Modeling the Relationship Between Sensory Marketing Dimensions and Nostalgic Emotions in Improving Retail Customer Experience

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ABSTRACT

In the competitive environment of Iran's retail industry, the adoption of innovative strategies to enhance customer satisfaction and loyalty has gained increasing importance. The present study aimed to design a sensory marketing model based on consumers' nostalgic tendencies within the retail sector and employed a mixed-methods (qualitative–quantitative) approach with a developmental–applied orientation. In the qualitative phase, semi-structured interviews were conducted to explore the perspectives of managers and academic and executive experts active in the field of sensory marketing. Purposeful sampling led to the selection of 13 experts, and theoretical saturation was achieved after conducting 15 interviews. The collected data were coded using thematic analysis with the assistance of MAXQDA software, and the credibility of findings was examined and confirmed during the final interviews. In the quantitative phase, the statistical population consisted of all customers of retail stores located in the three metropolitan cities of Tehran, Mashhad, and Isfahan. Based on Cochran's formula, a sample size of 384 participants was determined. Data were collected using a researcher-developed questionnaire and analyzed through descriptive and inferential statistical methods using SPSS version 16 and Partial Least Squares (PLS) software. Qualitative findings indicated that the nostalgic sensory marketing model comprises five principal dimensions: development of enduring shopping experiences, utilization of nostalgic elements, reconstruction of brands and products based on nostalgic consumer behaviors, creation of deep connections between brands and customers' memories, and development of creative nostalgic approaches. Quantitative results showed that the Average Variance Extracted (AVE) for all constructs exceeded 0.50 and composite reliability values were above 0.70, confirming convergent validity. Furthermore, structural equation modeling demonstrated a statistically significant relationship between sensory marketing elements and nostalgic tendencies in consumer behavior (t-value = 302.156, greater than 1.96). The final model suggests that stimulating positive past emotions and memories through sensory marketing leads to the creation of a desirable and memorable customer experience, ultimately increasing sales performance and brand loyalty. This model can serve as a strategic framework for the development and implementation of nostalgic sensory marketing within Iran's retail industry.

Keywords: Sensory marketing; Consumer nostalgia; Retail industry; Shopping experience; Customer loyalty.

Introduction

In today's highly competitive retail landscape, firms are increasingly compelled to differentiate themselves not merely through price and product variety, but through the creation of meaningful, emotionally resonant customer experiences. The traditional transactional paradigm of retailing has gradually shifted toward an experiential and relational orientation in which consumers seek sensory stimulation, affective engagement, and symbolic value alongside functional benefits. Within this context, sensory marketing has emerged as a strategic approach that deliberately stimulates consumers' senses—sight, sound, smell, taste, and touch—to influence perceptions, emotions, and behavioral responses (1, 2). Empirical evidence demonstrates that carefully designed sensory cues within retail environments can significantly shape purchasing behavior, enhance store image, and strengthen brand-related cognitions (3, 4). As consumer markets in developing and emerging economies become increasingly saturated, sensory differentiation offers retailers a powerful mechanism for sustaining competitive advantage and deepening customer engagement.

Beyond sensory stimulation per se, contemporary marketing scholarship emphasizes the role of experiential value in shaping customer satisfaction, repurchase intention, and loyalty. Experiential marketing frameworks argue that consumers interpret marketplace stimuli not only cognitively but also emotionally and symbolically, constructing personal meanings that extend beyond the utilitarian attributes of products (5, 6). Multi-sensory cues embedded in retail atmospherics—such as music tempo, lighting design, ambient scent, tactile materials, and visual merchandising—can generate immersive shopping experiences that enhance perceived value and increase purchase intention (2, 4). Furthermore, empirical findings suggest that sensory marketing effectiveness contributes to broader organizational outcomes, including improved financial performance when aligned with strategic capabilities and technological tools such as artificial intelligence (7). These insights underscore the need for integrative models that connect sensory stimuli to emotional, cognitive, and behavioral outcomes within retail contexts.

Among the emotional mechanisms activated by sensory stimuli, nostalgia has gained particular attention as a powerful affective driver of consumer behavior. Nostalgia refers to a sentimental longing for the past, often associated with positive memories, personal identity, and a sense of continuity (8, 9). Marketing strategies that evoke nostalgic cues—such as retro packaging, heritage branding, vintage music, and symbolic references to earlier decades—can strengthen emotional attachment and enhance brand evaluation (9, 10). In tourism and leisure settings, nostalgia has been shown to function as a motivational force that enhances loyalty and revisit intention (11). Similarly, in retail environments, nostalgic experiential marketing contributes to customer satisfaction through the activation of affective and symbolic values (12). These findings indicate that nostalgia is not merely a passive emotional response but a strategic resource capable of reinforcing brand heritage, authenticity, and relational bonds.

The integration of nostalgia with sensory marketing represents a promising yet underexplored research avenue. While prior studies have examined sensory marketing effects on brand equity and customer experience (3, 13), and others have explored nostalgia's influence on purchase intention and brand attachment (10, 12), fewer investigations have developed comprehensive models that explicitly link sensory stimuli with nostalgic tendencies within retail settings. Emerging evidence suggests that emotional attachment mediates the relationship between sensory experience and brand loyalty (14), and that customer relationship management initiatives can amplify experiential

effects when supported by coherent marketing and advertising strategies (15). However, the systematic modeling of nostalgic sensory marketing dimensions and their interrelationships remains insufficiently addressed, particularly in the context of Iranian retail markets characterized by rapid modernization alongside strong cultural memory.

Retail environments are also influenced by structural and contextual factors, including location planning, accessibility, and socio-cultural dynamics. Geomarketing analyses demonstrate that locational insights significantly affect retail attractiveness and customer flow (16, 17). In addition, social media marketing strategies that consider economic and religious factors have been shown to shape consumer engagement in retail chain stores (18). Digital platforms provide new opportunities for disseminating nostalgic content and stimulating collective memories through interactive campaigns and storytelling. These dynamics highlight the intersection of physical store atmospherics and digital touchpoints in shaping holistic customer experiences. When nostalgic cues are integrated across both offline and online channels, they may strengthen brand communication consistency and trust, which are critical antecedents of brand loyalty (19).

From a psychological perspective, consumer responses to nostalgic sensory stimuli can also be understood through cognitive and affective mechanisms such as attitude change and cognitive dissonance reduction. Consumers often reconcile their present consumption choices with cherished past experiences, thereby constructing coherent self-narratives that reduce dissonance and enhance emotional comfort (20). Nostalgia may function as a coping mechanism that alleviates uncertainty or confusion in complex retail environments (8, 21). By providing familiar sensory cues and symbolic references, retailers can mitigate consumer confusion proneness and foster trust and satisfaction. Moreover, demographic moderators such as gender and service convenience perceptions may influence how sensory and emotional stimuli translate into satisfaction and behavioral intentions (22). These insights suggest that nostalgic sensory marketing operates through multifaceted pathways involving affective regulation, identity reinforcement, and relational signaling.

Recent empirical studies within Iran further reinforce the relevance of sensory marketing for diverse sectors. Research in tourism, hospitality, sports facilities, and media industries consistently demonstrates positive associations between sensory stimuli and brand equity, satisfaction, and loyalty (3, 13, 23). A mixed-method investigation of sensory marketing's impact on women's purchasing behavior highlights the explanatory power of structural equation modeling in capturing complex interrelationships among sensory dimensions and behavioral outcomes (1). Additionally, strategic marketing initiatives incorporating entertainment-based retail elements have been shown to enhance repurchase intention by intensifying experiential engagement (6). These findings collectively emphasize that sensory marketing effectiveness depends not only on isolated stimuli but also on their coherent integration within broader experiential and emotional frameworks.

Despite these advances, the literature reveals several theoretical and practical gaps. First, many studies examine either sensory marketing or nostalgia independently rather than as interconnected constructs embedded within retail strategy. Second, empirical models often focus on direct effects without adequately capturing higher-order dimensions or multi-level relationships among latent variables. Third, limited attention has been devoted to developing culturally contextualized frameworks that reflect the socio-historical specificities of Iranian consumers, whose collective memories and brand heritage associations may differ from Western contexts. Finally, rapid technological transformation—including the integration of artificial intelligence and data analytics into marketing decision-making—necessitates updated conceptualizations that align sensory effectiveness with strategic performance indicators (7).

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Given the centrality of emotional engagement in modern retailing and the growing recognition of nostalgia as a strategic affective resource, there is a pressing need to conceptualize and empirically validate a comprehensive model that integrates sensory marketing dimensions with consumer nostalgic tendencies. Such a model should identify core components—such as the development of sustainable shopping experiences, the use of nostalgic elements, the reconstruction of brands and products based on nostalgic behaviors, the establishment of deep connections between brands and customers' memories, and the development of creative nostalgic approaches— and examine their structural relationships within the retail context. By synthesizing insights from experiential marketing theory, brand heritage research, consumer psychology, and contemporary retail strategy, the present study seeks to address these gaps and contribute to both theoretical advancement and managerial practice. Accordingly, the aim of this study is to design and empirically test a comprehensive sensory marketing model grounded in consumer nostalgic tendencies within the retail industry.

Methods and Materials

The present study employed a mixed-methods research design integrating qualitative and quantitative approaches to develop, validate, and test a sensory marketing model based on consumer nostalgic tendencies in the retail industry. The methodological framework was designed sequentially so that the qualitative phase provided the conceptual foundation for model development, while the quantitative phase evaluated model fit and examined causal relationships among constructs. From a methodological perspective, both the initial and final stages of the research process were clearly structured to ensure theoretical rigor, empirical validation, and practical applicability of findings.

In the qualitative stage, the study aimed to identify the dimensions and components of sensory marketing grounded in nostalgic consumer tendencies. A thematic analysis approach was adopted to explore underlying concepts, extract key variables, and identify patterns embedded within expert knowledge. Participants in this phase consisted of academic scholars, branding specialists, and retail industry professionals with demonstrated expertise in marketing, branding strategy, and customer experience management. Purposeful sampling was employed to ensure that selected participants possessed sufficient theoretical knowledge and professional experience relevant to sensory marketing and retail management. Data collection continued until theoretical saturation was achieved, meaning that additional interviews no longer generated new conceptual insights. Semi-structured interviews allowed experts to discuss experiential marketing practices, nostalgic consumer behavior, and retail innovation strategies in depth.

Following identification of preliminary dimensions and indicators, a fuzzy Delphi method was applied to refine and screen the extracted components. The Delphi process facilitated expert consensus regarding the relevance, clarity, and importance of identified variables. Through iterative evaluation rounds, ambiguous or redundant indicators were removed and conceptual agreement among experts was achieved. This stage ensured that the proposed model reflected collective professional judgment rather than individual interpretation, thereby enhancing content validity.

The quantitative phase focused on evaluating model adequacy and testing structural relationships among variables. The statistical population consisted of customers of retail stores operating in major metropolitan areas. A probabilistic sampling approach was applied to ensure adequate representation of retail consumers with diverse demographic and purchasing backgrounds. Sample size determination followed established statistical sampling

principles to achieve sufficient analytical power for structural equation modeling analysis. Participation was voluntary, and respondents were informed about research objectives prior to completing the survey instrument.

Data collection instruments were designed in alignment with the mixed-method research strategy. During the qualitative phase, semi-structured interview protocols were developed based on existing theoretical foundations of sensory marketing, experiential consumption, and nostalgia-based marketing strategies. Interview questions encouraged participants to elaborate on sensory stimuli, emotional engagement mechanisms, nostalgic brand experiences, and practical retail applications. Interviews were recorded, transcribed verbatim, and analyzed systematically to extract meaningful themes and conceptual categories.

In the quantitative phase, a researcher-developed questionnaire served as the primary data collection tool. The questionnaire items were derived directly from the qualitative findings and validated indicators identified through thematic analysis and fuzzy Delphi consensus. This procedure ensured conceptual continuity between qualitative discovery and quantitative testing stages. The instrument measured latent constructs related to nostalgic sensory marketing, including the development of sustainable shopping experiences, use of nostalgic elements, reconstruction of brands and products based on nostalgic behaviors, establishment of deep emotional connections between brands and customers' memories, and development of creative nostalgic approaches.

The questionnaire employed a structured response format using a Likert-type scale to measure respondents' perceptions and experiences. Prior to large-scale data collection, the instrument underwent expert review to assess face validity and content validity. Reliability was evaluated through internal consistency indicators, and construct validity was examined using confirmatory factor analysis procedures. Ethical considerations were maintained throughout the data collection process, including confidentiality of responses and voluntary participation.

Data analysis was conducted in multiple sequential stages consistent with the mixed-method design. In the qualitative phase, thematic analysis was applied to interview transcripts in order to identify recurring patterns, conceptual relationships, and underlying meanings associated with nostalgic sensory marketing practices. Coding procedures involved open coding, axial coding, and selective coding stages, enabling systematic classification of themes and development of higher-order constructs. The qualitative analysis provided the conceptual model and theoretical framework required for subsequent empirical testing.

After extracting themes and validating them through the fuzzy Delphi technique, quantitative analysis was performed to assess the measurement and structural properties of the proposed model. Confirmatory factor analysis (CFA) was first conducted to evaluate construct validity, factor loadings, convergent validity, and discriminant validity of measurement indicators. Model fit indices were examined to determine the adequacy of the measurement model and ensure consistency between observed data and theoretical constructs.

Subsequently, structural equation modeling (SEM) using the Partial Least Squares (PLS) approach was employed to examine causal and correlational relationships among latent variables. The PLS algorithm enabled simultaneous assessment of measurement reliability and structural relationships, making it appropriate for predictive modeling and complex latent constructs. Standardized path coefficients, coefficient of determination values, and significance levels were evaluated through bootstrapping procedures. Hypothesis testing was conducted based on t-values and statistical significance thresholds to determine the strength and direction of relationships among model components.

Findings and Results

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The table presenting the demographic characteristics of the study participants, including mean age, average work experience, and educational background related to the research topic, is provided below.

Table 1. Demographic Characteristics of Research Experts

No.	Position	Age	Work Experience (Years)	Education Level	Field of Expertise
1	Branding Expert	35	10	PhD	Branding
2	Branding Expert	38	12	Master's Degree	Branding
3	Branding Expert	35	11	Master's Degree	Branding
4	Branding Expert	36	11	Master's Degree	Branding
5	Branding Expert	39	13	Master's Degree	Branding
6	Retail Industry Specialist	42	15	PhD	Marketing
7	Retail Industry Specialist	40	13	Master's Degree	Marketing
8	Retail Industry Specialist	39	15	Master's Degree	Marketing
9	Retail Industry Specialist	38	12	Master's Degree	Marketing
10	Retail Industry Specialist	44	13	Master's Degree	Marketing
11	University Faculty Member	46	20	PhD	Marketing and Branding
12	University Faculty Member	52	21	PhD	Marketing and Branding
13	University Faculty Member	56	25	PhD	Marketing and Branding
14	University Faculty Member	58	26	PhD	Marketing and Branding
15	University Faculty Member	50	22	PhD	Marketing and Branding

The analysis of experts' demographic characteristics indicated that the participants had an average age of 43.2 years. The average professional experience among experts was 15.9 years. Among the research participants, seven individuals held doctoral degrees and eight participants possessed master's degrees.

To answer the first research question — *"What are the dimensions and components of the sensory marketing model based on consumer nostalgic tendencies in the retail industry?"* — thematic analysis was employed. This method, recognized as a qualitative approach in social and human sciences research, is used to identify patterns and semantic structures within qualitative data. The process involved systematic coding, categorization of related concepts, and organization of findings into main and sub-themes. This analytical procedure enabled the researcher to interpret the meaningful structure of the data and clarify conceptual relationships among research components. Ultimately, the findings were categorized and interpreted according to these stages to provide a comprehensive understanding of the research phenomenon.

Interview Text No. 1: "I believe that designing shopping environments based on nostalgic symbols can have a significant impact on sensory marketing grounded in consumers' nostalgic tendencies. Such an approach can establish a deeper connection between consumers and products while strengthening nostalgic feelings and associations with the past. The use of symbols, colors, designs, and other elements referring to earlier periods can reinforce consumers' nostalgic emotions. Sensory components such as sounds, scents, tactile experiences, and tastes should be utilized to create nostalgia-oriented sensory experiences. Designing retail environments that encourage a sense of returning to the past can strengthen consumers' emotional attachment to brands and products. The use of advertising content, storytelling, and narratives connected to past experiences can enhance nostalgic tendencies among consumers. Creating a unique and nostalgic shopping experience can attract consumers and increase brand loyalty. In general, developing a nostalgic shopping atmosphere contributes to positive consumer interaction with products and brands and positively influences sensory marketing based on nostalgic consumer tendencies. Furthermore, the use of retro products and packaging (classic and past-oriented designs) can significantly influence nostalgic sensory marketing in the retail industry. Employing designs, patterns, colors, and styles inspired by past decades such as the 1960s and 1970s can strengthen nostalgic feelings and connections with the past. Product packaging designed to evoke earlier periods can enhance nostalgic inclinations among consumers. The use of traditional materials, fabrics, and classic components in product production can

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reinforce consumers' nostalgic connection with products. Creating a 'return-to-the-past' shopping experience through music, fragrances, colors, and spatial design can strengthen nostalgic emotions. Advertising images, videos, and promotional content inspired by the past can stimulate nostalgia and deepen emotional engagement. Applying these strategies can create an attractive nostalgic experience for consumers, improve sensory marketing based on nostalgic tendencies, and increase loyalty toward brands and products."

The codes extracted from the interviews were derived from expert interview transcripts and the corresponding content analysis procedures.

Table 2. **Initial Codes Extracted from Interviews**

Code	Research Objective	Extracted Initial Codes
PA1	Sensory marketing based on consumer nostalgic tendencies in the retail industry	Designing shopping environments based on nostalgic symbols
PA2		Creating deeper connections between consumers and products
PA3		Using symbols, colors, designs, and elements related to the past
PA4		Creating sensory experiences involving past-oriented sounds, scents, touch, and taste
PA5		Designing retail spaces that promote a return to the past
PA6		Utilizing advertising content, stories, and narratives related to past experiences
PA7		Creating a unique and nostalgic shopping experience for consumers
PA8		Using retro products and packaging (classic and past-oriented)
PA9		Applying retro-inspired designs and styles
PA10		Retro packaging and use of traditional materials and components
PA11		Using traditional materials, fibers, and classic components in product production
PA12		Creating return-to-the-past shopping experiences using music, fragrances, and colors
PA13		Advertising and marketing with a retro-oriented approach

Secondary codes in thematic analysis refer to concepts and recurring patterns used within texts to articulate and describe themes and underlying structures. These codes function as indicators that researchers employ during thematic analysis to identify, compare, and categorize similar patterns. In thematic analysis, researchers first read the text carefully and then extract secondary codes from the data. These codes may take the form of words, phrases, verbs, concepts, or symbols that, in the researcher's judgment, appropriately represent a theme or meaning. In general, secondary codes should be relevant and meaningfully linked to the main themes of the text.

After extracting secondary codes, researchers can use them to consolidate and analyze data. They may classify codes, identify patterns and relationships among them, and conduct deeper interpretation of the text. The advantage of using secondary codes in thematic analysis is that they help researchers detect shared and repetitive patterns in the data and approach analysis in a systematic manner. These codes can play a pivotal role in uncovering and interpreting latent and conceptual meanings within the text. In summary, secondary codes in thematic analysis are used as indicators that help researchers identify similar patterns and themes in the text and produce a more comprehensive analysis of the data. The secondary codes derived from the initial and open codes extracted from the interviews conducted in the present study are reported in Table 3.

Table 3. Extracted Secondary Codes and Corresponding Initial/Open Codes

No.	Extracted Secondary Codes	Extracted Initial/Open Codes
1	Designing shopping environments based on nostalgic symbols	Designing shopping environments based on nostalgic symbols; creating deeper connections between consumers and products; using symbols, colors, designs, and other elements related to the past; creating sensory experiences such as sounds, scents, touch, and tastes associated with the past; designing retail spaces to promote a return to the past; using advertising content, stories, and narratives linked to the past; creating a unique and nostalgic shopping experience for consumers
2	Using retro products and packaging	Using retro products and packaging (classic and past-oriented); using retro-inspired designs and motifs; retro packaging and use of old materials and components; using traditional materials, fibers, and classic components in product production; creating a return-to-the-past shopping experience using music, fragrances, and colors; advertising and marketing with a retro-oriented approach
3	Creating interactive experiences based on nostalgic symbols	Creating interactive experiences based on nostalgic symbols; creating spaces or opportunities for direct interaction with nostalgic products; applying interactive technologies such as augmented reality, virtual reality, and touchscreens; creating multi-sensory nostalgic experiences; creating games, contests, or interactive activities based on nostalgic symbols; holding events and interactive activities based on nostalgic symbols
4	Practicing fairness and respect toward consumers in a traditional manner	Practicing fairness and respect toward consumers in a traditional manner; providing personalized services and individualized experiences for each customer in a traditional style; adhering to ethical principles and fairness in customer interactions; establishing direct and transparent communication with customers; listening to customers' opinions and criticisms and responding to them; offering products at fair and equitable prices; maintaining product quality and delivering high-quality services
5	Connecting with customers through storytelling	Using storytelling to connect with customers; creating nostalgic stories; using nostalgic characters and settings; integrating nostalgic characters, settings, and elements into stories presented to customers; using captivating stories; creating interactive stories; using stories to enable direct interaction with customers
6	Using old and nostalgic images and films	Using old images and films; using old images and films in advertising; using memorable/evocative films; displaying old images in the store environment; using old films in events and activities; creating interactive experiences based on old images and films
7	Using nostalgic styles	Using nostalgic styles; using old colors and patterns; using vintage fonts; using traditional design elements; using old images and photographs; creating interactive experiences based on nostalgic style
8	Using past experiences and events	Using past experiences and events; showing films and images related to past memories; using old music or sounds related to past experiences; holding traditional events or nostalgic experiences; using old elements in the store environment; holding festivals and special events related to the past; using décor, music, or distinctive nostalgic elements
9	Combining legacy technologies with nostalgic emotions	Using legacy technologies; combining legacy technologies with nostalgic emotions; integrating past design elements such as vintage fonts, colors, and patterns; using older technologies to communicate with customers; using legacy audio-visual technologies; using older technologies in the customer experience; using older technologies in online stores
10	Using nostalgic sounds and music	Using nostalgic sounds and music; evoking nostalgic emotions through nostalgic sounds and music; creating deeper customer connections through nostalgic sounds and music; strengthening the shopping experience by adding nostalgic music to the retail environment; influencing purchase choices through nostalgic sounds and music; triggering old memories through nostalgic sounds and music
11	Producing digital content to evoke nostalgia	Producing digital content to evoke nostalgia; sharing old and nostalgic images and videos; using past design patterns such as vintage fonts, colors, and graphic styles; nostalgic storytelling and personal memory narratives; using nostalgic music and sounds; engaging audiences based on nostalgic symbols; interactive advertising and online games based on nostalgic elements
12	Designing and packaging products in a nostalgic form	Designing and packaging products in a nostalgic form; using past elements in product design and packaging; using old images and patterns in product design and packaging; enhancing tactile/sensory experience through appropriate packaging materials; using classic packaging materials or nostalgic packaging designs; harmonizing product design and packaging elements; attention to small details such as labels, bottles/jars, and packaging boxes
13	Reconstructing advertising and marketing based on nostalgic emotion	Reconstructing advertising and marketing based on nostalgic emotion; using older successful advertisements and campaigns; using old images and videos associated with the brand or product; using old slogans and advertising phrases; creating interactive experiences based on customers' nostalgic tendencies; retelling stories and memories related to the past and nostalgic experiences; engaging customers via social media to strengthen nostalgic feelings
14	Collaborating with influencers based on nostalgic emotion	Collaborating with influencers based on nostalgic emotion; selecting influencers with close associations with nostalgic sentiment; producing nostalgic content and products through collaboration with influencers; organizing nostalgic events; creating co-branded advertising focused on nostalgic emotion; collaborating with influencers to disseminate nostalgic content via social media; creating interactive experiences centered on nostalgia in collaboration with influencers

15	Commitment to product quality and durability	Commitment to product quality and durability; articulating product history and traditions; using nostalgic packaging and design; providing effective and timely after-sales service; ensuring product quality and durability; listening to customer feedback about product quality and required improvements; attention to detail and added values; offering added values such as special services
16	Maintaining continuous customer relationships grounded in past attachments	Maintaining continuous customer relationships grounded in past attachments; maintaining ongoing and personal communication with customers based on past experiences; providing personalized services and products based on customers' past experiences; updating customers about changes, discounts, and new events; using modern communication channels such as social media, messengers, and email to evoke past memories; holding special events or sessions for customers and revisiting past memories; offering added values based on customers' past attachments
17	Holding participatory events based on the brand's past advertising	Holding participatory events based on the brand's past advertising; creating multi-sensory experiences based on nostalgic emotion; using visual and auditory cues to recall past advertisements; enabling direct customer participation in events; leveraging modern technology to create engaging nostalgic experiences; using augmented reality or virtual reality to create engaging nostalgic experiences; building links between past brand advertising and current participatory events
18	Enhancing customer experience by reflecting nostalgic behavior	Enhancing customer experience by reflecting nostalgic behavior; creating nostalgic environments; using representational/imagistic elements; offering nostalgic products; providing personalized experiences; using nostalgic stories
19	Providing differentiated after-sales services	Providing highly personalized after-sales services; using elements related to the brand's or products' past; offering distinctive after-sales experiences; providing brand-authored personal notes to customers; continuously improving after-sales service quality; conveying a sense of value to customers
20	Customer feedback and active interaction based on nostalgic behaviors	Rapid and effective responsiveness to customer feedback on products and services; offering suggestions aligned with customers' nostalgic tendencies; providing personalized experiences; collecting customer feedback on shopping experiences and product/service use
21	Offering special products based on nostalgic elements	Using packaging inspired by past decades; offering products with special designs related to the past; offering products accompanied by past-related culture and music; providing products and services that reference customers' past memories; providing personalized shopping experiences based on consumers' nostalgic tendencies
22	Conducting raffles based on nostalgic elements	Conducting raffles based on nostalgic elements; selecting raffle elements (e.g., prizes, packaging, or content) inspired by the past; selecting prizes or content tied to customers' past memories; enabling raffle personalization based on customers' tendencies and needs; selecting attractive prizes aligned with customers' nostalgic tendencies; linking raffles to past-related culture and music
23	Creating interactive nostalgic campaigns on social media	Creating interactive nostalgic campaigns on social media; creating nostalgic content; creating interactive and communicative spaces based on nostalgic elements; holding contests and raffles related to nostalgic elements; linking campaigns to past-related culture and music; creating personalized experiences based on consumers' nostalgic tendencies
24	Establishing competitive pricing based on consumers' nostalgic tendencies	Establishing competitive pricing based on consumers' nostalgic tendencies; competitive pricing grounded in connections to past memories; offering prizes and discounts linked to nostalgic elements; holding contests and interactive activities based on nostalgic elements; nostalgic pricing aligned with past-related culture and practices; personalized pricing based on consumers' nostalgic tendencies
25	Strengthening emotional bonds through nostalgic symbols	Using nostalgic symbols; deepening connections to memories through nostalgic symbols; strengthening emotional bonds through nostalgic symbols; stimulating nostalgic tendencies via nostalgic symbols; encouraging interaction with nostalgic symbols; expanding the use of nostalgic colors and patterns

In the present study, five principal dimensions were identified: development of sustainable shopping experiences, utilization of nostalgic elements, reconstruction of brands and products based on nostalgic behaviors, establishment of deep connections between brands and customers' memories, and development of creative nostalgic approaches. In addition, a total of 162 initial codes were extracted from 15 interviews, from which 25 secondary codes were ultimately derived. After evaluating the measurement models, the structural model, and the overall model, and in accordance with the data analysis algorithm of the Partial Least Squares (PLS) method, the researcher proceeded to examine and test the relationships among the study variables. At this stage, standardized path coefficients corresponding to the hypotheses and their associated t-values were assessed. For hypothesis confirmation or rejection, the t-value must be greater than 1.96 or less than −1.96. Values within this interval indicate the absence of a statistically significant difference between the calculated regression weights and zero at the 95% confidence

level. The factor loading output diagram and the *t*-value diagram illustrate the relationships among the research variables.
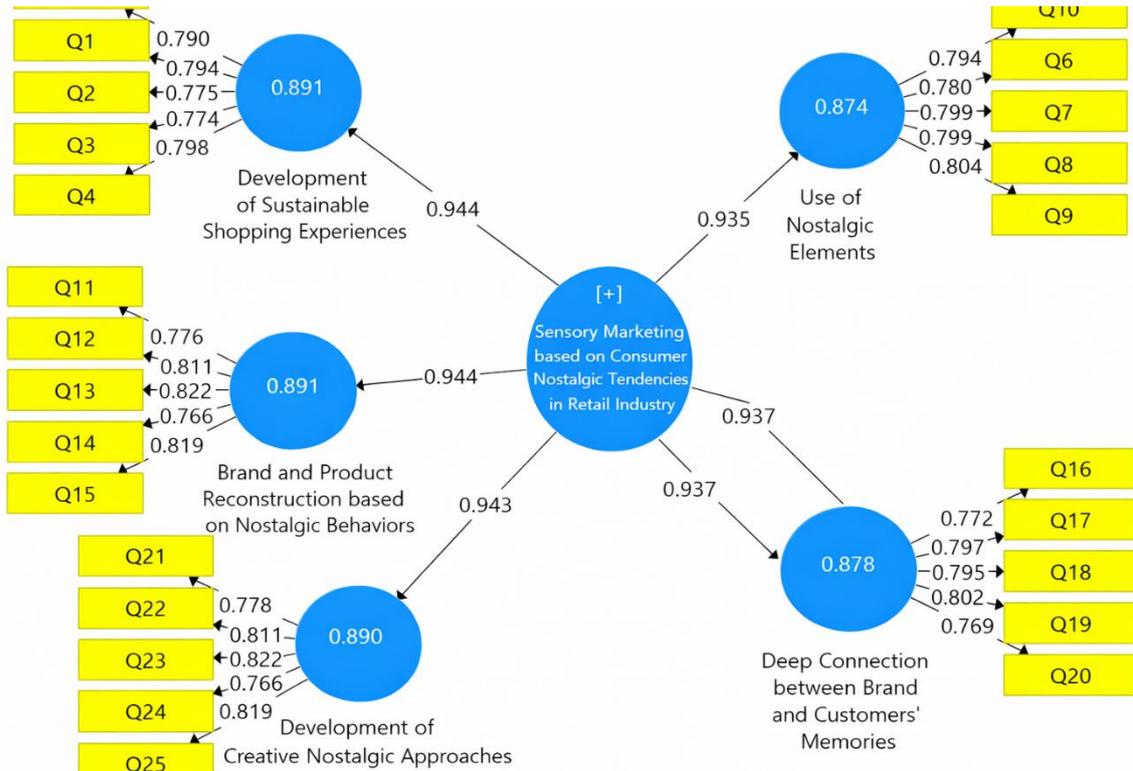

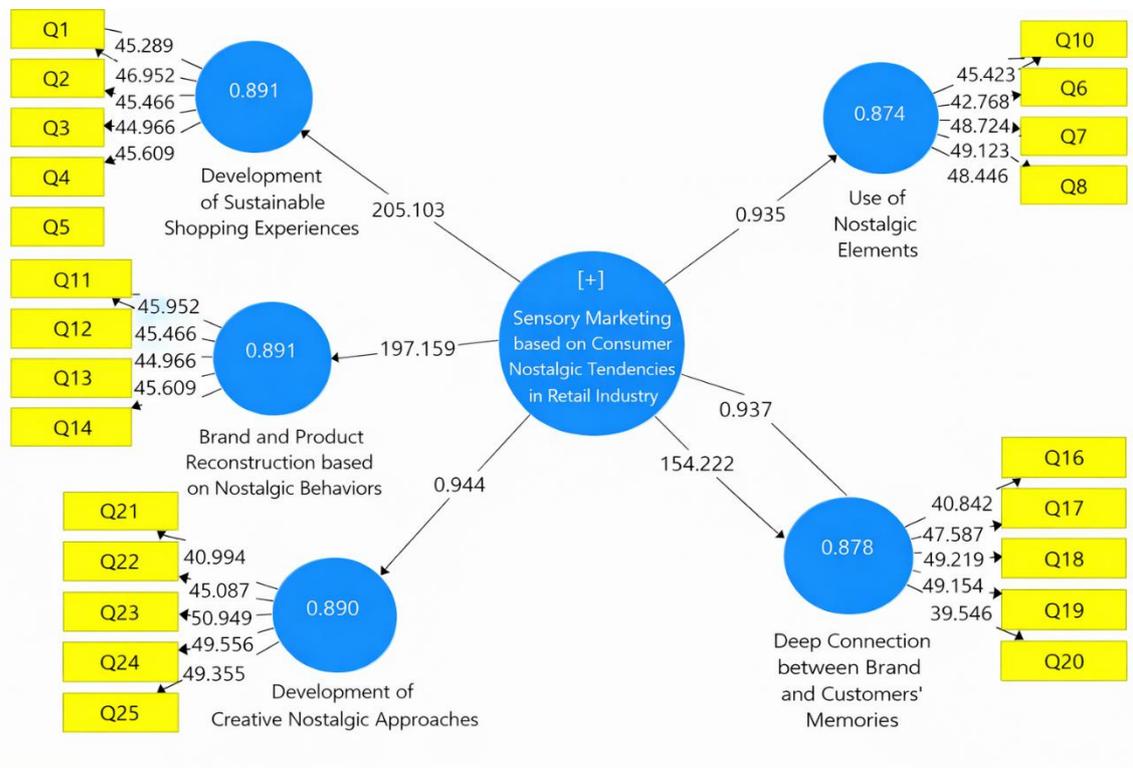**Figure 1. Factor Loading Output and *t*-Values of Relationships Between Variables**

Figure 2. Research Model with *t*-Values

Table 4. **Summary of Research Results**

Structural Relationship	Factor Loading	t-Value	p-Value	Status
Sensory marketing based on consumer nostalgic tendencies in the retail industry → Use of nostalgic elements	0.935	156.302	0.000	Confirmed
Sensory marketing based on consumer nostalgic tendencies in the retail industry → Deep connection between brand and customers' memories	0.937	154.222	0.000	Confirmed
Sensory marketing based on consumer nostalgic tendencies in the retail industry → Brand and product reconstruction based on nostalgic behaviors	0.944	197.159	0.000	Confirmed
Sensory marketing based on consumer nostalgic tendencies in the retail industry → Development of sustainable shopping experiences	0.944	205.103	0.000	Confirmed
Sensory marketing based on consumer nostalgic tendencies in the retail industry → Development of creative nostalgic approaches	0.943	191.320	0.000	Confirmed

The relationship between sensory marketing based on consumer nostalgic tendencies in the retail industry and the use of nostalgic elements produced a significance value of 156.302 (t-value > 1.96); therefore, the relationship is statistically significant. The second-order factor loading was calculated as 0.93.

The relationship between sensory marketing based on consumer nostalgic tendencies in the retail industry and the creation of a deep connection between the brand and customers' memories yielded a significance value of 154.222 (t-value > 1.96), confirming statistical significance. The second-order factor loading was 0.93.

The relationship between sensory marketing based on consumer nostalgic tendencies in the retail industry and brand and product reconstruction grounded in nostalgic behaviors showed a significance value of 197.159 (t-value > 1.96), indicating a statistically significant relationship. The second-order factor loading was 0.94.

The relationship between sensory marketing based on consumer nostalgic tendencies in the retail industry and the development of sustainable shopping experiences yielded a significance value of 205.103 (t-value > 1.96), confirming statistical significance. The second-order factor loading was calculated as 0.94.

The relationship between sensory marketing based on consumer nostalgic tendencies in the retail industry and the development of creative nostalgic approaches resulted in a significance value of 191.320 (t-value > 1.96), confirming a statistically significant relationship. The second-order factor loading was 0.94.

Overall, the significance levels for all structural relationships were greater than 1.96 (t-value > 1.96). Therefore, all hypothesized relationships are statistically significant, confirmed, and supported by adequate model validity.

Discussion and Conclusion

The present study aimed to model the relationship between sensory marketing dimensions and consumers' nostalgic emotions in improving retail customer experience. The findings confirmed that sensory marketing based on consumer nostalgic tendencies significantly influences five core dimensions, namely the development of sustainable shopping experiences, the use of nostalgic elements, brand and product reconstruction grounded in nostalgic behavior, the creation of deep emotional connections between brands and customers' memories, and the development of creative nostalgic approaches. The structural model results demonstrated strong standardized path coefficients and statistically significant relationships across all constructs, indicating that nostalgic sensory marketing operates as an integrated experiential mechanism capable of enhancing customer engagement and strengthening brand loyalty within the retail industry.

One of the most important findings of the study relates to the significant role of nostalgic sensory stimuli in shaping sustainable shopping experiences. The results revealed that sensory marketing strategies grounded in

nostalgic cues contribute substantially to creating memorable and enduring shopping experiences. This finding aligns with prior research emphasizing that sensory stimulation enhances customer immersion and experiential value creation, ultimately influencing purchase intention and behavioral loyalty (2, 5). Sensory environments that evoke positive past memories increase emotional comfort and familiarity, which reduces cognitive uncertainty during purchasing decisions and strengthens long-term customer relationships. Similar conclusions were reported in studies demonstrating that experiential and sensory marketing improve customer satisfaction through emotional engagement mechanisms (1, 3).

The confirmed relationship between nostalgic sensory marketing and the use of nostalgic elements highlights the strategic importance of symbolic retail atmospherics. Elements such as retro design, nostalgic music, storytelling, and historical brand imagery function as emotional triggers that connect consumers to meaningful personal memories. Previous studies indicate that nostalgia-based advertising and experiential cues increase affective responses and brand heritage perception, thereby strengthening emotional attachment toward brands (9, 10). The present findings support these arguments by demonstrating that nostalgic elements are not merely aesthetic additions but core drivers of experiential differentiation in retail settings. Furthermore, nostalgia operates as a psychological coping mechanism that enhances emotional well-being and reinforces positive consumer attitudes toward consumption experiences (8).

Another major outcome of this research concerns the reconstruction of brands and products based on nostalgic consumer behavior. The results suggest that integrating historical identity, traditional product design, and brand heritage into marketing strategies significantly enhances customer perceptions of authenticity and credibility. Brand reconstruction through nostalgia allows retailers to merge past emotional associations with modern consumption expectations. Similar findings have been reported by researchers who argue that nostalgic branding enhances brand equity by strengthening consumer satisfaction and trust (13, 19). Moreover, nostalgia-based brand strategies reduce consumer confusion and reinforce brand clarity, which positively affects word-of-mouth communication and customer loyalty (21).

The study also demonstrated that nostalgic sensory marketing strongly contributes to creating deep emotional connections between brands and customers' memories. Emotional attachment emerged as a central mediating mechanism linking sensory experience and loyalty outcomes. Previous research confirms that emotional brand attachment derived from sensory experiences significantly enhances brand loyalty and customer retention (14, 23). The present findings reinforce the argument that emotional bonding results from cumulative sensory interactions rather than isolated marketing actions. When retail brands successfully activate consumers' autobiographical memories through nostalgic stimuli, they become embedded within consumers' identity structures, increasing relational commitment and repeat purchasing behavior.

Additionally, the findings confirmed the importance of developing creative nostalgic approaches as a strategic marketing capability. Creative integration of nostalgic themes through digital storytelling, social media engagement, interactive retail technologies, and innovative experience design enhances consumer involvement and brand differentiation. Recent studies emphasize that modern retail marketing increasingly combines technological innovation with emotional marketing approaches to create hybrid experiential environments (15, 18). The effectiveness of such creative strategies is further supported by research indicating that integrating emerging technologies, including artificial intelligence, strengthens the effectiveness of sensory marketing by personalizing consumer experiences and improving financial performance outcomes (7).

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From a behavioral perspective, the findings also confirm that nostalgic sensory marketing influences consumer attitudes through emotional and cognitive mechanisms. Consumers experiencing nostalgic stimuli tend to exhibit reduced cognitive dissonance and more favorable brand attitudes, facilitating attitude change and strengthening purchasing intention (20). This mechanism explains why nostalgic experiences often translate into higher levels of satisfaction and repurchase intention within experiential retail environments (6). Nostalgia thus operates as both an emotional catalyst and a cognitive stabilizer that enhances consumer decision confidence.

Furthermore, the results support the proposition that sensory marketing enhances customer relationship quality by improving communication effectiveness and perceived service convenience. Studies on customer relationship management demonstrate that emotionally rich marketing environments improve interaction quality and strengthen long-term relational exchanges between firms and customers (15). The integration of nostalgia into sensory marketing extends this effect by adding symbolic meaning and cultural familiarity to brand communication processes. In retail contexts where customer experience is increasingly mediated through digital platforms, nostalgia provides continuity between traditional and modern consumption experiences, reinforcing customer satisfaction regardless of channel type (22).

The findings are also consistent with research emphasizing the spatial and environmental dimensions of retail marketing. Retail environments designed through geomarketing and experiential planning principles influence accessibility perception, emotional comfort, and shopping enjoyment (16, 17). Nostalgic sensory design enhances these environmental effects by transforming retail spaces into emotionally meaningful environments rather than purely functional purchasing locations. Such environments stimulate experiential immersion, encouraging consumers to spend more time in stores and develop stronger emotional affiliations with brands.

Another important implication of the results relates to consumer satisfaction and loyalty formation. The significant relationships identified in the structural model confirm that nostalgic sensory marketing contributes to loyalty-building mechanisms through emotional engagement, experiential satisfaction, and trust formation. Previous empirical studies demonstrate that brand communication quality and service experience strongly influence loyalty through trust-building processes (19). The present study extends this perspective by illustrating that nostalgia intensifies trust formation by reinforcing familiarity and emotional security.

Collectively, the findings suggest that nostalgic sensory marketing represents a multidimensional strategic framework integrating emotional psychology, experiential marketing, environmental design, and brand management. By simultaneously stimulating sensory perception and nostalgic memory, retailers can create differentiated value propositions that are difficult for competitors to imitate. This integrated approach supports contemporary marketing theory emphasizing experiential value creation as the foundation of sustainable competitive advantage in modern retail ecosystems (3, 4).

Despite its valuable contributions, this study faced several limitations. First, the research context was limited to retail customers in selected metropolitan areas, which may restrict the generalizability of findings to other geographical regions or cultural settings. Consumer nostalgia is culturally embedded, and therefore the effectiveness of nostalgic sensory marketing may vary across societies. Second, the study relied primarily on self-reported questionnaire data, which may introduce response bias or social desirability effects. Third, although the mixed-method approach strengthened validity, longitudinal data were not collected; therefore, causal stability of relationships over time could not be examined. Finally, rapid technological changes in retail environments may alter consumer responses to nostalgic stimuli, meaning that findings reflect conditions within a specific temporal context.

Future studies can expand this research in several directions. Researchers may examine cross-cultural comparisons to explore how nostalgic sensory marketing operates in different cultural or generational contexts. Longitudinal research designs are recommended to investigate the durability of nostalgic emotional attachment and its long-term effects on customer loyalty. Additionally, future research could integrate neuro-marketing or biometric measurement techniques to capture unconscious emotional responses to nostalgic sensory stimuli. Investigating the interaction between artificial intelligence personalization systems and nostalgia-based marketing strategies may also provide valuable insights into next-generation retail experiences. Moreover, comparative studies between online and offline retail environments could clarify how digital transformation reshapes nostalgic consumer engagement.

Retail managers should design shopping environments that deliberately integrate nostalgic sensory elements such as music, scent, visual aesthetics, storytelling, and heritage symbolism to create emotionally meaningful experiences. Brands are encouraged to leverage historical identity and cultural memories while simultaneously adopting modern technologies to enhance personalization and interaction. Developing experiential retail concepts that combine nostalgia with innovation can strengthen brand differentiation and customer loyalty. Managers should also invest in staff training and customer relationship programs emphasizing emotional engagement, personalized service, and memory-based marketing communication. Finally, organizations should continuously collect customer feedback to refine nostalgic marketing strategies and ensure alignment with evolving consumer expectations.

Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adheried in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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