

From Sensory Appeal to Sustainable Choice: Unravelling the Role of AI-Augmented Sensory Experience and Green Positioning

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Abstract

The growing use of artificial intelligence (AI) and experience-based marketing is changing how consumers interact with brands, yet it remains unclear whether engaging sensory and AI-enabled experiences are sufficient to encourage sustainable purchasing. This study addresses this issue by examining how Sensory Marketing (SM) and AI-Augmented Sensory Experience (AIS) contribute to Sustainable Purchase Behaviour (SPB) and whether Green Positioning (GP) explains these relationships. A quantitative, cross-sectional research design was adopted, and data were collected from 321 consumers through a structured questionnaire. The data were analysed using Structural Equation Modelling (SEM) in JASP to assess the direct, mediating, and serial mediating relationships among the four constructs. The findings show that Sensory Marketing significantly enhances AI-Augmented Sensory Experience and positively influences Green Positioning. AI-Augmented Sensory Experience also has a significant positive effect on Green Positioning. However, neither Sensory Marketing nor AI-Augmented Sensory Experience has a significant direct effect on Sustainable Purchase Behaviour. In contrast, Green Positioning emerges as the strongest direct predictor of Sustainable Purchase Behaviour ($\beta = 0.866$, $p < .001$). The mediation results further reveal that Green Positioning significantly mediates the effects of both Sensory Marketing and AI-Augmented Sensory Experience on Sustainable Purchase Behaviour. Most importantly, the serial pathway from Sensory Marketing through AI-Augmented Sensory Experience and Green Positioning to Sustainable Purchase Behaviour is significant ($\beta = 0.416$, $p < .001$). The study shows that sustainable consumption is not just a consequence of sensory stimulation or technological engagement but becomes effective once it leads to a significant perception of the company's environmental sustainability.

Keywords: Sensory Marketing; Artificial Intelligence; AI-Augmented Sensory Experience; Green Positioning; Sustainable Purchase Behaviour; Green Marketing; Consumer Behaviour

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Introduction

Digital technologies are reshaping how consumers experience brands and make purchase decisions. Marketing now combines visual, auditory, tactile, and interactive elements with artificial intelligence (AI), while growing environmental awareness has made sustainability increasingly relevant to consumer choices.

This convergence has brought sensory marketing, AI, green marketing, and sustainable consumption into a shared research context. Sensory marketing uses cues such as sight, sound, smell, and touch to influence consumers' perceptions, emotions, and behaviour. Its role has expanded to sustainability communication, where sensory elements can strengthen responses to environmental messages, depending on how claims are presented. AI further transforms these experiences by enabling personalised communication, interactive interfaces, and digitally enriched shopping environments. Research indicates that AI can improve personalisation, engagement, and consumer experience while supporting sustainability communication. However, its effectiveness depends on transparency, privacy, trust, and information credibility. Green Positioning connects environmental communication with consumer purchasing by presenting environmental responsibility as part of a brand's identity and value proposition. When this positioning aligns with consumers' environmental values and perceived product benefits, it can strengthen purchase intentions and encourage sustainable consumption. Despite growing research, these areas have largely been studied separately. Limited evidence explains how Sensory Marketing influences AI-Augmented Sensory Experience, how these experiences shape Green Positioning, and whether this process leads to Sustainable Purchase Behaviour. This study therefore examines the relationships among Sensory Marketing, AI-Augmented Sensory Experience, Green Positioning, and Sustainable Purchase Behaviour, including mediation and serial mediation.

Statement of the Problem

Digital technology has made marketing more sensory, interactive, and personalised, with sensory cues engaging consumers and AI enhancing personalisation and responsiveness. Although these developments offer new ways of influencing consumer decisions, an important question remains: do sensory and AI-enabled experiences actually encourage consumers to make sustainable purchase decisions? Therefore, there is a lack of empirical knowledge about how these types of marketing experience may cooperate in influencing Sustainable Purchase Behaviour. One more significant aspect in this sense is that an engaging experience does not necessarily imply sustainable purchases. The consumers may respond positively towards different sensory stimuli or receiving overall personalized AI recommendations, but still they may not see a brand as being environmentally responsible. In this light, an important aspect here is the Green Positioning, which may be viewed as a link between consumer experience and sustainable purchases. In particular, the sequential pathway Sensory Marketing → AI-Augmented Sensory Experience → Green Positioning → Sustainable Purchase Behaviour has received limited empirical attention. AI-driven marketing depends on trust, transparency, and relevance, yet how sensory and AI-enhanced experiences translate into sustainable purchasing through Green Positioning remains underexplored. This study examines the direct, mediating, and serial mediating relationships among Sensory Marketing, AI-Enhanced Sensory Experience, Green Positioning, and Sustainable Purchase Behaviour.

Research Gap

Research on sensory marketing, artificial intelligence (AI), green marketing, and sustainable consumption has grown, but these areas are still largely examined separately. However, how these elements work together to influence sustainable purchasing remains unclear. A major gap concerns AI-Augmented Sensory Experience. Most AI marketing research focuses on personalisation, recommendations, convenience, and engagement, with less attention to how AI can enhance sensory experiences and influence sustainable

consumption. Such experiences may not affect purchasing directly; consumers may first interpret them as signals of a brand's environmental commitment. This highlights the potential mediating role of Green Positioning, which has received limited attention between sensory or AI-enhanced experiences and sustainable purchase behaviour. More specifically, little evidence explains whether Sensory Marketing → AI-Augmented Sensory Experience → Green Positioning → Sustainable Purchase Behaviour represents a meaningful sequential process.

Literature Review

Sensory Marketing

Sensory Marketing influences consumers through multiple senses, shaping perceptions, judgments, and behaviour beyond purely rational evaluation (Krishna, 2012). By combining visual, auditory, tactile, olfactory, and gustatory cues, it creates memorable associations and richer brand experiences that can influence how consumers perceive products and brands (Spence et al., 2014). For example, Milliman (1982) found that background music tempo could affect shoppers' movement and purchasing-related behaviour. Similarly, Krishna et al. (2016) demonstrate that sensory stimulation can influence attention, mental imagery, product evaluation, and persuasion. The tactile dimension is also significant, as Peck and Childers (2003) found that consumers who are motivated to touch products may rely on haptic information when forming product judgments, while restrictions on touching can reduce evaluation confidence. Wörfel et al. (2022), show that sensory marketing has developed from traditional research on experiential marketing and store atmospherics into a broader field connecting sensory experience with cognition and consumer behaviour. King et al. (2024) found that sensory signals such as tingling, cooling, and fizzing generated more favourable evaluations and increased product choice, repurchase likelihood, and recommendation intentions. De Kerpel et al. (2024) and Liang and Li (2024) found that Autonomous Sensory Meridian Response (ASMR) cues in video advertising could positively influence purchase intention, with relaxation and flow-like experiences helping explain this effect. Suci et al. (2023) examined ASMR in green advertising and found that sensory stimulation could reduce fear associated with negative environmental messages, although reduced fear did not significantly translate into green purchase intention through attitude toward the advertisement. Although sensory marketing is increasingly used in green and digital advertising, its direct effect on sustainable buying remains unclear. Recent work highlights the potential of AI to personalise sensory experiences, yet how this enhancement contributes to Green Positioning and sustainable purchasing is still underexplored (Pandey & Tripathi, 2025).

AI-Augmented Sensory Experience

The rapid development of artificial intelligence (AI) has changed the way consumers interact with brands, products, and marketing environments. Huang and Rust (2021) explain that AI is increasingly capable of supporting marketing activities ranging from routine automation to decision-making and the interpretation of human emotions. Puntoni et al. (2021) argue that AI should not be understood only in terms of technical efficiency or accuracy, but also in terms of how consumers experience and respond to it. One of the most visible ways in which AI enhances consumer experiences is through personalisation. Chandra et al. (2022), identify personalised recommendations, advertising, relationships, and customer insights as important areas of personalised marketing. Davenport et al. (2020) similarly highlight the ability of AI to analyse large

amounts of customer data and provide personalised recommendations in real time. Mariani et al. (2022) demonstrate that AI research in marketing has expanded beyond technical applications towards consumer cognition, decision-making, technology adoption, and behavioural responses. More recently, Hollebeek et al. (2024), identified accurate service provision, consumer-perceived value, and reduced consumer effort as major themes in AI-based consumer engagement. Traditional sensory marketing research has established that sensory cues can influence consumer perceptions, emotions, product evaluations, and behavioural responses (Krishna, 2012; Spence et al., 2014). Helme Falk et al. (2025), in their work on integrating sensory marketing with AI, identify opportunities for AI to personalise sensory cues, support multisensory experiences, measure consumer perceptions, and optimise sensory stimulation in real time. Puntoni et al. (2021) point out that consumers may appreciate AI's convenience and personalisation while also experiencing concerns related to privacy, control, discrimination, or alienation. Chandra et al. (2022) similarly highlight the personalisation–privacy tension, whereby consumers may value relevant recommendations but remain concerned about how their personal information is collected and used.

Green Positioning

Green Positioning has become an important way for brands to distinguish themselves by making environmental responsibility part of their identity. Consumers increasingly look beyond price and quality and may also consider how genuinely and consistently a brand addresses environmental concerns. Mehraj and Qureshi (2022), found that green brand positioning shaped attitudes toward green brands, which subsequently influenced green purchase intention. Similarly, Kaur et al. (2022) found that green marketing strategies could influence environmental attitudes and green buying intentions in an emerging-market context. Eco-labels and green advertising, for instance, can influence green purchase intention directly and through green brand equity (Nguyen-Viet, 2022). Recent studies further stress that authenticity, consistency, and brand–consumer fit matter: genuine environmental efforts can strengthen competitive advantage (Baca & Reshidi, 2025), while green positioning may shape purchase intention when it aligns with consumers' self-image and perceived product benefits (Chan, 2025). Aldaihani et al. (2024) support this view by showing that green marketing strategies did not always have a direct effect on green purchase intention and that green attitude played an important mediating role. Suci et al. (2023), for example, examined ASMR within green advertising and demonstrated that sensory stimulation can be incorporated into environmental communication, although their study did not establish a significant direct or indirect effect on green purchase intention. Singh and Jaiswal (2016) argued that segmentation, targeting, and positioning can be strategically integrated into green marketing to create an eco-advantage.

Sustainable Purchase Behaviour

Sustainable Purchase Behaviour (SPB) refers to consumers' tendency to consider environmental consequences when choosing and purchasing products. Fernandes et al. (2024), for example, found that sustainability consciousness and sustainable consumption habits were important in explaining consumers' green purchase intentions in India and the United States. Likewise, Upadhyaya & Sijoria (2024) have shown the importance of psychological and behavioural factors for environmentally responsible purchases by conducting research based on the expanded TPB model in the Indian context of green cosmetics industry. Sharief & Panghal (2023) have studied the consumer behavior concerning the sustainability-labeled food products and showed the significance of sustainability information in consumer's evaluation of the products.

Srivastava & Mittal (2025) have found that eco-labeling, eco-friendly packaging attitudes, and acceptance of the green advertisements could influence the green purchase intention through perceptions about eco-friendly brands and green consumption values. Yadav, Ojha and Mathur (2025) found that awareness of sustainable cosmetic practices was positively associated with purchase intention, while attributes such as natural ingredients, eco-friendly packaging, and cruelty-free claims enhanced consumers' demand for green cosmetics. Premi (2019) demonstrated that consumer attitudes and perceptions influence buying intentions for green personal-care products. Prakash et al. (2024) examined whether green purchase intentions correspond with zero-waste buying behaviour, contributing to this continuing debate. Similarly, Suneja and Aastha (2025), highlighted the persistent difficulty of translating positive intentions into actual sustainable consumption. Çam et al. (2025) showed that economic, environmental, and social values, together with green consumption intention and socially responsible attitudes, contribute to sustainable buying behaviour. Sriramaneni et al. (2025) similarly identified factors such as green product knowledge, green packaging, environmental beliefs, health consciousness, and perceived behavioural control as relevant to green purchasing in the Indian context. Sensory and AI-driven marketing may shape perceptions of a brand's green positioning and, in turn, influence sustainable purchase decisions (Chan, 2025).

Research Objectives

- To examine the influence of Sensory Marketing on AI-Augmented Sensory Experience and Green Positioning.
- To examine the influence of AI-Augmented Sensory Experience on Green Positioning and Sustainable Purchase Behaviour.
- To examine the influence of Sensory Marketing and Green Positioning on Sustainable Purchase Behaviour.
- To examine the mediating and serial mediating effects of AI-Augmented Sensory Experience and Green Positioning in the relationship between Sensory Marketing and Sustainable Purchase Behaviour.

Research Hypotheses

H1: Sensory Marketing has a significant positive influence on AI-Augmented Sensory Experience.

H2: Sensory Marketing has a significant positive influence on Green Positioning.

H3: AI-Augmented Sensory Experience has a significant positive influence on Green Positioning.

H4: Sensory Marketing has a significant positive influence on Sustainable Purchase Behaviour.

H5: AI-Augmented Sensory Experience has a significant positive influence on Sustainable Purchase Behaviour.

H6: Green Positioning has a significant positive influence on Sustainable Purchase Behaviour.

H7: AI-Augmented Sensory Experience significantly mediates the relationship between Sensory Marketing and Sustainable Purchase Behaviour.

H8: Green Positioning significantly mediates the relationship between AI-Augmented Sensory Experience and Sustainable Purchase Behaviour.

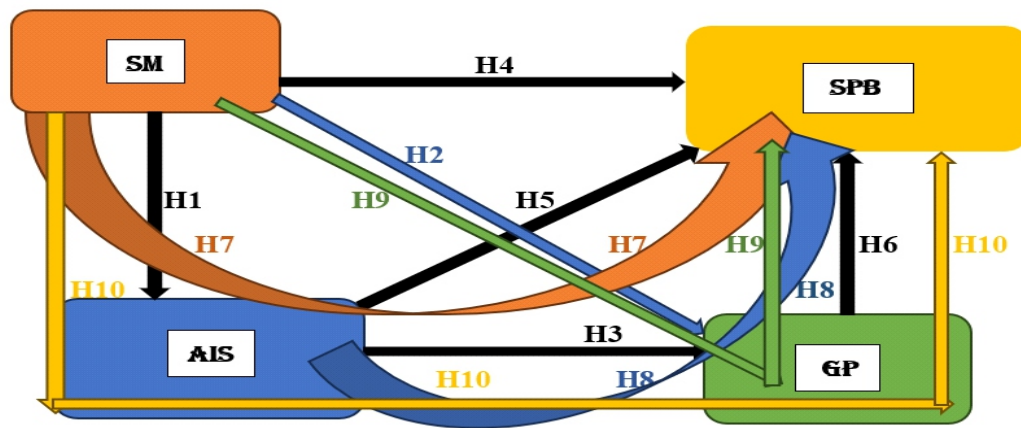
H9: Green Positioning significantly mediates the relationship between Sensory Marketing and Sustainable Purchase Behaviour.

H10: AI-Augmented Sensory Experience and Green Positioning serially mediate the relationship between Sensory Marketing and Sustainable Purchase Behaviour.

Research Methodology

The study used a Quantitative Cross-sectional Design to investigate the associations between Sensory Marketing, AI-Augmented Sensory Experience, Green Positioning and Sustainable Purchase Behavior. Data was gathered using primary data collection technique that involved administration of a structured survey questionnaire based on Likert-type scale. The sample consisted of 321 respondents collected using non-probability sampling procedure. The structured survey questionnaire comprised of 13 measurement items measuring four variables which include: Sensory Marketing (3 items); AI-Augmented Sensory Experience (3 items); Green Positioning (3 items) and Sustainable Purchase Behavior (4 items). Data analysis was done using JASP. Reliability and Validity of the measurement model were first tested and then the hypothesized relationships tested using Structural Equation Modelling (SEM). The Structural Model focused on the association between the four variables and indirect effect to investigate the mediating role of AI-Augmented Sensory Experience and Green Positioning. The study also examined the serial mediation pathway: Sensory Marketing → AI-Augmented Sensory Experience → Green Positioning → Sustainable Purchase Behaviour. The significance of direct and indirect effects was evaluated using standardised estimates, standard errors, z-values, p-values, and 95% confidence intervals.

Conceptual Framework



Source of Fig. 1: Compiled by Researcher

Conceptually: Sensory Marketing → AI-Augmented Sensory Experience → Green Positioning → Sustainable Purchase Behaviour. The framework examines the direct relationships among the four constructs and the mediating and serial mediating roles of AI-Augmented Sensory Experience and Green Positioning.

Data Analysis and Interpretation

Table 1: SEM Measurement Model and Model Fit

Assessment	Indicator / Statistic	Obtained Value	Recommended Criterion	Interpretation
Sample adequacy	Valid responses	321	Adequate for the proposed SEM	Sufficient valid observations were available for analysis
Measurement model fit	Comparative Fit Index (CFI)	0.986	≥ 0.90	Excellent fit
	Tucker–Lewis Index (TLI)	0.982	≥ 0.90	Excellent fit
	Normed Fit Index (NFI) (IFI)	0.983	≥ 0.90	Excellent fit
	Incremental Fit Index	0.986	≥ 0.90	Excellent fit
	Relative Fit Index (RFI)	0.977	≥ 0.90	Excellent fit
	Relative Noncentrality Index (RNI)	0.986	≥ 0.90	Excellent fit
	Goodness-of-Fit Index (GFI)	0.997	≥ 0.90	Excellent fit
	Standardised Root Mean Square Residual (SRMR)	0.035	≤ 0.08	Good fit
	Root Mean Square Error of Approximation (RMSEA)	0.086	≤ 0.08 preferred	Slightly above preferred level but acceptable when considered with other fit indices
Internal consistency	Cronbach's Alpha	0.802–0.887	≥ 0.70	Satisfactory reliability
	McDonald's Omega	0.768–0.898	≥ 0.70	Satisfactory reliability
Convergent validity	Average Variance Extracted (AVE)	0.666–0.828	≥ 0.50	Established
Indicator explanatory power	R ²	0.709–0.923 for reported GP/SPB indicators	Higher values indicate stronger explanatory power	Adequate to strong explanatory power
Discriminant validity	Heterotrait–Monotrait (HTMT)	0.721–0.885	< 0.90	Discriminant validity established
Overall assessment	Measurement model	—	Reliability + validity + acceptable fit	Suitable for structural model and hypothesis testing

Source of Table 1 Values: JASP Software SEM Model

The results indicate that the proposed SEM measurement model demonstrates an overall satisfactory level of reliability and validity. The measurement model shows a strong overall fit, with CFI = 0.986, TLI = 0.982, NFI = 0.983, IFI = 0.986, RFI = 0.977, RNI = 0.986, and GFI = 0.997. The SRMR of 0.035 indicates low residual discrepancy. Although RMSEA = 0.086 (90% CI: 0.076–0.095) is slightly above the preferred 0.08 threshold, the other indices show a very good fit, supporting the model's overall adequacy. Moreover, T-size fit indices show a CFI of 0.982. Thus, taking all the fit statistics into consideration, it may be stated that the measurement model has acceptable to very good fit.

Table 2: Reliability and Convergent Validity

Construct	No. of Items	Cronbach's α	McDonald's ω	AVE	Decision
Sensory Marketing (SM)	3	0.802	0.768	0.666	Established
AI-Augmented Sensory Experience (AIS)	3	0.825	0.823	0.741	Established
Green Positioning (GP)	3	0.848	0.831	0.770	Established
Sustainable Purchase Behaviour (SPB)	4	0.887	0.898	0.828	Established

Source of Table 2 Values: JASP Software SEM Model

The reliability results provide further support for the quality of the constructs. The constructs showed good reliability, with Cronbach's alpha ranging from 0.802–0.887 and McDonald's omega from 0.768–0.898, all within acceptable levels. Overall reliability was also high ($\alpha = 0.937$; $\omega = 0.950$). AVE values ranged from 0.666 to 0.828, exceeding the 0.50 threshold and confirming convergent validity. Item R^2 values were also strong, particularly for SPB (0.754–0.923) and GP (0.709–0.815), indicating good explanatory strength.

Table 3: Heterotrait-Monotrait Ratio

SM	AIS	GP	SPB
1.000			
0.824	1.000		
0.810	0.853	1.000	
0.721	0.756	0.885	1.000

Source of Table 3 Values: JASP Software SEM Model

Discriminant validity was assessed using the Heterotrait–Monotrait (HTMT) ratio. The HTMT values among the constructs range from 0.721 to 0.885. Importantly, all values remain below the commonly applied threshold of 0.90, indicating that the constructs are empirically distinguishable from one another. Although the relationship between Green Positioning and Sustainable Purchase Behaviour is relatively strong (HTMT = 0.885), it remains below the 0.90 criterion. Thus, the results suggest that Green Positioning and Sustainable Purchase Behaviour, despite being strongly related, represent conceptually distinct constructs. The strong fit indices, acceptable reliability coefficients, AVE values above 0.50, and HTMT

ratios below 0.90 collectively indicate that the measurement model is statistically sound and suitable for proceeding to the structural model and hypothesis testing.

Table 4: Data Analysis Table

Hypothesis	Relationship / Effect	Std. β	SE	z	p	95% CI	Decision
H1	SM $\rightarrow$ AIS	0.819	0.020	40.305	< .001	[0.779, 0.859]	Supported
H2	SM $\rightarrow$ GP	0.330	0.061	5.401	< .001	[0.210, 0.450]	Supported
H3	AIS $\rightarrow$ GP	0.587	0.061	9.579	< .001	[0.467, 0.707]	Supported
H4	SM $\rightarrow$ SPB	0.070	0.070	0.998	.318	[-0.068, 0.208]	Not Supported
H5	AIS $\rightarrow$ SPB	-0.050	0.073	-0.680	.496	[-0.193, 0.094]	Not Supported
H6	GP $\rightarrow$ SPB	0.866	0.070	12.443	< .001	[0.730, 1.002]	Supported
H7	SM $\rightarrow$ AIS $\rightarrow$ SPB	-0.041	0.060	-0.681	.496	[-0.158, 0.077]	Not Supported
H8	AIS $\rightarrow$ GP $\rightarrow$ SPB	0.508	0.073	6.994	< .001	[0.366, 0.651]	Supported
H9	SM $\rightarrow$ GP $\rightarrow$ SPB	0.286	0.055	5.169	< .001	[0.178, 0.395]	Supported
H10	SM $\rightarrow$ AIS $\rightarrow$ GP $\rightarrow$ SPB	0.416	0.061	6.810	< .001	[0.296, 0.536]	Supported

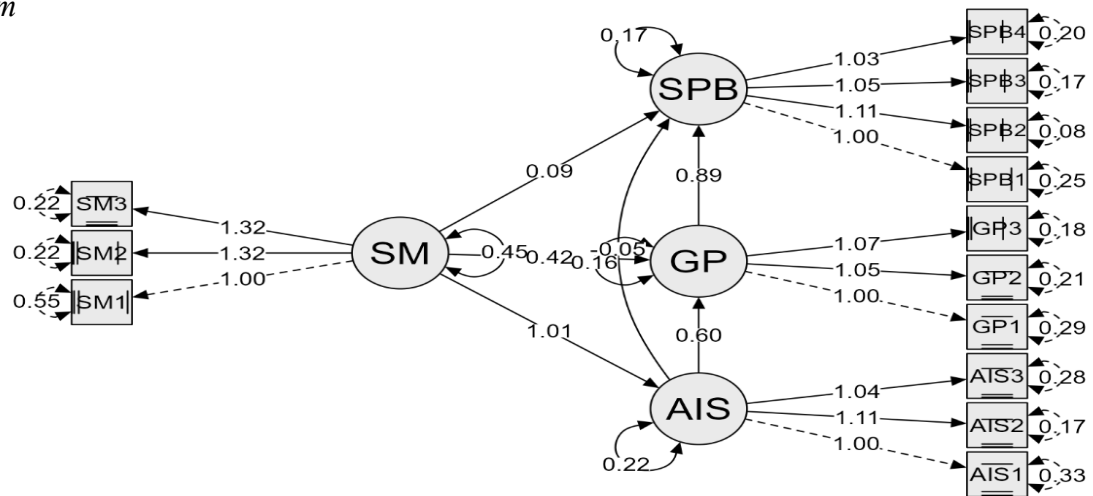
Source of Table 4 Values : SEM from JASP Software)

Table 5: Total Direct and Indirect Effect of SM on SPB

Effect	Std. Estimate	SE	z	p	95% CI
Total indirect SM $\rightarrow$ SPB	0.662	0.062	10.752	< .001	[0.541, 0.782]
Total SM $\rightarrow$ SPB effect	0.732	0.024	30.734	< .001	[0.685, 0.778]

Findings and Discussion

Path diagram



Source of Fig. 2: SEM from JASP Software

The Influence of Sensory Marketing on AI-Augmented Sensory Experience and Green Positioning

The findings related to RO1 provide clear evidence that Sensory Marketing contributes to both AI-Augmented Sensory Experience and Green Positioning. The relationship between Sensory Marketing and AI-Augmented Sensory Experience was particularly strong and positive ($\beta = 0.819$, $p < .001$), supporting H1. This suggests that consumers who respond positively to sensory elements such as visual, auditory, olfactory, and tactile cues are also more likely to perceive AI-enabled shopping environments as engaging, interactive, and immersive. In simple terms, the more effectively sensory elements are incorporated into marketing, the more strongly consumers appear to experience AI-based shopping as an enhanced experience. This finding supports the emerging argument that AI and sensory marketing are becoming increasingly connected in contemporary customer experiences. Helmefalk et al. (2025) similarly highlight the potential of AI to support personalisation, real-time optimisation, and dynamic adjustment of sensory cues. Mouammine (2026) further identifies the growing integration of sensory elements with AI-based applications such as recommendation systems, visual interfaces, and immersive technologies. The strong coefficient observed in the present study therefore suggests that AI should not be viewed simply as a separate technological tool; rather, it can act as an enabler that enriches and personalises sensory experiences. The finding is also consistent with empirical evidence showing that sensory stimulation can influence consumer perceptions and responses. Haryanto et al. (2024) found that AI-supported sensory marketing can influence consumers' emotional and behavioural responses, while Yuan et al. (2024) demonstrate the broader role of sensory cues in shaping consumer evaluations.

The second finding concerns the relationship between Sensory Marketing and Green Positioning. The results show a significant positive relationship ($\beta = 0.330$, $p < .001$), supporting H2. This finding indicates that sensory marketing contributes not only to consumers' experiences but also to their perceptions of a brand's environmental orientation. This interpretation is supported by recent research. Zhang (2026) argues that sensory cues can make environmental attributes more tangible by connecting sustainability with perceptions of authenticity, quality, functionality, and consumer value. İşoraitè and Aktas (2025) similarly suggest that sensory marketing can strengthen consumers' awareness and perceptions of sustainable products. Zhao et al. (2025) further demonstrate that the sensory format of green advertising can influence green purchase intentions, although its effectiveness may depend on message framing. In addition, Worakittikul et al. (2024) show that visual elements such as colours, images, logos, and fonts can shape green brand experiences and influence green consumer responses. The influence of Sensory Marketing on AI-Augmented Sensory Experience ($\beta = .819$) is much higher than its influence on Green Positioning ($\beta = .330$). This may indicate that sensory marketing has a closer connection to the way consumers experience the product than the way they perceive its environmental impact.

The Influence of AI-Augmented Sensory Experience on Green Positioning and Sustainable Purchase Behaviour

The significant relationship between AIS and GP indicates that consumers who experience AI-enabled shopping as more personalized, interactive, convenient, and engaging are more likely to perceive the brand as environmentally responsible. The relatively strong coefficient ($\beta = 0.587$) suggests that AI-enhanced experiences can play an important role in shaping consumers' perceptions of a brand's sustainability orientation. Sohaib et al. (2025) found that AI-based strategic, tactical, and internal green marketing

orientations can strengthen customer trust and satisfaction, which subsequently contribute to green intentions. Similarly, Qadri et al. (2026) found that AI personalization can contribute to sustainable purchase responses when consumers perceive the information provided as relevant. There is a research supporting that Green Brand Positioning affects consumers' purchasing intentions by self-congruence and functional (Chan 2025). Consumers show positive responses when the brand identity matches with their beliefs and expectations.

In contrast, H5 was not supported. The direct effect of AIS on SPB was statistically insignificant ($\beta = -0.050$, $p = .496$; 95% CI $[-0.193, 0.094]$). This finding is particularly meaningful because it shows that an enjoyable, personalized, or technologically advanced shopping experience does not necessarily lead consumers to make sustainable purchases. One possible explanation is that experience and behaviour operate at different levels. Consumers may appreciate an AI-powered interface, personalized recommendations, or interactive product presentation without necessarily believing that the product itself is environmentally responsible. Therefore, technological engagement alone may be insufficient to change purchasing behaviour. This interpretation is consistent with Qadri et al. (2026), who found that AI personalization does not automatically produce sustainable purchase responses. Likewise, Sohaib et al. (2025) found that AI-enabled green marketing contributes to green intentions through factors such as trust and satisfaction rather than through technological exposure alone. Aldaihani et al. (2024) showed that green marketing strategies did not always directly influence green purchase intention; rather, green attitude played an important mediating role. The present results provide an even clearer explanation because AIS significantly predicts GP, while GP has a strong positive relationship with SPB ($\beta = 0.866$, $p < .001$). This is consistent with Chan (2025), who linked green positioning with purchase decisions through self-concept and functional fit.

The Influence of Sensory Marketing and Green Positioning on Sustainable Purchase Behaviour

The results show that Sensory Marketing has a positive but statistically insignificant effect on SPB ($\beta = 0.070$, $p = .318$; 95% CI $[-0.068, 0.208]$). H4 was not supported, suggesting that sensory stimulation alone does not necessarily translate into sustainable purchasing. Sensory stimuli mainly influence the way consumers perceive the product. Zhao et al. (2025) provide useful support for this interpretation. Their study of sensory formats in green advertising found that the effectiveness of sensory advertising depended on message framing. This suggests that sensory cues do not have a fixed effect on green purchasing; rather, their influence depends on how they are connected with the sustainability message. Yadav et al. (2024) emphasize that sustainable consumer behaviour is shaped by a combination of psychological, informational, and contextual factors. Sensory Marketing significantly influences Green Positioning ($\beta = 0.330$, $p < .001$), while Green Positioning strongly influences SPB ($\beta = 0.866$, $p < .001$). This suggests that Sensory Marketing may matter indirectly, by helping consumers form a more favourable perception of the brand's environmental identity. In simple terms, sensory marketing may attract the consumer, but it is the environmental meaning attached to the brand that appears more important for sustainable purchasing.

Unlike H4, H6 is strongly supported. Green Positioning has a very strong positive effect on SPB ($\beta = 0.866$, $SE = 0.070$, $z = 12.443$, $p < .001$, 95% CI $[0.730, 1.002]$). This is one of the strongest relationships in the structural model and indicates that consumers who perceive a brand as environmentally responsible are substantially more likely to demonstrate sustainable purchasing behaviour. This finding is consistent with

Jian and Zhong (2025), who found that eco-positioning can encourage sustainable consumption, particularly when environmental concern and product involvement are considered. Similarly, Chan (2025) demonstrated that Green Brand Positioning influences purchase intention through mechanisms such as self-image and functional congruence. Vuong et al. (2024) found positive relationships between green marketing strategies, including green brand positioning, and consumers' purchase intentions in the FMCG context. Likewise, Anwar et al. (2024) highlighted the importance of Green Brand Positioning in shaping consumers' responses toward sustainable products. The strong relationship between Green Positioning and Sustainable Purchase Behaviour ($\beta = 0.866$) suggests that environmental positioning plays a central role in sustainable choices. Sensory marketing may create favourable experiences, but consumers appear more likely to choose sustainable products when those experiences are supported by a clear and credible environmental message, consistent with Srivastava and Mittal (2025). Baca et al. (2025) emphasize that green branding is more effective when environmental initiatives are authentic rather than based only on green claims. As a result, it seems that consumers are influenced not only by whether sustainability-related messages are present in their minds but also whether these messages make them feel a sense of environmental responsibility.

Mediating and Serial Mediating Effects

The findings of RO4 provide a clear explanation of how Sensory Marketing and AI-Augmented Sensory Experience contribute to Sustainable Purchase Behaviour through Green Positioning. The results show that the indirect effect of Sensory Marketing on Sustainable Purchase Behaviour through AI-Augmented Sensory Experience alone was not significant ($\beta = -0.041, p = .496$), leading to the rejection of H7. This suggests that although sensory marketing can create an engaging, personalized, and technology-enabled experience, such an experience by itself may not be sufficient to encourage sustainable purchasing. This finding is consistent with Qadri et al. (2026), who found that the influence of AI personalization on sustainable purchasing depends on factors such as relevance, transparency, and privacy, and with Sohaib et al. (2025), who showed that AI-enabled green marketing can influence green intentions through mechanisms such as trust and satisfaction. In contrast, H8 was supported, as AI-Augmented Sensory Experience had a significant indirect effect on Sustainable Purchase Behaviour through Green Positioning ($\beta = 0.508, p < .001$; 95% CI [0.366, 0.651]). This indicates that AI-enabled experiences become more meaningful when they strengthen consumers' perception that a brand is environmentally responsible. Similarly, H9 was supported, with a significant indirect effect of Sensory Marketing on Sustainable Purchase Behaviour through Green Positioning ($\beta = 0.286, p < .001$; 95% CI [0.178, 0.395]). Thus, sensory cues such as visual appeal, sound, smell, touch, and product interaction may contribute to sustainable purchasing when they reinforce the environmental identity of the brand. This interpretation is consistent with Zhao et al. (2025), who found that sensory elements in green advertising can influence green purchase intentions depending on how they are integrated with sustainability-related messages. Most importantly, H10 was supported, as the serial indirect effect of Sensory Marketing on Sustainable Purchase Behaviour through AI-Augmented Sensory Experience and Green Positioning was significant ($\beta = 0.416, p < .001$; 95% CI [0.296, 0.536]). The results revealed a sequential mechanism in which Sensory Marketing creates the first experience; this experience is enhanced and personalized by AI, while Green Positioning provides an environmental context and creates a desirable perception stimulating Sustainable Purchase Behaviour. In this way, the findings from RO4 show that Green Positioning is a key mediator turning the sensory and AI-fuelled experiences into sustainable purchasing. To put it simply, experience alone is not enough; the experience has to enhance the perception of the environmental responsibility of a brand to start changing the

behaviour of consumers. This chain mediation mechanism is an important contribution of the research as it connects sensory marketing, AI-based consumer experience, and sustainability in one explanatory model.

Novel Contribution of the Research

The novelty of the current study is the development of an integrated framework relating Sensory Marketing, AI-Augmented Sensory Experiences, Green Positioning, and Sustainable Purchase Behaviour. While previous studies have mostly analyzed these dimensions in isolation, the current study discusses the manner through which the former two could lead to sustainable purchases. In particular, the study identifies Green Positioning as a critical mediating mechanism and demonstrates a significant serial pathway from Sensory Marketing through AI-Augmented Sensory Experience and Green Positioning to Sustainable Purchase Behaviour. Not only do the findings challenge the idea that improved AI-based experience directly leads to sustainable purchase behavior but they also suggest that these experiences lead to behaviorally relevant situations only if they improve consumers' awareness of the brand's green image. The research not only focuses on examining relationships but also tries to provide an explanation for translating modern marketing experiences into sustainable behaviors.

Conclusion

The current study focused on Sensory Marketing, AI-Augmented Sensory Experience, Green Positioning, and Sustainable Purchase Behaviour. In doing so, this study aimed to inform researchers not only whether modern marketing methods play an important role in sustainable purchasing but how. The findings are intriguing. Indeed, Sensory Marketing has a significant impact on AI-Augmented Sensory Experience and Green Positioning; in turn, AI-Augmented Sensory Experience makes its own contribution to Green Positioning. On the contrary, neither Sensory Marketing nor AI-Augmented Sensory Experience affects Sustainable Purchase Behaviour directly. In contrast, Green Positioning exerts a significant positive impact on Sustainable Purchase Behaviour. Therefore, creating an appealing or innovative consumer experience alone is not enough to motivate the buyer to make sustainable purchases. The mediation results give additional clarification on these relations. AI-Augmented Sensory Experience alone does not significantly mediate the relationship between Sensory Marketing and Sustainable Purchase Behaviour. However, Green Positioning significantly mediates both the relationship between AI-Augmented Sensory Experience and Sustainable Purchase Behaviour and the relationship between Sensory Marketing and Sustainable Purchase Behaviour. Most importantly, the significant serial mediation confirms the pathway Sensory Marketing → AI-Augmented Sensory Experience → Green Positioning → Sustainable Purchase Behaviour. The study ultimately shows that Green Positioning functions as an effective connector between marketing experience and green purchasing. AI-enhanced sensory experiences appear to support sustainable buying only when they reinforce a credible perception of the brand's environmental commitment. Thus, marketers should combine sensory appeal and AI with clear Green Positioning, viewing sustainable purchasing as a process rather than an immediate response to technology-driven marketing.

Implications of the Study

The study extends existing research by bringing Sensory Marketing, AI-Augmented Sensory Experience, Green Positioning, and Sustainable Purchase Behaviour into one framework. The findings show that

sensory and AI-driven experiences do not automatically lead to sustainable purchasing; rather, Green Positioning provides the key link through which these experiences can translate into sustainable consumer choices. The fact that serial mediation was proved proves the sequence of the events that take place in the Sensory Marketing – AI-Augmented Sensory Experience – Green Positioning scheme before the situation leads to Sustainable Purchase Behaviour. The study therefore contributes by explaining how marketing experiences translate into consumers' decisions to make sustainable purchases. Marketers should therefore combine sensory appeal and AI personalisation with credible Green Positioning rather than relying on technology alone. AI can enrich consumer experiences, but environmental claims should remain clear, authentic, and supported by genuine sustainability practices to encourage sustainable purchasing.

Future Scope Of The Study

Future research could examine factors such as trust, environmental consciousness, authenticity, greenwashing perceptions, digital literacy, and brand credibility in shaping AI-driven sustainable consumption. Studies could also compare technologies such as recommendation systems, virtual try-ons, AR, and chatbots using longitudinal, experimental, or cross-cultural designs to better understand their long-term and context-specific effects. Another aspect that future researchers may look into is whether the developed model works differently among different age groups or environmental involvement level, etc. Such extensions would help develop a more comprehensive understanding of how technology-enabled marketing can contribute to sustainable consumption.

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