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The Influence of Green Products and Green Prices on Loyalty and Sustainability through Consumer Satisfaction

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ABSTRACT

Objective: This study aims to examine the influence of green products and green prices on customer loyalty and sustainability through the mediation of Sari Roti consumer satisfaction in the Jabodetabek area.
Methodology/Approach - An explanatory quantitative survey was conducted on 134 Sari Roti consumer respondents in the Greater Jakarta area selected through purposive sampling. Data were collected using a 1-5 Likert-scale questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate the direct and mediated relationships between green products, green prices, consumer satisfaction, customer loyalty, and sustainability.
Findings - The results show that green products significantly influence consumer satisfaction, loyalty, and sustainability, while green price only significantly influences loyalty, but not satisfaction or sustainability. Consumer satisfaction is shown to significantly influence loyalty and sustainability, and plays a mediating role in the relationship between green products and loyalty and sustainability, but not the relationship between green price. Consumer loyalty is also shown to be an important determinant of sustainability.
Novelty - This study emphasizes the central role of green products in shaping consumer satisfaction, loyalty, and sustainability for Sari Roti products. These findings provide strategic insights for the company to strengthen environmentally friendly innovations, price education, and green loyalty programs. From a theoretical perspective, this research enriches green marketing studies by emphasizing the mediating role of consumer satisfaction and opening up opportunities for developing theories of loyalty and satisfaction within the context of green consumerism.

INTRODUCTION

Bread consumption in Indonesia shows a positive growth trend. By 2025, revenue from the Bread & Bakery products market is estimated to reach US$54.73 billion, with a per capita income of US$191.55. This market is projected to grow by 5.70% per year (CAGR 2025–2030). In terms of volume, it is estimated to reach 41.34 billion kg in 2030, with an annual growth of 2.6% in 2026. Average consumption per person is also predicted to reach 132.4 kg in 2025. Although still below China, which leads the global with US$303 billion, the growth of the Indonesian bread market remains promising (Statista, 2025). This data reflects that the bread market in Indonesia shows bright prospects with an increasing consumption trend. Projections of income, volume, and per capita

consumption that continue to grow until 2030 reflect the great potential in this sector. This positive consumption growth opens up expansion opportunities for industry players in various market segments.

Based on data from Indonesia-Investments (2023), the market share of mass-produced bread continues to increase, from 18% in 2021 to 20% in 2023. This increase reflects changing consumer preferences, which increasingly rely on ready-to-eat products amidst fast-paced and dynamic lifestyles. One of the main players is PT Nippon Indosari Corpindo Tbk (Sari Roti), which dominated almost 90% of the national market share in 2024. Sari Roti's advantages lie in its large production capacity, strong national distribution system, and competitive pricing strategy. However, PT Nippon Indosari Corpindo Tbk's financial performance has declined in recent years, as reflected in the decline in net profit from Rp432.22 billion in 2022 to Rp333.29 billion in 2023.

Facing the challenge of declining performance in the Greater Jakarta area requires Sari Roti to not only maintain product quality but also strengthen customer satisfaction through a green marketing approach. This also opens up research opportunities regarding the role of green products and green prices in consumer loyalty by increasing customer satisfaction, which in turn contributes to sustainability. This statement is supported by several previous studies. Putra and Lestari (2021) found that perceptions of taste, packaging, and local brand image foster emotional attachment that leads to repeat purchases. Mekaniwati (2018) demonstrated that customer satisfaction directly influences loyalty, while Wibowo and Dewi (2022) highlighted the importance of green marketing communication strategies and word of mouth in strengthening brand image and loyalty. However, the integration of green product and green price dimensions as drivers of satisfaction that shape loyalty is still rare, especially for packaged bread products.

The lack of research specifically integrating the green product and green price dimensions in building consumer loyalty for packaged bread products limits practical contributions to the development of green marketing strategies in Indonesia. Therefore, this study aims to provide theoretical and practical contributions by analyzing the role of consumer satisfaction as a mediator between green attributes that ultimately influence consumer loyalty. From a practical perspective, companies need clearer strategies to increase satisfaction and build consumer loyalty through environmentally friendly product innovation, transparent price communication, and green loyalty programs. The findings of this study are expected to enrich the literature on sustainable consumer behavior in the FMCG sector in developing countries, while providing strategic direction for Sari Roti in strengthening its competitiveness and commitment to sustainability.

Literature Review

Expectation Disconfirmation Theory (EDT)

According to Bhattacherjee (2012), EDT is also relevant not only in first-time purchasing behavior, but also in the formation of repurchase intention, customer loyalty, and the adoption of service-based systems. That is, EDT serves as a framework to explain how customer value perceptions are formed in the consumer experience cycle of a product or service.

Consumer Behavior

Solomon (2015) explains that consumer behavior is the study of the processes individuals or groups go through when selecting, purchasing, using, or disposing of a product, service, idea, or experience to satisfy their needs and desires. According to (Kotler & Keller, 2016), consumer behavior is influenced by cultural, social, personal, and psychological factors, all of which work in a complex way to influence the consumer decision-making process.

Green Products

According to Ottman (2017), a green product is a product designed to minimize negative impacts on the environment while still meeting or exceeding consumer expectations in terms of function,

performance, and quality. According to Marcon et al. (2022), the dimensions of a green product are efforts to reduce environmental impact. This means that green products should not leave a large carbon footprint or waste. For example, choosing renewable materials, using clean energy in the production process, and minimizing waste during distribution and use.

Green Prices

According to Ottman (2017), green pricing is a pricing strategy that reflects a product's sustainability values, such as the use of environmentally friendly materials, energy-efficient production processes, or support for corporate social responsibility. Peattie & Belz (2010) emphasize that when someone is in a social environment that cares about environmental issues, they tend to more easily accept high prices as a form of collective commitment to better change. According to Hasman et al. (2024), this study explicitly mentions indicators for measuring green pricing, namely premium prices, prices commensurate with product value, and environmental investment costs.

Consumer Satisfaction

According to Kotler & Keller (2016) in their book, Marketing Management, customer satisfaction is the result of post-purchase evaluation, namely a comparison between consumer expectations of a product or service and their perception of actual performance. Fadhli and Pratiwi (2021) describe indicators of customer satisfaction, namely product quality, service quality, product price, product accessibility, and advertising strategy.

Customer Loyalty

According to Mohammadi et al. (2023), customer loyalty is closely related to a brand's image and social responsibility. Dehghani et al. (2021) emphasize that indicators such as repurchase intention, brand preference, trust, recommendations, and customer satisfaction are key components in building strong and sustainable loyalty.

Sustainability

Kotler & Keller (2016) emphasize that sustainability in the context of modern business is not only about environmental preservation, but also encompasses a company's long-term strategy to create balanced economic, social, and environmental value. According to Gomes et al. (2023), companies that fail to consider environmental aspects in their operations risk losing public trust, as more consumers are concerned about the environmental impact of the products they use. The sustainability indicators presented by Firmansyah et al. (2023) are Environmental Commitment, Social Commitment, and Environmental and Social Campaigning.

Research Framework

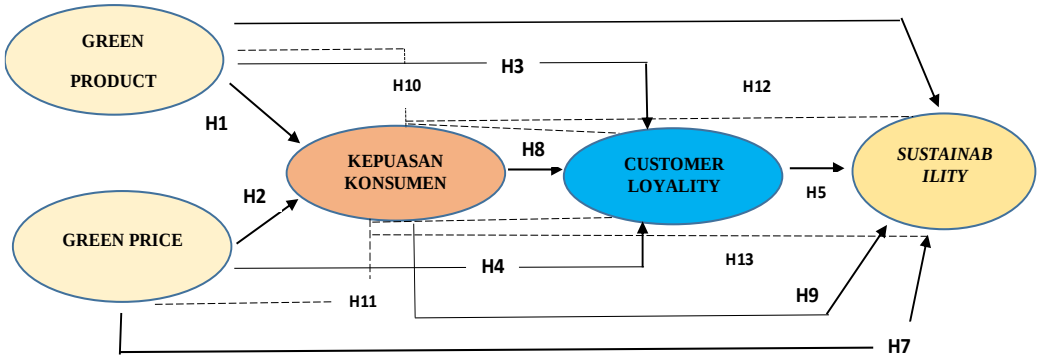

Figure 1. Research Framework

Hypotheses Development and Research Framework

Based on the literature review, the following hypotheses were developed:

The Influence of Green Products on Consumer Satisfaction (H1)

Green products pay attention to environmental aspects in the production process, from raw materials to packaging, which has been proven to increase the satisfaction of sustainability-oriented consumers (Dangelico & Vocalelli, 2017; Wibowo & Dewi, 2022; Putra & Lestari, 2021).

The Effect of Green Price on Consumer Satisfaction (H2)

Green price reflects the value of sustainability in pricing strategy, where consumers' willingness to pay a fair price for green products is proven to increase emotional satisfaction (Suki, 2016; Prakash & Pathak, 2017; Ayu & Hartono, 2020; Mulyani, 2022).**The Influence of Green Products on**

Customer Loyalty (H3)

Positively perceived green products increase consumer loyalty through sustainability values, green brand image, and ecological satisfaction (Hassan, 2024; Salsabilla & Isharini, 2024; Nguyen et al., 2025).

The Effect of Green Prices on Customer Loyalty (H4)

Green prices that are considered fair strengthen customer loyalty through the willingness to pay more for green products and encourage repeat purchases (Suki, 2016; Ayu & Hartono, 2020).

The Effect of Customer Loyalty on Sustainability (H5)

Customer loyalty strengthens business sustainability through consumer trust, green practices, and sustainable brand image (Singh et al., 2022; (Khalufi et al., 2025; Agu et al., 2024).

The Effect of Green Products on Sustainability (H6)

Green products contribute to corporate sustainability through the use of environmentally friendly materials, efficient production innovations, and consumer support for sustainable packaging (Swetha, 2024; Lee & Kollegen, 2023; Plastic Bank, 2024).

The Effect of Green Prices on Sustainability (H7)

Green pricing supports sustainability through ecological justice, price transparency, and environmentally oriented strategies that strengthen the business image (Suki, 2016; Peattie, 2001; Ayu & Hartono, 2020).

The Influence of Consumer Satisfaction on Customer Loyalty (H8)
Satisfaction is the foundation of loyalty, where satisfied consumers tend to make repeat purchases and recommendations, so that satisfaction acts as an antecedent of loyalty (Kotler & Keller, 2016; Oliver, 2014; Putra & Lestari, 2021).

The Influence of Consumer Satisfaction on Sustainability (H9)
Consumer satisfaction with green products strengthens their commitment to sustainability, so that satisfaction plays a role in supporting sustainable business practices (Oliver, 2014; (Dangelico & Vocalelli, 2017; Putra & Lestari, 2021).

Mediation of Consumer Satisfaction on the Influence of Green Products and Customer Loyalty (H10)
Loyalty to green products is formed through satisfaction, not directly. Satisfaction with quality and sustainability values has been shown to bridge the gap between green products and customer loyalty (Wardani & Ratnawati, 2024; Swetha et al., 2024; Salsabilla & Isharina, 2023).

Mediation of Consumer Satisfaction on the Influence of Green Price and Customer Loyalty (H11)
Green pricing doesn't directly create loyalty, but rather through customer satisfaction. Perceptions of prices that reflect sustainable values drive satisfaction, which ultimately strengthens customer loyalty (Damayanti et al., 2024; Maha et al., 2023; Mohammadi et al., 2023).

Mediation of Consumer Satisfaction on the Influence of Green Products and Sustainability (H12)
Satisfaction with green products not only drives loyalty, but also strengthens consumer support for sustainability practices, where environmental perceptions have a positive impact on sustainability only when consumers are satisfied (Shih et al., 2024; Swetha, 2024; Wijaya, 2023)Wijaya et al., 2024).

Mediation of Consumer Satisfaction on the Influence of Green Price and Sustainability (H13)
Satisfaction with fair and transparent green prices strengthens consumer support for sustainable practices, as positive perceptions of green prices encourage trust and participation in sustainable consumption (Suki, 2016; Prakash & Pathak, 2017; Ayu & Hartono, 2020).

METHOD

This study uses a quantitative approach with a causal research design to examine the relationship between green products, green prices, consumer satisfaction, consumer loyalty, and sustainability in Sari Roti's packaged bread products. The purpose of this study is to analyze the direct and indirect influences between variables and to examine the role of consumer satisfaction as a mediating variable in the proposed research model. The population of this study were Sari Roti consumers residing in the Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, and Bekasi). This area was chosen because it is the main market for Sari Roti products and represents the characteristics of urban consumers who are more aware of sustainability issues. The sampling technique used was purposive sampling, with the criteria for respondents being at least 17 years old, residing in Greater Jakarta, and having purchased and consumed Sari Roti products at least three times in the last three months. Based on calculations using G*Power software with a significance level of 0.05, 95% power, and an effect size of 0.3, the minimum sample size required was 134 respondents. Data were collected through an online questionnaire using Google Forms. The instrument was developed based on indicators adapted from previous research, with a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The variables measured included green product (Saputra, 2024), green price (Hasman et al., 2024), consumer satisfaction (Fadhli & Pratiwi, 2021), consumer loyalty (Dehghani et al., 2021), and

sustainability (Firmansyah et al., 2023). The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the help of SmartPLS 4 software. This method was chosen because it is able to handle models with mediating variables, supports non-normal data analysis, and is suitable for relatively limited sample sizes. The analysis was carried out through several stages, namely Descriptive Analysis, Outer Model Test (Convergent & Discriminant Validity, Reliability (CR & Cronbach's Alpha)), Inner Model Test (R^2, Q^2, f^2), and Hypothesis Testing.

RESULT AND DISCUSSION

Respondent Characteristics

A total of 200 respondents, all Sari Roti consumers in the Greater Jakarta area, participated in this study. The sample consisted of men and women with a balanced distribution, the majority of whom were from the younger age group, and covered various occupational backgrounds such as entrepreneurs, freelancers, housewives, students, employees, and civil servants. In terms of income, respondents showed a variety ranging from those with no income to those with high incomes, although the middle class dominated. These characteristics indicate that Sari Roti is consumed by consumers with diverse demographic backgrounds, thus providing a comprehensive picture of their tendencies towards green products, green prices, satisfaction, loyalty, and sustainability.

Table 1. Respondent Description

Characteristics	Category	Frequency	Presentase
Have you ever bought Sari Roti products?	Ya	200	100
	No	0	0,0
	Total	200	100,0
Gender	Man	98	49,0
	Woman	102	51,00
	Total	200	100,0
Age	17-30 years old	136	68,0
	31-49 years old	34	17,0
	> 50 years	30	15,0
	Total	200	100,0
Work	Freenlancer	39	19,50
	IRT	31	15,50
	Official	17	8,50
	Student/Student	31	15,50
	PNS	27	13,5
	Not Working	14	7,00
	Entrepreneurial	41	20,50
	Total	200	100,00

Analysis Results

Outer Model

Table 2. Convergent Validity (*Outer Loading*)

Indicator	Outer Loading	Outer Loading Measurement	Result
GP1	0.951	> 0.70	Accepted
GP2	0.958	> 0.70	Accepted
GP3	0.933	> 0.70	Accepted
GP4	0.971	> 0.70	Accepted
GP5	0.958	> 0.70	Accepted
GP6	0.943	> 0.70	Accepted
PR1	0.954	> 0.70	Accepted
PR2	0.974	> 0.70	Accepted
PR3	0.972	> 0.70	Accepted
PR4	0.962	> 0.70	Accepted

PR5	0.966	> 0.70	Accepted
PR6	0.939	> 0.70	Accepted
KS1	0.834	> 0.70	Accepted
KS2	0.892	> 0.70	Accepted
KS3	0.882	> 0.70	Accepted
KS4	0.920	> 0.70	Accepted
KS5	0.904	> 0.70	Accepted
KS6	0.899	> 0.70	Accepted
KS7	0.950	> 0.70	Accepted
KS8	0.903	> 0.70	Accepted
KS9	0.878	> 0.70	Accepted
KS10	0.812	> 0.70	Accepted
LK1	0.894	> 0.70	Accepted
LK2	0.925	> 0.70	Accepted
LK3	0.922	> 0.70	Accepted
LK4	0.947	> 0.70	Accepted
LK5	0.952	> 0.70	Accepted
LK6	0.953	> 0.70	Accepted
LK7	0.958	> 0.70	Accepted
LK8	0.948	> 0.70	Accepted
LK9	0.949	> 0.70	Accepted
LK10	0.944	> 0.70	Accepted
ST1	0.946	> 0.70	Accepted
ST2	0.974	> 0.70	Accepted
ST3	0.968	> 0.70	Accepted
ST4	0.972	> 0.70	Accepted
ST5	0.954	> 0.70	Accepted
ST6	0.928	> 0.70	Accepted

Table 3 show A reflective measure is considered high if it correlates more than 0.70 with the construct being measured. Convergent validity results using outer loadings show that all indicators obtained outer loadings greater than 0.70, and all data were accepted. These results indicate that each construct indicator in the model is valid.

Table 4. *Convergent Validity* (AVE)

Variabel	AVE	AVE Measurement	Result
GP	0.907	> 0.5	Accepted
PR	0.924	> 0.5	Accepted
KS	0.789	> 0.5	Accepted
P.	0.882	> 0.5	Accepted
ST	0.916	> 0.5	Accepted

Table 3 show Convergent validity results using average variance extracted (AVE) showed that all variables obtained AVE values greater than 0.5, thus all data were accepted. This result means that each construct variable in the model is valid.

Table 5. Discrimant Validity (Cross Loading)

Indikator	GP	KS	LK	PR	ST
GP1	0.951	0.423	0.527	0.288	0.487
GP2	0.958	0.405	0.512	0.266	0.478
GP3	0.933	0.389	0.479	0.280	0.423
GP4	0.971	0.438	0.492	0.279	0.439
GP5	0.958	0.404	0.496	0.263	0.466
GP6	0.943	0.434	0.515	0.279	0.485
KS1	0.352	0.834	0.039	0.196	0.053
KS10	0.275	0.812	0.049	0.166	0.063
KS2	0.364	0.892	0.021	0.152	0.048
KS3	0.401	0.882	0.041	0.145	0.056
KS4	0.461	0.920	0.292	0.403	0.333
KS5	0.294	0.904	0.041	0.131	0.106
KS6	0.453	0.899	0.203	0.340	0.250
KS7	0.471	0.950	0.211	0.355	0.258
KS8	0.335	0.903	0.115	0.300	0.133
KS9	0.307	0.878	0.025	0.167	0.041
LK1	0.473	0.112	0.894	0.642	0.838
LK10	0.505	0.159	0.944	0.577	0.974
LK2	0.526	0.082	0.925	0.602	0.844
LK3	0.519	0.091	0.922	0.594	0.842
LK4	0.506	0.123	0.947	0.607	0.891
LK5	0.479	0.158	0.952	0.641	0.892
LK6	0.525	0.166	0.953	0.637	0.900
LK7	0.482	0.166	0.958	0.649	0.912
LK8	0.495	0.157	0.948	0.599	0.945
LK9	0.465	0.169	0.949	0.613	0.946
PR1	0.284	0.250	0.627	0.954	0.585
PR2	0.279	0.274	0.645	0.974	0.611
PR3	0.278	0.260	0.638	0.972	0.604
PR4	0.270	0.345	0.605	0.962	0.578
PR5	0.262	0.304	0.612	0.966	0.590
PR6	0.296	0.275	0.652	0.939	0.628
ST1	0.465	0.169	0.949	0.613	0.946
ST2	0.505	0.159	0.944	0.577	0.974
ST3	0.450	0.183	0.913	0.588	0.968
ST4	0.485	0.174	0.916	0.589	0.972
ST5	0.437	0.184	0.899	0.617	0.954
ST6	0.453	0.193	0.871	0.601	0.928

Based on Table 4 show the results of discriminant validity using cross-loading, each indicator had the highest loading value on the construct it measured. This indicates that each latent variable green product, green price, consumer satisfaction, customer loyalty, and sustainability was able to accurately represent its indicators and met the criteria for discriminant validity.

Table 6. Discriminant Validity (*Fornell Locker*)

Variabel	GP	KS	LK	PR	ST
GP	0.952				
KS	0.437	0.888			
LK	0.529	0.148	0.939		
PR	0.290	0.296	0.656	0.961	
ST	0.487	0.185	0.957	0.624	0.957

Based on Table 5 show the results of the discriminant validity test using the Fornell-Larcker criteria, most constructs have met the requirements because the AVE root value is higher than the correlation with other constructs. However, in the customer loyalty and green price variables, a correlation was found to be greater than the AVE root, so the discriminant validity of these two constructs has not been fully met.

Table 7. Discrimant Validity (HTMT)

Variabel	GP	KS	LK	PR	ST
GP					
KS	0.427				
LK	0.539	0.121			
PR	0.295	0.271	0.666		
ST	0.496	0.155	0.972	0.635	

Table 6 show The results of the discriminant validity test using the heterotrait monotrait ratio (HTMT) showed that the discriminant validity between constructs was at a fairly good level, because the values obtained did not exceed the specified threshold.

Table 8. Composite Reliability and Cronbach's Alpha

Variabel	*Composite Reliability*	Cronbach's alpha
GP	0.980	0.979
KS	1.006	0.971
P.	0.985	0.985
PR	0.984	0.984
ST	0.982	0.982

Table 7 show Composite reliability and Cronbach's alpha results showed that all variables scored above 0.70, indicating that the research data is reliable and consistent.

Inner Model

Table 9. *Coefficient of Determination* (R^2)

Influence Between Variables	R-square
P.	0.596
ST	0.921

Table 8 show The coefficient of determination (R2) shows that the influence of customer loyalty (LK) is 0.596, or 59.60%, meaning that the influence of customer loyalty (LK) is in the moderate category. Meanwhile, the influence of sustainability (ST) is 0.921, or 92.1%, meaning that the influence of sustainability (ST) is in the very strong category.

Table 10. *Predictive Relevance* (Q^2)

Influence Between Variables	Q^2
P.	0.584
ST	0.511

Table 9 show The predictive relevance (Q2) results for the influence of customer loyalty obtained a Q2 value of 0.584, indicating a good predictive relevance (Q2) model. Meanwhile, the influence of sustainability obtained a Q2 value of 0.511, indicating a good predictive relevance (Q2) model.

Table 11. *Effect Size* (f^2)

Influence Between Variables	F-square
GP -> KS	0.173
GP -> LK	0.404
GP -> ST	0.033
KS -> LK	0.099
KS -> ST	0.054
LK -> ST	5.190
PR -> KS	0.040
PR -> P.	0.758
PR -> ST	0.010

Table 10 show The effect size (f2) result on green product (GP) variable on consumer satisfaction (KS) obtained f square value of 0.173, meaning green product (GP) on consumer satisfaction (KS) has a moderate effect. Green product (GP) variable on customer loyalty (LK) obtained f square value of 0.404, meaning green product (GP) on customer loyalty (LK) has a large effect. Green product (GP) variable on sustainability (ST) obtained f square value of 0.033, meaning green product (GP) on sustainability (ST) has a small effect. Consumer satisfaction (KS) variable on customer loyalty (LK) obtained f square value of 0.099, meaning consumer satisfaction (KS) on customer loyalty (LK) has a small effect. Consumer satisfaction (KS) variable on sustainability (ST) obtained f square value of 0.054, meaning consumer satisfaction (KS) on sustainability (ST) has a small effect. Customer loyalty (LK) variable on sustainability (ST) obtained f square value of 5.190, meaning customer loyalty (LK) on sustainability (ST) has a large effect. The green price (PR) variable on consumer satisfaction (KS) obtained an f-square value of 0.040, meaning that green price (PR) on consumer satisfaction (KS) has a small effect. The green price (PR) variable on customer loyalty (LK) obtained an f-square value of 0.758, meaning that green price (PR) on customer loyalty (LK) has a large effect. And the green price (PR) variable on sustainability (ST) obtained an f-square value of 0.010, meaning that green price (PR) on sustainability (ST) has no effect.

Hypothesis Testing

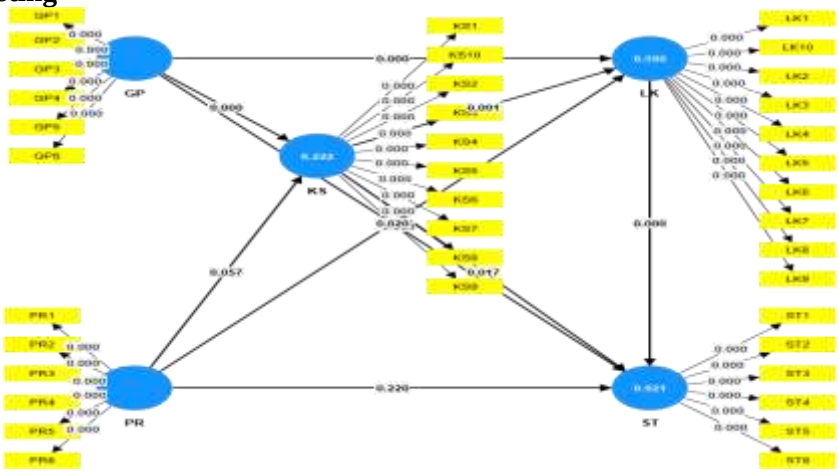

Figure 2. Direct Effect Test Diagram

Table 12. Direct Effect Test

Influence Between Variables	Original sample (O)	Sample average (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
GP -> KS	0.383	0.373	0.089	4.284	0.000	Accepted
GP -> LK	0.457	0.446	0.062	7.400	0.000	Accepted
GP -> ST	0.069	0.072	0.029	2.336	0.020	Accepted
KS -> LK	0.226	0.239	0.070	3.215	0.001	Accepted
KS -> ST	0.078	0.078	0.033	2.379	0.017	Accepted
LK -> ST	1.008	1.007	0.026	38.569	0.000	Accepted
PR -> KS	0.185	0.172	0.097	1.907	0.057	Rejected
PR -> P.	0.590	0.577	0.060	9.847	0.000	Accepted
PR -> ST	0.040	0.044	0.033	1.227	0.220	Rejected

Table 11 show The results of the direct effect hypothesis test show that the green product (GP) variable on consumer satisfaction (KS) obtained a statistical t value of 4.284 > t table 1.972 with a P value of 0.000 < 0.05. This means that green products (GP) have an effect on consumer satisfaction (KS). These results support previous research by (Maharani & Anggrainie, 2024) which showed that consumers who care about the environment feel satisfied because green products meet the need for environmentally friendly and high-quality products.

The green product (GP) variable on customer loyalty (LK) obtained a statistical t-value of 7.400 > t-table 1.972 with a P-value of 0.000 < 0.05. This means that green products (GP) influence customer loyalty (LK). This result is in line with research by (Bhaswara & Patrikha, 2021), which states that given the scarcity of green products, consumers who care about the environment will lead to loyalty because consumers will perceive the product as meeting their needs and desires.

The green product (GP) variable on sustainability (ST) obtained a statistical t-value of 2.336 > t-table 1.972 with a P-value of 0.020 < 0.05. This means that green product (GP) influences sustainability (ST). These results support the research findings by (Harto et al., 2024) which stated that green strategies enable businesses to optimize resources, reach wider markets, and increase sustainable brand awareness.

The variable of consumer satisfaction (KS) on customer loyalty (LK) obtained a statistical t value of 3.215 > t table 1.972 with a P value of 0.001 < 0.05. This means that consumer satisfaction (KS) influences customer loyalty (LK). This finding is in line with research by (Anggraini & Budiarti, 2020) that customer satisfaction is a very influential supporting factor in efforts to increase loyalty. When customers feel satisfied, loyalty will arise towards the product or brand.

The variable of consumer satisfaction (KS) towards sustainability (ST) obtained a statistical t value of 2.379 > t table 1.972 with a P value of 0.017 < 0.05. This means that consumer satisfaction (KS) influences sustainability (ST). This finding is in line with a study by (Handoko et al., 2025) which states that the synergy between product satisfaction and green packaging creates a positive feedback loop, where satisfied customers are more likely to choose products with environmentally friendly packaging, thereby strengthening the brand's reputation for sustainability.

The variable customer loyalty (LK) on sustainability (ST) obtained a t-statistic of 38.5669 > t-table 1.972 with a P-value of 0.000 < 0.05. This means that customer loyalty (LK) influences sustainability (ST). This finding aligns with a study by (Sari & Ali, 2025), which explains that customer loyalty plays a significant role in supporting business sustainability. Loyal customers tend to continue using the same product or service and recommend it to others, thus positively impacting company growth.

The variable green price (PR) on customer satisfaction (KS) obtained a t-statistic of 1.907 < t-table 1.972 with a P-value of 0.057 > 0.05. This means that green products (GP) have no effect on customer satisfaction (KS). This finding aligns with Khasanah & Suprapti (2025) who stated that although some consumers recognize the importance of sustainability, price remains a major barrier for most consumers, especially in modern markets where eco-friendly products are often sold at high prices.

The green price (PR) variable on customer loyalty (LK) obtained a t-statistic value of 9.847 > t-table 1.972 with a P-value of 0.000 < 0.05. This means that green products (GP) influence customer loyalty (LK). This finding aligns with research by Arifin et al. (2024) which states that when companies transparently set prices that reflect sustainability costs, consumers tend to better understand and appreciate the value of the product, leading to increased loyalty.

The green price (PR) variable on sustainability (ST) obtained a t-statistic value of 1.227 < t-table 1.972 with a P-value of 0.220 > 0.05. This means that green products (GP) have no effect on sustainability (ST). This finding is supported by the opinion of Ryantar et al., (2020) as quoted by (Aswar, 2025) that the importance of educating the public about current issues and phenomena occurring in the environment, the impact of using environmentally friendly products, and the benefits felt from using products with natural ingredients. This is important to be done to be able to influence consumption behavior that truly supports sustainability.

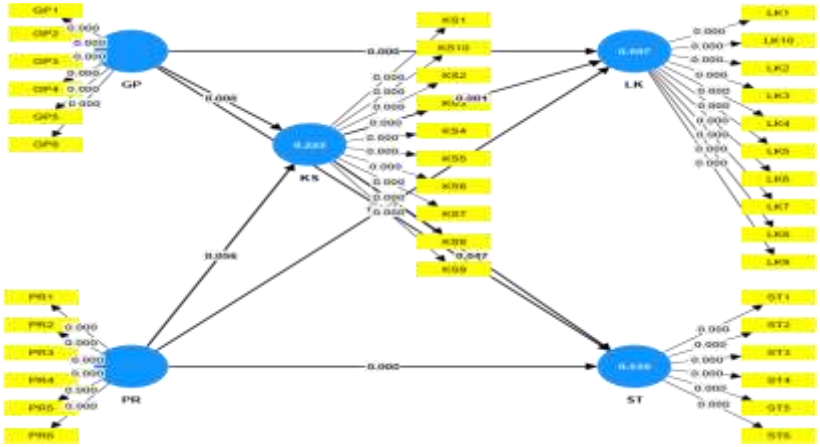

Figure 3. Indirect Effect Test Diagram

Table 12 Indirect effect

Influence Between Variables	Original sample (O)	Sample average (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
GP -> KS -> LK	0.087	0.088	0.027	3.182	0.001	Accepted
GP > KS > ST	0.058	0.058	0.028	2.096	0.036	Accepted
PR -> KS -> P.	0.042	0.039	0.025	1.692	0.091	Rejected
PR -> KS -> ST	0.028	0.025	0.019	1.440	0.150	Rejected

Table 113 show The results of the indirect effect hypothesis test indicate that consumer satisfaction (KS) mediates the effect of green products (GP) on customer loyalty (LK), with a t-statistic of 3.182 > t-table of 1.972, with a P-value of 0.001 < 0.05. This means that consumer satisfaction (KS) can mediate the effect of green products (GP) on customer loyalty (LK). These findings align with a study by (Yuniati et al., 2020), which found that eco-friendly travelers who choose eco-friendly hotels (green products) do not necessarily become loyal customers. To create loyal customers, hotels must be able to achieve customer satisfaction. A study by (Astuti et al., 2021) also found that green products influence customer satisfaction. Furthermore, the relationship between satisfaction and loyalty also impacts profits. The more satisfied customers are, the more loyal they are to the brand (Sharma et al., 2020). Thus, consumer satisfaction can be used as a mediating variable in the relationship between green products and customer loyalty.

The variable of consumer satisfaction (KS) mediates green product (GP) on sustainability (ST) obtaining a statistical t value of 2.096 > t table 1.972 with a P value of 0.036 < 0.05. This means that consumer satisfaction (KS) can mediate green product (GP) on sustainability (ST). This finding is in line with the results of a study by (Hariadi et al., 2023) which stated that environmentally friendly product innovation (green product) significantly improves performance in a sustainable product-service system (sustainable product-service system performance). (Marpaung et al., 2024) also stated that green product innovation has a positive effect on sustainable competitive advantage. Then, a study (Komalasari, 2025) stated that consumer satisfaction influences sustainable strategies. Thus,

consumer satisfaction can be used as a mediating variable in the relationship between green products and sustainability.

The variable of consumer satisfaction (KS) mediating green price (PR) on customer loyalty (LK) obtained a statistical t value of 1.692 < t table 1.972 with a P value of 0.091 > 0.05. This means that consumer satisfaction (KS) cannot mediate green price (PR) on customer loyalty (LK). These findings are in line with a study by (Yachya & Marka, 2023) which stated that green price has no effect on customer satisfaction. Then, research by (Sah, 2025) also stated that green price does not significantly affect customer satisfaction. In addition, (Hayu, 2014) found that consumer satisfaction does not significantly affect consumer loyalty. Thus, consumer satisfaction cannot be used as a mediating variable in the relationship between green price and customer loyalty.

The consumer satisfaction (KS) variable mediates green price (PR) on sustainability (ST) obtaining a statistical t-value of 1.440 < t-table 1.972 with a P-value of 0.150 > 0.05. This means that consumer satisfaction (KS) cannot mediate green price (PR) on sustainability (ST). This finding is in line with the results of a study by (Yachya & Marka, 2023) which stated that green price has no effect on customer satisfaction. A study by (Novela et al., 2018) also stated that price (an element of green marketing) is not significantly related to customer satisfaction. Then, a study by (Shih et al., 2024) showed that there was no direct relationship between perceptions of sustainability and customer satisfaction. This means that satisfaction alone is not enough to drive real sustainable behavior. Thus, consumer satisfaction can be used as a mediating variable in the relationship between green price and sustainability.

CONCLUSION

The results of this study indicate that green product is the main factor that significantly influences consumer satisfaction, customer loyalty, and the sustainability of Sari Roti products. Conversely, green price was not proven to have a significant effect on consumer satisfaction or sustainability, although it had a positive effect on customer loyalty. Furthermore, consumer satisfaction acts as a mediator in the relationship between green product and loyalty and sustainability, but does not function as a mediator in the relationship between green price. Furthermore, customer loyalty was shown to have a significant influence in promoting sustainability. These findings emphasize that the main strategy that companies need to prioritize is maintaining the quality of environmentally friendly products and increasing consumer satisfaction as an effort to support long-term sustainability. Sari Roti is advised to continue to improve the quality and innovation of environmentally friendly products through biodegradable packaging or organic raw materials, while simultaneously educating consumers that prices reflect sustainability commitments. Satisfaction needs to be maintained through service quality, taste, and product convenience, and strengthened with a special loyalty program for green consumers. Furthermore, mapping consumer segments based on environmental concerns is important for more targeted marketing strategies and impacting sustainability. Future research is recommended to add moderating variables such as green awareness, environmental concern, or perceived behavioral control to deepen the understanding of the relationship between green attributes and sustainability.

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