

Entrepreneurial Intention of UiTM Students and the Mediating Role of Entrepreneurship Education

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Abstract: The emphasis on entrepreneurship by the Malaysian government clearly displays their effort in strengthening the entrepreneurial development in the country, which is expected to boost the economy by creating more jobs and generating new incomes. The idea is extended to local higher education institutions so as to nurture and to sustain entrepreneurial engagement among the students through formal entrepreneurial programs. The initiatives are expected to help in reducing graduate unemployment level in the country. Despite all the effort taken by the government, the uptake of entrepreneurship among young minds is still low, and there is growing unemployment in the country. Thus, this study aims to determine the factors that affect entrepreneurial intentions among UiTM graduating students and the mediating effect of entrepreneurship education towards entrepreneurial intention through attitude, perceived behaviour control and self-efficacy. The sample consists of 429 UiTM students who have taken the entrepreneurship course. Factor analysis and Partial Least Squares methods were used to analyse the data. The findings reveal a significant relationship of attitude, perceived behaviour control and entrepreneurship education towards entrepreneurial intention, while self-efficacy was insignificantly related. However, the study found that entrepreneurship education partially mediates the relationship between attitude and perceived behaviour control towards entrepreneurship intention and a full mediation on self-efficacy. The findings will help the policymakers or the higher education institutes in developing a suitable policy and program in promoting entrepreneurship to the university graduates at the national level.

Keywords: Entrepreneurial intention, IBM, Partial Least Squares, TPB.

1. Introduction

The emphasises on entrepreneurship in Malaysia are evidenced from the sheer amount of funding and variety of supporting mechanisms and policies that exist for entrepreneurs, including funding to the educational institutions and small and medium enterprises (SME), physical infrastructure, and business advisory services. The Ministry of Entrepreneur Development and Cooperative (MEDC), SME Corporations, Malaysia Academy of SME Development (MASMED), Malaysia Technology Development Centre (MTDC), and other agencies established by the state or federal governments clearly display the importance the government places upon in strengthening entrepreneurial development in Malaysia. The main factors contributed to this phenomena are the expectations that entrepreneurial engagement would strengthen the economy by creating jobs and generating new incomes from the entrepreneurial efforts besides making the nation more competitive in product innovations and promoting agents of change in the society (Seth, 2019).

To nurture and sustain entrepreneurial engagement among the young minds, the Malaysian government has initiated the Entrepreneurship Action Plan of Higher Education Institutions (2016-2020) to promote entrepreneurship education and development in institutions of higher learnings (Sani, 2018). The initiatives contributed to the establishment of formal entrepreneurial education at the local higher education institutions (HEIs) in Malaysia. Currently, all students at the institutions of higher learning are required to take at least a subject related to entrepreneurship. The entrepreneurial education is expected to help in reducing graduate unemployment levels in the country and promote innovativeness. As asserted by Supramaniam and Arumugam (2012), it is better for graduates to be self-employed rather than searching for jobs in the government or private sectors which have limited employment.

Despite the Malaysian government has channelled enormous amount of funding towards the promotion of entrepreneurship in HEIs and small and medium-sized enterprises, and the convenience of remote working, technology advancement (social media, online marketing platform, video calls, emails, apps and other collaborative software) and mushrooming cheaper co-working spaces and great opportunities for entrepreneurship, the uptake is still slow. The entrepreneurial education in strengthening the entrepreneurial competency is getting even more critical as the COVID-19 has exacerbated the unemployment problem. According to a study in 2018 conducted by the Ministry of Education, Malaysia's Graduate Tracer Study, out of the 51,000 graduates a year, nearly 60% remain unemployed one year after graduation (D'Silva, 2020). A more recent study shows that the number of unemployed graduates in 2018 was 162, 000 persons, an increased of 4.6 percent from 2017 (154,900 persons).

Although interest in entrepreneurship education research has been growing over the years (Klapper, 2004; Gurol & Atsan, 2006), most of the existing researches on entrepreneurship in Malaysia mainly focus on the general factors such as factors contributed to entrepreneurial success, government's role (Kamaruddin et al, 2017) and characteristics of entrepreneurs (Ariff & Syarisa Yanti, 2003). What are the factors that contribute to the low participation rate of the graduates in entrepreneurship? This study aims to integrate the Theory of Planned Behavior and Integrated Behaviour Model to determine the factors that affect entrepreneurial intentions (Ajzen, 1991) of UiTM graduating students. It also aims to fill in the gap by evaluating the mediating effect of entrepreneurship education towards entrepreneurial intention, through those variables, such as attitude towards entrepreneurship, planned control behaviour, self-efficacy, and other factors towards the entrepreneurial intention of the undergraduate students in the context of Malaysia. The sample consists of 429 UiTM students who have taken the entrepreneurship course during the Mar – July 2020 semester. Factor analysis and partial least square method were used to assess the relationship among the variables. The findings will help the policymakers or the HEIs in developing a suitable policy and program in promoting entrepreneurship to the university graduates at the national level.

The outline of the paper is as follows. In Section 2, we review previous research and develop our hypotheses. In Section 3, we describe our data and methodology used, specifically on the exploratory factor analysis and Partial Least Squares method in order to achieve our objectives. In Section 4, we examine the results of the statistical analysis and report our findings. Finally, we spell out our concluding remarks in Section 5.

2. Literature review

Entrepreneurship involves the process of starting a business and has been glamorised as being the cornerstones of a successful capitalist economy. It is deemed as an important mechanism for improving employment, competitiveness, innovation, and agent of change to society. Tremendous efforts have been made by the Malaysian government to prepare all the requirements needed to develop entrepreneurship. This can also be seen from the ranking of the Ease of Doing Business Index, Malaysia currently ranks number 12 out of 190 countries, an improvement from 15 in 2018, according to the latest World Bank annual ratings. Education programmes were also started as early as at the secondary school level to increase interest in entrepreneurship. At the university, entrepreneurship education was introduced since the 1990s (Cheng et al., 2009).

Despite the implementation of entrepreneurship education, the involvement of graduates in entrepreneurship is still very low. The problems of unemployed graduates have increased as the economy slowed down even before the COVID-19 pandemic (D'Silva, 2020). A study conducted by the Ministry of Education Malaysia's Graduate Tracer Study in 2018, alarmed that about 60% of the graduates remained unemployed one year after graduation. As Malaysia aspired to become a high-income country, it is important to resolve human capital and unemployment issues as well as to close the income gaps in the population. Entrepreneurship courses were offered as one of the solutions.

Research in entrepreneurship has been an area of interest among researchers and scholars for many years. Several theories have been proposed by scholars to explain the phenomena of entrepreneurship which could be traced back to Smith (1776) and Ricardo (1817) (in Simpeh, 2011) on the classical theory of free trade, specialisation and competition, and Schumpeter's (1934) (in Simpeh, 2011) innovativeness in business. If an entrepreneur knows how to create new or better goods or services, benefits can be reaped through this knowledge. Analysis of entrepreneurship is also related to psychological theories or the inborn qualities of the individual that naturally make him an entrepreneur (Landstrom, 1998). This theory has led to the on-going debate in the entrepreneurship academy about whether individuals can be taught to be entrepreneurs. Sociological theory, on the other hand, highlighted the social contexts and environmental factors contributing to entrepreneurial success. Theory of Planned Behaviour (TPB) which was developed by Ajzen (1991) is a more recent theory that focuses on the behavioural aspects. Fishbein (2000) further employed the theory to include the environmental factor and developed the Integrated Behaviour Model (IBM). These behavioural theories have become popular in predicting the entrepreneurs' behaviour through the measurement of intention. Thus, this study uses the TPB and IBM framework to explore the connection between the factors that contributed to students' entrepreneurial intention.

2.1 Entrepreneurial Intention (EI)

Can entrepreneurs be made? According to Peter Drucker (1985), the entrepreneurial character has nothing to do with genes or magic, but it's a discipline and can be learned. But even though entrepreneurship can be learned, Jones and English (2004, p. 417) contended that 'no amount of education could provide business success for those who lack the "entrepreneurial spirit". This is supported by Ajzen (1991), who developed the Theory of Planned Behaviour (TPB) that intention is the best predictor of behaviour. Three independent variables for TPB were used, namely attitude, subjective norm and Perceived Behavior Control to predict the behaviour through intention. Fishbein (2000) further developed the behavioural theory and proposed the Integrated Behaviour Model. His model consists of three perceptions of antecedents of intention, namely attitude, perceived norms, and self-efficacy. Two additional constructs namely skills and environmental constraints were added to the model besides intention. This study attempts to integrate both the Theory of Planned Behaviour and Integrated Behaviour Model to assess the influence of these factors on the intention of the students in UiTM, and whether the entrepreneurship education serves as a mediating factor for entrepreneurship intention among the students.

2.2 Attitude toward Entrepreneurship (ATT)

Attitude refers to one's overall evaluation, either positive or negative of behaviour in question, prior to forming an intention. Ajzen (1991), in his Theory of Planned Behaviour, stipulates that the positive or negative evaluation of the outcome to start a company will influence the decision to become an entrepreneur. The attitude towards entrepreneurial intention could stem from environmental factors (Sanchez & Bannikova, 2018) such as entrepreneurial finance, the government policy, the commercial and legal infrastructure, cultural and social. For instance, the positive beliefs that if a person takes a challenging goal and expects to bring good profits, will increase the likelihood of him to perform the behaviour or become an entrepreneur. Schott et al. (2015) studied about youth entrepreneurship found that attitude and perception play an important role in creating an entrepreneurial culture. Rudhumbu et al. (2016) also concur that positive attitude towards entrepreneurship will have a positive outcome on intention. Thus, we hypothesise that the attitude of students towards entrepreneurship will affect the intention of students to be an entrepreneur positively.

H1: Attitude has a significant positive relationship towards entrepreneurial intention.

2.3 Perceived Behaviour Control (PBC)

Perceived behavioural control is a degree to which a person believes that he or she can control any given behaviour (Ajzen, 1991). The Theory of Planned Behaviour suggests that people are much more likely to perform certain behaviours when they feel that they can represent them successfully. Thus, according to Alexander & Honig (2016), in support of this theory, perceived behavioural control has a positive influence on the probabilities of becoming an entrepreneur. Following a study by Mahmood et al. (2019), it enhanced the perceived behavioural control view that it has an indirect influence on the entrepreneurial intention in the context of a local perspective. Hence, the perceived behavioural control dimension should have a positive influence on our students' entrepreneurial inclination.

H2: Perceived Behaviour Control has a significant positive relationship towards the entrepreneurial intention

2.4 Self- Efficacy (SE)

Alessandri et al. (2015) defined self-efficacy as people's beliefs about their capabilities to produce designated levels of performance. In a study of a dynamic account of self-efficacy in entrepreneurship by Gielnik, Bledow, and Stark, (2020), self-efficacy developed entrepreneurs who displayed this attribute over time support the depiction of entrepreneurial intentions. A study conducted among students in India shows that students' perceived self-efficacy boosts the entrepreneurial intention relationship (Roy, Akhtar, & Das, 2017). Both studies emulate that self-efficacy cultivates and strengthens entrepreneurial intentions among diverse groups. Yet, there is still a lack of study done in the context of Malaysia. Thus, we intend to confirm the relationship that entrepreneurial intentions among the students are positively influenced by their self-efficacy.

H3 : Self-Efficacy has a significant positive relationship with entrepreneurial intention.

2.5 Entrepreneurship Education (EE)

Ministry of Higher Education Malaysia has made entrepreneurship subjects compulsory to all students at the nation's public universities to encourage entrepreneurship skill development (Rahim et al, 2015). An entrepreneur is commonly seen as an innovator who recognises opportunities and creates something new and uses different means to exploit these opportunities. Thus, entrepreneurs require various skills to develop specific competencies to manage an enterprise (Phelan & Sharpley, 2012). These skills enhance the entrepreneur's aptitude and provide the knowledge needed to start a project (Entrialgo & Iglesias, 2016). In line with the Resource-Based View, entrepreneurial skill and competencies are seen as unique capabilities in the organisation as well as in the entrepreneurs that would gain a competitive advantage from non-replicable and inimitable resources (Grant, 1991). Entrepreneurial skills, for instance, the abilities of the entrepreneur to develop plans and anticipate obstacles, take proactive actions to reap opportunities or preventing a failure, and work efficiently, would foster individuals to feel competent and venture into entrepreneurship (Scherer et al., 1991). A study by Bui et al. (2020) also shows that among graduates in Vietnam universities who had taken an entrepreneurship course, had shown a greater tendency to become entrepreneurs. Another study by Mahmood, Zahari, Ibrahim, Nik Jaafar and Yaacob (2020) found that entrepreneurship curriculum at the university has facilitated the students in doing their business effectively due to the knowledge and skills learned. There are also researches propose that students have a higher tendency to start their own business after participating in entrepreneurship programmes (Elert, Andersson, & Wennberg, 2015; Olugbola, 2017). Thus, we hypothesise that entrepreneurship education and entrepreneurial inclination are positively associated.

H4: Entrepreneurship Education has a significant positive relationship towards the entrepreneurial intention

2.6 Mediating Role of Entrepreneurship Education

Previous studies, as stated above, have attempted to explore the direct impact of EE on the INT. Some studied the moderating role of EE on the relationship between entrepreneurial self-efficacy and Entrepreneurial Intention (e.g. Wilson et al., 2007). This study further extends the previous literature and attempts to explore the mediating effects of EE on the independent variables, namely the attitude, perceived behaviour control, and self-efficacy on the entrepreneurial intention relationship. This study contends that individuals equipped with the essential EE will enhance their knowledge and skills through which a positive attitude would be strengthened by the EE and will contribute to increasing intention for entrepreneurship. A similar effect is applied to PBC and SE; EE will ultimately lead to enhanced PBC and SE and lead to an increase in Entrepreneur Intention. Thus, we hypothesise that EE mediates the effect of ATT, PBC, and SE - EI relationship.

H5: Entrepreneurship Education mediates the relationship between attitude and entrepreneurial intention.

H6: Entrepreneurship Education mediates the relationship between perceived behaviour control and entrepreneurial intention.

H7: Entrepreneurship Education mediates the relationship between self-efficacy and entrepreneurial intention.

3. Methodology

In this section, we describe our data and methodology used, specifically on the exploratory factor analysis (EFA) and Partial Least Squares (PLS) method in order to achieve our objectives.

3.1 Data Collection and Sample

This study uses data collected from an online google survey form from Univerisiti Teknologi MARA undergraduate students who have taken the entrepreneurship subject during the semester of March to July 2020. The online questionnaires were distributed by the lecturers-in -charge of entrepreneurship subjects at UiTM at the end of the semester in August 2020. A total of 429 questionnaires were successfully completed and returned from 11 branch campuses. The sample was made up of science and technology students (87%) and non-Science and Technology students (13%).

The questionnaire was divided into two main sections. Section I consisted of questions on the background of the respondents which includes ages, gender, campus, program, level of study, whether they are from B40 family (Household income less than RM4000), family with a business background, and the location of their residence. Section II comprised 37 statements designed to gather the information from the respondents regarding their view on entrepreneurial intention and also statements drawing views on factors that influence their entrepreneurial intention. A five-point Likert scale was used where the respondents were required to state the extent to which they agreed or disagreed with the statements in the questionnaire. The items developed include the aspects of students' intention to be an entrepreneur, their attitude towards entrepreneurship, perceived behaviour control, environment factors, competency and skills levels, self-efficacy, and entrepreneurship education experience.

3.2 Statistical Tools and Methods

To perform the analysis, SPSS software and SmartPLS 3.0 were used. SPSS was used to analyse the demographic profile and perform exploratory factor analysis (EFA). The usage of SmartPLS, on the other hand, was for a more complex relationship involving regression and mediating effects analysis. We used descriptive statistics to identify the demographic data of the samples and their socioeconomic characteristics. It is followed by the EFA using principal component analysis with a varimax rotation method to identify the clusters of variables from the 37 items developed and apply the Kaiser-Meyer-Olkin measure (KMO) and Bartlett's test of sphericity to diagnose the sampling adequacy.

Partial least square method was used (Hair et al., 2010) to test the study model. This technique simultaneously assesses the measurement model and the structural model by minimising the error variance. SmartPLS version 3 was used to analyse the relationship among the variables. Bootstrapping function with 5000 resamples was employed to assess the significance level of the paths.

4. Findings

4.1 Descriptive Statistics

There were 429 completed questionnaires returned through on-line submission. It is about 4% percent of the population who have taken the subject. Krejcie and Morgan (in Sekaran, 2016) provided a sample size decision table that with a 95% confidence level and a total population of up to one million, the sample size of 384 is desired. Generally, a sample of 30 to 500 are deemed appropriate for most of the social science research. Since our sample size is more than 384 and it met the requirement to be analysed using EFA and SmartPLS, we proceed with the analysis.

Table 1 shows the descriptive statistics of the demographic profile of the respondents. The majority of the respondents were females, and more than 50 percent of the respondents were from the B40 family where their household income was below the average of the population or the bottom 40 percent. The majority of the respondents' family did not have business backgrounds. Most of them living in the suburban areas with a quarter of the sample were from the rural area. Generally the exposure of the students to entrepreneurship or business environments was low.

Table 1: Descriptive Statistics of the Background of The Respondents

		Frequency	Percent
Gender	Female	290	67.6
	Male	139	32.4
B40 family	No	184	42.9
	Yes	245	57.1
Family with business background	No	343	80.0
	Yes	85	19.8
Residential area	Rural	107	24.9
	Sub-urban	180	42.0
	Urban	140	32.6

4.2 Exploratory Factor Analysis

The results of the EFAs showed that the KMO was .944 and the Bartlett's test of sphericity is significant and smaller than .05. indicating the sample is adequate for a good factor analysis. In order to limit the number of factors extracted, a minimum Eigen value of one (1) was used in the factor analysis. Factors with Eigen value less than one were considered insignificant and were excluded. Varimax orthogonal rotation was used to ensure that the factors produced are independent and unrelated to each other. Items with large loadings (>0.5) for the same factors were chosen so that each factor will be represented by a specific cluster of variables. 7 items were deleted to enhance the reliability of the data. The Varimax rotation has generated five main factors as a solution with a cumulative total variance explained of 65%. The Cronbach alpha shows values above 0.7 for all the factors, indicating a high internal consistency of the scale used. Item E1 to E4 were negatively worded in the questionnaire and were recoded prior to the analysis. The five factors were retained and interpreted (Table 2).

The 5 factors emerged were named as Entrepreneurship Education (EE), Attitude towards Entrepreneurship (ATT), Entrepreneurship Intention (INT), Perceived Behaviour Control(PBC) and Self Efficacy (SE). Table 3 shows the descriptive statistics of the constructs or the variables used for further regression analysis. The five variables identified namely INT, ATT, PBC, SE, EE have high mean values. However, SE was relatively lower. Table 4 shows the correlation analysis of the variables involved. Positive correlations were found between INT and ATT, PBC, EE, but not with SE.

Table 2: Rotated Factor Matrix.

Rotated Component Matrix ^a											
No.	Variable Name	Items	1	2	3	4	5	Item	Cronbach alpha		
1	ENT Education	The ENT course provides me the necessary skills to start a business.	0.81					A	0.937		
			8					1			
2			The entrepreneurship subject (ENT600/ENT530) in UiTM is interesting.	0.81						A	
				7						2	
3			The course works enable me to apply the entrepreneurship knowledge learnt.	0.81						A	
				0						3	
4	Attitude towards ENT	The ENT course builds my confidence to become an entrepreneur.	0.77					A	0.903		
				6						4	
5			I know how to identify business opportunity after taking the ENT course.	0.76						A	
				5						5	
6			I have become more innovative after taking the ENT course.	0.76						A	
				1						6	
7	Attitude towards ENT	I want to provide jobs opportunities.		0.74				B	0.906		
					9					1	
8			I want to be a change agent in the society.		0.73					B	
					1					2	
9			I want to gain recognition and respect as an entrepreneur.		0.73					B	
					0					3	
10	ENT Intention	I like to lead and influence others.		0.71				B	0.906		
					0					4	
11			I would like to have a balance and flexible schedule for my work and private life.		0.70					B	
					8					5	
12			I am passionate about learning.		0.57					B	
					3					6	
13	ENT Intention	The high employment rate has prompted me to seriously think about starting my own business.		0.55				B	0.906		
					0					7	
14			I like to achieve a higher position for myself in society.		0.52					B	
					8					8	
15			I intent to start my own business after completed my studies.			0.78				C	
						9				1	
16	ENT Intention	I believe I have the ability to grow my own business.			0.77			C	0.906		
						4				2	
17		I am willing to take some business risk.			0.76			C			
					9			3			

18		I always observe what are the business opportunities available.	0.73 9	C4	
19		I have a strong desire to be an entrepreneur.	0.72 1	C5	
20		I am a self-motivated person.	0.69 6	D1	
21	Perceived Behavior Control	I like to take proactive actions that go beyond the normal requirements.	0.65 0	D2	
22		I like to develop plans and anticipate obstacles.	0.62 6	D3	
23		I always find ways to do things more efficiently.	0.62 4	D4	0.849
24		I can tolerate failure and take it as a learning experience.	0.59 7	D5	
25		I always seek feedback to improve my performance.	0.56 8	D6	
26		I do not mind to makes personal sacrifice to complete a job required.	0.53 9	D7	
27	Self-Efficacy	I like to take different actions to overcome an obstacle.*	0.79 5	E1	
28		I like to pursue challenging goals.*	0.77 1	E2	
29		I like to discipline those failing to perform as expected.*	0.71 1	E3	0.735
30		I have the desire to have high earnings.*	0.67 8	E4	

Table 3: Descriptive Statistics of The Constructs.

	N	Minimu m	Maximu m	Mean	Std. Deviation
ENT Intention INT_C1C5	429	1.20	5.00	3.5944	.79259
Attitude ATT_B1B8	429	2.00	5.00	4.0306	.65515
Perceived Behaviour Control PBC_D1D7	429	2.57	5.00	3.9161	.57043
Self-Efficacy SE_E1E4	429	1.00	5.00	3.3263	.75707
Entrepreneurship education EE_A1A6	429	1.33	5.00	3.9779	.72099

Table 4: Correlation analysis

	EE_A1A6	PBC_B1B8	INT_C1C5	ATT_D1D7	SE_E1E4
EE_A1A6	1				
PBC_B1B8	.596**	1			
INT_C1C5	.574**	.617**	1		
ATT_D1D7	.573**	.690**	.604**	1	
SE_E1E4	-.042	.137**	.018	.097*	1

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

4.3 Data Analysis PLS

Variance based Structural Equation Modelling (SEM) which is Smart PLS was used in analysing the hypotheses developed. PLS is used as it is known for its ability to handle both reflective and formative measures, and it places a minimal restriction on the sample size (Chin, 1998).

In analysing the data, the two-step analytical procedure by Anderson and Gerbing (1988) was adopted whereby the measurement model was evaluated first and then the structural model. The bootstrapping method (500 resample) was performed to determine the significant level of loadings, weights and path coefficients (Chin, 1998). Figure 1 shows the Research Model.

4.4 Measurement Model

Convergent validity is the extent to which a measure correlates positively with alternative measures of the same constructs. Therefore, the items that are indicators of a specific construct should converge or share a high proportion of variance (Hair et al., 2010). In establishing convergent validity, outer loadings and Average Variance Extracted (AVE) of more than 0.5 and Composite Reliability (CR) of 0.7 or above is considered to be adequate. As a result, the item for Self-Efficacy (E2) and Attitude (D7) which has a loading of 0.25 and 0.47 respectively were deleted. The analysis was re-run, and the new loadings and cross loadings were obtained. Based on Table 5, all loadings and AVE are above 0.5 and the composite reliability values are more than 0.7. Thus, it can be determined that convergent validity has been established.

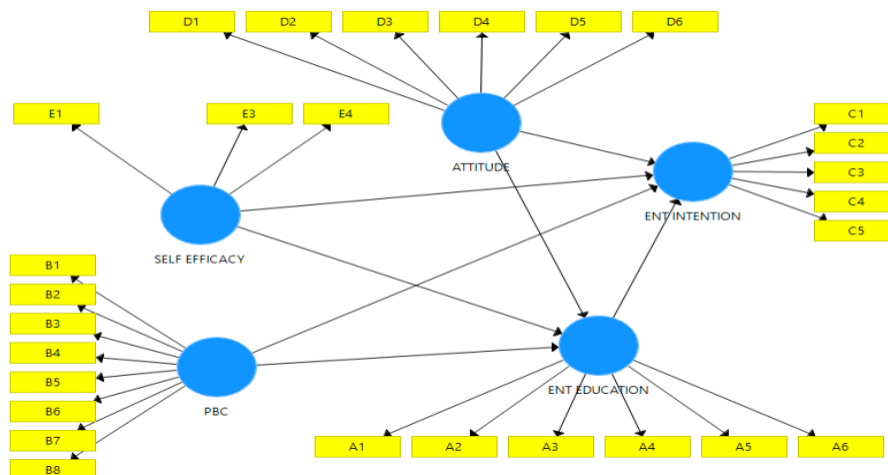


Fig. 1 Research Model

Table 5: Result of the Measurement Model

Construct	Item	Convergent Validity			R ²
		Factor Loading	AVE	Composite Reliability	
Attitude	D1	0.736	0.587	0.895	
	D2	0.843			
	D3	0.836			
	D4	0.726			
	D5	0.69			
	D6	0.753			

		Convergent Validity				
Self-Efficacy	E1	0.685	0.57	0.798		
	E3	0.736				
	E4	0.836				
Perceived Behaviour Control	B1	0.843	0.601	0.923		
	B2	0.847				
	B3	0.829				
	B4	0.849				
	B5	0.734				
	B6	0.744				
	B7	0.728				
	B8	0.59				
Entrepreneurship Education	A1	0.876	0.76	0.95		
	A2	0.85				
	A3	0.859				
	A4	0.898				
	A5	0.862				
	A6	0.886				
Entrepreneurship Intention	C1	0.845	0.726	0.93	0.502	
	C2	0.851				
	C3	0.853				
	C4	0.856				
	C5	0.856				

Discriminant Validity will be examined next. Discriminant validity which is the degree to which a construct is truly different from other constructs (Hair et al., 2010). This can be established by the low correlations between all the measures of the variables of interest and the measures of other constructs. To address discriminant validity, the square root of the AVE is compared against the correlations of the other constructs. If it is greater than its correlations with all the other constructs then discriminant validity has been established (Fornell & Larcker, 1981). The result can be referred in Table 6.

Table 6: Discriminant Validity of Constructs

Constructs	1	2	3	4	5
(1) Attitude	0.766				
(2) ENT Education	0.58	0.872			
(3) ENT Intention	0.631	0.577	0.852		
(4) PBC	0.694	0.605	0.627	0.775	
(5) Self Efficacy	-0.072	0.091	0.011	-0.114	0.755

Note: Diagonal represents the square root of Average Variance Extracted (AVE) while the other entries represent squared correlations

Henseler, Ringer and Sarstedt (2015) reports that the Fornell Larcker criterion and cross loadings do not reliably detect the discriminant validity in a survey-based study. They proposed a new technique based on multitrait-multimethod matrix (HTMT) ratio to address the issue of discriminant validity. The HTMT test involves the calculation of a ratio of the average correlations between constructs to the geometric mean of the average correlations within items of the same constructs (Voorhees, Brady, Calantone & Ramirez, 2016). In order to obtain the HTMT results, this study runs the bootstrapping routine. Henseler et al. (2015) suggested cut off point 0.85 and 0.90 for establishing discriminant validity between two reflective constructs, whereas HTMT 0.85 is the most conservative criterion. If the HTMT ratio is below 0.85, then discriminant validity between the two constructs is established. As per result in Table 7, the results reveal that all HTMT ratios are less than 0.85, indicating no discriminant validity problem in this study. Therefore, based on the previous tests and results of the HTMT test, it is concluded that discriminant validity is established in this study.

4.5 Structural Model

The structural model represents the connection between constructs that were hypothesized in the research framework. The goodness of the theoretical model is recognised by the variance explained (R^2) of the endogenous constructs and the significance of all path estimates (Chin, 2010). The R^2 and the path coefficients results will specify how well the data supports the hypothesized model (Chin, 1998). The results of the structural model from the PLS output can be seen from Figure 2 and Table 8. Attitude, Perceived Behaviour Control, Entrepreneurship Education was found to be significantly related to Entrepreneurship Intention ($\beta = 0.309$, $p < 0.01$; $\beta = 0.223$, $p < 0.01$; $\beta = 0.283$, $p < 0.01$ respectively), thus supporting H1, H2 and H4 of this study. However, Self-Efficacy was found to be insignificantly related to Entrepreneurship Intention ($\beta = 0.046$) thus rejecting H3 of this study. A closer look on the findings reveals that Attitude, Perceived Behavioural Control and Entrepreneurship Education can explain 50% of the variation in Entrepreneurship Intention.

Table 7: HTMT Results

Constructs	1	2	3	4	5
(1) Attitude					
(2) ENT Education	0.642				
(3) ENT Intention	0.703	0.621			
(4) PBC	0.792	0.643	0.678		
(5) Self Efficacy	0.114	0.107	0.083	0.148	

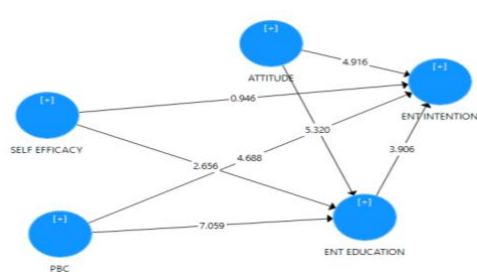


Fig. 2 The Structural Model

Table 8: Hypotheses Testing (Direct and Indirect Effects)

Path	Hypotheses	Path Coefficient	Standard Error	t-value	Results
<i>Direct Effect</i>					
ATTITUDE -> ENT INT	H1	0.309	0.063	4.916** *	Supported
PBC -> ENT INT	H2	0.283	0.06	4.688** *	Supported
SELF EFF -> ENT INT	H3	0.046	0.048	0.946	Not Supported
ENT EDU -> ENT INT	H4	0.223	0.057	3.906** *	Supported
<i>Indirect Effect</i>					
ATTITUDE -> ENT EDU -> ENT INT	H5	0.184	0.031	6.026** *	Supported
PBC -> ENT EDU -> ENT INT	H6	0.189	0.032	5.907** *	Supported
SELF EFF -> ENT EDU -> ENT INT	H7	0.053	0.041	1.294*	Supported

Note: *** p < 0.01, ** p < 0.05, * p < 0.1

Together with it, “blindfolding” procedure was also done to determine the predictive relevance (Q^2) of the model fit. The Q^2 “represents a measure of how well observed values are reconstructed by the model and its parameter estimates” (Chin, 1998). Models with Q^2 greater than zero imply that the model has predictive relevance. Therefore, the blindfolding analysis result in Table 9 shows that $Q^2 = 0.33$ and 0.356 and these values meets the Q^2 criteria of $Q^2 > 0$. Such value proves that the built model has a predictive relevance. Omission distance of 7 was utilized as Chin (1998) indicates that values between 5 and 10 are feasible.

Table 9: Predictive Relevance

	SSO	SSE	$Q^2 (=1-SSE/SSO)$
ENT EDUCATION	2574	1725.541	0.33
ENT INTENTION	2145	1381.265	0.356

4.5.1 Mediation Effect

As for the mediation effect, the study tested the mediation effect of entrepreneurship education between attitude, perceived behaviour control, self-efficacy and entrepreneurship education. To test the mediation effect, a bootstrapping technique with 500 resampling was used. The result is presented in Table 8. The indirect effect of attitude on entrepreneurship intention is statistically significant ($\beta = 0.184$, $t = 6.026$, $p < 0.01$). Therefore, entrepreneurship education has the role of mediator on the relationship between attitude and entrepreneurship intention, thus H5 is confirmed. The direct effect of attitude towards entrepreneurship intention was also found to be statistically significant ($\beta = 0.309$, $t = 4.916$, $p < 0.01$), thus both the direct and indirect effect are statistically significant and have the same sign, we may conclude that there is a complementary partial mediation relationship (Cepeda Carrión, Nitzl., & Roldán, 2017).

Similarly, in examining the indirect effect of perceived behaviour control on entrepreneurship intention, it was found to be statistically significant ($\beta = 0.189$, $t = 5.907$, $p < 0.01$). Therefore, entrepreneurship education has the role of mediator on the relationship between perceived behaviour control and entrepreneurship intention, thus H6 is confirmed. The direct effect of perceived behaviour control towards entrepreneurship intention was also found to be statistically significant ($\beta = 0.283$, $t = 4.688$, $p < 0.01$), thus both the direct and indirect effect are statistically significant and have the same

sign, we may conclude that there is a complementary partial mediation relationship (Cepeda Carrión, Nitzl., & Roldán, 2017).

However, the indirect effect of self-efficacy on entrepreneurship intention is statistically significant ($\beta = 0.053$, $t = 1.294$, $p < 0.1$). Therefore, the entrepreneurship education has the role of mediator on the relationship between self-efficacy and entrepreneurship intention, thus H7 is confirmed. The direct effect of self-efficacy towards entrepreneurship intention was found to be statistically not significant ($\beta = 0.046$, $t = 0.946$, $p < 0.01$), thus the direct effect is not significant but the indirect effect is statistically significant, so we may conclude that there is a full mediation relationship (Cepeda Carrión, Nitzl., & Roldán, 2017). This indicates that the effect of self-efficacy on entrepreneurial intention is completely transmitted with the help of entrepreneurship education.

5. Conclusion

The Malaysian government has put in huge efforts in developing and supporting entrepreneurship since the 1990s. This includes establishing mechanisms and policies, including funding to the educational institutions and small and medium enterprises (SME), physical infrastructure and business advisory services, etc. However, the uptake for entrepreneurship for graduates is still slow as can be seen from the heightened graduate unemployment rate in Malaysia.

This study aims to determine the factors that affect the entrepreneurial intentions of UiTM graduating students. We first explored the factors related to the entrepreneurial intention of the students using exploratory factor analysis. In the second stage, we proceed to confirm the factors emerged, namely the role of attitude, self-efficacy, perceived behavioural control and entrepreneurial education on entrepreneurial intention among the UiTM graduating students. To provide more insights, this study provides further analysis of the mediating effects of entrepreneurial education between attitude, perceived behavioural control and self-efficacy towards entrepreneurial intention.

The result of this study which reveals a positive and significant relationship between the attitude, perceived behavioural control and entrepreneurship education towards entrepreneurial intention is consistent with the previous findings by Rudhumbu et al. (2016), Alexander & Honig (2016), Mahmood, Al Mamun, Ahmad, & Ibrahim (2019) and Bui et al. (2020). However, an insignificant relationship of self-efficacy towards entrepreneurial intention was found in this study. This could be due to the students who have low self-efficacy, as shown in the lowest mean of 3.3 in Table 3. This is consistent with Wang et al. (2014)'s study that low self-efficacy of entrepreneurial decision-making will hinder their career exploration and the development of career decision-making skills.

On the other hand, in examining the mediating effect of entrepreneurship education on the relationship between attitude, perceived behavioural control and self-efficacy towards entrepreneurial intention, this study finds a complementary partial mediation relationship of entrepreneurial education towards attitude and entrepreneurial intention and perceived behavioural control and entrepreneurial intention. However, a full mediation effect was found on the relationship of entrepreneurial education towards self-efficacy and entrepreneurial intention. This highlights the way in which the effects that attitude, perceived behavioural control and self-efficacy determinants are transmitted through entrepreneurial education on entrepreneurial intention. Thus, entrepreneurial education enhances this relationship. Therefore, the improvement on entrepreneurship education has the role of increasing the effect that attitude, perceived behaviour control and self-efficacy has on entrepreneurial intention among graduating students.

The model adapted in this study shows that the attitude, perceived behavioural control, self-efficacy and entrepreneurship education can explain about 50% of the variance in entrepreneurship intention. This result shows that the model has relatively good predictive power on entrepreneurship intention. Further, the blindfolding result shows that the CV Comm and CV Red (Q^2) are all above 0, which indicates the model has predictive relevance (Fornell & Cha, 1994).

The implication of the findings can be divided into two; theoretical and practical. Theoretically, this study adds to the growing body of literature that focuses on the factors that have the potential to influence entrepreneurial intention, particularly among graduating students. It also contributes to the evidence in support for the mediating effect of entrepreneurial education towards the relationship between attitude, perceived behavioural control, self-efficacy and entrepreneurial intention. This model of mediation has not been previously addressed for Malaysian studies. Thus, the premises for future

research are established to deepen the mediation model tested in this study. Practically, this paper emphasizes the importance of entrepreneurial education in cultivating the entrepreneurial intention among graduating students. The relevant authority should take this into account and understands the need to enhance further and to strengthen the policy of entrepreneurial education among students, particularly in higher learning institutions.

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7. References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50 (2), 179-211.
- Alessandri, G., Borgogni, L., Schaufeli, W. B., Caprara, G. V., & Consiglio, C. (2015). From positive orientation to job performance: The role of work engagement and self-efficacy beliefs. *Journal of Happiness Studies*, 16(3), 767-788.
- Alexander, I. K., & Honig, B. (2016). Entrepreneurial intentions: A cultural perspective. *Africa Journal of Management*, 2(3), 235-257.
- Anderson, J.C., & Gerbing, D.W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411-423.
- Ariff, M., & Syarisa Yanti, A.B. (2002). Strengthening Entrepreneurship in Malaysia. Malaysian Economic Outlook: 1st Quarter 2002 update, *Proceedings of the 7th Corporate Economic Briefing, 2002*, Malaysian Institute of Economic Research (MIER), Malaysia, p.p 1-22.
- Bui, T. H. V., Nguyen, T. L. T., Tran, M. D., & Nguyen, T. A. T. (2020). Determinants Influencing Entrepreneurial Intention among Undergraduates in Universities of Vietnam. *The Journal of Asian Finance, Economics, and Business*, 7(7), 369-378.
- Cepeda Carrión, G., Nitzl, C., & Roldán, J. I. (2017). Mediation Analyses in Partial Least Squares Structural Equation Modeling: Guidelines and Empirical Examples. In H. Latan, & R. Noonan (Eds.), *Partial Least Squares Path Modeling* (pp. 173-197). Cham: Springer. doi:10.1007/978-3-319-64069-3_8
- Cheng M.Y., Chan W.S & Mahmood. A. (2009). The effectiveness of entrepreneurship education in Malaysia. *Education + Training*, 51,555-566.
- Chin, W. W. (1998). Commentary: Issues and Opinion on Structural Equation Modeling. *Management Information Systems Quarterly*, 22(1), vii-xvi.
- Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In V. Esposito Vinzi et al. (eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications* (pp.655-689). Springer Handbooks of Computational Statistics, Springer-Verlag Berlin Heidelberg.
- D'Silva, D. (2020, February 3). More and more graduates are facing unemployment in Malaysia. *New Straits Times*. <https://www.nst.com.my/news/nation/2020/02/562309/more-and-more-graduates-are-facing-unemployment-malaysia>
- Drucker, P. (1985) *Innovation and Entrepreneurship Principles and Practice*. Harper & Row, New York.
- Elert, N., Andersson, F. W., & Wennberg, K. (2015). The impact of entrepreneurship education in high school on long-term entrepreneurial performance. *Journal of Economic Behavior & Organization*, 111, 209-223.
- Entrialgo, M., & Iglesias, V. (2016). The moderating role of entrepreneurship education on the antecedents of entrepreneurial intention. *International Entrepreneurship and Management Journal*, Springer, 12(4), 1209-1232.
- Fishbein, M., 2000. The role of theory in HIV prevention. *AIDS Care*, vol. 12 (3), pp. 273–278. [accessed: 2013-11-18]. <http://www.tandfonline.com/loi/caic20>.
- Fornell, C., & Larcker, D.F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50.

- Gielnik, M. M., Bledow, R., & Stark, M. S. (2020). A dynamic account of self-efficacy in entrepreneurship. *Journal of Applied Psychology*, 105(5), 487.
- Grant, R.M. (1991) The Resource-Based Theory of Competitive Advantage. *California Management Review*, 33, 114-135.
- Gurol, Y., Atsan, N. (2006). Entrepreneurial characteristics amongst university students: Some insights for entrepreneurship education and training in Turkey. *Education and Training*, 48(1), 25-38.
- Hair, J. F. Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*. 7th ed. Pearson Prentice Hall, New Jersey
- Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity In Variance-Based Structural Equation Modeling. *J. of the Acad. Mark. Sci*, 43, 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Jones, C., & English, J. (2004). *A contemporary approach to entrepreneurship education*, Emerald Group Publishing Limited, 46, 416-423.
- Kamaruddin, H., Othman, N., Hassan, R., W Zaki, W. M. D., & Md Sum, S. (2017). The Government's Role in the Importance of Entrepreneurship Education Amongst University Students in Malaysia. In *Leadership, Innovation and Entrepreneurship as Driving Forces of the Global Economy* (pp. 579-587).
- Klapper, R. (2004). Government goals and entrepreneurship education – an investigation at Grande Ecole in France. *Education and Training*, 46(3), 127-137.
- Landstrom, H. (1998). The Roots of Entrepreneurship Research, Conference proceedings, Lyon, France, November 26-27. McClelland,
- Mahmood, T. M. A. T., Al Mamun, A., Ahmad, G. B., & Ibrahim, M. D. (2019). Predicting entrepreneurial intentions and pre-start-up behaviour among Asnaf millennials. *Sustainability*, 11(18), 4939.
- Mahmood, R., Zahari, A. S. M., Ibrahim, N., Nik Jaafar, N. F. H. & Yaacob, N. M. (2020). The Impact of Entrepreneur Education on Business Performance. *Asian Journal of University Education*, 16(4), 171-180.
- Olugbola, S. A. (2017). Exploring entrepreneurial readiness of youth and startup success components: Entrepreneurship training as a moderator. *Journal of Innovation & Knowledge*, 2(3), 155-171.
- Phelan, C., & Sharpley, R. Exploring entrepreneurial skills and competencies in farm tourism. *Local Economy*, 27, 103-118.
- Rahim, H. L., Kadir, M. A. B. A., Abidin, Z. Z., Junid, J., Kamaruddin, L. M., Lajin, N. F. M., ... & Bakri, A. A. (2015). Entrepreneurship education in Malaysia: A critical review. *Journal of Technology Management and Business*, 2(2).
- Roy, R., Akhtar, F., & Das, N. (2017). Entrepreneurial intention among science & technology students in India: extending the theory of planned behavior. *International Entrepreneurship and Management Journal*, 13(4), 1013-1041.
- Rudhumbu, N., Sivotwa, D., Munyanyiwa, T., & Mutsau, M. (2016). Attitudes of Students towards Entrepreneurship Education at Two Selected Higher Education Institutions in Botswana: A Critical Analysis and Reflection. *Academic Journal of Interdisciplinary Studies*, 5(2), 83- 94.
- Sanchez, A. M., & Bannikova, M. (2018). *Environmental factors that affect the entrepreneurial intention*, 1–60.
- Sani, R. (2018, Jan 10). Entrepreneurial ecosystems at the university. *New Straits Times*. <https://www.nst.com.my/education/2018/01/323599/entrepreneurial-ecosystems-university>
- Scherer, R.F., Brodzinski, J.D., & Wiebe, F. (1991), *Examining the relationship between personality and entrepreneurial career preference 1*, *Entrepreneurship and Regional Development*, 3(2), 195-206.
- Schøtt, T, Kew, P., & Cheraghi, M. (2015). Future Potential A GEM perspective on youth entrepreneurship. <https://youtheconomicopportunities.org/sites/default/files/uploads/resource/gem-2015-youth-report-1436523546.pdf>
- Sekaran, U. (2016). *Research Methods for Business: A Skill-Building Approach*. John Wiley & Sons Ltd.

- Seth, S. (2019). Why Entrepreneurship Is Important to the Economy. *Business Leaders*.
<https://www.investopedia.com/articles/personal-finance/101414/why-entrepreneurs-are-important-economy.asp>
- Simpeh, K. N. (2011). Entrepreneurship theories and Empirical research : A Summary Review of the Literature. *European Journal Of Business and Management*, 3(6), 1–9.
- Supramaniam, K. & Arumugam, N. (2012). Entrepreneurship Education: Insights into Students' Learning Experience. *Asian Journal of University Education*, 8(2), 19-34.
- Voorhees, C.M., Brady, M.K., Calantone, R. and Ramirez, E. (2016), Discriminant Validity Testing In Marketing: An Analysis, Causes For Concern, And Proposed Remedies, *Journal of the Academy of Marketing Science*, 44(1), 119-134.
- Wang, C., Kim, D.H.; Bai, R.; Hu, J. (2014). Psychometric properties of a self-efficacy scale for English language learners in China. *System*, 44, 24–33.
- Wilson, F., Kickul, J. and Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: implications for entrepreneurship education, *Entrepreneurship theory and practice*. 31(3), 387-406.