

Influence of Brand Image and Customer Satisfaction on Loyalty and Repurchase In E-Waste Context

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ABSTRACT

This study analyzes the influence of brand image and customer satisfaction on brand loyalty and repurchase decisions among Samsung Electronics consumers in Indonesia, within the context of electronic waste (e-waste) management issues. The rising global e-waste volume and low recycling rate in Indonesia push electronics companies, including Samsung, to implement sustainability strategies to maintain brand image and customer satisfaction. The research uses a quantitative approach with Structural Equation Modeling–Partial Least Square (SEM-PLS). Data were collected through an online questionnaire distributed to 200 Samsung Electronics consumers in Indonesia. The variables studied include brand image, customer satisfaction, brand loyalty, repurchase decisions, and demographics as moderating variables. The results show that brand image and customer satisfaction significantly affect brand loyalty and repurchase decisions. Additionally, brand loyalty mediates the effect of brand image and customer satisfaction on repurchase decisions. However, demographic factors do not moderate the relationship between brand image, customer satisfaction, and brand loyalty. These findings highlight the importance of Samsung's sustainability strategy, particularly its *e-waste* recycling program, in enhancing brand image, increasing satisfaction, and encouraging repurchase behavior. This research contributes to green marketing and consumer behavior literature and offers practical recommendations for Samsung brand managers to improve the effectiveness of sustainability programs in Indonesia.

Keywords: Brand Image; Customer Satisfaction; Brand Loyalty; Repurchase Decision; E-Waste; Samsung Electronics.

INTRODUCTION

Digitalization in the current era allows for increasing environmental awareness for consumers and electronics manufacturers where it is increasingly concerned about the environmental impact of the products they buy (Ardani, 2022; Musyarrofah & Susyanti, 2024). In addition, environmental issues for the electronics industry have become a global concern over the past few decades (Panda, 2024; S, 2024). The world's attention to the environmental impact of the electronics industry is increasing, especially related to the product, use, and disposal of electronic devices (Baldé et al., 2024). The growth of e-waste (e-waste) is resulting in an increasing volume of e-waste, so it can be projected that the global e-waste volume will reach 74 million metric tons by 2030, if there are no significant mitigation measures (Forti et al., 2020). It is estimated that more than 50 million tons of e-waste are generated annually worldwide, but only about 20% is effectively recycled (Linda Di Gianvittorio, 2024). Based on a report from The Global E-Waste Monitor 2024 released in March 2024, global e-waste in 2022 will reach 62 billion kg, equivalent to an average of 7.8 kg per capita per year (Baldé et al., 2024). Based on the figure below 1.2, the global electronic waste management market value

increases from year to year, which causes e-waste to increase every year, which means that the increase in e-waste forces businesses to adapt to more sustainable practices, comply with strict regulations, and meet the expectations of consumers who are increasingly concerned about the environment (Defitri, 2023; Paminto et al., 2024; F. Rahman, 2022).

Electronics production requires a lot of metals and minerals that are often obtained from mining that causes environmental damage such as deforestation, soil erosion, and water pollution (bpmid, 2024; Protect Forests, 2022). Not only that, when electronic devices are thrown into landfills, if not managed properly, harmful materials such as lead and mercury will absorb into the soil and even water, which can threaten human health and ecosystems (Brown, 2021; Linda Di Gianvittorio, 2024). Then one of the main challenges in electronics production is the use of hazardous materials such as lead, cadmium, and mercury (Pacific, 2023).

In the global context, environmental awareness is the most important issue. Climate change, ozone depletion, and environmental pollution have become the world's concern (Electronic Watch, 2020). In response to these environmental issues, some electronics companies are starting to take steps to innovate and develop sustainable solutions to reduce their environmental impact. For example, many manufacturers are now committed to using renewable energy in the production process and improving recycling systems to reduce the environmental impact of the products produced (Electronic Watch, 2020; Z2Data, 2022). The use of recycled materials in the production of electronic devices can reduce the need for the extraction of raw materials from mines, such as heavy metals, by maximizing the use of used materials in the production of materials in the future, the circular economy reduces the need for the extraction of new raw materials, thereby helping to reduce environmental impact and carbon emissions (McGrath & Jonker, 2024).

Increasing consumer awareness of climate change issues has driven a shift in consumer preferences towards sustainable products and services. Modern consumers are increasingly selective in choosing products that use environmentally friendly raw materials, recyclable packaging, and come from companies that have a strong commitment to sustainable business practices (think, 2023). Eco-friendly initiatives are one way for companies to show their commitment to the environment and meet the needs of environmentally conscious consumers. Some companies have launched products that use recycled materials and have eco-friendly certifications. In addition, the company also makes efforts to reduce the use of plastic and use recyclable packaging. This can be one of the important factors in consumer purchasing decisions (Ahmadi & Mahargyani, 2024). This initiative not only aims to meet the needs of environmentally conscious consumers, but also to meet environmental standards and regulations (Sri Wahyono, 2023).

Regulations related to e-waste are currently not widely regulated both globally and nationally (Paminto et al., 2024). According to Chandra & Trihadiningrum in Paminto et al., (2024) this is because e-waste management has not yet become a major concern in several developing countries, including Indonesia. According to Baldé et al., (2024) the growth rate of countries implementing e-waste policies, laws, or regulations has slowed down since June 2023. Overall, 81 countries (or 42 percent of all countries worldwide) have adopted e-waste policies, which cover 72 percent of the global population. This figure is still far from the ITU target of 50 percent (97 countries) by 2023.

Indonesia is among the 81 countries with national e-waste regulations, yet its management remains largely dominated by the informal sector, with only 17.4% of 2 million tons properly handled (Wulandari, 2020). The country classifies e-waste as hazardous under Government Regulation No. 101/2014 and No. 27/2020, requiring licensed management to mitigate health and environmental risks, while Law No. 18/2008 emphasizes reduction and recycling. Despite these frameworks, implementation remains nascent, with most e-waste still ending up in landfills, undermining Indonesia's net-zero emissions target by 2060 (Baldé et al., 2024). Globally, the Basel Convention restricts cross-border hazardous waste movement, and the EU's WEEE Directive enforces producer responsibility, yet Indonesia lacks an Extended Producer Responsibility (EPR) system for e-waste, relying instead on broader hazardous waste regulations (Bagaskara, 2024).

Internationally, standards like e-Stewards promote responsible recycling, while major electronics firms like Samsung are adopting eco-friendly initiatives to align with consumer demand for sustainability. Samsung's efforts include using recycled materials, reducing plastic packaging, and expanding its Re+ recycling program to over 70 countries, particularly in Europe and Asia (Samsung, 2023). However, global e-waste reached 62 million tons in 2022, with improper disposal posing environmental and health risks, exacerbated by informal recycling and infrastructure gaps in some regions (Gurdev Singh, 2024).

Samsung's sustainability strategy extends across product categories, from smartphones to appliances, incorporating recycled materials, energy-efficient designs, and partnerships like the Less Microfiber™ technology with Patagonia. These initiatives resonate with environmentally conscious consumers, reinforcing brand loyalty while addressing operational sustainability (Pandya, 2022). Nonetheless, balancing innovation with environmental responsibility remains challenging amid rising global electronics demand, highlighting the need for scalable solutions and stronger regulatory frameworks to enhance e-waste management worldwide (Tyler, 2022).

Samsung has demonstrated a strong commitment to sustainability by significantly increasing its use of recycled materials, having incorporated over 310,291 tons of recycled plastic since 2009 with a goal of reaching 500,000 tons by 2030 (Karidis, 2022), while also utilizing recycled resin in 25% of plastic components in 2023 (Samsung, 2023). However, despite these efforts, the global plastic recycling rate remains low at just 10% (Tan et al., 2024), highlighting the need for improved infrastructure and public awareness to enhance recycling effectiveness. Additionally, Samsung has partnered with Patagonia to tackle microplastic pollution through innovations like the Less Microfiber™ laundry filter, which captures microfibers during washing to reduce water contamination (Samsung Global Newsroom, 2023; Lahiri, 2023). While such collaborations represent progress in eco-friendly design and wastewater management (Calero et al., 2021), systemic changes across the textile industry are still necessary to achieve meaningful reductions in microfiber emissions and promote long-term sustainability (Branka, 2023).

Samsung has made significant progress in sustainability, achieving 93.4% renewable energy use by 2023, with full adoption in key production facilities worldwide. This shift supports global climate efforts by reducing fossil fuel dependence, though challenges like energy storage and intermittency remain. Beyond energy, Samsung's eco-friendly initiatives—such as increasing recycled plastics, integrating the Less Microfiber™ technology in washing

machines, and offering long-term warranties—have strengthened its brand image among environmentally conscious consumers. These efforts align with growing consumer demand for sustainable products, enhancing both rational and emotional purchase motivations. Surveys, including YouGov (2024) and ACSI (2024), highlight how Samsung's sustainability commitment drives customer satisfaction, particularly among younger demographics like Gen Z in Indonesia, where 74% prefer Samsung due to its environmental and quality standards.

The company's sustainability strategy not only reduces environmental impact but also fosters brand loyalty and repurchase decisions, as 82% of consumers rank Samsung highest in satisfaction, with 76% citing service quality and corporate values as key factors. This demonstrates how sustainability initiatives can create a competitive edge by aligning brand values with consumer expectations. For future research, it would be valuable to explore how Samsung's sustainability strategies translate into financial performance, particularly in emerging markets where consumer environmental awareness is rapidly growing. Additionally, comparative studies across industries could assess whether similar approaches yield consistent results or if success depends on sector-specific factors. Investigating consumer trust in sustainability claims and the long-term effects of green branding on market share could also provide deeper insights for corporate sustainability strategies

	2024	2025	% Change
Samsung	82	81	-1%
Apple	82	81	-1%
Cell Phones	81	78	-4%
Motorola (Lenovo)	77	75	-3%
Google	77	75	-3%
All Others	72	68	-6%

Figure 3. Satisfaction Benchmarks by Company (ACSI, 2024)

Today's consumers tend to be more satisfied with brands that show concern for global issues, such as the environment and social responsibility. This means that Samsung's sustainability strategy can increase emotional satisfaction and added value in the consumer experience (Nielseniq, 2023).

Brand loyalty is also an interesting phenomenon in the context of technology brand competition, as can be seen from the consistency of consumer preferences even though the electronics market is very competitive. Consumer loyalty is not only triggered by quality, but also by the company's consistency in executing sustainability values and business ethics. Data from Sell Cell (2021) shows that consumer loyalty to Samsung decreased from 85.7% in 2019 to 74% in 2021, this figure remains high in the technology market. Loyal consumers generally choose to stick with brands that represent their personal values, including commitment to the environment. Therefore, Samsung's sustainability strategy not only strengthens its image, but also becomes a driving factor for long-term loyalty (Newsroom, 2024).

This is reinforced by the PwC report (2024) stating that 88% of consumers in Asia Pacific consider it important for brands to have a commitment to the environment, and 63% of them will avoid unsustainable brands. Based on the figure below 1.5 it is concluded that 51% of them start buying sustainable products. Also, consumers in Indonesia are willing to pay 13.1% more for sustainable products, above the global average of 9.7% (PwC, 2024).

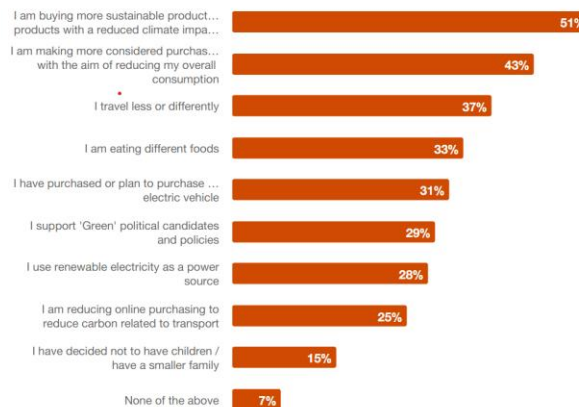


Figure 4. Actions taken to reduce the impact on environmental change

Source: (PwC, 2024)

Samsung's integration of sustainability into its marketing strategy has proven effective in building trust and differentiating the brand, ultimately fostering long-term success by enhancing brand image and loyalty (Sujanska & Nadanyiova, 2023). A positive brand image, reinforced by perceived product quality and customer satisfaction, significantly boosts brand loyalty and repurchase intentions (M. Rahman et al., 2023; Zulfa Hayuni & Omar Sharif, 2023). While existing research confirms this relationship, gaps remain in understanding how specific brand image elements—such as product quality, brand values, and customer experience—individually influence loyalty, particularly in diverse markets like Indonesia (Nurfitriona et al., 2020; Arofa & Wardhani, 2022). Customer satisfaction, driven by positive experiences with Samsung's eco-friendly products, further strengthens loyalty, yet the impact of demographic factors and market-specific preferences warrants deeper exploration (Prasidha et al., 2024; Wicaksari & Febriatmoko, 2024).

Demographic factors such as age, income, and education significantly shape brand perception and satisfaction, with younger, higher-income, and more educated consumers exhibiting stronger brand preferences (Flores-Hernández et al., 2020; Fauzi & Rahayu, 2023). Samsung's emphasis on sustainability and innovation aligns with these trends, enhancing its appeal among environmentally conscious consumers (Pancić et al., 2023). This study seeks to examine the interconnected roles of brand image, customer satisfaction, and loyalty in driving repurchase decisions, particularly in the context of e-waste and sustainable practices. By bridging theoretical gaps and offering actionable insights, the research aims to help companies refine their marketing strategies to better meet consumer expectations and strengthen long-term loyalty in the competitive electronics industry.

METHOD

This study uses a quantitative approach to collect and analyze numerical data to test hypotheses and examine the relationships between predetermined variables. Sugiyono (2019) explains that descriptive research aims to provide a systematic explanation or description based on facts about a condition or phenomenon. This method also focuses on statistical relationships between variables, allowing findings to be generalized to a larger population by following a rigorous and precise process (Taherdoost, 2022).

In descriptive research, data about the research object is collected. Based on the research objective, this study is categorized as causal research, which aims to explore cause-and-effect relationships between independent and dependent variables (Sugiyono, 2019). This quantitative research involves collecting data through surveys with questionnaires distributed to respondents who meet predetermined criteria. The collected data will be analyzed using appropriate statistical techniques, such as path analysis with SmartPLS software, to identify relationships between variables and test hypotheses (Hair et al., 2022).

This quantitative approach allows for testing existing theories and provides empirical evidence on the influence of brand image, customer satisfaction, brand loyalty, and repurchase decisions in organizations.

RESULTS AND DISCUSSION

Analysis Structure Equation Modelling (SEM)

Model Measurement Results (Outer Model)

This study used SmartPLS software version 4.0 to analyze data on 390 respondents who had been obtained.

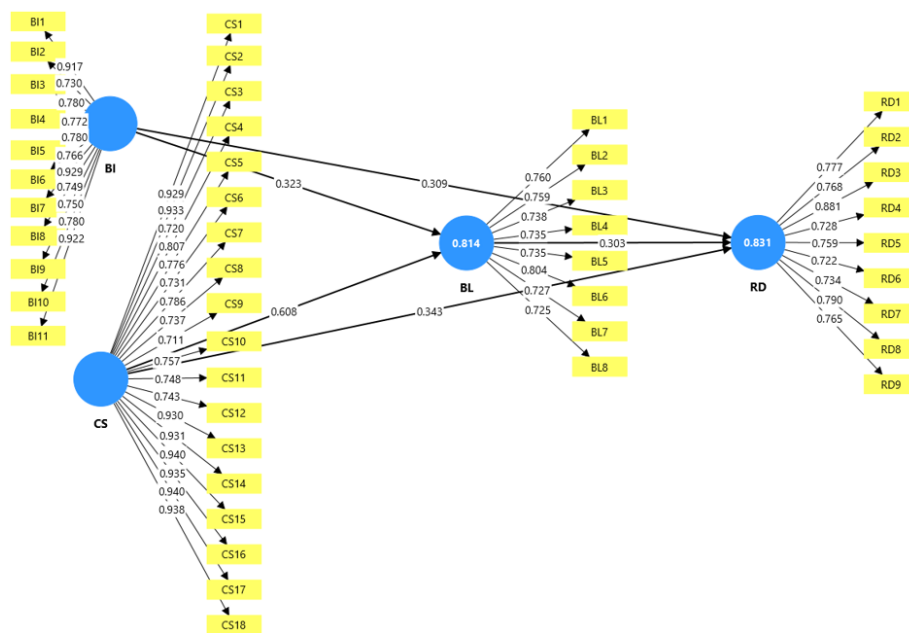


Figure 5. Path Diagram Outer Model

Source: Results of Researcher's Data Processing with SmartPLS 4.0 (2025)

Measurement model testing (outer model) is used to assess validity and reliability, validity and realism are tested through measurement models on indicators that form a variable (Ghozali, 2021). Based on Figure 4.9 above, it explains the path diagram for the outer model according to the research framework used. The yellow box indicates the indicator of the variable and the blue circle is the research variable. Each interconnected line indicates the relationship between variables that has been described by the research hypothesis. Next, a convergent validity calculation will be carried out which is seen from the outer loading, the purpose is to see whether each indicator has a valid value or not.

Convergent Validity

This measurement aims to determine the validity of each relationship between the indicator and its latent constructs or variables. According to Ghazali (2021), individual indicators with a correlation value above 0.7 are considered valid. The table of convergent validity results with the outer factor in this study is as follows:

Table 1. Outer Loading

Indicator	<i>Brand Image</i>	<i>Customer Satisfaction</i>	<i>Brand Loyalty</i>	<i>Repurchase Decision</i>
BI1	0.917			
BI2	0.730			
BI3	0.780			
BI4	0.772			
BI5	0.780			
BI6	0.766			
BI7	0.929			
BI8	0.749			
BI9	0.750			
BI10	0.780			
BI11	0.922			
CS1		0.929		
CS2		0.933		
CS3		0.720		
CS4		0.807		
CS5		0.776		
CS6		0.731		
CS7		0.786		
CS8		0.737		
CS9		0.711		
CS10		0.757		
CS11		0.748		
CS12		0.743		
CS13		0.930		
CS14		0.931		
CS15		0.940		
CS16		0.935		
CS17		0.940		
CS18		0.938		
BL1			0.760	
BL2			0.759	
BL3			0.738	
BL4			0.735	
BL5			0.735	
BL6			0.804	
BL7			0.727	
BL8			0.725	
RD1				0.777
RD2				0.768

Indicator	Brand Image	Customer Satisfaction	Brand Loyalty	Repurchase Decision
RD3				0.881
RD4				0.728
RD5				0.759
RD6				0.722
RD7				0.734
RD8				0.790
RD9				0.765

Source: Researcher's Processed Results (2025)

If referring to Ghozali's theory, outer loading can be said to be valid if it has a value above 0.7. Based on table 1, the results of all indicators are above 0.7 all, so it can be said that all variables are declared valid.

Table 2. AVE

Variable	AVE	Minimum Requirements	Information
Brand Image	0.656	0.5	VALID
Customer Satisfaction	0.702		VALID
Brand Loyalty	0.560		VALID
Repurchase Decision	0.594		VALID

Source: Researcher's Processed Results (2025)

In convergent validity, outer loading is used as a reference for a valid indicator, but to find out whether a valid variable can be seen in the calculation of AVE (Average Variable Extracted). The AVE value is said to be valid if it is above 0.5 and based on table 2, it is known that all indicators are above 0.5 and can be declared valid.

Discriminant Validity

The aim is to find out whether the construct has an adequate discriminator, namely by comparing the loading value of the intended construct that must be greater with other values (Ghozali, 2021). The cross loading value of each construct is evaluated to ensure that the correlation of the construct with the measurement item is greater than that of the other construct. The expected cross loading value is greater than 0.7 (Ghozali, 2021). To determine discriminant validity, there is a cross-loading test as shown in the following table 3.

Table 3. Cross Loading

Indicator	Brand Image	Customer Satisfaction	Brand Loyalty	Repurchase Decision
BI1	0.917	0.762	0.744	0.757
BI2	0.730	0.688	0.661	0.664
BI3	0.780	0.675	0.642	0.616
BI4	0.772	0.642	0.647	0.661
BI5	0.780	0.700	0.663	0.649
BI6	0.766	0.641	0.649	0.717
BI7	0.929	0.774	0.766	0.765
BI8	0.749	0.702	0.662	0.682
BI9	0.750	0.662	0.653	0.704
BI10	0.780	0.707	0.719	0.701

Indicator	Brand Image	Customer Satisfaction	Brand Loyalty	Repurchase Decision
BI11	0.922	0.753	0.744	0.752
CS1	0.787	0.929	0.806	0.793
CS2	0.792	0.933	0.805	0.798
CS3	0.641	0.720	0.691	0.645
CS4	0.726	0.807	0.758	0.724
CS5	0.703	0.776	0.721	0.676
CS6	0.615	0.731	0.665	0.663
CS7	0.704	0.786	0.724	0.703
CS8	0.636	0.737	0.647	0.669
CS9	0.632	0.711	0.648	0.650
CS10	0.666	0.757	0.664	0.712
CS11	0.667	0.748	0.656	0.656
CS12	0.687	0.743	0.681	0.694
CS13	0.788	0.930	0.811	0.801
CS14	0.791	0.931	0.805	0.797
CS15	0.799	0.940	0.823	0.809
CS16	0.791	0.935	0.801	0.801
CS17	0.796	0.940	0.813	0.802
CS18	0.801	0.938	0.817	0.816
BL1	0.631	0.642	0.760	0.692
BL2	0.699	0.676	0.759	0.691
BL3	0.642	0.659	0.738	0.616
BL4	0.586	0.625	0.735	0.594
BL5	0.633	0.688	0.735	0.644
BL6	0.673	0.728	0.804	0.693
BL7	0.610	0.654	0.727	0.645
BL8	0.606	0.637	0.725	0.620
RD1	0.614	0.668	0.630	0.777
RD2	0.616	0.675	0.623	0.768
RD3	0.721	0.773	0.715	0.881
RD4	0.676	0.702	0.722	0.728
RD5	0.710	0.699	0.685	0.759
RD6	0.629	0.592	0.618	0.722
RD7	0.633	0.638	0.632	0.734
RD8	0.704	0.668	0.664	0.790
RD9	0.671	0.664	0.724	0.765

Source: Researcher's Processed Results (2025)

Table 3 above shows that all indicators are above 0.7 and each indicator has a value greater than the correlation value between variables, so it can be declared to have met the discriminant validity requirements.

Composite Reliability

Reliability tests are used to measure whether a variable is reliable or not. To find out, a reliability test was carried out by looking at composite reliability and Cronbach's alpha. A composite reliability value of 0.6-0.7 is considered to have good reliability (Ghozali, 2021), and the expected Cronbach's alpha value is above 0.7 (Ghozali & Latan, 2015).

Table 4. Composite Reliability

Variable	Cronbach's alpha	Composite reliability	Minimum Requirements	AVE	Minimum Requirements	Information
Brand Image	0.946	0.954	0.7	0.656	0.5	RELIABLE
Customer Satisfaction	0.974	0.977		0.560		RELIABLE
Brand Loyalty	0.888	0.910		0.702		RELIABLE
Repurchase Decision	0.914	0.929		0.594		RELIABLE

Source: Researcher's Processed Results (2025)

In table 4 above, it is known that all variables, both Cronbach's alpha and composite reliability, have values above 0.7 so that it can be stated that all variables are reliable to be used in this study.

Structural Results (Inner Model)

For data analysis using SmartPLS software, not only testing the outer model, but also the inner model or structural results. The data processing results obtained from the inner model are R-Square, F-Square, Q-Square, and broken coefficients. The path diagram of the inner model can be seen in the image below.

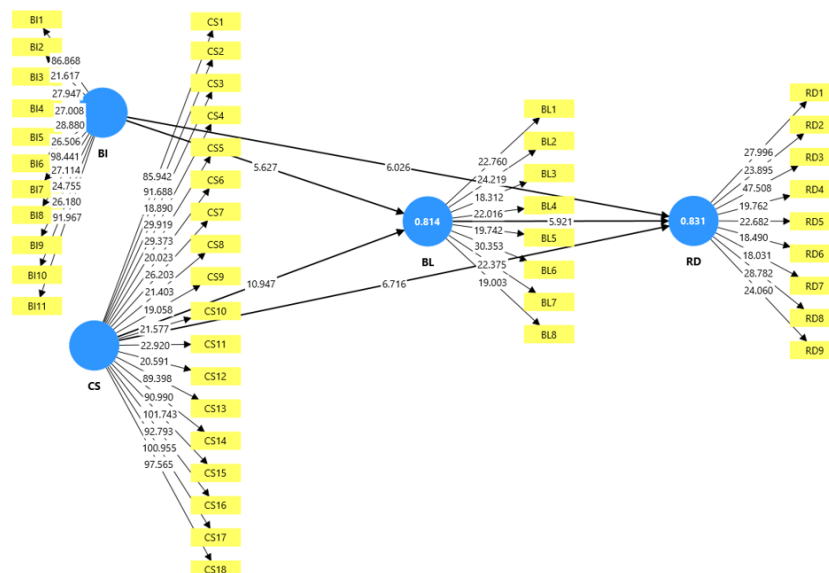


Figure 6. Path Diagram Inner Model

Source: Results of Researcher's Data Processing with SmartPLS 4.0 (2025)

R-Square

This model is used in research to determine the influence of an independent variable on a bound variable. The R-Square value of 0.75 is interpreted as high, 0.5 is interpreted as moderate, and 0.25 is interpreted as low (Ghozali, 2021).

Table 5. R-Square

Variabel	R-Square	R-Square Adjusted	Information
Brand Loyalty	0.814	0.813	High
Repurchase Decision	0.831	0.830	High

Source: Researcher's Processed Results (2025)

The R-Square calculation in table 5 shows the R-Square value on the brand loyalty and repurchase decision variables. Based on the results of data processing using PLS-SEM, the R-square (R^2) value in the Brand Loyalty construct is 0.814. This shows that 81.4% of Brand Loyalty variability can be explained by the variables Brand Image and Customer Satisfaction and this value is included in the High (substantial) category. Meanwhile, the R-square value in the Repurchase Decision construct is 0.831, which means that 83.1% of the variability of the repurchase decision can be explained by the variables Brand Loyalty, Brand Image, and Customer Satisfaction and it can be said that the value is included in the High (substantial) category. Referring to the criteria from Hair et al. (2021), the R-square value ≥ 0.75 falls into the substantial category, which suggests that both endogenous constructs in this model have a strong level of predictive ability. Thus, this research model is proven to be able to explain the relationship between variables well.

Predictive Relevance (Q^2)

Evaluation of structural model results can be done using Q Square or predictive relevance, the value of Q Square > 0 indicates that the model has predictive relevance, while Q Square < 0 indicates that the model lacks predictive relevance (Ghozali, 2021).

Table 6. Predictive Relevance

Variable	SSO	SSE	$Q^2 (= 1 - SSE/SSO)$
Customer Satisfaction	7020	7020	0
Brand Image	4290	4290	0
Brand Loyalty	3120	580.32	0.814
Repurchase Decision	3510	593.19	0.831

Source: Researcher's Processed Results (2025)

Based on Table 6 above, the Q^2 value for the Brand Loyalty construct is 0.814 and the Repurchase Decision is 0.831, meaning that > 0 (zero) which indicates that the structural model has good predictive capabilities. This is in accordance with the Q-Square value category I, if a variable has a Q-Square value > 0 , then it has predictive relevance. Meanwhile, the Q^2 value for the Customer Satisfaction and Brand Image variables is 0, because the two constructs are exogenous variables that are not predicted by other constructs (Ghozali, 2021).

Effect Size (f-Square)

Table 7. f Square

Variable	Brand Image	Customer Satisfaction	Brand Loyalty	Repurchase Decision
Brand Image	-	-	0.139	0.123
Customer Satisfaction	-	-	0.494	0.116
Brand Loyalty	-	-	-	0.101
Repurchase Decision	-	-	-	-

Source: Researcher's Processed Results (2025)

Table 7 above shows the value of f^2 (effect size) between latent variables. The value of f^2 is used to measure how much influence an individual predictor has on dependent variables in a structural model. Referring to Ghazali (2021) the f^2 values of 0.02, 0.15, and 0.35 are interpreted as small, medium, and large effects, respectively. Based on the results of f^2 (effect size) analysis, the relationship between Brand Image and Brand Loyalty showed an f^2 value of 0.139, which was classified into the small to medium category. Furthermore, the relationship between Brand Image and Repurchase Decision has an f^2 value of 0.123, which is still in the small category, but quite close to the medium limit. Meanwhile, Customer Satisfaction for Brand Loyalty obtained an f^2 value of 0.494, which is included in the large category. The relationship between Customer Satisfaction and Repurchase Decision showed an f^2 value of 0.116, which is in the small category. Finally, the relationship between Brand Loyalty and Repurchase Decision shows an f^2 value of 0.101, which also falls into the subcategory.

Hypothesis Test

The hypothesis test was carried out using the bootstrapping method on the PLS on the sample, the t-test used the bootstrapping method by comparing the t-statistical value with the t-table (Sholihin & Ratmono, 2020).

Table 8. Hypothesis Test (Special Direct Effect)

Hypothesis	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Information
<i>Brand Image -> Repurchase Decision</i>	0.309	0.309	0.051	6.026	0.000	Accepted
<i>Customer Satisfaction -> Repurchase Decision</i>	0.343	0.343	0.051	6.716	0.000	Accepted
<i>Brand Image -> Brand Loyalty</i>	0.323	0.326	0.057	5.627	0.000	Accepted
<i>Customer Satisfaction -> Brand Loyalty</i>	0.608	0.604	0.056	10.947	0.000	Accepted
<i>Brand Loyalty -> Repurchase Decision</i>	0.303	0.302	0.051	5.921	0.000	Accepted

Source: Researcher's Processed Results (2025)

H1: Brand Image has a positive and significant effect on Repurchase Decision

After the hypothesis test was carried out, it was found that the t-statistical value was 6,026 > 1.96 and the p-values were 0.000 < 0.05, then H1 was accepted. This proves that brand image has a positive and significant effect on repurchase decisions. Consumers with a positive perception of the brand are more likely to make a repeat purchase. The magnitude of the influence of brand image on repurchase decisions can be seen from the F^2 value of 0.123, which is included in the small-medium category.

H2: Customer Satisfaction has a positive and significant effect on Repurchase Decision

After the hypothesis test was carried out, it was found that the t-statistic value was 6,716 > 1.96 and the p-values were 0.000 < 0.05, then H2 was accepted. This proves that customer satisfaction has a positive and significant influence on repurchase decisions. This indicates that customer satisfaction directly drives repurchase decisions. The magnitude of the influence of customer satisfaction on repurchase decisions can be seen from the F^2 value of 0.116, which is included in the small-medium category.

H3: Brand Image has a positive and significant effect on Brand Loyalty

After the hypothesis test was carried out, it was known that the t-statistical value was $5,627 > 1.96$ and the p-values were $0.000 < 0.05$, then H3 was accepted. This shows that brand image has a positive and significant effect on brand loyalty. This means that the better the brand image, the higher the consumer loyalty to the brand. The magnitude of the influence of brand image on brand loyalty can be seen from the F^2 value of 0.139, which is included in the medium category.

H4: Customer Satisfaction has a positive and significant effect on Brand Loyalty

After the hypothesis test was carried out, it was found that the t-statistical value was $10.947 > 1.96$ and the p-values were $0.000 < 0.05$, then H4 was accepted. This shows that customer satisfaction has a positive and significant influence on brand loyalty. The magnitude of the influence of customer satisfaction on brand loyalty can be seen from the F^2 value of 0.494, which is included in the large category.

H5: Brand Image has a positive and significant effect on Repurchase Decision

After the hypothesis test was carried out, it was found that the t-statistical value was $6.026 > 1.96$ and the p-values were $0.000 < 0.05$, then H5 was accepted. This shows that brand image has a positive and significant influence on repurchase decisions. The magnitude of the influence of brand image on repurchase decisions can be seen from the F^2 value of 0.123, which is included in the small-medium category.

H6: Brand Image indirectly affects Repurchase Decision through Brand Loyalty

After the hypothesis test was carried out, it was found that the t-statistic value was $4.311 > 1.96$ and the p-values were $0.000 < 0.05$, then H6 was accepted. This shows that brand image has a positive and significant indirect influence on repurchase decisions through brand loyalty. The magnitude of this indirect influence can be determined by the F^2 value of 0.123 (the direct influence of $BI \rightarrow RD$), which falls into the small-medium category because it is between 0.02 and 0.15.

H7: Customer Satisfaction has an indirect effect on Repurchase Decision through Brand Loyalty

After the hypothesis test was carried out, it was found that the t-statistic value was $5.034 > 1.96$ and the p-values were $0.000 < 0.05$, so H7 was accepted. This shows that customer satisfaction has a positive and significant indirect influence on repurchase decisions through brand loyalty. The magnitude of the influence can be seen from the F^2 value of 0.116 (direct influence of $CS \rightarrow RD$), which falls into the small-medium category.

H8: Demographics moderate the relationship between Brand Image and Brand Loyalty

- a) Age: Based on the results of the MGA test, a p-value of $0.963 > 0.05$ was obtained, meaning that there was no significant difference between the young and adult age groups in the relationship between brand image and brand loyalty. H8A was rejected. Thus, age does not moderate the relationship between brand image and brand loyalty.
- b) Gender: Based on the results of the MGA test, a p-value of $0.434 > 0.05$ was obtained indicating that there was no significant difference between men and women in the influence of brand image on brand loyalty. Thus, H8b is rejected, meaning that gender does not moderate the relationship.
- c) Level Of Income: Based on the results of the MGA test, a p-value of $0.987 > 0.05$ was obtained, indicating that there was no significant difference between the low and high

income groups. So, H8c is rejected, meaning that revenue does not moderate the relationship between brand image and brand loyalty.

- d) Education: Based on the results of the MGA test, a p-value of $0.648 > 0.05$ was obtained, meaning that there was no significant difference between the primary-middle and tertiary education groups. So, H8d was rejected, meaning that the level of education does not moderate the relationship between brand image and brand loyalty.

H9: Demographics moderate the relationship between Customer Satisfaction and Brand Loyalty

- a. Age: Based on the results of the MGA test, a p-value of $0.952 > 0.05$ showed that there was no significant difference between young and adult age in the influence of customer satisfaction on brand loyalty. Thus, H9a is rejected, meaning that age does not moderate the relationship.
- b. Gender: Based on the results of the MGA test, a p-value of $0.669 > 0.05$ showed no significant difference between males and females. So, H9b was rejected, meaning that gender does not moderate the relationship between customer satisfaction and brand loyalty.
- c. Level Of Income: Based on the results of the MGA test, a p-value of $0.997 > 0.05$ was obtained, indicating that there was no significant difference between income groups. So, H9c is rejected, meaning that revenue does not moderate the relationship between customer satisfaction and brand loyalty.
- d. Education: Based on the results of the MGA test, a p-value of $0.529 > 0.05$ showed that there was no significant difference between the education groups. So, H9d was rejected, meaning that education does not moderate the relationship between customer satisfaction and brand loyalty.

Discussion

Brand Image has a positive and significant effect on Repurchase Decision

Based on the results of the hypothesis testing, H1 was accepted. This shows that a strong brand image has a significant influence on improving repurchase decisions. These results are supported by research by Forti et al. (2020), Gurdev Singh (2024) and Nigam (2022) who stated that a positive perception of a brand's social and environmental responsibility increases consumer confidence to continue buying products from the brand. In the context of Samsung, the brand image is built through green technology innovation, the use of recycled materials, and the e-waste recycling program (Re+ program). The image as an environmentally conscious company provides a sense of trust and emotional value for consumers. The practical implication is that Samsung needs to maintain an environmentally friendly and innovative brand reputation as a strategy to encourage repurchase while strengthening the recycling cycle of electronic products in Indonesia.

Customer Satisfaction has a positive and significant effect on Repurchase Decision.

The results of the H2 hypothesis test show a significant influence between customer satisfaction and repurchase decision. The research of Ahmadi & Mahargyani (2024) and Wicaksari & Febriatmoko (2024) supports these findings by emphasizing that satisfaction is not only born from product quality, but also from after-sales service that supports sustainability. In practice, Samsung consumer satisfaction increases through positive experiences in using

quality products and the ease of accessing old product return services (e-waste recycling). The practical implication is that Samsung needs to maintain service and quality standards to keep satisfaction high, so that consumers are encouraged to buy again while contributing to the reduction of e-waste.

Brand Image has a positive and significant effect on Brand Loyalty.

The results of the H3 hypothesis test were accepted. This means that a positive and credible brand image has proven to be significant in building consumer loyalty. Research by Gurdev Singh (2024) and Rahman et al. (2023) supports that a strong brand image, especially in the aspects of innovation and environmental responsibility, increases consumer trust and emotional attachment. In Samsung's case, its reputation as a technology brand that supports e-waste recycling and uses eco-friendly materials builds long-term relationships with customers. The practical implication is that Samsung must continue to communicate the value of sustainability to the public to maintain consumer loyalty while supporting the sustainable recycling behavior of products.

Customer Satisfaction has a positive and significant effect on Brand Loyalty

Based on the hypothesis test, H4 was accepted. Consumer satisfaction has a significant influence on the formation of customer loyalty. These findings are in line with Lyman et al. (2023) and Ragilia et al. (2024) who show that consumers who are satisfied with the quality of products, services, and sustainability commitments are more likely to become loyal customers. In the context of Samsung, an after-sales service program that supports the return of old products drives consumer satisfaction and strengthens loyalty. The practical implication is that Samsung must consistently improve its services and transparency of recycling policies so that consumer satisfaction remains high and loyalty is maintained.

Brand Loyalty has a positive and significant effect on Repurchase Decision

Based on the hypothesis test, H5 is accepted. Brand loyalty has been proven to have a significant effect on repurchase decisions. Research by Jacob & Berlianto (2022) and Ramachandran & Balasubramanian (2020) confirms that loyal consumers are more likely to make repeat purchases despite the many alternatives. In the context of Samsung, loyal consumers feel comfortable and believe in the company's commitment to green technology and e-waste management. The practical implication is that maintaining consumer loyalty is key to encouraging repurchase and supporting the creation of a circular economy cycle through the return of used electronic products.

Brand Loyalty mediates the influence of Brand Image on Repurchase Decision

Based on the hypothesis test, it indicates that H6 is accepted. This means that customer loyalty acts as a bridge between brand image and repurchase decisions. Research by Cornelia & Pasharibu (2020) explains that positive brand image builds emotional loyalty which then encourages repurchase. In Samsung's case, the reputation maintained through eco-friendly innovation and e-waste recycling programs increases loyalty, so consumers feel confident to continue buying Samsung products. By practical implication, companies must ensure environmental responsibility programs are integrated in their marketing strategies to maintain a positive image and consumer loyalty.

Brand Loyalty mediates the influence of Customer Satisfaction on Repurchase Decision

Based on the hypothesis test, H7 was accepted. Customer loyalty has proven to be a significant intermediary between customer satisfaction and repurchase decision. This is reinforced by Ali Tobi et al. (2023) and Prasatya & Sukaatmadja (2024) who affirm that high satisfaction drives loyalty, and loyalty strengthens repurchase intent. For Samsung, consumers who are satisfied with the quality of service and product recycling support will be more loyal and contribute to a sustainable cycle of product use. The practical implication is that maintaining customer satisfaction through innovation and recycling services is an important step to build loyalty and encourage repurchase.

Demographics moderate the influence of Brand Image on Brand Loyalty

Based on the hypothesis test, H8 was rejected. Where the test results show that demographic factors (age, gender, education level, income) do not have a significant effect in strengthening or weakening the relationship between Brand Image and Brand Loyalty. This means that consumers' perception of Samsung's innovative brand image and caring for the environment is felt relatively the same by all demographic groups. These findings are in line with Bashir's (2019) study which explains that electronic customer loyalty is more determined by experience and quality perception than demographic factors. The practical implication is that Samsung can focus on its brand image strategy evenly without having to differentiate communication messages for each age group or education specifically in the context of building loyalty.

Demographics moderate the influence of Brand Image on Brand Loyalty

Based on the hypothesis test, H9 was rejected. Where demographic differences are not significant in strengthening the relationship between satisfaction and brand loyalty. This means that consumers with different age, gender, education, and income characteristics tend to show the same loyalty patterns when satisfied with Samsung products and services. Research by Kim et al. (2012) supports this by asserting that loyalty is more determined by experience and satisfaction than demographic factors. The practical implication is that companies can design consistent service standards and satisfaction programs for all consumer segments without the need to differentiate strategies based on demographic differences.

CONCLUSION

The analysis concludes that brand image significantly influences repurchase decisions, with Samsung's strong and innovative brand image encouraging consumers to repurchase electronic products. A positive brand image reflects the company's social responsibility, particularly in e-waste management. Additionally, customer satisfaction positively affects repurchase decisions, as satisfaction with product quality and services boosts consumer motivation. Brand loyalty, driven by brand image and satisfaction, also contributes to repurchase decisions. However, demographic factors do not significantly affect the relationships between brand image and loyalty or satisfaction and loyalty. Samsung's sustainability efforts, including eco-friendly technology and e-waste recycling programs, positively impact brand image, satisfaction, loyalty, and repurchase behavior. Future research could explore how specific e-waste management practices influence consumer behavior across

different regions or industries, providing deeper insights into the long-term effects of sustainability initiatives on brand perception.

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