, browsing, which is measured in time too, and purchasing. Hereupon, retail stores' atmospheres should follow a functionally and hedonistically construction.

When the company intentionally uses services as stages and merchandise as props, the individual lives an experience, creating unforgettable memories. Experiences can be memorable due to positive or negative cues. A positive experience occurs when those responsible for applying the cues must avoid anything that diminishes, contradicts, or deviates from the central theme. Still, the use of more stimuli does not necessarily mean a more positive impact. Depending on the application, some cues enhance the experience through a single sense (Pine and Gilmore, 1999).

Context, culture, language patterns and individual experiences will define how emotions are experienced, influencing the difficulty to discover models or causes for the outcomes of certain emotions (Barrett *et al.*, 2007).

Current measurement techniques (e.g a *Need-for-Touch* scales exists to study the haptic area but still do not exist scales for other senses) do not yet describe the complete process of the consumer's mind, but they have been used to explain consumer behaviour in the retail store environment (Krishna, 2012; Spence *et al.*, 2014). Researchers relate how sensory cues influence emotions, consequent decision making and purchase conversion (Babin and Attaway, 2000; Bakker *et al.*, 2014; Helme Falk and Hultén, 2017; Helme Falk, 2019; Krishna, 2012; Krishna and Schwarz, 2014; Spence *et al.*, 2014; Turley and Milliman, 2000).

### **2.2.2 Atmospherics / environmental**

Kotler (1974) advocates atmospherics as a powerful marketing tool, mainly in consuming or purchasing moments, and where the seller has design alternatives. It is a marketing tool that is more important for retailers than for manufacturers and wholesalers because retailers have more control over the atmosphere. This research is pioneer in atmospherics in the marketing context, discussing how the consumers' sensory systems perceive physical objects in a store atmosphere, increasing the purchase intention. Since then, other research emerged, studying the sensory elements in the store atmosphere and their impact on consumer behaviour, experiences, emotions, among others related (Ballantine *et al.*, 2010; Babin and Attaway, 2000; Bhatt *et al.*, 2020; Helme Falk and Hultén, 2017; Imschloss and Kuehn, 2017; McGoldrick and Pieros, 2010; Parsons, 2011; Spence *et al.*, 2014; Turley and Milliman, 2000).

The construct atmospherics incorporates social components, quality, and service components, complementary to the clues given by sensory marketing, bringing more complex concepts and magnitude than sensory stimuli. Occasionally, atmospherics and sensory marketing are confounded (Spence *et al.*, 2014) because retail atmospherics occur in the consumption environment, while sensory marketing cues could also be incorporated on aspects such as packaging and food display or product design, for example (Helme Falk, 2017). Spence *et al.* (2014) synthesize both topics, reviewing the human senses about consumers' cognitive, affective, and behavioural effects in the retail atmosphere.

### **2.2.3 Sensory congruence**

Osgood and Tannenbaum (1955) propose the theory of congruence in the field of psychology. The theory argues that if the composing elements of the environment were understood by the consumer as consistent and coherently aligned, the consumer will be more susceptible to demonstrate positive attitudes and evaluations, regarding the product and/or service.

When studying the cross-model interactions among senses, cue congruence is exceptionally relevant. Krishna *et al.*, (2010: 412) define sensory congruency in sensory marketing as " [...] the degree of fit among characteristics of a stimulus.". In other words,

it means congruency as an adjustment degree and how cues harmonise between them in a specific environment. Moreover, in research, cue congruence is described how two or more cues fit among them, driving a third variable like behaviour, cognition, and emotion (Helmefalk, 2016).

Various cues in different sensorial modalities could improve behavioural performance by speeding responses, increasing accuracy, and/or improving stimulus detection, having a profound impact on behaviour and perception. In the behavioural field, multisensory stimuli reduce simple reaction times (Laurienti *et al.*, 2004).

In the retail environment, Mattila and Wirtz (2001) manipulated the presence of music (no music, low arousal music, or high arousal music) and olfactory environment (presenting no scent, a low arousal scent [lavender], or a high arousal scent [grapefruit]) at the same time. They found that when environment smell and music are congruent (regarding stimulating qualities), consumers perceive the environment remarkably more optimistically, generating elevated levels of access and impulse buying behaviour and feel more satisfied than when these environmental cues remained at odds with each other. Also, Spangenberg *et al.* (2005) show that congruence between ambient scent and music improved store evaluations in a retail Christmas context. Spence *et al.* (2014) declare that congruent multisensory environments are more pleasing and engaging to consumers than the opposite. Congruity with expectation drives to honestly positive evaluations of products. Krishna *et al.* (2010) aimed to understand how sensory congruence impacts haptic perception and product evaluation. Researchers demonstrated that scents that pair semantically to texture and temperature besides influence perception and evaluation of products. Individuals like predictable products and products that fit their expectations. So, positive effects are transferred for the global product's evaluation when a cue is congruent due to expectations.

#### **2.2.4 Sensory cues**

Sensory marketing and the study of the congruent multisensory cues complement traditional marketing practices and respond to how to work the retail environment to be aligned with consumers' expectations (Krishna, 2012).

Multisensory interrelation is about the interaction between two or more human senses in the perception of sensory cues. It is called analogy of senses and may involve all conceivable combining and interactions, giving the human people wide condition about the awareness of the environment (Hultén *et al.*, 2019).

Retail stores focus is to stimulate favourable and memorable experiences for the consumer. Several types of stimuli predominantly create a positive and memorable experience. However, sensory stimuli can be highly influential. Sensorial stimuli are cues that influence sensory systems like vision, audition, olfaction, haptic and gustation, created by the environmental stimulus. Furthermore, sensory cues can also non-consciously influence consumer appreciation and behaviours, including types of purchase (Biswas, 2019: 111).

Helmefalk and Hultén (2017) presented an empirically investigating about the impact of multisensory cues on shopper emotions and purchase behaviour, creating a research model which outlines the relationships between multisensory congruent cues (visual, auditory, and olfactory), emotions through valence and arousal, as well purchase behaviour, in terms of time spent and purchase.

However, few studies still clarify retailers about how to work multisensory cues together in the store environment; there is a need for more studies doing different cues combinations (Mattila *et al.*, 2001; Spence *et al.*, 2014; Helmefalk, 2017; Helmefalk *et al.*, 2017) and how these cues impact on consumer behaviour (Krishna *et al.*, 2010) in different retail contexts (Hultén, 2011). Multisensory research is rarely examined in real contexts with field experiments, which can skew how consumers perceive, feel, and behave in a retail store.

Several sensory marketing topics have been debated for a while, but academic research about these themes is recent (Biswas, 2019).

#### **2.2.4.1 Visual**

The visual stimulus is heavily studied being a multisensory cue that impacts the shopping experience in the retail environment. Among sensory cues, visual cues are the most considered when it comes to building and designing the atmosphere of retail stores (Helmefalk, 2017). Kotler (1974) recognises that an atmosphere's visual dimension consists of colour, brightness, size, and shape.

Companies that use sensory marketing in the business strategy can use visual cues to build store layout and design, due to the brand alignment and consumer profile. Visual cues contribute to support what are the best practices to develop shape and packaging colours, as well as details that permit constructing the brand identity at the point of sales (Hultén, 2015).

Vision has been studied with a focus on topics like colour, which finds that red colour could stimulate excitement or aggression; dynamism, which found a dynamic presentation format, could impact brand engagement, and enhance the preference for hedonic choices too; screen orientation; and shape (Biswas, 2019). Colour and brightness existing in a space affect the level of stimulation of those present in that space. Humour and emotion are also affected by lighting and colour scheme (Spence *et al.*, 2014). Retailers consider colour and appropriate lightning (intensity) as visual cues. For them, vision is indisputably the most important of all senses. It is proof that retailers that work the design of their stores are more successful than others that do not prioritise it since the aesthetics influence shoppers' purchase decisions in-store. The intensity and light colour impact consumers' time spent in-store and consequently on shopper behaviour, in-store congruency, expectations and price, and brand perception in the retail environment (Hultén and Helmefalk, 2017). However, few studies clarify retailers about how to work multisensory cues together in the store environment.

Visual stimulus is the most dominant of all senses (Krishna, 2012). However, it is still unclear how other non-visual congruent cues (olfactory/auditory but especially taste and haptic), combined between them, help in the pleasant design store atmosphere, to impact shopper emotions and purchase behaviour, providing a holistic retail shopping environment (Hultén and Helmefalk, 2017).



#### 2.2.4.2 Auditory

Marketing communication regularly uses audition senses (radio, television, jingles, retail environment, restaurants, hotels). There is symbolism in the sound because it affects the perception of the object it represents. People attach meanings to the sound of words even though they perceive physical characteristics that they attribute to a specific sound. Like the sound associated with a brand name, language also has its perceptions (Krishna, 2012). Brands employ specific sounds as part of their identity (Hultén, 2015).

In the retail environment, actions related to listening are directly related to the musical context. For retailers, auditory sensory cues impact consumer cognitions and mental processes, emotional conditions such as humor, valence, arousal, purchasing decisions, and perception of time spent. Auditory congruent sensory cues (ambient background sound and music) affect shopper emotions and purchase behaviour (Hultén and Helme Falk, 2017). When consumers enjoy the background music, they feel like they spend less time buying compared to the real-time they spent in the store. The opposite also occurs, when they do not like the background music, they feel like they spend more time than the actual time spent in the store (Krishna, 2012). Ambient background sounds influence consumer buying experience and helps to identify objects faster. Research about music influence on consumer purchase behaviour considers that tempo, pitch volume, and genre are relevant. So, in a retail environment context, music could affect consumers cognition, emotion, and purchase behaviour. Consumers' perceptions, expectations and evaluation in the retail environment are positively affected by music (Hultén and Helme Falk, 2017).

Michel *et al.* (2017) studied music in retail environments. In their study, the authors conceptualise distinct connections between how the presence and absence of music in-store influence consumer emotion and purchase behaviour. Auditive marketing addresses how to include sounds that could positively contribute to the consumer experience, but also identify what unpleasant sounds should be removed from the shopping environment. Displeasing sounds negatively impacts the consumer experience (Hultén, 2015). Emotions were categorised as affective and general satisfaction, while purchase behaviours were categorised as time spent, purchase intention, sales, and patronage behaviour (Helme Falk, 2017). It looks like music played in the retail environment could greatly influence several behaviours, such as sales, arousal, perceptions, and actual time

spent, in-store traffic flow, and the perception of visual stimuli in-store (Turley and Milliman, 2000).

The existence of music effects in a retail environment reveals both positive and negative behaviours. It is not the existence of the music that contributes to positive or negative effects but its own design [physical dimension] (Michel *et al.*, 2017). Music's impact is arbitrated in-store by the shopper's age, *music tempo*, volume and preference, and background or foreground music. Music has the power to influence shoppers' behaviour, even in unconsciously (Turley and Milliman, 2000).

The significant volume of research in the auditory marketing area has been focused on ambient *music tempo*, pitch, and volume (Biswas, 2019). Recent research covers other focuses, such as how auditory cues can influence trust (Reynolds-McIlroy and Morrin, 2019), as well as understanding the importance of linking sensory stimuli to the technology present in the retail (Grewal *et al.*, 2017) and the analysis of the intermodal correspondence between music and haptic perceptions.

#### **2.2.4.3 Haptic**

As the other clues already described, haptic is also crucial for consumer emotions and behaviour.

According to Aristoteles, touch is a sense that allows visualising an accurate picture of the object's intrinsic nature. For example, a cat's soft fur fosters a sweet character (Krishna, 2012). The author exposes a chronological order of the development of the senses, generically exemplifying the importance of touch for human beings.

The tactile sense generates a sense of shape, helping consumers perceiving a product and its quality (Hultén *et al.*, 2009).

Peck and Childers (2003) developed a "Need-for-Touch" (NFT) scale with the purpose to measure individual differences in preference for haptic (touch) information. According to the authors, "*The NFT is conceptually defined as a preference for the extraction and utilisation of information obtained through the haptic system.*" (2003:431). The research presents findings in several aspects like "Accessibility for Autoelic and Instrumental NFT"; "NFT: Attention and Memory, Haptics and Product Design"; and, "Compensation for Haptic Information". The NFT scale is composed of instrumental and autoelic

subscales. It means the first (instrumental) is used for functionality, generally employed in product purchase matters. On the other hand, the autoelic catches the compulsive or emotional triggers of touch. The scale has been widely applied in research (Ranaweera *et al.*, 2021; Krishna and Morrin, 2008; Peck and Wiggins, 2006) to distinguish the divergence in judgements about the differences in need for touch (Krishna, 2012).

Sensory literature shows the effects of congruence between touch and other senses (Krishna *et al.* 2010; Krishna and Morrin, 2008; Marlow and Jansson-Boyd, 2011). Ranaweera *et al.* (2021) researched the cue congruence in the touch senses for the first time. They expose the haptic sensory cues have a degree of fit among them and that the impact of these cues on a product's impressions is highly moderated by the consumer's hedonic impulse to touch. The study considered a review of the influence of haptic cue congruence in consumer responses to texture and weight. It found that haptic characteristics (texture and weight) can induce a consumer's perceptions of product personality.

Consumers show different behaviours related to touch. While some touch products as a "grab and go" practice, others spend more time evaluating product attributes through their hands. Touch could influence perceptions about brand judgments and choice preferences as well as the importance of product attributes (Peck and Childers, 2003). The integration of the sense of touch in the sensory marketing of the brand is an activity planned and developed based on a client's need, where touch can generate a better transmission of the value created.

In sensory marketing, the brand must plan and develop the integration of touch as a sense, based on customer needs, to create value. Still few brands in the retail market utilise the sense of touch, planning to be a competitive advantage differentiator involved in the purchase process and consumer needs. Brands are still distant from employing a touch strategy that generates positive associations and allows to determine a tactile component to associate with the brand's signature, acting as a proposition to add value (Manzano *et al.*, 2011).

#### 2.2.4.4 Olfactory

Rimkute *et al.* (2016) highlight the impact of congruent scent in consumer cognition and affective responses, emotion, memory, and purchase behaviour. Affect, cognition, awareness and individual or environmental stimuli are the considered variables as mediators and moderators of the effects of scent. According to the authors, there exists a need for congruent essential attributes to occur olfactory effects, like odour, type of product and music. The scent is one of the critical elements for the retail environment, strongly connected to memory and congruency, influencing consumer purchase behaviour. Odour's intensity is relevant too because it determines the pleasant or unpleasant perception of odour, influencing consumers positively or negatively.

Pleasant scents improve memory of brand names, assume risk-taking, diversity seeking and interest. The exposure to multisensory cues induces a better memory recall. Scents create consumers' positive feelings externally to shopping behaviours. Scents' diffusion in the retail environment intensifies consumer emotion, and the intensity makes the perception of time spent tolerable (Helmefalk, 2019; Krishna, 2012).

In olfactive marketing, exists a complexity to objectively measure odour. There is a need for accurate classification and intensity of the odour nature. Pleasure and congruence are the main elements that evaluate the use of odour quality. Odours can be pleasant or unpleasant, arousing the hedonic nature. A pleasant odour combines three main aspects: tone (the essence, the affective nature of the odour), intensity (the degree of aroma concentration), and familiarity (how recognized the odour is to the one who feels it); which are correlated between them. Congruence is highly studied in olfactory marketing, being recognized as an expectable relation between an odour and a marketing variable. Results show the effect of olfactory marketing is superior if the odour is congruent (Manzano *et al.*, 2011).

Krishna *et al.* (2010) mainly focuses on the impact of smell on product evaluations, proving that among various objects in the store, smells present in the environment spread the memory in contrast to products' smell that only distinguish the own product. Odour has a strong impact on the individual's emotions, connecting with memories, triggering desires, and arousing all kinds of feelings of activation or relaxation, informing where to direct the attention (Manzano *et al.*, 2011).

Krishna (2012) studied the relation between smell, memory, and learning. Biological, anatomic, and structural reasons explain why information coded by this scent can last longer than information coded with other sensory cues. The reasons are neuronal systems, human physiological composition, and the higher number of receptors dedicated to processing in-coming olfactory versus visual sensory input. About ambient scent and memory, the ambient scent increases recall and brand recognition and improve product evaluation (Krishna, 2012; Bosmans, 2006). However, is not identified congruence between odour and the recalled item. The evaluation of stores and products is better when exposed to pleasurable scents, besides growing the variety-seeking behaviour. Product's evaluation would enhance with ambient scent if evaluations were weak. The presence of olfactory sensory cues makes shoppers spend more time exploring, and there is more variety-seeking with a congruent versus incongruent odour (Krishna, 2012).

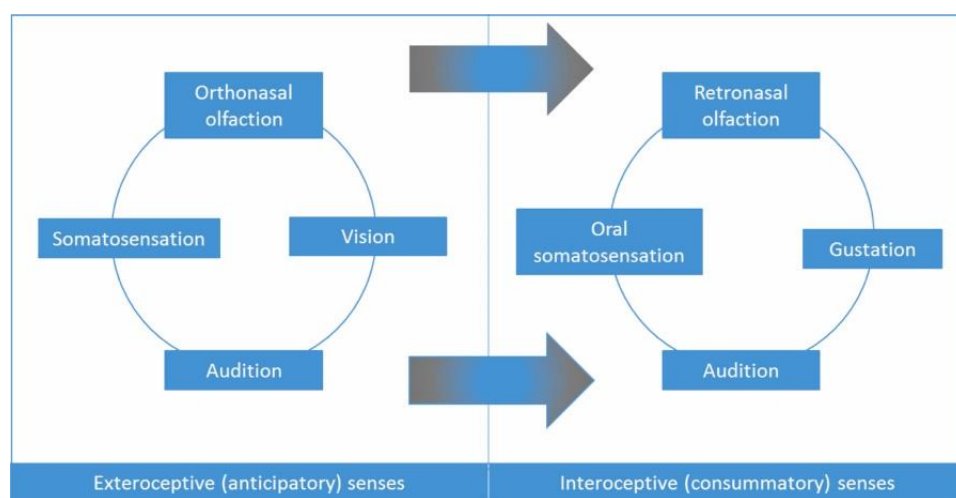
Sensory marketing uses odour as an intensifier of the attractiveness of numerous products. The presence of functional scents in products can be very intense and specific, becoming part of the brand identity. In olfactory marketing, the scent is a traffic generator, an environment developer, and a symbol of high semantic performance (Manzano *et al.*, 2011).

#### **2.2.4.5 Gustatory**

Krishna (2012) advocates that taste depends on other senses to exist. The author explains that humans only distinguish five pure flavours since there are only five diverse biochemical and cellular interactions in our bodies related to taste: sweet, salty, sour, bitter, and umami. Umami means deliciousness or savoury, referring to the taste from monosodium glutamate (MSG) or the taste of pure protein. A combination of all five senses distinguishes each flavour: smell (how food smells), touch (temperature, fat, and other food textures), vision (how food looks like - aesthetic aspects including colour) and audition (crunchy sound affects taste). Taste is directly related to smell (Hülten, 2015).

When analysing flavour as a multisensory experience, two different categories can define the general flavour experience of beverages and food: exteroceptive (or anticipatory) senses and interoceptive (or consummatory) senses (figure 2.6). Exteroceptive senses form expectations before ingesting food or beverages. Interoceptive senses occur after taking a bite or take a sip. Consequently, flavour perception differs among individuals. Biology differences, experience and expectations are the reason for consumer behaviour related to food and beverages (Kpossa and Lick, 2020).

**Figure 2.6 “Theoretical model – Exteroceptive senses vs Interoceptive Senses” by Kpossa and Lick (2020: 2)**



**Source:** Kpossa and Lick (2020:2)

Observing flavour expectations and perceptions, we could mention sensory and hedonic values about this topic. Clients create product-intrinsic and product-extrinsic expectations in a retail environment because they usually cannot taste food or beverages before purchasing. Product-intrinsic cues are physically related to the product (appearance evaluation: colour, shine, shape, size, among others similar), and product-extrinsic cues are related to points that do not belong to the essence of the product (brand name, packaging, merchandising or any other information derived from marketing communication (Kpossa and Lick, 2020; Piqueras-Fiszman and Spence, 2015).

Essentially, two types of expectations need to be recognised: sensory expectations (specific sensory attributes expectations like sweetness, creaminess, crunchiness, texture, each in a certain intensity) and hedonic expectations (about to the point that consumer likes or dislikes food). After the purchase, when consuming products, the consumer

understands the hedonic value of a specific characteristic of the product (Kpossa and Lick, 2020). A difference in a hedonic evaluation of an individual about food or beverage corresponds to a perceptual contrast, even if the inverse does not necessarily exist. There are situations where expected, and experience foods are perceptually different but could be appreciated as well (Piqueras-Fiszman and Spence, 2015).

Surpassing the intrinsic cues of food and beverages and how it impacts the multisensory perception on the multisensory perception of flavour, it is crucial to perceive that ambient lighting, background music, and background noise have all show the influence on taste and flavour perception (Spence, 2015). When discussing restaurants environments, much research shows that cues in the atmosphere can influence the congruence between flavour/taste perception and the perceived ethnicity of a dish (Piqueras-Fiszman and Spence, 2015).

For retailers, using the sense of taste as a sensory marketing tool can bring benefits at the commercial level, attracting consumers, increasing sales, and achieving a differential image, reinforcing the association between consumers, brand, and its stores (Manzano *et al.*, 2011).

### CHAPTER 3 – METHODOLOGY

The methodological process used in this research follows the necessary steps to conduct a systematic literature review. A systematic literature review uses a replicable, transparent, and scientific model to identify, evaluate and summarize all existing relevant studies in any field or topic, reducing bias (Alves *et al.*, 2016; Moher *et al.*, 2009; Tranfield *et al.*, 2003). Overall, the systematic literature review identifies the main scientific contributions to a field or issue (Tranfield *et al.*, 2003).

The PRISMA statement firstly was proposed for systematic literature reviews related to healthcare providers, researchers, and policy makers (Page *et al.*, 2021; Tranfield *et al.*, 2003). Nevertheless, systematic reviews have become more adopted to investigate the literature in and other areas such as social sciences (Linnenluecke *et al.*, 2020), and management, marketing, tourism, and hospitality fields (Prayag *et al.*, 2019).

In 2020, updates in PRISMA were arranged to respond to the need for advances related to systematic review methodology, resulting in a new reporting guidance with a more straightforward structure and presentation to facilitate the implementation of the methodology (Page *et al.*, 2021). PRISMA uses a methodology that allows the researcher to report a clear and objective systematic review (Rehman *et al.*, 2020). The methodology comprises three main phases: identification, screening, and inclusion (Page *et al.*, 2021). Figure 3.1 illustrates the selection process, following the descriptive phases in this study.

This approach was used to address the research objective: to map previous studies using a multisensory approach to understand the impact of sensory stimuli on consumer behaviour in the retail environment and exploring the congruence between the senses.

Identification is the first step of PRISMA methodology. The main points in the identification step are what, how, and where to find. The research question will contribute as the pillar for the identification (Rehman *et al.*, 2020), and the search terms were organized considering the research question, as demonstrated in table 3.1. The search was conducted in February 2021 in Scopus and Web of Science databases, respectively. Both are the most extensive databases in diverse scientific fields and have regular use for literature research (Aghaei *et al.*, 2013).



**Table 3.1 – Organization of keywords for research**

Blocks	Keywords for research
Primary Variable	“sensory marketing “OR “multi-sensory” OR “multisensory” OR “sensory cues” OR “sensory stimuli”
<b>AND</b>	
Context	business AND management

**Source:** Own elaboration

As shown in table 3.2, the research was refined, researching only journal articles as document type, selecting all published articles available to avoid missing any critical article. No filters for year of publication were used. This type of document was chosen because considers the most recent knowledge about any investigation area (Rehman *et al.*, 2020). Records identified from databases were a total of 432 articles (WoS= 158; Scopus= 274). Before the screening stage, 114 duplicated articles were removed.

**Table 3.2 – Filters used in the search**

Document Type
Journal article
Publication Years
No filters were used
Language
English

**Source:** Own elaboration

The articles were exported by an electronic process at the second phase of the screening stage, generating a unified database. *Microsoft Excel* was the program used to prepare the database, and the *Mendeley Reference Manager* was the program used to save and organize the articles. Exporting search results to a citation manager grants advantages as not losing information once results are directly saved; permits identifying and excluding duplicate versions of the same documents; allows obtaining and sharing full-text versions of numerous of the pinpointed journal articles. There is a need for sensitivity at this stage to sifting as many articles as possible with the objective of not losing any vital study (Siddaway *et al.*, 2019).

At the screening stage (second stage), 318 articles were screened which resulted in the exclusion of 72 records because they were not related to the research question. 246 articles were sought for retrieval and all abstracts were read. Readings that suggested the articles as potentially eligible for inclusion (according to the inclusion and exclusion criteria)

were obtained for detailed reading through the full-text download. The number of rejected articles was listed and 115 were excluded since they do not address how multisensory stimuli performs in the retail environment. Siddaway *et al.* (2019) mentioned that at this stage it is enough to list the number of rejected articles in place of documenting the excluding reasons of each study one by one. At the eligibility moment, specificity is used to analyse the full version of the articles to conclude which ones are suitable for inclusion. As recommended by Siddaway *et al.* (2019) at this moment, the reading of articles was focused on the “Methods” and “Results” sections to understand the match with inclusion and exclusion criteria, immediately reducing the group of possible studies, resulting in 131 articles. After the reading, relevant information was extracted and tabulated in *Microsoft Excel* according to inclusion and exclusion criteria in table 3.3, respecting the parameters selected for analysis. The parameters are sixteen: authors, year of publication, source title, abstract, research objective, the sector that the study represents, number of stimuli, type of stimuli, if congruence is contemplated or not, author keywords, the country where the sample was collected, type of study, data collection methods, methodological approach, instruments for data analysis, and study limitations and recommendations for future research.

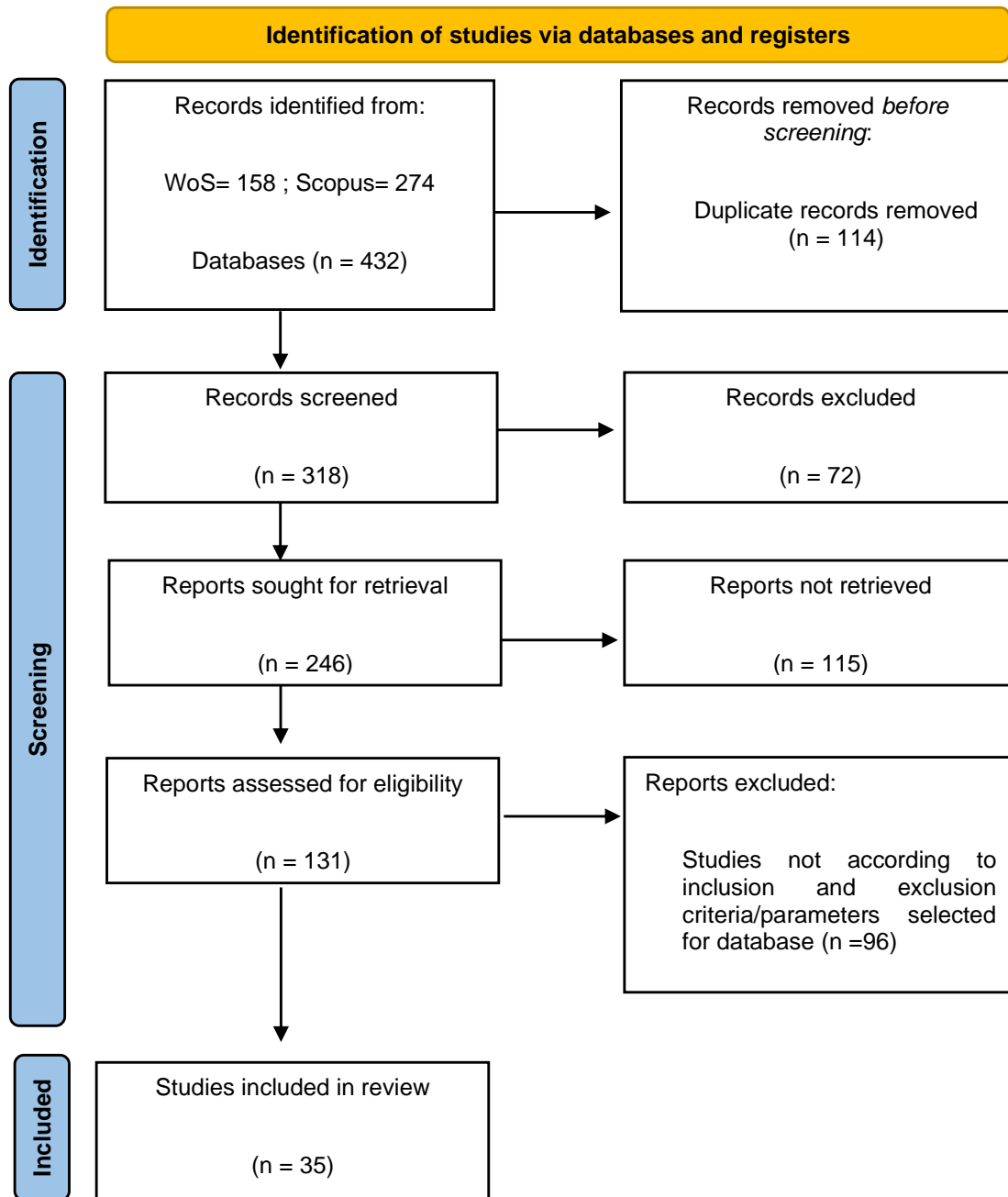
**Table 3.3 – Criteria / parameters selected for database**

<b>Inclusion and Exclusion Criteria</b>
I) Language: Articles published in English; Other languages are excluded
II) The publication must clearly identify three or more sensory stimuli; less than three stimuli is a reason for exclusion
III) The publication must have a specific retail focus or focus on general consumer behaviour in the retail environment. Stimuli should be directly related to how they affect consumer behaviour (e.g., atmospherics) and not related to product/branding/other similar; the latter is reason for exclusion
IV) Years: Include all articles found in the research on databases (no exclusion is based on year)
V) Type of publication: Journal article. Books, conference papers and other types of documents are to be excluded
<b>Retail Definition</b>
As retail, both physical and online space must be considered, whenever there is sale of products, regardless of the type of product or category (e.g. restaurants, coffee shops and others involving product sales may be considered)
<b>Borderline cases</b>
As borderline cases were considered articles that were not eligible according to the rules defined for inclusion or exclusion criteria but were included because they contained some main criteria. In the case of this dissertation, two studies were included that contribute to the results. Since the central theme of the dissertation is sensory stimuli and environment, these more general studies were included as they addressed the multisensory approach in consumption environments that can be related to retail. The articles are:
<ul style="list-style-type: none"> <li>• Hultén, B. (2011). Sensory marketing: the multi-sensory brand-experience concept. <i>European Business Review</i>, 23 (3), 256-273. <a href="https://doi.org/10.1108/09555341111130245">https://doi.org/10.1108/09555341111130245</a></li> <li>• Krishna A., Schwarz N. (2014). Sensory marketing, embodiment, and grounded cognition: A review and introduction. <i>Journal of Consumer Psychology</i>, 24(2), 159-168. <a href="https://doi.org/10.1016/j.jcps.2013.12.006">https://doi.org/10.1016/j.jcps.2013.12.006</a></li> </ul>

**Source:** Own elaboration

At the third and last stage, the inclusion stage, only articles addressing three or more sensory stimuli were retained for further analysis. Existent bibliography does not present published papers of systematic literature reviews with more than three stimuli. Concluding the process, 35 studies were included for the systematic literature review analysis.

**Figure 3.1 PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only**



**Source:** Adapted from <http://www.prisma-statement.org/>

## CHAPTER 4 - RESULTS AND DISCUSSION

This chapter contains a descriptive analysis using the data generated from the extraction of the Web of Science and Scopus databases, as described in the methodology chapter. Each analysis' category presents figures and tables referring to the respective data. Results for each category are analysed according to the research objective. The table 4.1. presents the 35 articles contained in the analysis selection.

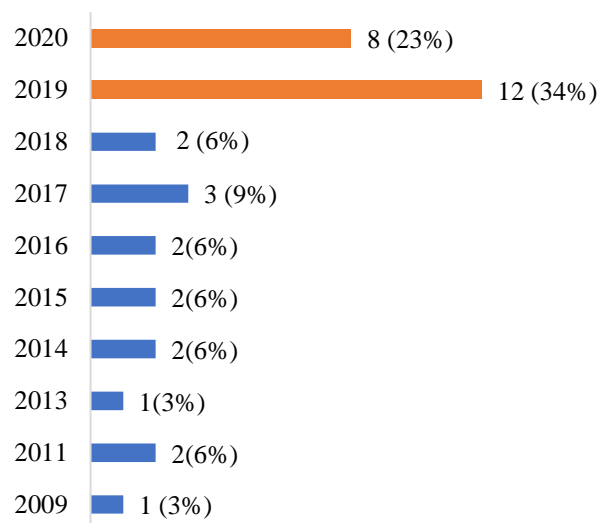
**Table 4.1 –Selection of articles for database**

Authors	Year
Soars B.	2009
Hultén B.	2011
Parsons A.G.	2011
Yoon S.-J.	2013
Krishna A., Schwarz N.	2014
Spence C., Puccinelli N.M., Grewal D., Roggeveen A.L.	2014
Chung K.-S., Ryu D.S., Green B.C., Kang H.M.	2015
Foster J., McLelland M.A.	2015
Chung K.-S., Ryu D.S., Lee S.	2016
Helmefalk M.	2016
Helmefalk M., Hultén B.	2017
Huang, TL; Liao, SL	2017
Nghiêm-Phú B.	2017
Haase J., Wiedmann K.-P.	2018
Helmefalk M., Berndt A.	2018
Biswas, D	2019
Helmefalk M.	2019
Koszembar-Wiklik M.	2019
Lee M., Lee S., Koh Y.	2019
Li H., Wang C.R., Meng F., Zhang Z.	2019
Mahr D., Stead S., Odekerken-Schröder G.	2019
Narayan, G; Singh, AN	2019
Petit O., Velasco C., Spence C.	2019
Riedel A., Mulcahy R.F.	2019
Satti Z.W., Babar S.F., Ahmad H.M.	2019
Stevens L., Maclaran P., Brown S.	2019
Yoganathan V., Osburg V.-S., Akhtar P.	2019
Buzova D., Cervera-Taulet A., Sanz-Blas S.	2020
Castillo-Villar F.R., Villasante-Arellano A.J.	2020
Chatterjee S., Kundu A.	2020
Chung K.-S.	2020
Doucé L., Adams C.	2020
Fürst A., Pečornik N., Binder C.	2020
Haase J., Wiedmann K.-P.	2020
Kauppinen-Räsänen H., Mühlbacher H., Taishoff M.	2020

**Source:** Own elaboration

No publications were identified in 2010 and 2012 (figure 4.1). The analysis of three or more stimulus in scientific publications is recent in chronological terms, with the first publication being carried out in 2009. There is a predominance of publications in 2019 (n=12; 34%). In recent years, 2019 and 2020, greater prominence has been given to the multisensory theme (57% of total publications).

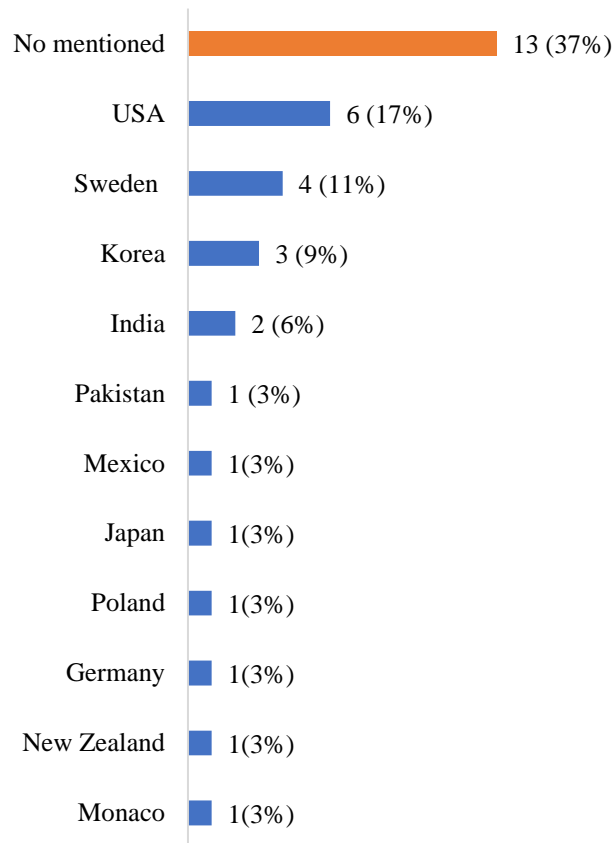
**Figure 4.1 – Number / % - Articles per year**



**Source:** Own Elaboration

The greatest evidence is from studies that do not mention the country where they collect the data (n=13; 37%) (figure 4.2). This number includes two systematic literature reviews, five traditional literature reviews and two studies with no access. In no access articles, country is not mentioned in the abstract, so it was not possible to identify this information. The proportion of publications in United States of America is the highest (n= 6; 17%), followed by Sweden (n=4; 11%). According to the data, there is more focus on the research topic out of Europe, i.e., in America and Asia.

**Figure 4.2 Number / % - Sample collection country**



**Source:** Own elaboration

Table 4.2 shows that most published studies were applied to offline retail (n=20; 57%). Research applied to the online method is still recent, with only three studies published in 2019 (n=3; 9%). Still from the published studies that address both online and offline retail, the predominance is studies published between 2019 and 2020 (n=3; 9%).

**Table 4.2 – Number / % - Sector per year**

<b>Sector / Year</b>	<b>n</b>	<b>%</b>
<b>Retail offline</b>	<b>20</b>	<b>57%</b>
2011	1	3%
2013	1	3%
2014	1	3%
2015	1	3%
2016	1	3%
2017	2	6%
2018	2	6%
2019	6	17%
2020	5	14%
<b>Retail online</b>	<b>4</b>	<b>11%</b>
2017	1	3%
2019	3	9%
<b>Retail online and offline</b>	<b>4</b>	<b>11%</b>
2009	1	3%
2019	2	6%
2020	1	3%
<b>Sports</b>	<b>3</b>	<b>9%</b>
2015	1	3%
2016	1	3%
2020	1	3%
<b>Tourism</b>	<b>2</b>	<b>6%</b>
2019	1	3%
2020	1	3%
<b>Sensory marketing, embodiment, and grounded cognition</b>	<b>1</b>	<b>3%</b>
2014	1	3%
<b>Multisensory</b>		
<b>Brand-experience</b>	<b>1</b>	<b>3%</b>
2011	1	3%
<b>Total Geral</b>	<b>35</b>	<b>100</b>

**Source:** Own elaboration

Studies on the retail offline sector are mostly conducted in physical stores (n=10; 29%), followed by foodservice (n=6; 17%), as shown in table 4.3.

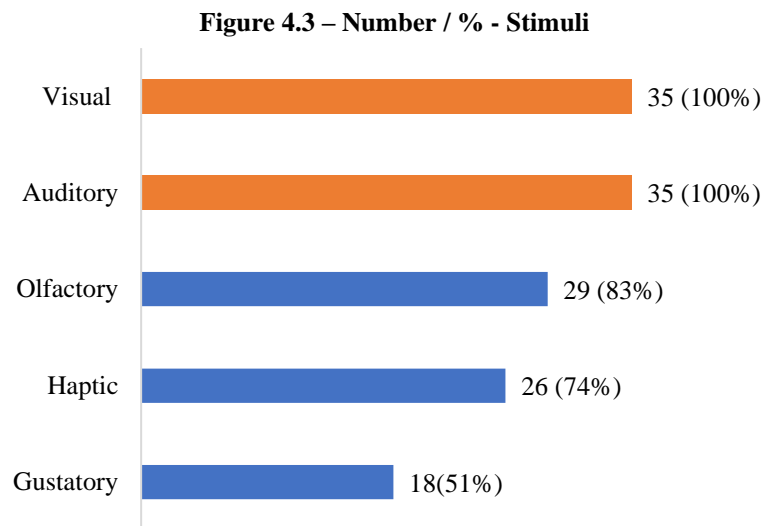


**Table 4.3 – Number / % - Sector per type**

<b>Sector Type</b>	<b>N</b>	<b>%</b>
<b>Retail offline</b>	<b>20</b>	<b>57%</b>
Physical store	10	29%
Foodservice	6	17%
Outdoor out-store shopping environment	2	6%
Health and Wellness	1	3%
Others	1	3%
<b>Retail online</b>	<b>4</b>	<b>11%</b>
E-shopping context	3	9%
New Technologies- Multisensory Online Experience	1	3%
<b>Retail online and offline</b>	<b>4</b>	<b>11%</b>
Others	2	6%
Offline and online retail stores	1	3%
Servicescape	1	3%
<b>Sports</b>	<b>3</b>	<b>9%</b>
Events	3	9%
<b>Tourism</b>	<b>2</b>	<b>6%</b>
Cruise	1	3%
Hotel	1	3%
<b>Sensory marketing, embodiment, and grounded cognition</b>	<b>1</b>	<b>3%</b>
Borderline cases	1	3%
<b>Multisensory brand-experience</b>	<b>1</b>	<b>3%</b>
Borderline cases	1	3%
<b>Total</b>	<b>35</b>	<b>100</b>

**Source:** Own elaboration

As shown in figure 4.3, all articles considering three or more stimuli include visual and auditory stimulus (n=35; 100%, for both stimuli). In third place, the olfactory stimulus was also considered (n=29; 83%). Then, we found studies also including the haptic (n=26; 74%), as well as the gustatory (n=18; 51%).



**Source:** Own elaboration

Regarding the approach to congruence in published articles, 77% (n=27) do not include the topic. A minority, 23% (n=8), focused on the congruence between multisensory stimuli (table 4.4).

**Table 4.4 - Number / % - Existence of congruence**

Congruence	n	%
No	27	77
Yes	8	23
<b>Total</b>	<b>35</b>	<b>100</b>

**Source:** Own elaboration

In the articles that studies congruence, visual, auditory, and olfactory are the most explored stimuli (n=5; 14%), as shown in table 4.5.

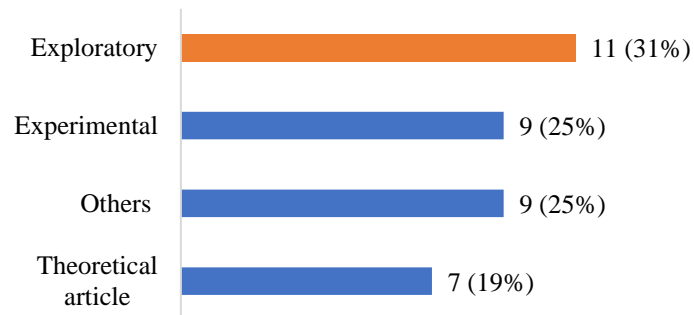
**Table 4.5 – Number / % - Congruence by stimuli**

Cronguence	Stimuli	n	%
No		27	77
Yes	Visual, auditory, haptic	1	3
Yes	Visual, auditory, haptic, olfactory	1	3
Yes	Visual, auditory, haptic, olfactory, gustatory	1	3
Yes	Visual, auditory, olfactory	5	14
<b>Total</b>		<b>35</b>	<b>100</b>

**Source:** Own elaboration

The most prominent types of studies are exploratory (n=11; 31%), next to experimental (n=9; 25%). Other studies category represents explanatory studies, longitudinal studies, cross-sectional studies, among others (n=9; 25%). Theoretical articles include literature reviews and systematic literature reviews (n=7; 20%) (figure 4.4).

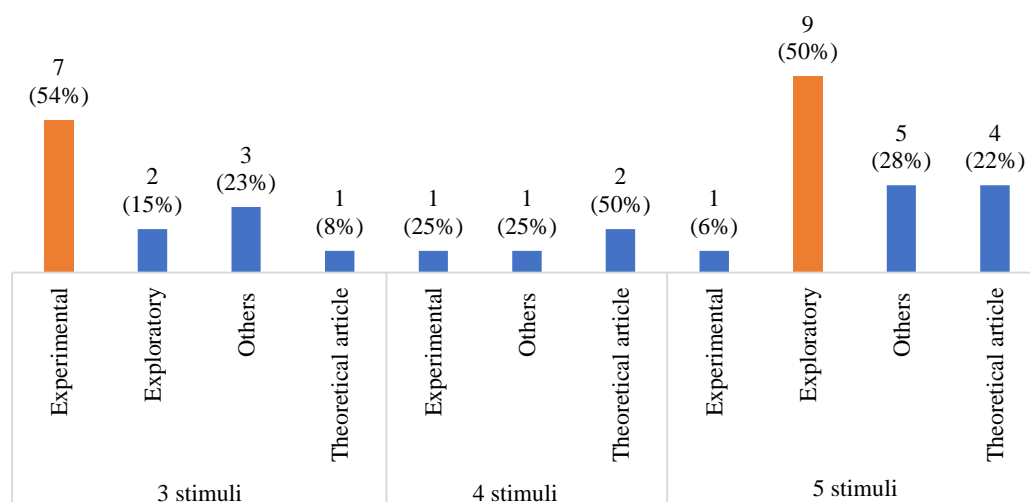
**Figure 4.4 – Number / % - Type of study**



**Source:** Own elaboration

As for the most prominent types of studies by number of stimuli in publications, there is an emphasis on experimental studies in publications that include three stimuli (n= 7; 54%) and exploratory studies for publications that include five stimuli (n= 9; 50%) (figure 4.5). Studies that address four stimuli are not popular as the studies that approach three or five stimuli.

**Figure 4.5 – Number / % - Type of study by number of stimuli**



**Source:** Own elaboration

About data collection, 63% (n=15) of the authors used only one method for data collection, not combining other methods to obtain results, and 38% (n=9) used more methods in the data collection. (table 4.6). Literature reviews and systematic literature reviews are not considered in data collection methods since they are considered theoretical articles (n=7).

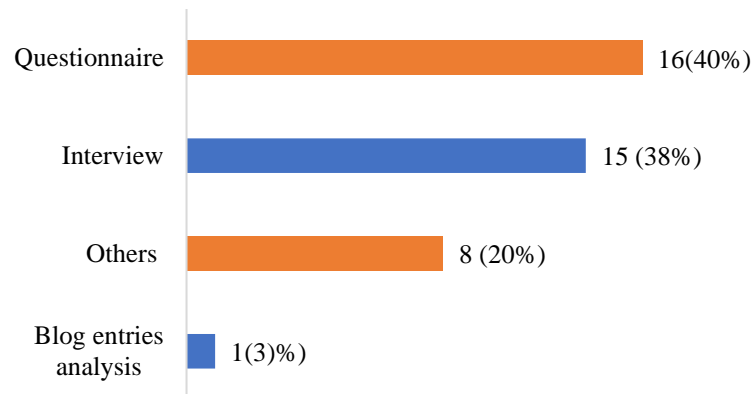
**Table 4.6 –Number/ % Combination of data collection methods**

Combination of data collection methods	n	%
One method for data collection (not combined methods)	15	63
More than one method for data collection (combined methods)	9	38
<b>Total</b>	<b>24</b>	<b>100</b>

**Source:** Own elaboration

The data collection method more popular among the articles is the questionnaire (n= 16; 40%). In second place is interview (n=15; 38%). “Others” is in the third place (n=8; 20%). Other methods include secondary data, sensory perception item (SPI) method, online reviews, and the sensory association test (ISAT) method. In last, it is positioned “blog entries analysis” (n=1; 3%), as shown in figure 4.6.

**Figure 4.6 – Number / % - Data collection method**



**Source:** Own elaboration

Of the articles that combine data collection methods, the most popular are those that combine two collection methods (n=8; 89%). Only the article “Multi-sensory congruent cues in designing retail store atmosphere: Effects on shoppers' emotions and purchase behavior” (Helmefalk and Hülten, 2017), uses three collection methods (n=1; 11%), as shown in table 4.7.

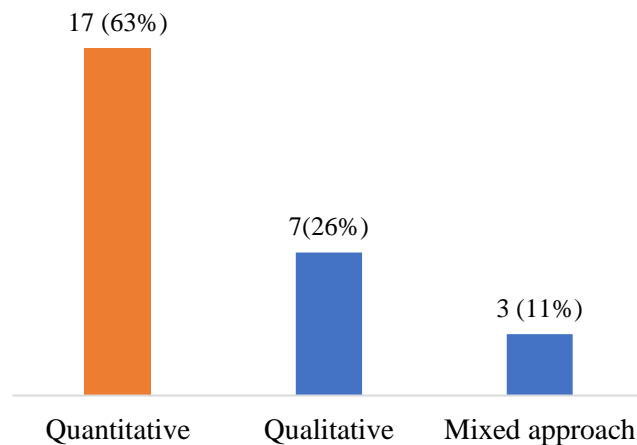
**Table 4.7 – Number/ % - Combination of data collection methods by quantity of stimuli**

	N	%
<b>Not combined</b>	<b>15</b>	<b>63%</b>
<b>Combined</b>	<b>9</b>	<b>38%</b>
2	8	89%
3	1	11%
<b>Total</b>	<b>24</b>	<b>100%</b>

**Source:** Own elaboration

In the methodological approach, most studies are quantitative (n=17; 63%). A minority is qualitative (n=7; 26%) and, only marginally, a mixed approach was employed (n=3; 11%) (figure 4.7). Literature reviews and systematic literature reviews were not considered (n=8) in this analysis and totaled 27 articles.

**Figure 4.7 – Number / % - Methodological approach**



**Source:** Own elaboration

The following analysis is about all keywords used in the published articles. In total, 137 keywords were used in the published articles. Predominantly, researchers considered *Sensory Marketing* as an important keyword for the studies (n=11), following words used more than one time, as *consumer behaviour/consumer behavior* (n=5), *five senses* (n=3),

*sensory perception* (n=4), *retailing* (n=3), *consumer psychology* (n=2), *emotions* (n=2), *leximancer* (n=2), *multisensory marketing* (n=2) and *sensory stimuli* (n=2) (table 4.8).

**Table 4.8 – Number of keywords used in published articles**

Word	N
Sensory marketing	11
Consumer behaviour/Consumer behavior	5
Sensory perception	4
Five senses	3
Retailing	3
Consumer psychology	2
Emotions	2
Leximancer	2
Multisensory marketing	2
Sensory cues	2
Sensory stimuli	2

**Source:** Own elaboration

Figure 4.8 presents the results in a word cloud, exhibiting the most central words.

**Figure 4.8 – Word cloud of keywords used in published articles**



**Source:** Own elaboration (software <https://www.wordclouds.com/>)

The results show the topic of consumer experience in the retail context has been little studied. Sensory marketing and the study of multisensory stimuli in retail is a recent topic in the scientific literature (Biswas, 2019; Mahr et al., 2019; Helme Falk, 2019).

Studies have been mostly applied in retail offline, especially in physical stores. Recent articles illustrating this result are Castillo-Villar and Villasante-Arellano, 2020; Chatterjee and Kundu, 2020; Li *et al.*, 2020, Doucé and Adams, 2020; Helme Falk and Hülten, 2017; Kauppinen-Räsänen *et al.*, 2020 Setvens *et al.*, 2019, among others.

Vision and hearing stimuli are the most explored. All articles in the sample focus on both sensory modalities. Gustatory cues and haptic cues still need further research, respectively. These stimuli are more difficult to address in empirical studies (Douce and Adams, 2020; Fürst *et al.*, 2020; Helme Falk and Hülten 2017).

Exploratory and experimental types of study are extensively applied, using mainly questionnaires and interviews to collect the data. Few studies employ a mixed approach in the data analysis, evidencing an opportunity for future research (Lee *et al.*, 2019). Multisensory marketing literature could benefit from quantitative techniques, promoting the interconnection between distinct senses, cue congruence and the degree of multisensory implementation (Buzova *et al.*, 2020; Lee *et al.*, 2019; Kauppinen-Räsänen H. *et al.*, 2020).

There is an opportunity to explore research methods by using innovative measurement tools, such as sensory perception item (SPI) method and the sensory association test (ISAT) (Haase and Wiedmann, 2018; Haase and Wiedmann, 2020). The approach could enhance quantitative analyses, through diverse measurement strategies to understand relationships between senses (Haase and Wiedmann, 2020).

Although one of the research purposes was to deepen the knowledge regarding the congruence of multisensory cues, most articles did not address the congruence between stimuli. There is an opportunity to further explore this approach since the understanding of congruence enhances better decisions by marketing managers (Fürst *et al.*, 2020; Chatterjee and Kundu, 2020; Krishna, 2012).

The table 4.9 illustrates representative studies supporting the discussion of results.

**Table 4.9 – Articles that support the discussion of results**

Author	Article	Limitation and Future research
Buzova D., Cervera-Taulet A., Sanz-Blas S. (2020)	Exploring multisensory place experiences through cruise blog analysis	Contribution to multisensory marketing literature through the use of quantitative techniques. Future studies could evaluate structural models involving sensory perceptions with cognitive and affective variables related to the evaluation of the environment.  Study interconnection between the distinct senses in terms of the possible impact of stimulating one sense over the perception of the others.
Douc�� L., Adams C. (2020)	Sensory overload in a shopping environment: Not every sensory modality leads to too much stimulation	Stimuli: Taste and touch were disregarded. Exclusion of the taste sense and touch in the studies since this would involve active participation of the participant.
F��rst A., Pe��ornik N., Binder C. (2020)	All or nothing in sensory marketing: Must all or only some sensory attributes be congruent with a product's primary function?	Stimuli: focus on other senses (e.g., touch, taste) or on other sensory modalities (e.g., size, olfactory intensity, sound volume).
Lee M., Lee S., Koh Y. (2019)	Multisensory experience for enhancing hotel guest experience Empirical evidence from big data analytics	Develop studies to analyze the effect of multisensory experiences, which stem from sensory conflict and/or sensory overload. The impact of customers' negative affect and cognitive effort can reduce customer satisfaction and worsen the global evaluation.  The article recommends extending the investigation by application of mixed methods (e.g. experimental design and business analytics). The degree of multisensory implementation and its moderating action may depend upon the hotels' service level (e.g. economy vs luxury hotels). Future research could explore the three-way interaction effect between service evaluation, multisensory experience, and service level.
Mahr D., Stead S., Odekerken-Schr��der G. (2019)	Making sense of customer service experiences: a text mining review	The article identifies that the sensory component (multisensory approach) of the consumer experience in the retail context has been the least studied.
Helmefalk M., Hult��n B. (2017)	Multi-sensory congruent cues in designing retail store atmosphere: Effects on shoppers' emotions and purchase behavior	Multisensory congruent cues relating to the senses of touch and taste were excluded from the study. Existing studies have not examined how multisensory congruent cues included in a visually dominant store atmosphere might impact shopper emotions and purchase behaviour.

**Source:** Own elaboration



## CHAPTER 5 - CONCLUSIONS

This chapter presents the conclusion of the main topics of this dissertation, recommendations, study limitations and suggestions for future research.

### 5.1 Main findings of the study

The purpose of this research was to map previous studies using a multisensory approach to understand the impact of sensory stimuli on consumer behaviour in the retail environment, and exploring the congruence between the senses, by sing a systematic literature review. This study contributes to determine where and how sensory marketing strategies related to sensory cues in the retail environment have evolved, the outcomes, types of methods used, as well as what are research opportunities and trends that can be applied in marketing management practice. There is a need to understand the impact of multisensory cues in store environments so that marketing managers can assertively invest, avoiding high costs and waste of time. This research can support the best decision-making process (Babin and Attaway, 2000; Ballantine *et al.* 2010; Biswas, 2019; Fürst *et al.*, 2020; Helmfalk, 2016; Helmfalk and Hultén, 2017; Húltén et al, 2009; Krishna and Morrin, 2008; Spence *et al.*, 2014; Turley and Milliman, 2000).

A systematic literature review was employed to analyse previous studies on the topic in a replicable and scientific manner (Alves *et al.*, 2016; Moher *et al.*, 2009; Page *et al.*, 2021; Tranfield *et al.*, 2003). This methodology enabled the collection and critical evaluation of journal articles. Metadata from articles were extracted from the Web of Science and Scopus, according to the keywords mentioned in the methodology section. Metadata was unified in a single document in excel format, excluding articles that did not meet the inclusion criteria. In addition, only journal articles were selected, as they are documents with the most recent information in the literature, written in English for having greater reach. Year of publication filters were not used, and it was found that the topic of sensory marketing is historically recent, concluding that it is effectively an emerging topic in the scientific literature. As for the analysis of the results, a descriptive analysis of the data was performed.

It is notable that an integrated approach to sensory marketing and the study of multisensory stimuli in retail has gained expression in recent years. The majority of articles were published between 2019 and 2020. This fact demonstrates that this is a contemporary and relevant research topic (Mahr *et al.*, 2019).

The application of studies in offline retail, that is, in physical locations (stores, restaurants, among others) remains predominant, using traditional collection methodologies such as questionnaires and observations. Online retail has grown in recent years, gaining prominence with the online shopping boom, caused by the Sars Covid-19 pandemic. The impact of the pandemic in the area, combined with the growth of the channel, which was already being seen, deserves urgent investigation in the development of scientific studies. There is an opportunity to use innovative methods, which are underrepresented in the studies investigated. The methods present in the sample are virtual reality, implicit sensory association test, subjective personal introspection method. However, there is an opportunity to explore yet other methods, such as eye-tracking (Motoki *et al.*, 2021; Santos *et al.*, 2015).

During the review of the articles and respective analyses, it was noticed that the visual and auditory stimuli are the most studied, being already more saturated in terms of scientific research. They are easier stimuli to be studied due to the lower degree of complexity to apply sensory cues in the environment. The haptic and gustatory stimuli should receive more attention in the investigation. As for the study of congruence, most articles do not mention it. The lack of literature is evident, with few authors investigating the topic. The study of congruence between stimuli plays a fundamental role in assertive decision-making so that marketing managers do not make decisions that overload the environment, causing the opposite objective: instead of providing a pleasant shopping environment, the environment becomes exhausting, and the consumer feels flustered, which negatively impacts brand awareness (Fürst *et al.*, 2020; Chatterjee and Kundu, 2020; Krishna, 2012;).

Most studies have a quantitative methodological approach. This reinforces the tradition of data collection and methodology already mentioned. Mixed approach studies are rarely present, and there is an opportunity for researchers to invest in a combination of methods,

adding greater reliability to the studies (Buzova D. *et al.*, 2020; Kauppinen-Räsänen *et al.*, 2020; Lee *et al.*, 2019).

## 5.2 Marketing recommendations

The previous topic pointed out the contributions of this study. In addition, results may add value to managers in the retail area, responsible for decisions at the point of sale. This investigation provides insights that contribute to the successful application of sensory stimuli in retail stores, as well as to the understanding of the combination of sensory cues [congruence] ( .

The experiential marketing approach, placing the consumer as the central object of the business, exposes the changes that have been taking place in purchasing behaviour. Despite the importance of traditional marketing as a marketing knowledge base, there is an urgent need for the principles of experiential marketing to be adopted to generate positive shopping experiences. Consumers are increasingly informed and want to live the shopping experience as a holistic experience, in an individual and unique way. At this moment, strategies that provide sensory experiences at the point of sale should be applied (Schmitt, 1999; Urdea *et al.*, 2021).

Sensory marketing is emergent and came to stay. Human senses are receiving increased attention. Investigators and marketing managers must be aware of the importance of the related topics, to support scientific and business knowledge. According to Hultén (2009: 5) “[...] *sensory marketing framework is based on the assumption that a firm should reach the five human senses at a deeper level than is reached by mass and relationship marketing. Because of this, sensory marketing is concerned with a firm’s treatment of the customer, that is, with how it meets the individual in a personal, mutual way through dialogue, interactivity, multidimensional communication, and digital technology. There is a difference between customer acquisition in mass marketing or customer retention in relationship marketing.*”. In other words, marketing strategy decision-makers have the fundamental role of arrange the purchase and customer experiences in all aspects, to make them feel unique, through individual and exclusive experiences. The study of the multisensory cues congruence and their correct application combines with sensorial marketing. The objective is to develop the retail environment through sensory strategies

which are well to be aligned with the brands and are perceived are consistent by consumers.

### **5.3 Limitations and Suggestions for Future Research**

This research uses a systematic literature review as methodology. The small number of articles are limited by the specific criteria selected in this approach. We mainly adopted a descriptive analysis of the articles. A larger sample of articles opening the criteria for selecting papers could allow the use of network and cluster analyses, for example. With a large list of articles, future research could also run meta-analysis of effect estimates, employing “[...] *statistical techniques used to synthesize results when study effect estimates and their variances are available, yielding a quantitative summary of results.*” (Page *et al.*, 2021:5).

The inclusion criteria contemplated only journal articles, written in English, as the type of publication selected. Other formats were excluded. PRISMA statement also recommends another source of data. Therefore, future research could also include data from “[...] *registers, websites, organisations, reference lists, and other sources searched or consulted to identify studies.*” (Page *et. al.*, 2021:5).

The congruence topic was not deeply explored in this research and the current literature is scarce. Thus, there is an opportunity to develop studies of congruence by further critically analysing relationship between stimuli.

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