

Does University business incubator boot the Entrepreneurial Intention and Entrepreneurial Decision among students: A case study in Vietnam

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Abstract

Boosting entrepreneurial intention (EI) and entrepreneurial decision (ED) among Vietnamese students is a hot topic with many researchers and policymakers. Based on the TPB theory, this study analyzes factors influencing students' EI and ED. It is emphasized that EI plays a mediating role between entrepreneurial self-efficacy (ESE), entrepreneurial education (EE), entrepreneurial support policy (ESP), and ED. In addition, university business incubators play a moderating role between ESE and EI and between EI and ED. A data set of 295 students was collected in most universities in Vietnam, and the Partial Least Squares Structural Equation Modeling (PLS-SEM) model was used for the data analysis. The study outcomes demonstrated that all suggested factors positively impacted EI and ED, except that students with good ESE would skip the EI phase and go straight to ED. In other words, the mediating role of EI could have been better, even when University business incubators appeared. Another interesting result was that University business incubators performed better in the EI and ED relationship than ESE and EI. The research results provide scientific proof for the university and policymakers to build entrepreneurial training programs, ESP, and improve UBI's operation, promoting entrepreneurship among students.

Keywords: Entrepreneurial self-efficacy, entrepreneurial education, entrepreneurial support policy, moderator roles, university business incubators, Entrepreneurial intention, Entrepreneurial decision, undergraduate.

1. Introduction

The Theory of Planned Behavior (TPB) has been utilized in social and behavioral sciences as a means of understanding individuals' deliberate actions (Acheampong & Tweneboah-Koduah, 2018; Henley et al., 2017), particularly concerning entrepreneurship. The theory postulates that

intention is the key determinant of behavior. In the startup field, when someone feels the favor of the market and the maturity of the individual will form the intention to start and thus drive the decision to start a business. Enterprises are the core force promoting each country's economic and social development, so enhancing intention and decision becoming entrepreneurship contributed significantly to the increase in the number of enterprises in each country. Promoting EI and ED is the foundation to enhance entrepreneurship and economic development of the country.

Many studies have focused on understanding and delving into the issue of EI and ED, including the first study by Shapero & Sokol (1982). Then a series of studies with similar themes were carried out (Rasool et al., 2018). Studies have explored the impact of various factors on intention becoming entrepreneurship. Specifically, Denanyoh et al. (2015), Koe et al. (2012), and Turker and Selcuk (2009) investigated the correlation between Emotional Intelligence and Emotional Exhaustion (EE) Bae et al. (2014). Additionally, other studies such as those by Arranz et al. (2017) and Wilkin (2015) examined the relationship between EI and beliefs, motivation, and family support (Altinay et al., 2012; Hieu & Loan, 2022; Odoardi et al., 2018; Tsai, Chang, & Peng, 2016). The correlations between personal characteristics, self-efficacy, and intention to become entrepreneur have been examined in various studies. Molino et al. (2018) have investigated this relationship. Molino et al. (2018) have investigated this relationship. Additionally, numerous studies (Koe et al., 2012; Mamun et al., 2017) have explored the connection between students' EI and ED in various countries, such as Turkey (Turker & Selcuk, 2009), Malaysia, Gana, and Afghanistan (Bullough et al., 2014; Denanyoh et al., 2015). Large-scale research initiatives have also been conducted on this topic, such as a study of university students from different European nations (Arranz et al., 2017; Gasse & Tremblay, 2011).

Recent studies have focused on mediating and controlling variables. Molino et al. in 2018 studied such as gender (Molino et al., 2018). Odoardi et al in 2018 studied and reported on family support, experience, social circumstances, and creativity to explore the relationship between EI and ED. A little research mentions the role of the university business incubators, while in recent times, all members of universities or locations are forming this organization (Bellò et al., 2018).

Recently, startups in general and among students is an exciting topics for researchers and policymakers in Vietnam. Specifically, since the revolution of startups quickly developed at the start of “the national startup year - 2016” and the beginning of the project “Supporting students for initiating business with a business 2025 scheme” (2017) have grown enormously in a significant way. By 2022, more than 900.000 businesses will exist (Ministry of Planning and Investment, 2022), representing between 110.000 and 150.000 businesses per year. Having

that success is implementing programs and policies to support and create the best environment for startups (Nam & Huy, 2021). Recently, there has been growing interest among researchers and policymakers in Vietnam regarding the topic of startups, particularly among students. This surge in interest can be attributed to the startup revolution that occurred at the beginning of "the national startup year - 2016. Since then, there has been a significant increase in startup activities, with an impressive number of businesses being established and operated each year. As of 2022, the total number of businesses in Vietnam has exceeded 900,000, with an estimated 110,000 to 150,000 new businesses established annually (Ministry of Planning and Investment, 2022). This success can be attributed to the implementation of various policies and programs to provide support and create an ideal environment for startups (Nam & Huy, 2021). An activity aimed at promoting the establishment and growth of startup enterprises entails the creation of university business incubators (UBI) within universities. UBI aims to spur the development of innovative ideas and cultivate the entrepreneurial intentions that lead to successful startups. Despite its potential benefits, research on the interplay between UBI and the correlation among ESE and EI is limited. Similarly, the precise role of UBI in fostering students' EI and Entrepreneurial Development (ED) requires further investigation. Addressing these knowledge gaps is crucial for advancing the theory and recommending policies to enhance the effectiveness of UBI.

The purpose of this research was to elucidate the interplay between ESE, EE, ESP, EI, and ED determinants. Subsequently, this study delves into the relationship between EI and ED with the UBI factor as a moderator among students, with the ultimate aim of advocating tailor-made resolutions to boost EI and foster the evolution of EI to ED in the future.

Self-efficacy was first introduced by Bandura, A., & Walters (1977) in their work about the social learning theory. Instead of measuring one's ability level, perceived self-efficacy refers to one's perception of what one can accomplish with their current competencies in various circumstances (Bandura, A., & Walters, 1977). Self-efficacy beliefs are expected to have a constructive and vital role during the chance detection phase. People with high levels of self-efficacy are inclined to believe they are more adept at spotting exploitable possibilities (as cited in Urban & Galawe, 2020). Self-efficacy in social entrepreneurship demonstrates a person's conviction to develop original answers to societal issues (Ambad, 2022). It can be referred to as the capacity to carry out business projects associated with innovating society and helping others, including detecting societal issues and making innovative products to address them (Jung Rae, 2022). Social contact and the social sphere are linked to social self-efficacy, and both are important for making mental adaptations and acting appropriately in public. Through community interactions, social entrepreneurs can recognize societal problems, obtain sentimental

encouragement, and develop innovative ideas and solutions for the wider population.

2. Review of literature and formulation of hypotheses

2.1 Direct effects of ESE on EI and ED.

Entrepreneurial Self-efficacy was first introduced by Bandura, A., & Walters (1977) in their work about the social learning theory. Instead of measuring one's ability level, perceived self-efficacy refers to one's perception of what one can accomplish with their current competencies in various circumstances (Bandura, A., & Walters, 1977). ESE are expected to have a constructive and vital role during the chance detection phase. People with high levels of ESE are inclined to believe they are more adept at spotting exploitable possibilities (as cited in Urban & Galawe, 2020). Self-efficacy in entrepreneurship demonstrates a person's conviction to develop original answers to societal issues (Ambad, 2022). It can be referred to as the capacity to carry out business projects associated with innovating society and helping others, including detecting societal issues and making innovative products to address them (Jung Rae, 2022). Social contact and the social sphere are linked to social self-efficacy, and both are important for making mental adaptations and acting appropriately in public. Through community interactions, social entrepreneurs can recognize societal problems, obtain sentimental encouragement, and develop innovative ideas and solutions for the wider population (Hueso et al. 2021).

Regarding entrepreneurial intention literature, ESE is the most used predictor of EI (Ambad, 2022). A systematic literature review by Ambad (2022) confirms that, on the whole, ESE typically has a beneficial impact on EI, regardless of the situation across many countries, such as China, Brazil, Vietnam, and Singapore. Only now, one study by Liu et al. (2021) found no significant effect of self-efficacy on EI using a sample of Taiwanese agricultural university students. Therefore, most scholars still believe that self-efficacy positively links EI and ED. Besides, many scholars have been investigating the effect of ESE as a direct and indirect variable in the entrepreneurship and social psychology area (Jiatong et al., 2021). In research of (Albert & Luzzo, 1999) argued that even if someone has significant levels of job self-efficacy, high achievement goals, and passions that fit these aspirations, they could nevertheless decide against choosing a particular field if they believe there are impediments to pursuing their career objectives. Based on the above discussions, it is reasonable to

expect that significantly positive effect between ESE and EI, ED. Thus, we hypothesize that:

H1: Students' EI is significantly influenced by EE

H2: Students' EI is significantly influenced by ESE

2.2 Direct effects of EE on EI and ED.

Research has demonstrated that EE serves as an indispensable factor in influencing relationships, and serves as a catalyst for both EI and ED (Khan et al. 2020). Individuals who take courses in EE tend to develop more innovative business ideas, which can significantly aid the initiation of a startup (Dao et al., 2021). Furthermore, EE has a direct correlation with the intention to engage in entrepreneurial activities and eventually leads to ED (Liñán et al., 2011).

Similar to the research results of Bae et al. (2014), a study based on human capital theory also showed the relationship between EE and EI, ED (Anwar et al., 2019). Specifically, research has proven that school training or self-training results will be the foundation for forming EI and then ED. Several studies based on the TPB theory (Liñán & Fayolle, 2015; Hoang & Huy, 2021) have also demonstrated that education is essential to forming entrepreneurial intentions and even decision-making (Lv et al., 2021; Nguyen et al., 2019). Previous study emphasize the role of training in students' entrepreneurial spirit when researching and showing the difference in the formation of entrepreneurial intention among students who receive entrepreneurship training and untrained students (Leung et al., 2012). Agree, Souitaris et al. (2007) conducted an empirical study to show that after training in entrepreneurship education, students have a more precise and stable EI than before. Furthermore, Arranz et al. (2017) delved into the domain of entrepreneurship through a distinct lens, with a specific focus on assessing the impact of primary and supplementary training programmes on EI. The findings of Lv et al. (2021) indicate that specialized training provided through educational curriculum can serve as a decisive factor in fostering a positive impact on an individual's EI. Thus, we hypothesize that:

H3: EE has a significantly positive effect on students' EI

H4: EE has a significantly positive effect on students' ED

2.3 Direct effects of ESP on EI and ED.

Research has shown that Entrepreneurship Support Policies (ESP) have a positive impact on entrepreneurial intention (EI) and entrepreneurial decision-making (ED) (Denanyoh et al., 2015). ESPs encompass a range of policies that facilitate business initiation (Mamun et al., 2017), such as creating a favorable business environment (Turker & Selcuk, 2009) and providing training for startups (Gasse & Tremblay, 2011; Turker et al., 2009). Additionally, ESPs offer support for infrastructure, trading

information, finance, and access to a business network for starting a business (Huang et al., 2021; Kristiasen & Indarti, 2004). According to the Theory of Planned Behavior (TPB) (Mamun et al., 2017), individuals who perceive a suitable and favorable ESP, such as easy access to capital, information, and infrastructure, are more likely to generate EI and lead to ED (Huang et al., 2021). Due to the adverse effects of the pandemic and the current increase in unemployment, ESPs can play a particularly important role in encouraging entrepreneurs to pursue entrepreneurial ambitions (Lien, 2019). Thus, we hypothesize that:

H5: EI of students is significantly influenced by ESP

H6: ED of students is significantly influenced by ESP

2.4 The mediating effects of EI on the relationship between ESE, EE, ESP, and ED

Entrepreneurial intention (EI) refers to an individual's willingness and desire to start their own business, as emphasized by Anwar and Saleem (2019). In the startup process, EI forms in the second stage, and its emergence is driven by a combination of external and internal factors, both subjective and objective. This is highlighted by Denanyoh et al. (2015) and Rasool et al. (2018). Entrepreneurial Education (EE), Entrepreneurial Skills (ESE), and Entrepreneurial Self-Efficacy (ESP) are the primary factors affecting EI.

There are times when EI is apparent and times when it is latent; the rate at which EI is transformed into ED is determined by its strength or weakness. Specifically, the stronger the EI, the faster the startup decision-making (Liñán & Fayolle, 2015).

According to Liñán and Fayolle (2015), an entrepreneurial decision (ED) refers to an individual's determination to establish a business. This decision marks the ultimate phase of entrepreneurial behavior, and its manifestation entails the formulation of strategies and acquisition of requisite resources, such as human, financial, and intellectual resources, to prepare one for commencing real business activities. Other factors, including the entrepreneurial ecosystem and objective and subjective aspects, also play a significant role in shaping the decision to start a business. The factors ESE, EE, and ESP can be seen as the necessary conditions that drive the process of forming ideas and the EI of university students. It should be noted that an individual's intention to perform a specific behavior depends on their attitude towards the behavior so that the EI will link directly to the ED (Acheampong & Tweneboah-Koduah, 2018; Fishbein & Ajzen, 1975; Henley et al., 2017).

Many studies have demonstrated the role and interrelationship between EI and ED and the mediating effects of EI on the relationship between readiness factors (Otache et al., 2021). According to the TPB theory, when an individual notices favorable conditions, they will form an intention, and

from that, they will drive action specifically called ED. Besides, EI has been playing an increasingly important role in the entrepreneurial process. In view of the empirical evidence that EI boosts ED (Henley et al., 2017), we propose the following hypothesis:

H7: Students' ED is positive effect by EI.

H8: The relationship between ESE and students' ED is mediated by EI.

H9: The relationship between EE and students' ED is mediated by EI.

H10: The relationship between ESP and students' ED is mediated by EI.

2.5 The moderating effects of university business incubators

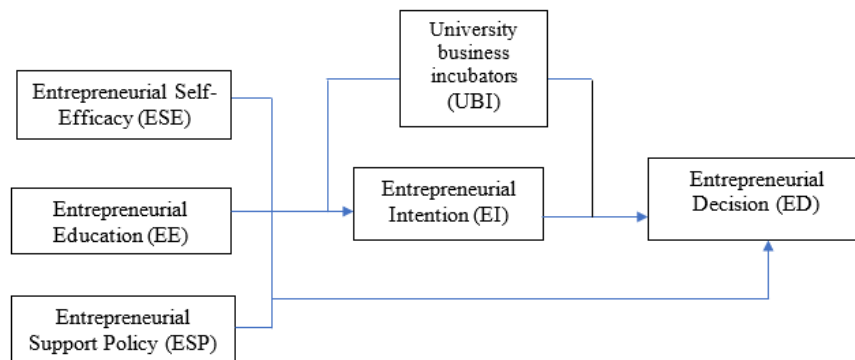
University business incubators (UBI) are university-based institutions that support young business startups through tangible and intangible services (Barbero et al., 2012; Grimaldi & Grandi, 2005). UBIs have become a vital driver of the startup roadmap among young people and students (Mubaraki & Busler, 2013). According to Shahzad et al. (2012), Mubaraki & Busler (2010), and Xu (2010), UBI provides laboratories, connected equipment (computers, internet), shared working space, mentors, and other necessary conditions such as knowledge, financial capital, managerial support, and networking for students to carry out research, spinoff activities, and start a business at the lowest cost. The relationship between UBIs and students' EI and ED has been extensively studied. Specifically, Mubaraki & Busler (2012) suggest that UBI decides up to 62% of student startup intentions.

Meanwhile, Hong & Yang (2014) also point out that if universities provide students with free and safe startup conditions, it would be a key factor driving them to pursue entrepreneurial passions and turn that knowledge and skills into intended. Currently, the success rate of startups is meager, which scares many young people. Thanks to the UBIs that provide a lot of physical and mental support for the startup process, students are more confident, dare to try, make mistakes, and fail with minimized risks and damage (Hassan, 2020; Manu et al., 2018). In other words, UBIs act as a "backbone" where students can start the startup route at a nominal cost. If there is a failure, it will fail fast – fail cheap, from which to draw knowledge and experience before conducting business in the practical environment. Thus, UBI is expected to be an essential catalyst to accelerate student startup processes in forming EI and ED (Huang et al., 2021; Mamun et al., 2017). Thus, we hypothesize that:

H11: The UBI moderates the relationship between ESE and EI.

H12: The UBI moderates the relationship between EI and ED

Figure 1: Research conceptual framework



3. Methodology

3.1. Procedure and sample

Hair et al. (2017) state that when using PLS-SEM, a minimum sample size of 200 observations can suffice in many cases, while larger sample sizes may be necessary for more complex models or when aiming for higher levels of precision. This study utilizes cross-sectional data based on a survey of second-, third-, and fourth-year graduate students from economic and technical universities in Vietnam, who operate business startup centers and incubators. As Liñán and Chen (2009) demonstrated, using student samples has become common in entrepreneurship research, as these individuals face career choices and starting a business may be a realistic option (Aloulou, 2016).

Before the official study, 102 votes were gathered for an experimental study at many northern universities to assess the scale's validity and applicability. Students from 20 institutions in Vietnam were polled between June and October 2022, both offline and online (using a Google Form). Students received a total of 500 survey questionnaires. The relevance of the observational variables and the study's goal is presented to students before surveys are conducted in the classroom (both online and offline). These professors will host teams conducting communication research and gathering information at universities.

After collecting 316 responses, screening eliminated 21 invalid votes, leaving 295 valid votes for further examination. Males made up 46.1%, and females made up 53.9% of the 295 valid samples (208 responses from the online survey accounted for 71.0% and 29% hardcopy replies). Regarding the study subjects, 59% of respondents are IT, agriculture, construction, and social science engineers, while 41% have a business-related major. According to respondents' school years, 18% are second-year students, 42,7% are third-year students, and 39,3% are fourth-year students.

Table 1. Descriptive of respondents' general information

Variable	Frequency	Percentage
Gender		
Male	136	46.1
Female	159	53.9
Major		
Business-related	121	41
Engineering-related	174	59
School years of student		
Year 2	53	18
Year 3	126	42.7
Year 4	116	39.3
Range of age		
Under 20 years	19	56
20 years	37	111
21 years	33	96
22 years	6	18
Above 22 years	5	14

3.2 Measurement

Several prior relevant studies were used as a source of measurements in this study and were scored using a five-point Likert scale (1-strongly disagree to 5-strongly agree).

The study utilized a research model consisting of six factors, namely, ESE, EE, ESP, UBI, EI, and ED, which were then hypothesized about their relationships. To obtain the necessary scales, the author selectively adopted them from previous research based on theoretical analysis and the research context. For instance, entrepreneurial self-efficacy was measured using six items derived from the scale of Chen et al. (1998), Denanyoh et al. (2015) and the revised scales of Chen et al. (2011), and Mamun et al. (2016), with sample items such as 'I can seek information to find an idea for a business.' Cronbach's alpha for this variable was 0.866. Entrepreneurship education was measured using four items from Linas and Chen (2009) and Otache (2019), combined with another measure from Mamun et al. (2017), with sample items like 'The university provides the necessary knowledge about entrepreneurship.' Cronbach's alpha for this variable was 0.712. Entrepreneurship support policies were measured using eight items derived from Turker and Selcuk (2009) and Mamun et al. (2017), Mubarak & Busler (2010) with sample items including 'I live in a country where new and growing companies have access to enough government subsidies.' Cronbach's alpha for this

variable was 0.801. University business incubators were measured using four items from Mamun et al. 2018; Shahzad et al. 2012). The study used various measures to assess entrepreneurial attitudes and behaviors among university students. Specifically, this study analyzed Cronbach's alpha values for three variables, each measured by sample items. The first variable was university business incubators, whose sample items included 'University business incubators listen to my business idea.' The second measured entrepreneurial intention, which was developed by Liñán & Chen (2009) and Otache (2019), and whose sample items included 'Be an entrepreneur as my prof goal.' Finally, the study analyzed entrepreneurial decision making, measured by five items developed by Mamun et al. (2017), including 'In the startup, I applied for the job.' Cronbach's alpha for each variable was calculated to determine its reliability. All the variables had a Cronbach's alpha value of 0.821, indicating a high level of internal consistency. A total of 33 questions were included in the study, but no descriptive statistical information was included regarding gender, education, family background, and other personal factors. Student attitudes and behaviors related to entrepreneurship are analyzed in the study to gain valuable insight.

3.3. Data analysis

Data analysis was conducted using Partial Least Squares - Structural Equation Modeling (PLS-SEM) aided by SmartPLS 3.3. Previous entrepreneurship intention research studies have used this tool (Otache 2019). The PLS-SEM analysis process outlined by Hair et al. (2019) was adopted for this study. The analysis included two principal stages: (1) assessment of the measurement model and (2) estimation of the model and testing of its hypotheses. In the first stage, the validity and reliability of the research constructs were evaluated along with a check for common method bias and multicollinearity. In the second stage, the bootstrapping procedure with 5000 resamples was used to estimate R² (explained variance), f² (effect sizes), Q² (model's predictive power), path coefficients, t-values, and p-values for the estimation of the model and hypothesis testing.

4. Result

4.1. Results of the measurement model assessment

The constructs' validity can be tested through convergent and discriminant validity. Convergent validity ensures that a measure correlates well with the other measures of the same construct. This is achieved if the AVE value is more significant than 0.5 and Cronbach's alpha is greater than 0.7 (Hair et al., 2017). As demonstrated in Table 2, all constructs exhibited AVE values ranging from 0.577 to 0.719 and Cronbach's alpha values ranging from 0.794 to 0.891, indicating that convergent validity was met. Discriminant validity is also necessary to

determine the extent to which a construct differs from others. To assess discriminant validity, Fornell-Larcker is commonly used. A square root of AVE should have a greater significance than its correlation with any other construct, based on Fornell and Larcker (1981). As shown in Table 3, all constructs met the discriminant validity requirement. Based on Henseler et al. (2015), cross-factor loading values and heterotrait-monotrait ratio (HTMT) criteria were also reviewed, and similar results were obtained. The constructs' validity can be established as convergent, and the discriminant validity is sufficiently satisfied.

Table 2. Reliability and convergent validity results for measurement model.

Constructs	Cronbach's Alpha	rho_A	CR	Inner VIF	AVE
Entrepreneurial Self-Efficacy	0,794	0,864	0,860	1,327	0,575
Entrepreneurial Education	0,869	0,872	0,911	1,525	0,719
Entrepreneurship support policies	0,882	0,898	0,911	1,392	0,632
University business incubators	0,866	0,867	0,909	1,598	0,714
Entrepreneurial Intention	0,868	0,870	0,910	1,551	0,716
Entrepreneurial Decision	0,891	0,892	0,917	-	0,648

Table 3. Results of Fornell-Larcker Criterion

	Constructs	1	2	3	4	5	6
1	Entrepreneurial Self-Efficacy	0,758					
2	Entrepreneurial Decision	0,435	0,846				
3	Entrepreneurial Education	0,431	0,469	0,848			
4	Entrepreneurial Intention	0,369	0,482	0,458	0,805		
5	Entrepreneurship support policies	0,285	0,459	0,332	0,411	0,795	
6	University business incubators	0,373	0,485	0,456	0,467	0,464	0,845

4.2 Structural Model Measurement Results and Analysis

Table 4 presents the analysis and results of the structural model estimation. Hypotheses 1, 3, and 5 proposed the direct relationship between Entrepreneurial Self-Efficacy, Entrepreneurial Education, Entrepreneurship support policies, and Entrepreneurial Intention. The results indicated that the three relationships are statistically significant at $\beta = 0.134$ to 0.234 and P from $0,000$ to $0,014$. Thus, Hypothesis 1,3,5 was supported. The relationship between perceived Entrepreneurial Self-Efficacy, Entrepreneurial Education, Entrepreneurship support policies, and Entrepreneurial Decision was positively significant at $\beta = 0.187$ to 0.215 and p from $0,000$ to $0,001$. Thus, Hypotheses 2,4,6 were supported.

The relationship between Entrepreneurial Intention and SEI was negatively significant at $\beta = 0,155$ ($t = 2,603$, $p = 0.010$). Thus, Hypothesis 7 was supported.

Table 4 presents the results of the structural model estimation. Hypotheses 1, 3, and 5 proposed a direct relationship between Entrepreneurial Self-Efficacy, Entrepreneurial Education, Entrepreneurship support policies, and Entrepreneurial Intention. The results indicate a statistically significant relationship between these variables at $\beta = 0.134$ to 0.234 and $P = 0.000$ to 0.014 , thus supporting Hypotheses 1, 3, and 5. Similarly, the relationship between perceived Entrepreneurial Self-Efficacy, Entrepreneurial Education, Entrepreneurship support policies, and entrepreneurial decisions was found to be positively significant at $\beta = 0.187$ to 0.215 and p from 0.000 to 0.001 , supporting Hypotheses 2, 4, and 6. Additionally, a significant negative relationship between Entrepreneurial Intention and SEI was observed at $\beta = 0.155$ ($t = 2.603$, $p = 0.010$), supporting Hypothesis 7.

Hypotheses 8, 9, and 10 were examined to test the mediating effect of EI on the link between entrepreneurial self-efficacy, education, support policies, and ED. The results in Table 4 indicate that the relationship between perceived lack of support and SEI through the mediating role of SE is positively significant at $\beta = 0.031$ ($t = 2.022$, $p = 0.043$), thus supporting Hypothesis 2a. Furthermore, the relationship between Entrepreneurial Education and ED through the mediating role of EI was positive and significant at $\beta = 0.036$ ($t = 1,792$, $p = 0.038$), supporting Hypothesis 9. The relationship between entrepreneurship support policies and ED through the mediating role of EI was also positively significant at $\beta = 0.029$ ($t = 2.110$, $p = 0.035$), thus supporting Hypothesis 10. However, the relationship between Entrepreneurial Self-Efficacy and ED through the mediating role of EI was not supported as it was positively significant at $\beta = 0.021$ ($t = 1.792$, $p = 0.074$).

Hypothesis 12 tested the moderating effect of UBI in the relationship between ESE and EI of students, such that this relationship is weaker when the UBI is high rather than high. This moderation effect is depicted in Figure 2, which indicates the more robust relationship between SE and SEI in students with high entrepreneurial education levels. The empirical results show that the relationship between ESE and SEI was negatively significant at $\beta = -0.007$ ($t = 1.077$, $p = 0.282$). Thus, Hypothesis 12 was not supported.

The study tested Hypothesis 13, which established that the relationship between students' EI and ED is moderated by UBI. The research found that this relationship is stronger in instances where UBI is high than when it is low. The empirical results revealed a significant negative relationship between EI and ED at $\beta = 0.108$ ($t = 3.416$, $p = 0.001$), thus confirming the validity of hypothesis 13. Table 5 illustrates the moderating effect,

demonstrating a more profound correlation between EI and ED in students with elevated UBI levels.

Table 4: Results of structural equation model estimation

Hypothesis	Path	Coeff	STDV	T	P	Decision
H1	ESE -> EI	0,134	0,054	2,456	0,014	Supported
H2	ESE -> ED	0,200	0,058	3,470	0,001	Supported
H3	EE_ -> EI	0,234	0,059	3,973	0,000	Supported
H4	EE_ -> ED	0,187	0,053	3,499	0,001	Supported
H5	EPS -> EI	0,188	0,061	3,053	0,002	Supported
H6	EPS -> ED	0,215	0,052	4,135	0,000	Supported
H7	EI -> ED	0,155	0,060	2,603	0,010	Supported
H8	ESE -> EI -> ED	0,021	0,012	1,792	0,074	Not supported
H9	EE_ -> EI -> ED	0,036	0,017	2,076	0,038	Supported
H10	EPS -> EI -> ED	0,029	0,014	2,110	0,035	Supported
H11	UBI -> EI -> ED	0,032	0,016	1,993	0,047	Supported
H12	UBIxESE-> EI -> ED	-0,007	0,007	1,077	0,282	Not supported
H13	UBIxEI -> ED	-0,108	0,032	3,416	0,001	Supported

In the Table 5, the results of the PLS algorithm analysis for the R² (R-square value) are used to measure the model fit of the data or the explanatory power of the model. According to Hair et al. (2017) the R² value should be 0.75, 0.50, or 0.25. The results show that R² (EI) equal to 0.342 and R² (ED) adjusted by 0.431 are appropriate in this case study, so the independent variables in the model explain 34.2% of business intention and 43.1% intention to start a business. The results show that the R² value is appropriate in this case study to explain the influence of factors on students' EI and ED.

Table 5: Results of R² and Q²

Endogenous constructs	R ²	Q ²
EI	0,342	0,217
ED	0,431	0,300

The value Q² represents the degree of prediction of the independent variables on the dependent variable. Tenenhaus et al. (2005) stated that Q² is considered an index to evaluate the overall quality of the component model. Accordingly, if all component models have Q² > 0, the overall structural model of the study also has overall quality.

5. Discussion and implications

5.1. Discussion

The results of the study indicate that both EE and ESP have a positive effect on the development of EI and ED among students; in other words, when students enroll EE program, they will be provided with sufficient positive knowledge, skills, and attitudes from which to form the intention or decision to start a business. In addition, when students feel the support of the policy and the favor of the startup environment, they will be more inclined to form a startup idea than to choose to work for an organization (Aloulou, 2016). The practice demonstrates that many students with entrepreneurial ability and market knowledge are prepared to start businesses in various forms, such as online or offline trading. This result is similar to Ambad's (2022) study and Jiatong et al. (2021). However, there are also exciting points in the study to find that most young people with good ESE tend to decide to start a business very quickly and almost ignore the phase of intent (Albert & Luzzo, 1999), so the intermediate role of EI in the ESE and ED relationship is almost underestimated, and the research hypothesis is rejected.

The results of the study indicate that both EE and ESP have a positive effect on the development of EI and ED in students; in other words, when students receive EE, they will be provided with sufficient positive knowledge, skills, and attitudes from which to form the intention or decision to start a business. In addition, when students feel the support of the policy and the favor of the startup environment, they will be more inclined to form a startup idea than to choose to work for an organization (Aloulou, 2016). The practice demonstrates that many students with entrepreneurial ability and market knowledge are prepared to start businesses in various forms, such as online or offline trading. This result is similar to Ambad's (2022) study and Jiatong et al. (2021). However, there are also exciting points in the study to find that most young people with good ESE tend to decide to start a business very quickly and almost ignore the phase of intent (Albert & Luzzo, 1999), so the intermediate role of EI in the ESE and ED relationship is almost underestimated, and the research hypothesis is rejected.

Various studies have pointed out the role of UBI in promoting EI and ED, thus boosting startups among youth. However, the results showed that UBIs only played a role in influencing the relationship between EI and ED, meaning that when students already had the idea, the new UBI had a supportive effect to quickly convert EI to ED, which is similar to the study. (Manu et al., 2018). When students have a business idea, they will go to startup support organizations for advice from mentors, a shared workspace, and the opportunity to apply for funding from investment

funds to implement the project. Currently, the university has built startup centers for students to experiment, experience, and adjust business models before they formally proceed in the market, so UBI is expected to promote both EI and ED and limit the risks of entering the market. (Manu et al., 2018).

The student is trained in entrepreneurship knowledge and skills that will quickly arise from business ideas. The faculty is edited and instructed to nurture entrepreneurial dreams into realizing and making the startup decision (Otache, 2019). This is a popular way of doing things in universities today, especially since the introduction of startup subjects into teaching (Rauch & Hulsink, 2015). Many ideas are forming and contributing to successful business projects. The research results are similar to the observations of Henley et al. (2017).

5.2. Practical implication

The findings of this study imply several practical implications. First, it is necessary to focus on promoting training activities and establishing policies to support startups because these factors determine the process of forming intentions and startup decisions.

Second, the exciting result of the study is that ESE does not directly affect EI but only ED, which means students with entrepreneurial skills tend to prefer to make quick decisions in a variety of different forms of business. The results also highlighted UBI's regulatory and catalyst role in the relationship between EI and ED. It is, therefore, necessary to have startup support centers that need the right support solution to shorten the time from EI to ED—especially support in the workplace, finding partners, and referring mentors to these startups. Therefore, the most important thing is to help students practice bravery and create an environment for them to try and fail (if any) in a testing environment with the motto of "failing cheap, failing fast," from which they will be braver on the entrepreneurship journey. Third, policymakers and local authorities must promote entrepreneurship training activities in universities to fully equip themselves with the knowledge and necessary skills and practice confidence to overcome challenges on the path of entrepreneurship.

5.3. Contribution

According to the findings from this research, ESE is only sometimes a prerequisite for forming an EI; in many cases, students with a good ESE will always make the startup decision instead of following the sequential steps from EI to ED. These factors are now considered fundamental driving forces to promote EI, highlighting and providing more empirical evidence for its reconceptualization. In practical terms, the study explains the strong growth of youth entrepreneurship activities in developing countries like Vietnam in recent years. Despite the difficulties and lack of many things and high failure rate in starting a business in the country, students feel confident and confident in making decisions to become

entrepreneurs. In addition, the role of social entrepreneurial SE is also critical in forming social entrepreneurship. The study also reinforces the strategy of educators in promoting EE in the official curriculum to help solve current social issues.

5.4. Limitations and further research

This study has some limitations. First, the research has not considered the heterogeneous impact of different groups by gender or individual characteristics (family background and region). Therefore, further research should investigate this relationship in different groups for more insights. Second, although the direct association between ESE was not supported, it could not conclude whether students are more willing to engage in EI when receiving support. Therefore, it may be a fruitful research direction for further studies. Third, this study is conducted with empirical data collected from Vietnamese students in a cross-sectional survey, affecting the findings' generalizability. Thus, it calls for further studies with longitudinal design with a larger sample in different regions to generalize the research findings.

Bibliography

- Acheampong, G., & Tweneboah-Koduah, E. Y. (2018). Does past failure inhibit future entrepreneurial intent? Evidence from Ghana. *Journal of Small Business and Enterprise Development*, 25(5), 849–863. <https://doi.org/10.1108/JSBED-03-2017-0128>
- Albert, K. A., & Luzzo, D. A. (1999). The Role of Perceived Barriers in Career Development: A Social Cognitive Perspective. *Journal of Counseling & Development*, 77(4), 431–436. <https://doi.org/https://doi.org/10.1002/j.1556-6676.1999.tb02470.x>
- Aloulou, W. J. (2016). Predicting entrepreneurial intentions of final year Saudi university business students by applying the theory of planned behavior. *Journal of Small Business and Enterprise Development*, 23(4), 1142–1164. <https://doi.org/10.1108/JSBED-02-2016-0028>
- Altinay, L., Madanoglu, M., Daniele, R., & Lashley, C. (2012). The influence of family tradition and psychological traits on entrepreneurial intention. *International Journal of Hospitality Management*, 31(2), 489–499. <https://doi.org/10.1016/j.ijhm.2011.07.007>
- Ambad, S. N. A. (2022). A Systematic Literature Review on Social Entrepreneurial Intention: Citation, Thematic Analyses and Future Research Directions. In D. Crowther & F. Quoquab (Eds.), *Social Entrepreneurs* (Vol. 18, pp. 93–124). Emerald Publishing Limited. <https://doi.org/10.1108/S2043-052320220000018006>
- Anwar, I., & Saleem, I. (2019). Exploring entrepreneurial characteristics among university students: evidence from India. *Asia Pacific Journal of Innovation and Entrepreneurship*, 13(3), 282–295. <https://doi.org/10.1108/apjie-07-2018-0044>
- Arranz, N., Ubierna, F., Arroyabe, M. F., Perez, C., & Fdez. de Arroyabe, J. C. (2017). The effect of curricular and extracurricular activities on university students' entrepreneurial intention and competencies. *Studies in Higher*

- Education, 42(11), 1979–2008.
<https://doi.org/10.1080/03075079.2015.1130030>
- Bae, T. J., Qian, S., Miao, C., & Fiet, J. O. (2014). The Relationship Between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review. *Entrepreneurship: Theory and Practice*, 38(2), 217–254.
<https://doi.org/10.1111/etap.12095>
- Bandura, A., & Walters, R. H. (1977). *Social Learning Theory Vol 1* (Englewood Cliffs (ed.); NJ: Prenti). NJ: Prentice-Hall.
- Barbero, J. L., Casillas, J. C., Ramos, A., & Guitar, S. (2012). Revisiting incubation performance: How incubator typology affects results. *Technological Forecasting and Social Change*, 79(5), 888–902.
<https://doi.org/https://doi.org/10.1016/j.techfore.2011.12.003>
- Bellò, B., Mattana, V., & Loi, M. (2018). The power of peers: A new look at the impact of creativity, social context, and self-efficacy on entrepreneurial intentions. *International Journal of Entrepreneurial Behaviour and Research*, 24(1), 214–233. <https://doi.org/10.1108/IJEBR-07-2016-0205>
- Bullough, A., Renko, M., & Myatt, T. (2014). Danger zone entrepreneurs: The importance of resilience and self-efficacy for entrepreneurial intentions. *Entrepreneurship: Theory and Practice*, 38(3), 473–499.
<https://doi.org/10.1111/etap.12006>
- Dao, T. K., Bui, A. T., Doan, T. T., Dao, N. T., Le, H. H., & Le, T. T. H. (2021). Impact of academic majors on entrepreneurial intentions of Vietnamese students: An extension of the theory of planned behavior. *Heliyon*, 7(3), e06381. <https://doi.org/10.1016/j.heliyon.2021.e06381>
- Denanyoh, R., Adjei, K., & Nyemekye, G. E. (2015). Factors That Impact on Entrepreneurial Intention of Tertiary Students in Ghana. *International Journal of Business and Social Research*, 5(3), 19–29.
<https://doi.org/10.18533/ijbsr.v5i3.693>
- Fishbein, & Ajzen, I. (1975). Efficacy of the Theory of Planned Behavior: A meta-analytic review.
- Gasse, Y., & Tremblay, M. (2011). Entrepreneurial beliefs and intentions: A cross-cultural study of university students in seven countries. *International Journal of Business*, 16(4), 303–314.
- Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models. *Technovation*, 25(2), 111–121.
[https://doi.org/https://doi.org/10.1016/S0166-4972\(03\)00076-2](https://doi.org/https://doi.org/10.1016/S0166-4972(03)00076-2)
- Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107–123.
<https://doi.org/10.1504/IJMDA.2017.087624>
- Hassan, N. A. (2020). University business incubators as a tool for accelerating entrepreneurship: theoretical perspective. *Review of Economics and Political Science*, ahead-of-print(ahead-of-print).
<https://doi.org/10.1108/REPS-10-2019-0142>
- Henderson, R., & Robertson, M. (1999). Who wants to be an entrepreneur? Young adult attitudes to entrepreneurship as a career. *Education + Training*, 41(5), 236–245. <https://doi.org/10.1108/00400919910279973>
- Henley, A., Contreras, F., Espinosa, J. C., & Barbosa, D. (2017). Entrepreneurial intentions of Colombian business students. *International Journal of*

- Entrepreneurial Behavior & Research, 23(6), 1017–1032.
<https://doi.org/10.1108/IJEBR-01-2017-0031>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43, 115–135.
- Hieu, L. Q., & Loan, N. T. (2022). Pakistan Journal of Commerce and Social Sciences. *Pakistan Journal of Commerce and Social Sciences*, 14(4), 1088–1105.
- Hoang, N. T., & Huy, D. T. N. (2021). Determining Factors for Educating Students for Choosing to Work for Foreign Units: Absence of Self-Efficacy. *Journal For Educators, Teachers And Trainers*, 12(02), 508.
<https://doi.org/10.47750/jett.2021.12.02.002>
- Hong, J., & Yang, H. (2014). study on the entrepreneurial intention determinants of university students. *Journal of Digital Convergence*, 12(11), 141–157.
- Huang, Y., An, L., Wang, J., Chen, Y., Wang, S., & Wang, P. (2021). The Role of Entrepreneurship Policy in College Students' Entrepreneurial Intention: The Intermediary Role of Entrepreneurial Practice and Entrepreneurial Spirit. *Frontiers in Psychology*, 12(March).
<https://doi.org/10.3389/fpsyg.2021.585698>
- Hueso, J. A., Jaén, I., & Liñán, F. (2021). From personal values to entrepreneurial intention: a systematic literature review. *International Journal of Entrepreneurial Behaviour and Research*, 27(1), 205–230.
<https://doi.org/10.1108/IJEBR-06-2020-0383>
- Jiatong, W., M, M., F, B., MS, T., F, M., & M, R. (2021). Impact of Entrepreneurial Education, Mindset, and Creativity on Entrepreneurial Intention: Mediating Role of Entrepreneurial Self-Efficacy. *Frontiers in Psychology*, 12, 724440.
<https://doi.org/10.3389/fpsyg.2021.724440>
- Jung Rae, K. (2022). People-Centered Entrepreneurship: The Impact of Empathy and Social Entrepreneurial Self-efficacy for Social Entrepreneurial Intention. *Global Business and Finance Review*, 27(1), 108–118.
<https://doi.org/10.17549/gbfr.2022.27.1.108>
- Koe, W.-L., Sa'ari, J. R., Majid, I. A., & Ismail, K. (2012). Determinants of Entrepreneurial Intention Among Millennial Generation. *Procedia - Social and Behavioral Sciences*, pp. 40, 197–208.
<https://doi.org/10.1016/j.sbspro.2012.03.181>
- Kristiasen, S., & Indarti, N. (2004). Entrepreneurial Intention Among Indonesian and Norwegian Students. *Journal of Enterprising Culture*, 12(01), 55–78.
<https://doi.org/10.1142/s021849580400004x>
- Leung, K. Y., Lo, C. T., Sun, H., & Wong, K.-F. (2012). Factors influencing engineering students' intention to participate in on-campus entrepreneurial activities. *Journal of Entrepreneurship Education*, 15(1–20).
- Lien, T. T. H. (2019). Governments as buyers: A breakthrough in supporting the startup ecosystem. *Journal of Economics and Development*, pp. 366, 32–41.
- Liñán, F., & Chen, Y.-W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33, 593–617.
- Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*, 11(4), 907–933.
<https://doi.org/10.1007/s11365-015-0356-5>

- Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal*, 7(2), 195–218. <https://doi.org/10.1007/s11365-010-0154-z>
- Liu, H.-C., Liang, C., Chang, C.-C., Ip, C. Y., & Liang, C.-T. (2021). Optimizing Personality Traits and Entrepreneurial Creativity to Boost the Precursors of Social Entrepreneurial Intentions: Five Studies in Taiwan. *Journal of Social Service Research*, 47(1), 10–32. <https://doi.org/10.1080/01488376.2019.1708840>
- Lv, Y., Chen, Y., Sha, Y., Wang, J., An, L., Chen, T., Huang, X., Huang, Y., & Huang, L. (2021). How Entrepreneurship Education at Universities Influences Entrepreneurial Intention: Mediating Effect Based on Entrepreneurial Competence. *Frontiers in Psychology*, 12(July), 1–12. <https://doi.org/10.3389/fpsyg.2021.655868>
- Mamun, A. Al, Binti Che Nawi, N., Dewiendren, A. A., & Fazira Binti Shamsudin, S. F. (2016). Examining the Effects of Entrepreneurial Competencies on Students' Entrepreneurial Intention. *Mediterranean Journal of Social Sciences*, 7(2), 119–127. <https://doi.org/10.5901/mjss.2016.v7n2p119>
- Mamun, A. Al, Nawi, N. B. C., Mohiuddin, M., Shamsudin, S. F. F. B., & Fazal, S. A. (2017). Entrepreneurial intention and startup preparation: A study among business students in Malaysia. *Journal of Education for Business*, 92(6), 296–314. <https://doi.org/10.1080/08832323.2017.1365682>
- Manu, T., Shashikumara, A., Asjola, V., & Chaudhary, P. (2018). Startup Support Centre Service in Libraries: An Overview. *Librarians' Day 2018 (Startup India and Role of Libraries)*, January 2021.
- Ministry of Planning and Investment. (2021). *The White Book on Vietnamese Enterprises 2021*.
- Molino, M., Dolce, V., Cortese, C. G., & Ghislieri, C. (2018). Personality and social support as determinants of entrepreneurial intention. Gender differences in Italy. *PLoS ONE*, 13(6), 1–19. <https://doi.org/10.1371/journal.pone.0199924>
- Mubarak, H. M. A., & Busler, M. (2013). Business incubation as an economic development strategy: a literature review. *International Journal of Management*, 30, 362+. <https://link.gale.com/apps/doc/A332657273/AONE?u=anon~ed5d11a4&sid=googleScholar&xid=f696a11a>
- Nam, V. U. Q., & Huy, D. T. N. (2021). Solutions to Promote Startups for the Youth in Minority and Mountainous Region of Thai Nguyen Province - Vietnam. *Journal of Contemporary Issues in Business and Government*, 27(3). <https://doi.org/10.47750/cibg.2021.27.03.260>
- Nguyen, A. T., Do, T. H. H., Vu, T. B. T., Dang, K. A., & Nguyen, H. L. (2019). Factors affecting entrepreneurial intentions among youths in Vietnam. *Children and Youth Services Review*, 99(November 2018), 186–193. <https://doi.org/10.1016/j.childyouth.2019.01.039>
- Odoardi, C., Galletta, M., Battistelli, A., & Cangialosi, N. (2018). Effects of beliefs, motivation and entrepreneurial self-efficacy on entrepreneurial intentions: The moderating role of family support. *Roczniki Psychologiczne*, 21(3), 185–205. <https://doi.org/10.18290/rpsych.2018.21.3-1>
- Otache, I., Umar, K., Audu, Y., & Onalo, U. (2021). The effects of entrepreneurship education on students' entrepreneurial intentions: A longitudinal approach.

- Education and Training, 63(7–8), pp. 967–991. <https://doi.org/10.1108/ET-01-2019-0005>
- Rasool, Y., Shaikh, S. S., Ahmed, A., & Faiz Ahmad, K. (2018). Determinants of Entrepreneurial Intentions: A Systematic Review. *KASBIT Business Journal (KBJ)*, 11(1–33), 1–33.
- Shahzad, K., Bajwa, S. U., Ali, Q., & Zia, S. A. (2012). Role of Incubation in Women Entrepreneurship Development in Pakistan. *SSRN Electronic Journal*, 4(2), 200–208. <https://doi.org/10.2139/ssrn.2048316>
- Shapero, A., & Sokol, L. (1982). *The Social Dimensions of Entrepreneurship*. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
- Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational statistics & data analysis*, 48(1), 159–205.
- Tsai, K. H., Chang, H. C., & Peng, C. Y. (2016). Extending the link between entrepreneurial self-efficacy and intention: A moderated mediation model. *International Entrepreneurship and Management Journal*, 12(6), 445–463.
- Turker, D., & Selcuk, S. S. (2009). Which factors affect the entrepreneurial intention of university students? *Journal of European Industrial Training*, 33(2), 142–159. <https://doi.org/10.1108/03090590910939049>
- Urban, B., & Galawe, J. (2020). The mediating effect of self-efficacy on the relationship between moral judgment, empathy and social opportunity recognition in South Africa. *International Journal of Entrepreneurial Behavior & Research*, 26(2), 349–372. <https://doi.org/10.1108/IJEBR-05-2019-0271>
- Wilkin, C. (2015). Education + Training Article information: a learning perspective. *Education + Training*, 57(5), 492–511.
- Xu, L. (2010). Business incubation in China. *Management Research Review*, 33(1), 90–99. <https://doi.org/10.1108/01409171011011599>