

The Influence Of Sustainable Marketing On Customer Loyalty With Brand Image And Customer Satisfaction As Mediating Roles: Paint Industry In Indonesia

Pengaruh Pemasaran Berkelanjutan Terhadap Loyalitas Pelanggan Dengan Citra Merek Dan Kepuasan Pelanggan Sebagai Peran Perantara: Industri Cat Di Indonesia

Bambang Wisnu Aji

University of Indonesia

bambang.wisnu@ui.ac.id

**Corresponding Author*

ABSTRACT

This study aims to analyze the influence of sustainable marketing on customer loyalty, with brand image and customer satisfaction as mediating variables, using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach. Data were collected from 311 respondents who are customers of Propan paint products. The results show that economic sustainability and social sustainability do not have a significant effect on customer loyalty. In contrast, environmental sustainability has a significant influence on customer loyalty. Furthermore, brand image and customer satisfaction sequentially mediate the effect of economic sustainability and social sustainability on customer loyalty. However, both mediating variables do not significantly mediate the effect of environmental sustainability on customer loyalty. These findings offer important implications for sustainable marketing strategies, particularly in the paint industry.

Keywords: Sustainable Marketing, Customer Loyalty, Brand Image and Customer Satisfaction, Paint Industry in Indonesia.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh pemasaran berkelanjutan terhadap loyalitas pelanggan, dengan citra merek dan kepuasan pelanggan sebagai variabel mediasi, menggunakan pendekatan Partial Least Squares–Structural Equation Modeling (PLS-SEM). Data dikumpulkan dari 311 responden yang merupakan pelanggan produk cat Propan. Hasil penelitian menunjukkan bahwa keberlanjutan ekonomi dan keberlanjutan sosial tidak memiliki pengaruh yang signifikan terhadap loyalitas pelanggan. Sebaliknya, keberlanjutan lingkungan memiliki pengaruh signifikan terhadap loyalitas pelanggan. Selain itu, citra merek dan kepuasan pelanggan secara berurutan memediasi pengaruh keberlanjutan ekonomi dan sosial terhadap loyalitas pelanggan. Namun, kedua variabel mediasi tersebut tidak secara signifikan memediasi pengaruh keberlanjutan lingkungan terhadap loyalitas pelanggan. Temuan ini memberikan implikasi penting bagi strategi pemasaran berkelanjutan, khususnya di industri cat.

Kata Kunci: Pemasaran Berkelanjutan, Loyalitas Pelanggan, Citra Merek Dan Kepuasan Pelanggan, Industri Cat Di Indonesia.

1. Introduction

Sustainability in business is no longer merely an option, but has become a key strategy in building customer loyalty. Companies that implement responsible economic, social, and environmental practices are increasingly gaining market trust and competitive advantage. Sustainability has become a primary concern in modern business practices, influencing consumer behavior across various industries (Majeed, Zhang, & Samad, 2022). As environmental issues such as pollution, carbon emissions, and waste management gain global attention, companies face growing pressure to adopt sustainable marketing strategies that align with public expectations (Sun, Guo, & Zhao, 2014). In response, various industries have begun to integrate sustainability into their operations, not only to comply with regulatory standards but also to enhance brand image and customer satisfaction (Kim & Hall, 2020).

The paint industry, particularly in Indonesia, is currently undergoing a shift toward more environmentally friendly formulations, responsible production, and green branding strategies. One company that has adopted sustainable marketing strategies in Indonesia's paint industry is PT Propan Raya. Founded in 1979, the company is known as a pioneer in the development of eco-friendly water-based paints and in product innovations that prioritize sustainability.

Table 1. Sales Data: Water-Based vs. Solvent-Based Products

Years	Average Sales / Month (Tons)	
	Water Based	Solvent Based
2024	42.622	9.595
2023	37.234	7.799
2022	36.312	7.787
2021	32.376	6.781
2020	32.413	7.799

Source: PT Propan Raya Sales Data 2020 – 2024

Through various initiatives such as the use of sustainable raw materials, reduction of Volatile Organic Compounds (VOCs), and more efficient waste management, **Propan Raya** has made efforts to build an image as a company actively involved in environmental initiatives and social programs for the community. However, the effectiveness of sustainable marketing in building customer loyalty remains underexplored in this sector. Previous studies have shown that sustainable marketing has a positive impact on brand image (González, Díaz, & Biagio, 2019) and customer satisfaction (Tu et al., 2018), both of which play important roles in increasing customer loyalty (Kim & Kim, 2023). Nevertheless, understanding how customer perceptions of sustainability influence brand loyalty in the paint industry is still limited, particularly in emerging markets such as Indonesia.

The urgency of this research arises from the growing consumer awareness of sustainability within Indonesia's industrial landscape. The paint industry significantly contributes to environmental issues due to the use of hazardous chemicals, high carbon emissions from production, and suboptimal waste management (Bianchi et al., 2019). In response, leading brands have started to adopt sustainable formulations, reduce volatile organic compound (VOC) content, and implement more responsible supply chain practices. However, there is still insufficient empirical evidence on whether these sustainability initiatives truly contribute to increased customer loyalty in Indonesia.

Moreover, while previous research has widely discussed brand image as a mediating factor between sustainable marketing and customer loyalty (Rastogi et al., 2022), the role of customer satisfaction as an additional mediator has rarely been explored. To address this research gap, this study investigates the mediating roles of brand image and customer satisfaction in the Indonesian paint industry.

Studies on sustainable marketing in the paint industry remain very limited. Most previous research has focused more on sectors such as electronics (Rastogi et al., 2022), hospitality (Kim & Hall, 2020), and retail (González, Díaz, & Biagio, 2019). There is a lack of specific insight into how sustainable marketing affects customer loyalty in the paint industry, especially in Indonesia. Prior studies have identified brand image as a key mediator (Tu et al., 2018), but the role of customer satisfaction in strengthening this relationship has rarely been studied. Customer satisfaction is a crucial element in the paint industry, considering that paint products require high trust, quality assurance, and environmental safety considerations.

Most studies on sustainable marketing and customer loyalty have been conducted in developed countries (Kim & Kim, 2023; Bianchi et al., 2019). Very few studies have investigated

consumer behavior towards sustainable paint products in developing countries such as Indonesia, where consumer awareness and market maturity may differ.

This study aims to provide a deeper understanding of the impact of sustainable marketing on customer loyalty in the Indonesian paint industry by examining the mediating roles of brand image and customer satisfaction in the relationship between sustainable marketing and customer loyalty. It also seeks to identify which dimension of sustainable marketing (economic, social, or environmental) contributes most significantly to shaping customer loyalty.

2. Literature Review

Sustainability Theory

Sustainability theory emerges from the understanding that business activities should not solely focus on generating financial profits, but also take into account social and environmental consequences. The concept of sustainability was first introduced in the *Brundtland Report* by the World Commission on Environment and Development in 1987, which defined it as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Triple Bottom Line (TBL)

John Elkington (1998) introduced the *Triple Bottom Line* (TBL) framework as an approach to holistically evaluate a company's performance, encompassing not only financial profitability but also social contributions and environmental impacts. This approach forms the foundation of sustainable marketing, as it emphasizes a balance between business interests and broader societal concerns.

Sustainable Marketing

Sustainable marketing is a strategy that integrates economic, social, and environmental sustainability into a company's operations (Kotler & Keller, 2022). Peattie & Belz (2010) define sustainable marketing as a marketing approach focused on creating long-term value while maintaining ecological balance and social well-being. The idea of sustainability has become a central focus in marketing research (Sheth & Parvatiyar, 2021).

Brand Image

Brand image refers to how customers perceive a brand based on their experiences, expectations, and received communications (Aaker, 1996). Keller (2020) adds that brand image consists of both functional and emotional attributes that influence customer loyalty. It carries symbolic value linked to specific characteristics of the brand.

Customer Satisfaction

Customer satisfaction is defined as the emotional reaction that arises after customers evaluate their experiences with a product or service. This evaluation reflects the extent to which customer expectations are met or even exceeded (Kotler & Keller, 2016). Customer satisfaction not only involves the alignment between initial expectations and final outcomes but also deeper emotional elements, such as feelings of joy, pride, or connection with a particular brand.

Customer Loyalty

According to Oliver (2010), loyalty is defined as a strong desire to continue purchasing or using preferred goods or services despite situational factors that may encourage switching

to other brands. Customer loyalty is a multifaceted concept encompassing cognitive, emotional, and behavioral dimensions (Dapena-Baron et al., 2020).

3. Research Method

Research Model

The research model in this study was developed by adapting and modifying models that have been tested in previous studies, specifically those by Rastogi et al. (2024) and Dam (2021). This study aims to examine how sustainable marketing influences customer loyalty in the paint industry in Indonesia, taking into account brand image and customer satisfaction as mediating variables.

Research Design

This study employs a quantitative approach with an explanatory research design, aimed at testing and explaining causal relationships among variables, particularly between sustainable marketing and customer loyalty. The explanatory design is suitable for hypothesis-testing research that is grounded in an established theoretical framework (Creswell, 2014). The study is conducted using a cross-sectional method, in which data is collected at a single point in time through an online questionnaire. The research instrument is constructed based on theoretical indicators of each variable and measured using a 7-point Likert scale to capture respondents' level of agreement with each statement.

Data analysis in this study uses the Structural Equation Modeling (SEM) approach with the Partial Least Squares (PLS) technique. This method is chosen due to its ability to handle complex research models and its robustness in dealing with non-normally distributed data. Through this approach, the study aims to provide a comprehensive understanding of the influence of corporate sustainability strategies on consumer perception and loyalty, particularly in the paint industry in Indonesia.

Data Collection Technique

The data collection technique in this study involves an online questionnaire survey developed based on theoretical indicators of the variables: economic sustainability, social sustainability, environmental sustainability, brand image, customer satisfaction, and customer loyalty. The research instrument uses closed-ended statements measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), as recommended by Hair et al. (2017) for quantitative research involving SEM.

The questionnaire was distributed online using a non-probability sampling method, specifically purposive sampling, where respondents were selected based on specific criteria, such as having used paint products and possessing an understanding of sustainability. This method was chosen to obtain data relevant to the research context, although the results may not be generalizable to the entire population (Sekaran & Bougie, 2016). The distribution was conducted through social media, email, and professional networks, considering the effectiveness of online channels in reaching respondents quickly and efficiently (Creswell & Creswell, 2018).

Research Sample

The population in this study consists of consumers in Indonesia who have used Propan paint products and are concerned about sustainability issues. The sampling technique used is non-probability sampling with a purposive sampling approach, where respondents are selected based on specific criteria relevant to the research objectives. These criteria include individuals aged 18 years or older who have purchased or used paint products and have an understanding or awareness of the sustainability practices implemented by the Propan paint brand.

4. Result and Discussion

Measurement Model Analysis (Outer Model)

Convergent Validity Test

To test the validity of the indicator, this test looks at the Average Variance Extracted (AVE) value for each variable and the factor loading value for each research indicator. Table 2 has shown that the test results have met the parameters so that they can be declared valid.

Table 2. Results of the Main Test Convergent Validity Test

Variable	Indicator	Factor Loading	AVE
Economic Sustainability	EC1	0,953	0,915
	EC2	0,964	
	EC3	0,949	
	EC4	0,959	
Social Sustainability	SO1	0,959	0,915
	SO2	0,964	
	SO3	0,944	
	SO4	0,959	
Environment Sustainability	EN1	0,963	0,925
	EN2	0,962	
	EN3	0,958	
	EN4	0,964	
Brand Image	BI1	0,961	0,918
	BI2	0,966	
	BI3	0,946	
	BI4	0,960	
Customer Satisfaction	CS1	0,958	0,920
	CS2	0,966	
	CS3	0,948	
	CS4	0,966	
Customer Loyalty	CL1	0,952	0,910
	CL2	0,967	
	CL3	0,943	
	CL4	0,951	
	CL5	0,949	
	CL6	0,960	

In addition, discriminant validity testing was also carried out to ensure that each indicator in the questionnaire was able to measure different latent constructs validly, and did not overlap in measuring the same latent construct (Ghozali, 2016). The following are the results of the discriminant validity test using the Fornell-Larcker Criterion.

Table 3. Results of the Fornell-Larcker Criterion Discriminant Validity Test

	BI	CL	CS	EC	EN	SO
BI	0,988					
CL	0,958	0,987				
CS	0,959	0,954	0,984			
EC	0,983	0,980	0,982	0,986		
EN	0,977	0,962	0,979	0,956	0,982	

SO	0,957	0,982	0,982	0,979	0,981	0,983
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Table 3 shows the results of the discriminant validity test using the AVE root value obtained a greater AVE root value compared to the correlation value between latent variables, so that all variables in the study have met discriminant validity.

Convergent Reliability Test

To test the reliability of the measurement scale on the questionnaire, this test looks at the Cronbach's Alpha value and the Composite Reliability value with a value of more than or equal to 0.6 as its parameters. Table 4 has shown that both have a value of more than 0.6 so that the measurement model on this questionnaire is declared reliable.

Table 4. Results of the Main Test Convergent Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Economic Sustainability	0,969	0,977
Social Sustainability	0,969	0,977
Environment Sustainability	0,973	0,980
Brand Image	0,970	0,978
Customer Satisfaction	0,971	0,979
Customer Loyalty	0,980	0,984

Structural Model Analysis (Inner Model)

After conducting the measurement model test (outer model), the next research stage is to conduct a structural model test (inner model). This test includes evaluating the significance of the determination coefficient (R-square), predictive relevance (Q-square), and model fit.

R-squared Value (R²)

Testing of the structural model is carried out by observing the determination coefficient value (R²), which is used to measure how much influence the independent variables have on the dependent variables. In this study, the independent variables include economic sustainability, social sustainability, and environmental sustainability, while brand image, customer satisfaction, and customer loyalty act as dependent variables. The R² value for each dependent variable in this study is presented as follows:

Table 5. R-Squared Test Results

Variable	R-Squared	R-Squared Adjusted
Brand Image	0,976	0,976
Customer Satisfaction	0,969	0,968
Customer Loyalty	0,985	0,985

Results

The findings indicate that the construct of customer loyalty has an R-squared (R²) value of 0.985, which means that 98.5% of the variance in customer loyalty can be explained by the predictor constructs, namely brand image, customer satisfaction, and the dimensions of sustainable marketing (economic, social, and environmental sustainability).

The R² values for the constructs brand image and customer satisfaction were recorded at 0.976 and 0.969, respectively. This indicates that more than 96% of the variation in both constructs can be explained by other constructs in the model, particularly the identified dimensions of sustainability in this study.

Q-squared (Q²) Value

After identifying the coefficient of determination (R²), the next step involves calculating the Q² value to evaluate the predictive relevance of the model paths. Based on the R² values obtained, the Q² for the model was calculated as follows:

$$Q^2 = 1 - (1 - R_1^2)(1 - R_2^2)(1 - R_3^2)$$

$$Q^2 = 1 - (1 - 0.976)(1 - 0.969)(1 - 0.985)$$

$$Q^2 = 1 - (0.024)(0.031)(0.015)$$

$$Q^2 = 0.999$$

The Q² value of 0.999 indicates a strong predictive relevance, as it exceeds the threshold of 0.35. This demonstrates that the overall structural model possesses a high predictive quality.

Model Fit

The model fit (goodness-of-fit) in this study was assessed using the Standardized Root Mean Square Residual (SRMR) indicator. According to Henseler et al. (2014), a model is considered to have a good fit if the SRMR value is below 0.08. As shown in Table 6, the SRMR value of 0.017 indicates that the model in this study meets the criteria for a good fit.

Table 6. Model Fit Assessment

Index	Saturated Model	Estimated Model
SRMR	0,017	0,018

Hypothesis Testing

This study was conducted to examine the influence of sustainable marketing on customer loyalty, with brand image and customer satisfaction serving as mediating variables. After evaluating the structural model, the study proceeded with an analysis of the relationships between variables to determine whether the proposed hypotheses were supported by the results. The following presents the hypothesis testing results that illustrate the relationships among the variables.

Direct Effect Testing

The direct effect testing aims to assess the **magnitude and significance** of the direct influence between constructs in the structural model. The significance of the relationships is indicated by the t-statistics and p-values. An effect is considered statistically significant when the t-statistic is ≥ 1.96 and the p-value is ≤ 0.05 .

As shown in Table 7, three direct effect paths were analyzed from the sustainable marketing construct to customer loyalty, through economic sustainability (EC), environmental sustainability (EN), and social sustainability (SO).

The results of the structural model testing indicate that only environmental sustainability has a significant direct influence on customer loyalty, with an original sample (O) value of 0.238, t-statistic of 3.803, and p-value of 0.000.

In contrast, economic sustainability showed a negative but non-significant effect on customer loyalty, with O = -0.079, t-statistic = 1.482, and p-value = 0.139. Similarly, social sustainability also did not demonstrate a significant direct effect on customer loyalty, with O = 0.063, t-statistic = 0.815, and p-value = 0.415.

Table 7. Direct Effect Testing

Connection	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
EC -> CL	-0,079	-0,076	0,053	1,482	0,139

EN -> CL	0,238	0,238	0,063	3,803	0,000
SO -> CL	0,063	0,066	0,077	0,815	0,415

Mediating Effect Testing

The mediating effect testing aims to determine whether the variables brand image and customer satisfaction mediate the relationship between the dimensions of sustainability—economic, environmental, and social—and customer loyalty. The results reveal that the pathway from economic sustainability to brand image to customer satisfaction to customer loyalty exhibits a significant mediating effect, with a t-statistic of 3.474 and p-value of 0.001. Similarly, the pathway from economic sustainability to brand image to customer loyalty is also statistically significant, with a t-statistic of 4.352 and p-value of 0.000.

In contrast, the pathways from environmental sustainability to brand image to customer satisfaction to customer loyalty and from environmental sustainability to brand image to customer loyalty do not demonstrate significant mediating effects, as both yield t-statistics below 1.96 and p-values greater than 0.05. On the other hand, social sustainability shows significant mediating effects on customer loyalty. This is true both sequentially—through brand image and customer satisfaction—with a p-value of 0.000, and directly—through brand image to customer loyalty—with a p-value of 0.000 as well.

Table 8. Mediating Effect Testing

Connection	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
EC -> BI -> CS -> CL	0,166	0,164	0,048	3,474	0,001
EC -> BI -> CL	0,191	0,190	0,044	4,352	0,000
EN -> BI -> CS -> CL	0,021	0,020	0,026	0,806	0,420
EN -> BI -> CL	0,024	0,025	0,031	0,767	0,443
SO -> BI -> CS -> CL	0,169	0,168	0,047	3,594	0,000
SO -> BI -> CL	0,195	0,193	0,039	4,953	0,000

Hypothesis Testing

The path coefficient significance test aims to evaluate the relationship between variables and assess whether the formulated hypothesis is supported based on the data in this study. In this test, the path coefficient value will be seen and the P value (P-value) will be compared with a significance level of 0.05. Figure 1 shows the results of the hypothesis test that has been carried out.

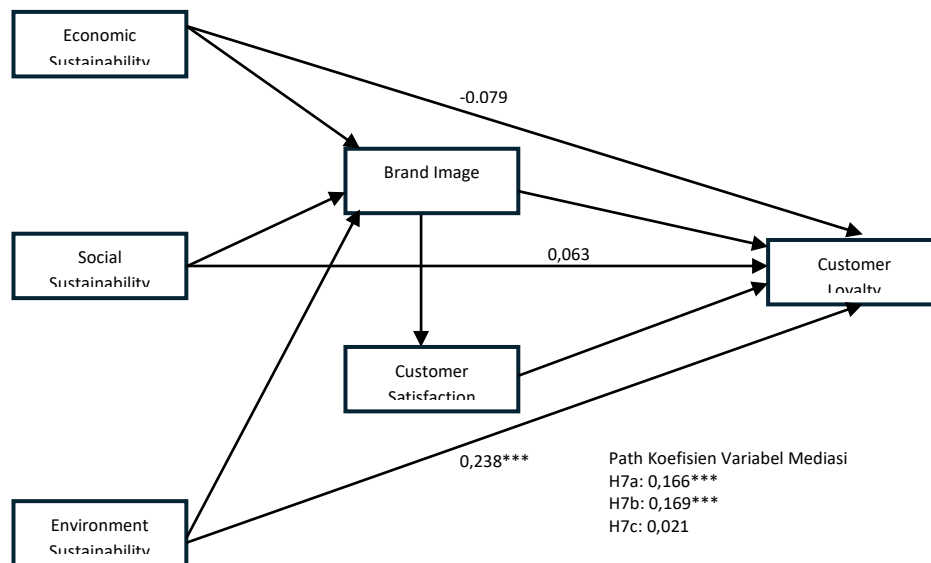


Figure 1. Path Diagram

Based on the results of the study in Figure 1, it shows that not all mediation paths have a significant influence. The results of the mediation influence test show that brand image and customer satisfaction significantly mediate the influence of economic sustainability and social sustainability on customer loyalty with a p-value below 0.05. On the other hand, the mediation influence shows no significant mediation of the influence of environmental sustainability on customer loyalty.

Discussion of Hypothesis Test Results

The formation of the model and hypothesis in this study is based on previous studies. Based on the research results that have been explained above, the following is a series of hypotheses proposed in the study and the results of this study in comparison with the results of previous studies.

Table 9. Comparison of Research Results

Hypothesis	Research Result	Rastogi et al, 2024	Dam & Dam, 2021	Gonzales et al, 2019	Bianchi et al, 2019
H1a: Economic Sustainability has a positive effect on Customer Loyalty	Not Supported	Supported	-	-	Supported
H1b: Social Sustainability has a positive effect on Customer Loyalty	Not Supported	Supported	-	-	Supported
H1c: Environmental Sustainability has a positive effect on Customer Loyalty	Supported	Supported	-	-	Supported
H2a: Economic Sustainability has a positive effect on Brand Image.	Supported	Supported	-	Supported	-
H2b: Social Sustainability has a positive effect on Brand Image.	Supported	Supported	-	Supported	-
H2c: Environmental Sustainability has a positive effect on Brand Image.	Not Supported	Supported	-	Supported	-
H3: Brand Image has a positive effect on Customer Loyalty	Supported	Supported	-	-	-
H4: Brand Image has a positive effect on Customer Satisfaction	Supported	-	Supported	-	Supported
H5: Customer Satisfaction has a positive effect on Customer Loyalty	Supported	-	Supported	-	-
H6a: Brand image mediates the positive influence of economic	Supported	Supported	-	-	-

sustainability on customer loyalty.					
H6b: Brand image mediates the positive influence of social sustainability on customer loyalty.	Supported	Supported	-	-	-
H6c: Brand image mediates the positive influence of environmental sustainability on customer loyalty.	Not Supported	Supported	-	-	-
H7a: Brand image and customer satisfaction sequentially mediate the positive effect of economic sustainability on customer loyalty.	Supported	-	-	-	-
H7b: Brand image and customer satisfaction sequentially mediate the positive influence of social sustainability on customer loyalty.	Supported	-	-	-	-
H7c: Brand image and customer satisfaction sequentially mediate the positive influence of environmental sustainability on customer loyalty.	Not Supported	-	-	-	-

Sustainable Marketing Positively Affects Customer Loyalty

H1a: Economic sustainability positively affects customer loyalty

The hypothesis H1a concerning the influence of economic sustainability on customer loyalty is not supported, with a path coefficient of -0.079, a t-statistic value of 1.482, and a significance value of 0.139. This means that although Propan has implemented cost efficiency and long-term growth strategies, this aspect has not sufficiently influenced customer loyalty directly, possibly because consumers do not clearly perceive the company's economic contribution to their experience. This finding differs from Rastogi et al., (2024) in the Indian electronics sector, which found a significant effect, as consumers there are more responsive to efficiency and innovation that are explicitly communicated. This shows that the impact of economic sustainability strongly depends on the industry context and how well the company communicates its economic value to consumers.

H1b: Social sustainability positively affects customer loyalty

The hypothesis H1b regarding the influence of social sustainability on customer loyalty is not supported, with a path coefficient of 0.063, a t-statistic of 0.815, and a significance level of 0.415. This indicates that Propan's social activities, such as CSR programs or community support, are not yet strong enough to directly shape customer loyalty. Customers may not fully recognize or associate the company's social activities with their decision to continue using Propan products.

H1c: Environmental sustainability positively affects customer loyalty

The hypothesis H1c on the influence of environmental sustainability on customer loyalty is supported, with a path coefficient of 0.238, a t-statistic of 3.803, and a significance level of 0.000. This means Propan's efforts to apply environmental sustainability principles, such as using eco-friendly raw materials and responsible waste management, have proven effective in increasing customer loyalty.

Sustainable Marketing Positively Affects Brand Image

H2a: Economic sustainability positively affects brand image

The hypothesis H2a about the influence of economic sustainability on brand image is supported, with a path coefficient of 0.463, a t-statistic of 5.741, and a significance of 0.000. This means Propan's economic sustainability practices—such as cost efficiency, product

innovation, and long-term business strategies—significantly enhance customers' perception of the company's brand image.

H2b: Social sustainability positively affects brand image

The hypothesis H2b stating that social sustainability positively influences brand image is supported. The analysis shows a path coefficient of 0.472, a t-statistic of 7.612, and a p-value of 0.000, indicating a statistically significant relationship. This means the stronger Propan's commitment to social activities like CSR programs, community empowerment, and employee welfare, the more positive consumers perceive the Propan brand image. In the paint industry, consumers increasingly appreciate brands showing social concern, making this a key factor in strengthening brand image.

H2c: Environmental sustainability positively affects brand image

The hypothesis H2c, that environmental sustainability positively affects brand image, is not supported. The results show a path coefficient of 0.058, a t-statistic of 0.806, and a p-value of 0.420—well above the 0.05 significance threshold. This indicates that Propan's environmental sustainability efforts—such as using eco-friendly materials, reducing pollution, and waste management—have not made a significant impact on consumers' brand perception. Although environmental concerns are increasingly important in the paint industry, consumers appear not sufficiently educated or informed about Propan's environmental commitments, so the impact on brand image remains statistically weak. A more strategic communication approach is needed to help customers internalize these environmental initiatives as part of Propan's brand image.

Positive Influence of Brand Image on Customer Loyalty and Customer Satisfaction

H3: Brand image positively affects customer loyalty

Hypothesis H3, stating that brand image positively affects customer loyalty, is supported. The path coefficient is 0.413, with a t-statistic of 5.973 and significance of 0.000, indicating that a strong brand image increases customer loyalty. The more positive customers' perceptions of Propan's innovation, reputation, and sustainability commitment, the higher their loyalty. A strong brand image is crucial in differentiating Propan from competitors and encouraging customers to stay loyal and recommend the brand. This finding reinforces that brand image contributes to building long-term relationships between the company and customers.

H4: Brand image positively affects customer satisfaction

Hypothesis H4 is supported, showing brand image has a significant positive effect on customer satisfaction. The structural model shows a path coefficient of 0.984, a t-statistic of 513.038, and a p-value of 0.000, indicating a very strong statistical influence. This underscores the importance of brand image in shaping customer satisfaction. For the paint industry and Propan, positive consumer perception of the brand's reputation as an innovative, socially responsible, and quality-focused producer greatly enhances customer satisfaction.

Customer Satisfaction Positively Affects Customer Loyalty

H5: Customer satisfaction positively affects customer loyalty

Hypothesis H5 is supported, with a path coefficient of 0.364, t-statistic of 4.399, and p-value of 0.000. This shows that the higher the customers' satisfaction with Propan paint products, the more likely they are to remain loyal. In the competitive paint industry, positive consumer experiences with product quality, durability, and meeting expectations are key loyalty drivers. This strengthens the argument that customer satisfaction is a crucial mediating variable in building long-term brand-consumer relationships.

The Role of Brand Image as a Mediator Between Sustainable Marketing and Customer Loyalty

H6a: Brand image mediates the positive influence of economic sustainability on customer loyalty

Hypothesis H6a is supported. Mediation test results show an indirect path coefficient of 0.191, t-statistic of 4.352, and p-value of 0.000, indicating statistically significant mediation. Although the direct effect of economic sustainability on customer loyalty is not significant, the indirect effect through brand image is strong. This means Propan's economic sustainability efforts, such as cost efficiency and growth strategy, can increase loyalty if first translated into a positive brand image. This aligns with Rastogi et al., (2024) that economic sustainability more effectively influences loyalty when mediated by a strong brand image. For Propan, this highlights the importance of strengthening communication about the company's economic values to build positive brand perceptions that in turn boost loyalty.

H6b: Brand image mediates the positive influence of social sustainability on customer loyalty

Hypothesis H6b is supported. Mediation results show a path coefficient of 0.195, t-statistic of 4.953, and p-value of 0.000, indicating significant indirect influence. This suggests Propan's social contributions (CSR, employee welfare, community engagement) can drive customer loyalty by shaping a positive brand image. This is consistent with Keller (2009) who emphasized brand perception as a bridge between corporate initiatives and customer response. The stronger the brand image formed through social activities, the more customers tend to stay loyal. Thus, success in social sustainability depends not only on implementation but also on Propan's ability to build and communicate a brand image reflecting these social values.

H6c: Brand image mediates the positive influence of environmental sustainability on customer loyalty

Hypothesis H6c is not supported. Mediation results show a path coefficient of 0.024, t-statistic of 0.767, and p-value of 0.443, indicating no statistically significant indirect effect. Although Propan has implemented environmental initiatives like eco-friendly materials and responsible waste management, these efforts have not yet formed a strong brand image that boosts loyalty. Unlike economic and social sustainability, consumer perception of Propan's environmental practices remains low or poorly communicated. Therefore, more effective and targeted brand communication is needed so environmental sustainability values reflect positively in brand image and contribute to customer loyalty.

The Role of Brand Image and Customer Satisfaction as Sequential Mediators Between Sustainable Marketing and Customer Loyalty

H7a: Brand image and customer satisfaction sequentially mediate the positive influence of economic sustainability on customer loyalty

Hypothesis H7a is supported. The chain mediation test shows a path coefficient of 0.166, t-statistic of 3.474, and p-value of 0.001, indicating significant two-stage mediation. This means Propan's economic sustainability efforts increase customer loyalty indirectly by first forming a positive brand image, then creating customer satisfaction, which eventually drives loyalty. This aligns with customer cognitive processing theory, where economic values must translate into emotional perception via brand image and real experience via satisfaction before strong loyalty develops. Hence, Propan's economic sustainability strategy should be consistently communicated within a strong brand narrative and supported by satisfying customer experiences.

H7b: Brand image and customer satisfaction sequentially mediate the positive influence of social sustainability on customer loyalty

Hypothesis H7b is supported. The chain mediation path is statistically significant with a coefficient of 0.169, t-statistic of 3.594, and p-value of 0.000. This confirms that Propan's social activities like CSR and community and employee care contribute to customer loyalty through positive brand image formation and increased customer satisfaction. In the paint industry, consumers associate brands with social values they care about. Thus, social sustainability success depends on both activity implementation and Propan's ability to build strong brand perceptions and satisfying customer experiences.

H7c: Brand image and customer satisfaction sequentially mediate the positive influence of environmental sustainability on customer loyalty

Hypothesis H7c is not supported. Mediation results show a path coefficient of 0.021, t-statistic of 0.806, and p-value of 0.420, indicating no significant indirect effect. Despite environmental initiatives like eco-friendly materials and pollution reduction, these have not formed a strong brand image nor increased customer satisfaction sequentially to influence loyalty. Consumers may not be sufficiently exposed to or understand environmental benefits, so sustainability value is not yet translated into satisfying experiences or loyalty. Thus, Propan needs to strengthen brand communication and customer education so that environmental sustainability is fully accepted and impacts loyalty in the long term.

5. Conclusion

This study aims to analyze the effect of sustainable marketing on customer loyalty, with brand image and customer satisfaction as mediating variables, using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) approach. Based on the analysis of 311 respondents who are Propan customers, the following conclusions were drawn:

1. Economic sustainability does not have a significant effect on customer loyalty in the context of sustainable marketing for Propan paint products.
2. Social sustainability does not have a significant effect on customer loyalty in the context of sustainable marketing for Propan paint products.
3. Environmental sustainability has a significant effect on customer loyalty in the context of sustainable marketing for Propan paint products.
4. Brand image and customer satisfaction sequentially mediate and significantly influence the effect of economic sustainability on customer loyalty in the context of sustainable marketing for Propan paint products.
5. Brand image and customer satisfaction sequentially mediate and significantly influence the effect of social sustainability on customer loyalty in the context of sustainable marketing for Propan paint products.
6. Brand image and customer satisfaction do not significantly mediate the effect of environmental sustainability on customer loyalty in the context of sustainable marketing for Propan paint products.

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