
More than 20 years of scientific production on sensory/experiential marketing scales and instruments

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Abstract

Purpose – The growing interest in sensory and experiential marketing, along with extensive research in recent decades, highlights the need to summarize the existing literature. One of the least explored aspects is that, since experience is a complex construct to assess or measure, specific instruments must be developed to accurately capture it.

Design/methodology/approach – A total of 60 relevant articles, published between 2001 and 2023, were collected from academic databases such as WOS and Scopus, among others, and analyzed.

Findings – Our research concludes that sensory experiences are critical factors in understanding consumer decision-making.

Originality/value – The analysis was conducted using bibliometric indicators, such as authorship and year of publication, as well as the dimensions and types of scales or measurement instruments used.

Keywords Sensory marketing, Experiential marketing, Consumer behaviour, Bibliometric analysis

Paper type Research article

1. Introduction

The way we understand consumption has changed dramatically over the past few decades. It all began with a pivotal shift in the early 1980s, when [Holbrook and Hirschman \(1982\)](#) challenged the dominant utilitarian view of consumer behavior. Instead of seeing consumption merely as a rational process of acquiring functional benefits, they revealed its deeper, more human dimension: one driven by emotions, fantasies, and sensory pleasures. This marked the beginning of a new era, one in which the experience itself became central to understanding how and why people consume.

As this experiential view gained traction, scholars in the late 1990s began to expand the conversation. [Pine and Gilmore \(1998\)](#) introduced the concept of the “experience economy,” arguing that in a saturated marketplace, businesses could no longer rely solely on price or quality to differentiate themselves. Instead, they needed to create memorable, emotionally rich experiences. [Schmitt \(1999\)](#) further contributed to this evolving paradigm by framing the consumer experience as a complex interplay of rational and emotional interactions between consumers and brands.

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In today's hypercompetitive global market, this idea has only grown in relevance. Traditional marketing tactics are no longer enough. Consumers are no longer passive buyers because they seek out experiences that stimulate their senses and emotions (Le *et al.*, 2019; Österle *et al.*, 2018). Companies, in turn, are rethinking their strategies, shifting from product-centric to experience-oriented approaches that connect with consumers on a deeper, more personal level (López Rodríguez, 2016).

From this transformation, experiential marketing emerged as a powerful response to consumer hedonism. At its core lies the interaction between the consumer (the subject) and a product, service, event, person, or idea (the object), all shaped by the surrounding environment. Unlike traditional models, this approach is inherently subjective: every consumer experience it differently. What makes experiential marketing particularly compelling is its ability to engage consumers at multiple levels: rational, emotional, sensory, physical, and even spiritual (Homburg *et al.*, 2017; Bustamante and Rubio, 2017).

This shift also paved the way for a more holistic understanding of consumption that goes beyond functionality. Consumers increasingly seek meaningful experiences that resonate with their identity and emotions. As Gentile *et al.* (2007) suggested, a richer framework is needed, one that includes sensory, affective, cognitive, physical, and social dimensions. This comprehensive perspective provided fertile ground for the development of experiential marketing as a strategy to create value through immersive, emotionally engaging environments.

Within this broader context, sensory marketing has gained prominence as a key component of experiential strategies. It focuses on the deliberate use of the five senses (sight, hearing, smell, taste, and touch) to craft brand experiences that align with the consumer's identity, lifestyle, and preferences (Zha *et al.*, 2025). Far from being superficial, sensory stimuli activate neural pathways that generate emotional responses and shape lasting memories (De Garcillán López-Rúa, 2015).

As the literature shows, sensory marketing does more than complement experience: it defines it. By stimulating the senses, brands create distinctive perceptions that deepen emotional connections and influence consumers' evaluations of their experiences (Krishna, 2012; Hultén, 2011). Moreover, sensory cues help shape coherent brand identities by establishing consistent associations across all consumer touchpoints (Shahid *et al.*, 2022).

This convergence of experiential and sensory marketing has become a focal point in recent academic discourse. Scholars are increasingly interested in how these two approaches intersect to create powerful, multidimensional brand experiences. For instance, Wang (2025) proposed a comprehensive experiential sensory marketing model that integrates perceptual theory and emerging technologies. His findings revealed a strong positive correlation between sensory marketing strategies and customer loyalty in retail settings: for every 1% improvement in experiential sensory marketing, loyalty rose by 0.647%.

The hospitality industry, in particular, offers fertile ground for these concepts. Fong *et al.* (2023) conducted a critical synthesis revealing how sensory cues enhance consumer experiences with hospitality brands, ultimately fostering loyalty. Meanwhile, researchers like Petit *et al.* (2019) have turned their attention to the digital world, demonstrating how sensory elements can also create immersive experiences in online environments. Their work shows that even in virtual settings, sensory strategies remain powerful tools for enhancing engagement and shaping perceptions.

In light of this growing body of work, this paper aims to analyze the main factors addressed in the academic literature on sensory and experiential marketing. To achieve this objective, a bibliometric analysis was conducted, a quantitative exploration of the literature drawn from various academic databases and platforms. This approach allows us to identify both the most extensively studied aspects of the field and those that present opportunities for future research.

Based on the preceding discussion, this study seeks to address the following research questions:

- RQ1. What key thematic and methodological trends have characterized research on sensory and experiential marketing over the past 2 decades?
- RQ2. What instruments have been most frequently employed to assess sensory experiences within the sensory and experiential marketing research domain?
- RQ3. What measurement scales have been commonly used to quantify or evaluate sensory experiences in this body of research?

The remainder of the paper is structured as follows: [Section 2](#) presents a literature review of the most relevant topics for our study. [Section 3](#) outlines the methodology used. [Section 4](#) presents the results of the performance analysis, identifying the key factors that shaped the research landscape. Finally, [Section 5](#) offers our conclusions and suggests future lines of inquiry for further exploration.

2. Literature review

The connection between the senses and emotions has long intrigued researchers, but recent advances in neuroscience have brought new clarity to this relationship. Far from being a passive gateway to the brain, sensory perception plays an active, foundational role in shaping emotional experiences. Each of our five senses (vision, hearing, touch, taste, and smell) serves as a vital conduit, translating the external world into neural signals that the brain interprets and reacts to emotionally.

Among the brain structures responsible for this interpretation, the limbic system and particularly the amygdala, emerges as central. It evaluates the emotional weight of incoming sensory information. As [McDonald \(2020\)](#) notes, the basolateral amygdala receives and processes this information, acting as a kind of emotional filter that assigns meaning to what we see, hear, and feel.

This process, however, is far from linear. Once stimuli are registered, regions such as the insular cortex come into play, synthesizing sensory data into a coherent, subjective emotional experience ([Craig, 2009](#)). Functional neuroimaging studies support this pathway: for example, activation in the somatosensory cortex has been linked to the perception of emotions communicated through facial expressions and vocal tones ([Dricu and Frühholz, 2020](#)). Such findings make it increasingly clear that sensory input does not simply precede emotion, but actively constructs it.

In fact, interdisciplinary evidence shows that deliberately stimulating the five senses can both enhance positive emotion and dampen negative emotional responses. As [Rodriguez and Kross \(2023\)](#) argue, sensory engagement offers an efficient, low-effort path to emotion regulation. Conversely, disruptions in the neural circuits responsible for processing sensory data can negatively affect higher-order functions like emotional self-regulation ([Harricharan et al., 2021](#)). This perspective has broad implications: by targeting the sensory-emotional link, new therapies may be developed for emotional disorders rooted in sensory dysregulation. From a neuroscientific standpoint, then, emotions are not random or disconnected from the world around us, but are systematically constructed, grounded in the way our brains interpret sensory input.

2.1 Experiential marketing

In this changing psychological and marketing landscape, experience has emerged as a central currency. Today's consumers seek not only satisfaction, but also emotional experiences that go beyond the functional value of a product or service ([Walls et al., 2011](#)). This new consumer mindset has led companies to increasingly adopt experiential marketing strategies designed to create deeper, more memorable connections between consumers and brands.

Yet, despite its growing relevance, the academic literature on experiential marketing remains relatively limited, especially in terms of understanding its full impact on customer perceptions ([Geuens and De Pelsmacker, 2017](#)). To design more effective strategies,

companies must understand how emotions and cognitive responses evolve throughout the customer journey, from the first interaction to post-purchase reflection.

As recent research shows, consumers are no longer content with merely acquiring goods. Instead, they assess the overall experience surrounding a brand: its ambiance, its narrative and its emotional resonance (Hagiu and Altman, 2017; Itani *et al.*, 2019; Melero *et al.*, 2016). This evolution opens the door to designing experience-based marketing approaches that foster engagement before, during, and after consumption (De Keyser *et al.*, 2015). Experiences, in this sense, become powerful emotional triggers that influence behavior, deepen loyalty, and shape brand perception.

2.2 Sensory marketing

Closely intertwined with the experiential paradigm is sensory marketing, which focuses on stimulating the senses to enhance brand experiences (Biswas, 2019). Marketers may craft multisensory environments that engage all five senses, or they may target one or two strategically chosen senses to provoke specific emotional responses. However, achieving the right balance is essential: while single-sense strategies may lack emotional richness, overstimulation can overwhelm the consumer (Rodas-Areiza and Montoya-Restrepo, 2018; Doucé and Adams, 2020).

Recent studies have moved beyond simply acknowledging the influence of sensory stimuli. Scholars are now building empirical models that clarify causal relationships. In these models, sensory stimuli (such as lighting, sound, scent, texture, or visual aesthetics) serve as independent variables that influence mediators like emotional activation, perceived quality, or hedonic pleasure (Rahman *et al.*, 2023; Krishna, 2012; Hultén, 2011). Multisensory congruence has also been shown to amplify emotional responses. Spence *et al.* (2014) found that when multiple stimuli align harmoniously (e.g. soft music paired with warm lighting), the positive emotional impact is heightened or Biswas and Szocs (2019) considered examining so-called sensory compensation effects and found that certain stimuli from one sensory modality can compensate/satisfy desire related to another sensory modality at the point of sale. These effects are no longer limited to the physical world, but we are also seeing major advances in the digital world on sensory perception (Batat, 2024).

Visual and tactile elements, in particular, play a powerful role in influencing consumer decisions (Affonso and Janiszewski, 2023; Jarvis *et al.*, 2024). Research by Vilnai-Yavetz and Rafaeli (2006) revealed that store design and texture can drive purchase intentions, mediated by perceived value and brand identification. This positions design as a strategic variable with both emotional and behavioral consequences.

To explore the scope of sensory marketing further, it's useful to break down the five senses and their applications:

- (1) Visual Marketing: Sight dominates human perception, and around 83% of information is processed visually (De Garcillán López-Rúa, 2015). Visual strategies rely on colour, lighting and design to shape brand image and influence behaviour (Hultén *et al.*, 2009; Spence and Di Stefano, 2024; Campo *et al.*, 2025) or as is often the case in the food sector (Simmonds and Spence, 2017).
- (2) Scent Marketing: Smell is uniquely linked to memory and emotion. With humans able to distinguish over 10,000 scents, a familiar aroma can instantly evoke emotional memories (Hultén *et al.*, 2009; Muñoz-Querales *et al.*, 2020).
- (3) Gustatory Marketing: Taste rarely acts alone; it is preceded by visual, tactile, and olfactory filters (Biswas *et al.*, 2021). It requires a conscious, voluntary action, which makes its activation particularly significant (De Garcillán López-Rúa, 2015).

- (4) Auditory Marketing: Music and sound can regulate mood and evoke specific emotions, helping shape the consumer experience at both conscious and subconscious levels (Muñoz-Querales *et al.*, 2020; Jang and Lee, 2019).
- (5) Tactile Marketing: Touch adds depth to brand interaction, engaging through textures, temperature, and weight. It, too, requires voluntary engagement but can be encouraged visually (Hultén *et al.*, 2009; De Garcillán López-Rúa, 2015).

In addition to sensory inputs themselves, various moderating factors shape the impact of these stimuli. These include consumer typology (hedonic vs. utilitarian), cultural background, and brand familiarity (Akdim *et al.*, 2022). This layered approach allows marketers to go beyond generalizations like “scent enhances experience” and instead specify the conditions under which such effects are most potent; for example, identifying when a scent will evoke loyalty or increase willingness to buy.

3. Methodology

To gain a comprehensive view of the scientific literature on sensory and experiential marketing, a structured search was carried out across several leading academic databases: Web of Science (WOS), Scopus, Emerald, ScienceDirect, and Wiley Online Library. In order to broaden the scope and capture a wider linguistic and regional range of publications, complementary platforms such as ResearchGate, Dialnet, and Google Scholar were also consulted, particularly to include relevant studies in Spanish that are often underrepresented in indexed sources.

The search strategy involved the use of carefully selected keywords in both English and Spanish. While English remains the dominant language for academic publication globally, Spanish was included due to its growing relevance in scientific discourse and its widespread use in marketing and consumer research contexts. Although Table 1 presents unified search terms, the specific syntax and application of these queries were adapted to the parameters and

Table 1. Search criteria

Topics in English	Topics in Spanish
experiential marketing AND sensory marketing	marketing experiencial Y marketing sensorial
emotional marketing	marketing emocional
emotional marketing measurement OR scales	medición del marketing emocional O escalas
emotional marketing AND consumer behavior	marketing emocional Y comportamiento del consumidor
sense marketing measurement OR scales	medición de marketing de los sentidos O escalas
sensory marketing AND consumer behavior	marketing sensorial Y comportamiento del consumidor
visual marketing AND consumer behavior	marketing visual Y comportamiento del consumidor
visual marketing measurement OR scales	medición de marketing visual O escalas
sound OR auditory marketing	marketing sonoro O auditivo
sound OR auditory marketing AND consumer behavior	marketing sonoro O auditivo Y comportamiento del consumidor
sound OR auditory marketing measurement OR scales	medición de marketing sonoro O auditivo O escalas
taste marketing AND consumer behavior	marketing gustativo Y comportamiento del consumidor
taste marketing measurement OR scales	medición del marketing gustativo O escalas
smell marketing AND consumer behavior	marketing olfativo Y comportamiento del consumidor
smell marketing measurement OR scales	medición del marketing olfativo O escalas
touch OR haptic marketing AND consumer behavior	marketing táctil O háptico Y comportamiento del consumidor
touch OR haptic marketing measurement OR scales	medición del marketing táctil O háptico O escalas

Source(s): Authors' work

functionalities of each database. For instance, the use of Boolean operators, truncation symbols, wildcards, and field-specific filters (e.g. title, abstract, keywords) was adjusted in accordance with the search protocols of different academic databases. These adaptations ensured consistency in the conceptual scope of the search strategy while accounting for the technical differences across databases.

The final set of search terms (see [Table 1](#)) was determined through a structured and iterative process among the authors, based on preliminary literature reviews and alignment with the study's research objectives. Both English and Spanish terms were used to ensure linguistic inclusivity and to capture regionally diverse contributions.

During this process, additional terms such as sensorial marketing, brand engagement, customer immersion, and experiential branding were considered but ultimately excluded. These terms were either too broad, overlapped conceptually with included keywords, or were less frequently used in empirical literature directly related to sensory marketing. The final selection reflects a deliberate balance between breadth and specificity to ensure thematic focus and analytical rigor.

The initial search yielded a total of 1,925 publications that included the selected keywords in their titles or as part of their keyword lists. A second round of advanced filtering was conducted to remove duplicates in the databases, resulting in a final set of 843 unique articles. Subsequently, screening was performed by reading the abstracts, yielding 542 potentially eligible records, of which 463 were eliminated due to exclusion criteria. The full text of the 79 articles that met the eligibility criteria was then read, of which 19 were excluded after reading the methodology because they did not include field work that allowed the impact on consumers to be assessed through measurement instruments or scales, or because they approached the subject of emotions and sensory experience exclusively from psychological or socioemotional aspects. In the end, 60 articles published between 2001 and 2023 were selected.

To ensure that the final sample of studies aligned with the objectives of the research, we applied a set of well-defined inclusion and exclusion criteria:

Inclusion criteria:

- (1) Peer-reviewed journal articles.
- (2) Availability of full-text versions.
- (3) Complete reference listings.
- (4) Publications written in English or Spanish.

Exclusion criteria:

- (1) Systematic literature reviews or previous bibliometric analyses.
- (2) Articles published before the year 2000.
- (3) Purely theoretical analyses.
- (4) Studies addressing the five senses from non-marketing perspectives (e.g. biomedical or artistic contexts).
- (5) Theses, books, and book chapters.

To structure the selection process transparently and systematically, we adopted and adapted the PRISMA framework (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) ([Güzel et al., 2025](#); [Page et al., 2021](#)). Although traditionally used in health sciences, PRISMA has proven useful for structuring robust review processes across disciplines, and was here tailored to a bibliometric review context. The aim was to ensure methodological rigor and replicability in analyzing trends, gaps, and measurement approaches within the field.

The PRISMA flow diagram guided the process through four key stages: identification, screening, eligibility assessment, and final inclusion. To adapt this protocol to the specificities of bibliometric research, several important modifications were made:

- (1) Review objective: While PRISMA typically assesses the effectiveness of interventions, here it served to synthesize the evolution of research output on sensory and experiential marketing, focusing especially on measurement instruments and conceptual frameworks.
- (2) Expanded data sources: The search extended beyond core databases (Scopus and Web of Science) to include additional academic platforms such as Dialnet and Google Scholar, capturing research in Spanish and emerging perspectives not always visible in high-impact journals.
- (3) Tailored exclusion criteria: Unlike reviews in medicine or engineering, this study deliberately excluded theoretical and review articles in order to focus on empirical work presenting concrete measurement tools or models. A publication window between 2001 and 2023 was selected to highlight contemporary contributions in a fast-evolving field.
- (4) Data extraction and categorization: Instead of clinical metrics, the extracted information included bibliometric variables (journal, country, language, quartile, etc.) and content variables (sensory dimensions studied, measurement instruments, scales, emotional or behavioral outcomes assessed).

Through this methodological adaptation, the study preserves the principles of transparency, reproducibility, and academic rigor that PRISMA promotes, while ensuring its suitability for the objectives of bibliometric analysis. Figure 1 presents the flowchart summarizing the full article selection process.

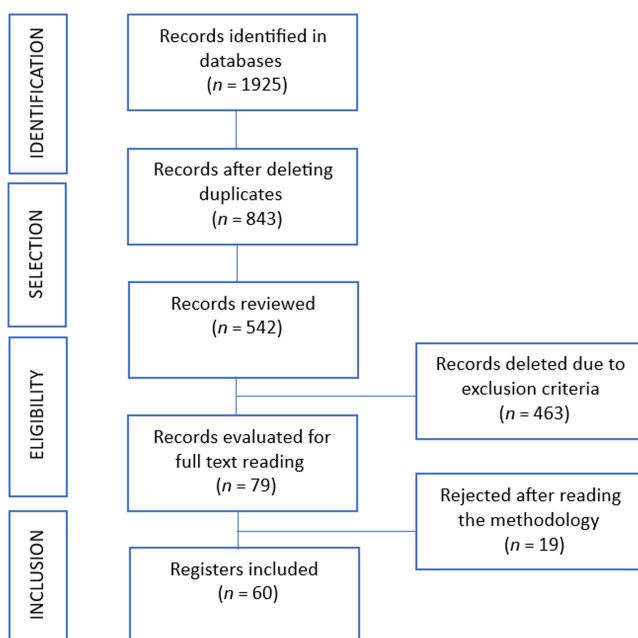


Figure 1. PRISMA data collection process. **Source(s):** Authors' work

4. Results

Figure 2 illustrates the distribution of publications by year. A clear upward trend in studies on experiential and sensory marketing can be observed beginning in 2016 and reaching a peak in 2019. This pattern reflects the growing academic and professional interest in marketing innovation. However, a significant decline in publications occurred in 2020, likely attributable to the challenges posed by the COVID-19 pandemic. Approximately 25% of the analysed publications were released during the COVID-19 period (2020–2022), a time that significantly influenced both consumer experiences and academic approaches to sensory marketing. Many of these studies adapted their focus and methodology to address pandemic-specific constraints, such as reduced physical interaction, increased reliance on digital environments, and shifting consumer priorities. As a result, some findings may reflect temporary conditions or adjustments specific to that exceptional context. Moreover, mobility restrictions and limitations on interpersonal interaction imposed by health authorities not only disrupted economic activity but also posed substantial barriers to the execution of empirical research projects (Maison *et al.*, 2021; Rinaldi and Bottani, 2023).

In terms of geographical origin, the United Kingdom leads with 28% of the total publications, followed by the United States with 17%. In Latin America, only one contribution was identified, originating from Ecuador (see Figure 3), which highlights the underrepresentation of this region in the field.

Regarding the thematic focus of the reviewed articles, 38.33% address sensory marketing from a general perspective, while the remaining 61.67% concentrate on the analysis of a specific sense. Vision emerges as the most studied individual sense, appearing in 18.33% of the publications (see Table 2). As for the methodological tools employed, the Likert scale predominates, being used in 76.67% of the studies. In some cases (13.33%), the Likert format serves as a foundation for constructing more specific instruments aimed at capturing the involvement of the senses (either globally or individually). Less frequently (10.00%), alternative techniques such as software applications, augmented reality tools, or devices for monitoring physiological responses, facial expressions, or brain activity are employed (see Figure 4).

Among the 60 articles analysed, 23 address sensory marketing in general terms, without specifying any particular sensory modality. The remaining 37 articles focus on individual senses:

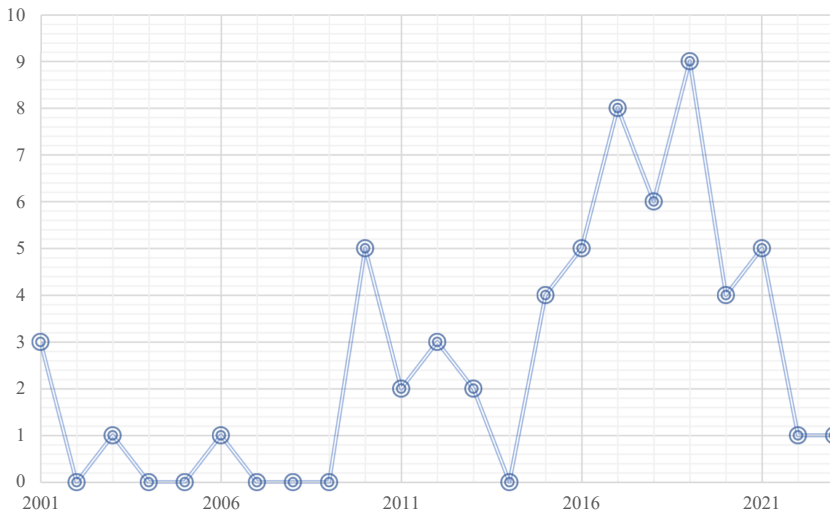


Figure 2. Distribution of articles by year of publication. Source(s): Authors' work

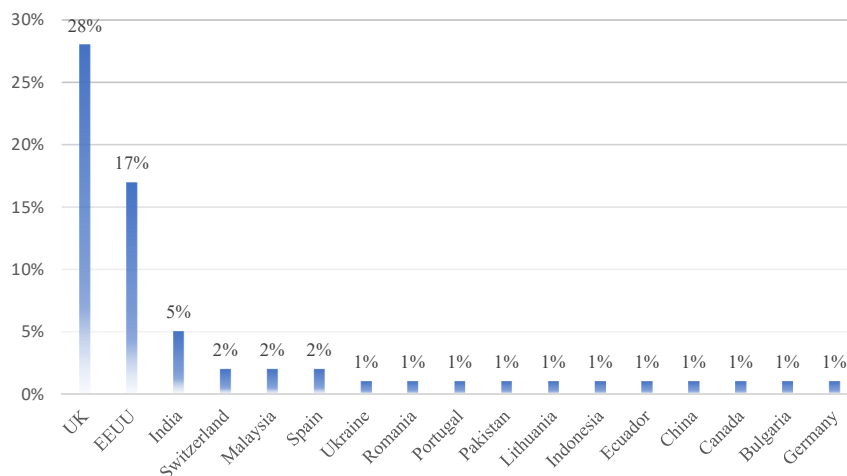


Figure 3. Distribution of publications by country. **Source(s):** Authors' work

11 on sight, 8 on smell, 7 on touch, 6 on taste, and 5 on hearing. This study places particular emphasis on the latter group in order to identify which senses have received the most scholarly attention and to explore the methodological approaches employed to investigate them.

4.1 Combined senses

Table 2 presents the bibliographic references of the articles addressing sensory marketing from a general perspective or through the integration of multiple senses. It also includes the measurement instruments and scales employed, as well as the specific dimensions analysed in each study.

The 23 articles analysed in this category predominantly utilise a five-point Likert scale to assess the relationship between sensory stimuli and consumer behaviour, purchase intentions, or brand preferences. Seventeen of these studies adopt a comprehensive approach, evaluating the influence of all five senses across various contexts. These include tourism and entertainment experiences (Agapito *et al.*, 2012; Tasci and Milman, 2019), purchase intentions for different product categories (Ahmed and Ding, 2019; Altschwager *et al.*, 2017; Beig and Nika, 2022; Hsiao *et al.*, 2021; Palma Perez *et al.*, 2018; Pelletier and Collier, 2018), dining experiences (Leri and Theodoridis, 2021; Nadiri and Nazan Gunay, 2013), brand perception and value (Beig and Nika, 2022; Guerra Serrano and Gomes-Franco e Silva, 2017; Haase and Wiedmann, 2018; Wiedmann *et al.*, 2018), and broader aspects of consumer behaviour (Chang and Horng, 2010; Shobeiri *et al.*, 2016).

A total of 6 studies in the final sample focus on specific combinations of senses. For example, sight and touch (Balaji *et al.*, 2011); sight and hearing (Shaed *et al.*, 2015); touch and taste (Perumal *et al.*, 2021); sight, hearing, and smell (Fürst *et al.*, 2021); sight, taste, and smell (De Wijk *et al.*, 2012); and sight, hearing, touch, and smell (Labenz *et al.*, 2018). Across these combinations, sight consistently emerges as a dominant sense, underscoring its central role in marketing strategies.

4.2 Senses in particular

Table 3 summarises the literature focusing on visual marketing, detailing the measurement instruments used and the specific dimensions explored in each study.

All the reviewed articles employ the Likert scale to assess visual perception and its influence on consumer decisions, particularly regarding purchase and consumption

Table 2. Articles analysed on senses

	Autors	Year	Title	Measurement scale	Dimensions
1	Agapito, D., do Valle, P., da Costa Mendes, J	2012	Sensory Marketing and Tourist Experiences	Likert	Sight, smell, touch, taste and hearing/tourist experience
2	Ahmed, S., Ding, H	2019	Shopping cues: Conceptualization, scale development, and validation	Likert	Senses/intention to buy
3	Altschwager, T., Conduit, J., Bouzdine-Chameeva, T., Goodman, S	2017	Branded marketing events: engaging Australian and French wine consumers	Likert	Sensory, cognitive and relational experiences
4	Balaji, M., Raghavan, S, Jha, S	2011	Role of tactile and visual inputs in product evaluation: a multi-sensory perspective	Likert	Sight and touch/ purchase intention
5	Beig, F., Nika, F	2022	Impact of brand experience on brand equity of online shopping portals: A study of select e-commerce sites in the state of Jammu and Kashmir	Likert	Sensory experience/ product purchase intent/ brand equity
6	Chang, T., Horng, S	2010	Conceptualizing and measuring experience quality: the customer's perspective	Likert	Environment, services, inappropriate behaviours of other consumers, other customers, own customers
7	De Wijk, R., Kooijman, V., Verhoeven, R., Holthuysen, N., de Graaf, C	2012	Autonomic nervous system responses on and facial expressions to the sight, smell, and taste of liked and disliked foods	Likert	Sensory experience/ emotions
8	Fürst, A., Pečornik, N., Binder, C	2021	All or Nothing in Sensory Marketing: Must All or Only Some Sensory Attributes Be Congruent with a Product's Primary Function?	Likert	Sensory attributes at product and environmental level through the senses of sight, smell and hearing
9	Guerra Serrano, A., Gomes-Franco e Silva, F	2017	The use of neuromarketing and sensory marketing at events: a case study	Likert	Sight, smell, touch, taste and hearing/brand perception
10	Haase, J., Wiedmann, K	2018	The sensory perception item set (SPI): An exploratory effort to develop a holistic scale for sensory marketing	Likert	Visual, acoustic, haptic, olfactory and taste perception (sensory perception item set (SPI))
11	Hsiao, C., Tang, K., Su, Y	2021	An Empirical Exploration of Sports Sponsorship: Activation of Experiential Marketing, Sponsorship Satisfaction, Brand Equity, and Purchase Intention	Likert	Sensory experience/ product purchase intent/ brand equity
12	Labenz, F., Wiedmann, K., Bettels, J., Haase, J	2018	Sensory stimuli in print advertisement – Analyzing the effects on selected performance indicators	Likert	Sight, hearing, touch, smell/brand perception and consumer behaviour

(continued)

Table 2. Continued

	Autors	Year	Title	Measurement scale	Dimensions
13	Lee, H., Smith, S	2015	A visitor experience scale: Historic sites and museums	Likert	Entertainment, cultural identity seeking, education, relationship building and escapism
14	Leri, I., Theodoridis, P	2020	How do personality traits affect visitor's experience, emotional stimulation and behaviour? The case of wine tourism	Likert	The Big Five model scale: Neuroticism Extroversion Openness Agreeableness Conscientiousness
15	Nadiri, H., Nazan Gunay, G	2013	An empirical study to diagnose the outcomes of customers' experiences in trendy coffee shops	Likert	Senses/impact on experience
16	Palma Pérez, X. <i>et al.</i>	2018	El marketing sensorial y su influencia en el comportamiento de compra de los consumidores de la ciudad de Manta, Ecuador	Likert	Sight, smell, touch, taste and hearing/purchasing behaviour
17	Pelletier, M., Collier, J	2018	Experiential purchase quality: exploring the dimensions and outcomes of highly memorable experiential purchases	Likert	Sensory experience/nostalgia, price awareness and repurchase intention
18	Perumal, S., Ali, J., Shaarih, H	2021	Exploring nexus among sensory marketing and repurchase intention: Application of S-O-R Model	Likert	Tact, taste and Re intention to buy
19	Shaed, M., Chik, C., Aini, N., Nongchik, N	2015	The influence of sound and vision in sensory marketing towards customer purchasing behaviour in institutional foodservice	Likert	Sight and hearing/buying behaviour
20	Shobeiri, S., Rajaobelina, L., Durif, F., Boivin, C	2016	Experiential motivations of socially responsible consumption	Likert	Emotional, cognitive, sensory, relational and behavioural
21	Singhal, S., Khare, K	2015	Does sense react for marketing – Sensory Marketing	Likert	Sight, smell, touch, taste and hearing/purchase decision
22	Tasci, A. y Milman, A	2019	Exploring experiential consumption dimensions in the theme park context	Likert	Senses, feelings, thinking, acting and relating
23	Wiedmann, K., Labenz, F., Haase, J., Hennigs, N	2018	The power of experiential marketing: exploring the causal relationships among multisensory marketing, brand experience, customer perceived value and brand strength	Likert	Visual, acoustic, haptic, olfactory, taste, sensory, affective, behavioural, intellectual

Source(s): Authors' work

behaviours. In three instances, the Likert scale served as a foundation for the development of specialised instruments to measure emotional and perceptual responses. Notable examples include the VISUALSCAPE scale (Bagdare and Roy, 2016), which evaluates the impact of visual experiences on purchasing behaviour; the Centrality of Visual Product Aesthetics

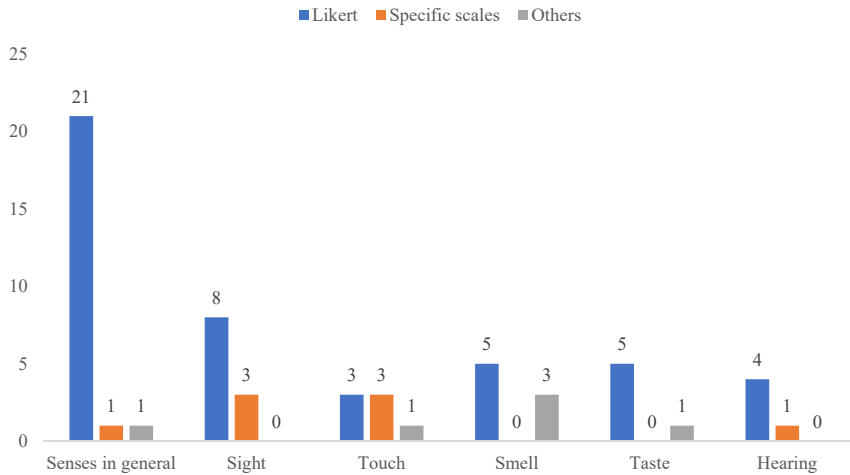


Figure 4. Distribution of measurement instruments/scales by sensory modality. **Source(s):** Authors' work

(CVPA) scale (Bloch *et al.*, 2003), which assesses the significance of product design through the dimensions of value, insight, and intensity of response; and the Experiential Value Scale (EVS) (Mathwick *et al.*, 2001), which predicts variations in purchase preferences based on visual appeal.

A significant portion of the literature examines the impact of colour on different aspects of consumer experience. Some studies analyse how colour influences purchase intentions (Hussain, 2017; Lee and O'Mahony, 2005), while others investigate the dominance of vision over other senses in food and beverage consumption (Reinoso Carvalho *et al.*, 2017). Additional research explores colour as a strategic marketing tool, highlighting how colour saturation can alter perceptions of product size (Hagtvedt and Brasel, 2017) or how visual merchandising can stimulate impulse buying (Bashar and Ahmad, 2012; Jalees *et al.*, 2016).

Table 4 presents the bibliographic references related to olfactory marketing, along with the instruments and dimensions assessed in each case.

Five of the reviewed articles apply the five-point Likert scale to measure the impact of scent on purchase intentions and consumer responses (Anggie and Haryanto, 2011; Chebat and Michon, 2003; Gómez Gallo and Hernández Zelaya, 2020; Herrmann *et al.*, 2013). In the study by Dörtyol (2021), the Likert scale is used as a base to develop the Need-to-Smell (NTS) scale, which measures impulse buying through scent along the dimensions of expectancy, desire, satisfaction, confidence, and avoidance. A more experimental approach is found in Beyts *et al.* (2017), where the Likert scale (focusing on pleasure) is complemented by autonomic measurements of physiological responses, such as heart rate, temperature and muscle activity, captured via facial electromyography.

Other studies employ alternative qualitative and technological tools. For instance, Cerulo (2018) uses blind perfume testing in a shopping mall to investigate how scent activates cognitive mechanisms and meaning according to social class. Castellanos *et al.* (2010) adopt Linguistic Inquiry and Word Count (LIWC) software to analyse participant narratives triggered by scent-related memories. After exposure to various environmental odours, participants were asked to recount childhood memories, illustrating the evocative power of smell (Muñoz-Querales *et al.*, 2020) and its role in forging lasting brand associations (Hultén *et al.*, 2009).

Table 5 compiles the bibliographic references of studies focused on haptic or tactile marketing, including their methodologies and analytical dimensions.

Three articles employ the 5-point Likert scale to examine the influence of touch on purchase intentions (AL-Fakhri and Alabdullah, 2021; Jha *et al.*, 2020; Liu *et al.*, 2017).

Table 3. Articles analysed on Visual Marketing

	Authors	Year	Title	Measurement scale	Dimensions
1	Bagdare, S., Roy, S	2016	VISUALSCAPE: A Scale to Measure Visual Experience in Retailing	Likert	Visual experience/ VISUALSCAPE scale
2	Bashar, A., Ahmad, I	2012	Visual merchandising and consumer impulse buying behavior	Likert	Visual merchandising/ impulse buying
3	Bassi, F	2010	Experiential goods and customer satisfaction: An application to films	Likert	Customer satisfaction and full consumer experience of a product (films)
4	Bloch, P., Brunel, F., Arnold, T	2003	Individual Differences in the Centrality of Visual Product Aesthetics: Concept and Measurement	Likert	CVPA scale (centrality of visual product aesthetics)/ value, insight and intensity of response/relationship with products
5	Hagtvedt, H. Brasel, S	2017	Color saturation increases perceived product size	Likert	Colour saturation/ increased perception of the size of products
6	Hussain, J	2017	Impact of Visual Merchandising on Consumer Buying Behaviour. A Case Study of Big Bazaar	Likert	Colour, window design, lighting, lighting, accessories/consumer buying behaviour
7	Jalees, T., Kazmi, S., Zaman, S	2016	The Effect of Visual Merchandising, Sensational Seeking and Collectivism on Impulsive Buying Behavior	Likert	Visual merchandising/ impulse buying
8	Lee, H., O'Mahony, M	2005	Sensory evaluation and marketing: measurement of a consumer concept	Likert	Visual impression/ assessment of product qualities
9	Mathwick, C., Malhotra, N., Rigdon, E	2001	Experiential value: conceptualization, measurement and application in the catalog and Internet shopping environment	Likert	Experiential Value Scale (EVS)/prediction of differences in purchase preferences/visual appeal
10	Nwachukwu, D., Affen, M	2023	Visual Marketing Strategies and Customers Engagement in restaurant Businesses in Port Harcourt	Likert	Visual marketing/ customer engagement
11	Reinoso Carvalho, F., Moors, P., Wagemans, J., Spence, C	2017	The influence of color on the consumer's experience of beer	Likert	Visual appearance (colour) signals/taste properties of food and beverages

Source(s): Authors' work

Additionally, three articles use the scale as a basis to construct the Need for Touch (NFT) scale (Peck and Wiggins, 2006; Ringler *et al.*, 2019; Ştir and Zaiţ, 2019), which measures consumers' tactile sensitivity and its impact on attitudes and behaviours. These articles pay particular attention to virtual touch experiences, especially in relation to online shopping and purchase decisions.

Heller *et al.* (2019) introduce an innovative approach by incorporating augmented reality (AR) to compare the effects of tactile versus voice controls on consumers' willingness to pay.

Table 4. Articles analysed on Scent Marketing

	Authors	Year	Title	Measurement scale	Dimensions
1	Anggie, C., Haryanto, J	2011	Analysis of the effect of olfactory, approach behavior, and experiential marketing toward purchase intention	Likert	Consumer behaviour/ purchase intention
2	Beyts; C., Chaya, C., Dehrmann, F., James, S., Smart, K., Hort, J	2017	A comparison of self-reported emotional and implicit responses to aromas in beer	Likert/ Autonomous measures	Aromas/pleasure-pleasure/physiological and facial expressions
3	Castellanos, K., Hudson, J., Haviland-Jones, J., Wilson, P	2010	Does exposure to ambient odors influence the emotional content of memories?	Linguistic Inquiry and Word Count	Emotive/evocative memory
4	Cerulo, K	2018	Scents and Sensibility: Olfaction, Sense-Making, and Meaning Attribution	Blind odour tests	Construction of meaning/social class
5	Chebat, J., Michon, R	2003	Impact of ambient odors on mall shoppers' emotions, cognition, and spending: A test of competitive causal theorie	Likert	Scent/perception of the environment
6	Dörtüoğlu, İ	2021	Do consumers need to smell? Scale development and validation	Likert	Need-to-Smell (NTS) scale Aroma/expectation, desire, satisfaction, confidence, avoidance/impulse purchase
7	Gómez Gallo, S., Hernández Zelaya, S	2020	Smell in sensory marketing: Zara Home case study	Likert	Purchase intent/ consumer loyalty/ brand evocation
8	Herrmann, A., Zidarsek, M., Sprött, D., Spangenberg, E	2013	The Power of Simplicity: Processing Fluency and the Effects of Olfactory Cues on Retail Sales	Likert	Consumer responses

Source(s): Authors' work

Their findings suggest that simulating tactile attributes through AR can positively influence consumer responses, demonstrating the potential of immersive technology in enhancing the sensory dimension of digital retail environments.

Table 6 presents the articles that investigate gustatory or taste-based marketing, together with the corresponding instruments and dimensions.

Five studies use the 5-point Likert scale to evaluate the role of taste in food tourism and culinary experiences (Di-Clemente *et al.*, 2019, 2020), as well as its influence on brand preference and perceived food and beverage quality (Chung *et al.*, 2006; Ghose and Lowengart, 2001; Jang and Lee, 2019). González Viejo *et al.* (2019) complement the Likert data with physiological and neurological indicators, such as facial expression monitoring, heart rate, temperature, and brain activity (via EEG), to gain a more comprehensive understanding of consumers' multisensory reactions to taste stimuli.

Finally, Table 7 provides an overview of the literature related to auditory or sound marketing, including the instruments used and the analytical dimensions covered.

Four studies rely on the 5-point Likert scale to assess emotional responses to auditory stimuli and their effects on consumer behaviour (Biswas *et al.*, 2019; Ringler *et al.*, 2017),

Table 5. Articles analysed on Tactile Marketing

	Authors	Year	Title	Measurement scale	Dimensions
1	AL-Fakhri, I., Alabdullah, T	2021	The Evolution of a Robust and Reliable Brand Experience Scale in the Malaysian Context: An Empirical Evidence	Likert	Affective, sensory, behavioural, intellectual/purchase intention
2	Heller, J., Chylinski, M., de Ruyter, K., Mahr, D., Keeling, D	2019	Touching the Untouchable: Exploring Multi-Sensory Augmented Reality in the Context of Online Retailing	Likert	Touch vs. voice controls/consumers' willingness to pay
3	Jha, S., Balaji, M, Peck, J., Oakley, J., Deitz, G	2020	The Effects of Environmental Haptic Cues on Consumer Perceptions of Retailer Warmth and Competence	Likert	Purchasing behaviour
4	Liu, W., Batra, R., Wang, H	2017	Product Touch and Consumers' Online and Offline Buying: The Role of Mental Representation	Likert	Mental representations/purchase intentions/willingness to pay for a product
5	Peck, J., Wiggins, J	2006	It just feels good: Customers' affective response to touch and its influence on persuasion	Likert	Need for Touch (NFT) scale virtual touch/intention/purchase decision
6	Ringler, C., Sirianni, N., Gustafsson, A., Peck, J	2019	Look but Don't Touch! The Impact of Active Interpersonal Haptic Blocking on Compensatory Touch and Purchase Behavior	Likert	Need for Touch (NFT) scale virtual touch/intention/purchase decision
7	Ştir, M., Zaiş, A	2019	Potential Impact of Virtual Touching on Endowment and Feelings of Ownership	Likert	Need for Touch (NFT) scale virtual touch/intention/purchase decision

Source(s): Authors' work

brand loyalty and preference (Wu *et al.*, 2010), and advertising effectiveness (Lewis *et al.*, 2012).

Hollebeek *et al.* (2016) extend this approach by developing the Music Engagement Scale (MES), which is grounded in Likert scale responses. This tool measures the role of music in shaping consumer engagement with brands, with particular emphasis on social identity and emotional connection.

5. Conclusions

This study provides a comprehensive research framework that can serve as a foundation for the development of new marketing strategies. Over the past 2 decades, there has been a notable increase in interest surrounding sensory and experiential marketing, reflecting a shift towards consumer-centred innovation. In this paradigm, emotions and hedonic experiences rooted in the stimulation of the senses play a central role in shaping consumer behaviour, brand preference, loyalty, and purchase intention. Several contributions of this work deserve to be highlighted. First, the literature review identifies and categorises key trends in the scientific production of sensory and experiential marketing, with particular emphasis on the evolution

Table 6. Articles analysed on Taste Marketing

	Authors	Year	Title	Measurement scale	Dimensions
1	Chung, J., Yu, J., Pysarchik, D	2006	Cue utilization to assess food product quality: A comparison of consumers and retailers in India	Likert	Intrinsic cues (taste and freshness) vs. extrinsic cues (price, packaging, branding)/general perceptions of food product quality
2	Di-Clemente, E., Hernández-Mogollón, J., Campón-Cerro, A	2019	Food-based experiences as antecedents of destination loyalty	Likert	Memorability, quality of life, attachment to place
3	Di-Clemente, E., Hernández-Mogollón, J., López-Guzmán, T	2020	Culinary Tourism as An Effective Strategy for a Profitable Cooperation between Agriculture and Tourism	Likert	Gastronomic tourism/ culinary experiences
4	Ghose, S., Lowengart, O	2001	Taste tests: Impacts of consumer perceptions and preferences on brand positioning strategies	Likert	Brand preference
5	González Viejo, C., Fuentes, S., Howell, F., Torrico, D., Dunshea, F	2019	Integration of non-invasive biometrics with sensory analysis techniques to assess acceptability of beer by consumers	Likert/Autonomic measures and brain imaging	Carbonation in the mouth, taste, overall taste
6	Jang, H., Lee, S	2019	Applying Effective Sensory Marketing to Sustainable Coffee Shop Business Management	Likert	Dominance, arousal, hedonic motivation

Source(s): Authors' work

and application of measurement instruments. The primary academic contribution lies in mapping the development of these tools and revealing which sensory dimensions and emotional constructs have received the most empirical attention. This not only consolidates prior knowledge but also uncovers significant research gaps: for example, the under-representation of certain senses such as taste and sound, and the scarcity of validated, context-specific measurement scales.

From a managerial perspective, this study offers practical insights for professionals seeking to design impactful multisensory experiences. By identifying which sensory modalities have been most effectively operationalised, marketing practitioners can make more informed strategic decisions. For example, the prominence of visual and olfactory stimuli in empirical studies reinforces their utility in shaping consumer perceptions and preferences.

At a broader societal level, this research contributes to the development of more human-centred environments. Sensory design principles, when empirically grounded, can enhance the atmosphere of spaces such as schools, hospitals, and other public institutions, fostering emotional well-being and sensory engagement. In parallel, given the persuasive nature of sensory marketing, the findings of this study also call for a deeper ethical reflection on its application and highlight the need for transparency in sensory-based marketing strategies.

In terms of measurement tools, the extensive use of Likert-scale questionnaires stands out particularly the traditional five-point version, although some studies have experimented with

Table 7. Analysed articles on Sound Marketing

	Authors	Year	Title	Measurement scale	Dimensions
1	Biswas, D., Lund, K., Szocs, C	2019	Sounds like a healthy retail atmospheric strategy: Effects of ambient music and background noise on food sales	Likert	Ambient music volume (and background noise)/food choices
2	Hollebeek, L., Malthouse, E., Block, M	2016	Sounds of music: exploring consumers' musical engagement	Likert	Musical Engagement (ME) scale Music/social identity, affect/consumption
3	Lewis, C., Fretwell, C., Ryan, J	2012	An Empirical Study of Emotional Response to Sounds in Advertising	Likert	Emotional response/ advertisements
4	Ringler, C., Sirianni, N., Christenson, B	2017	The Power of Consequential Product Sounds	Likert	Perception/consumer behaviour/purchase intention
5	Wu, W., Fu, C., Huang, H., Wang, H	2010	Effects of Sound Stimuli Applied in Branding: An Empirical Study of Its Antecedents and Consequences	Likert	Sound stimuli/brand loyalty and preference

Source(s): Authors' work

expanded scales to enhance sensitivity and accuracy. This widespread reliance is largely due to the Likert scale's ease of use, low cost, and scalability for large sample sizes. However, it is essential to recognise the limitations of this approach, especially given that emotions and sensory experiences are inherently subjective constructs that may be susceptible to response biases (Sørensen, 2008).

To a lesser extent, the literature also reflects the use of alternative measurement tools, including physiological and facial expression analysis, which offer the advantage of greater objectivity but entail higher costs and technical requirements. Moreover, neuroscientific methods such as electroencephalograms (EEGs) are beginning to emerge as promising techniques for accessing emotional and sensory responses that traditional surveys may fail to capture (Esch *et al.*, 2012; Zurawicki, 2010). As Zurawicki (2010) notes, "When marketing researchers understand more about how the human brain works, they understand more about how the consumer's brain works," thereby enabling a more effective mapping of the decision-making process.

In conclusion, the findings of this study reaffirm that emotions and sensory experiences are critical to understanding consumer behaviour. Therefore, continued research is needed particularly employing diverse, interdisciplinary methods to develop more robust, multidimensional tools for capturing these complex constructs.

These findings provide a clear response to the research questions posed in this study, offering a thematic and methodological overview of sensory and experiential marketing over the past 2 decades, an identification of the most frequently used instruments for assessing sensory experiences, and a critical evaluation of the measurement scales employed across the literature. This integrated perspective not only enhances theoretical understanding but also lays a foundation for more rigorous and nuanced future research in the field.

5.1 Limitations and future lines of research

The main limitation of this review lies in the scarcity of relevant publications in Spanish, especially those originating from Latin America. This highlights a clear gap in the empirical literature and points to an opportunity for Spanish-speaking researchers and marketers to

explore this area more deeply. Latin America thus represents a promising niche for future research in sensory and experiential marketing.

Another limitation stems from the temporal context of some of the analysed studies. The COVID-19 pandemic may have introduced both methodological constraints and thematic shifts in the field, as many researchers were compelled to modify their designs to comply with health and safety restrictions. These adaptations could influence the generalisability of the findings, particularly in relation to sensory interactions that are typically dependent on in-person experiences.

Furthermore, while general discussions of multisensory experiences dominate the literature, studies focused on individual sensory modalities remain relatively scarce. This gap presents a fertile ground for future research that adopts a more segmented approach and examines visual, haptic, olfactory, gustatory and auditory marketing individually. Such research could yield deeper insights into how each sensory modality contributes to consumer perception, memory, and decision-making.

Future research could investigate how the COVID-19 pandemic reshaped sensory and experiential marketing practices, particularly with the rise of digital sensory strategies and contactless experiences. Understanding the long-term impact of these transformations may offer valuable insights into how brands can craft immersive and engaging sensory experiences in post-pandemic contexts.

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