

Engineering Students' Entrepreneurial Intentions: Comparison Analysis between University and Polytechnic

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Abstract: Comparing Entrepreneurial Intentions (EI) between Engineering students from University and Polytechnic was the focus of this research. The problem to be discussed was looking for the influence between Attitude, subjective norms, and Perceived Behavioural Control (PBC) factors based on Theory Planned Behaviour (TPB) on Entrepreneurship Education (EE) and Entrepreneurial Intention (EI). The aim of this study to enrich Entrepreneurship Education (EE) methods and modules. The population in this study were engineering students at public Polytechnics and Universities in Medan, North Sumatera. The study used a convenience sampling technique with respondents as many as 255 engineering students of University and Polytechnics in Medan city. Data analysis techniques used SmartPLS 3.2.1 software. The analysis results divided into two parts; a model for University Engineering students and a model for Polytechnic students. The results obtained to state that for direct influence, only the Perceived Behaviour Control (PBC) variable has the most positive and significant impact on Entrepreneurship Education (EE) and Entrepreneurial intentions (EI) for Engineering student at the University and Polytechnic. Meanwhile, only Attitude and PBC has a significant effect on Entrepreneurial Intention (EI) with Entrepreneurship Education (EE) as a moderating variable of students of the University.

Index Terms: entrepreneurial intentions, entrepreneurship education, Theory Planned Behaviour (TPB), engineering students

Introduction

According to the Indonesian Central Statistical Agency [1], the number of unemployed in Indonesia decreased in August 2019. The number of open unemployed recorded at 7.05 million people or 5.28% of the total workforce was 5.34%. This situation does not include the underemployed, amounts to 8.14 million and 28,41 million people part-time workers [2]. However, this number will suddenly change rapidly and significantly with the coronavirus outbreak globally. The unavoidable layoffs of employees and workers due to this epidemic had made the number of unemployed massively increase. The Center of Reform on Economics (CORE) estimates that the number of open unemployment could rise to 9.35 million in the second quarter of 2020, with an additional 5.2 million unemployed [3]. Of course, this situation is a threat to today's job seekers who hardly compete with current workers. Condition of companies in Indonesia, which is still deteriorating due to the epidemic, has made the competition for job-seekers tighter.

Students cannot underestimate this situation. The fewer jobs, increasing competition for positions in companies are things that students must pay attention to before entering the world of work. Because of the above conditions, one way to avoid competition for job searches is inevitable, so it is better to become an entrepreneur who can create jobs for other people. Becoming an entrepreneur usually thought of by many business students, even before choosing the major in college. Nevertheless, very few students from the Department of Engineering likely intend to become entrepreneurs after finishing college. This information is essential for this study to escalate the entrepreneurial intentions for engineering students since studying in college. The intention to become an entrepreneur plays a significant role in starting a business [4].

Entrepreneurial education is needed to generate entrepreneurial intentions for students who can hone students' abilities and competencies through education and meta-analysis [5]. Authors wanted to observe the factors to prompt the students' entrepreneurial intentions and the entrepreneurship education methods in fostering entrepreneurial intentions.

This study compared the opinions between the University and Polytechnic's students based on the differences in the educational objectives given. In University, education mostly develops for academic skill and scientific purposes. On the other hand, Polytechnic students must master particular skills and gain competency with 60% practical and 40% theory. The topic appeals to the objective's differences between the universities and polytechnics mentioned above. It is necessary to know what factors can influence entrepreneurial education patterns on target for Engineering students at Universities and Polytechnics to enhance their entrepreneurial intention.

The entrepreneurial theories for Engineering students presented by using the TPB (Theory of Planned Behaviour from Fishbein and Ajzen [6] to examine respondents' behaviour towards things that widely used by researchers [7]. TPB used widely in the various researches and used in this study. To explain entrepreneurial activities, including individual entrepreneurship efforts based on three dimensions: Attitude, Subjective Norms, and Self-Efficacy [8]. These TPB dimensions also affect the effectiveness of entrepreneurship education [9]. Below were sub-objectives given:

1. To examine the effect of each variable of Theory of Planned Behaviour (TPB) which are subjective norms and perceived behavioural control (PBC), on Entrepreneurship Education and Entrepreneurial Intentions.
2. To examine Entrepreneurial Education as a mediating role of Entrepreneurial Intention.

I. LITERATURE REVIEW

Entrepreneurial Intentions (EI) defined as a strong self-acknowledgement by someone who intends to build a new business in the future [10] and as a social phenomenon that documented through the theory of Planned Behaviour [11]. Entrepreneurial Intentions describes the expression of someone's willingness to build a new business by identifying business opportunities [12]. A person's expertise and competence are the relevant triggers for entrepreneurial intentions, including technological skills, procedural and managerial skills, and participating in various training/education [13].

Entrepreneurship Education (EE) contains many educational programs or processes for entrepreneurial attitudes and abilities [14]. It is challenging to create an entrepreneurial spirit at the beginning of learning because not everyone has the intention to become an entrepreneur. Each individual has a different psychological approach to show an entrepreneurial spirit and contribute to economic growth [15]. Therefore, it is necessary to have Entrepreneurial Education as insight and competence to do tasks in general and also an alternative for career choices in work [16], [12].

It cannot be denied that graduates from engineering low in number to establish new businesses than graduates from other fields [17]. So, the particular entrepreneurship education required according to their needs [18]. EI believed in providing engineering students with the ability to recognise business opportunities, identify problems, and generate new ideas [19] based on planning, creativity [20], and programs [21].

As the first factor of the Theory of Planned Behaviour (TPB), Attitude is the individual's way of thinking or feelings or opinions about entrepreneurial activities positively addressed to overall function. It considered a challenge [22] dan [23] also described as individual preferences related to circumstances that lead to advantages and disadvantages [15]. Personal Attitude applies to perceived feasibility as a primary factor for individual self-efficacy, significantly influences entrepreneurial behaviour [24] and [25]. Attitude has several components: empathy, openness, authority, responsibility and the ability to evaluate others, making other individuals as role models and examples [26], obtaining financial benefits, self-satisfaction, and able to control stress in the job [11].

Although several studies stated that Attitude did not significantly predict entrepreneurial intentions [27], it mentioned that the relationship between individual perceptions could be learned [28]. [29] noted that engineering students' attitudes significantly and powerfully influence entrepreneurial Intentions (EI). The better and more positive a person's Attitude towards proper behaviour, the stronger the intention to start a business [20]. This study proposes the following hypotheses based on Attitude measuring Entrepreneurship Education (EE) and Entrepreneurial Intention (EI):

- H1. Attitude has a positive effect on Entrepreneurship Education (EE)
- H2. Attitude has a positive effect on Entrepreneurial Intentions (EI)

The second factor of TPB is subjective norms as a function of perceived normative beliefs related to society's influence on individual intentions and behaviour or both [15]. It has a significant impact on family, friends, colleagues based on personal motives to obey normative beliefs [30]. It is related to a person's perceptions or opinions from reference groups such as family and friends that influence someone's behaviour [20]. In entrepreneurship, the individual's view comes from the trust and support of family, friends, or people considered essential [31]. Subjective Norms trusted to make someone follow directions or suggestions from people around them to participate in entrepreneurial activities [32]. Subjective norms showed a significant impact on Entrepreneurship education/program (EE) and played an essential role in forming students as entrepreneurs [33]. The reverse results showed that subjective norms significantly influence business students positively and negatively for engineering students with EE as a mediating factor [20]. In another research, the effect of subjective norms on entrepreneurial Intentions (EI) mostly focuses on parents as entrepreneurs [34]. Although studies that found subjective norms do not directly impact students' entrepreneurial intentions, it positively influences the process [35]. Specifically, the following hypotheses proposed:

- H3. Subjective norms have a positive effect on Entrepreneurship Education (EE)
- H4. Subjective norms have a positive impact on Entrepreneurial Intentions (EI).

This study's last TPB factor is Perceived Behavioural Control (PBC) / Self-Efficacy [36]. A person's belief about the possibility of carrying out planned behaviour, thoughts, mental and physical, hobbies, finances and resources. It also controls a person to take action [37]. Moreover, the ability to make something popular or expected [38] has positive effects: effort, persistence, setting goals, achievements, and consistent actions [39], [40]. If someone has the highest level of the above conditions, it will be easy to find a solution to the problem at hand [41]. Behavioural control preferred entrepreneurs who work for others because they believe in managing business, leadership and human resources [31].

Students who receive EE confidently create and evaluate entrepreneurial opportunities and manage the resources needed [20]. The effect of PBC on EI more strongly predicted to a certain extent [42], [43]. Considering the literature of PBC, the following hypotheses proposed:

- H5. Perceived Behavioural Control (PBC) has a positive effect on Entrepreneurship Education (EE)
- H6. Perceived Behavioural Control (PBC) has a positive effect on Entrepreneurial Intentions (EI).

Consequently, this study will investigate the mediation effect of Entrepreneurship Education (EE) between Theory of Planned Behaviour (TPB) factors and Entrepreneurial Intentions (EI), resulting in these following hypotheses:

- H7. Entrepreneurship Education (EE) mediates the relationship between Attitude and Entrepreneurial Intentions (EI)
- H8. Entrepreneurship Education (EE) mediates the relationship between Subjective Norms and Entrepreneurial Intentions (EI)

H9. Entrepreneurship Education (EE) mediates the relationship between Perceived Behavioural Control (PBC) and Entrepreneurial Intentions (EI).

The relationship between EE and EI on students using TPB had received much attention among researchers and professionals [14] and more robust than the connection between Business Education and Entrepreneurial Intention [5], [44]. Moreover, EE can positively and negatively affect EI [20], [44], [45]. After receiving Entrepreneurial Education (EE), the students' capacity and intention to start a business increase [21]. Thus, the following hypothesis proposed:

H10. Entrepreneurship Education (EE) has a positive effect on Entrepreneurial Intentions (EI)

Study Framework

The study framework based on the literature mentioned above on TPB for Entrepreneurial Intentions (EI), is proposed in Figure 1. In this framework, TPB dimensions urge direct influence on Entrepreneurship Education (EE) and Entrepreneurial Intentions (EI). Direct paths mentioned in hypotheses H1 to H6. Further, Attitude, Subjective Norms, and Perceived Behaviour Control (PBC) and Entrepreneurship Education (EE) assessed in terms of medication effect between TPB factors and Entrepreneurial Intentions (EI). Indirect paths specified for hypotheses H7 to H9. Hypothesis 10 described the direct impact between Entrepreneurship Education (EE) and Entrepreneurial Intentions (EI).

The model used in this study refers to the Theory of Planned Behaviour (TPB) from Fishbein and Ajzen [6] used by many previous researchers [20], [46], [47], and others. The difference between the previous model and this research was Entrepreneur Education (EE) becomes the moderating variable.

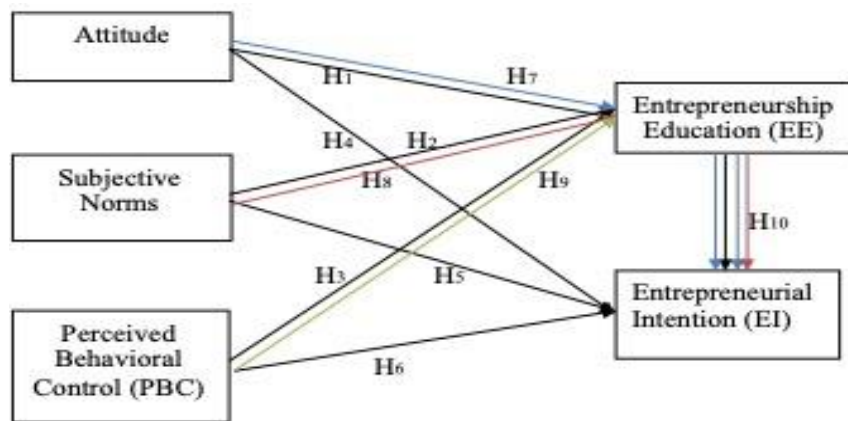


Figure 1. Model for Entrepreneurial Intentions (EI)

II. RESEARCH METHODOLOGY

This quantitative research with the descriptive method using path analysis with three independent variables: Attitude, Subjective Norms, and Perceived Behavioural Control (PBC) and two dependent variables, Entrepreneurial Education (EE) as moderating variable and Entrepreneurial Intentions (EI). About 27 statement items on the questionnaire, including 19 items for TPB variables and four items for Entrepreneurship Education (EE) and four items for Entrepreneurial Intentions (EI). The questions were in the form of five-scale Likert statements from 'strongly disagree' to 'strongly agree'. The structured questionnaire provides principal information to develop the survey instrument—the survey questionnaire for this study based on previous literature.

Data Collection

The students of educational institutions in Medan were the population in this study. This study took the sample from Electrical Engineering, Industrial Engineering, Chemical Engineering, Mechanical Engineering, Environmental Engineering, and Civil Engineering departments.

TABLE 1. Respondent Profile

Socio-Demographic		<i>f</i>	%
Gender	Male	168	65,90%
	Female	87	34,10%
Age	16-20 years old	137	53,70%
	21-25 years old	100	39,20%
	26-30 years old	18	7,10%
Education	University	149	58,43%
	Polytechnic	106	41,57%

We collected the data by distributing the questionnaire to engineering students to answer their Entrepreneurial Intentions (EI). The survey delivered and collected online through Google form and offline were circulated to gather the data and conducted from July to November 2020. This study used a convenience sampling technique with respondents as many as 255 engineering students of the Universities and Polytechnics in Medan city. As shown in the table, the distribution according to gender among Engineering students who became respondents showed that 65.9% were male and 34.1% female. Respondents of 16-20 years old were 137 people, 39.2% were 21-25 years old, and 7.1% of respondents 26-30 years old. Respondents of the Universities were 149 students (58,43%). Meanwhile, a total of 106 students or 41,57%, came from Polytechnics.

Data Analysis

Structural equation modelling (SEM) used to test the model using Smart PLS 3.2.1 package for the partial least squares approach to SEM-based analysis and multigroup analysis. This study model comprises mediating variables; therefore, PLS-SEM will ensure correct and valid terms for theory validation and predict the relationship among the variables [48]. The PLS technique estimated the study model with two steps: a structural model (outer) that establish the link among latent variables and measurement model (inner) [15].

TABLE 2. Measurement Model Results

Construct		UNIVERSITY			POLYTECHNIC		
		Loading	CR	AVE	Loading	CR	AVE
ATTITUDE			0,801**	0,574***		0,825**	0,703***
ATT1	I can understand other people character	0,791*			0,592		
ATT2	I always available providing opinions and ideas	0,745*			0,736*		
ATT3	Pleased to be given authority and responsibility	0,59			0,720*		
ATT4	Ability to judge the other's character	0,735*			0,544		
ATT5	The desire for financial freedom	0,664			0,538		
ATT6	Feeling satisfied with the successful effort	0,381			0,362		
ATT7	Able to withstand the stress under any circumstances	0,51			0,315		
SUBJECTIVE NORMS			0,869**	0,68***		0,785**	0,554***
SN1	Greatly concern about public opinions and the closest person's opinion	0,856*			0,858*		
SN2	I have the spirit of entrepreneurship because the trust from others	0,840*			0,771*		
SN3	I encouraged doing business because of the support from family, friends and my closest person.	0,794*			0,575		
PERCEIVED BEHAVIOUR CONTROL (PBC)			0,768**	0,531***		0,883**	0,716***
PBC 1	Have the confidence to manage business correctly	0,830*			0,846*		
PBC2	Determined and consistent in business	0,766*			0,844*		
PBC3	Determine planning the short, medium, and long-term goals	0,564			0,848*		
ENTREPRENEURSHIP EDUCATION (EE)			0,89**	0,67***		0,832**	0,559***
EE1	Can recognise the problem earlier	0,726*			0,552		
EE2	Able to make a good business plan and proposals	0,836*			0,800*		
EE3	I have many creative ideas to develop business	0,803*			0,772*		
EE4	I can create a comprehensive business proposal	0,9*			0,833*		
ENTREPRENEURIAL INTENTIONS (EI)			0,867**	0,62***		0,826**	0,545***
EI1	I want to be an entrepreneur	0,767*			0,776*		
EI2	I can describe the type of my future business	0,811*			0,830*		
EI3	Able to notice the successful business opportunity	0,731*			0,743*		
EI4	I will expand my business based on new ideas	0,836*			0,570		

Note: * Loading > 0,7; ** CR > 0,7; *** AVE > 0,5 ; N=27), CR: Composite Reliability; AVE: Average Variance Extracted

III. RESEARCH RESULTS

In this study, data analysis techniques used to answer problem formulations or test the hypotheses formulated using SmartPLS 3.2.1 software. In the PLS (Partial Least Square) method, the analysis techniques carried out are as follows:

Outer Model Analysis

Outer model analysis ensures that the measurement used is valid and reliable. Validity is a standard measure that shows an instrument's accuracy [49] with an outer loading value > 0.7, which is considered sufficient. Table 2 showed the convergent validity

measurement; the average variance extracted (AVE) was used, which higher than 0.5 [50]. Convergent validity indicated by AVE values ranges from 0.531 to 0.680 for University and ranges from 0.526 to 0.716 for Polytechnic. After carrying out the reduction process, several university model indicators were removed, which were ATT3, ATT5, ATT6, ATT7 and PBC3. Meanwhile, in the Polytechnic model, the indicators eliminated were ATT1, ATT4, ATT5, ATT6, ATT7, SN3, EE1, dan EI4.

So that all valid indicators used in further calculations. Reliability measures respondents' stability and consistency in answering matters relating to the construct of questions that are the dimensions of a variable and arranged in a questionnaire form [51]. The reliability of the constructs is proper if the variable has a Composite Reliability (CR) value > 0.70 (table 2). Reliability ensured by CR value for all the constructs ranges from 0.768 to 0.890 for universities and 0.765 to 0.883 for Polytechnic.

Inner Model Analysis

The inner model analysis evaluated by using the R-square for the dependent construct, the t-test and the significance of the structural path parameter coefficients. Furthermore, testing the inner model (structural model) can be evaluated by looking at the r-square (indicator reliability) for the dependent construct and the t-statistic value from the path coefficient test.

TABLE 3. R-Square (R2) values

	University		Polytechnic	
	R ²	%	R ²	%
Entrepreneurship Education	0,464	46,4	0,428	42,8
Entrepreneurial Intention	0,597	59,7	0,47	47

Based on the R-square (R2) value in the table below (table 3), it showed that all TPB variables could explain the Entrepreneurship Education (EE) variable by 46.4%. Those three TPB variables explained the Entrepreneurial Intentions (EI) variable through Entrepreneurship Education as a moderating variable of 59.7% for universities' students. Meanwhile, for Polytechnic's students, TPB variables clarify the Entrepreneurship Education variable by 44.9% even explained the Entrepreneurial Intentions (EI) for 47.9% with Entrepreneurship Education as a moderating variable.

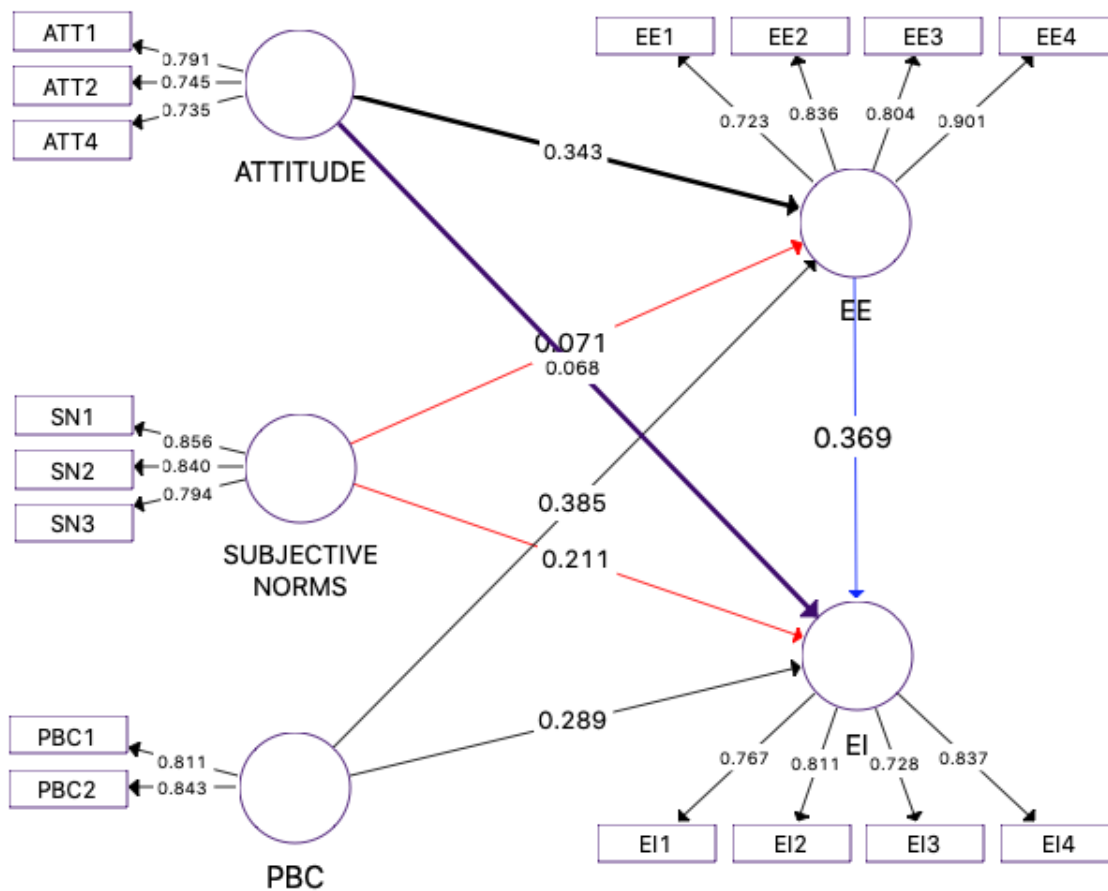


Figure 2. Model Entrepreneurial Intention of University Students

The higher the R-square (R2), the better the research model. This test aims to determine the influence of the independent variable on the dependent variable. This study explained different path coefficients and coefficients of determination (R2) of University and Polytechnic students' structural model.

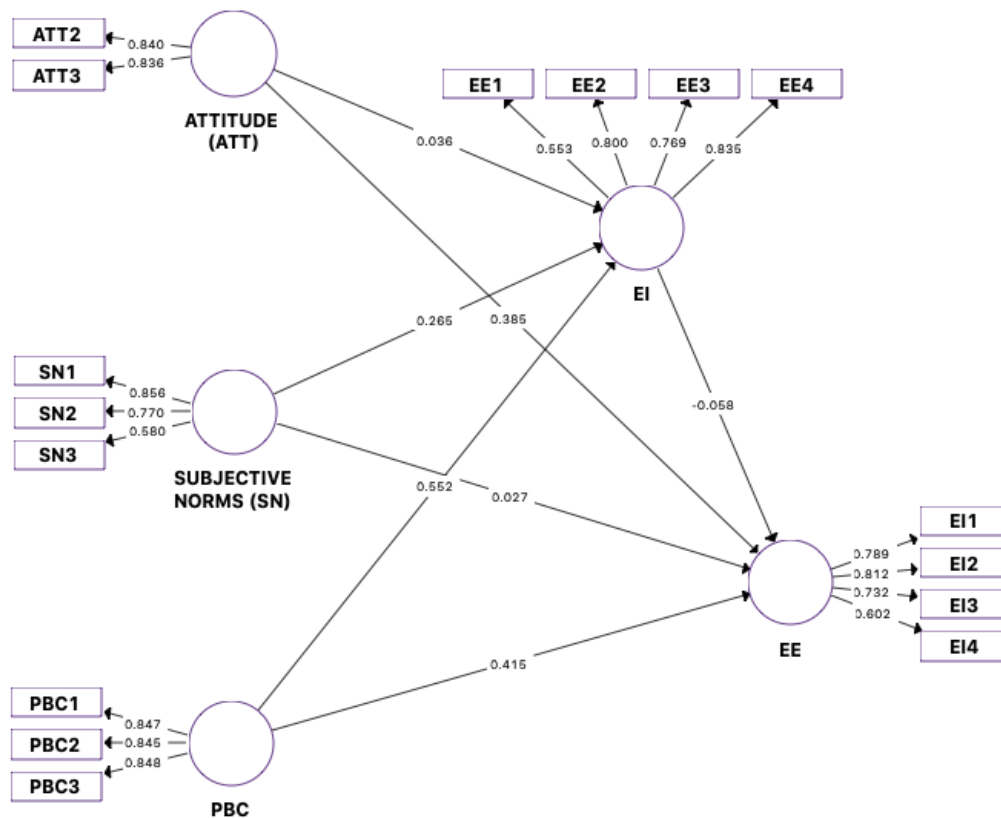


Figure 3. Model for Entrepreneurial Intentions of Polytechnic Students

Hypothesis Testing of University Students

Hypothesis testing performs based on the Inner Model (structural model) test results to see whether a hypothesis accepted or rejected, including the significance value between constructs, t-statistics, and p-values. This research hypothesis testing carried out by SmartPLS (Partial Least Square) 3.2.1 software.

1. Direct Effects

The significance value between the construct, t-statistic, and p-value can be seen from the bootstrapping results, as in table 4. Mediation analysis performed to determine the direct and indirect effects. The hypothesis was accepted if the t-statistic > 1.96 had a significance level of p-value 0.05 (5%) and the positive coefficient beta.

TABLE 4. Direct Effects of University Students

	Original Sample (O)	Sample Mean (M)	T Statistics (O/STDEV)	P Values	Hypothesis
ATT --> EE	0,343	0,349	3,909	0,000	H1
ATT --> EI	0,068	0,067	0,802	0,423	H2
SN --> EE	0,071	0,078	1,096	0,273	H3
SN --> EI	0,211	0,218	2,995	0,000	H4
PBC --> EE	0,385	0,376	3,759	0,000	H5
PBC --> EI	0,289	0,285	3,559	0,000	H6
EE --> EI	0,369	0,367	4,466	0,000	H10

Note: p-values < 0,05

Based on the results, Attitude showed a nonsignificant level in explaining engineering students Entrepreneurial Intention (EI) in University with a p-value of 0.495 Intention (EI). However, it can affect Entrepreneurship Education (EE). Likewise, the same result obtained between subjective norms (SN) to Entrepreneurship Education (p-value = 0,066). So, exclusively Perceived Behaviour

Control (PBC) can affect directly and significantly both the Entrepreneurship Education (EE) and Entrepreneurial Intention (EI) of University students in this model. Therefore, H2 and H3 hypotheses rejected. Thus, H1, H4, H5, H6, and H10 supported.

TABLE 5. Indirect Effects of University Students

	Original Sample (O)	Sample Mean (M)	T Statistics (O/STDEV)	P Values	Hypothesis
ATT --> EE -->EI	0,127	0,130	2,561	0,011	H7
PBC --> EE --> EI	0,142	0,135	3,408	0,001	H8
SN --> EE --> EI	0,026	0,029	1,018	0,309	H9

Note: *p-values* < 0,05

2. Indirect Effects

The analysis using SmartPLS resulted in several findings that had a direct or indirect effect on this study. Based on table 5, the Attitude variable affects positively and significantly on Entrepreneurial Intention through Entrepreneurial Education (EE) as moderating variable ($\beta = 0.117$; *p-value* = 0.017). Reciprocally, PBC had a positive and significant effect ($\beta = 0.132$; *p-value* = 0.001) on Entrepreneurial Intention through the moderator variable. So, for indirect effect in model for University students, H7 and H9 accepted. Meanwhile, H8 rejected ($\beta = 0.081$; *p-value* > 0.005).

Hypothesis Testing of Polytechnic Students

As much as 106 engineering students of Polytechnic participated as respondents for this study as seven hypotheses for direct effects and three indirect effects examined in the Entrepreneurial Intentions (EI) model of Polytechnic students.

1. Direct Effects

Based on the direct relationship calculation, the interpretation of the hypotheses results summarised in table 6. The results indicated that attitude had no significant influence towards Entrepreneurship Education ($\beta = 0.045$; *p-value* = 0.726). So, in the model, direct influence between entrepreneurial attitude and intention (EI), Subjective Norm (SN) on Entrepreneurship Education (EE), PBC and entrepreneurship education (EE), PBC and Entrepreneurial Intention had positive and significant effects. Hence, the accepted hypotheses were H2, H3, H5, and H6. While H1, H4, and H10 rejected.

TABLE 6. Direct Effects of Polytechnic Students

	Original Sample (O)	Sample Mean (M)	T Statistics (O/STDEV)	P Values	Hypothesis
ATT --> EE	0,095	0,099	1,036	0,301	H1
ATT --> EI	0,356	0,351	3,837	0,000	H2
SN --> EE	0,258	0,253	2,436	0,005	H3
SN --> EI	0,022	0,043	0,231	0,817	H4
PBC --> EE	0,486	0,488	5,403	0,000	H5
PBC --> EI	0,459	0,468	4,551	0,001	H6
EE --> EI	-0,097	-0,114	0,965	0,335	H10

Note: *p-values* < 0,05

2. Indirect Effects

In table 7, all indirect effects (indirect relationships) between TPB variables (Attitude, Subjective Norms, and Perceived Behaviour Control) indicated a nonsignificant relation for Entrepreneurial Intentions (EI) with Entrepreneurship Education (EE) as moderating variable. So, all the hypotheses for the indirect effect of polytechnic students were H7, H8, and H9 rejected (*p value*> 0.05).

TABLE 7. Indirect Effects of Polytechnic Students

	Original Sample (O)	Sample Mean (M)	T Statistics (O/STDEV)	P Values	Hypothesis
ATT --> EE -->EI	-0,009	-0,012	0,524	0,601	H7
PBC --> EE --> EI	-0,047	-0,054	0,948	0,344	H8
SN --> EE --> EI	-0,025	-0,032	0,775	0,439	H9

Note: *p-values* < 0,05

IV. DISCUSSION

This study's purpose was to measure Entrepreneurial Intention (EI) and examine the relationship between TPB variables to Entrepreneurship Education (EE) and Entrepreneurial Intention (EI). This study also discussed the mediation effect of Entrepreneurship Education (EE) between TPB variables and Entrepreneurial Intentions (EI). The respondents' perception indicates several differences in Entrepreneurial Intentions (EI) among students in different academic institutions. Analysis factors on university engineering students generated the results of this study that almost all hypotheses accepted. There were three unaccepted hypotheses: the influence between attitudes towards entrepreneurial intention, subjective norms on Entrepreneurship Education and indirect effect between subjective norms on entrepreneurial Intention with Entrepreneurship Education as mediation variable complied for

engineering students at the University. Only attitudes and Perceived Behavioural Control (PBC) that affect Entrepreneurship Education. The results were consistent with previous research in [20] and [47].

Engineering students of University assume that openness in providing ideas on attitude variables and empathy in understanding others' character and assessing their nature can affect entrepreneurship education (EE). They also pay attention to public and closest person's opinions. Moreover, they can build Entrepreneurial Intentions (EI) if they gain trust from family, friends, and the nearest person. The students believe study Entrepreneurship Education on campus can soon enhance their entrepreneurial intention, especially if they have empathy, open mind, and ability to value others.

TABLE 8. Summary of Result

Hypothesis	Path	University Sample	Polytechnic Sample
H1	ATTITUDE -> EE	Accepted	Not Accepted
H2	ATTITUDE -> EI	Not accepted	Accepted
H3	SN -> EE	Not Accepted	Accepted
H4	SN -> EI	Accepted	Not Accepted
H5	PBC -> EE	Accepted	Accepted
H6	PBC -> EI	Accepted	Accepted
H7	ATTI-> EE -> EI	Accepted	Not accepted
H8	SN -> EE -> EI	Not accepted	Not Accepted
H9	PBC -> EE -> EI	Accepted	Not Accepted
H10	EE -> EI	Accepted	Not Accepted

Six hypotheses rejected for engineering students in Polytechnic; non significantly influence between attitudes towards entrepreneurial education, subjective norms on entrepreneurial intention, the nonsignificant effect of each TPB variable; Attitude, Subjective Norms and Perceived Behaviour Control (PBC) on Entrepreneurial Intentions (EI) with Entrepreneurial Education as a moderator variable. A slightly negative influence between Entrepreneurship Education on Entrepreneurial Intentions in engineering students at Polytechnic. Means that the Entrepreneurial Intentions (EI) had negatively influenced by outside parties such as opinions and family support. Their intentions solely based upon the self-abilities. These results above similar to previous studies [35]. Students tend to be open in expressing opinions and ideas regarding the importance of having authority and responsibility if they intend to be entrepreneurs.

Two separate studies among engineering students of University and Polytechnic agree that Perceived Behavioural Control (PBC) variable has a powerful influence directly on Entrepreneurship Education (EE) and also their Entrepreneurial Intentions (EI). Engineering students at Universities and Polytechnics believe in their perseverance and goals to manage the business while studying entrepreneurship and working their business later [20].

Implications

The specific implications for policymakers and researchers need to concern about the differences in delivering the entrepreneurship subjects in disparate academic institutions. Implication's concern referring to [52] that the intention will be formed in the presence of desirability and feasibility to jump into business operations. On a temporal basis, a student must plan what to do in the near and distant future [15]. This study indicated that besides TPB variables, particularly Attitude and PBC, Entrepreneurship Education (EE) is a notable factor to help University's engineering students. They need theories and motivation through education at University to build their Entrepreneurial Intentions (EI).

Entrepreneurship Education (EE) should be further developed in the curriculum by problems identification related to every students' aspects and need. This Entrepreneurship education can help students find the most appropriate business and compatible with their personalities [18]. Although the engineering students of Polytechnic mentioned that Entrepreneurship Education (EE) has nonsignificant level to their Entrepreneurial Intentions, more training and assignment for both students (University and Polytechnic) in preparation of various kinds of planning and business proposals should increase.

Students must be familiar with business formulation if they have further business opportunities. It is even better if students guided to participate in many business start-up competitions and directly mentored by entrepreneurship lecturers in both University and Polytechnic. While students are learning, lecturers should explore as many ideas as possible to match their personalities and attitudes. These ideas can come from digging up stories and meet-up with successful entrepreneurs who started with small capital, young entrepreneurs; and other sources such as the internet and business magazines. At the end of the semester, students' interests and desires have been identified regarding the kind of business they want to develop. Then the ideas made into a high-quality proposal and submitted to the ongoing entrepreneurial competition. This study's findings should be elaborated into teaching methods and modules in Entrepreneurship Education (EE).

Limitation

This research, limited to certain aspects, present several opportunities for future research. While analysing and determining students' Entrepreneurial Intentions, finding also revealed the need for a specific semester to deliver the institution's entrepreneur subject. Besides, the short number of respondents in this study may affect the overall result. Thus, it is necessary to survey multiple

characteristics such as age and prior entrepreneurial experience in the model. Future research requires the aspects to generate the effect of Entrepreneur Education to intensify the students' intentions.

V. CONCLUSION

This study accommodates a new perspective to measure Entrepreneurial Intentions in two different academic institutions: University and Polytechnic. Overall, forming a curriculum for entrepreneurship courses should emphasise the openness in providing business ideas based on each student's personalities, create the intensive proposals, and actively participate in many entrepreneurial competitions. For the University, the curriculum should emphasise understanding and assessing students' character and provide business ideas by accommodating several meetings with successful SMEs owners. Curriculum for Engineering students at Polytechnic consists of learning materials to strengthen and sharpen their ability to manage a business with the simulations. During the lectures, they help students choose the right venture for them.

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