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Analysis of Factors Influencing Green Investment Decisions with Green Awareness as a Moderating Variable

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ABSTRACT

This study aims to analyze the factors that influence decision making in green investment, such as perceived risk, perceived financial benefit, perceived trust, and perceived greenwashing, as well as green awareness as a moderating variable. Using an online survey method, 270 individual respondents with the potential to be involved in investment activities, specifically in green investment instruments, were selected. The collected data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) to assess the relationships between variables and the moderating effect of green awareness. The results show that perceived trust and perceived financial benefits have a positive and significant influence on green investment decisions. However, perceived risk and perceived greenwashing have insignificant influence on green investment decisions. Green awareness has moderated the relationship of perceived trust on investment decisions. However, the direction of the relationship was negative, indicating that individuals with high environmental awareness tend to be more critical and do not rely solely on trust in decision-making. This study contributes to the literature by examining green investment from an individual behavioral perspective, integrating various perception-based factors, and introducing green awareness as a moderating variable in the Indonesian context. Public companies should focus on creating real green impact on society because trust becomes weaker when green awareness is high. For example, emission data, carbon reduction, and clear sustainability disclosure in reports can increase investors' intention to invest in green investments. Second, regulators can strengthen the monitoring of green practices and the transparency of sustainability reports. Investors need to align their investment decisions with their personal sustainability goals, not only based on reputation or trust in institutions.

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1. Introduction

In the modern era, sustainability issues have become an important concern in various sectors, including investment, where investors have a role in driving social and environmental impact

through sustainable investing practices (Marti et al., 2024). Investment activity has shown significant growth along with technological advances, global market integration, and the increasing participation of both individual and institutional investors. However, in recent decades, attention to economic sustainability, especially the environment, has increased, thus encouraging a new perspective on investment: green investment (Tian et al., 2024).

Green investment is a type of investment aimed at financing environmentally friendly projects and supporting the development of renewable energy. According to World Bank (2024), from 2008 to 2024 the Green Bonds program has successfully raised $19.4 billion to support 146 environmentally friendly projects in 37 countries. This reflects the significant growth of the green investment market and its role as a crucial instrument in addressing the liquidity needs of capital markets targeting global sustainability (Javed et al., 2024; Tufail et al., 2024). However, individual investor participation is still relatively low (Hu & Gan, 2024). In fact, their involvement plays a crucial role in expanding the adoption of green investment in the global market. In this context, research by Apostolopoulos et al. (2025) explains that investors with a high awareness of environmental issues tend to prefer green investments, especially in projects or companies that demonstrate positive ecological impacts.

Prior research on green investment has identified several factors influencing investment decisions. According to Gacem et al. (2025), the perception of greenwashing is a significant barrier for individual investors to participate in green investment. This negative perception reduces investment interest and increases perceived risk, thus inhibiting individual investor involvement. Based on Kwilinski (2024) review, global research on green investment is still dominated by macro-level studies, such as those on renewable energy and government policies. Previous findings indicate that perceived risk and perceived return have a significant effect on green investment decisions (Herve & Marsat, 2024). Perceived trust is a critical component in supporting the intention to engage in green investment (Chan et al., 2022). Therefore, this study focuses on analyzing the factors influencing investor intentions towards green investment. Specifically, this study analyzes the roles of perceived risk, perceived financial benefit, perceived trust, and perceived greenwashing. This study explores green awareness as a moderating variable, which remains relatively underexamined in the context of green investment decisions. Green awareness is considered important, as it can influence pro-environmental behavior and shape individuals' decision-making processes toward green investments (Liu et al., 2024; Millet & Weijters, 2023).

However, beyond these theoretical shortcomings, there are still limitations in practice and gaps in research on green investment in Indonesia, particularly in the industrial sector (Ye & Dela, 2023). Findings by Nuryanto et al. (2024) indicate that green investment practices in Indonesia still face several significant obstacles, such as challenges in implementing eco-controls, dependence on government policy support, limited access to green financing, and the suboptimal adoption of environmentally friendly technologies in industrial activities. These conditions indicate that despite increasing awareness of sustainability, the implementation of green investment in Indonesia remains uneven and has not been optimal across various sectors. Thus, there is a clear gap between sustainability commitments and the realization of green investment practices, creating a gap between the potential and actualization of green investment in Indonesia.

Table 1. Research Formulation and Objectives

Problem Formulation	Research Objectives
1. What factors influence investors' intentions towards green investment?	1. Analyze the factors influencing investors' intentions towards green investment.
2. What are the roles of perceived risk, perceived financial benefit, perceived trust, and perceived greenwashing?	2. Analyze the role of perceived risk, perceived financial benefit, perceived trust, and perceived greenwashing.
3. How does green awareness play a moderating role in influencing pro-environmental behavior and shaping individual decision-making processes regarding green investment?	3. Explore green awareness as a moderating variable that can influence pro-environmental behavior and shape individual decision-making processes regarding green investment.

2. Literature Revies

2.1. Theory of Planned Behavior (TPB)

The Theory of Planned Behavior, developed by Ajzen (1991), refers to a person's psychological or internal factors, such as attitudes, subjective norms, and perceived behavioral control (C. Wang et al., 2025). These psychological factors influence how a person forms intentions and make decisions. This explanation is supported by Hagger & Hamilton (2025) in their recent review of the Theory of Planned Behavior (TPB). These results confirm that an individual's decision to act is determined by beliefs in self-efficacy (perceived behavioral control) and internal motivation.

Several previous studies have used the TPB to explain sustainable investment behavior. Mishra et al. (2023) found that attitude and perceived behavioral control significantly influenced the intention to engage in socially responsible investment in India. Similar results were shown by Aliedan et al. (2023) who studied green investment intentions in Saudi Arabia. They found that attitude and perceived behavioral control positively influenced intention, while religiosity strengthened this relationship. Apostolopoulos et al. (2025) also used the TPB to examine awareness of greenwashing and found that higher levels of awareness increased green behavior intentions and strengthened trust in companies committed to sustainability.

2.2. Heuristic Theory

Heuristic Theory, derived from behavioral finance and developed by Tversky and Kahneman (1974), suggests that individuals do not always make decisions through a rational process. At certain times, individuals may use heuristic cues, which are quick judgments influenced by previous experience, spontaneous perceptions, or simple, easily processed information (Lee et al., 2024). Previous research based on Heuristic Theory shows that heuristic biases such as overconfidence and anchoring significantly influence investment decisions (Jain et al., 2023), while financial literacy acts as a moderating factor that can improve these decisions (Mahmood et al., 2024). Islam et al. (2024) also emphasize that financial security perception is a crucial component in investment decisions. Similarly, Honold & Oh (2025) found that perceived security and perceived trust are psychological factors that determine investment interest in high-risk assets such as cryptocurrencies. These findings indicate that investment decisions are often determined by perceived risk, perceived financial benefit, perceived security, and perceived trust.

2.3. The Influence of Perceived Risk on Green Investment Decisions

According to research by Siemroth & Hornuf (2023), perceived risk significantly negatively influences retail investors' decisions in selecting green investment projects. Consistent with these findings, research by Heeb et al. (2023) found that some investors are willing to accept slightly higher risks or lower returns if the investment has a positive social and environmental impact. However, perceived risk generally still reduces investor attractiveness to green investments. Rohith & Patil (2025) also confirmed that perceived risk significantly influences green investment decisions. Furthermore, behavioral risk management and investor psychological factors have been shown to significantly influence investment strategies, indicating that investors' perception of risk plays a crucial role in the investment decision-making process (Addo et al., 2025; Almansour et al., 2023). These findings align with those of Lathief et al. (2024), who explain that perceived risk is part of investors' subjective assessment of potential losses and uncertainty and plays a key role in determining investment preferences and choices. In line with this, Cuandra et al (2024) emphasized that risk perception is a major factor that can hinder investor interest in making investment decisions.

H_1: Perceived risk has a significant negative effect on green investment decisions.

2.4. The Influence of Perceived Financial Benefit on Green Investment Decisions

According to Hong et al. (2023), perceived financial benefits play a significant role in driving individual investment intentions. The higher the perceived potential returns, the stronger the

investor's desire to invest. Similar findings were also presented by Scheller et al. (2024) in their study, proving that perceived financial benefits are a stronger predictor of adoption intentions than environmental benefits. Further support is found in the research of Zhang & Huang (2024), which highlights that perceived financial benefits and economic stability significantly increase the propensity of companies and individuals to make green investments.

Consistent with previous literature, Almansour et al. (2023) show that investor confidence in the potential financial benefits of green investments drives green investment decisions. In addition to the individual perspective, Kantorowicz et al. (2024) emphasize that the availability of public funding for green projects can strengthen investors' perceptions of potential returns and reduce financial uncertainty. In other words, macroeconomic financial conditions and institutional support contribute to investor beliefs regarding the feasibility and economic benefits of green investments, indirectly driving green investment decisions at both the company and individual levels.

H_2: Perceived financial benefits have a significant positive effect on green investment decisions.

2.5. The Influence of Perceived Trust on Green Investment Decisions

A study by Aziz et al. (2021) confirmed that perceived trust has a significant positive influence on investment decisions, where higher levels of trust encourage investors to feel secure and more confident in investing their funds. Furthermore, research by Chan et al. (2022) showed that trust has a direct and significant influence on investors' intention to invest in companies with green initiatives, where higher levels of trust increase perceptions of the security, credibility, and sustainability of the investment.The role of trust in the context of fintech services shows that trust can reduce perceived risk and increase perceived trust in investment decisions, where trust plays a role in strengthening investors' confidence in the reliability of the system and the investment information presented (Hildebrand & Bergner, 2021). Similarly, Salem et al. (2024) also confirmed that trust has a significant influence on increasing the effectiveness of the decision-making process, especially when individuals are dealing with complex information or new technologies. Other studies have also confirmed that trust has a significant influence on increasing the effectiveness of the decision-making process. Garg et al. (2024), explains that investor trust lies not only in the product, but also in the information that then forms a positive attitude towards the investment.

H_3: Perceived trust has a significant positive effect on green investment decisions.

2.6. The Influence of Perceived Greenwashing on Green Investment Decisions

Research by Gacem et al. (2025) shows that perceived greenwashing has a significant negative effect on green investment decisions. This is because perceived greenwashing acts as a barrier for individual investors unfamiliar with green investment. This finding is consistent with research by Chen et al. (2019), which shows that perceived greenwashing has a significant negative effect on green instruments. The higher the perception of greenwashing, the lower the level of consumer trust in the green instruments implemented by the company.

Furthermore, Tu et al. (2024) also emphasize that perceived greenwashing can damage the image of green instruments, impacting investor interest. Meanwhile, Dempere et al. (2024) highlight how misleading greenwashing reduces investor participation in sustainable finance. Consistent with this, an empirical study by Xu et al. (2025) using event study analysis demonstrated that the market responds negatively to greenwashing incidents, Agustin et al (2025) specifically found that this practice increases the risk of stock price crashes for companies in Indonesia. Vilkaitė-Vaitonė (2024) research also confirms that the perception of greenwashing reduces consumers' and investors' intentions to take green action, including investment.

H_4: Perceived greenwashing has a significant negative effect on green investment decisions.

2.7. The Moderating Role of Green Awareness

In sustainable finance, green awareness plays a crucial role in supporting the development of green finance. Piotrowska & Piotrowski (2025) explain that the success of green finance is significantly influenced by investors' level of awareness and trust in green investment instruments. Investors with high green awareness tend to be more receptive to green investments and assess their risks and benefits more rationally before making decisions. An empirical study by Lopes et al. (2024) shows that the level of green awareness significantly increases the strength of the relationship between various perceptual factors and green purchasing decisions, indicating that individual green awareness influences how environmental information is processed in decision-making.The findings of Liu et al. (2024) indicate that green awareness not only reflects psychological awareness but also plays a role in determining how environmental information is translated into actual behavior. Similarly, Millet & Weijters (2023) assert that increased green awareness can change how individuals interpret and evaluate environmentally related choices. Furthermore, Li & Li (2024) emphasize that individuals with high levels of environmental awareness tend to be more critical in processing information related to green instruments, including assessing environmental risks and the long-term impacts of economic activities.In this context, awareness plays a role as a variable that identifies whether individuals will interpret green instrument information as credible or not. When awareness is high, positive perceptions of green instruments, such as financial benefits, will have a stronger influence on final decisions. Conversely, when awareness is low, negative perceptions of perceived risk or concerns about greenwashing become more dominant in influencing behavior. This suggests that green awareness can act as a cognitive mechanism that changes how individuals evaluate environmental instruments or policies.

H_{5a}: Green awareness moderates the influence of perceived risk on green investment decisions.
H_{5b}: Green awareness moderates the influence of perceived financial benefits on green investment decisions.
H_{5c}: Green awareness moderates the influence of perceived security on green investment decisions.
H_{5d}: Green awareness moderates the influence of perceived greenwashing on green investment decisions.

The following is a research model which comes from a combination of several previous research models.

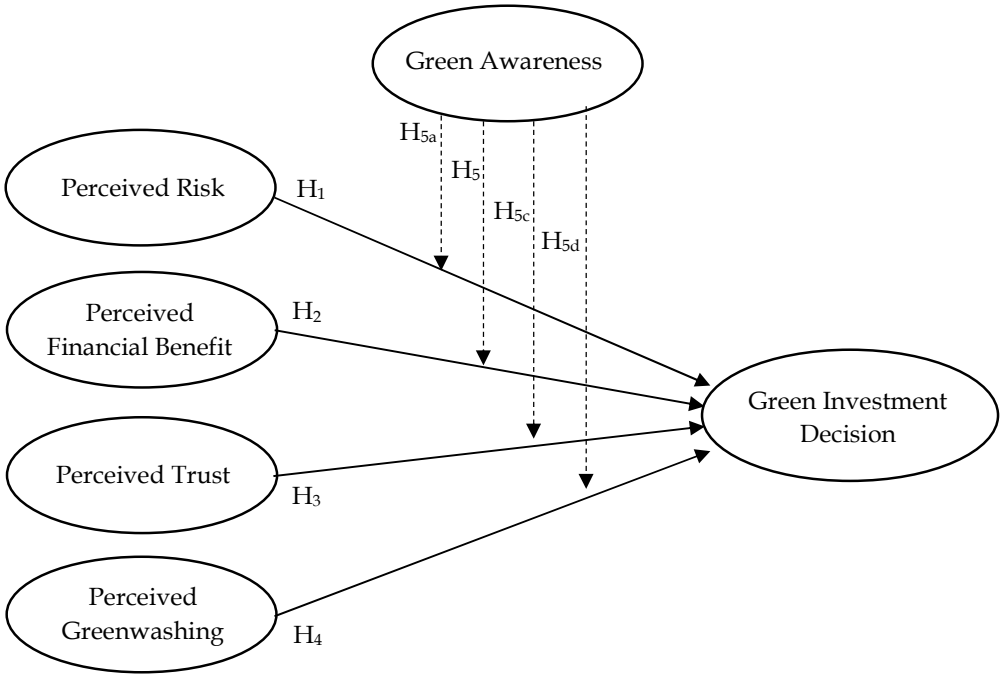

Fig 1. Research Model

3. Research Method

3.1. Data collection

The data for this study consisted of a questionnaire, collected by distributing it online via Google Forms to respondents. This technique was chosen because it is believed to be able to collect respondents effectively and in large numbers. The population in this study was individuals with the potential to invest, particularly green investments. Respondents were selected using a non-probability sampling technique using a purposive sampling approach. The respondent criteria were individuals belonging to generations X, Y, and Z, at least 18 years old, interested in investing, and willing to complete the questionnaire.

The minimum sample size was determined using an a priori statistical power analysis using G*Power software version 3.1.9.7, as it is considered to have limitations in ensuring the statistical power of the research model, particularly in complex structural models. Consistent with Hesniati et al (2025); Kang (2021), the power analysis was conducted using the F-test on a multiple linear regression model. The parameters used included a medium effect size ($f^2 = 0.15$), a significance level (α) of 0.05, a power level of 0.95, and five predictors. The analysis showed that the minimum sample size required for this study was 138 respondents.

3.2. Data Analysis

The analysis of intervariable relationships in this study was conducted using the PLS-SEM (Partial Least Squares-Structural Equation Modeling) method. This method is used because it is effective for analyzing research models with many variables in relatively small samples (Hair et al., 2017). The data analysis process begins by collecting respondents' answers and organizing them based on per-variable indicators in an Excel file. The file is then uploaded to the smart PLS 3 application for testing.

3.3. Data Measurement

The questionnaire was structured based on indicators for each variable used. Furthermore, all questions in the questionnaire were measured using a Likert scale with a rating range from strongly disagree to strongly agree (1-5). The use of a Likert scale in the questionnaire instrument allows researchers to quantitatively measure respondents' perceptions and attitudes through the scores generated for each statement (Anisah & Puspasari, 2024). The indicators for each variable are presented in the following table:

Table 2. Variable Measurement

Variable	Indicator	Reference
Perceived Risk (PR)	PR1: Green investment is risky	(Sukumaran et al., 2022; Wasiuzzaman & Ahmad, 2025)
	PR2: There is too much uncertainty associated with green investment	
	PR3: Compared with other investments, green investment is riskier	
	PR4: I am concerned about the risk of falling victim to green investment scams or frauds	
Perceived Financial Benefit (PFB)	PFB1: I believe that green investment can provide substantial financial returns	(Hong et al., 2023; L. Wang et al., 2024)
	PFB2: I view green investment as a long-term and valuable investment	
	PFB3: I believe that the long-term growth of green industries can positively enhance the financial performance of green investments	
	PFB4: I believe I can financially benefit from investing in green investment products	
Perceived Trust (PT)	PT1: Green investment product is reliable	(Aziz et al., 2021; Husin et al., 2022)
	PT2: I can rely on the promises made by green investment	
	PT3: Green investment product is competent	
	PT4: I believe that green investment product will not hide important information from its investor's knowledge	
	PT5: Green investment products are managed by competent and trustworthy institutions	

Perceived Greenwashing (PG)	PG1: I perceive green investment as a marketing stunt	(Gacem et al., 2025; Strauß et al., 2023)
	PG2: I think green investment is not much different from traditional investments – it's just a new label	
	PG3: I think green investment is a marketing ploy to sell more funds	
Green Investment Decision (GID)	GID1: I intend to invest in an ethically investing portfolio	(Garg et al., 2022; Zhang & Huang, 2024)
	GID2: I intend to invest in green investment because they are more environmentally friendly	
	GID3: I want to avoid investing in products which are involved in activities that can cause damage to society, ethics and environment	
	GID4: The likelihood of me investing in green investment products is very high	
Green Awareness (GA)	GA1: I have responsibility to environmental issues	(Lestari et al., 2021)
	GA2: I avoid using products that are harmful to the environment	
	GA3: I always look for green products investment	

4. Result and Discussion

4.1. Descriptive Statistics

The number of respondents who participated in this study was 270 respondents, with 68.52% of respondents being female and 31.48% of respondents being male. The majority of respondents who participated were Gen Z (1997-2012; aged between 14 and 29 years) amounting to 94.81%, the remaining only 5.18% were aged 30 years and above. In terms of education, most respondents had completed high school/vocational education (71.11%), followed by undergraduate (25.93%) and the remaining only 2.96% of respondents had completed master's, doctoral, and diploma degrees. In terms of marital status, there were 95.93% who were not married. Then, regarding employment status, the largest group came from students, where most of the respondents in this study were only students and not working (64.81%), followed by private employees, amounting to 24.44%. In addition, the monthly income reported by respondents, mostly ranged below Rp 5,000,000 (66.67%). Respondents' investment experience ranged from 1-3 years (61.11%). In terms of goals, respondents tended to invest to save (51.11%). A more detailed respondent profile is presented in Table 2.

Table 3. Respondent Demographics

Characteristic	Criteria	Count	Percentage
Gender	Female	185	68.52%
	Male	85	31.48%
Age	Gen X	6	2.22%
	Gen Y	8	2.96%
	Gen Z	256	94.81%
Last Education	SMA/K	192	71.11%
	S1	70	25.93%
	S2	2	0.74%
	S3	1	0.37%
	Diploma	5	1.85%

Characteristic	Criteria	Count	Percentage
Marital Status	Married	11	4.07%
	Unmarried	259	95.93%
Work	Not Yet Employed	12	4.44%
	Student	175	64.81%
	Private Employee	66	24.44%
	Civil Servant	5	1.85%
	Self-Employed	9	3.33%
	Professional	3	1.11%
Monthly Income (IDR)	< 5,000,000	180	66.67%
	5,000,001 - 15,000,000	8	29.63%
	> 15,000,000	10	3.70%
Investment Experience	< 1 year	88	32.59%
	1-3 years	165	61.11%
	4-6 years	9	3.33%
	>6 years	8	2.96%
Investment Objectives	Protecting the Value of Money	40	14.81%
	Saving	138	51.11%
	Seeking Profit	92	34.07%

Source: Processed data by researchers (2026).

4.2. Validity and Reliability Test

Validity testing is used to measure whether questionnaire items accurately represent the latent constructs being measured. This test is declared valid if the outer loading value is below 0.70 and the AVE value is greater than 0.50. After that, a reliability test will be conducted to ensure data consistency in construct measurement. Reliability is accepted if the Cronbach's Alpha and Composite Reliability values are greater than 0.70 (Hair et al., 2017).

Table 4. Validity and Reliability Test

Variables	Indicator	Outer Loading	AVE	Cronbach Alpha	Composite Reliability
PR	PR1	0.878	0.759	0.895	0.926
	PR2	0.864			
	PR3	0.889			
	PR4	0.853			
PFB	PFB1	0.852	0.747	0.887	0.922
	PFB2	0.867			
	PFB3	0.876			
	PFB4	0.862			
PT	PT1	0.878	0.726	0.906	0.930
	PT2	0.851			
	PT3	0.845			
	PT4	0.843			
	PT5	0.844			
PG	PG1	0.917	0.815	0.889	0.930
	PG2	0.906			
	PG3	0.885			
GID	GID1	0.866	0.735	0.880	0.917
	GID2	0.867			
	GID3	0.827			
	GID4	0.867			
GA	GA1	0.834	0.705	0.791	0.878

Variables	Indicator	Outer Loading	AVE	Cronbach Alpha	Composite Reliability
	GA2	0.830			
	GA3	0.855			

Source: Processed data by researchers (2026).

4.3. Discriminant Validity Test

Discriminant validity testing was used to examine differences between constructs. In this study, validity was measured using the Fornell-Larcker criterion. As seen in Table 4, the square root of the AVE value for each construct (located on the diagonal) is higher than the correlation value between that construct and other constructs in the same row and column. This finding is consistent with the recommendation of Hair et al. (2017) that the square root of AVE should be higher than inter-construct correlations.

Table 5. Fornell-Lacker

	PR	PFB	PT	PG	GA	GID
PR	0.871					
PFB	0.442	0.864				
PT	0.365	0.725	0.852			
PG	0.404	0.147	0.030	0.903		
GA	0.335	0.661	0.788	0.023	0.840	
GID	0.293	0.676	0.827	-0.034	0.812	0.857

Source: Processed data by researchers (2026).

4.4 Goodness of Fit

The GOF was conducted to evaluate the suitability of the research structural model and its ability to explain the relationships between variables. The Standardized Root Mean Square Residual (SRMR) value was considered valid because it was below 0.08, namely 0.047. Furthermore, the Normed Fit Index (NFI) value was 0.866, although below the ideal limit (0.90). The NFI is still acceptable for exploratory behavioral research. In general, these findings indicate that the structural model is able to represent empirical data quite well (Hair et al., 2017).

Table 6. Goodness of Fit Test

	Saturated model	**Estimated model**
SRMR	0.047	0.047
NFI	0.866	0.866

Source: Processed data by researchers (2025).

4.5. Collinearity Test (VIF Value)

The VIF values in this study ranged from 1,482 to 3,312, indicating that the VIF values were below the recommended threshold of 5.0. This indicates no methodological issues, thus deeming the data suitable for further analysis (Hair et al., 2017).

Table 6. VIF Value

	VIF
PR → GID	1.482
PFB → GID	2.393
PT → GID	3.312

PG → GID	1.229
GA → GID	2.773

Source: Processed data by researchers (2026).

4.6. Coefficient of Determination (R2)

The R-squared value is used to indicate the apparent power of independent variables on dependent variables in a structural model. With the following criteria: (1) if $R^2 \geq 0.75$ indicates a substantial model; (2) if R^2 is around 0.50 indicates a moderate model; (3) if $R^2 \leq 0.50$ indicates a weak model (Hair et al., 2017). The results show that the adjusted R square of GID is 75.5%, which means that the independent variables are able to explain 75.5% of the variation in GID. This value is included in the substantial category, so the model has strong explanatory power.

Table 8. R^2 Test

Variable	R Square	Adjusted R Square
GID	0.760	0.755

Source: Processed data by researchers (2026).

4.7. Effect Size (F^2Test)

The F^2 test is used to assess the extent of influence of each exogenous construct on the endogenous variables in the structural model. The F^2 criteria are: (1) if $0.02 \leq F^2 < 0.15$ indicates a small effect; (2) if $0.15 \leq F^2 < 0.35$ indicates a medium effect; (3) if $F^2 \geq 0.35$ indicates a large effect. As presented in Table 8, the F^2 value shows that the PR construct on GID has a value of 0.002, PFB on GID is 0.022 and PG on GID is 0.013, which are included in the small effect category. Meanwhile, PT on GID has an F^2 value of 0.245 and GA on GID is 0.240, which are included in the medium effect category. These results indicate that the PT and GA constructs contribute a greater influence on GID compared to other constructs in the structural model.

Table 9. F^2 Test

Variable	F Square
PR → GID	0.002
PFB → GID	0.022
PT → GID	0.245
PG → GID	0.013
GA → GID	0.240

Source: Processed data by researchers (2026).

4.8. Hypothesis Testing

The results of the structural model testing in Table 9 indicate that perceived financial benefit (PFB) and perceived trust (PT) have a positive and significant influence on green investment decisions (GID), thus H_2 and H_3 were accepted. Conversely, perceived risk (PR) and perceived greenwashing (PG) have insignificant influence on GID, thus H_1 and H_4 were rejected. In testing the moderation effect, only the interaction between green awareness weakens the influence of perceived trust (PT) on GID, thus H_{5c} was accepted. Meanwhile, the other interaction terms show no significant effect on GID, thus H_{5a}, H_{5b}, and H_{5d} were rejected. Overall, these results indicate that perceived trust is the most consistent factor influencing green investment decisions, both directly and through the moderating effect of green awareness.

Table 10. Structural Model Results

Hypotheses	Coefficient	T-statistics	P-values	Conclusion
H1: PR → GID	-0.032	0.673	0.501	Rejected
H2: PFB → GID	0.111	1.971	0.049	Accepted
H3: PT → GID	0.395	5.875	0.000	Accepted
H4: PG → GID	-0.096	1.752	0.080	Rejected
H5a: PR*GA → GID	-0.001	0.009	0.993	Rejected
H5b: PFB*GA → GID	-0.029	0.453	0.651	Rejected
H5c: PT*GA → GID	-0.117	2.009	0.045	Accepted
H5d: PG*GA → GID	0.073	1.077	0.282	Rejected

4.9. Discussion

The results of this study indicate that not all proposed hypotheses are empirically supported, indicating that each variable plays a different role in influencing green investment decisions. The direct effect analysis revealed that perceived trust plays a crucial role in encouraging individuals to invest in green instruments. Trust is fundamental element in influencing investment decisions, enabling investor to feel less stressed and anxious to boosting investor decision making (Kulal et al., 2024). Furthermore, the positive significant influence of perceived financial benefits on green investment decisions means that expected economic returns remain a primary consideration for investors, even when investments are sustainability-based. This finding is supported by Gacem et al. (2025) stated that financial considerations remain a significant positive motivation for individual investors in choosing green assets. In other words, investors consider not only environmental aspects but also potential economic benefits. On the other hand, perceived risk has no significant effect on green investment decisions. One possible reason for this study is that the respondents have higher trust in green investment decisions; therefore, risk consideration is overshadowed by other factors such as trust and expected return. Furthermore, perceived greenwashing has no significant influence on green investment decisions. This finding suggests that the issue of greenwashing has not yet become a primary consideration for respondents, possibly due to a low level of understanding of the practice.

In testing the moderation effect, only the interaction between perceived trust and green awareness proved significant. However, the negative direction of the relationship indicates that the higher the level of green awareness, the weaker the influence of perceived trust on investment decisions. This indicates that individuals with a high level of environmental awareness tend to be more critical in evaluating information, thus not relying solely on trust in making investment decisions but also considering various other aspects more thoroughly. Meanwhile, green awareness was not proven to moderate the relationship between perceived risk, perceived financial benefit, and perceived greenwashing on green investment decisions (H_{5a}, H_{5b}, H_{5d}). This indicates that the role of green awareness in this study is still limited and has not been able to consistently strengthen or weaken the relationship between the variables. Based on the results presented, this study wants to provide several implications that can be applied by different parties. Public companies should focus on creating real green impact on society because trust becomes weaker when green awareness is high. For example, emission data, carbon reduction, and clear sustainability disclosure in reports can increase investors' intention to invest in green investments. Second, regulators can strengthen the monitoring of green practices and the transparency of sustainability reports. Investors need to align their investment decisions with their personal sustainability goals, not only based on reputation or trust in institutions.

5. Conclusion

This study concludes that green investment decisions in Indonesia, particularly among young investors, are heavily influenced by perceived trust and perceived financial benefits. Trust emerged as the most consistent primary driver, with the credibility and transparency of investment instruments key to convincing investors. Despite the nature of sustainable investments, investors still act rationally, considering the potential for long-term economic benefits as a significant motivator.

Furthermore, green awareness was found to act as a moderating variable, weakening the influence of trust on investment decisions. This indicates that individuals with higher environmental awareness tend to be more critical and skeptical, requiring them to rely not only on trust but also on concrete evidence of the investment's ecological impact.

This study has several limitations. First, the sample is limited to specific group of respondents, which may not fully represent all types of investors. Second, this study uses a survey method, so the data is based on respondents' self-reported answers. This may lead to subjective bias, as responses can be influenced by personal perceptions. Based on these limitations, several suggestions are proposed for future research. Expanding the sample to include different types of investors to improve the finding. Future research can include additional variables, such as attitude as mediation to support Theory of Planned Behavior (Ajzen, 2020).

References

Addo, J. O., Cúg, J., Keelson, S. A., Amoah, J., & Petráková, Z. (2025). Behavioral Risk Management in Investment Strategies: Analyzing Investor Psychology. *International Journal of Financial Studies*, *13*(2). https://doi.org/10.3390/ijfs13020053

Agustin, I. N., Candy, C., & William, J. (2025). From green claims to market crashes: the moderating forces of climate risk. *Journal of Capital Markets Studies*, *9*(2), 151–168. https://doi.org/10.1108/JCMS-06-2025-0069

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Aliedan, M. M., Alyahya, M. A., Elshaer, I. A., & Sobaih, A. E. E. (2023). Who is going green? determinants of green investment intention in the Saudi food industry. *Agriculture (Switzerland)*, *13*(5). https://doi.org/10.3390/agriculture13051047

Almansour, B. Y., Elkrghli, S., & Almansour, A. Y. (2023). Behavioral finance factors and investment decisions: A mediating role of risk perception. *Cogent Economics and Finance*, *11*(2). https://doi.org/10.1080/23322039.2023.2239032

Anisah, N., & Puspasari, R. (2024). Sistem informasi kuesioner materi pembelajaran SMP Swasta Generasi Bangsa Martubung menggunakan skala likert. *Jurnal Rekayasa Sistem (JUREKSI)*, *2*(2), 604–616.

Apostolopoulos, N., Makris, I., Deirmentzoglou, G. A., & Apostolopoulos, S. (2025). The impact of greenwashing awareness and green perceived benefits on green purchase propensity: The mediating role of green consumer confusion. *Sustainability (Switzerland)*, *17*(14). https://doi.org/10.3390/su17146589

Aziz, S., Azam, N., Alias, Z., Khan, N. U., & Bazakiaei, H. A. (2021). Do brand familiarity, perceived trust and attitude predict stock investment decision behavior? *Academy of Strategic Management Journal*, *20*(6), 1–12.

Chan, K. H., Chong, L. L., Ng, T. H., & Ong, W. L. (2022). A model of green investment decision making for societal well-being. *Heliyon*, *8*(8). https://doi.org/10.1016/j.heliyon.2022.e10024

Chen, H., Bernard, S., & Rahman, I. (2019). Greenwashing in hotels: A structural model of trust and behavioral intentions. *Journal of Cleaner Production*, *206*, 326–335. https://doi.org/10.1016/j.jclepro.2018.09.168

Cuandra, F., Susanto, S., Hesniati, H., & Candy, C. (2024). Deciphering investment decision in fintech: The role of behavioral bias and risk perception. *Jurnal Organisasi Dan Manajemen*, *20*(2), 271–286. https://doi.org/10.33830/jom.v20i2.8248.2024

Dempere, J., Alamash, E., & Mattos, P. (2024). Unveiling the truth: greenwashing in sustainable finance. In *Frontiers in Sustainability* (Vol. 5). Frontiers Media SA. https://doi.org/10.3389/frsus.2024.1362051

Gacem, S., Hervé, F., & Marsat, S. (2025). When green turns red: Is the perception of greenwashing a barrier to individual green investment? *Finance Research Letters*, *82*. https://doi.org/10.1016/j.frl.2025.107605

Garg, A., Goel, P., Sharma, A., & Rana, N. P. (2022). As you sow, so shall you reap : Assessing drivers of socially responsible investment attitude and intention. *Technological Forecasting & Social Change*, *184*. https://doi.org/10.1016/j.techfore.2022.122030

Garg, D., Tiwari, P., & Jain, V. K. (2024). Do social media sentiments affect investment decisions ? A moderated mediation analysis of the relationship between social media sentiments , trust , and investment decisions. *Global Business and Economics Review*. https://doi.org/10.1504/GBER.2024.10058158

Hagger, M. S., & Hamilton, K. (2025). Progress on theory of planned behavior research: advances in research synthesis and agenda for future research. *Journal of Behavioral Medicine*, 43–56.

Hair, J. F., Hult, G. T., Ringle, C., & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). In *Sage* (2th Editio). SAGE Publications, Inc.

Heeb, F., Kölbel, J. F., Paetzold, F., & Zeisberger, S. (2023). Do Investors Care about Impact? *Review of Financial Studies*, *36*(5), 1737–1787. https://doi.org/10.1093/rfs/hhac066

Herve, F., & Marsat, S. (2024). Acting for good , being good or feeling good ? Exploring factors influencing individual investors ' willingness to invest in green funds. *Finance Research Letters*, *67*(June). https://doi.org/10.1016/j.frl.2024.105736

Hesniati, H., Phangestu, S. J., Marheni, D. K., & Arviano, H. (2025). Navigating Digital Credit : How Risky Indebtedness Behavior and Impulsive Buying Shape Buy-Now-Pay-Later Intention ? *Journal of Theoretical and Applied Management*, *18*(3), 275–290. https://doi.org/https://doi.org/10.20473/jmtt.v18i3.77543

Hildebrand, C., & Bergner, A. (2021). Conversational robo advisors as surrogates of trust: Onboarding experience, firm perception, and consumer financial decision making. *Journal of the Academy of Marketing Science*, *49*(4), 659–676. https://doi.org/10.1007/s11747-020-00753-z

Hong, X., Pan, L., Gong, Y., & Chen, Q. (2023). Robo-advisors and investment intention: A perspective of value-based adoption. *Information and Management*, *60*(6). https://doi.org/10.1016/j.im.2023.103832

Honold, S. E., & Oh, N. (2025). The influence of personality traits and demographic factors on cryptocurrency investment decisions. *Personality and Individual Differences*, *241*. https://doi.org/10.1016/j.paid.2025.113189

Hu, D., & Gan, C. (2024). *Green finance development and its origin , motives , and barriers : an exploratory study*.

Husin, M. M., Aziz, S., & Bhatti, T. (2022). The impact of brand familiarity , perceived trust and attitude on investors ' decision-making in Islamic stock market. *Journal of Islamic Marketing*. https://doi.org/10.1108/JIMA-04-2020-0093

Islam, K. U., Bhat, S. A., Lone, U. M., Darzi, M. A., & Malik, I. A. (2024). Financial risk propensity and investment decisions: An empirical analysis using behavioural biases. *IIMB Management Review*, *36*(3), 213–229. https://doi.org/10.1016/j.iimb.2024.06.004

Jain, J., Walia, N., Singla, H., Singh, S., Sood, K., & Grima, S. (2023). Heuristic biases as mental shortcuts to investment decision-making: A mediation analysis of risk perception. *Risks*, *11*(4), 1–22. https://doi.org/10.3390/risks11040072

Javed, A., Usman, M., & Rapposelli, A. (2024). Transition toward a sustainable future : Exploring the role of green investment , environmental policy , and financial development in the context of load capacity factor in G-7 countries. *Sustainable Development*, 1589–1609. https://doi.org/10.1002/sd.3192

Kang, H. (2021). Sample size determination and power analysis using the G*Power software. *Journal of Educational Evaluation for Health Professions*, *18*, 1–12. https://doi.org/10.3352/JEEHP.2021.18.17

Kantorowicz, J., Collewet, M., DiGiuseppe, M., & Vrijburg, H. (2024). How to finance green investments? The role of public debt. *Energy Policy*, *184*. https://doi.org/10.1016/j.enpol.2023.113899

Kulal, A., Rahiman, H. U., Panakaje, N., Parvin, S. M. R., Kambali, U., K., M., & N., A. (2024). Impact of trust-building strategies on investment decisions: Mediating role of the financial advisor-client relationship. *Investment Management and Financial Innovations*. https://doi.org/10.21511/imfi.21(4).2024.20

Kwilinski, A. (2024). Mapping Global Research on Green Energy and Green Investment: A Comprehensive Bibliometric Study. In *Energies* (Vol. 17, Issue 5). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/en17051119

Lathief, J. T. A., Kumaravel, S. C., Velnadar, R., Vijayan, R. V., & Parayitam, S. (2024). Quantifying risk in investment decision-making. *Journal of Risk and Financial Management*, *17*(2). https://doi.org/10.3390/jrfm17020082

Lee, W., Park, Y., & Han, H. (2024). A Study on the revenge travel intention in the endemic era: using the theory of planned behavior and heuristic cues. *Sustainability (Switzerland)*, *16*(15), 1–11. https://doi.org/10.3390/su16156577

Lestari, E. R., Septifani, R., & Nisak, K. (2021). Green awareness and green purchase intention: The moderating role of corporate image. *IOP Conference Series: Earth and Environmental Science*, *924*(1). https://doi.org/10.1088/1755-1315/924/1/012051

Li, R., & Li, H. (2024). The impact of food packaging design on users' perception of green awareness. *Sustainability (Switzerland)*, *16*(18). https://doi.org/10.3390/su16188205

Liu, M., Zhu, J., Yang, X., Chen, D., & Lin, Y. (2024). From green awareness to green behavior: The impact of information disclosure scenarios on greener shopping channel choices. *Sustainability (Switzerland)*, *16*(18). https://doi.org/10.3390/su16187944

Lopes, J. M., Silva, L. F., Massano-Cardoso, I., & Galhardo, A. (2024). Green purchase determinants in a peripheral region of Europe: How can green marketing influence consumers' decisions? The mediating role of green awareness of price. *Administrative Sciences*, *14*(11), 1–24. https://doi.org/10.3390/admsci14110293

Mahmood, F., Arshad, R., Khan, S., Afzal, A., & Bashir, M. (2024). Impact of behavioral biases on investment decisions and the moderation effect of financial literacy; an evidence of Pakistan. *Acta Psychologica*, *247*. https://doi.org/10.1016/j.actpsy.2024.104303

Marti, E., Fuchs, M., Desjardine, M. R., Slager, R., & Gond, J.-P. (2024). The impact of sustainable investing : A multidisciplinary review. *Journal of Management Studies*, *July*. https://doi.org/10.1111/joms.12957

Millet, K., & Weijters, B. (2023). The behavioral intervention " positive cueing ": Altering self-perception , increasing green awareness , or undermining the signaling value of costly green behavior? *Journal of Environmental Psychology*. https://doi.org/10.1016/j.jenvp.2023.101979

Mishra, A. K., Bansal, R., & Maurya, P. K. (2023). Investing for a better tomorrow: Values-driven antecedents of investment in socially responsible equity funds by Indian retail investors. *Journal of Cleaner Production*, *420*. https://doi.org/10.1016/j.jclepro.2023.138441

Nuryanto, U. W., Basrowi, Quraysin, I., & Pratiwi, I. (2024). Harmonizing eco-control and eco-friendly technologies with green investment: Pioneering business innovation for corporate sustainability in the Indonesian context. *Environmental Challenges*, *15*(May), 100952. https://doi.org/10.1016/j.envc.2024.100952

Piotrowska, A. I., & Piotrowski, D. (2025). Green fintech: A consumer awareness study. *Sustainability*, 1–18.

Rohith N R, & Patil, H. (2025). Assessing investor perception of risk and return in green finance products: a study on sustainable investment decision making. *International Journal of Research - GRANTHAALAYAH*, *13*(7). https://doi.org/10.29121/granthaalayah.v13.i7.2025.6137

Salem, A. M., Eyupoglu, S. Z., & Ma'aitah, M. K. (2024). The influence of machine learning on enhancing rational decision making and trust levels in e-government. *Systems*, *12*(9), 1–21. https://doi.org/10.3390/systems12090373

Scheller, F., Morrissey, K., Neuhoff, K., & Keles, D. (2024). Green or greedy: the relationship between perceived benefits and homeowners' intention to adopt residential low-carbon technologies. *Energy Research and Social Science*, *108*. https://doi.org/10.1016/j.erss.2023.103388

Siemroth, C., & Hornuf, L. (2023). Why Do Retail Investors Pick Green Investments? A Lab-in-the-Field Experiment with Crowdfunders. *Journal of Economic Behavior and Organization*, *209*, 74–90. https://doi.org/10.1016/j.jebo.2023.02.023

Strauß, N., Krakow, J., & Chesney, M. (2023). It's the news , stupid! The relationship between news attention , literacy , trust , greenwashing perceptions , and sustainable finance investment in Switzerland. *Journal of Sustainable Finance & Investment*, *13*. https://doi.org/10.1080/20430795.2023.2226792

Sukumaran, S., Bee, T. S., & Wasiuzzaman, S. (2022). Cryptocurrency as an investment : The Malaysian context. *MDPI*, *10*(4).

Tian, J., Sun, S., Cao, W., Bu, D., & Xue, R. (2024). Make every dollar count: The impact of green credit regulation on corporate green investment efficiency. *Energy Economics*, *130*. https://doi.org/10.1016/j.eneco.2024.107307

Tu, J. C., Cui, Y., Liu, L., & Yang, C. (2024). Perceived Greenwashing and Its Impact on the Green Image of Brands. *Sustainability (Switzerland)*, *16*(20). https://doi.org/10.3390/su16209009

Tufail, S., Alvi, S., Hoang, V. N., & Wilson, C. (2024). The effects of conventional and unconventional monetary policies of the US, EU, and China on global green investment. *Energy Economics*, *134*. https://doi.org/10.1016/j.eneco.2024.107549

Vilkaitė-Vaitonė, N. (2024). The greenwashing trap: how misleading marketing affects consumer green purchasing habits. *Business: Theory and Practice*, *25*(2), 593–602. https://doi.org/10.3846/btp.2024.21204

Wang, C., Wang, H., Li, Y., Dai, J., Gu, X., & Yu, T. (2025). Factors influencing university students' behavioral intention to use generative artificial intelligence: Integrating the theory of planned behavior and AI literacy. *International Journal of Human-Computer Interaction*, *41*(11), 6649–6671. https://doi.org/10.1080/10447318.2024.2383033

Wang, L., Feng, X., & Zang, L. (2024). Does risk perception influence individual investors ' crowdfunding investment decision-making behavior in the metaverse tourism? *Finance Research Letters*, *62*. https://doi.org/10.1016/j.frl.2024.105168

Wasiuzzaman, S., & Ahmad, A. M. S. L. P. H. (2025). Perception towards government advisory , perceived risk and willingness to invest in cryptocurrency. *Journal of Economics and Business*, *133*, 106208. https://doi.org/10.1016/j.jeconbus.2024.106208

World Bank. (2024). Green Bonds. In *World Bank Treasury*.

Xu, M., Tse, Y. K., Geng, R., Liu, Z., & Potter, A. (2025). Greenwashing and market value of firms : An empirical study. *International Journal of Production Economics*, *284*. https://doi.org/10.1016/j.ijpe.2025.109606

Ye, J., & Dela, E. (2023). The Effect of Green Investment and Green Financing on Sustainable Business Performance of Foreign Chemical Industries Operating in Indonesia: The Mediating Role of Corporate Social Responsibility. *Sustainability (Switzerland)*, *15*(14). https://doi.org/10.3390/su151411218

Zhang, X., & Huang, C. H. (2024). Investor characteristics, intention toward socially responsible investment (SRI), and SRI behavior in Chinese stock market: The moderating role of risk propensity. *Heliyon*, *10*(14). https://doi.org/10.1016/j.heliyon.2024.e34230.