

# How environmental understanding affects the green entrepreneurial intention of Centennials in Vietnam

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## ABSTRACT

**Objective:** The article aims to explore the role of environmental understanding in forming green entrepreneurial intention of the Centennials in Vietnam besides the effect of entrepreneurship education.

**Research Design & Methods:** We constructed the research model based on the theory of planned behaviour and entrepreneurial event theory. We collected data by surveying 275 university students, who belong to the Centennials in Vietnam. Then, we employed partial least square structural equation modelling (PLS-SEM) to explore how environmental understanding and entrepreneurship education contribute to forming a green entrepreneurial intention.

**Findings:** The outcomes evidenced that environmental understanding positively impacts entrepreneurship education and start-up desirability but has a detrimental effect on entrepreneurial self-efficacy. Moreover, entrepreneurship education has a positive impact on desirability and self-efficacy, both of which are confirmed to positively affect the green entrepreneurial intention of Centennials in Vietnam. Interestingly, environmental understanding and entrepreneurship education indirectly affect green business intention.

**Implications & Recommendations:** To stimulate green entrepreneurial intention, the government and universities should intensify entrepreneurship education activities and launch some campaigns to raise environmental perception in parallel.

**Contribution & Value Added:** This article pioneers in exploring the association between environmental understanding and green entrepreneurial intention. Such novelty contributes to enriching extant literature and consolidating the research model of green entrepreneurship.

**Article type:** research article

**Keywords:** green entrepreneurial intention; green business behaviour; entrepreneurship education; environmental understanding; Centennials; Generation Z

**JEL codes:** M13, I25, Q56

Received: 10 May 2023

Revised: 26 June 2023

Accepted: 19 July 2023

## Suggested citation:

Le, T.N.P., Nguyen, K.H., & Nguyen, N.T.H. (2023). How environmental understanding affects the green entrepreneurial intention of Centennials in Vietnam. *Entrepreneurial Business and Economics Review*, 11(4), 123-137. <https://doi.org/10.15678/EBER.2023.110408>

## INTRODUCTION

Various scholars indicate that green economics and circular economics is the most viable approach to merge economic development and environmental protection for sustaining the long-term prosperity of future generations (Qazi *et al.*, 2020; Soomro *et al.*, 2020). In fact, transferring to green economy is an appropriate solution to leverage quality of life, eliminate poverty, and overcome overwhelming environmental problems (Rahman *et al.*, 2014). Noteworthy, recent environmental matters such as global warming, natural resources depletion, and the Covid-19 pandemic have posed a worldwide urgent requirement in fostering green economies. Many countries are enacting a series of policies and programmes that aim to achieve a green ecosystem through recycling and reducing carbon emissions (Yi, 2021). The Vietnamese government issued decision No. 622/2017/QD-TTg and decision No. 687/2022/QD-TTg to hasten eco-friendly business practices and pave the way towards a circular economy by 2050.

Apart from green consumption, green entrepreneurship also plays a pivotal role in transforming the market economy towards green economy. Elfenbein *et al.* (2010) affirm that start-up activities could escalate economic growth by generating thousands of jobs and stimulating innovation. Shepherd and Patzelt also (2011) argue that green entrepreneurship is an essential socio-economic solution that not only generates numerous green jobs but also commits to saving the ecosystem.

Entrepreneurship has been gaining importance and attracting significant attention from academia for its crucial contribution to economic development (Liñán & Chen, 2009). Thus, investigating entrepreneurial intention is important because this is the best predictor of start-up behaviours (Fayolle *et al.*, 2006; Ajzen, 1991). Numerous entrepreneurship studies have applied the theory of planned behaviour (TPB) (Ajzen, 1991) and entrepreneurial event theory (EET) (Shapero & Sokol, 1982) and proved that personal attitude or desirability and entrepreneurial self-efficacy significantly affect entrepreneurial intention (EI) among university students in India (Paray & Kumar, 2020), Indonesia (Baharuddin & Ab Rahman, 2021), America (Barton *et al.*, 2018), and Europe (Mueller, 2011). Meanwhile, Widjaja *et al.* (2022) and Loan *et al.* (2021) only find a positive relationship between self-efficacy and EI of university students in Indonesia and Vietnam.

Recently, a few scholars have shifted their attention to the green entrepreneurship domain (Alvarez-Risco *et al.*, 2021; Ramayah *et al.*, 2019). Alvarez-Risco *et al.* (2021) show that entrepreneurial self-efficacy, which is influenced by government and educational support, directly affects the green business intention of university students in Peru. Involving entrepreneurship behaviour of Pakistani students, Soomro *et al.* (2020) and Qazi *et al.* (2020) indicate that green educational support plays a vital role in fostering green EI.

Previous entrepreneurship studies intensively expressed the importance of entrepreneurship education in boosting the intention of new firm creation. Liguori and Winkler (2020) argue that entrepreneurship education provides essential knowledge for operating a new firm and an entrepreneurial mindset for students. Hattab (2014) states that entrepreneurship education not only has a direct impact on EI but also has a considerable effect on personal attitude and self-efficacy. Noteworthy, Barba-Sánchez *et al.* (2022) mention the concept of environmental awareness when studying EI of Spanish students. They indicate that environmental awareness has a positive relationship with personal attitudes and social norms, however, there is no evidence of the relationship between environmental awareness and EI.

To the best of our knowledge, few studies have explored the role of environmental understanding in forming EI, particularly in fostering green EI. This is a noteworthy research gap that our study addresses. Logically, individuals' perceptions about the role of the environment may awaken their compassion for catastrophic environmental problems, thereby inspiring people to develop a business model that is more eco-friendly and socially responsible.

The novelty of this study lies in exploring the role of both environmental understanding and entrepreneurship education in fostering green EI among university students in Vietnam. As in previous entrepreneurship research, we applied both TPB and EET models to study green EI. Specifically, green start-up intention is determined by self-efficacy and desirability, which are affected by environmental understanding and entrepreneurship education.

Our study focuses on the start-up context in Vietnam, which ranks 48th on the list of the most innovative economies in the world (Dutta *et al.*, 2022). In fact, entrepreneurship is one of the utmost concerns in Vietnam since the government has deployed the National Programme 844 namely 'Initiative for the start-up ecosystem in Viet Nam until 2025' (ISEV). The main purpose of ISEV is to produce favourable conditions to stimulate and support entrepreneurship activities. The Vietnamese government enacted several policies to drive Vietnam's economic development towards sustainability and eco-friendliness, and especially, launched National Technology Innovation Fund in 2011 to provide support for new enterprises.

Our study aimed to investigate the role of environmental understanding and entrepreneurship education in forming green EI of Centennials, specifically, the case of a Vietnamese university. The rest of our study will be structured as follows: section two will describe our arguments to develop research hypotheses and section three will illustrate research methodology. Section four will reveal the statistical results and related discussions. The last section will provide conclusions and implications.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### Green Entrepreneurship Definition

Green entrepreneurship is a kind of business behaviour that focuses on achieving economic benefits as usual and creates environmental value by providing ecological products and services. Yi (2021) indicates that green entrepreneurship behaviour is a harmonious combination of economic, social, and ecological objectives during the execution of business operations. Soomro *et al.* (2020) argue that green start-up is an innovative entrepreneurship model that prioritises operating business activities in an environmental-oriented.

Yi (2021) states that EI is one of the crucial predictors of forming a future business. Hence, studying green EI as a primary effort is essential to promote green start-up behaviours in the coming times. In this study, green EI is the tendency to start or own an enterprise that could generate profitability while integrating eco-friendly behaviours into business activities. Basically, green EI reflects the degree of willingness of founders to execute a business that provides green products.

### Entrepreneurial Intention Theories

In the TPB model, Ajzen (1991) suggests that personal attitude (desirability), subjective norms, and perceived behavioural control (self-efficacy) are determinants of intention towards a particular behaviour. In the entrepreneurship domain, Moriano *et al.* (2012) apply the TPB model to investigate the EI of 1074 master students from Germany, India, Iran, Poland, Spain, and the Netherlands. They state that attitudes and self-efficacy have favourable impacts on EI irrespective of nationality differentiation. In addition to attitude and perceived behavioural control, Mueller (2011) indicates that some types of educational measures considerably impact the business intention of European students, while, Zhang *et al.* (2015) add short-term risk-taking and psychological well-being as other factors that affect EI of American students. Empirical evidence from the study of Paray and Kumar (2020) shows that entrepreneurship education and student background have a positive association with the EI of students in India.

The EET theory (Shapero & Sokol, 1982) states that exogenous variables like social and cultural elements have a substantial impact on an individual's perception of start-ups. This perception, including perceived desirability and perceived feasibility, is associated with new firm creation. Applying the EET model, Solesvik *et al.* (2014) evince a significant impact of perceived feasibility and perceived desirability on the EI of university students in Ukraine.

Noticeably, Liñán and Chen (2009) incorporate both TPB and EET to study start-up behaviours in Spain and Taiwan. Their outcomes emphasised that perceived desirability and perceived feasibility, which are both affected by entrepreneurship education, have a favourable effect on the EI.

### Green Entrepreneurship: Previous Studies

The 'going green' concept has received considerable attention from scholars in the entrepreneurship domain (Bergset & Fichter, 2015). Past studies have explored the significant role of green entrepreneurship in promoting energy efficiency (Drago & Gatto, 2022) and economic and social development (Neumann, 2022). Based on their study of green entrepreneurship practices in Ghana, Amankwah and Sesen (2021) state that there is a certain relationship between entrepreneurship education, green EI, and green entrepreneurship behaviour. Yi (2021) also evidences that university and external institutional supports contribute to promoting green EI to become green entrepreneurship behaviour.

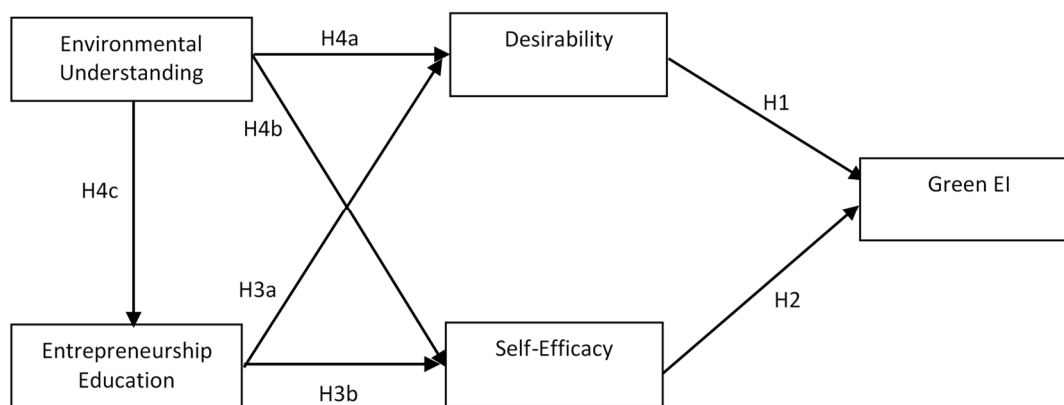
Few empirical studies have focused on identifying factors that promote green EI. Koe *et al.* (2014) employed Pearson correlation analysis and proved that sustainability attitude, social norm, perceived desirability, and perceived feasibility are positively correlated to inclination for sustainable entrepreneurship in Malaysia. Recent papers by Alvarez-Risco *et al.* (2021) and Robayo-Acuña *et al.* (2023) indicate that government, educational, and technical support significantly affect entrepreneurial self-efficacy which has a positive impact on green EI of university students in Peru and Colombia. However, Soomro *et al.* (2020) did not find any impact of self-efficacy on green EI. Their results show that sustainability orientation and education favourably impact green EI in Pakistan. Qazi *et al.* (2020) revealed

that personal traits and university green entrepreneurial support have a positive relationship with the green EI of Pakistani students. Moreover, those relationships are moderated by environmental values, which constitute the important feeling of environmental protection. Nguyen *et al.* (2022) indicate that educational support, attitude, and self-efficacy do not affect green EI. Meanwhile, subjective norms and risk aversion have a significant impact on the green EI of Vietnamese students.

Several studies show that entrepreneurship education significantly affects the process of forming business intention and green EI, but their results are controversial. Because the impact of environmental understanding on green EI has not been fully investigated, this study employed TPB and EET models to explore the role of both environmental understanding and entrepreneurship education in fostering green EI.

### Hypothesis

Our study augmented TPB and EET models to investigate the green EI of Vietnamese students. We expected environmental understanding and entrepreneurship education to significantly impact start-ups' desirability and entrepreneur self-efficacy. Moreover, we expected desirability and self-efficacy to have a positive relationship with green EI as was the case in previous entrepreneurship studies. This pioneering study examined the relationship between environmental understanding and entrepreneurship education. Understanding this relationship will provide some suggestions to enhance the practices of entrepreneurship education in the context of significantly increasing environmental concerns. Figure 1 illustrates our research model.



**Figure 1. Research model**

Source: own elaboration

### Self-Efficacy and Desirability

Ajzen (1991) states that perceived behavioural control is the cognizance of how easy it is to successfully perform a behaviour, while personal attitude expresses an individual's emotion or passion towards that behaviour. Similarly, Shapero and Sokol (1982) indicate that the perceived feasibility of entrepreneurship reflects the personal belief that they own the essential ability to successfully run a start-up. In addition, EET theory defines entrepreneurship desirability as an individual's feeling of the attractiveness of starting a business, which arises through social and cultural factors.

Both TPB and EET models indicate that individuals will form start-up intentions if they fancy doing business and strongly believe in their entrepreneurial ability. In fact, numerous studies applied TPB and EET models and reaffirmed that perceived behavioural control and personal attitude have a favourable effect on EI (Barton *et al.*, 2018; Mueller, 2011).

In the context of green entrepreneurship, entrepreneurial self-efficacy expresses how individuals believe in their ability to successfully establish a green business. Besides, the desire to start a green start-up is defined as the passion for generating a green business since it will bring enormous social beneficiaries. Logically, green EI forms when people feel confident that they can smoothly run an eco-friendly business model and genuinely fancy that model since it brings enormous social benefits. Recently, Alvarez-

Risco *et al.* (2021) and Soomro *et al.* (2020) have evinced a positive relationship between self-efficacy and green EI. Meanwhile, Koe *et al.* (2014) and Ramayah *et al.* (2019) agree that both self-efficacy and desirability have a positive impact on green EI. Hence, this study assumes that the more they have a strong passion for green entrepreneurship and confidence in their business ability, the more their green start-up ambition will be heightened. We adopted the following hypotheses:

**H1:** Desirability has a positive and significant effect on green EI..

**H2:** Self-efficacy has a positive and significant effect on green EI.

### Entrepreneurship Education

Entrepreneurship education is a set of educating and training activities that aims to illuminate individuals on how to start and operate business ventures smoothly (Bae *et al.*, 2014). In entrepreneurship education programmes, participants are instructed on how to identify possible opportunities and risks when starting a business and how to utilise resources reasonably to sustain that new firm. To put it simply, entrepreneurship education activities equip participants with essential managerial skills and mindsets to fluidly run a new firm. Moreover, programmes inspire participants through successful entrepreneurs who are usually invited to those activities to share their start-up stories. Therefore, attending entrepreneurship education activities will intensify entrepreneurial self-efficacy and wake up the business desire.

Fayolle *et al.* (2006) propose that entrepreneurship education has a significant effect on the development of beliefs and attitudes in TPB models. In fact, the positive relationship between entrepreneurship education with perceived desirability and self-efficacy has been examined in a few studies. Alvarez-Risco *et al.* (2021) prove that entrepreneurship education positively affects entrepreneurial self-efficacy, meanwhile, research by Hattab (2014) shows a positive relationship between entrepreneurship education and entrepreneurship desirability. Peterman and Kennedy (2003) state that entrepreneurship education positively affects both self-efficacy and desirability. Hence, we hypothesise that:

**H3a:** Desirability has a positive and significant effect on green EI..

**H3b:** Self-efficacy has a positive and significant effect on green EI.

### Environmental Understanding

Environmental understanding is defined as a personal knowledge of the hazardous impacts of environmental matters including acid rain, ozone depletion, natural resources exhaustion, deforestation, and global warming (Jiang, 1999). Bruyere and Rappe (2007) state that people with high environmental awareness are more committed to seeking solutions that solve ecological matters. Obviously, green entrepreneurship is a feasible measure to address the above environmental issues mainly because its critical objective is to offer eco-friendly products to society. Therefore, it is reasonable to argue that the founders of green enterprises clearly understand the importance of the environment and feel responsible for protecting the ecosystem.

Apart from entrepreneurship education, environmental understanding is considered the exogenous variable as proposed in the EET model. Almost all previous entrepreneurship studies have focused on investigating the effect of entrepreneurship education, perceived desirability, and perceived feasibility on EI. However, few studies have examined the role of environmental awareness in fostering EI. Noticeably, Barba-Sánchez *et al.* (2022) demonstrate that environmental awareness has a positive relationship with students' attitudes towards entrepreneurship but does not have any impact on perceived behavioural control.

Understanding the environment and its detrimental effect may wake up the empathy inside each person and therefore encourage them to protect the ecosystem (Barba-Sánchez *et al.*, 2022; Murphy & Coombes, 2009). For Centennials, green start-ups may be one of the utmost ways to express their environmental responsibility. Hence, we hypothesise that:

**H4a:** Environmental understanding has a positive and significant effect on desirability.

However, an in-depth understanding of environmental matters may entail individuals, especially the non-risk takers, who are too afraid that their start-up project is unfeasible since they are unable to over-

come the hazardous impacts of ecological problems. In fact, thousands of small enterprises slumped or went bankrupt due to the consequences of the Covid-19 pandemic (Ngo, 2020). As a result, there emerges an invisible psychological barrier once starting a new enterprise. Thus, we expected the environmental understanding to negatively affect personal belief in successfully running green start-ups:

**H4b:** Environmental understanding has a positive and significant effect on desirability.

On the other hand, entrepreneurship education programmes may implicit some sustainability solutions to address the concern about environmental matters (Masjud, 2020) or may help to visualise how to run an eco-friendly business idea. Hence, individuals with high environmental awareness are willing to attend entrepreneurship education to seek some feasible business ideas that may both solve environmental problems and provide economic benefits. To the best of our knowledge, this is the pioneering study that investigates the relationship between entrepreneurship education and environmental understanding in the context of green entrepreneurship. We expected that environmental understanding would not only motivate individuals to attend entrepreneurship education activities but also elevate the efficiency of entrepreneurship education:

**H4c:** Environmental understanding has a positive and significant effect on entrepreneurship education.

## RESEARCH METHODOLOGY

### Data Collection

This study focused on the green EI of university students in Vietnam. Our targeted respondents were the Centennials (also referred to as Gen Z) who were born in the period 1995-2012 (Maloni *et al.*, 2019). This generation is expected to play a pivotal role in the transformation into a green economy, because they are well-educated, possess incredible creative capability, and feel high responsibility for the environment (Soomro *et al.*, 2020). Moreover, university students are more likely to consider start-ups as a career since they still do not have a job.

We applied a non-probability sampling method to collect primary data. We conveniently distributed the survey questionnaires to the Centennials at Can Tho University, which is one of the top-tier Vietnam universities and also the host of the International Symposium of Sustainable Development of the Mekong Delta – a crucial economic zone of Vietnam. Initially, we invited 10 students to participate in the pilot research so that we could assess the questionnaire's structure and content. Afterwards, we conducted the official survey within two weeks by emailing 630 students to invite them to complete it. In total, 300 respondents answered the questionnaires (the response rate was 47.6%) but after removing some junk responses, 275 responses remained. Our sample size met the minimum requirement (at least 200 observations) to conduct PLS-SEM as proposed by Hair *et al.* (2014).

### Measurement Indicators

To measure the factor of entrepreneurship education (EE), we adapted five items from the studies of Liñán and Chen (2009). Based on the studies of Bohlen *et al.* (1993) and Jiang (1999), we developed seven items to measure the factor of environmental understanding (EU). Five items measured the factor of Self-efficacy (SE) and six items measured the factor of Green EI (GEI). We adapted both of them from the research by Barba-Sánchez *et al.* (2022) and Liñán and Chen (2009). Finally, we utilised three items that Krueger (1993) suggested to use when measuring the construct of desirability (DE). We measured all indicators of those constructs by using the 5-point Likert scale. Table 1 describes our measurement variables.

### Data Analysis

This study employed the PLS-SEM approach, because it is appropriate for exploratory research and theory development and does not require a large sample size or normal data distribution (Hair *et al.*, 2014). We utilised SmartPLS 4.0 to analyse data through a rigid process that begins with speci-

fyng the inner model (structural model) and outer models (measurement models). Then, we assessed the reliability, convergent validity, and discriminant validity of the five constructs. Lastly, we performed the bootstrapping method (5000 subsamples) to examine our hypotheses.

**Table 1. Description of indicators**

Construct	Indicator	Descriptions
Environmental understanding (EU)	EU1	Environment is what surrounds and influences human life.
	EU2	Environment plays a key role in protecting life on Earth.
	EU3	Soil, water, air, and ecosystems are the basic components of environment.
	EU4	Environment provides natural resources and contains waste.
	EU5	Human activities are the root cause of pollution and environmental problems.
	EU6	Soil, water, and air pollution are three kinds of environmental pollution.
	EU7	Environmental issues are closely linked to population matters, poverty, and disease.
Entrepreneurship education (EE)	EE1	My university and local authorities provide essential knowledge about entrepreneurship.
	EE2	My university and local government develop my entrepreneurial skills and abilities.
	EE3	I have access to many start-up activities thanks to my university and local authorities.
	EE4	University education inspires me to become an entrepreneur.
	EE5	Business courses help me learn about practical entrepreneurial circumstances.
Desirability (DE)	DE1	I prefer forming a green start-up rather than not.
	DE2	If I have an opportunity, enough capital, and ability to start a green business and I desire to do so.
	DE3	I am not worried about starting a green business.
Self-efficacy (SE)	SE1	Establishing and operating a green firm is easy for me.
	SE2	I have enough knowledge and experience to start a green firm.
	SE3	I can control the formation process of a green start-up.
	SE4	I know how to develop a green start-up project.
	SE5	If I ran a green start-up, I would have a high chance of success.
Green entrepreneurial intention (GEI)	GEI1	I am willing to do everything to become a green entrepreneur.
	GEI2	Becoming a green entrepreneur is my career objective.
	GEI3	I will try my best to form and run my own green firm in the future.
	GEI4	I am determined to create a green firm in the future.
	GEI5	I have been seriously considering starting a green business in the future.
	GEI6	I will definitely establish a green firm in the future.

Source: own study.

## RESULTS AND DISCUSSION

### Respondents' Demographic

Our sample size included 275 students who were born in the period 1998-2004. There was a considerable imbalance between men and women respondents, as there were 74.2% women and 25.8% men. In fact, women are more likely to be empathetic than men (Mestre *et al.*, 2009) so they are more sensitive to environmental problems. Therefore, in comparison with men, more women were willing to attend our study which investigated green EI.

The majority of respondents were second and third-year students which accounted for 40.7% and 38.5% respectively. These statistical outcomes show that second, third and fourth-year students were seriously considering entrepreneurship activities. Meanwhile, first-year students only presented 4.8% of the total respondents due to a lack of knowledge and experience so they were less excited about entrepreneurship. Moreover, the response rate of the fourth-year (and above) students was low (16%), because they might have been overwhelmed with writing their thesis or looking for a job.

### Outer Model

The results from PLS-Algorithm (Table 2) indicated that our measurement model was reliable and suitable for the sample data. After deleting indicators EU4 and DES3 due to low factor loading (smaller than 0.7),

the rest of all indicators' factor loading satisfied the requirement proposed by Hair *et al.* (2014) who state that the factor loading of each indicator in the outer model must be above 0.7. Moreover, Hair *et al.* (2014) also suggest that the composite reliability (CR) values of each construct should be greater than 0.7 and each construct's average variance extracted (AVE) scores must be above 0.5 to meet the requirement of reliability and validity. From Table 2, we see that all CR values of five constructs were greater than 0.8 and all AVE scores were above 0.6. Furthermore, Cronbach's alpha of each construct was higher than 0.8, thus, the reliability and convergent validity of the five constructs in our measurement model were appropriate.

**Table 2. Reliability and convergent validity**

Construct	Factor loading	Cronbach's alpha	CR	AVE
DE	[0.931~0.938]	0.855	0.857	0.874
EE	[0.770~0.852]	0.869	0.872	0.658
EU	[0.731~0.842]	0.878	0.878	0.622
GEI	[0.803~0.875]	0.914	0.915	0.701
SE	[0.783~0.879]	0.895	0.906	0.705

Source: own study.

Table 3 indicated that all five constructs met the discriminant validity because all the square roots of each construct's AVE (bold numbers in the Fornell-Larcker Matrix) were greater than the highest squared correlations with any other constructs (Hair *et al.*, 2014) and all the values in the Heterotrait-monotrait ratio (HTMT) were lower than 0.85 (Henseler *et al.*, 2014).

**Table 3. Discriminant validity**

Construct	Fornell-Larcker Matrix					HTMT Matrix				
	DE	EE	EU	GEI	SE	DE	EE	EU	GEI	SE
DE	<b>0.935</b>									
EE	0.529	<b>0.811</b>				0.610				
EU	0.498	0.532	<b>0.789</b>			0.576	0.611			
GEI	0.565	0.531	0.281	<b>0.837</b>		0.639	0.595	0.317		
SE	0.314	0.451	0.016	0.594	<b>0.839</b>	0.348	0.499	0.102	0.648	

Source: own study.

### Inner Model

All the VIF scores (less than two) shown in Table 4 indicated that our regression model did not violate multicollinearity. Besides, Figure 2 illustrated that our study predicted accurately above 50% of green business intention (R-square = 0.511).

**Table 4. VIF analysis result**

Factor	EE	DE	SE	GEI
DE				1.110
EE		1.395	1.395	
EU	1.000	1.395	1.395	
SE				1.110

Source: own study.

In Table 5, the estimated results demonstrated that both desirability and self-efficacy had a significant and positive impact on green EI. Moreover, entrepreneurship education had significant and positive impacts on both desirability and self-efficacy. Meanwhile, environmental understanding had a positive effect on desirability but an adverse impact on self-efficacy. Besides, Table 6 revealed that desirability and self-efficacy mediate the relationship between entrepreneurship education and green business intention. Particularly, environmental understanding had an indirect effect on green EI via entrepreneurship education, desirability, and self-efficacy.



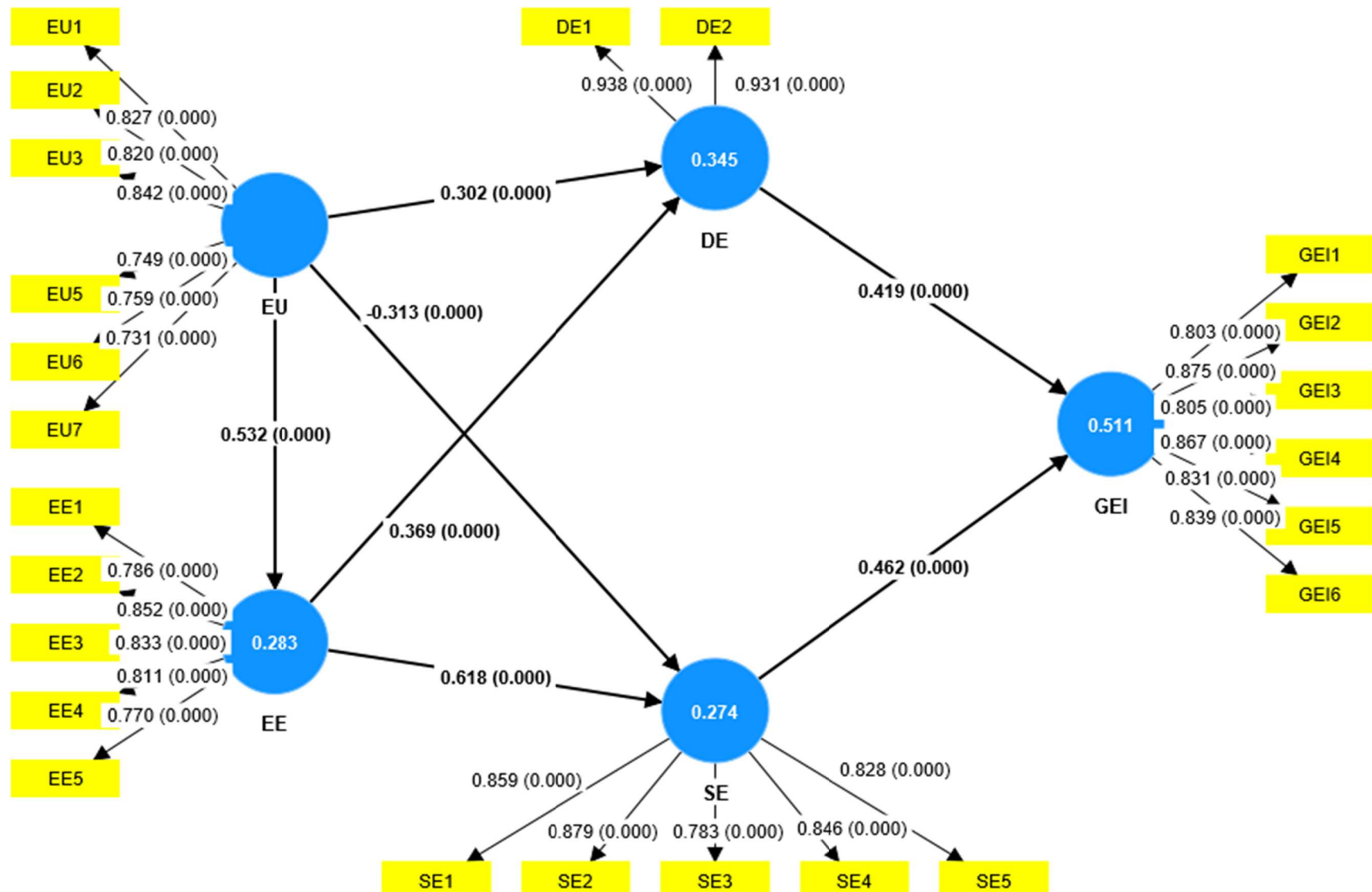


Figure 2. Structural model results

Source: own elaboration in.

**Table 5. Hypothesis testing results**

Hypothesis	Path relationship	Path coefficient	T statistics	Decision	f <sup>2</sup>
H1	SE -> GEI	0.462	<b>10.394*</b>	Accepted	0.394
H2	DE -> GEI	0.419	<b>10.502*</b>	Accepted	0.324
H3a	EE -> DE	0.369	<b>5.898*</b>	Accepted	0.149
H3b	EE -> SE	0.618	<b>11.535*</b>	Accepted	0.376
H4a	EU -> DE	0.302	<b>4.933*</b>	Accepted	0.100
H4b	EU -> SE	-0.313	<b>4.214*</b>	Accepted	0.096
H4c	EU -> EE	0.532	<b>9.299*</b>	Accepted	0.395

Note: \*p-value < 0.01

Source: own study.

**Table 6. Mediation effects**

Indirect path relationship	Specific indirect effect	T statistics
EU->DE->GEI	0.127	<b>4.137*</b>
EU->SE->GEI	-0.145	<b>3.827*</b>
EU->EE->SE->GEI	0.152	<b>5.087*</b>
EU->EE->DE->GEI	0.082	<b>3.849*</b>
EE->SE->GEI	0.286	<b>7.390*</b>
EE->DE->GEI	0.155	<b>5.066*</b>

Note: \*p-value < 0.01

Source: own study.

## Discussion

In this study, the positive correlation between green EI and desirability as well as self-efficacy implies that if we want to foster green start-up intentions of Centennials, we should enhance their enthusiasm for green business and strengthen their belief about self-efficacy to start a green business. This result is in line with previous entrepreneurship studies such as Baharuddin and Ab Rahman (2021), Barton *et al.* (2018), Mueller (2011), and especially, research done by Koe *et al.* (2014) and Ramayah *et al.* (2019) who also study green start-up behaviours. Moreover, based on the categorization of Cohen (1988), we see that the effect size of self-efficacy on green EI is relatively large ( $f^2 = 0.394 > 0.35$ ). Meanwhile, the effect size of desirability on green EI was medium ( $0.15 < f^2 = 0.324 < 0.35$ ). This outcome is critically inverse to the study of Barba-Sánchez *et al.* (2022) who showed that the effect size of perceived desirability is much larger than self-efficacy. This novel finding implies that Vietnamese Centennials possess a prudent characteristic. To put it simply, instead of being driven by emotions, Gen Z students heavily rely on their intellect and carefully consider their capabilities when deciding to start an eco-business. Additionally, the positive influence of entrepreneurship education on self-efficacy, as also demonstrated in the studies of Alvarez-Risco *et al.* (2021), further supports this notion. Peterman and Kennedy (2003) and Robayo-Acuña *et al.* (2023) indicate that entrepreneurship education activities raise students' belief in smoothly running a start-up. Moreover, the large effect size of entrepreneurship education on self-efficacy ( $f^2 = 0.376 > 0.35$ ) emphasises that entrepreneurship education plays a pivotal role in raising participants' entrepreneurial self-efficacy. In Vietnam, entrepreneurship education programmes, which are usually financed by the government, are constructed by combining various business modules that provide essential business knowledge and skills to manage an enterprise.

Entrepreneurship education is also positively correlated with desirability as in the study of Hattab (2014) and Peterman and Kennedy (2003). Nevertheless, this effect size was relatively small ( $f^2 = 0.149 < 0.15$ ). Practical information from those training and educating programmes may disclose some potential start-up chances, from that, cultivating the ambitions of starting a green business. In Vietnam, entrepreneurship education activities frequently invite successful entrepreneurs to share their entrepreneurship stories. Those emotional stories may inspire participants and awaken their desire for start-up.

In accordance with the study of Barba-Sánchez *et al.* (2022) who confirmed a positive relationship between environmental awareness and the perception of desirability, our study evidences that

the more Gen Z students understand the importance of the environment, the more enthusiastic they become about starting a green business. Moreover, Soomro *et al.* (2020) agree that Centennials are well-educated and have a high sense of environmental awareness, thus, they have a special interest in eco-friendly activities such as prioritizing utilizing eco-friendly products, actively participating in Earth Hour events, or even starting an eco-friendly business.

Noticeably, while Barba-Sánchez *et al.* (2022) did not find any relationship between environmental awareness and perceived feasibility, our study found that environmental understanding has a detrimental effect on entrepreneurial self-efficacy. Our fascinating result implies that the severity of environmental issues such as climate change, disease, and environmental disasters, causes Centennials to feel that they are unable to fluidly operate their businesses under such harsh environmental conditions. Particularly, the recent failure of many start-ups caused by the consequence of the Covid-19 pandemic severely impairs the self-efficacy of young prospective entrepreneurs in Vietnam (Loan *et al.*, 2021). Furthermore, this negative correlation reinforces the argument that Vietnamese Centennials are cautious individuals who are unwilling to jeopardise their careers by running a start-up if they feel that their business model and/or management capability will not be enough to address environmental issues adequately. Importantly, this outcome implies that amplifying environmental understanding is necessary but it is more important to consolidate the self-confidence of Gen Z students about their green business model.

To the best of our knowledge, this is the trailblazer study that explored the relationship between environmental understanding and entrepreneurship education. As expected, environmental understanding causes a positive impact on entrepreneurship education activities and this effect size is extremely large ( $f^2=0.395>0.35$ ). Logically, comprehending the environment and empathizing with its concerns will compel people to act with greater environmental responsibility, thus encouraging individuals to engage in entrepreneurial education activities. Such activities will offer vital management skills and knowledge to solidify their business ideas aimed at nurturing a green ecosystem.

Furthermore, environmental understanding and entrepreneurship education indirectly influence green EI. These novelty findings emphasise that enhancing knowledge of the environment and intensifying entrepreneurship education activities will bolster the intention to pursue green business by increasing the desire for start-ups and consolidating entrepreneurial self-efficacy.

## CONCLUSIONS

This study investigated the role of environmental understanding and entrepreneurship education in forming green EI of Centennials who were university students in Vietnam. Similarly to previous EI studies, our statistical outcomes confirmed the significant impact of desirability and self-efficacy on green EI. Moreover, this study emphasises that entrepreneurship education is the key element that contributes to elevating self-efficacy and desirability among university students, who are knowledgeable and have high environmental accountability. Interestingly, our study revealed some novelty findings, namely that environmental understanding contributes to awakening the desire for start-ups and boosting entrepreneurship education activities. However, the more Gen Z students know about the environment and its problems, the more they are afraid that they lack the required management capability to overcome those problems. Additionally, desirability and self-efficacy mediate the relationship between environmental understanding, entrepreneurship education and green EI. These interesting findings lead to several theoretical and practical implications.

### Theoretical Implications

Our study contributes to the extant entrepreneurship literature. This is the pioneer study that explored the significant role of environmental understanding in predicting green start-up intention. Apart from entrepreneurship education, environmental understanding is another exogenous variable that substantially affects personal belief and desire for start-ups. Additionally, this study has shed light on how entrepreneurship education associates with environmental understanding. These novelties contribute to enriching

the entrepreneurship literature and providing a typical research model of green start-ups for future studies. Furthermore, the outcomes of this study reveal the cautious nature of Centennials. Thus, our study provides valuable hints for future research on the entrepreneurship behaviour of this generation.

### Practical Implications

Entrepreneurship education and environmental understanding play a vital role in the progress of forming green EI. Hence, universities and governments should intensify entrepreneurship training activities that adequately equip Gen Z students with the knowledge and skills to confidently start a green business. Moreover, universities should integrate start-up education into university programmes as a mandatory subject to encourage their students to consider entrepreneurship as their future career option. Besides, Centennials regularly use social media, thus, local governments and universities must utilise social media platforms to broadcast the most pressing environmental messages related to climate change, disease, and pollution. Such messages may enhance Centennials' understanding of the environment and awaken their aspiration for green business.

Furthermore, the content of entrepreneurship education activities needs improvement by incorporating some materials related to environmental understanding. If applicable, the content of entrepreneurship education should prioritise providing viable business approaches to cope with environmental matters. The improvement of entrepreneurship education will consolidate the belief of Centennials that they are able to run their green business model even if the natural environment is unfavourable.

### Limitations and Future Studies

There are a few limitations to our study that future studies should address. Firstly, the research scope and sample size need to be expanded to include numerous universities in Vietnam or even Asian universities. Secondly, future research should augment the current model by adding more factors such as government assistance policies, infrastructural conditions, family support, and self-esteem/self-actualization mentioned in Maslow's hierarchy of needs. Thirdly, research subjects should be extended to include graduate students to investigate their willingness to start their businesses even if they have stable jobs. Lastly, future studies should focus on studying entrepreneurship behaviours in a particular business domain such as in the field of technology, organic agriculture, or circular business, because these domains represent the trends of future global economic development.

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### Acknowledgements and Financial Disclosure

This study did not receive any external funding.

### Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Published by Krakow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.

