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Enterprise development from students: The case of universities in Vietnam and the Philippines

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ABSTRACT

This study aims to explore the relations between the factors of the start-up environment and entrepreneurial intentions of students in universities in Vietnam and the Philippines by combining key elements of theory of reasoned action, theory of planned behaviour, theory of entrepreneurial events and model of entrepreneurial potential. Research findings were expected to test the appropriateness of this proposed model in the context of Vietnam and the Philippines. A bilateral survey was carried out among 819 students at five universities in Vietnam and the Philippines and the Structural Equation Modelling was applied to estimate the determinants of the students' entrepreneurial intentions. The findings indicated that subjective norms, entrepreneurial education, entrepreneurial desirability, and entrepreneurial motivation were positively related to perceived feasibility. Entrepreneurial education was the key determinant of entrepreneurial intention. Barriers for startups demonstrated a negative effect on the perceived feasibility. The key role of entrepreneurial education to entrepreneurial intention was confirmed in both countries. However, there are existing challenges in entrepreneurial education which required more respective supports from governments to promote the enterprise development.

1. Introduction

The most important motivation for economic development has proven to be business startups, via the establishment of new enterprises while developing economies are often experiencing to be constrained by the establishment and development of these enterprises in terms of both quantitative and qualitative aspects. A study by Stel, Storey, and Thurik (2004) revealed that there was a close relationship between business startups and the regional and local economic development. In particular, regions with a large proportion of business establishments have experienced more rapid economic growth. Beyond contributing positively to the GDP, new enterprises create jobs for society and establish increased entrepreneurial opportunities. In developing countries, small and medium-sized enterprises (SMEs) are dominant and essential types of business for the development of the broader economy. In

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Vietnam, SMEs represented nearly 97.0% of the total number of the whole country's enterprises, consisting of 51.0% of the labor force, and accounted for more than 40.0% of the national GDP (Stel et al., 2004).

In recent years, start-up movements in Vietnam have increased rapidly. Hence, 2016 was chosen by the Government as the 'year of national business start-ups', and the Government further launched the Project on "Supporting entrepreneurial ecosystem for national innovation and creativity up to 2025". Despite experiencing challenges, the results were recognized by the international community, which was also reflected in the Global Innovation Index (GII), where Vietnam has taken remarkable steps up the ladder, from ranking 59th out of 128 to 45th out of 127 countries in 2018. This was the highest-ranking Vietnam has held, and Vietnam was ranked 2nd among the 30 lower-middle-income countries in the GII 2018 (WIPO - World Intellectual Property Organization, 2018).

With multiple regional similarities, the Philippines has had the same socioeconomic starting point as Vietnam in terms of economic, historical, social and geographical conditions. In recent years, the Philippines have faced many socioeconomic challenges, such as political instability, economic devaluation, high rates of crime, corruption, poverty, undeveloped infrastructure, among other issues. However, the Philippines has been able to take advantage of multiple available measures for innovative processes and economic development. For example, a well-established public English language proficiency has increased the incomes, by enabling the right conditions for international labor mobility. The Philippines had more than 10 million labor migrants, compared to about 600,000 in Vietnam, and the Philippines have further established an investment fund to develop 2000 start-up businesses from now up to 2020. The government has allocated more than two billion US dollars to support new enterprises, in order to promote national socioeconomic development (Phuoc, 2016).

To promote the enterprise development of the countries, universities supply the potential resources, their students. Studies as those of Tran and Thanh (2015), Pruett, Shinnar, Toney, Llopis, and Fox (2008), Plant and Ren (2010), Mutlutürk and Mardikyan (2018) have explored the role of various determinants to entrepreneurial intentions, including individual characteristics such as self-efficacy (Mutlutürk & Mardikyan, 2018; Pruett et al., 2008), personal variables and perceived supports (Tran & Thanh, 2015), and internal factors within the universities' teaching subjects and activities. Such studies have examined the entrepreneurial intentions and their determinants in the context of cross-cultural environments with various findings. As suggested by Pruett et al. (2008), continued work on the relationship between cultural and psychological factors should be addressed by differences in various cultural aspects in entrepreneurship.

As mentioned, Vietnam and the Philippines have shared similar features and motivation in enterprise development, including their ranks in the GII 2018 (WIPO - World Intellectual Property Organization, 2018), but with unique cultural characteristics. This comparative study focused on exploring the relationship between the start-up environment and entrepreneurial intentions of university students in two countries, and thereby; aim to give policy recommendations to promote the entrepreneurial intentions among the students.

2. Materials and methods

2.1. Relevant theories

Entrepreneurial intentions and the preparation for enterpreneurship are behavioral factors which are hard to be measured. Some theories have explained entrepreneurial intentions in the relations to various determinants as follows:

2.1.1. Theory of reasoned action (TRA) and Theory of planned behavior (TPB)

In the TRA by Ajzen and Fishbein (1980), intentions were assumed to capture the motivational factors influencing a particular behavior of individuals. These factors indicated the level of behavioral willingness or effort for each individual. According to TRA, the actions of an individual were determined by intentions, and these intentions were influenced by two factors: personal attitudes and subjective norms. In particular, personal attitudes were measured by patterns of belief and performance evaluations of behavior.

The subjective norms were defined by Ajzen and Fishbein (1980), as the perceptions of people who, whom socially influenced, decide whether or not to behave in a certain way. These included social influences deriving from opinions of the family, friends, colleagues and external influences like the community, and public views.

On a continued work, the TPB by Ajzen (1991), was focusing on behavioral awareness, by addressing levels of personal awareness regarding control and limitations connected to the performance of a specific behavior.

Ajzen's TRA and TPB, have been widely recognized in many studies (Eagly & Chaiken, 1993; Olson & Zanna, 1993; Shapero & Sokol, 1982), especially within the academic field, as well as within studies focusing on entrepreneurial intentions. According to Bird (1988), entrepreneurial intentions were the determinants of an individual's interest in doing business, and thereby were acting towards a particular business concept. Establishing a new enterprise usually comes with risks of unforeseen uncertainties, and requires entrepreneurs to have specific skills, knowledge, and motivation in order to circumvent these possible challenges.

2.1.2. The theory of entrepreneurial events of Shapero and Sokol (1982) and the model of entrepreneurial potential of Krueger, Reilly, and Carsrud (2000)

The theory of entrepreneurial activities was developed by Shapero and Sokol (1982), and it stated that establishing a new enterprise is an event, which was influenced by necessary changes in life and personal attitudes. In particular, these life-changing measures were shown by two groups of factors: i) pull factors (such as financial support and finding partners, etc.) and ii) push factors (like unemployment and excessive time, etc.); and these attitudes were becoming visible by two aspects of personally perceived feasibility and entrepreneurial desirability. Building on the theory of entrepreneurial events (EES) (Krueger et al., 2000), Shapero and

Sokol (1982) developed the model of entrepreneurial potential. In particular, Krueger et al. (2000) brought out three factors, which affected an individual's entrepreneurial potential: i) the perceived desirability of starting a new business; ii) the perceived feasibility and iii) action tendencies. This theoretical model was builded on many of the same aspects as the theory of entrepreneurial events in which changes in life were replaced by trends of action.

2.1.3. The relationship between the institutional environment and the entrepreneurial intentions

The concept of institutions was initially explored by North (1989). He saw institutions as the 'rules of the game' within a given society, or as the constraints, which humans create to adjust to, and shape interactions. The institutional system comprised of three significant constituents: i) formal institutions (laws, rules, etc.); ii) informal institutions (traditions, social codes of conduct, culture, etc.) and iii) sanctions. North (1989) believed that some institutions could promote the development of a given economy, while other institutions might cause economic and societal stagnation. Other studies, such as the ones of Gupta et al. (2012) and Nguyen, Bryant, Rose, Tseng, and Kapasuwan (2009) also stated that there was coherency between the institutional environment and the development of an individual's entrepreneurial intentions. Nguyen et al. (2009) showed that there was an interaction between cultural and institutional factors regarding entrepreneurial motivation. Specifically, in some societies where the legal policies were clear, the material and knowledge resources were sufficiently provided for the establishment of new enterprises, so individuals will have greater motivation to start up and develop the enterprises. In addition, the study of Gupta et al. (2012) argued that a nation's institutional structure would significantly affect the entrepreneurial intentions of young people.

2.1.4. The relationship between entrepreneurial education and the entrepreneurial intentions

Entrepreneurial education was, according to Ooi, Christopher and Denny (2011), consisting of programs, regular courses or extracurricular courses, along with lectures that provide students with knowledge, skills, and motivation to pursue their entrepreneurial careers. Turker and Selcuk (2009) emphasized the positive roles of support functions in an educational environment, by encouraging students' entrepreneurial intentions. Hence, entrepreneurial education environments could support and equip students with the necessary general skills. Entrepreneurial skills, such as technical skills, personal entrepreneurial skills, and management skills, were important factors, which promote students' readiness for starting new businesses (Lim, Lee, & Cheng, 2012). Students who studied different majors have different basic levels of readiness concerning business startups. Remeikiene, Startiene, and Dumciuviene (2013) stated that for business students, business education not only offered useful knowledge of business startups but also contributed to developing personal characteristics of entrepreneurs; the rate of business startups for business students therefore increased. Another study on the relationship between knowledge of entrepreneurial education and the entrepreneurial intentions by Roxas (2014), further indicated that business knowledge, directly and indirectly, affected the entrepreneurial intentions through the changing of entrepreneurial perceived desirability and the entrepreneurial perceived feasibility.

2.2. Research model

Ajzen (1991) argued that a person's perception of his ability to control behavior affects his intention. It is the perception of how difficult or easy it is to complete start-up behaviors. This viewpoint is similar to the concept of the perceived feasibility of the Shapero and Sokol's SEE model (Shapero and Sokol, 1982) (Shaperos Model of the Entrepreneurial Event - SEE) because both models refer to an individual's ability to complete start-up behaviors. According to Shapero and Sokol (1982), the intention to start a business appears when an individual discovers an opportunity that he finds feasible and wants to take that opportunity. However, in order to plan into action, catalysts are needed. These are changes in lives, daily working and learning processes. An individual has a change in behavior when pulling and pushing factors occur. Such changes may lead to the intention to start a business or lead to other options. This choice depends on the environmental impacts of the surroundings (Shapero and Sokol (1982)). In the educational environment, the changes mentioned depend heavily on teaching and extracurricular activities to train students to become more complete entities of knowledge, skills and attitudes. The study of Heilbrunn & Almor, 2014 (Heilbrunn & Almor, 2014) also showed that entrepreneurial education and socio-economic conditions affect the perceived feasibility.

In addition, subjective norms have a great influence on an individual's behavior. The opinions of those around make the individual assess whether the startup is successful or not. This is reflected in the perceived feasibility which, then, leads to the entrepreneur intention (North, 1989) (NF Krueger et al., 2000).

According to the study of Zain, Akram, and Ghani (2010) on entrepreneur intentions of Malaysian students, it also showed that entrepreneur intentions were influenced by family members (subjective norms), and participating in business courses (entrepreneurial education). On the other hand, Wang, Lu, and Millington (2011) showed that entrepreneurial desirability and work experience have direct impacts on entrepreneur intention of students in China and the United States.

Shapero model (1982), SEE, identified three premise factors affecting entrepreneur intentions including perceived feasibility, entrepreneurial desirability and action trends. Perceived feasibility and entrepreneurial desirability are very similar to TPB's attitude towards behavior and cognitive control behavior (Autio et al., 2001).

The research model of this study was inspired by combining theories above including i) TPB of Ajzen (1991) and ii) theory of entrepreneurial events (Shapero & Sokol, 1982) and the model of the entrepreneurial potential (Krueger et al., 2000). Besides, the proposed research model, the study was well aware of other influencing factors, including national norms (Heilbrunn & Almor, 2014), the institutional environment (Gupta et al., 2012; Nguyen et al., 2009); the entrepreneurial education (Lim et al., 2012; Remeikiene et al., 2013; Roxas, 2014; Turker & Selcuk, 2009); and factors of personal characteristics. The research model proposed in Fig. 1. *Elements of the proposed research model* and their measures include:

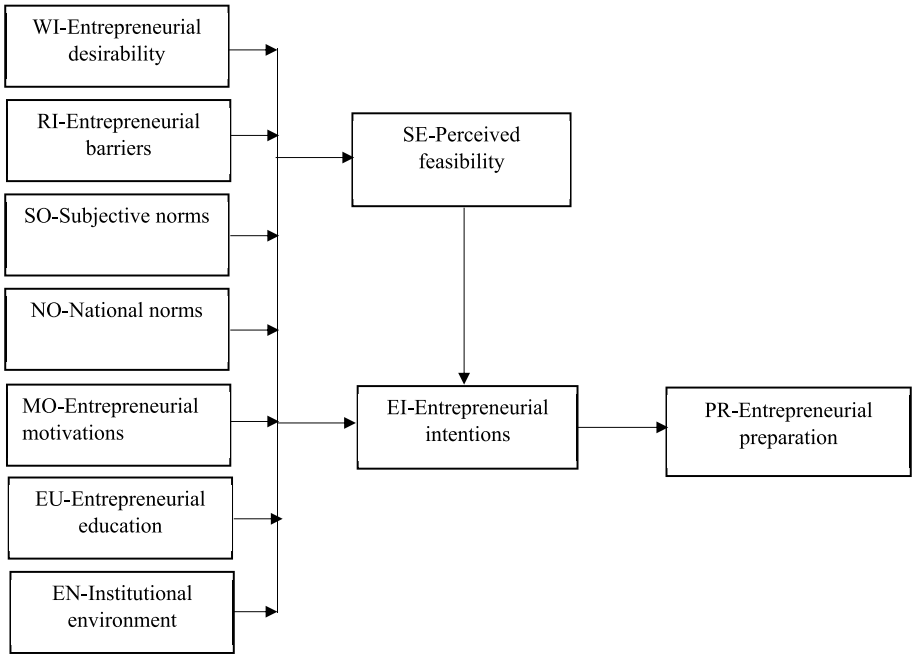

Fig. 1. The proposed research model.
Source: Adopted by authors

In which:

- *WI-Entrepreneurial desirability* was defined as "the degree to which starting a new business is perceived as a desirable career option" (Krueger & Brazeal, 1994) and reflected by three observed variables in this study;
- *RI-Entrepreneurial barriers* in this study included main entry barriers and measured by five observed variables;
- *SO-Subjective norms* were "the perceived social pressure to perform or not to perform the behavior" (Ajzen, 1991) and reflected by eight observed variables;
- *NO-National norms* included five observed variables which reflect the way the society perceives to the entrepreneurs and entrepreneurship;
- *MO-Entrepreneurial motivations* were measured by seven observed variables reflecting self-motivation for entrepreneurship;
- *EU-Entrepreneurial education* included five observed variables which reflect the knowledge, skills and attitudes taught in the university in entrepreneurial subjects;
- *EN-Institutional environment* was reflected by ten observed variables to measure policies to support entrepreneurs.
- *SE-Perceived feasibility* was defined as "the degree to which starting a new business is perceived as a feasible career option" (Zain et al., 2010) and measured by six observed variables.
- *EI-Entrepreneurial intentions* were defined in this study as desire, wish and hope to influence their choice of entrepreneurship and reflected by five observed variables;
- *PR-Entrepreneurial preparation* was the last element of the model which indicate the readiness level for starting up a business and measured by seven observed variables in this study.

Methodologically, this proposed model is formed by combining some key theories above. Research results are expected to test the appropriateness of this proposed model in the context of Vietnam and the Philippines.

2.3. Sampling and analytical methods

2.3.1. Research sample

The research used a convenience sampling technique to collect the information of students in 2018 in Vietnam and the Philippines. The sample size of this research comprised of 819 students in the fourth year (after eliminating incomplete questionnaires) at five universities, including 496 students from universities in the South of Vietnam (Tra Vinh University, Tien Giang University, Tay Do University) and 323 students (Central Philippines University and Southern Leyte State University) in the Philippines.

2.3.2. Data processing method

The research used both qualitative and quantitative methods as follows:

- *The qualitative method*: Firstly, we reviewed the literature to outline the questionnaire including latent variables. Then, we discussed to some experts who are university lecturers in Vietnam or the Philippines and have experiences in business start-up training or mentors in business incubator centers to build the structured questionnaire with observed variables, consisting of the five-point Likert scale. The questionnaires were tested by interviewing thirty students. The testing data was used to check the reliability and the scale value and other issues, mostly related to the way to express the observed variables and finalize the questionnaire.
- The quantitative method:
  - Cronbach's Alpha was used to measure the internal consistency of observed variables in a latent variable and to verify the reliability of the scales of factors, included in the model. According to Hair et al. (Wang et al., 2011) and Nunnally and Bernstein (1994), a reliability coefficient of 0.70 or higher is considered "acceptable" in most social science research situations.
  - A latent variable is accepted if the Cronbach's Alpha is higher than 0.60 and the Corrected Item-Total Correlation, which is smaller than 0.30 will be deleted from the model.
  - Exploratory Factor Analysis (EFA) was carried out to determine the effects of the start-up environment, the cultural and social factors, the entrepreneurial education and the personal perceptions to entrepreneurial intentions of students in Vietnam and the Philippines. The research was based on the KMO value, and the Total Variance Explained (TVE) to evaluate the convergent validity of the concepts in the study. In particular, if the results are satisfied that $0.50 < KMO < 1.00$, the Factor Loading > 0.5 (Hair et al. (Krueger & Brazeal, 1994)), and the Total Variance Explained of the concepts is greater than 50.0% of the variance (Hair, Money, Samouel, & Page, 2007), these concepts are acceptable.
  - Confirmatory Factor Analysis (CFA) was done to check the existence of the observed variables, and to check the relationship of concepts, which aims at affirming the convergence and the unidimensionality. The model is considered to be suitable for the real data when the Chi - square test has a p-value which is larger than 0.05. Furthermore, if the model has the values GFI, TLI, CFI ≥ 0.90 (Bentler & Bonett, 1980); CMIN/df ≤ 2; RMSEA ≤ 0.08 and RMSEA ≤ 0.05 (Hair et al., 2007); Steiger, 1990), the model is appropriate to the real data.
  - Structural Equation Modelling (SEM) was used to determine and quantify the relationship of the factors of the entrepreneurial environment, the cultural and social factors, the entrepreneurial education, and the personal perceptions to entrepreneurial intentions of students in Vietnam and the Philippines. In particular, the values of the Chi-square test, CMIN/df, GFI, TLI, CFI and RMSEA of SEM also have the same requirements as the values in CFA.

3. Results

3.1. The evaluation results of the scale in the research model

3.1.1. Reliability measurement by Cronbach's Alpha

The results of the Cronbach's Alpha test showed that the scales to measure the concepts of entrepreneurial desirability (WI), subjective norms (SO), institutional environment (EN), entrepreneurial barriers (RI), entrepreneurial motivations (MO), national norms (NO), entrepreneurial education (EU), perceived feasibility (SE), entrepreneurial intentions (EI), and entrepreneurial preparation (PR) were appropriated with Cronbach's Alpha greater than 0.60 and the Corrected Item-Total Correlation of variables greater than 0.3. Therefore, the scales of concepts were acceptable and reliable enough to be included in the EFA in the next step.

3.1.2. Exploratory Factor Analysis (EFA)

The results from the EFA in the preliminary research dropped *the institutional environment (EN)* from the model because the factor loading of this variable is smaller than 0.50 and the variable did not achieve the discriminant validity and convergent validity. Other observed variables were included in the official analysis model. The results from the final EFA showed that the KMO value satisfied the condition of $0.50 < KMO < 1.00$ and the TVEs of concepts were greater than 50.0% of the variance.

3.1.3. Confirmatory Factor Analysis (CFA)

The results from the CFA indicated that the values of the model were satisfying in all conditions including Chi-square/df $= 2.444 \leq 3$; RMSEA $= 0.042 < 0.05$; and the values GFI, TLI, CFI ≥ 0.90. Therefore, it was possible to conclude that the research model was consistent with real data. The standardized coefficients of the scales were larger than 0.50 and statistically significant at the 5.0% level, and the correlation coefficients between factors were smaller than 0.80. The variables were ensured to achieve the convergence and the unidimensionality.

3.2. Determinants of entrepreneurial intentions and preparations

SEM was assumed as an appropriated method to test and measure the relations of factors. The analysis from the SEM showed the all indicators were satisfied including Chi-square/df $= 2.737 \leq 3$, RMSEA $= 0.046 < 0.05$; and the values of TLI $= 0.917$, CFI ≥ 0.925. These indicators reflected that the model was consistent with the real data (see Table 1).

Fig. 2 and Table 2 showed that the factors of subjective norms, entrepreneurial education, entrepreneurial desirability, and entrepreneurial motivation had positive relationships with the perceived feasibility. In particular, entrepreneurial education was the key determinant of perceived feasibility with a weight of 0.426. On the other hand, entrepreneurial barriers negatively affected the perceived feasibility. Perceived feasibility and other factors, like subjective norms, entrepreneurial motivation, and entrepreneurial

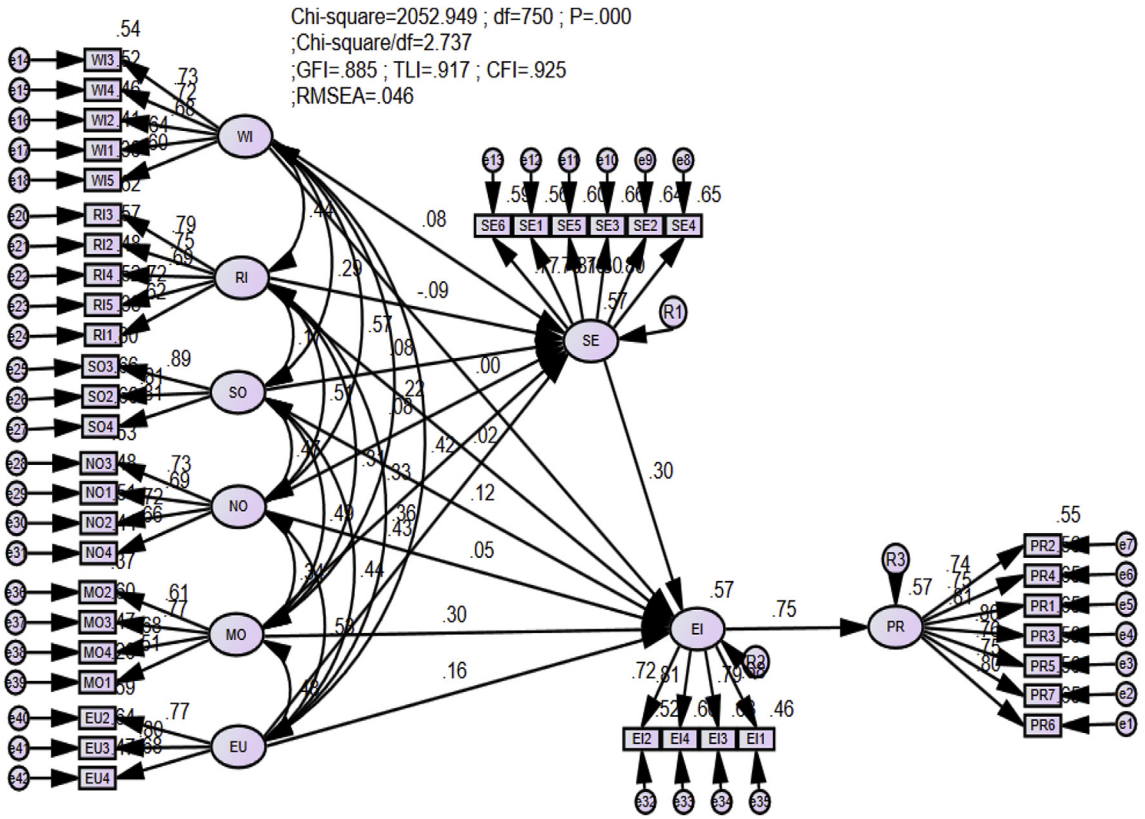

Fig. 2. The structural relation of factors.
Source: Authors' estimation, 2018.

Table 1
The results of verifying the reliability of the scale.
Source: Author's estimation, 2018.

Factors	Observed variables	Reliability		Percentage of variance explained (ρvc %)
		Cronbach's Alpha (α)	Composite Reliability (ρc)	
WI-Entrepreneurial desirability	5	0.804	0.806	46
SO-Subjective norms	4	0.847	0.856	60
RI-Entrepreneurial barriers	4	0.803	0.807	51
MO-Entrepreneurial motivation	4	0.741	0.745	43
NO-National norms	4	0.792	0.794	49
EU-Entrepreneurial education	5	0.821	0.825	49
SE-Perceived feasibility	6	0.905	0.906	62
EI-Entrepreneurial intentions	4	0.845	0.857	58
PR-Entrepreneurial preparation	7	0.912	0.913	60

education, had positive influences on the intermediate factor (entrepreneurial intentions). The intermediate factor was simultaneously a new factor discovered from this research, which had a positive impact on the entrepreneurial preparation with a weight of 0.755. Among the factors assumed as determinants of entrepreneurial intentions, the study found that there was no significant difference between entrepreneurial barriers, entrepreneurial desirability, national norms, and entrepreneurial intentions. These relations would be examined again for each nation, to test if there were differences in these factors by nations.

3.3. Assessing statistical reliability by bootstrap

The research was carried out in the territory of the two nations, and the number of observed variables of the concepts was rather large, while the size of the sample in the research was less than 900. To deal with the sample size issue and the assumptions multivariate normality of data, the bootstrap method was applied with the number of repeats of 1000 times. The average estimated results were presented in Table 3. Bootstrapping results showed that the absolute value of CR (Critical ratio) was relatively small

Table 2
The estimated value of the relationship of the theoretical model.
Source: Authors' estimation, 2018

Relationship of concepts			Estimate	S.E.	C.R.	P
SO	→	SE	0.084	0.031	2.076	0.038**
EU	→	SE	0.426	0.049	8.950	0.000***
WI	→	SE	0.084	0.052	2.006	0.045**
RI	→	SE	−0.092	0.042	−2.321	0.020**
NO	→	SE	0.078	0.058	1.503	0.133
MO	→	SE	0.334	0.050	7.177	0.000***
SO	→	EI	0.117	0.029	2.903	0.004***
MO	→	EI	0.299	0.050	5.904	0.000***
EU	→	EI	0.159	0.049	3.105	0.002***
SE	→	EI	0.301	0.048	5.820	0.000***
RI	→	EI	0.017	0.039	0.427	0.670
WI	→	EI	0.004	0.048	0.090	0.928
NO	→	EI	0.048	0.054	0.930	0.353
EI	→	PR	0.755	0.056	17.466	0.000***

*, **, *** respectively significant levels at α of 10%, 5% and 1%.

Table 3
The results of assessing statistical reliability by Bootstrap.
Source: Author's estimation, 2018

Parameter			Estimates	SE	SE-SE	Mean	Bias	SE-Bias	CR
SO	→	SE	0.084	0.049	0.001	0.084	0.000	0.002	0.000
EU	→	SE	0.426	0.052	0.001	0.426	0.000	0.002	0.000
WI	→	SE	0.084	0.049	0.001	0.087	0.003	0.002	1.500
RI	→	SE	−0.092	0.041	0.001	−0.091	0.002	0.001	2.000
NO	→	SE	0.078	0.063	0.001	0.075	−0.003	0.002	−1.500
MO	→	SE	0.334	0.051	0.001	0.334	0.000	0.002	0.000
SO	→	EI	0.117	0.053	0.001	0.116	−0.001	0.002	−0.500
MO	→	EI	0.299	0.065	0.001	0.302	0.003	0.002	1.500
EU	→	EI	0.159	0.070	0.002	0.155	−0.004	0.002	−2.000
SE	→	EI	0.301	0.065	0.001	0.304	0.002	0.002	1.000
RI	→	EI	0.017	0.044	0.001	0.017	0.000	0.001	0.000
WI	→	EI	0.004	0.048	0.001	0.006	0.002	0.002	1.000
NO	→	EI	0.048	0.065	0.001	0.048	0.000	0.002	0.000
EI	→	PR	0.755	0.028	0.001	0.757	0.002	0.001	2.000

*, **, *** respectively significant levels at α of 10%, 5% and 1%.

Table 4
Structural relation of factor using Multigroup analysis.
Source: Author's estimation, 2018

Relationships			Vietnam				The Philippines				Invariance			
											H_0: no difference in the factors between the two nations			
			ML	S.E.	C.R.	P	ML	S.E.	C.R.	P	ML	S.E.	C.R.	P
SO	→	SE	0.077	0.042	1.843	0.070*	0.132	0.048	2.156	0.030**	0.089	0.031	2.267	0.020**
EU	→	SE	0.415	0.078	5.348	0.000***	0.402	0.067	6.166	0.000***	0.408	0.050	8.982	0.000***
WI	→	SE	−0.020	0.061	−0.322	0.750	0.311	0.102	3.798	0.000***	0.078	0.051	1.881	0.060*
RI	→	SE	−0.086	0.063	−1.371	0.170	−0.132	0.060	−2.137	0.030**	−0.088	0.043	−2.433	0.020**
NO	→	SE	0.383	0.078	4.937	0.000***	0.316	0.091	4.705	0.000***	0.351	0.056	7.008	0.000***
MO	→	SE	0.126	0.079	1.592	0.110	−0.081	0.104	−0.900	0.370	0.070	0.059	1.344	0.180
SO	→	EI	0.082	0.041	1.995	0.050*	0.151	0.045	2.415	0.020**	0.122	0.030	3.165	0.000***
MO	→	EI	0.273	0.081	3.377	0.000***	0.340	0.095	4.447	0.000***	0.291	0.057	5.529	0.000***
EU	→	EI	0.035	0.079	0.446	0.660	0.247	0.069	3.411	0.000***	0.148	0.051	3.074	0.000***
SE	→	EI	0.348	0.069	5.010	0.000***	0.224	0.073	2.833	0.010**	0.290	0.050	5.685	0.000***
RI	→	EI	0.001	0.060	0.009	0.990	0.061	0.098	0.707	0.480	0.013	0.050	0.326	0.750
WI	→	EI	0.002	0.062	0.039	0.970	0.013	0.057	0.213	0.830	0.009	0.041	0.238	0.810
NO	→	EI	0.148	0.079	1.879	0.060*	−0.040	0.096	−0.439	0.660	0.046	0.057	0.894	0.370
EI	→	PR	0.834	0.060	13.947	0.000***	0.744	0.087	10.746	0.000***	0.774	0.049	17.623	0.000***

*, **, *** respectively significant levels at α of 10%, 5% and 1%.

compared to 2 while the bias was relatively small and not statistically significant at the 95.0% confidence level. Thus, estimates in the model can be trusted (see Table 4).

3.4. The multigroup structural analysis of the difference between the start-up environments in Vietnam and the Philippines

The multigroup structural analysis method was used to compare the research models of the relationship between the start-up environment and the university students' entrepreneurial intentions in Vietnam and the Philippines. In particular, the number of observations at the universities in Vietnam was 498, which made up 61.0%, and 31.0% of the other views were at the universities in the Philippines. The results of the multigroup structural analysis regarding the difference between the two nations showed that the p-value is at 0.0878 > 0.05. This emphasized that the relationship between the entrepreneurial environment and entrepreneurial intentions in two nations – Vietnam and the Philippines – had no significant difference. In particular, the factors like the national norms, the entrepreneurial education for students, or subjective norms (friends, family, relatives, etc.) and the entrepreneurial desirability, had positive effects on students' attitudes in shaping the perceived feasibility of starting a business. The perceived feasibility of the creation of a new business was the intermediate factor, which had a positive effect on the formation of the students' entrepreneurial intentions in two nations. Additionally, the impact of the subjective norms, the role of the entrepreneurial education and motivations contributed to influencing the entrepreneurial intentions positively. However, there was no statistical evidence to prove that there was a direct relationship between the entrepreneurial barriers, the entrepreneurial desirability and the national norms affecting the students' entrepreneurial intentions. The estimated results also expressed that entrepreneurial intentions had positive influences on the formation of students' behavior in the entrepreneurial preparation.

4. Conclusions and discussions

The study examined the determinants of entrepreneurial intentions and preparations of students in universities in Vietnam and the Philippines. The findings showed that entrepreneurial education was the key determinant of perceived feasibility with a weight of 0.426. This result was consistent, with the existing studies (Ajzen, 1991; Gerbing & Anderson, 1988; Lim et al., 2012; Pruett et al., 2008; Turker & Selcuk, 2009). Furthermore, perceived feasibility, subjective norms, entrepreneurial motivation, and entrepreneurial education shown positive influences on entrepreneurial intentions. Among these factors, entrepreneurial motivation reflected individual characteristics which were similar as the factor of self-efficacy as shown in the study of Mutlutürk and Mardikyan (2018); Pruett et al. (2008), and personal variables in the study of Tran and Thanh (2015). On the other hand, entrepreneurial barriers negatively affected the perceived feasibility, which was in line with the research results of Pruett et al. (2008). However, the relations between entrepreneurial barriers, entrepreneurial desirability, national norms, and entrepreneurial intentions were not significantly, in the context of two nations.

While the respective governments have attempted to create favorable environments for startups, it is essential to consider the important role of entrepreneurial education. In universities, entrepreneurial education aims at providing knowledge, skills, and enhanced attitudes for students to promote their entrepreneurial activities. The findings clearly reflected the vital role of entrepreneurial education.

According to Global entrepreneurship index (GEI) 2018 (Bentler & Bonett, 1980), the Philippines and Vietnam were ranked by 17 and 18 respectively of the Asia-Pacific region. Both countries may share similar issues in entrepreneurial education. In Global entrepreneurship monitor (GEM) 2018 (Steiger, 1990), among 12 indicators of entrepreneurial condition, two indicators of Vietnam with the lowest ranking are: entrepreneurship education-post-school (ranked 40/54), governmental programs (43/54). Meanwhile, although the contents of entrepreneurial education have been integrated into the education system in the Philippines; however, the focus of entrepreneurial education still encourages startups with lack of creativity and innovation. In addition, there is also minimal support from academia and industries to help entrepreneurs to develop their businesses (Zhao & Scott, 2005).

From the practices of two countries, it is necessary to integrate the content of entrepreneurship in education system and gives attentions to creativity and innovation. Furthermore, entrepreneurial subjects related to the creation of a new business, were not only useful for business students, but also for those within other study fields. Hynes (Ács, Szerb, & Lloyd, 2018) argued that entrepreneurial education should be incorporated into the non-business disciplines of engineering and science where business/product ideas emerge, but students in such disciplines are often forgotten or ignored because they are not sufficiently educated in the knowledge and skills required.

It is essential to innovate the awareness of opinions and targets when setting up training programs. Specifically, in addition to teaching specialized knowledge, it is advisable to establish and develop new information on career orientation for students, besides the traditional career orientation of today. Such activities are to train students to have not only the knowledge and practical skills to work for enterprises, but also to have the motivation of entrepreneurs who can create jobs and establish businesses themselves, to contribute to the broader socioeconomic development.

From the findings in two countries and in comparison, to existing studies, this study believed that entrepreneurial intentions and their determinants may differ by various cultural and social backgrounds. Therefore, this study was limited in the context of two countries and specified to the students' perspectives only. Continued work should examine these relations in different contexts.

Significance statement

This study discovered the determinants of entrepreneurial intentions and preparations in the perspectives of university students in

Vietnam and the Philippines. The findings were expected to contribute to the further studies of entrepreneurship and can be beneficial for policy makers to support the enterprise development in two countries.

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