

Investigating the Predictors of Entrepreneurial Intention of Undergraduate Students: Evidence from Multiple Countries

Ana Mariana¹, Bram Hadioanto²

^{1,2} Management Department of Law and Digital Business Faculty, Maranatha Christian University, Indonesia

Correspondence: Bram Hadioanto, Maranatha Christian University, Indonesia. Email: bram.hadioanto@eco.maranatha.edu

Abstract

This study aims to investigate and analyze the entrepreneurial intention determinants by utilizing the planned behavior theory from Ajzen (1991) based on the perspective of higher education students from four countries, i.e., Australia, Indonesia, Singapore, and Taiwan. The planned factors are entrepreneurial attitude (EA), subjective norms (SN), and perceived control behavior (PCB). Furthermore, this study adopts a quantitative design and utilizes the structural equation model and its related statistical features to examine the proposed three hypotheses. Because of the unknown population size, this study uses the snowball sampling method. This sampling method, supported by the survey technique, makes 175 responses collectible and applicable. After testing and analyzing their response, this study concludes a positive influence of EA, SN, and PCB on the intention to be a tycoon. Based on these realities, this study recommends that the students need an optimistic mindset to face and overcome the challenges in the marketplace, the people encouraging them by giving advice and financial support, and high self-trust to succeed when running the business.

Keywords: Attitude, Entrepreneurship, Intention, Perceived Behavioral Control, Subjective Norm

1. Introduction

When undergraduate students finish their studies in higher education, they have two choices. Firstly, they will apply to work in companies (Cheng et al., 2022). However, becoming an employee is challenging because they must compete with other candidates to get a job based on limited recruitment and tight selection. Only qualified graduates are acceptable [see Setiawan et al. (2019)]. Secondly, they will continue their family business (Clinton et al., 2024) or open their own business from the beginning (Alferaih, 2022).

Becoming a businessperson is needed to help the government because it reduces unemployment and poverty, which are economic problems (Dahliah & Tjan, 2023). After overcoming them, economic growth will occur (Gherghina et al., 2020). Cutting unemployment also provides social benefits, such as diminishing fraud, burglary, and self-annihilation (Sukirno, 2019).

Moreover, to support economic development, entrepreneurship-related courses are given to undergraduate students in the curriculum of higher education (Subroto, 2013), focusing on not only business (Aliedan et al., 2022)

and economics (Isma et al., 2020; Pham et al., 2023) but also other fields, like art (Chin et al., 2024), engineering (Chin et al., 2024; Pham et al., 2023), public health (Chams-Anturi et al., 2024), physics (Chin et al., 2024), and information technology (Aliedan et al., 2022; Chin et al., 2024). Additionally, this lesson aims to grow their intent to open a new commerce (Saoula et al., 2023).

Academically, the intention of opening a business for students can be explained by planned behavior theory (Astuti & Martdianty, 2012). According to Ajzen (1991), intention is the function of attitude, subjective norms, and perceived behavioral control. Therefore, this investigation plans to prove these three relationships. Unlike the researchers employing higher education students from a single country, i.e., Indonesia (Astuti & Martdianty, 2012; Isma et al., 2020; Pramudita, 2021; Purmono, 2023; Setiawan et al., 2022), Malaysia (Chin et al., 2024; Sahid et al., 2024; Saoula et al., 2023), Saudi Arabia (Alferaih, 2022; Aliedan et al., 2022; Jeet, 2023), South Africa (Fatoki, 2024), and Vietnam (Pham et al., 2023) and two nations: Chinese and Spanish (Shahab et al., 2019), this study utilizes higher education undergraduate students from four countries, i.e., Indonesia, Australia, Singapore, and Taiwan.

2. Literature Review and Hypothesis Development

2.1. Entrepreneurial Attitude and Intention

Attitude is a constructive and unfavorable behavioral assessment (Ajzen, 1991). In the entrepreneurial context, individuals with a higher attitude will initiate a business by recognizing opportunities and threats (Lunnan et al., 2006). In their investigation of 600 students from six public universities in Indonesia, Astuti and Martdianty (2012) found that the more attitude there is to being a businessperson, the more intention there is to be the related person. This propensity is confirmed by Shahab et al. (2019) when learning about 387 and 321 students in China and Spain, respectively, and Isma et al. (2020) when investigating 220 students at Makassar Public University in Indonesia, Alferaih (2022) after researching 763 students of public universities in Saudi Arabia. Similarly, Aliedan et al. (2022) affirm this positive sign after studying 390 fourth-year students at King Faisal University in Saudi Arabia.

Again, the positive connection between entrepreneurial attitude and intention is affirmed by Jeet (2023), who studied 208 students from public and private universities in Saudi Arabia, and Pham et al. (2023), who investigated 978 students in Vietnam. From Indonesia, Purmono (2023) affirms this evidence when studying 406 people of Generation Z. Using the students from two universities in South Africa, Fatoki (2024) affirms a positive tendency based on the green concept. After denoting this description, hypothesis one is:

H₁: Entrepreneurial attitude positively affects the intention to be a businessperson.

2.2. Subjective Norm and Entrepreneurial Intention

Subjective norm is the personal perception of social pressure, leading to performing something or not (Ajzen, 1991). In the entrepreneurial context, this pressure to start a business comes from the family (Liñán & Chen, 2009; Pham et al., 2023), friends, and classmates (Liñán & Chen, 2009). From Indonesia, Astuti and Martdianty (2012) and Isma et al. (2020) verify that the more subjective the norm is, the more intention there is to be a businessperson. In their investigation, Alferaih (2022) and Jeet (2023) find that subjective norms positively affect the planning to open a venture based on the perspectives of Saudi Arabian students. Moreover, after investigating 978 students in Vietnam, Pham et al. (2023) document the same tendency. Furthermore, Chin et al. (2024) declare a similar proof when researching 220 active final-year students in the Malaysian private university. After referring to this description, hypothesis two is:

H₂: Subjective norm positively affects the intention to be a businessperson.

2.3. Perceived Behavioral Control and Entrepreneurial Intention

Perceived behavioral control (PCB) mentions the perceived ease or difficulty of carrying out the behavior based on the anticipated obstacles (Ajzen, 1991). In the entrepreneurial context, students will prepare business

knowledge and learn skills to run the company (Otchengco Jr. & Akiate, 2021). Astuti and Martdianty (2012) demonstrate a positive association between PCB and empire-building intentions in their investigation. This evidence is affirmed by Aliedan et al. (2022) based on the non-green concept and Fatoki (2024) based on the green concept. After mentioning this description, hypothesis three is:

H₃: Perceived behavioral control positively affects the intention to be a businessperson.

2.4. Research Paradigm

By mentioning the proposed hypotheses in Sections 2.1, 2.2., and 2.3, the research paradigm can be drawn, and the result exists in Figure 1.

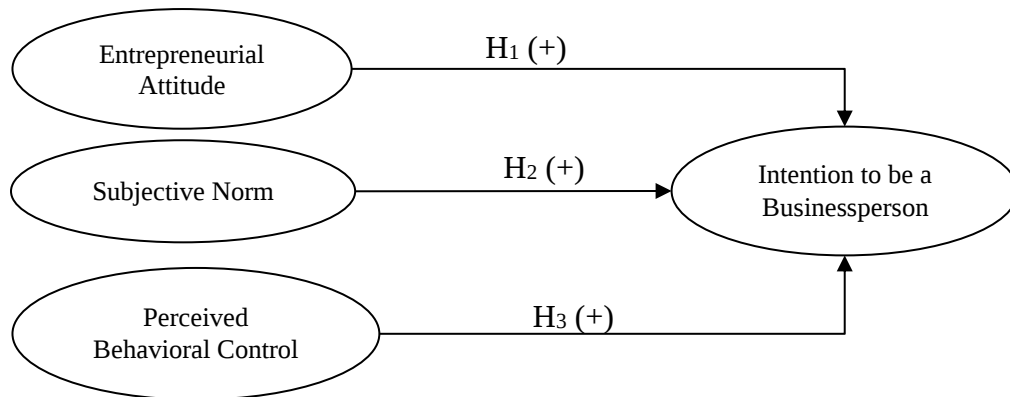


Figure 1: The Research Paradigm

Source: The literature review

3. Research Methods

This investigation employs the intention to be a businessperson (ITB) as the endogenous variable, where its indicators mention Liñán and Chen (2009) and Aliedan et al. (2022). Then, entrepreneurial attitude (EA), subjective norm (SN), and perceived behavioral control (PBC) become exogenous. Hence, it employs the indicators from Liñán and Chen (2009) and Aliedan et al. (2022) to measure EA as well as Liñán and Chen (2009) when quantifying SN and PCB. Moreover, Table 1 displays their details.

Table 1: Indicators of entrepreneurial attitude, subjective norm, perceived control behavior, as well as entrepreneurial self-efficacy and intention

Variable	Indicators	Source
Intention to be a businessperson (ITB)	I am willing to perform everything to be a businessperson (ITB1). Being a businessperson is my proficient goal (ITB2). I will attempt to begin and operate my business (ITB3). I am determined to arrange my business in the future (ITB4). I am contemplating building a venture (ITB5). I firmly plan to start a venture someday (ITB6).	Liñán and Chen (2009) and Aliedan et al. (2022)
Entrepreneurial Attitude (EA)	Becoming a businessperson has more advantages than disadvantages (EA1). For me, an entrepreneurial career is attractive (EA2). I want to create my business if I have sufficient chances and resources (EA3). Becoming an entrepreneur makes me greatly satisfied (EA4). If offered various alternatives, I will be a businessperson (EA5).	Liñán and Chen (2009) and Aliedan et al. (2022)
Subjective Norm (SN)	My family members support me in becoming a tycoon (SN1). My friend supports me in becoming a tycoon (SN2). My on-campus classmates support me to be a tycoon (SN3)	Liñán and Chen (2009)
Perceived Control Behavior (PCB)	I effortlessly start a company and keep it operating (PCB1). I am ready to begin a feasible company (PCB2). I can organize the formation process of a new company (PCB3).	Liñán and Chen (2009)

Table 1: Indicators of entrepreneurial attitude, subjective norm, perceived control behavior, as well as entrepreneurial self-efficacy and intention

Variable	Indicators	Source
	I recognize the compulsory functional attributes when beginning a company (PCB4). I recognize ways to expand an empire-building venture (PCB5). I will probably succeed if I try to open a firm (PCB6).	

The population comprises undergraduate students from Indonesia, Australia, Singapore, and Taiwan. Due to the limitation of population size, this investigation utilizes snowball sampling, as Pandjaitan et al. (2021) employ in their study. According to Hartono (2014), this technique counts on a virtuous relationship between researchers and the contact persons in the reference list. Following Pandjaitan et al. (2021), the contact persons are asked to distribute the questionnaire links to other friends. Fortunately, after conducting the survey, 84, 16, 44, and 31 responses were received from Indonesia, Australia, Singapore, and Taiwan, respectively. Hence, the total sample used is 175.

Since theory corroboration, this investigation utilizes a structural equation model (SEM) based on covariance, as Ghozali (2021b) explains, although the number of samples is below 200 (Hadiananto et al., 2023). This model can be seen in Equation 1.

$$ITB_i = \beta_1 EA_i + \beta_2 SN_i + \beta_3 PCB_i + \xi_i \text{ (Equation 1)}$$

Notes: i = cross-sectional units: respondents, ξ = error for a determined variable of ITB, β = symbol for the parameter of the explaining factors

Because of this SEM, the validity detection result, i.e., the loading factor and average variance extracted (AVE) based on the output of IBM SPSS AMOS, should exist (Hadiananto et al., 2023). Meanwhile, for the reliability test, the output from IBM SPSS is utilized: Cronbach Alpha (Ghozali, 2021a; Hair Jr. et al., 2019), and the output IBM SPSS AMOS is used, i.e., the composite reliability (Hair Jr. et al., 2019). Furthermore, Table 2 demonstrates their acceptable value.

Table 2: The guidelines for instrument testing measurements

Measurements	Adequate point	Source
Loading factor	Upper than 0.5	Hair Jr. et al. (2019)
Average variance extracted (AVE)	Upper than 0.5	Hair Jr. et al. (2019)
Cronbach Alpha	Upper than 0.7	Ghozali (2021a) and Hair Jr. et al. (2019)
Composite reliability	Upper than 0.7	Hair Jr. et al. (2019)

Before checking the hypotheses, this investigation detects the goodness of fit based on the Chi-square divided by the degree of freedom (CMIN/DF), parsimony normed fit index, goodness of fit index, and comparative fit index, as well as standardized root mean residual, where the acceptable point exists in Table 3.

Table 3: The guidelines for goodness of fit measurements

Measurements	Adequate point	Source
CMIN/DF	From 2 to 5	Shah et al. (2023)
Parsimony normed fit index (PNFI)	Above 0.5	Shah et al. (2023)
Parsimony goodness of fit Index (PGFI)	Above 0.5	Shah et al. (2023)
Parsimony comparative fit index (CFI)	Above 0.5	Dash and Paul (2021)
Standardized root mean residual (SRMR)	Under 0.08	Dash and Paul (2021)

Finally, after the model is estimated, the hypotheses are examined. Each formulated hypothesis is accepted if the one-tailed probability of the critical ratio is less than a 5% significance level (Hadiananto et al., 2023).

4. Results

After distributing the questionnaire online from April to October 2022, this study can obtain 175 higher education undergraduate students from four countries, i.e., Indonesia, Australia, Singapore, and Taiwan, plus their features, such as gender, time of life, and faculty, where the details are in Table 4. The foremost respondents are from Indonesia (48%), females (61.14%), between 17 and 20 (59.43%), and from business faculty (46.29%). Nevertheless, the least respondents are from Australia (9.14%), males (38.86%), between 26 and 30 (6.86%), and from economics (0.57%), education (0.57%), and health faculties (0.57%), as well as communication and information faculty (0.57%).

Table 4: The respondent profiles

Profile	Description	Total Students	Portion
Country	Indonesia	84	48.00%
	Australia	16	9.14%
	Singapore	44	25.14%
	Taiwan	31	17.71%
Gender	Male	68	38.86%
	Female	107	61.14%
Time of life	Between 17 and 20	104	59.43%
	Between 21 and 25	59	33.71%
	Between 26 and 30	12	6.86%
Faculty	Art and Media	12	6.86%
	Business	81	46.29%
	Business and Law	14	8.00%
	Communication & Information	1	0.57%
	Design	10	5.71%
	Economics	1	0.57%
	Education	1	0.57%
	Engineering	4	2.29%
	Health	1	0.57%
	Management	33	18.86%
	Science	17	9.71%

In the beginning step of the confirmatory factor analysis, this study finds the invalid answer to indicator PCB6, with the loading factor below 0.5: 0.261. Therefore, this indicator is eliminated. Then, the confirmatory factor analysis is reprocessed. After that, this study locates no loading factors below 0.5 (see Table 5). They are above 0.5 for ITB1, ITB2, ITB3, ITB4, ITB5, ITB6, EA1, EA2, EA3, EA4, EA5, SN1, SN2, SN3, PCB1, PCB2, PCB3, PCB4, and PCB5: 0.734, 0.827, 0.789, 0.919, 0.918, 0.867, 0.680, 0.930, 0.855, 0.882, 0.793, 0.751, 0.890, 0.753, 0.610, 0.857, 0.895, 0.798, and 0.793, respectively. Thus, valid responses exist, reinforced by AVE exceeding 0.5 for ITB of 0.714, EA of 0.693, SN of 0.641, and PCB of 0.635. The composite reliability for ITB, EA, SN, and PCB is higher than 0.7: 0.937, 0.918, 0.842, 0.895; therefore, the reliability test is achievable, supported by Cronbach Alpha for ITB, EA, SN, and PCB exceeding 0.7: 0.937, 0.915, 0.832, and 0.890.

Table 5: Loading factor, AVE, composite reliability, and Cronbach Alpha

Construct	Indicator	Loading factor	AVE	Composite Reliability	Cronbach Alpha
Intention to be a businessperson (ITB)	ITB1	0.734	0.714	0.937	0.937
	ITB2	0.827			
	ITB3	0.789			
	ITB4	0.919			
	ITB5	0.918			
	ITB6	0.867			
Entrepreneurial Attitude (EA)	EA1	0.680	0.693	0.918	0.915
	EA2	0.930			
	EA3	0.855			
	EA4	0.882			

Table 5: Loading factor, AVE, composite reliability, and Cronbach Alpha

Construct	Indicator	Loading factor	AVE	Composite Reliability	Cronbach Alpha
	EA5	0.793			
Subjective Norm (SN)	SN1	0.751	0.641	0.842	0.832
	SN2	0.890			
	SN3	0.753			
Perceived Control Behavior (PCB)	PCB1	0.610	0.635	0.895	0.890
	PCB2	0.857			
	PCB3	0.895			
	PCB4	0.798			
	PCB5	0.793			

Table 6 depicts the goodness of fit measurements because of utilizing covariance-based SEM. For CMIN/DF, it is 3.250, between 2 and 5, as required by Shah et al. (2023). For PNFI and PGFI, they are 0.717 and 0.604, above 0.5, as Shah et al. (2023) require. For SRMR, it is 0.062, still lower than 0.08, as Dash and Paul (2021) oblige. Because of achieving these requirements, the model fits the empirical data.

Table 6: The result of the goodness of fit measurements

Measurements	Result	Acceptable value	Interpretation
CMIN/DF	3.250	Between 2 and 5 (Shah et al., 2023)	The model fits the empirical data.
PNFI	0.717	Above 0.5 (Shah et al., 2023)	
PGFI	0.604	Above 0.5 (Shah et al., 2023)	
SRMR	0.062	Under 0.08 (Dash & Paul, 2021)	

Table 7 demonstrates the estimated covariance-based SEM result, presenting an R-squared of 0.510. It indicates that EA, SN, and PCB can explain the intention to be the business people by 51%. Besides, this table shows the one-tailed probability for the critical ratio of the impact of EA, SN, and PCB on ITB of 0.050, 0.000, and 0.007, one-to-one, less than 5% significance level. Thus, hypotheses one, two, and three are recognized.

Table 7: The estimation result of covariance-based SEM

Hypothesis	Relationship	Coefficient	Standard Error	Critical Ratio	Probability	
					2-tailed	1-tailed
One	EA → ITB	0.324	0.125	2.587	0.010	0.050
Two	SN → ITB	0.402	0.110	3,672	0.000	0.000
Three	PCB → ITB	0.261	0.106	2.469	0.014	0.007
R-squared					0.510	

5. Discussion

This study receives the first hypothesis declaring a positive association between entrepreneurial attitude (EA) and intention to be a businessperson (ITB). Consequently, this fact confirms the planned behavior theory from Ajzen (1991), which declares that attitude is the antecedent of intention. In the entrepreneurial context, this attitude is reflected by the optimistic mindset to face the future. Considering threats is needed. However, if they overly focus on it, they cancel the business. Thus, to avoid this situation, they must balance these two matters by considering potential strengths. Having a positive relationship between EA and ITB, this study affirms Astuti and Martdianty (2012), Shahab et al. (2019), Isma et al. (2020), Alferaih (2022), Aliedan et al. (2022), Jeet (2023), Pham et al. (2023), Purmono (2023), and Fatoki (2024).

This study receives the second hypothesis, declaring a positive association between subjective norms and intention to be a businessperson. Therefore, this fact affirms the planned behavior theory from Ajzen (1991), which declares that subjective norm is the antecedent of intention. In the entrepreneurial context, constructive perspective and support from other people, such as family members, friends, and classmates, cannot be separated from the intention to open the business. By owning this positive propensity, this study affirms Astuti and Martdianty (2012), Isma et al. (2020), Alferaih (2022), Jeet (2023), Pham et al. (2023), and Chin et al. (2024).

Finally, this study admits the third hypothesis, stating a positive association between perceived control behavior and intention to be a businessperson. Thus, this fact confirms the planned behavior theory from Ajzen (1991), declaring that this perceived control behavior is the antecedent of intention. In the entrepreneurial context, this behavior is reflected by personal belief in succeeding by controlling all business aspects. With this positive tendency, this study aligns with Astuti and Martdianty (2012), Aliedan et al. (2022), and Fatoki (2024).

As a practical implication, this study suggests that students need an optimistic mindset to face and overcome the challenges in the marketplace, make a virtuous relationship with the people as their inner cycle, giving advice and financial support. Besides, they should have high self-trust to succeed when running the business.

6. Conclusion

This investigation aspires to verify and analyze the determinants of the entrepreneurial intention of higher education undergraduate students from Australia, Indonesia, Singapore, and Taiwan by employing the planned behavior theory from Ajzen (1991). Based on this theory, attitude, subjective norms (SN), and perceived control behavior (PCB) are associated factors. Based on examining 175 student responses, this study concludes a positive relationship between entrepreneurial attitude and intention to be a businessperson (ITB). Also, this ITB is positively influenced by SN and PCB.

Although using undergraduate students from four countries, this study still has some limitations, such as the total determinants of entrepreneurial intention and sample size. Thus, the subsequent scholars can handle the first limitation by adding the related factors such as university support, gender (with males as the reference category), internal and external control locus, and entrepreneurial self-efficacy. Then, to handle the second limitation, the scholars should find a way to increase the responses to 500. For instance, they provide funds to be paid for each undergraduate student completing the questionnaire well.

Author Contributions: All authors contributed to this research

Funding: This research and its manuscript publication fee are fully recovered by Maranatha Christian University

Conflict of Interest: The authors declare no conflict of interest.

Informed Consent Statement/Ethics Approval: Not applicable.

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