

Green Practices In Green Obligation: Risk's Impact on Satisfaction, Loyalty, Word of Mouth, and Willingness to Pay

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ABSTRACT

This study aims to analyze the impact of green practices implemented by green bond issuers on customer satisfaction, loyalty, word of mouth, and willingness to pay, moderated by risk. Additionally, this study explores the moderating role of risk in the relationship between satisfaction, loyalty, and word of mouth toward willingness to pay. A quantitative approach using Partial Least Squares-Structural Equation Modeling (PLS-SEM) will be employed to analyze data from 320 existing investors and potential investors who have not invested in green bonds in Jabodetabek. The results reveal that green practices significantly impact satisfaction, loyalty, word of mouth, and willingness to pay. Also, satisfaction, loyalty, and word of mouth directly have a positive impact on willingness to pay, and customer satisfaction also positively impacts loyalty. Risk, which was hypothesized to have a negative impact on the relationship between satisfaction, loyalty, and word of mouth with willingness to pay, did not negatively affect any of these relationships. This study contributes to the literature by extending the understanding of green financial behavior, particularly in the context of green bonds. It integrates green practices as drivers of customer satisfaction, loyalty, word of mouth, and willingness to pay, and examines risk as a moderating factor—an area that has received limited attention in sustainable investment research. The study provides empirical evidence using a structural equation modeling approach in the context of retail investors in an emerging market, thereby enriching the theoretical discussion on sustainable consumer behavior and green investment adoption.

KEYWORDS

Green obligation; green practices; customer satisfaction; risk; willingness to pay.



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INTRODUCTION

In the era of the increasing impact of global climate change and environmental degradation, corporate environmental responsibility and investment behavior have become unprecedented concerns (Alsayegh et al., 2020; Formetta & Feyen, 2019; Kumar, 2018; Kunimitsu et al., 2020; Sharma et al., 2020). Green bonds, an innovative financial instrument, can provide funding for environmental protection and sustainable development projects, acting as an important catalyst for corporate environmental investment (Abhilash et al., 2023; Bhatnagar & Sharma, 2021; Lukšić et al., 2022; Wiśniewski & Zieliński, 2019).

Recent international research from 2021–2024 has significantly expanded understanding of green bond markets and risk perception dynamics. Karim et al. (2024) demonstrated extreme risk dependence between green bonds and financial markets, while Ren et al. (2024) revealed

spillover effects between fossil energy and green markets through informational inefficiency. He and Shi (2023) found that air pollution affects Chinese green bond markets through public concern mediation, and Shi et al. (2023) raised critical questions about green bonds as genuine green investments versus greenwashing practices. These recent developments highlight the complexity of risk assessment in green financial instruments.

In Indonesia itself, green bonds have been issued through POJK Number 60/POJK.04/2017 concerning the Issuance and Requirements of Environmentally Friendly Debt Securities (Green Bonds). Based on data from the Indonesian Central Securities Depository through the Indonesian Capital Market Statistics, November 2024, Green Bonds (through Sukuk) are one of the fund types with the highest number of investors on fintech selling agents, with 74,908 investors. This number is still smaller compared to several other fund types such as Money Market Funds (2,077,609 investors), Fixed Income Funds (771,698 investors), Equity Funds (408,161 investors), and Index Funds (363,433 investors).

The low number of investors in Green Bonds through Sukuk in Indonesia is due to several factors. First, Green Bonds have lower risk characteristics (Singh et al., 2025) and lower returns (Singh et al., 2024). This makes Green Bonds less competitive in providing returns compared to other investment instruments. Second, the Green Bond market in Indonesia still has limited liquidity. Based on data from the Indonesian Central Securities Depository through the Indonesian Capital Market Statistics, November 2024, there are only 11 Green Bond investment products through Sukuk, with total assets of Rp5.49 trillion. This number is still smaller compared to several other instruments such as the money market, which has 206 products and total assets of Rp86.29 trillion, and fixed income mutual funds, which have 304 products and total assets of Rp147.76 trillion.

Gutsche and Ziegler (2019) examine the willingness of German private financial decision-makers to pay for sustainable investments, finding a significant willingness to pay (WTP) influenced by psychological motives, values, and norms. The study also reveals that certified sustainable investment products command a higher WTP compared to uncertified ones, highlighting the importance of certification in enhancing investor preferences. However, the study does not explore the relation between sustainability investment products with loyalty, satisfaction, and word of mouth. Additionally, their study is limited by not focusing on green bonds or Sukuk as specific products.

Previous research by Gonzalez-Viralta et al. (2023) demonstrates the importance of studying the positive effects of environmentally friendly practices on consumers. With this changing generation, environmental awareness has become relevant, and satisfaction, loyalty, Word of Mouth (WOM), and willingness to pay are crucial for understanding this new form of management. Moreover, literacy regarding the importance of savings and finance, as well as environmental issues, is now more familiar to the public, especially young people. This allows us to deepen our contributions to issues related to environmentally friendly practices and customer satisfaction, loyalty, and new forms of marketing such as WOM, as well as whether consumers are willing to pay more to own products that do not affect the natural ecosystem.

However, previous research by Garbarino and Johnson (1999) and Paulssen et al. (2014) examined specific types of perceived risk (i.e., financial, social, psychological, performance) as moderators of the relationship between satisfaction, loyalty, and relationship outcomes (i.e., WTP). Understanding how these types of perceived risk interact with customer satisfaction and loyalty to influence WTP is a relevant research question that can further clarify the boundaries of the mediating role of loyalty on relationship outcomes.

Unlike prior studies that focused on conventional funds or general sustainable investments, this study examines green bond investors specifically in an emerging market context with comprehensive risk moderation analysis. This research fills a critical gap by investigating how multiple risk dimensions (financial, performance, social, psychological)

influence the relationship between green practices and investor behavior in Indonesia's developing green finance market.

The policy relevance of this research extends to multiple stakeholders: OJK (Otoritas Jasa Keuangan) can utilize findings to develop more effective green bond regulations and investor protection frameworks; issuers can optimize their green marketing strategies and product structuring; and fintech platforms can enhance their sustainable investment offerings to better serve environmentally conscious investors.

The objectives this research intends to achieve are divided into three: First, studying the impact of green practices on satisfaction, loyalty, word of mouth, and willingness to pay. Second, studying the impact of satisfaction, loyalty, and word of mouth on willingness to pay. Third, analyzing the impact of risk as a moderator on satisfaction, loyalty, and word of mouth towards willingness to pay.

RESEARCH METHOD

The constructed research model has been visualized in the Figure 1. Despite the burgeoning literature on green investments, a comprehensive understanding of the factors influencing investor behavior—specifically satisfaction, loyalty, word-of-mouth, and willingness to pay—remains limited. Moreover, the moderating role of perceived risk in these relationships warrants further investigation. The following sections will delineate our research model and the hypotheses derived from it, setting the stage for an empirical exploration of these critical relationships.

This study obtained ethical clearance from the institutional review board and followed informed consent procedures for all participants. Respondents were fully informed about the research purpose, data confidentiality measures, and their right to withdraw participation at any time. A purposive sampling method will be used, which is a sampling technique based on specific characteristics and closely related to the required population (Margono, 2004), to obtain data using an online survey as quantitative data. The respondent requirements are: a minimum age of 18 years, domiciled in Jabodetabek, and have investment experience, preferably in green bonds.

To minimize data bias arising from the predominance of fintech-savvy respondents, the study employed multiple recruitment channels including traditional banking networks, investment clubs, and professional associations. Additionally, demographic quotas were implemented to ensure representation across age groups, education levels, and investment experience categories.

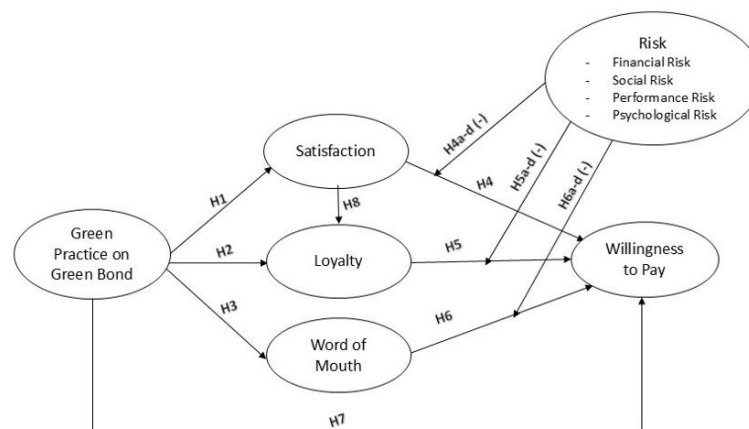


Figure 1: Conceptual Model of the Study; Source: Author

This study will use 32 measurement items consisting of measurement tools for Green Practices (7 indicators), Satisfaction (4 indicators), Loyalty (3 indicators), Word of Mouth (3 indicators), Willingness to Pay (3 indicators). Then, the risk variable has 4 dimensions consisting of; Financial Risk (3 indicators), Performance Risk (3 indicators), Social Risk (3 indicators), and Psychological Risk (3 indicators). Referring to the sample size criteria created by Nunnally (1970), a total of $32 \times 10 = 320$ respondents are needed. The data collection process is planned to take place from February 2025 to March 2025 using primary data created for the specific purpose of answering research problems.

Descriptive analysis is used to describe data obtained from respondents without making general conclusions about the population. The data are analyzed quantitatively to provide statistical descriptions such as averages, percentages, and frequency distributions. The Likert scale is a tool to measure subjects on a 5-point or 7-point scale with equal intervals (Jogiyanto, 2014). This study uses a 7-point Likert scale. A 7-point Likert scale can minimize measurement errors and be more precise (Munshi, 2014).

As a first step, a pretest will be conducted to determine the validity and reliability of the indicators using SPSS with a target of 30 respondents. This will be followed by a main test to obtain 320 respondents. The data from this study will be analyzed using PLS-SEM to measure internal consistency, reliability, and construct validity. The reason for using PLS-SEM over CB-SEM is that it can predict key targets of the constructs and can also be used when the sample size is small and the data are not normally distributed (Rigdon et al., 2017). The data will be analyzed using SmartPLS 3.3.3 software to assess the predictive power of the structural model.

RESULTS AND DISCUSSION

The profile of respondents in this study will be analyzed. The analysis begins with a screening question aimed at ensuring that the respondents meet the criteria relevant to the study. Subsequently, respondent data will be analyzed based on demographic characteristics such as gender, age, education, occupation, and domicile in Table 1.

Table 1: Characteristic of Respondent

Personal Demography	Indicator	Frequency	Percentage (%)
Gender	Male	132	40.90
	Female	191	59.10
Total		323	100.00
Age	18-24	36	11.15
	25-34	114	35.29
	35-44	120	37.15
	45-54	46	14.24
	55-64	5	1.55
	65+	2	0.62
Total		323	100.00
Educational Level	Elementary school	5	1.55
	Junior high school	2	0.62
	Senior high school	53	16.41
	Diploma (D1-D3)	77	23.84
	Bachelor/Applied Diploma	166	51.39
	Postgraduate	20	6.19

Total		323	100.00
Job Status	Student	21	6.50
	Private Employee	108	33.44
	State Employee	105	32.51
	Entrepreneur	87	26.93
	Retired	2	0.62
Total		323	100.00

(Source: Primary Data, 2025)

The survey involved 323 respondents with majority of respondents were female (59.10%), while male respondents constituted 40.90% of the sample. Most respondents were within the 35–44 years age group (37.15%), followed by those aged 25–34 years (35.29%). The age distribution shows that the majority of respondents are in their productive age, with only a small fraction (0.62%) aged over 65. More than half of the respondents (51.39%) held a bachelor's degree or equivalent. Additionally, 23.84% had completed a diploma (D1-D3), and 16.41% were senior high school graduates. A small percentage (6.19%) pursued postgraduate education. For job status, respondents were dominated by private sector employees (33.44%) and civil servants (32.51%). Entrepreneurs made up 26.93% of the sample, while students accounted for 6.50%, and retirees represented a minor portion (0.62%).

In the third part, information related to the respondents' investment experience, types of investment assets, reasons for investing, and investment platforms used will be collected in Table 2.

Table 2: Characteristic of Respondent Based on Asset

Personal Demography	Indicator	Frequency Percentage (%)	
Investment Asset	Gold	88	27.24%
	Stocks	118	36.53%
	Obligation	110	34.06%
	Cryptocurrency	63	19.50%
	P2P Lending	23	7.12%
	Deposit	5	1.55%
Amount of Investment (per Transaction)	<Rp1,000,000	62	19.20%
	Rp1,000,000-Rp2,500,000	125	38.70%
	Rp2,500,000-Rp5,000,000	87	26.93%
	>Rp5,000,000	49	15.17%
Investment Experience	Less than 6 months	74	22.91%
	6-12 months	131	40.56%
	More than 12 months	118	36.53%
Investment Platform	Fintech	109	33.75%
	Mobile banking	110	34.06%
	Pegadaian digital	97	30.03%
	Sekuritas	64	19.81%

(Source: Primary Data, 2025)

The investment profiles of the 323 respondents are summarized, The most commonly held investment assets were stocks (28.99%) and obligations or bonds (27.03%), followed by gold (21.62%) and cryptocurrency (15.48%). P2P lending (5.65%) and deposits (1.23%) were less popular choices among respondents (Note: Multiple responses allowed, resulting in a total exceeding 323). Majority of respondents invested between Rp1,000,000 and Rp2,500,000 per transaction (38.70%). A significant portion also invested between

Rp2,500,000 and Rp5,000,000 (26.93%), while 19.20% invested less than Rp1,000,000 and 15.17% invested more than Rp5,000,000. Most respondents had 6–12 months of investment experience (40.56%), followed by those with experience of more than 12 months (36.53%). Only 22.91% had less than 6 months of experience, indicating that the majority of respondents were relatively experienced investors. Investment activities were conducted almost equally via mobile banking (28.95%) and fintech platforms (28.68%), while Pegadaian digital services were used by 25.53% of respondents and securities companies by 16.84%.

Finally, in the fourth part, information regarding the respondents' understanding of green bond investment instruments will be gathered in Table 3, concluding with an analysis of the core statements proposed in the study.

Table 3: Respondent Preference & Knowledge About Green Obligation

Personal Demography	Indicator	Frequency	Percentage (%)
Environment Friendly Product Preference	Yes	287	88.85
	No	36	11.15
	Total	323	100.00
Willingness to Pay for Environment Friendly Product Preference	Yes	249	77.09
	No	32	9.91
	Maybe, depends on it's purpose	42	13.00
	Total	323	100.00
Knowing Green Obligation Before	Ya	232	71.83
	No	91	28.17
	Total	323	100

(Source: Primary Data, 2025)

The preferences and awareness of the 323 respondents related to environmentally friendly products and green bonds are summarized. A large majority of respondents (88.85%) stated that they prefer environmentally friendly products, while only 11.15% indicated no preference. Approximately 77.09% of respondents expressed a willingness to pay a premium for environmentally friendly products. Meanwhile, 13.00% indicated that their willingness would depend on the specific purpose of the product, and only 9.91% were unwilling to pay more. About prior knowledge of green bonds, about 71.83% of respondents had prior knowledge about green bonds, whereas 28.17% had not been familiar with this financial instrument before participating in the survey.

Model Evaluation

To examine the convergent validity of constructs, factor analysis was employed because it is an appropriate procedure for reducing and summarizing correlated data. An indicator is considered valid if it has a factor loading of at least 0.50, although a factor loading of 0.70 or higher is preferable. The factor analysis calculation in this study was assisted by using SPSS software with 30 respondents. The outcomes of the factor analysis for validity testing are presented in Table 4.

Table 4: Validity Test

Variable	Dimension	Item	Factor Loadings	Notes
Green Practices	-	GP1	0.842	Valid
		GP2	0.854	Valid

Variable	Dimension	Item	Factor Loadings	Notes
Customer Satisfaction	-	GP3	0.823	Valid
		GP4	0.835	Valid
		CS1	0.863	Valid
		CS2	0.853	Valid
		CS3	0.875	Valid
Customer Loyalty	-	CL1	0.872	Valid
		CL2	0.862	Valid
		CL3	0.876	Valid
Word of Mouth	-	WOM1	0.859	Valid
		WOM2	0.858	Valid
		WOM3	0.863	Valid
Willingness to Pay	-	WTP1	0.856	Valid
		WTP2	0.824	Valid
		WTP3	0.864	Valid
Risk	Financial Risk	FR1	0.800	Valid
		FR2	0.811	Valid
		FR3	0.750	Valid
	Performance Risk	PR1	0.792	Valid
		PR2	0.777	Valid
		PR3	0.812	Valid
	Social Risk	SR1	0.807	Valid
		SR2	0.843	Valid
		SR3	0.762	Valid
	Psychological Risk	PsR1	0.802	Valid
		PsR2	0.709	Valid
		PsR3	0.819	Valid

(Source: Primary Data, 2025)

A KMO value between 0.50 and 1 indicates that the factor analysis model is adequate, whereas a KMO value below 0.50 indicates that the factor analysis is inadequate. The factor analysis results for all variables in this study showed KMO values between 0.50 and 1, signifying that the factor analysis model is adequate and suitable for further analysis.

An indicator is considered valid in forming a factor if it has a factor loading of at least 0.50, or preferably a component matrix value of 0.70 or higher. In this study, all indicators were deemed valid for constructing the green practices factor as they had component matrix values above 0.70. Based on the validity test results of 32 indicators, all indicators were found to be valid.

The reliability test in this study was conducted using Cronbach's Alpha, and the calculation process was performed using SPSS software. Variables eliminated in the validity test were not included in the reliability calculations. The Cronbach's Alpha reliability calculation results can be found in Table 5. Based on data, all variables have a Cronbach's Alpha reliability coefficient above 0.70, indicating that the variables in this study can be consistently used for further analysis.

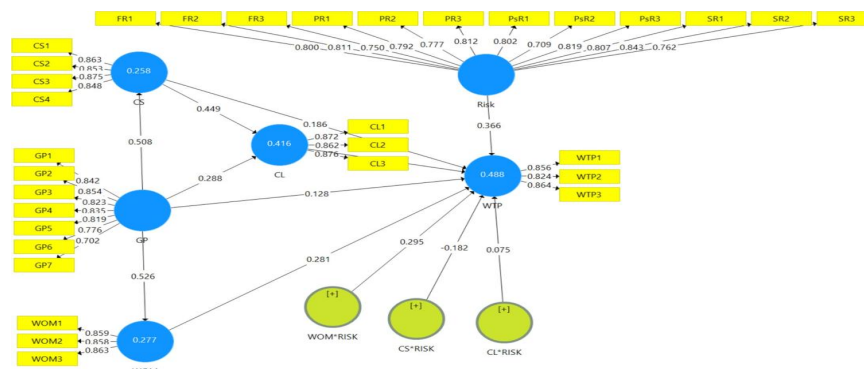
Table 5: Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	AVE	Notes
GP	0.911	0.93	0.654	Reliable
CS	0.883	0.919	0.740	Reliable
CL	0.84	0.903	0.757	Reliable
WOM	0.824	0.895	0.740	Reliable
WTP	0.806	0.885	0.720	Reliable
Risk	0.946	0.952	0.626	Reliable

(Source: Primary Data, 2025)

A KMO value between 0.50 and 1 indicates that the factor analysis model is adequate, whereas a KMO value below 0.50 indicates that the factor analysis is inadequate. The factor analysis results for all variables in this study showed KMO values between 0.50 and 1, signifying that the factor analysis model is adequate and suitable for further analysis.

Figure 2: Outer Model Analysis; Source: Author



An outer model analysis was performed on Figure 2, visually demonstrating the outer loading values and the AVE (Average Variance Extracted) values of the research variables. The data analysis results covering all variables and indicators in this study show outer loading values greater than 0.7 and AVE values above 0.5, indicating that the indicators used in this research can be considered valid and reliable for measuring their respective constructs or latent variables.

Table 6: Validity Discriminant

	CL	CS	GP	Risk	WOM	WTP
CL	0.87					
CS	0.596	0.86				
GP	0.516	0.508	0.809			
Risk	0.617	0.669	0.47	0.791		
WOM	0.598	0.659	0.526	0.654	0.86	
WTP	0.463	0.488	0.322	0.566	0.449	0.848

(Source: Primary Data, 2025)

A discriminant validity test was conducted using the Fornell-Larcker Criterion test in SMARTPLS 4.0. Based on the results presented in Figure 3, it can be concluded that the constructs within this research model can be distinctly differentiated from one another, thereby meeting the discriminant validity standards established by the Fornell-Larcker Criterion.

A structural model evaluation (inner model) was conducted, as illustrated in Figure 3. The inner model demonstrates the relationships among variables indicated by the coefficient values and p-values. The inner model demonstrates the relationships among variables indicated by the coefficient values and p-values. A structural model evaluation (inner model) was conducted, as illustrated in Figure 3.

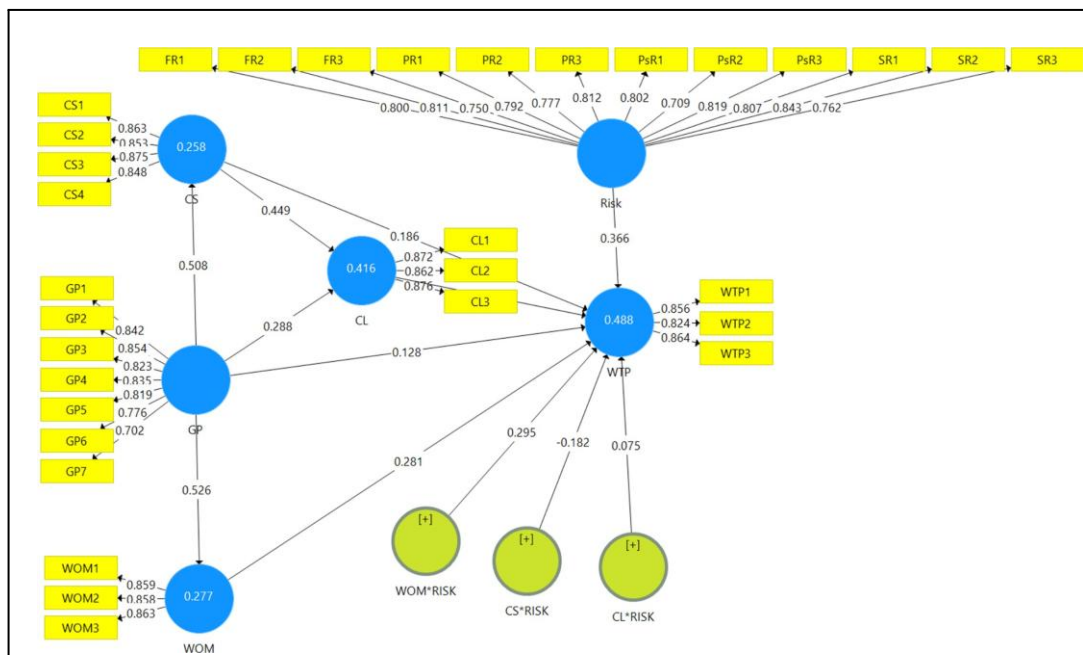


Figure 3: Inner Model Analysis; Source: Author

Additionally, the R-square values for the intervening and dependent variables are shown in Table 7. From Table 7 above, it can be observed that the customer satisfaction variable is influenced by green practices by 25.8%, the customer loyalty variable is influenced by green practices and customer satisfaction by 41.6%, while word of mouth is influenced by green practices by 27.7%, and willingness to pay is explained by the model at 48.8% through green practices, customer satisfaction, customer loyalty, and word of mouth.

Table 7: R Square

Variable	Q Square	Description
Customer Satisfaction	0.246	Weak
Customer Loyalty	0.257	Weak
Word of Mouth	0.263	Weak
Willingness to Pay	0.222	Weak

(Source: Primary Data, 2025)

Hypothesis Testing

The hypothesis testing in this study was conducted by examining the p-value, t-statistic, and path coefficient. A p-value of less than 0.05 and a t-statistic greater than 1.96 indicate a significant influence of the independent variable on the mediating and dependent variables. Hypothetical result test attached in Table 8.

Table 8: Hypothesis Testing

Hypothesis	Relationship Between Variables	Path coefficients	t-statistic	P-value	Conclusion
H1	Green practices directly and positively affect customer satisfaction in green bond investment instruments.	0.508	6.108	0.000	Approved
	Green practices directly and positively affect customer loyalty in green bond investment				

Hypothesis	Relationship Between Variables	Path coefficients	t-statistic	P-value	Conclusion
H2	instruments.	0.288	4.552	0.000	Approved
H3	Green practices directly and positively affect word of mouth in green bond investment instruments.	0.526	5.982	0.000	Approved
H4	Customer satisfaction directly and positively affects willingness to pay in green bond investment instruments.	0.186	2.002	0.046	Approved
H4a-d (-)	Risk, consisting of (a) financial risk, (b) performance risk, (c) social risk, and (d) psychological risk, negatively moderates the relationship between customer satisfaction and willingness to pay.	-0.182	-0.145	0.128	Rejected
H5	Customer loyalty directly and positively affects willingness to pay in green bond investment instruments.	0.180	2.190	0.029	Approved
H5a-d (-)	Risk, consisting of (a) financial risk, (b) performance risk, (c) social risk, and (d) psychological risk, negatively moderates the relationship between customer loyalty and willingness to pay.	0.075	0.086	0.124	Rejected
H6	Word of mouth directly and positively affects willingness to pay in green bond investment instruments.	0.281	2.818	0.005	Approved
H6a-d (-)	Risk, consisting of (a) financial risk, (b) performance risk, (c) social risk, and (d) psychological risk, negatively moderates the relationship between word of mouth and willingness to pay.	0.295	0.244	0.148	Rejected
H7	Green practices directly and positively affect willingness to pay in green bond investment instruments.	0.128	2.045	0.041	Approved
H8	Customer satisfaction directly and positively affects customer loyalty in green bond investment instruments.	0.449	6.832	0.000	Approved

(Source: Primary Data, 2025)

Discussion

Green Practices on Consumer Satisfaction

H1 states that green practices have a direct and positive effect on customer satisfaction in the context of green bond investment instruments. Based on the results of the SEM-PLS

analysis, a path coefficient of 0.508 was obtained, with a t-statistic of 6.108 and a p-value of 0.000, indicating significance at the 5% level.

Therefore, this hypothesis is accepted. These findings overall support the notion that green practices not only contribute to environmental impact but also foster positive relationships with customers by enhancing emotional satisfaction and adding value to their investment choices.

Green Practices on Consumer Loyalty

H2 states that green practices have a direct and positive effect on customer loyalty in the context of green bond investment instruments. The results of the structural model testing show a path coefficient of 0.288, with a t-statistic of 4.552 and a p-value of 0.000, indicating a statistically significant relationship. Therefore, this hypothesis is accepted.

These findings indicate that the implementation of environmentally friendly practices in the provision of green bonds not only generates satisfaction but also plays a role in fostering long-term investor loyalty. Investors who observe and experience the issuer's commitment to sustainability are more likely to maintain their relationship and investment interest over the long term.

Green Practices on Word of Mouth

H3 states that green practices have a direct and positive effect on word of mouth (WOM) in the context of green bond investment instruments. The test results show that this hypothesis is accepted, with a path coefficient of 0.526, a t-statistic of 5.982, and a p-value of 0.000. This indicates that the green practices implemented by green bond issuers have a significant influence in encouraging positive information sharing behavior among investors.

These findings suggest that investors' perceptions of the success and consistency of green practice implementation by green bond issuers drive them to actively spread positive information within their social circles. Word of mouth in this context arises not merely as a response to product quality, but also as an expression of values and support for sustainability.

Risk Moderation on Customer Satisfaction on Willingness to Pay

H4a–d states that risk—which consists of (a) financial risk, (b) performance risk, (c) social risk, and (d) psychological risk—negatively moderates the relationship between customer satisfaction and willingness to pay (WTP) for green bond investment instruments. In other words, under high perceived risk conditions, the positive influence of satisfaction on willingness to pay is expected to weaken. However, the analysis results indicate that the interaction effect between customer satisfaction and risk on willingness to pay is not statistically significant (t-statistic 0.145, p-value 0.128), and thus this hypothesis is rejected.

This rejection suggests that although investors feel satisfied with their green investment experience, the perception of risk—whether in the form of financial uncertainty, project performance issues, social pressure, or psychological impact—does not significantly alter their willingness to pay. This indicates that the satisfaction felt is intrinsically strong enough to influence WTP independently of perceived risk.

Customer Loyalty on Willingness to Pay

H5 states that customer loyalty has a direct and positive effect on willingness to pay (WTP) for green bond investment instruments. Based on the test results, the path coefficient was 0.180, with a t-statistic of 2.190 and a p-value of 0.029, indicating a statistically significant relationship. Thus, this hypothesis is accepted.

These findings suggest that the higher the level of investor loyalty toward the green bond provider, the greater their willingness to pay more or continue investing despite cost or risk variations. Loyalty reflects an emotional bond and trust in the investment provider, which strengthens long-term financial commitment.

Risk Moderation on Customer Loyalty on Willingness to Pay

H5a–d states that risk—comprising (a) financial risk, (b) performance risk, (c) social risk, and (d) psychological risk—negatively moderates the relationship between customer loyalty and willingness to pay (WTP) in the context of green bond investment instruments. This means that as perceived risk increases, the influence of loyalty on willingness to pay is expected to weaken.

However, the PLS-SEM testing results show that the interaction between customer loyalty and risk on WTP is not significant, with a t-statistic of 0.086 and a p-value of 0.124. Since the p-value is greater than 0.05 and the t-statistic is less than 1.96, hypothesis 5a–d is rejected.

These results indicate that although risks may still exist in green bond investments, they are not strong enough to reduce the effect of loyalty on willingness to pay. In other words, loyal investors tend to maintain their commitment to pay more or stay invested in sustainable products, even when they are aware of potential risks.

Word of Mouth on Willingness to Pay

H6 states that word of mouth (WOM) has a direct and positive effect on willingness to pay (WTP) for green bond investment instruments. Based on the structural model test results, the path coefficient of WOM on WTP was 0.281, with a t-statistic of 2.818 and a p-value of 0.005, indicating significance at the 5% level. Therefore, this hypothesis is accepted.

This finding reinforces that the more satisfied investors are with their experience investing in green bonds—in terms of transparency, sustainability impact, and the services they receive—the higher their level of loyalty to the investment product. This loyalty not only reflects an intention to repurchase but also trust and commitment to the sustainability values promoted.

Risk Moderation on Word of Mouth on Willingness to Pay

H6a–d states that risk—which consists of (a) financial risk, (b) performance risk, (c) social risk, and (d) psychological risk—negatively moderates the relationship between word of mouth (WOM) and willingness to pay (WTP) in the context of green bond investment instruments. In other words, under conditions of high perceived risk, the influence of WOM on WTP is expected to weaken.

However, the test results show that the interaction effect of WOM $\times$ risk on WTP is not statistically significant, with a t-statistic of 0.244 and a p-value of 0.148. Since the t-value is less than 1.96 and the p-value is greater than 0.05, the moderation hypothesis 6a–d is rejected.

This finding indicates that high perceived risk does not significantly weaken the influence of word of mouth on willingness to pay. In other words, when investors receive positive information about green bonds from trusted sources (friends, communities, or credible public opinion), the effect of WOM on their willingness to pay remains strong—even under perceived risky conditions.

Green Practices on Willingness to Pay

H7 states that green practices have a direct and positive effect on willingness to pay (WTP) for green bond investment instruments. Based on the structural model testing results, the path coefficient is 0.128, with a t-statistic of 2.045 and a p-value of 0.041, indicating a statistically significant relationship at the 5% level. Therefore, this hypothesis is accepted.

This result suggests that the stronger the investor's perception of the issuer's green practices, the greater their willingness to pay more or accept a lower return, as long as the investment product is perceived to have a positive environmental impact. This reflects that sustainability values are an important factor in investors' financial decisions, particularly for those with strong social and ecological orientations.

Customer Satisfaction on Customer Loyalty

H8 states that customer satisfaction has a direct and positive effect on customer loyalty in the context of green bond investment instruments. Based on the SEM-PLS test results, the path coefficient was 0.449, with a t-statistic of 6.832 and a p-value of 0.000. This result is highly significant, and thus the hypothesis is accepted.

This indicates that the higher the investors' satisfaction with their experience in investing in green bonds, the more likely they are to remain loyal to the product. Loyalty in this context may be reflected in the intention to reinvest, to recommend the product to others, and to hold long-term confidence in the sustainability of the investment offering.

CONCLUSION

This study examined how green practices affect customer satisfaction, loyalty, word of mouth, and willingness to pay in green bond investment, while also assessing the moderating role of perceived risk. Results showed that green practices significantly enhance satisfaction, loyalty, word of mouth, and willingness to pay, with satisfaction further boosting loyalty and willingness to pay, highlighting the emotional basis of sustainable financial decisions. Contrary to expectations, perceived risk did not significantly moderate these relationships, suggesting investors' sustainability commitment may override risk concerns. The research extends sustainable investment behavior theory by emphasizing direct effects of green practices and the reduced role of perceived risk, and offers practical guidance for green bond issuers to enhance transparency, community engagement, and ease of purchase. Ethically, it stresses transparency and emotional connection for wider adoption of sustainable investments. Future research should overcome limitations by expanding beyond the Jabodetabek region, employing mixed methods, and investigating additional psychological and institutional influences on green investment behavior.

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