

From awareness to action: The mediating role of personal values in shaping sustainable entrepreneurship intentions

Nindya Saraswati*, Allya Roosallyn Assyofa, Nadia Meirani

Faculty of Economics and Business, Universitas Islam Bandung, Bandung 40116, Indonesia

Article History

Received : 2025-04-18

Revised : 2025-06-25

Accepted : 2025-07-14

Published : 2026-02-01

Keywords:

Environmental awareness; personal values; sustainable entrepreneurship intentions.

*Corresponding author:

nindya.saraswati@unisba.ac.id

DOI:

[10.20885/AMBR.vol6.iss1.art2](https://doi.org/10.20885/AMBR.vol6.iss1.art2)

Abstract

Despite growing concern over environmental issues, the psychological mechanisms that translate awareness into sustainable entrepreneurial action remain underexplored. This study explores the relationship between environmental awareness and sustainable entrepreneurship intentions, focusing on the mediating role of personal values. A quantitative survey was conducted among 175 entrepreneurship students in West Java, Indonesia, using structural equation modelling (SEM). The results reveal that personal values significantly mediate the relationship between environmental awareness and sustainable entrepreneurship intentions. Specifically, individuals with strong biospheric and altruistic value orientations exhibit a more pronounced link between environmental concern and entrepreneurial intent. Furthermore, the study demonstrates the effectiveness of SEM in capturing complex psychological dynamics within sustainability-focused entrepreneurship research. Although geographically limited, this study provides a valuable methodological contribution and serves as a reference point for future investigations in emerging market contexts. These findings highlight the importance of integrating value-based components into entrepreneurship education to foster deeper and more sustainable engagement. By addressing a notable gap in current literature, particularly in developing economies, the study offers actionable insights for educators, policymakers, and program designers seeking to promote sustainable entrepreneurship through personal value development.

Introduction

Entrepreneurship, a vital part of the economy, has been undergoing a transformative phase that has resulted in the emergence of new entrepreneurial techniques. This shift is motivated by the growing concern about the accumulation of global warming and pollution, prompting researchers to investigate the impact on the planet and humanity (Saraswati & Wirayudha, 2022). An essential concept that connects the significance of social justice, environmental preservation, and economic success is sustainable entrepreneurship (Jebson et al., 2023). Global Entrepreneurship Monitor (2023) highlights a 47% increase in sustainable business ventures over the past five years, highlighting a growing trend toward environmentally conscious entrepreneurship. This shift reflects a fundamental change in how entrepreneurs approach business opportunities while considering environmental impact. Researchers highlight the need for entrepreneurship to contribute to a harmonious relationship between businesses and the environment, as seen in the rise of sustainable business models (Tilley & Young, 2009; Saraswati & Wirayudha, 2022).

In the current landscape, where the focus is on promoting sustainable development by achieving the sustainable development goals (SDGs) outlined in the 2030 agenda for sustainable development (Gonzales et al., 2022), researchers emphasize the pivotal role of entrepreneurship as a driving force for sustainable transformation (Fischer et al., (2018); Argade et al., (2021).

Environmental awareness and social responsibility are increasingly recognized as essential components of sustainable business practices. Environmental awareness among potential entrepreneurs has reached unprecedented levels, with the Youth Business International Report (2023) reporting that over 37,000 businesses of young entrepreneurs had a primary focus on environmental or social impact. Among university students, Barba-Sánchez et al. (2022) highlight that individuals with flexible career options are more likely to perceive environmental opportunities as a motivating factor for starting businesses that serve both economic and environmental purposes.

The emerging paradigm of sustainable entrepreneurship has become a critical focal point in addressing global environmental challenges while simultaneously creating economic value, particularly in rapidly developing regions like Indonesia. As Indonesia faces numerous social and environmental issues, including air pollution, trash, deforestation, poverty, unemployment, and social inequality, encouraging sustainable entrepreneurship is, therefore, critical to building a favorable business ecosystem, enabling entrepreneurs to thrive and increase their impact. To tackle these problems, there is an increasing emphasis on raising environmental awareness and encouraging sustainable practices (Gakaev, 2022; Ahmad et al., 2022; Sinaga et al., 2024). As Indonesia grapples with environmental and social challenges like air pollution, deforestation, and poverty (Qodriyatun, 2024), encouraging sustainable entrepreneurship becomes critical. Several efforts have been made to increase entrepreneurship in society by the government of Indonesia (Devianto et al., 2021).

West Java, as Indonesia's most populous and economically significant province, presents a unique landscape where, based on statistical data from West Java Economic Report from Bank Indonesia (2022), the SME sector plays a strategic role in West Java's economic development, as demonstrated by its substantial 57.14% contribution to the region's Gross Regional Domestic Product (GRDP). Furthermore, West Java's economy exhibited positive growth of 5.68% (year-over-year) in the second quarter of 2022 (bi.go.id, 2022). Kadin Indonesia (2023) reports that in 2023, SMEs contribution reached 61% of Indonesia's Gross Domestic Product (GDP), equivalent to IDR 9,580 trillion. The number of SMEs in Indonesia are dominated by Java Island, according to data released by the Ministry of Cooperatives and Small and Medium Enterprises (Kemenkop, 2023), with West Java is named the SMEs leader, having a total of 1.49 million business units; Central Java is in second place, with 1.45 million business units; and East Java comes in third with 1.15 million units.

This reveals a compelling narrative of environmental and entrepreneurial challenges. Also, the West Java provincial government has prioritized developing entrepreneurship among the youth through entrepreneurship programs in local universities, recognizing their role in economic development. This perspective is rooted in the idea that universities play a crucial role in spreading sustainability principles and fostering knowledge relevant to business creation (Ratten & Jones, 2021). Additionally, research has examined environmental awareness as a key factor influencing young adults' participation in entrepreneurial initiatives (Chege & Wang, 2020; Peng et al., 2021). Given the significance of sustainable entrepreneurship, higher education institutions must implement targeted interventions to cultivate a sustainable entrepreneurial mindset among students (Wagner et al., 2021). Despite increasing demands for social responsibility and environmental integrity in the business sector (Reyes-Rodríguez, 2021), research on sustainable entrepreneurship intentions and behavior remains underdeveloped compared to studies on traditional entrepreneurship (Majid et al., 2017; Vuorio et al., 2018; Arru, 2020; Agu et al., 2021). Few empirical studies have examined whether environmental awareness directly influences entrepreneurial intentions.

Contemporary society is increasingly embracing social and environmental responsibility, as reflected in the rise of environmental activism among young adults (Falloon et al., 2021; Pickard, 2022; Gonzales et al., 2022). Prior studies on sustainable entrepreneurship have largely emphasized work values and altruism (Linan et al., 2015), with growing recognition that personal values significantly influence entrepreneurial decision-making. For example, Yasir et al. (2022) found that both self-transcendent and self-enhancing values play a role in sustaining long-term entrepreneurial intentions. However, while personal values have been linked to sustainable business intentions, it remains unclear whether environmental awareness directly influences these intentions, or whether

its effect is mediated by personal values. This relationship is underexplored in existing research, particularly in emerging economies such as Indonesia, where the adoption of sustainable practices remains relatively low.

This study addresses that gap by examining the interplay between environmental awareness and personal values in shaping sustainable entrepreneurship intentions. The originality of this research lies in its focus on the mediating role of personal values, which has received limited empirical attention in sustainability entrepreneurship literature. In doing so, the study contributes to a more nuanced understanding of how psychological and contextual factors jointly inform entrepreneurial intention.

Overall, this research aims to answer the main research questions: 1) To what extent does environmental awareness correlate with personal values? 2) To what extent do personal values influence sustainable entrepreneurship intentions? 3) To what extent does environmental awareness associate with sustainable entrepreneurship intentions? Lastly 4) Do personal values mediate the relationship between environmental awareness and sustainable entrepreneurship intentions? This research is organized into sections that include the introduction, literature review and hypothesis development, methods, results and discussion, and conclusions.

Literature Review and Hypotheses Development

Sustainable entrepreneurship refers to the creation of ventures that generate economic value while also producing positive environmental and social impacts (Bögenhold, 2019). According to Azapagic and Perdan (2000), its core dimensions include long-term economic viability, social responsibility toward stakeholders, and consideration for environmental impacts. Entrepreneurship today is no longer solely profit-driven; rather, sustainability has become a key concern for researchers and practitioners alike (Lalangui et al., 2018). Numerous studies have explored entrepreneurial intentions by applying various theoretical models (Krueger et al., 2000; Autio et al., 2001; Lüthje & Franke, 2003; Sieger et al., 2014; Barba-Sánchez et al., 2022; Gonzales et al., 2022). However, limited attention has been paid to the role of personal values as a psychological mechanism connecting environmental awareness and sustainable entrepreneurship intentions—especially in emerging market contexts such as Indonesia.

Environmental Awareness and Personal Values

According to Schwartz's theory of basic human values (2012), personal values are enduring beliefs that guide behavior across situations. Among these, self-transcendence values—particularly biospheric (concern for nature) and altruistic (concern for others)—have been shown to predict higher levels of environmental awareness (Whitburn et al., 2020; Manfredo et al., 2021). Studies reveal that individuals with strong universalism values actively seek environmental information and express deeper concern for ecological issues (Dietz et al., 2007; Howell, 2013; Lucas, 2018). Hurst et al. (2023) highlight the bidirectional relationship: environmental awareness can also reshape one's value priorities over time. The relationship between personal values and environmental awareness represents a critical intersection for understanding patterns of sustainable behavior. The author develops the first hypothesis:

H_1 : Higher levels of environmental awareness are positively associated with stronger personal values.

Personal Values and Sustainable Entrepreneurship Intentions

Personal values—particularly self-transcendence and openness to change values—consistently predict sustainable entrepreneurship intentions (Vuorio et al., 2018). The value-intention relationship is strengthened when entrepreneurs perceive enabling institutional environments, as shown by Kraus et al. (2024). Researchers have increasingly explored the role of self-enhancement and self-transcendence values, along with the mechanisms that connect these values to long-term entrepreneurial intentions. Individuals who embrace self-enhancement values—which emphasize personal success, ambition, and power—tend to exhibit strong and sustained entrepreneurial intentions (Schwartz et al., 2012; Yasir et al., 2022). On the other hand, self-transcendence values

prioritize environmental protection and the well-being of others (Holland, 2013; Yasir et al., 2022). These values are particularly relevant in the context of sustainable entrepreneurship, as they provide not only personal and social benefits but also long-term environmental advantages (Yasir et al., 2022). Peng et al. (2021) suggest that the intention to engage in sustainable entrepreneurship arises from a heightened state of awareness, in which entrepreneurs seek to establish new ventures or embed sustainability-oriented values within existing organizations. The author develops the second hypothesis:

H₂: Personal values positively influences sustainable entrepreneurship intentions.

Environmental Awareness and Sustainable Entrepreneurship Intentions

While sustainable entrepreneurship emphasizes harmony between profit and environmental responsibility (Terán-Yépez et al., 2020; Fischer et al., 2018), it remains unclear whether awareness alone drives entrepreneurial intentions. Some studies affirm that environmentally conscious individuals are more likely to adopt green behaviors (Wang & He, 2011; Liu et al., 2017; Eze, 2020), while others show mixed results (Mustofa & Rinnanik, 2022). Moreover, the difficulty of starting a long-term business (Muñoz, 2018) could be one explanation for the current low level of participation (Yasir et al., 2022). However, there is still a lack of data to support the relationship between environmental awareness and sustainable entrepreneurship intentions. Several studies related to environmental awareness and intentions found a significant effect of environmental awareness on intention (Okada et al., 2019; Ogiemwonyi et al., 2020; Vegirawati, 2024). Given the inconsistent findings, and the limited empirical focus in Indonesian contexts. The author develops the third hypothesis:

H₃: Higher levels of environmental awareness are positively associated with sustainable entrepreneurship intentions.

Personal Values Mediates Environmental Awareness and Sustainable Entrepreneurship Intentions

Recent studies suggest that environmental awareness activates personal values, which in turn influence behavioral intentions (Zhang et al., 2024; Muñoz et al., 2023). The mediating process may involve both cognitive and emotional engagement with environmental issues, which reshapes internal motivations (Hörisch et al., 2024). Kashapova et al. (2023) found that biospheric values specifically mediate the link between environmental awareness and sustainability-oriented business planning. Moreover, individual differences such as entrepreneurial self-efficacy can strengthen this mediation effect (Clark & Rottgers, 2024). These findings suggest that while personal values do mediate the relationship between environmental awareness and sustainable entrepreneurship intentions, this mediation is shaped by complex contingencies that influence both its strength and direction. Building on this body of research, the author develops the fourth hypothesis:

H₄: Environmental awareness demonstrates a positive indirect effect on sustainable entrepreneurship intentions through the mediating role of personal values.

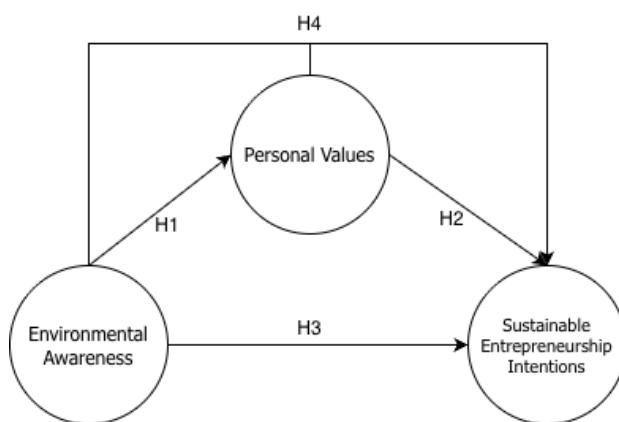


Figure 1. Conceptual Research Framework

Research Methods

This quantitative research involves survey and data analysis to quantify the relationships. Since the exact number of students in entrepreneurship majors is unknown, determining the minimum sample size in this study refers to the Hair formula. The sample size must be adjusted to the number of indicators used in the questionnaire. There are 16 indicators, so the minimum number of respondents used is 16 multiplied by 10 equals to 160 respondents. This research obtained 175 respondents from January to February 2025 in West Java.

This research uses non-probability sampling techniques, specifically using purposive sampling, namely determining the sample with certain considerations. Based on this understanding, the author defines the characteristics of the sample used to facilitate research, as follows: 1) Currently enrolled full-time students aged between 17 and 35 years; 2) Declared major in entrepreneurship or business with entrepreneurship concentration; 3) Have completed at least one entrepreneurship course or related environmental sustainability course; 4) Have and entrepreneurial experience.

As for the analysis method, descriptive analysis is used to describe and explain phenomena that occur based on facts and data obtained which are used to answer problem formulations related to environmental awareness, personal values and sustainable entrepreneurship intentions. Meanwhile, verification data analysis is used to verify the truth of the hypothesis by using statistical calculation. This research used SEM-PLS analysis to test the hypothesis. Prior to conducting the structural model analysis using SEM-PLS, the measurement model was evaluated to ensure the validity and reliability of the research instruments. Content validity was first established through expert judgment, in which academics and practitioners reviewed the questionnaire items for clarity, relevance, and alignment with the underlying constructs.

Table 1. Operational Variables Definition

Variables	Dimensions	Indicators	Sources
Environmental Awareness (X)	Environmental responsibility	X1. I understand the environmental impact of business operations	Shen and Wang (2022)
	Environmental affection	X2. I keep informed about environmental challenges and solutions	
	Environmental knowledge	X3. I am aware of sustainable practices and their importance	
Personal Values (Z)	Self-transcendence values	Z1. I believe in protecting the environment for future generations Z2. Contributing to society's wellbeing is important to me	Schwartz et al. (2012); Yasir et al. (2022)
	Self-enhancement values	Z3. I value harmony with nature in my decisions Z4. I prioritize the greater good over personal gains Z5. I strive for personal success in my endeavours Z6. Achievement of my goals is a top priority Z7. I seek recognition for my accomplishments Z8. Being influential in my field is important to me	
Sustainable Entrepreneurship Intentions (Y)	Economic	Y1. I plan to start an environmentally responsible business	Azpagic and Perdan (2000)
	Social	Y2. I intend to incorporate sustainability in my future business	
	Environmental	Y3. I am likely to pursue sustainable entrepreneurship opportunities Y4. I will prioritize environmental impact in my business decisions Y5. I am committed to creating a sustainable business venture	

Convergent validity was assessed using factor loadings, where all indicators with loading values above the recommended threshold of 0.70 were retained. Additionally, average variance extracted (AVE) values were examined, with each construct exceeding the minimum requirement of 0.50, indicating adequate convergent validity.

All analysis methods mentioned above were carried out via SmartPLS4 including the measurement model test, structural model test, and path analysis. The operational variables definition presented in Table 1.

Results and Discussion

Respondents' Demographic Profile

This research utilized primary data gathered through an online questionnaire. The 175 respondent characteristics examined in this study include city of origin, students' level, age, occupation, and monthly income, as detailed in Table 2. According to Table 2, respondents were from various cities across West Java, with the highest percentage 48% is from Bandung then followed by Bogor (10.9%). The majority age group was 17-25 years (90.3%) with level of education is undergraduate (89.1%). In terms of monthly income, 60.6% earned more than equal IDR 2,000,000 and 69% earned less than IDR 2,000,000.

Table 2. Respondents' Demographic Profile

Profile	Classification	Amount	Percentage (%)
City of origin	Bandung	84	48.0
	Purwakarta	5	2.9
	Sukabumi	4	2.3
	Kuningan	4	2.3
	Bekasi	8	4.6
	Bogor	19	10.9
	Indramayu	3	1.7
	Garut	6	3.4
	Cirebon	5	2.9
	Sumedang	7	4.0
	Depok	5	2.9
	Subang	3	1.7
	Majalengka	3	1.7
	Cimahi	10	5.7
	Cianjur	3	1.7
	Karawang	3	1.7
	Tasikmalaya	3	1.7
Students level	Undergraduate	156	89.1
	Graduate	19	10.9
Age	17-25 years old	158	90.3
	26-35 years old	17	9.7
Monthly income	< IDR 2,000,000	69	39.4
	≥ IDR 2,000,000	106	60.6

The demographic profile of respondents—predominantly young (90.3% aged 17-25), educated (89.1% undergraduates), and from urban areas (48% from Bandung)—provides important context for interpreting these findings. The strong relationships observed between environmental awareness, personal values, and sustainable entrepreneurship intentions may be particularly pronounced among this demographic segment, which is typically more receptive to environmental messages and more likely to incorporate sustainability considerations into their career aspirations. The substantial representation of respondents from Bandung (48%) may also influence the observed relationships, as urban environments often provide greater exposure to environmental issues and sustainability discourse. This aligns with Kraus et al.'s (2024) finding that urban contexts amplify the relationship between environmental awareness and sustainable entrepreneurship intentions due to greater visibility of environmental problems and increased access to sustainability-oriented networks and resources. The findings reveal significant direct and indirect pathways, confirming the mediating role of personal values in translating environmental awareness into sustainable entrepreneurship intentions.

Respondents' perceptions regarding environmental awareness (X) indicate a generally high level of awareness, with an overall average of 4.206 classified as excellent. This demonstrates that respondents recognize their environmental protection duties and act to minimize negative environmental impacts, aligning with Pecl et al. (2023) who suggest individuals with significant environmental responsibility develop personal norms encouraging pro-environmental conduct. The environmental knowledge component also achieved excellent ratings, indicating respondents are well-informed about environmental concerns through educational initiatives, media influence, or government awareness programs.

However, environmental affection received the lowest average score of 4.126, suggesting respondents may lack emotional bonds with the environment despite being informed and responsible. Balmford et al. (2021) emphasize that while human behavior drives environmental change, modifying behavior is essential for positive outcomes. Geng et al. (2016) found that individuals with higher connectedness to nature engage more in pro-environmental behaviors, indicating that weaker emotional connections may limit active conservation engagement despite understanding environmental problems.

Personal values (Z) results indicate strong inclination toward ethical and social responsibility, particularly regarding environmental protection. This aligns with pro-social and environmental responsibility values, reinforcing personal beliefs' role in shaping attitudes and behaviors (Schwartz et al., 2012). Notably, indicator Z1 ("Belief in protecting the environment for future generations") received the highest average score, indicating strong preference for self-transcendence values—specifically universalism values emphasizing concern for all people and nature—over self-enhancement values. Respondents strongly value sustainability and long-term environmental well-being, consistent with Schwartz's theory of basic human values (2012), particularly universalism values. Individuals prioritizing universalism advocate for environmental preservation as part of their moral framework (Yasir et al., 2022). This value orientation crucially shapes sustainable entrepreneurship intentions, as environmentally-focused individuals are more likely to identify entrepreneurial opportunities addressing environmental challenges.

Conversely, indicator Z5 (personal success) received the lowest average score, suggesting respondents prioritize ethical and communal considerations over individualistic achievements. This de-emphasis of self-enhancement values (achievement, power, hedonism) favoring self-transcendence values (universalism, benevolence) represents a critical shift conducive to sustainable entrepreneurship. Bouman and Steg (2019) note this balance is crucial in shaping sustainable behavioral choices, including entrepreneurial decisions. The dominance of self-transcendence values may explain the strong mediating effect of personal values between environmental awareness and sustainable entrepreneurship intentions. Rice and Miller (2023) found environmental media exposure positively influences environmental attitudes and efficacy, promoting pro-environmental behaviors. Choon et al. (2024) supports these findings, indicating self-transcendence values play vital roles in influencing pro-environmental behaviors and overall happiness.

Sustainable entrepreneurship intentions (Y) received an average response of 4.202, categorized as excellent. This suggests respondents demonstrate high commitment to integrating sustainability into entrepreneurial endeavors, aligning with sustainable entrepreneurship principles (Shen & Wang, 2022). While respondents strongly value environmental considerations in decision-making (Y4), practical obstacles may exist for initiating environmentally responsible businesses (Y1). This aligns with studies finding sustainable entrepreneurs face financial obstacles, administrative complexities, insufficient information, and higher fear of personal failure, which can impede entrepreneurial action (Hoogendoorn, 2019).

SEM-PLS Analysis: Outer Model Evaluation

Validity test

The initial step involves evaluating the convergent validity criteria. An indicator demonstrates strong validity in latent reflectiveness when its loading factor exceeds 0.70. Conversely, loading factors ranging from 0.50 to 0.60 are deemed acceptable for models under development. Based on the test results, the following results of convergent validity loading factors were obtained. The

Table 3 provided shows the loading factor values corresponding to each construct for each variable. Hence, it can be seen based on loading factor, all constructs have been deemed valid as their loading factor values exceed 0.5.

Table 3. Convergent Validity Loading Factor

Variable	Items	Loading factor	Result
Environmental awareness (X)	X1	0.816	Valid
	X2	0.784	Valid
	X3	0.855	Valid
Personal values (Z)	Z1	0.763	Valid
	Z2	0.659	Valid
	Z3	0.739	Valid
	Z4	0.733	Valid
	Z5	0.647	Valid
	Z6	0.687	Valid
	Z7	0.536	Valid
	Z8	0.636	Valid
Sustainable entrepreneurship intentions (Y)	Y1	0.791	Valid
	Y2	0.753	Valid
	Y3	0.771	Valid
	Y4	0.769	Valid
	Y5	0.807	Valid

Subsequently, an assessment of the average variance extracted was conducted to further strengthen the result of convergent validity. If the AVE value surpasses 0.5, the construct utilized in the research is considered valid. The following Table 4 outlines the outcomes of the average variance extracted test conducted using SmartPLS 4.0.

Table 4. Value of Average Variance Extracted (AVE)

Variable	Average variance extracted (AVE)	AVE ≥ 0.5
Environmental Awareness (X)	0.671	Valid
Personal Values (Z)	0.640	Valid
Sustainable Entrepreneurship Intentions (Y)	0.606	Valid

The findings, based on Table 4 above, indicate that all variables possess an AVE value exceeding 0.5, thereby confirming the validity of all constructs. These observations underscore that the indicators comprising the latent construct exhibit strong convergent validity when assessed through the average variance extracted value.

Table 5. Heterotrait-Monotrait (HTMT) Ratio

	X	Z	Y
Environmental Awareness (X)			
Personal Values (Z)	0.857		
Sustainable Entrepreneurship Intentions (Y)	0.738	0.735	

Based on the discriminant validity test produced from the Heterotrait-Monotrait Ratio (HTMT) value, as shown in Table 5, that the HTMT value on the item correlation in each construct is lower than 0.90.

Table 6. Fornell-Larcker Criterion

	X	Z	Y
Environmental Awareness (X)	0.819		
Personal Values (Z)	0.749	0.800	
Sustainable Entrepreneurship Intentions (Y)	0.750	0.792	0.778

According to the Fornell-Larcker criterion test in Table 6, it can be seen that the root of the AVE value on the environmental awareness variable is 0.819 higher than the correlation value with the personal values and sustainable entrepreneurship intention variables. Furthermore, the root of the AVE value on the personal values variable is 0.800 higher than the correlation value with the environmental awareness and sustainable entrepreneurship intention variables. Then, the root of the AVE value on the sustainable entrepreneurship intention variable is 0.778 higher than the correlation value with the environmental awareness and personal values variables. This means that the discriminant validity test produced from the Fornell-Larcker criterion value shows that the root value of the AVE on each variable is greater than the correlation between latent variables.

Reliability test

The subsequent phase evaluates the criteria of Cronbach's Alpha and composite reliability. Each construct is deemed reliable if its Cronbach's Alpha and composite reliability exceed 0.70. The outcomes of the reliability assessment conducted are displayed below. It is evident that all latent constructs surpass the threshold of 0.7 for both Cronbach's Alpha and composite reliability, signifying robust reliability across all constructs.

Table 7. Cronbach's Alpha and Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability
Environmental Awareness (X)	0.754	0.859
Personal Values (Z)	0.830	0.871
Sustainable Entrepreneurship Intentions (Y)	0.838	0.885

SEM-PLS Analysis: Inner Model Evaluation

Table 8. Model Fit

	Saturated Model	Estimated Model
Standardized root mean square residual (SRMR)	0.074	0.074

Based on the results of the fit model above, it can be said that the standardized root mean square residual (SRMR) value is at 0.074. This means that the SRMR value is $0.074 < 0.08$, which means that it has a good model fit or model fit.

Table 9. R Square

	R Square	Adjusted R Square	Q^2 $1 - (1 - R^2)$
Personal Values (Z)	0.668	0.664	0.664
Sustainable Entrepreneurship Intentions (Y)	0.630	0.628	0.628

The R-Square for personal values (Z) variable is 0.668, which means 66.8% of the variance in personal values explained by environmental awareness. And, 0.630 or 63% of the variance in sustainable entrepreneurship intentions (Y) is explained by environmental awareness. Meanwhile, the remaining is the influence of other unobserved factors. The Adjusted R Square also shows that the model is robust with a strong model fit. Overall, these values suggest that environmental awareness significantly influence both personal values (Z) and sustainable entrepreneurship intentions (Y).

Table 10. Variance Inflation Factor (VIF)

	VIF
Environmental Awareness (X) → Personal Values (Z)	1.000
Environmental Awareness (X) → Sustainable Entrepreneurship Intentions (Y)	2.702
Personal Values (Z) → Sustainable Entrepreneurship Intentions (Y)	2.702

In measuring the inner model is with predictive relevance (Q^2). The Q^2 test is used to measure how good the value produced by the model is and to find out its parameter estimates. The Q^2 value for this research shows a particular dependent construct greater than 0. This indicates the accuracy of the inner model's predictions for that construct.

Based on the result above, there are no significant multicollinearity problems in the relationships between constructs. The F-Square metric assesses the impact of latent variable predictors at the structural level. An F-Square value of 0.02 represents a small effect size, 0.15 indicates a moderate effect size, and 0.35 means a large effect size. The F-Square results show the influence of latent variable predictors at the structural level. Environmental awareness (X) on personal values (Z) has the largest rating among all with 1.702 value. Followed by the influence of personal values (Z) on sustainable entrepreneurship (Y), rating 0.314. Then, environmental awareness (X) on sustainable entrepreneurship (Y) with a small rating, 0.120.

Table 11. F Square

	X	Z	Y
Environmental Awareness (X)		1.702	0.120
Personal Values (Z)			0.314
Sustainable Entrepreneurship Intentions (Y)			

Environmental awareness demonstrated a significant direct effect on sustainable entrepreneurship intentions, albeit with a relatively small effect size ($f^2 = 0.120$). This finding aligns with previous research by Munoz (2018), who identified environmental consciousness as a precursor to sustainable venture creation. The modest effect size, however, suggests that environmental awareness alone may be insufficient to fully drive sustainable entrepreneurship intentions, supporting Vuorio et al.'s (2018) argument that multiple factors contribute to the formation of sustainability-oriented entrepreneurial intentions. More notably, environmental awareness exhibited a strong influence on personal values ($f^2 = 1.702$), explaining 66.8% of the variance in personal values. This substantial effect indicates that exposure to environmental information and concerns significantly shapes individuals' value systems, particularly in the context of sustainability. This finding corroborates recent research by Bouman and Steg (2019), who demonstrated that environmental awareness strengthens biospheric values and weakens self-enhancement values over time. The strong relationship between environmental awareness and personal values suggests that cognitive understanding of environmental issues serves as a powerful catalyst for value activation and reformation, consistent with Hörisch et al. (2024)'s assertion that environmental awareness operates through both cognitive and affective pathways to influence value priorities.

While personal success is still regarded as important, its comparatively lower rating suggests that respondents may prioritize ethical and communal considerations over purely individualistic achievements. This balance between self-transcendence and self-enhancement is crucial in shaping sustainable behavioral choices (Steg & de Groot, 2012). Personal values demonstrated a significant effect on sustainable entrepreneurship intentions ($f^2 = 0.314$), indicating a medium to large effect size. This finding aligns with the values-based approach to entrepreneurship proposed by Shepherd and Patzelt (2022), which positions personal values as central drivers of entrepreneurial decision-making.

Hypothesis testing

Hypothesis testing in this study was performed using the path coefficient, t-value, and p-value. The path coefficient and t-value serve as key indicators for evaluating the significance and predictive strength of the tested hypotheses. Additionally, t-values and p-values are used to determine the statistical significance and predictive relevance of the relationships examined. The corresponding t-table values are presented in the following Table 12.

The results of the mediation analysis indicate that Z partially mediates the relationship between X and Y. As shown in Table 12, the direct effect of X on Y remains statistically significant ($\beta = 0.329$, $p = 0.001$) even after the inclusion of Z as a mediating variable. At the same time, both the path from X to Z ($\beta = 0.794$, $p = 0.000$) and from Z to Y ($\beta = 0.531$, $p = 0.000$) are also

significant, indicating a strong indirect relationship. Furthermore, the indirect effect ($X \rightarrow Z \rightarrow Y$) is statistically significant ($\beta = 0.422$, $p = 0.000$), as reinforced by the confidence interval presented in Table 13, which does not include zero (CI: 0.258–0.592). Collectively, these findings confirm that the mediating role of Z is partial, meaning that X influences Y both directly and indirectly through Z .

Table 12. Hypothesis Testing Result Summary

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	t-statistics (tO/STDEV)	p-values	Results
H1: $X \rightarrow Z$	0.794	0.794	0.037	21.565	0.000	Supported
H2: $Z \rightarrow Y$	0.531	0.539	0.100	5.308	0.000	Supported
H3: $X \rightarrow Y$	0.329	0.321	0.096	3.407	0.001	Supported
H4: $X \rightarrow Z \rightarrow Y$	0.422	0.429	0.086	4.891	0.000	Supported

Table 13. Confidence Interval for Mediating Effect

Indirect Effects	95% Confidence Interval	
	Lower Bound	Upper Bound
Environmental Awareness (X) \rightarrow Personal Values (Z) \rightarrow Sustainable Entrepreneurship Intentions (Y)	0.258	0.592

This mediation effect suggests that environmental awareness primarily influences sustainable entrepreneurship intentions by activating and strengthening specific value orientations that are conducive to sustainability-oriented venturing. This finding extends Zhang et al.'s (2024) research, which demonstrated that environmental awareness precedes shifts in value priorities that subsequently predict sustainable entrepreneurship intentions. The results show that human values and intentions for sustainable entrepreneurship are significantly influenced by environmental awareness, emphasizing its importance in encouraging sustainable business practices. However, the presence of unexplained variance suggests that policies, training programs, and supportive entrepreneurial environments could help to strengthen the link between environmental awareness and sustainable entrepreneurship. The significant amount of variance explained also suggests that the environmental awareness-values-intentions pathway represents a central mechanism in the formation of sustainable entrepreneurship intentions, particularly among young, educated individuals in developing economies like Indonesia.

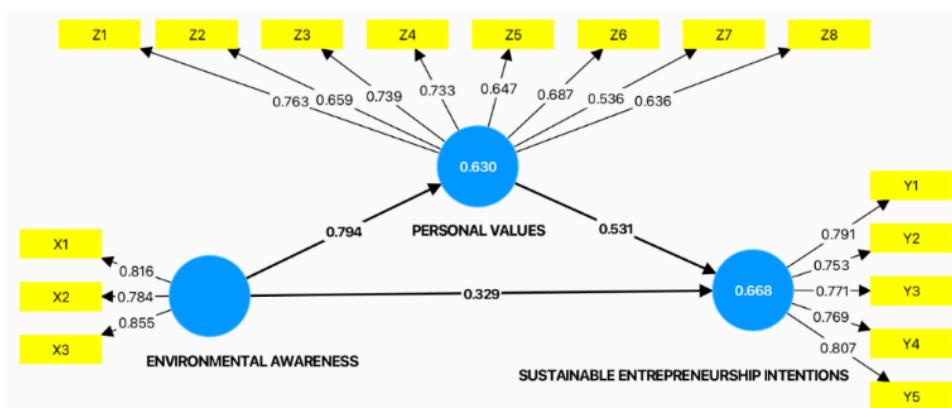


Figure 2. Structural Model Result

Environmental awareness and personal values

The results show that environmental awareness (X) has the most substantial impact on personal values (Z), with a path coefficient of 0.794. This suggests that individuals with greater environmental awareness are more likely to hold strong personal values related to sustainability. This finding aligns with Schwartz's theory of basic human values (2012), which emphasizes that environmental awareness fosters universalistic and benevolent values, shaping individuals' ethical

perspectives on environmental responsibility. Moreover, this result supports the argument that environmental knowledge enhances individuals' attitudes toward sustainability, thereby fostering a sense of moral responsibility to engage in sustainable practices (Rousta & Jafari, 2024). The high path coefficient suggests that environmental education, awareness campaigns, and real-world exposure to environmental issues play a critical role in shaping personal values, ultimately influencing attitudes toward sustainability. This finding reinforces the importance of integrating environmental awareness programs into education and business settings to foster value-driven sustainable behaviors.

Personal values and sustainable entrepreneurship intentions

The second strongest relationship is the influence of Personal Values (Z) and sustainable entrepreneurship intentions (Y), with a path coefficient of 0.531. This indicates that individuals who hold strong personal values, particularly those centered around sustainability, are more likely to develop entrepreneurial intentions which align with environmental and social responsibility. This result aligns with research by Teruel-Sanchez et al. (2025), that values are fundamental in shaping decisions and behaviors, with entrepreneurs who prioritize environmental conservation and social responsibility being more likely to engage in sustainable business practices. This reinforces the idea that personal values significantly influence the pursuit of ventures that balance economic success with environmental and social considerations. However, the moderate strength of this relationship (0.314) suggests that while personal values are a significant factor in shaping sustainable entrepreneurship intentions, other external influences such as environmental factors, including education and a conducive business environment, positively influenced cognitive factors like favorable evaluations of entrepreneurial careers and social pressures. These cognitive factors, in turn, had an indirect effect on entrepreneurial intentions. Future studies could explore how external factors interact with personal values to further influence sustainable entrepreneurial behavior.

Environmental awareness and sustainable entrepreneurship intentions

The relationship between environmental awareness and sustainable entrepreneurship intentions showed the weakest connection, with a path coefficient of 0.329, suggesting that awareness alone has limited direct impact on entrepreneurial action. This finding confirms previous research indicating that sustainable entrepreneurship requires more than just awareness—it demands personal motivation, resources, perceived feasibility, and supportive external structures (Hockerts, 2015). The evidence suggests that personal values serve as a crucial intermediary factor between environmental awareness and entrepreneurial intentions in sustainability. People may understand environmental issues yet still lack the personal values, motivation, or self-confidence needed to transform this knowledge into concrete entrepreneurial initiatives. Individuals with a strong sense of environmental responsibility, knowledge, and emotional connection to nature tend to have a deeper understanding of their relationship with the environment. Consequently, they are more likely to believe that addressing environmental issues is a collective responsibility (Shen & Wang, 2022).

Mediating role of personal values

Analysis of the structural model demonstrated that personal values significantly mediate how environmental awareness influences sustainable entrepreneurship intentions. With environmental awareness explaining 66.8% of the variance in personal values (as indicated by the R-Square value), a strong relationship exists between these variables. This aligns with Schwartz's theory of basic human values (2012), which proposes that individuals with greater environmental awareness typically incorporate sustainability principles into their core values, strengthening their moral and ethical commitment to environmental responsibility. Recent research supports this connection, with one study showing that personal value orientations significantly impact both attitudes and purchase intentions toward eco-friendly fashion brands, demonstrating how environmental awareness shapes consumer behavior (Rossanty, 2025). The relatively high R² value implies that

environmental education, exposure to sustainability-related issues, and eco-conscious experiences are key drivers in shaping an individual's values toward sustainability. However, the remaining 33.2% variance is attributed to other unobserved factors, which could include personal experiences, cultural influences, social norms, or demographic factors.

The model explained 63% of the variance in sustainable entrepreneurship intentions, indicating substantial explanatory power. This level of explained variance exceeds that reported in similar studies, such as Vuorio et al.'s (2018) work, which explained 47% of the variance in sustainable entrepreneurship intentions through a combination of attitudinal and contextual factors. The higher explanatory power in our study may be attributed to the inclusion of personal values as a mediating variable, which captures the psychological mechanisms through which environmental awareness translates into entrepreneurial intentions. This result confirms that individuals with higher environmental awareness are more likely to express intentions to engage in sustainable entrepreneurship, supporting prior study that demonstrates that attitudes toward sustainable entrepreneurship, influenced by personal values, significantly predict entrepreneurial intentions aimed at enhancing sustainable development (Yasir et al., 2022). However, the slightly lower R^2 value compared to the personal values model suggests that environmental awareness alone is not the sole predictor of sustainable entrepreneurship intentions. The remaining 37% variance may be influenced by other external and internal factors, which could include personal experiences, cultural influences, social norms, or demographic factors.

Conclusion and Implication

This study examining 175 participants reveals crucial insights into how environmental consciousness translates into sustainable entrepreneurship intentions. Through structural equation modeling, the research demonstrates that personal values serve as essential mediators between environmental awareness and entrepreneurial action, establishing that environmental knowledge alone is insufficient without personal value alignment. The findings make significant theoretical contributions by empirically validating the value activation process in sustainable entrepreneurship, providing a foundation for environmental education frameworks, and establishing a cross-cultural benchmark for future comparative studies. From a practical standpoint, these insights suggest that organizations should implement deeper value-based environmental training rather than surface-level awareness programs, while policymakers should incorporate value-focused approaches alongside traditional entrepreneurship support mechanisms. Educational institutions can enhance their environmental programs by explicitly connecting environmental issues to students' personal value systems, creating more meaningful pathways to sustainable business practices.

The study's limitations significantly constrain its generalizability and analytical depth, presenting important considerations for interpreting these findings. The cross-sectional design prevents establishing true causal relationships, leaving uncertainty about whether environmental awareness actually causes value changes or whether individuals with certain values are predisposed to environmental consciousness. The sample's demographic homogeneity—predominantly young, educated participants from West Java—limits applicability to diverse populations, age groups, and cultural contexts where entrepreneurship patterns may differ substantially. Additionally, the purely quantitative methodology overlooks nuanced psychological processes, cultural narratives, and contextual factors that influence sustainable entrepreneurship decisions. The research also treats personal values as a singular construct, missing important distinctions between different value types such as biospheric, altruistic, or self-enhancement values that might mediate the environmental awareness-entrepreneurship relationship in fundamentally different ways.

Future research should address these limitations through several strategic directions that would strengthen our understanding of sustainable entrepreneurship motivation. Longitudinal studies tracking participants over extended periods would establish true causal relationships and reveal how the interplay between environmental awareness, values, and entrepreneurial intentions evolves over time. Diversified sampling across age groups, education levels, and cultural contexts would test the universality of these relationships and identify culturally-specific factors influencing sustainable entrepreneurship. Mixed-methods approaches combining quantitative modeling with

qualitative interviews would provide deeper insights into psychological processes and contextual influences, while value taxonomy research should differentiate between specific types of personal values to understand which most strongly mediate the relationship. Additionally, expanding the research model to include external variables such as social support networks, government policies, economic conditions, and cultural factors would create a more comprehensive understanding of sustainable entrepreneurship development, potentially leading to more effective interventions and support systems for environmentally-conscious entrepreneurs.

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