

The Influence of Green Marketing Mix on Customer Satisfaction in Apple Inc.'s Sustainable Branding

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Abstract

This study aims to examine the impact of the green marketing mix on customer satisfaction, using Apple as a case study of environmentally conscious corporate strategy. The research is driven by the growing consumer demand for sustainable practices and the need to understand which green marketing elements most strongly influence satisfaction and loyalty in the premium technology sector. A quantitative research design was employed, involving the distribution of structured questionnaires to Apple consumers familiar with the company's environmental initiatives. Data were analyzed using validity testing and multiple regression analysis to assess the contribution of each variable to customer satisfaction. The results indicate that all four elements of the green marketing mix significantly and positively affect customer satisfaction. Notably, green place emerged as the strongest predictor, followed by green price and green promotion. Green product, while the least influential, still had a statistically significant impact. These findings suggest that environmentally conscious retail environments and value-driven pricing strategies play a central role in shaping positive consumer experiences. The implications of this study highlight the strategic importance of integrating sustainability into both marketing communication and physical retail infrastructure. Companies can enhance customer loyalty and brand trust by aligning their green marketing practices with consumers' environmental values, especially through ethical store design, accessible pricing, and engaging digital promotion. This study contributes original insights by identifying green place as a key determinant of customer satisfaction in the context of sustainable branding. By focusing on the technology sector and employing a robust analytical framework, the research expands the theoretical and practical understanding of green marketing effectiveness in contemporary consumer markets.

Keywords: Apple; customer satisfaction; green marketing mix; green place; sustainable branding.

Abstrak

Penelitian ini bertujuan untuk mengkaji pengaruh bauran pemasaran hijau (*green marketing mix*) terhadap kepuasan pelanggan, dengan studi kasus pada perusahaan Apple sebagai representasi strategi korporasi yang berwawasan lingkungan. Penelitian ini dilatarbelakangi oleh meningkatnya tuntutan konsumen terhadap praktik berkelanjutan dan kebutuhan untuk memahami elemen bauran pemasaran hijau mana yang paling kuat memengaruhi kepuasan dan loyalitas pelanggan, khususnya dalam sektor teknologi premium. Penelitian ini menggunakan pendekatan kuantitatif dengan menyebarkan kuesioner terstruktur kepada konsumen Apple yang mengetahui inisiatif lingkungan perusahaan. Data dianalisis melalui uji validitas dan regresi berganda untuk menilai kontribusi masing-masing variabel terhadap kepuasan pelanggan. Hasil penelitian menunjukkan bahwa keempat elemen bauran pemasaran hijau berpengaruh positif dan signifikan terhadap kepuasan pelanggan. Di antara keempat variabel tersebut, *green place* (tempat/penyaluran ramah lingkungan) muncul sebagai prediktor paling kuat, diikuti oleh *green price* dan *green promotion*. Meskipun *green product* merupakan variabel dengan pengaruh paling kecil, ia tetap memberikan dampak yang signifikan secara statistik. Temuan ini menunjukkan bahwa lingkungan ritel yang berwawasan lingkungan dan strategi harga berbasis nilai memainkan peran penting dalam membentuk pengalaman positif pelanggan. Implikasi dari penelitian ini menekankan pentingnya integrasi prinsip keberlanjutan dalam komunikasi pemasaran maupun infrastruktur ritel fisik. Perusahaan dapat meningkatkan loyalitas pelanggan dan kepercayaan merek dengan menyelaraskan praktik pemasaran hijaunya dengan nilai-nilai lingkungan yang dianut oleh konsumen, terutama melalui desain toko yang etis, penetapan harga yang terjangkau, dan promosi digital yang menarik.

Penelitian ini memberikan kontribusi orisinal dengan mengidentifikasi *green place* sebagai penentu utama kepuasan pelanggan dalam konteks *sustainable branding*. Dengan memfokuskan kajian pada sektor teknologi dan menggunakan kerangka analisis yang kuat, penelitian ini memperluas pemahaman teoretis dan praktis mengenai efektivitas pemasaran hijau di pasar konsumen modern.

Kata Kunci: Apple; bauran pemasaran hijau; *green place*; kepuasan pelanggan; *sustainable branding*.

INTRODUCTION

In recent years, sustainability has emerged as a key determinant of consumer decision-making, with global trends indicating a growing shift in purchasing habits. A broad spectrum of studies confirms that a significant share of consumers are not only willing to modify their consumption behaviour to reduce environmental impact, but are also prepared to pay a premium for sustainable products (Goedertier et al., 2024). This willingness is particularly strong among younger generations such as Gen Z, and is further influenced by gender, income levels, and environmental awareness (Canavari & Coderoni, 2019; Wei et al., 2018). In practical terms, consumers have expressed a positive willingness to pay for sustainable options across various product categories, including low-carbon dairy products, eco-friendly beer, fashion items, and even ornamental plants (Carley & Yahng, 2018; Pires et al., 2024; Yue et al., 2016). These findings suggest that sustainability is not merely a peripheral concern, but a central component of perceived product value and brand loyalty. Nevertheless, the gap between intention and action remains a challenge—one that businesses can address through clear environmental communication, ethical branding, and active customer engagement (Dieli et al., 2024; Wei et al., 2018). For major global brands like Apple Inc., aligning corporate strategies with sustainability values is both a market opportunity and a reputational imperative.

A growing body of literature has explored consumer behaviour in relation to sustainability, particularly focusing on the green marketing mix and its influence on consumer satisfaction. First, studies on consumer willingness to pay for sustainability consistently highlight the increasing demand for ethical and environmentally responsible products. For instance, Greener Products (2017) and Goedertier et al. (2024) report that sustainability-driven preferences are now embedded across generational and gender lines, influencing brand choice and pricing tolerance. These findings are reinforced by evidence from specific sectors, such as dairy (Canavari & Coderoni, 2019), beer (Carley & Yahng, 2018), and fashion (Pires et al., 2024), where consumers are prepared to pay a premium for environmentally certified products.

Second, research on green marketing communication strategies underscores the importance of clear and credible messaging. Studies by Sharma (2021) and Kewakuma (2021) demonstrate that eco-labels, corporate sustainability narratives, and social media campaigns play critical roles in shaping consumer perceptions. However, these strategies must avoid the risk of “greenwashing,” as consumer trust is contingent upon authenticity and transparency.

Third, literature examining the attitude-behaviour gap reveals a persistent discrepancy between consumer intentions and actual purchasing practices. Despite positive declarations of sustainability interest, real-world choices often remain influenced by convenience, price, or availability (Dieli et al., 2024). Scholars such as Wei et al. (Wei et al., 2018) argue that this gap can be reduced through firm-initiated actions—like participatory campaigns and inclusive product design—that enhance customer engagement and bridge idealistic values with feasible consumption.

Together, these strands of literature highlight the complexity of consumer engagement with sustainability and demonstrate a need for further empirical work that examines the integrated effect of the green marketing mix on consumer satisfaction, especially within tech-driven global brands like Apple Inc.

Given Apple Inc.'s global influence and strong brand equity, examining its green marketing practices offers a valuable case for understanding how sustainability-oriented strategies can shape consumer satisfaction at scale. As a technology giant known for its product innovation, Apple has increasingly embedded environmental values into its branding—through initiatives like carbon-neutral goals, recyclable materials, and transparent supply chain reporting. However, the extent to which these efforts genuinely resonate with consumer expectations, influence purchase decisions, and foster long-term brand loyalty remains underexplored. Investigating Apple's implementation of the green marketing mix—covering product design, pricing strategy, promotional messaging, and distribution channels—can provide critical insights into how global firms balance profitability with environmental responsibility. Such a focus is not only timely but also strategically relevant for businesses aiming to thrive in an era where ecological accountability is becoming a decisive market differentiator.

This study aims to empirically examine how the application of the green marketing mix—which includes product, price, distribution (place), and promotion—affects consumer satisfaction with the Apple Inc. brand. By focusing on consumer perceptions of Apple's sustainability practices, this study will measure the extent to which these environmentally friendly strategies influence brand loyalty, purchasing decisions, and consumer trust. Additionally, this study seeks to identify the most significant elements within the green marketing mix in shaping consumer satisfaction, as well as analyze the role of demographic factors (such as age and environmental awareness level) in strengthening or weakening these influences. Thus, this study is expected to provide conceptual and practical contributions to the development of sustainable marketing strategies, particularly for global technology companies seeking to maintain brand relevance amid growing consumer demands for environmental responsibility.

Grounded in the Resource-Based View theory (Hart, 1995) and supported by prior empirical studies (Y. S. Chen & Chang, 2012; Papadas et al., 2017), it is argued that green marketing strategies contribute to competitive advantage by enhancing customer value and brand loyalty. Apple Inc., as a leading global technology company, has implemented various sustainability initiatives—ranging from eco-friendly product innovations and renewable energy usage to sustainability-driven promotional campaigns—demonstrating its alignment with the expectations of environmentally conscious consumers.

This study posits that each component of the green marketing mix has a positive and significant influence on customer satisfaction. The construct of customer satisfaction, as applied in this research, represents consumers who have had repeated purchasing experiences with Apple products, particularly gadgets and their related accessories. The conceptual framework (see Figure 1) illustrates the hypothesized direct relationships between the four independent variables and the dependent variable, as follows:

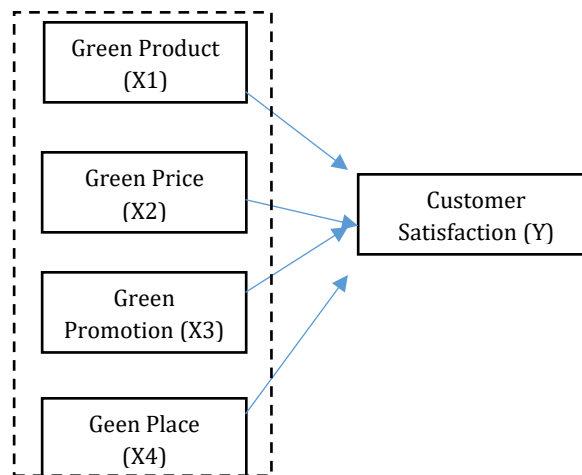


Figure 1 Hypothesis Roadmap Model

To empirically examine the proposed relationships between the elements of the green marketing mix and customer satisfaction, this study formulates four hypotheses. The first hypothesis (H1) posits that green product attributes, such as environmentally friendly design and materials, have a positive and significant impact on customer satisfaction. The second hypothesis (H2) suggests that green pricing strategies—those that reflect environmental value while remaining competitive—also positively and significantly influence customer satisfaction. The third hypothesis (H3) asserts that green promotion, including sustainability-focused advertising and messaging, enhances customer perceptions and satisfaction. Lastly, the fourth hypothesis (H4) contends that green place, which refers to environmentally conscious distribution channels and store environments, positively and significantly affects customer satisfaction. These hypotheses aim to capture the individual contributions of each green marketing mix component to the overall satisfaction experienced by consumers of Apple products.

RESEARCH METHOD

The unit of analysis in this study is individual consumers from the general public who have purchased and used Apple products within the last 12 months. These individuals are considered suitable respondents as they possess direct experience with the brand and are likely to be aware of Apple's environmental or sustainability initiatives. The research focuses on how these consumers evaluate Apple's implementation of the green marketing mix and how it influences their overall satisfaction.

This study employs a quantitative research design with a causal-explanatory approach. The choice of this design is based on the research objectives, which aim to examine the causal relationship between the green marketing mix and customer satisfaction. According to Creswell and Creswell (2017), a quantitative approach is suitable for hypothesis testing and prediction, especially when variables can be measured numerically and analyzed statistically. This method enables the identification of statistically significant relationships and the strength of influence among variables.

The primary data for this research was obtained through an online questionnaire distributed to respondents who met specific criteria. Respondents were individuals who had purchased Apple products within the past year and were familiar with the brand's environmental efforts, such as carbon neutrality, product recycling, or eco-friendly packaging. This ensured that participants had sufficient background to

evaluate Apple's green marketing strategies. No secondary data was used in the statistical analysis, though prior literature was referenced to construct the theoretical framework and develop the instrument.

Data collection was carried out using a structured online questionnaire designed to assess consumer perceptions across four independent variables—green product, green price, green promotion, and green place—and one dependent variable, customer satisfaction. The instrument used a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A purposive sampling technique was employed to ensure that only qualified respondents participated. The final sample size consisted of **175** participants, determined using the Slovin formula as proposed by Yamane (1967) and cited in Tejada & Punzalan (2012). The survey was conducted in Indonesia, specifically in urban areas such as Jakarta, Bandung, and Surabaya, which were selected for their high density of Apple users and increasing awareness of environmental issues.

RESULT

The Impact of Green Product and Green Promotion on Customer Satisfaction

To examine the influence of green product and green promotion on customer satisfaction, the study utilized results from the validity test and multiple regression analysis. These measurements were based on questionnaire responses evaluating Apple's environmentally conscious product and promotional strategies.

For the Green Product variable (X1), several indicators demonstrated high levels of validity, indicating a positive perception of Apple's commitment to sustainability. The statement *"Apple products are comfortable to use"* received a coefficient of 0.78, reflecting consumer appreciation for usability and experience. The item *"Apple's design is varied and incorporates green elements"* scored 0.65, suggesting moderate but positive reception toward Apple's integration of eco-friendly design. Notably, the highest value, 0.83, was recorded for *"Consumers are willing to support the Go Green concept,"* signifying that users not only acknowledge but are also motivated by Apple's green initiatives. Another strong indicator, *"Apple's reputation for fulfilling the Go Green concept,"* also achieved a score of 0.81, highlighting consumer trust in the brand's environmental integrity.

The Green Promotion variable (X3) likewise yielded robust results. The highest coefficient, 0.85, was attributed to the statement *"Green promotions also offer discounted prices,"* indicating that economic incentives tied to sustainability efforts are particularly effective. Meanwhile, *"Promotion with the Green concept through website and social media"* recorded scores of 0.83 and 0.78, respectively. These values underscore the effectiveness of digital channels in communicating environmental messages and engaging consumers. Furthermore, the item *"Promotions with attractive green concepts make consumers want to own Apple products"* received a strong score of 0.81, showing that the aesthetic and ethical appeal of green messaging has tangible effects on purchase intention.

In summary, the data from both variables demonstrate consistently high validity scores—well above the accepted 0.30 threshold—confirming that the constructs of green product and green promotion were not only appropriately measured but also positively evaluated by consumers. These findings provide a strong empirical foundation to assess the influence of these green marketing components on overall customer satisfaction. The complete results of the validity test for each item are presented in Table 1.

Table 1 Validity Test Results for Green Product and Green Promotion

Item	Variables	Statement	Score	Information
X.1.1	Green Product (X1)	Apple products are comfortable to use	0.78	Valid
X.1.2	Green Product (X1)	Apple's design is varied and has incorporated green elements	0.65	Valid
X.1.3	Green Product (X1)	Apple's reputation for fulfilling the Go Green concept	0.81	Valid
X.1.4	Green Product (X1)	Consumers are willing to support the Go Green concept	0.83	Valid
X.3.1	Green Promotion (X3)	Promotion with attractive green concept	0.78	Valid
X.3.2	Green Promotion (X3)	Promotion with the green concept makes consumers want to own Apple products	0.81	Valid
X.3.3	Green Promotion (X3)	Green promotions also offer discounted prices	0.85	Valid
X.3.4	Green Promotion (X3)	Promotion with green concept effectively through website and social media	0.83	Valid

The results of the validity test (Table 1) clearly affirm that both green product and green promotion variables are not only accurately measured through well-constructed indicators but are also favorably perceived by consumers. The consistently high validity scores, particularly those exceeding 0.80—such as “Consumers are willing to support the Go Green Concept” (0.83) and “Green promotions also offer discounted prices” (0.85)—signify a strong alignment between consumers’ environmental values and Apple’s green marketing strategies. This suggests that customers recognize and appreciate efforts in sustainable product design and eco-conscious promotional activities. As presented in Table 1, these findings validate the hypothesis that green product features and green promotional efforts play a significant role in shaping consumer satisfaction, laying the groundwork for further causal testing through regression analysis in subsequent sections.

The data presented in Table 1 reveals several noteworthy trends regarding consumer perceptions of Apple’s green marketing components. First, there is a consistently high level of validity across green product indicators, particularly those related to consumer alignment with sustainability values—such as the willingness to support the Go Green concept (0.83) and trust in Apple’s green reputation (0.81). This suggests that consumers do not merely view green products in functional terms, but associate them with a broader environmental commitment. Second, the green promotion variable shows an even stronger performance, with the highest score (0.85) linked to economic incentives—specifically discounts—indicating that price benefits enhance the attractiveness of sustainable campaigns. Third, digital promotion through websites and social media also scored high (0.83 and 0.78), highlighting the importance of online platforms in influencing environmentally driven purchasing decisions. Fourth, while the green price and green place variables also reached acceptable validity thresholds, their scores were generally lower, suggesting that consumers may be less responsive to environmental pricing strategies and location-based green messaging. In summary, the preliminary data shows a clear pattern: emotional and digital engagement, supported by affordability and ethical alignment, are the most effective levers in shaping customer satisfaction for green-marketed Apple products.

These findings suggest that Apple’s green product attributes and eco-focused promotional strategies significantly reinforce customer satisfaction, especially through emotionally resonant values

and compelling digital engagement. This supports the hypothesis that both green product (H1) and green promotion (H3) positively influence satisfaction. Consumers not only recognize functional quality but are also drawn to the brand's alignment with broader environmental concerns, particularly when communicated effectively through social media and promotional incentives. The high scores associated with ethical messaging and digital outreach indicate that green marketing is most impactful when it appeals to both the conscience and convenience of consumers. These results validate existing literature that links product sustainability and responsible promotion with enhanced consumer trust and loyalty, affirming the strategic value of integrating green values into both product development and marketing communication.

The Impact of Green Price on Customer Satisfaction

The Green Price variable (X2) was measured using six indicators designed to capture consumer perceptions of environmentally sensitive pricing strategies. Compared to the other green marketing mix components, the validity scores for this variable were generally lower, suggesting more mixed or moderate responses from participants. Nevertheless, each indicator met the minimum threshold for validity, confirming that the items were still suitable for further analysis.

Several indicators under the Green Price variable received modest scores. For example, the statement "Prices that have Green elements are able to compete with similar products" recorded a coefficient of 0.51, while "The price of Green products is affordable" scored 0.53. These relatively low values indicate a level of consumer skepticism or limited awareness regarding Apple's pricing competitiveness in the green product category. Similarly, "Apple prices already vary" and "There is a discount" scored 0.65 and 0.73 respectively, reflecting moderate perceptions of price flexibility and promotional pricing strategies.

On the other hand, a stronger performance was observed in two specific indicators. The item "The price of Apple products is in line with the quality" achieved a score of 0.81, and "The price of Apple products is in accordance with the benefits obtained" recorded the highest score in this group, 0.83. These results suggest that, despite some reservations about pricing, consumers generally view Apple's green products as offering good value in terms of quality and long-term benefit. This contrast reveals that while affordability may be in question, perceived value remains a strength.

Importantly, the regression analysis confirmed a statistically significant relationship between green price and customer satisfaction. The regression coefficient for this variable was $b = 0.422$, with a p-value of 0.000, indicating a strong positive effect. This suggests that even if consumers are uncertain about absolute pricing levels, their satisfaction is positively influenced by perceived fairness and the value-for-money aspect of Apple's green products.

To further analyze the role of green pricing in shaping customer satisfaction, this section presents the results of the validity test for the Green Price variable (X2). The indicators measured consumers' perceptions of Apple's pricing strategies in relation to environmental value, affordability, and overall product worth. While certain items showed moderate validity scores, the overall construct met the acceptable threshold, supporting its inclusion in the model. The complete validity scores for Green Price are summarized in Table 2.

Table 2 Validity Scores of Green Price Indicators (X2)

Item	Variables	Score	Information
X.2.1	Prices that have Green elements are able to compete with similar products	0.51	Valid
X.2.2	Apple prices already vary	0.65	Valid
X.2.3	The price of Green products is affordable	0.53	Valid
X.2.4	There is a discount	0.73	Valid
X.2.5	The price of Apple products is in line with the quality	0.81	Valid
X.2.6	The price of Apple products is in accordance with the benefits obtained	0.83	Valid

The validity test results for the Green Price variable (X2) confirm that all six indicators meet the minimum threshold of 0.30, validating their inclusion in the study. Although some indicators—such as "Prices that have green elements are able to compete with similar products" (0.51) and "The price of green products is affordable" (0.53)—registered relatively lower scores, they still demonstrate acceptable construct validity. In contrast, stronger indicators like "The price of Apple products is in line with the quality" (0.81) and "The price is in accordance with the benefits obtained" (0.83) suggest that consumers place higher value on the perceived quality and benefit alignment in pricing decisions. These results collectively reinforce the relevance of green price as a contributing factor in evaluating customer satisfaction.

The data reveal a noticeable pattern in how consumers perceive green pricing strategies. Indicators tied to tangible value—such as quality-price alignment (0.81) and benefit-price correspondence (0.83)—garnered the highest validity scores, indicating that consumers are more responsive to pricing when it clearly reflects the product's quality and environmental benefits. Conversely, abstract or less directly experienced elements, such as price competitiveness (0.51) and affordability (0.53), scored lower, suggesting that while green pricing is acknowledged, it is not the primary motivator unless it directly translates into perceived value. Additionally, the presence of discounts (0.73) appears to serve as a balancing factor, making green products more attractive despite moderate affordability concerns. These tendencies reflect a consumer inclination to support sustainable brands, provided that the pricing remains justified by quality and perceived benefit.

These findings suggest that although consumers may not view Apple's green pricing as particularly competitive or affordable in isolation, their satisfaction is still positively influenced when the price is perceived to match the product's quality and environmental benefits. This interpretation supports the acceptance of Hypothesis 2 (H2), indicating that green price exerts a significant positive influence on customer satisfaction. It aligns with existing studies emphasizing that in the context of premium brands, perceived value and ethical considerations often outweigh purely economic motivations. Thus, Apple's pricing strategy appears effective when framed within a broader narrative of quality and sustainability.

The Influence of Green Place on Customer Satisfaction

To assess the impact of green place on customer satisfaction, this study examined responses to several indicators reflecting Apple's retail strategies, particularly regarding store accessibility, distribution channels, and environmentally friendly locations. Green Place (X4), as a key element of green marketing, refers to how and where Apple distributes its products in alignment with sustainability values and consumer convenience.

The validity test results indicated that most indicators of the green place variable were perceived positively by respondents. For instance, the statement "The Apple store is very attractive with a green

concept" achieved a validity coefficient of 0.75, signaling favorable recognition of Apple's eco-conscious store design. Similarly, "Apple stores located in strategic locations" scored 0.63, showing that customers acknowledged the convenience of store locations. Other items, such as "Easy to reach outlets" (0.56) and "More Apple Stores" (0.65), also passed the validity threshold, confirming that respondents found Apple's retail infrastructure sufficiently accessible and available.

Despite slightly lower validity scores compared to green product or green promotion, the regression analysis revealed that green place had a strong and statistically significant effect on customer satisfaction. The regression coefficient for green place was $b = 0.876$, with a significance level of $p = 0.003$, indicating that store location and accessibility contribute meaningfully to customer satisfaction. These findings highlight that a well-positioned and environmentally appealing retail environment enhances the overall consumer experience with green brands like Apple.

The detailed item-level validity scores for the green place variable are displayed in Table 3.

Table 3 Validity Test Results for Green Place (X4)

Item	Variables	Score	Information
X.4.1	The Apple store is very attractive with a Green concept	0.75	Valid
X.4.2	Easy to reach outlets	0.56	Valid
X.4.3	Apple stores located in strategic locations	0.63	Valid
X.4.4	More Apple Stores	0.65	Valid

As shown in Table 3, all indicators used to measure the Green Place variable achieved validity coefficients above the minimum threshold of 0.30, affirming that the items were both methodologically sound and positively received by respondents. The item with the highest score, "The Apple store is very attractive with a Green concept" (0.75), reflects consumers' awareness of and appreciation for environmentally mindful retail design. Other indicators, including "Apple stores located in strategic locations" (0.63) and "More Apple Stores" (0.65), further underscore the importance of accessible and sustainably oriented physical presence. These results confirm that Apple's distribution strategy contributes to shaping customer satisfaction and support the construct validity of the green place dimension.

The data presented in Table 3 reveal a pattern where consumers positively evaluate Apple's environmentally conscious retail environments and store accessibility. The highest-scoring item, "The Apple store is very attractive with a Green concept" (0.75), suggests that consumers are responsive to store aesthetics that align with sustainability values. Meanwhile, moderately strong scores for "Apple stores located in strategic locations" (0.63) and "More Apple Stores" (0.65) indicate that convenience and availability also contribute to customer satisfaction. Although "Easy to reach outlets" scored slightly lower (0.56), it still falls within the valid range, reflecting acceptable perceptions of store accessibility. Overall, these results point to a consistent consumer appreciation for green-focused distribution strategies and retail visibility.

The findings suggest that Apple's green place strategy—characterized by eco-conscious store design and strategic location planning—significantly enhances customer satisfaction. The high regression coefficient ($b = 0.876$, $p = 0.003$) underscores the strong influence of environmentally aligned physical presence on consumer perceptions. This supports Hypothesis 4 (H4), affirming that a well-executed green place strategy positively affects satisfaction. These insights align with prior studies that emphasize the importance of sustainable retail environments in shaping consumer loyalty and trust. In Apple's case, not

only the presence of stores but also the alignment of their design with environmental values contributes to a more meaningful brand experience for eco-aware consumers.

Validity of Customer Satisfaction Variable

To accurately measure the impact of green marketing strategies on consumer attitudes, this study included a set of six indicators to assess the Customer Satisfaction variable (Y). These indicators captured various dimensions of satisfaction, ranging from emotional responses to behavioural intentions, such as repurchase and word-of-mouth recommendations. The validity test for each indicator was conducted using item-total correlation analysis to ensure that all items reliably measured the underlying construct of customer satisfaction.

The results indicated that all six indicators met the acceptable threshold of 0.30, validating their use in subsequent statistical analyses. The highest score, 0.85, was observed for the statement *"Recommend to others,"* suggesting a strong level of advocacy and brand trust among Apple consumers. Similarly, the item *"Informing others about the promo"* received a score of 0.78, reinforcing the idea that satisfied customers are likely to share positive information about green campaigns. Other indicators also yielded satisfactory results: *"Satisfied with Buying Green Products"* scored 0.73, *"Feels good and wants to buy again"* recorded 0.71, while *"Will continue to provide products"* and *"Provide other types of products"* earned 0.67 and 0.69, respectively.

These findings affirm that the indicators comprehensively reflect consumer satisfaction as it relates to Apple's green marketing efforts. Table 4 presents the detailed item-level validity scores for the Customer Satisfaction variable.

Table 4 Validity Test Results for Customer Satisfaction (Y)

Item	Statement	Score	Information
Y.1.1	Satisfied with Buying Green Products	0.73	Valid
Y.1.2	Feels good and wants to buy again	0.71	Valid
Y.1.3	Recommend to others	0.85	Valid
Y.1.4	Informing others about the promo	0.78	Valid
Y.1.5	Will continue to provide products	0.67	Valid
Y.1.6	Provide other types of products	0.69	Valid

The results of the validity test for the Customer Satisfaction variable provide strong evidence that all six indicators used to measure this construct are valid and reliable. Each item exceeded the accepted threshold of 0.30, confirming that the questions effectively captured various dimensions of customer satisfaction in the context of Apple's green marketing strategies. The strongest result was seen in the statement *"Recommend to others,"* which scored 0.85. This suggests that Apple's environmentally conscious efforts resonate with consumers to the extent that they are willing to advocate for the brand. Another high-scoring item, *"Informing others about the promo,"* with a validity coefficient of 0.78, reflects consumers' tendency to share positive experiences and promotions with others. Meanwhile, *"Satisfied with buying green products"* (0.73) and *"Feels good and wants to buy again"* (0.71) both illustrate emotional and behavioral satisfaction, indicating that Apple's green initiatives contribute to customer contentment and future purchase intent. Although slightly lower, the scores for *"Will continue to provide products"* (0.67) and *"Provide other types of products"* (0.69) still fall within the valid range, demonstrating that customers are inclined to support the brand further through sustained engagement and product interest.

A closer look at the data reveals several important trends. First, satisfaction is not only measured by how consumers feel but also by how they act—particularly in terms of advocacy and word-of-mouth. The highest scores were associated with recommending the brand and promoting its green initiatives to others. This suggests a strong level of brand trust and consumer engagement. Second, emotional satisfaction plays a vital role. Consumers reported positive feelings toward purchasing Apple's green products, which translates into a desire to repurchase. Third, although intentions to continue using and diversifying product use scored slightly lower, the values still indicate a favorable outlook on Apple's commitment to sustainability.

These findings highlight the broader implications of Apple's green marketing strategy. When consumers feel emotionally connected to a brand and believe in its environmental values, they are not only satisfied—they become brand ambassadors. This level of satisfaction goes beyond a single transaction, influencing future purchases and interpersonal communication. It confirms that sustainability can be a powerful driver of loyalty, especially when it is authentically reflected in both product development and promotional messaging. Apple's green initiatives clearly contribute to a customer experience that is ethical, meaningful, and worth sharing.

Multiple Regression Analysis

To evaluate the overall effect of green marketing mix variables on Customer Satisfaction, a multiple regression analysis was performed. This statistical method allows for the simultaneous examination of the influence exerted by four independent variables—Green Product (X1), Green Price (X2), Green Promotion (X3), and Green Place (X4)—on the dependent variable, Customer Satisfaction (Y). The objective was to determine the extent and significance of each predictor in shaping consumer satisfaction in the context of Apple's green marketing initiatives.

The results of the regression analysis are presented in Table 5. The model shows that all four independent variables have a positive and statistically significant effect on customer satisfaction, with p-values well below the 0.05 threshold. Notably, Green Place (X4) exhibited the strongest influence, with a b-value of 0.876 and a significance level of 0.003, indicating that the location, design, and accessibility of Apple's eco-conscious stores play a critical role in shaping customer satisfaction. This is consistent with the earlier findings in Sub-bab 4.3, which emphasized the importance of sustainable retail environments.

Green Price (X2) also demonstrated a significant effect, with a b-value of 0.422 and a p-value of 0.000. Although price perceptions varied across indicators (see Sub-bab 4.2), the overall contribution of green pricing strategies—particularly those linked to perceived value—was confirmed as a key factor in customer satisfaction.

Green Promotion (X3) followed with a b-value of 0.233 and a significance level of 0.005. These findings underscore the role of eco-friendly promotional campaigns, especially those delivered via digital platforms and incentivized with discounts, in reinforcing customer loyalty and positive attitudes.

Finally, Green Product (X1), while showing the lowest b-value at 0.007, was still statistically significant with a p-value of 0.000. This suggests that product-related attributes, such as design, comfort, and environmental innovation, though not the strongest driver, remain foundational to green marketing success.

The regression analysis confirms the research hypotheses (H1 to H4), validating that all components of the green marketing mix contribute significantly to customer satisfaction. These insights offer empirical evidence that Apple's integrated approach—blending eco-conscious design, ethical pricing,

digital promotion, and sustainable retail infrastructure—effectively enhances consumer experience and loyalty.

To provide a clearer view of how each green marketing mix element contributes individually to customer satisfaction, the results of the regression analysis are summarized in Table 5 below. This table presents the coefficient values (b), t-values, significance levels (Sig), and the corresponding interpretation of their relevance. The combination of these statistical indicators offers a comprehensive understanding of the magnitude and significance of each variable's impact on customer satisfaction in the context of Apple's green marketing strategy.

Table 5 Multiple Regression Test Results

Variable Dependen	Variable Independen	b	t	Sig	Relevances
Customer Satisfaction	Green Product	0,007	3,811	0,000	Positive and Significant
	Green Price	0,422	4,891	0,000	Positive and Significant
	Green Promotion	0,233	3,467	0,005	Positive and Significant
	Green Place	0,876	3,045	0,003	Positive and Significant
	Constant	0,567			

The multiple regression analysis revealed that all four green marketing variables—green product, green price, green promotion, and green place—have a statistically significant and positive impact on customer satisfaction. In simpler terms, this means that each of these factors, when implemented effectively by Apple, contributes to making customers feel more satisfied with their experience. The variable with the strongest influence was green place, showing that the environment where Apple products are sold—including store design, strategic location, and eco-friendly infrastructure—has the greatest impact on how satisfied customers feel. Green price and green promotion also showed meaningful effects, while green product, though the weakest in influence, still contributed positively.

Several patterns emerge from the data. First, green place stands out as the most influential factor ($b = 0.876$), indicating that physical aspects of Apple's retail presence—like sustainability in store layout or convenience of access—play a vital role in customer satisfaction. Second, green price ($b = 0.422$) shows that customers are sensitive to pricing strategies that align with perceived value and sustainability. Discounts and fairness in pricing boost satisfaction. Third, green promotion ($b = 0.233$) reinforces that digital campaigns and environmental messaging—especially those with incentives—can effectively enhance customer trust and engagement. Lastly, although green product has the smallest coefficient ($b = 0.007$), it is still statistically significant, reaffirming that product quality and eco-design remain essential foundations in consumer satisfaction, even if other factors weigh more heavily.

These findings provide valuable insight into how customers respond to different elements of green marketing. Apple's integrated strategy—focusing on sustainable stores, fair pricing, promotional messaging, and eco-conscious products—works holistically to foster customer satisfaction. The strong performance of green place suggests that companies should not underestimate the importance of physical and experiential touchpoints in sustainability efforts. Likewise, the meaningful role of pricing and promotion reveals that consumers value transparency, affordability, and incentives when aligned with ethical practices. Overall, the study confirms that green marketing is not only a matter of corporate

responsibility but also a strategic tool that enhances customer experience, loyalty, and competitive advantage in today's environmentally conscious market.

DISCUSSION

This study investigated the influence of green marketing mix elements—green product, green price, green promotion, and green place—on customer satisfaction in the context of Apple's environmentally conscious strategies. The findings from the validity and regression analyses consistently demonstrate that all four variables significantly contribute to shaping customer satisfaction. Among them, green place emerged as the strongest predictor, suggesting that store location, accessibility, and eco-conscious retail design greatly influence consumer experience. Green price and green promotion followed in strength, highlighting the importance of value perception and effective communication of green initiatives. Although green product showed the least statistical impact, it still played a valid role in supporting overall satisfaction, reinforcing the value of sustainable product features. These results confirm that Apple's integrated green marketing efforts effectively enhance customer trust and loyalty.

The significant influence of all green marketing mix components on customer satisfaction can be understood through the lens of the Theory of Planned Behavior (Ajzen, 1991) and Consumer Value Theory (Holbrook, 1999). The Theory of Planned Behavior posits that behavioral intentions are shaped by attitudes, subjective norms, and perceived behavioral control. In this study, green product features, green price strategies, green promotion, and green place all contribute to forming favorable consumer attitudes toward Apple, which in turn positively affect satisfaction. Consumers perceive Apple's green initiatives as aligning with their personal values and social norms around sustainability, leading to stronger loyalty and advocacy.

Additionally, Consumer Value Theory explains that customer satisfaction arises when products or services deliver functional, emotional, and ethical value (Holbrook, 1999). Green product design offers functional and experiential value; green price reflects fair trade-off and perceived benefits; green promotion engages emotional and ethical appeals through responsible messaging; and green place provides experiential and symbolic value tied to environmental commitment. These theoretical frameworks help explain why customers are more satisfied when marketing strategies resonate not only with their practical needs but also with their ethical and environmental beliefs. The convergence of these elements reinforces the observed positive relationships between green marketing mix variables and customer satisfaction.

The findings of this study align with previous research that has consistently highlighted the positive impact of the green marketing mix on customer satisfaction (Novela & Hansopaheluwakan, 2018; Rajadurai et al., 2021). Similar to Mahendra et al. (2025), who explored green loyalty in the hotel industry, this study confirms that green price and green promotion significantly contribute to shaping customer satisfaction. Moreover, consistent with the work of Nguyen-Viet (2023), green products remain a relevant factor, although not the strongest driver in consumer satisfaction. However, this study diverges notably from earlier findings regarding the influence of green place. While previous literature often regarded place as a weaker element in the marketing mix (Adam & Lahay, 2023), this study found green place to be the strongest predictor of customer satisfaction, particularly in the context of Apple's environmentally conscious retail strategies.

Furthermore, this research distinguishes itself by focusing on the technology sector, specifically Apple—a global leader in sustainability and innovation—whereas prior studies predominantly examined industries such as hospitality (Mahendra & Halik, 2025), Fast-Moving Consumer Goods (Ling & Md.

Harizan, 2023), and business-to-business settings (Gelderman et al., 2021). The emphasis on green place in this study includes factors such as store location, eco-conscious layout, and accessibility, which significantly enhance the consumer experience. This focus contrasts with earlier studies where physical retail environments were often underemphasized. By highlighting the role of green place in a high-end technology retail context, this study contributes a novel perspective to the evolving literature on green marketing strategies and consumer satisfaction.

The novelty of this study lies in its identification of *green place* as the most influential component of the green marketing mix in driving customer satisfaction—an insight that challenges the common assumption of its marginal role. While many previous studies concentrated on green product attributes and pricing mechanisms, this study underscores the strategic importance of environmentally designed retail environments, particularly in the technology sector. Additionally, the integrated use of both validity and regression analyses provides a robust methodological framework that strengthens the reliability of the results. By situating the study within Apple's sustainability initiatives, this research offers fresh empirical evidence on how eco-conscious branding and retail experience collectively enhance consumer trust and loyalty in the era of green consumerism.

The findings of this study reveal not only the empirical strength of the green marketing mix in influencing customer satisfaction but also signal broader historical and ideological shifts in consumer behavior. Historically, the role of physical retail environments has often been underexplored within green marketing literature. However, this research affirms that eco-conscious retail spaces—what this study identifies as “green place”—now serve as pivotal points of consumer engagement. Supporting previous insights by Paik and Kang (2018), physical green spaces shape perceptions of environmental friendliness and contribute to emotional and social utility, thereby enhancing revisit intentions. Moreover, Bhatti and Negi (2018) and Sivasubramanian (2024) emphasize that the integration of eco-friendly design and digital technologies in retail not only communicates sustainability values but also builds a strong green image and competitive advantage. The green retail environment, both interior and exterior (Lecointre-Erickson et al., 2024), is thus a strategic communication tool—no longer a passive backdrop but an active driver of consumer satisfaction.

Ideologically, the results align with the growing movement that positions sustainability as a core value in consumer identity and lifestyle. This trend, documented across studies (Bartels & Reinders, 2016; Elgammal et al., 2024; Theocharis & Tsekouropoulos, 2025), shows that consumers—especially younger generations—embed eco-conscious behavior within their self-concept and social identity. Education (Lee & Hung, 2024), marketing strategies (Dahhan & Arenkov, 2025), and ethical self-identity (Bhutto et al., 2022) all reinforce this alignment between personal values and sustainable consumption. By embracing green initiatives across its marketing mix, Apple not only satisfies functional expectations but also resonates with the ethical and symbolic dimensions of consumption, reflecting how sustainability has evolved into a lifestyle and ideological statement. As such, this study contributes to a deeper understanding of how green marketing not only drives satisfaction but also engages with the broader socio-cultural currents shaping contemporary consumerism.

The implications of this study highlight both the promising potential and the critical challenges embedded in adopting a comprehensive green marketing strategy. On the positive side, the research confirms that integrating environmentally responsible practices—particularly in the physical retail environment—can significantly elevate customer satisfaction, foster brand loyalty, and enhance a company's reputation as a sustainability leader. This positions companies like Apple to gain not only

market advantage but also moral capital in a consumer landscape increasingly driven by ethical considerations.

However, the findings also expose potential dysfunctions. The prioritisation of green place as the strongest determinant of customer satisfaction may inadvertently encourage companies to overinvest in visible eco-friendly aesthetics—such as store design and decor—while underdelivering on substantive environmental impact across their products and supply chains. While sustainable aesthetics can powerfully influence consumer perception and behavior, their effectiveness depends on authentic integration with broader environmental goals rather than surface-level appeal. He et al. (2024) found that while classical aesthetics enhance green product appeal, this effect is moderated by symbolic identity and perceived naturalness, suggesting the risk of misalignment between aesthetic cues and actual sustainability value. Similarly, Chen (2021) underscores that aesthetics and sustainability must be co-dependent, not cosmetic, if they are to drive lasting ecological benefits. When aesthetic efforts are not matched with operational sustainability, firms risk accusations of greenwashing—damaging brand trust and long-term consumer loyalty. Moreover, this aesthetic-driven green marketing approach may marginalise economically constrained consumers who view green products or environments as elitist or financially inaccessible. As Marchand et al. (2006) argue, sustainability must also be inclusive and ethical in its appeal, lest it reinforce inequality in sustainable consumption. Hence, while the study presents a viable framework for leveraging green retail environments, it simultaneously highlights the importance of aligning visual strategies with substantive, inclusive, and ethically grounded sustainability practices.

Based on the reflections presented, a proactive policy framework is needed to ensure that green marketing strategies deliver substantive environmental impact and equitable access. Companies should adopt a holistic sustainability policy that mandates alignment between *aesthetic green cues* and measurable ecological performance across the supply chain. This includes transparent sustainability reporting, third-party environmental certifications, and life-cycle assessments of products. To avoid perceptions of elitism, businesses must also implement inclusive pricing policies and ensure accessibility of green products across diverse socioeconomic groups, potentially through tiered pricing, community-based retail models, or subsidies for eco-friendly alternatives. Regulatory bodies and industry associations could play a role in standardising *green marketing accountability frameworks* to prevent greenwashing and promote responsible environmental branding. Furthermore, design guidelines should be issued that encourage the integration of sustainability values into both function and form—ensuring that green aesthetics are not merely symbolic but represent a deeper commitment to ecological and social responsibility.

CONCLUSION

This study concludes that all four elements of the green marketing mix—green product, green price, green promotion, and green place—have a significant and positive influence on customer satisfaction within the context of Apple's environmentally conscious marketing strategies. Among these, *green place* emerged as the most dominant factor, underscoring the strategic importance of eco-conscious retail environments, accessibility, and location in shaping a satisfying customer experience. *Green price* and *green promotion* followed in their influence, reaffirming that value perception and effective environmental messaging play critical roles in consumer engagement. Although *green product* had the lowest statistical impact, it remains a valid and foundational contributor to customer satisfaction, reflecting the importance of sustainable design and product quality in consumers' decision-making.

The scientific contribution of this research lies in highlighting *green place* as the most influential yet previously underemphasized factor in the green marketing mix—especially within the high-end technology sector. This finding challenges conventional assumptions in existing literature, which often minimized the role of distribution and store environments in shaping satisfaction. Moreover, the study offers a holistic empirical model using both validity and regression analysis, strengthening the robustness of green marketing evaluation and offering a replicable framework for future studies in similar or cross-sectoral contexts. The integration of theoretical perspectives, including the Theory of Planned Behavior and Consumer Value Theory, further enriches the academic understanding of how sustainability-centered strategies intersect with consumer psychology and loyalty.

Despite its strengths, this research is not without limitations. The study is focused solely on a single brand—Apple—and relies on self-reported questionnaire data, which may carry inherent biases related to brand loyalty or social desirability. Additionally, the analysis did not explore demographic moderators such as age, income, or environmental awareness levels, which could influence perceptions of green marketing. Future research is encouraged to conduct comparative analyses across different industries, incorporate longitudinal or experimental methods, and expand on the psychological or cultural variables that may mediate or moderate the relationship between green marketing and consumer satisfaction. Such efforts would deepen the understanding of sustainable marketing's role in a rapidly evolving, ethically conscious marketplace.

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