

## Entrepreneurial Intentions among Polytechnic Students in Malaysia

<sup>1</sup>Norasmah Othman and <sup>2</sup>Mazura Mansor

<sup>1</sup>Faculty of Education, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

<sup>2</sup>Politechnic Shah Alam, Malaysia

**Abstract:** Research on student entrepreneurial intentions is very limited in the context of entrepreneurship education in Malaysian polytechnics. Regardless of the fact that the government strongly promotes entrepreneurship as a career choice, many polytechnic students do not take up entrepreneurship after graduation. Therefore, this study identifies the factors that influence students' intention to become an entrepreneur on the basis of the Theory of Planned Behavior (TPB). A questionnaire survey was conducted among 460 students who are enrolled in the entrepreneurship course at the selected polytechnic in Malaysia. This survey consisted of 85 items measuring attitude towards entrepreneurship, subjective norms, perceived behavioral control and entrepreneurial intention. The findings of the study show that all three factors significantly influence students' intention to become entrepreneurs. Of these three factors, attitude towards entrepreneurship emerged as the strongest factor that influenced the students' intention. This implies that the TPB model is capable of predicting students' intentions towards entrepreneurship and further explaining the students' decision to become an entrepreneur in the future. Moreover, this study found no significant differences between business and non-business students in terms of their entrepreneurial intentions. The findings demonstrate that academics need to play a significant role in encouraging more students to become entrepreneurs by providing effective entrepreneurship education and more awareness on the benefits of becoming entrepreneurs. This in turn, will contribute to the growth of economies and global competitiveness. The implications of the TPB theory and education policies are discussed further in this study.

**Key words:** Entrepreneurial intention, attitude, perceived control behavior, subjective norms, polytechnic

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### INTRODUCTION

Behavioral intention has been identified as the best indicator of planned behavior. Krueger *et al.* (2000) proved that in relation to entrepreneurial activities, intentions are the best predictors of behavior that is rare, hard to observe or involves unpredictable time lags. The immediate antecedent of behavior is the intention to perform a given behavior (Ajzen, 2002). This situation is frequently encountered in the field of entrepreneurship in which to identify opportunities and to become entrepreneurs are planned behaviors. Entrepreneurship is clearly an intentional process. A study by Nilsson (2012) shows that those who have not attended the entrepreneurship education regard the entrepreneurial intentions as an inheritance, unlike those who have passed the entrepreneurship education who think that one can create one's destiny by oneself.

Although, past studies have focused on the entrepreneurship education of Malaysian university students (Azmi *et al.*, 2012; Yusuf *et al.*, 2008; Othman *et al.*, 2008; Nasurdin *et al.*, 2009; Ismail *et al.*,

2009; Pihie, 2009; Pihie and Hassan, 2009; Ariff *et al.*, 2010; Zain *et al.*, 2010), students' entrepreneurial intentions and education in the Malaysian polytechnic system have not been sufficiently examined. Research on student entrepreneurial intention is very limited in the context of entrepreneurship education in polytechnics. Ismail (2010) suggested that the validity and reliability of his study on the polytechnic students' entrepreneurial tendencies should be tested by conducting a similar study using some other psychological theory for example, the Theory of Planned Behavior, Shapero's Model of Entrepreneurial Event or other related models. He performed the GETv2 Test which indicated that polytechnic students appear to have a lower propensity to be entrepreneurs. In other words, they prefer to be employed after graduation.

The Ministry of Higher Education (MoHE) polytechnics in Malaysia were introduced with the aim of producing semi-professionals in the fields of Engineering, Commerce, Information Technology and Communication (ICT) and Hospitality and Services at the diploma and certificate levels to meet the nation's employee demand in

both the public and private sectors. The total number of full-time students enrolled in polytechnics as of April, 2009 was 83,644 and the number of part-time students was 2,756. The courses currently offered by polytechnics include 49 diploma, 20 certificate, 12 bridging, 5 special skills and 5 Advanced Diploma programs; these programs are being offered since January, 2009.

Entrepreneurial studies have undergone rapid development and researchers have started conducting comprehensive studies in this field. This trend has impacted the Polytechnics MoHE system where entrepreneurship education is being implemented to cultivate entrepreneurial spirit among graduates. Despite the efforts and initiatives undertaken by the government, many polytechnic students prefer not to get involved in entrepreneurial activities. In other words, a gap exists between what is expected of the students by the government and the actual level of involvement of polytechnic students in entrepreneurship. This gap needs to be investigated further to explain the attitudes of polytechnic students towards entrepreneurship. Therefore, this preliminary study is carried out to determine the level of intention among polytechnic graduates to become entrepreneurs in the future.

Embedding entrepreneurship education into technical and vocational disciplines (especially engineering fields) is useful for the students. In the polytechnic system, students come from business and non-business (engineering, information technology and communication, hospitality and services) programs. According to Keogh and Galloway (2004), educating engineering students for their profession within the modern enterprise economy involves a planned and integrated approach by teaching teams and coordinators from various engineering and entrepreneurship disciplines. By combining these specialties, students are given a realistic overview and some hands-on experience in what will be expected of them when they become contributors to their industry and the economy in general. Nevertheless, very limited research exists on the difference between business and non-business students' entrepreneurial intentions in Malaysia.

This study will apply the Theory of Planned Behavior (TPB) as outlined by Ajzen (1991) to examine the effects of three determinants of intentions (namely attitude, subjective norms and perceived behavioral control) on students' intentions of becoming an entrepreneur. The findings from this study provide valuable input for polytechnic students, the Department of Polytechnic Education, lecturers and the various related agencies in promoting and enhancing entrepreneurship as a career choice among polytechnic students.

**Literature review and hypotheses:** Forming an intention to pursue an entrepreneurial career is the 1st step in the usually long process of venture creation (Gartner *et al.*, 1994). Theories that may predict entrepreneurial intentions include that of planned behavior (Ajzen, 1991); Shapero and Sokol (1982)'s theory of the entrepreneurial event; the model of implementing entrepreneurial ideas (Bird, 1988) and the maximization of expected utility model (Douglas and Shepherd, 2002).

Among these theories, the Theory of Planned Behavior (TPB) has been shown to predict entrepreneurial intentions most accurately (Krueger *et al.*, 2000; Autio *et al.*, 2001; Souitaris *et al.*, 2007; Engle *et al.*, 2010; Moriano *et al.*, 2011). Unlike other models, the TPB offers a coherent and generally applicable theoretical framework that enables us to understand and predict entrepreneurial intentions by considering not only personal but also social factors (Krueger *et al.*, 2000). Moreover, it is widely believed that in contrast to other models, TPB predicts a wide range of behaviors in addition to those related to entrepreneurship. The TPB hypothesizes that behavioral intentions are determined by three key antecedents: attitudes towards behavior, Subjective Norms (SNs) and Perceived Control Behavioral (PBC). Actual behavior in turn is determined by intentions. However, the theory also postulates that PBC is related to actual behavior and further considers attitudes, SNs and PBC to be related to each other.

The three different elements influencing behavior through intention can be briefly described as follows. Attitudes towards behavior are concerned with beliefs about the likely outcomes of the behavior and the evaluation of these outcomes. Subjective norms refer to a person's perception of the normative expectations of others and a person's motivation to follow those expectations. Perceived behavioral control refers to an individual's perception of the ease or difficulty of performing the behavior, a construct that is more important than the actual control over the behavior of interest.

TPB is an intention-based model (Ajzen, 1991). It is used to explain an individual's intention to perform a given behavior. Intention indicates the extent to which people are willing to try or how much effort they are planning to exert, to perform the behavior (Ajzen and Driver, 1992). TPB is used in this study because it has been proven successful in explaining intention towards performing a particular behavior (Ajzen and Driver, 1992; Krueger *et al.*, 2000) in various fields such as Health, Leisure Choice, Psychology, Sociology and Information Technology (Ajzen, 1987; Mathieson, 1991; Ajzen and Driver, 1992; Taylor and Todd, 1995; Cooke and French,

2008). TPB has also been used widely in explaining entrepreneurial intention in a number of studies (Kolvereid, 1996; Krueger *et al.*, 2000; Autio *et al.*, 2001; Souitaris *et al.*, 2007; Gelderen *et al.*, 2008; Gird and Bagraim, 2008; Ariff *et al.*, 2010; Iakovleva and Kolvereid, 2009). In this study, the TPB Model is used to explain the intentions of polytechnic students who aspire to venture into entrepreneurial activities in the future.

According to this model, there are three conceptually independent determinants of intention towards entrepreneurship. These are attitudes towards entrepreneurship, subjective norms and perceived behavior control (Ajzen, 1991).

Attitudes refer to the degree to which an individual has favorable or unfavorable assessments of the behavior in question (Ajzen, 1991). Attitudes depend on the expectations and beliefs about the personal impacts of the outcomes resulting from the behavior. According to the TPB, a person's attitude towards a behavior represents his/her evaluation of the behavior and its outcome. In the case of entrepreneurship, attitude towards entrepreneurship refers to the personal desirability of becoming an entrepreneur (Kolvereid, 1996). Therefore, high expectations and beliefs towards self-employment reflect a favorable attitude towards entrepreneurship. Previous researchers have shown a positive relationship between attitude and behavioral intention (Kolvereid, 1996; Krueger *et al.*, 2000; Autio *et al.*, 2001; Souitaris *et al.*, 2007; Gelderen *et al.*, 2008; Gird and Bagraim, 2008). Autio *et al.* (2001) found that each measured attitude strongly influenced entrepreneurial intention. Similar results were found by Kolvereid (1996), Krueger *et al.* (2000), Souitaris *et al.* (2007) and Gird and Bagraim (2008). In Gelderen *et al.* (2008), financial security was the most outstanding variable that positively influenced attitude towards entrepreneurial intention. Therefore based on the discussion before, this study suggests the following hypothesis:

H<sub>1</sub>: Attitude towards entrepreneurship is positively related to entrepreneurial intention

In the TPB Model, Subjective Norms (SNs) refer to the person's perception of the social pressures for or against performing the behavior in question (Ajzen, 1987). SNs consist of two components: normative beliefs and the motivation to comply with these beliefs (Ajzen and Fishbein, 1980). Normative beliefs are concerned with the perceived probability that important referent individuals or groups will approve or reject a given behavior; they set the norm that specifies how the subject should behave. The references here refer to a group of people who are

close to the individual for instance family, peers, spouse, close friends, teachers and anyone considered important in the individual's life. The second component, motivation to comply, reflects a person's willingness to conform to these norms that is to behave according to the expectations of others. Depending on the social environment, these pressures can become a trigger or a barrier to the development of an entrepreneurial career. In particular, SNs may refer to the perception that referents would approve the decision to become an entrepreneur (Ajzen, 2001; Linan and Chen, 2009). If a person believes that his or her referents think that a behavior should be performed then the SNs will influence his or her intention to perform that particular behavior.

According to previous studies, SNs are positively related to intention (Ajzen and Driver, 1992; Kolvereid, 1996; Krueger *et al.*, 2000; Autio *et al.*, 2001; Souitaris *et al.*, 2007; Wu and Wu, 2008). In a study of leisure choice, Ajzen and Driver (1992) showed that SNs are significantly related to the intention of engaging in recreational activities. Kolvereid (1996) found that SNs significantly influence intention towards entrepreneurship. A similar result was found by Souitaris *et al.* (2007) and Gird and Bagraim (2008). Therefore based on the discussion, the following hypothesis is proposed:

H<sub>2</sub>: Subjective norms are positively related to entrepreneurial intention

The third antecedent of intentions, Perceived Behavior Control (PBC), reflects the perceived ability to execute target behavior (Ajzen, 1987). It relates to an individual's perception of the degree of ease or difficulty in performing such a behavior. PBC is assumed to reflect past experience as well as anticipated obstacles (Ajzen and Driver, 1992). PBC refers to the individual's control beliefs regarding the behavior in question. More specifically, this construct refers to the perceived ease or difficulty of performing the behavior (Tkachev and Kolvereid, 1999). This concept differs from the related concepts of self-efficacy (Bandura, 1997) and feasibility (Shapiro and Sokol, 1982) because it includes not only the feeling of being able but also the perception of controllability of the behavior (Ajzen, 2002). This construct is affected by perceptions of access to necessary skills, resources and opportunities to perform the behavior. If an individual feels that he or she has control over the situational factors, he or she may develop the intention to perform the particular behavior. On the other hand if an individual does not have control over the circumstances, he or she may have less (or zero)

intention to perform the particular behavior. Therefore, researchers can say that perceived behavior controls can influence the intention to perform a behavior.

Previous research has shown an association between PBC and behavioral intention (Mathieson, 1991; Ajzen and Driver, 1992). In the entrepreneurship context, several studies have shown significant associations between PBC and entrepreneurial intention (Kolvereid, 1996; Krueger *et al.*, 2000; Autio *et al.*, 2001; Indarti, 2004; Souitaris *et al.*, 2007; Basu and Virick, 2008; Gelderen *et al.*, 2008; Gird and Bagraim, 2008; Iakovleva and Kolvereid, 2009). For instance, a study by Davidsson (Autio *et al.*, 2001) found that PBC (or entrepreneurial conviction) is the most important factor influencing Swedes' intention to start a business. Kolvereid (1996) later found that PBC emerged as one of the most significant influences on self-employment intentions among students pursuing masters degree in Norway. In Malaysia, Ariff *et al.* (2010) showed that PBC emerged as the most important factor that influenced accounting students' entrepreneurial intentions. Based on the discussion, the study presents the following hypothesis:

H<sub>3</sub>: Perceived behavior control is positively related to entrepreneurial intention

The relative contributions of the three antecedents of entrepreneurial intentions are to be determined for each specific behavior and situation (Ajzen, 1991, 2002). Interestingly, empirical studies often provide contradictory results concerning the relative importance of the three motivational factors for predicting entrepreneurial intentions. For example, several studies found a significant impact of SNs on intentions (Kolvereid, 1996; Tkachev and Kolvereid, 1999; Kolvereid and Isaksen, 2006) while other studies do not support this finding (Krueger *et al.*, 2000; Autio *et al.*, 2001; Linan and Chen, 2009). Many studies have shown that PBC or attitude towards entrepreneurship emerged as the most important factors influencing entrepreneurial intention.

Ariff *et al.* (2010) found that the explanatory power of the TPB model is sufficient (38%) to explain the factors that influence entrepreneurial intention among Malay students. Therefore, in addition to the 3 earlier hypotheses, an additional hypothesis is tested in this study:

H<sub>4</sub>: Attitude, subjective norms and perceived behavior control strongly affect entrepreneurial intention

Several studies support the argument that demographic characteristics such as age, gender, education and previous employment have an impact on entrepreneurial intentions (Kolvereid, 1996; Mazzarol *et al.*, 1999; Indarti, 2004; Turker and Selcuk, 2008; Franco *et al.*, 2010; Iakovleva and Kolvereid, 2009). Franco *et al.* (2010) found that business administration students more strongly prefer to be self-employed than do their counterparts in other disciplines. However, a peculiar exception was found in Indarti (2004) which revealed that the degree of entrepreneurial intention of economics and business administration students was significantly lower than that of non-economics students. Based on these research findings, educational background can be considered as a factor that might have an influence on entrepreneurial intentions and the following hypothesis is generated:

H<sub>5</sub>: There is a significant difference in entrepreneurial intention between business and non-business students

## **MATERIALS AND METHODS**

This study utilized a descriptive research design. The sample comprised of 460 business and engineering students from nine different programs. Data were gathered in the 1st session of the 2011 academic calendar of polytechnics. This study was performed using a questionnaire measuring students' demographic information, entrepreneurial intention, attitude toward entrepreneurship, subjective norms and perceived behavioral control. These students were chosen for this study because they were studying entrepreneurship and were most likely to select entrepreneurship as their career. The instrument was based on the modification of previous instruments developed by several researchers such as Ajzen and Fishbein (1980), Kolvereid (1996), Krueger *et al.* (2000), Chen *et al.* (1998), Hassan (2007), Pihie (2009) and Mueller (2010). The reliability of each set of constructs has a Cronbach  $\alpha$ -value ranged between 0.85 and 0.94. The measurement of items in the survey questionnaire was based on a 5-point Likert scale with 1 reflecting strongly disagree and 5 reflecting strongly agree. Negatively worded items were rescored so that higher scores reflect their mean score.

All the students of Politeknik Sultan Salahuddin Abdul Aziz Shah who were enrolled in the entrepreneurship course were selected for this study. Questionnaires were distributed at the end of the 14 weeks of lectures and the answering session was

**Table 1: Demographic characteristics of respondents (n = 460)**

Variables	Frequency	Percentage
<b>Gender</b>		
Male	151	32.8
Female	309	67.2
<b>Race</b>		
Malay	428	93.0
Chinese	14	3.0
Indian	8	1.7
Others	10	2.2
<b>Course of study/program</b>		
DPM2 (Commerce)	70	15.2
DPR2 (Commerce)	21	4.6
DPI3 (Commerce)	30	6.5
DPR3 (Commerce)	51	11.1
DIN3 (Commerce)	23	5.0
SPP4 (Commerce)	44	9.6
DPM3 (Commerce)	82	17.8
<b>Total business students</b>	321	69.8
DBK2 (Engineering)	44	9.6
DPB2 (Engineering)	95	20.6
<b>Total non-business students</b>	139	30.2
<b>Semester</b>		
2	231	50.2
3	185	40.2
4	44	9.6

monitored by a researcher. The actual sample comprised 520 students of which 464 (89.2%) returned the questionnaire. From that number, only 460 (99.1%) questionnaires were valid for analytical purposes. The demographic information of respondents is shown in Table 1.

The respondents comprised 151 (32.8%) males and 309 (67.2%) females. Further, 321 (69.8%) respondents were from the Commerce Department (business students) whereas 139 (30.2%) were from the Engineering Department (non-business students). Only 44 respondents were in the final semester (4th semester) of the program. These students were enrolled in the Certificate of Business Studies (SPP) Program.

**RESULTS AND DISCUSSION**

For data analysis, descriptive statistics, regression and correlation analysis were applied. Basic descriptive analysis was performed to determine the average score and the dispersion of scores for the constructs of Attitude Towards entrepreneurship (ATT), Subjective Norms (SNs), Perceived Behavior Control (PBC) and entrepreneurial intention. The results in Table 2 shows that SNs' mean score (m = 3.81, SD = 0.64) is the highest among the three antecedents. This in turn suggests that social pressure could affect students' intention to become entrepreneurs. Meanwhile, the mean scores for ATT (m = 3.73, SD = 0.43) and PBC (m = 3.69, SD = 0.51) are slightly lower than that for SNs. Most of the respondents believed that family members and important people play a big role in encouraging them to get involved

**Table 2: Descriptive statistics on variables (n = 460)**

Variables	Mean	SD	Cronbach's alpha
Attitude (ATT)	3.73	0.43	0.865
Subjective Norms (SNs)	3.81	0.64	0.849
Perceived Behavioral Control (PCB)	3.69	0.51	0.936
Entrepreneurial intention	3.86	0.55	0.921

in entrepreneurial endeavors. The respondents also agreed that being involved in entrepreneurship is a way of putting into practice the theoretical knowledge they have gathered at the polytechnic school; thus they are confident they will succeed if they start their own business.

Interestingly, empirical studies often provide contradictory results concerning the relative importance of the three motivational factors for predicting entrepreneurial intentions. For example, several studies found a significant impact of SNs on intentions (Kolvereid, 1996; Tkachev and Kolvereid, 1999; Kolvereid and Isaksen, 2006) while other studies do not support this finding (Krueger *et al.*, 2000; Autio *et al.*, 2001; Linan and Chen, 2009). Engle *et al.* (2010) found SNs to be significantly related to intentions in 12 countries. Moriano *et al.* (2011) found that SNs were significantly related to intentions in only 2 out of the 6 countries surveyed. Thus, previous research has produced contradictory results on the predictive power of antecedents of entrepreneurial intentions across studies and countries.

A reliability test was also conducted to ensure the consistency and reliability of the constructs used in measuring the variables. The results show that Cronbach's  $\alpha$ -values for ATT, SNs and PBC were >0.70 and these were considered good (Nunnally, 1978). The last construct that is entrepreneurial intention showed a Cronbach's alpha of 0.921. The value for this variable which measures students' intention to be involved in entrepreneurship was acceptable because the investigation at this point was at an initial stage (Nunnally, 1978; Churchill, 1979). Thus, the items used in measuring the variables were deemed acceptable.

In reviewing the entrepreneurial intentions of polytechnic students, Table 3 shows that in general, students' perception on all items measuring entrepreneurial intention was moderate with the highest mean for item 9, I want to be my own boss (m = 4.32, SD = 0.854). This result is consistent with Akmaliah's findings in which the item I want to be my own boss (m = 4.01, SD = 0.96) had the highest mean. The least mean score in her study on university students was for the items I have seriously thought about starting my own business after completing my education (m = 3.22,

Table 3: Entrepreneurial intention of Polytechnic students

Items	Mean	SD
If I started my own business, I would be more successful than most of my fellow friends	3.80	0.774
I will try to start my own business within the first 5 years of finishing my studies	3.80	0.834
I have already taken some steps to start my own business	3.53	0.944
If I became an entrepreneur, my company would most likely be successful after 2 years	3.63	0.753
I strongly believe that I will start my own business within the first 5 years of finishing my studies	3.63	0.890
I will definitely choose a career as an entrepreneur	3.60	0.929
I prefer being an entrepreneur to being an employee in a company	3.87	0.947
I am learning about entrepreneurship because of my intention to become an entrepreneur	3.73	0.900
I want to be my own boss	4.32	0.854
I will run a part-time business although I have had a permanent job	4.05	0.800
I always think about running my own business	4.19	0.846
I am very determined to be an entrepreneur	3.88	0.815
I have seriously thought about starting my own business after completing my education	3.70	0.860
I'll make every effort to start and run my own business	3.88	0.765
I'm determined to start a firm in the future	4.00	0.807
I have a strong intention to start a business someday	3.99	0.859
I will make a great effort to get more profit	4.29	0.776
I will start my own business in the next 5 years	3.75	0.893
I will start my own business in the next 10 years	3.65	0.976

Table 4: Pearson's correlations coefficients (n = 460)

Variables	ATT	SN	PCB	Intention
ATT	1			
SNs	0.549**	1		
PBC	0.598**	0.624**	1	
Intention	0.629**	0.621**	0.590**	1

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

Table 5: Correlation interpretations

Interpretation	Correlation (r)
Small	r = 0.10-0.29
Medium	r = 0.30-0.49
Large	r = 0.50-1.0

Cohen (1988)

SD = 1.03) and I prefer being an entrepreneur to being an employee in a company (m = 3.42, SD = 1.05). However in this study on polytechnic students, the least mean score is for items I have already taken some steps to start my own business (m = 3.53, SD = 0.944) and I will definitely choose a career as an entrepreneur (m = 3.60, SD = 0.929). Table 4 shows Pearson's correlation coefficients among variables. Attitude and entrepreneurial intention have the highest significant correlation coefficient (0.629). According to Pallant, correlation coefficients that are <0.7 are not considered very strong correlation. In that case, the model does not have multicollinearity problems and all of the variables can be retained. The strength of these correlations are interpreted using the guidelines suggested by Cohen (1988) as shown in Table 5.

Table 4 shows that the correlations between the 4 variables are all >0.5 suggesting a strong relationship between ATT and entrepreneurial intention (r = 0.629), SNs and intention (r = 0.621) and PBC and entrepreneurial intention (r = 0.590). Moreover, a strong correlation can also be observed between ATT and SN (r = 0.549), ATT and PBC (r = 0.598) and SN and PBC (r = 0.624).

In order to achieve the objectives of this study, multiple regression analysis was carried out to test the 5 hypotheses. Table 6 shows that the variable for attitude towards entrepreneurship was significantly influenced by entrepreneurial intention among students (p<0.05). Among the three independent variables, attitude towards

entrepreneurship emerged as the most important factor that influenced students' entrepreneurial intention. This is owing to the highest  $\beta$ -value gained by attitude towards entrepreneurship (0.344). Subjective norms (0.315) emerged as the second most important influence, followed by perceived behavioral control (0.188).

**Hypothesis 1:** Hypothesis 1 states that attitude towards entrepreneurship is positively related to entrepreneurial intention. Table 6 shows that ATT is positively related to and significant contributes to determining entrepreneurial intention among polytechnic students. The value of  $\beta$  (standardized regression coefficient) is positive ( $\beta = 0.344, p < 0.01$ ). This finding is consistent with those of previous research which generally found that ATT positively influences entrepreneurial intentions (Kolvereid, 1996; Tkachev and Kolvereid, 1999; Krueger *et al.*, 2000; Autio *et al.*, 2001; Hassan, 2007; Basu and Virick, 2008; Ariff *et al.*, 2010). Luthje and Franke (2003) reported that positive attitude towards entrepreneurship had a positive effect on entrepreneurial intentions ( $\beta = 0.508, p < 0.05$ ). On the other hand, Hassan (2007) found that attitude has the strongest relationship with entrepreneurial intentions (r = 0.69, p<0.01). Therefore, these findings support H<sub>1</sub>.

**Hypothesis 2:** The result shows that Subjective Norms (SNs) also positively influence entrepreneurial intentions ( $\beta = 0.315, p < 0.01$ ). Previous studies for example, Kolvereid (1997) show that Sns have a positive and

Table 6: Regression coefficients

Variables	$\beta$	t
Attitude towards entrepreneurship (ATT)	0.344*	8.193
Subjective Norms (SN)	0.315*	7.292
Perceived Behavioral Control (PBC)	0.188*	4.178
R <sup>2</sup>	0.523	-
Adjusted-R <sup>2</sup>	0.520	-
F (3, 456)	166.603	-

\*Significant at the 0.01 level

significant relationship with entrepreneurial intentions ( $r = 0.60, p < 0.05$ ). This is similar to the result obtained by Kennedy *et al.* (2003) which indicated that SNs contribute to the formation of entrepreneurial intentions. Hassan (2007) also found that SNs are the second highest factor (after attitude) that influences students' entrepreneurial intentions. Hence, H<sub>2</sub> is also supported in this study.

**Hypothesis 3:** Perceived Behavior Control (PBC) also has a positive significant relationship ( $\beta = 0.188, p < 0.01$ ) with entrepreneurial intentions but among other factors, it contributes the least to the formation of intentions. This finding supports H<sub>3</sub> which states that perceived behavior control is positively related to entrepreneurial intention. This is consistent with the results of several previous studies (Chen *et al.*, 1998; Indarti and Kristiansen, 2003; Hassan, 2007; Mueller, 2010) that showed that PBC is a positive significant predictor of entrepreneurial intentions.

**Hypothesis 4:** The analysis results show that the adjusted R-square (R<sup>2</sup>) was 0.523 and the F-Ratio was 166.603 (Table 6). This means that almost 52% of the variance in entrepreneurial intention was significantly explained by the three independent variables of attitude towards entrepreneurship, subjective norms and perceived behavioral control. Therefore, this supports the validity of the proposed model in predicting the students' intention towards entrepreneurship. Based on these values, the independent variables (ATT, SNs and PBC) together explain entrepreneurial intentions accurately. Therefore, H<sub>4</sub> which states that attitude, subjective norms and perceived behavior control strongly affect entrepreneurial intention is not rejected in this study.

**Hypothesis 5:** Among polytechnic students, the degree of entrepreneurial intention of business students ( $n = 321, m = 3.88$ ) is slightly higher than that of non-business students ( $n = 139, m = 3.80$ ). An independent-samples t-test was conducted to compare the entrepreneurial intentions between business and non-business students. No significant difference were observed in the scores for business ( $m = 3.88, SD = 0.53$ ) and non-business students ( $m = 3.80, SD = 0.59; t(458) = 1.44, p = 0.15$ , two-tailed). The magnitude of the differences in the mean scores

(mean difference = 0.81, 95% CI: -1.80 to 1.87) was very small ( $\eta^2 = 0.004$ ). This finding gives no general support for the statement in H<sub>5</sub> that there is a significant difference in entrepreneurial intention between business and non-business students. Hence, H<sub>5</sub> is rejected. This means that polytechnic students regardless of their course of study have the same level of entrepreneurial intentions.

## CONCLUSION

It was mentioned before that polytechnic students are not very enthusiastic about undertaking entrepreneurship. Based on the problems identified, this study attempted to identify the factors that may have an influence on polytechnic students' intention to become entrepreneurs. By using the Theory of Planned Behavior (TPB), this study shows that attitude towards entrepreneurship, subjective norms and perceived behavioral control have a significant influence on entrepreneurial intention.

The findings were consistent with previous studies by Hassan (2007), Ariff *et al.* (2010), Basu and Virick (2008), Gird and Bagraim (2008), Kolvereid (1996) and Souitaris *et al.* (2007). It further reveals that attitude towards entrepreneurship emerged as the strongest influence on entrepreneurial intention. This is consistent with studies conducted by Autio *et al.* (2001), Kolvereid (1996) and Krueger *et al.* (2000). This indicates that students who plan to be entrepreneurs are mainly influenced by their perception of the degree of ease (or difficulty) in entrepreneurial activities. In this study, the explanatory power of the TPB model to explain entrepreneurial intention was 52% which is sufficient to explain the factors that influence entrepreneurial intention among polytechnic students.

The results of this study indicate that the degree of entrepreneurial intentions among polytechnic students is generally not very high. Thus, the Department of Polytechnic Education must offer more entrepreneurship programs and courses to students. This would help them acquire the knowledge and skills required in entrepreneurial activities in turn making them more confident to take start their own business. This will help improve students' perceived behavioral control towards entrepreneurship which might subsequently influence their intention to become entrepreneurs.

Another possible solution is to involve students in activities that are geared towards experiential learning such as internships, workshops, training and consultations with micro entrepreneurs. Collaboration between several stakeholders (for instance, academia, government and small business enterprises) may be

advantageous in order to make this program a reality. In order to facilitate this, developing an entrepreneurship incubator for students is recommended. When such opportunities are widely available and resources can be easily accessed, students may be further encouraged to venture into entrepreneurial activities knowing that they have adequate support. Encouraging students to choose entrepreneurship as a career is another way of influencing their intention. Through aggressive promotions and campaigns by the Ministry of International Trade and Industry and the Ministry of Higher Education, a positive attitude towards entrepreneurship can be fostered. Existing entrepreneurs and their success stories can be used to inspire students to become entrepreneurs in the future.

### RECOMMENDATIONS

The findings of this study suggest that both business and non-business students in polytechnics have no significant difference in their entrepreneurial intentions. This finding is not congruent with Indarti (2004) who found that the degree of entrepreneurial intention of economics and business students was significantly lower than that of non-economics students. Nevertheless, this indicates that non-business students also intend to become entrepreneurs in the future. The Department of Polytechnic Education should place more emphasis on the entrepreneurship courses offered to non-business students. These students should not be neglected in planning the entrepreneurship curriculum. Entrepreneurship education should be imbedded in their syllabus in order to strengthen their level of entrepreneurial intentions.

This study further suggests that the TPB model is well suited for research in entrepreneurial intention among students. However, the model can be further improved by considering other possible factors such as promotion. Promotional activities may influence attitude and behavior through the communication of information based on a particular view (Graef, 1995). Based on these findings, researchers recommend that the policymakers of institutions of higher learning and the community work together to promote an entrepreneurship culture among polytechnic students.

### LIMITATIONS

Although, this study obtained significant results, it has certain limitations. Because the study involved polytechnic students, the findings cannot be generalized to a much larger population of students. It is recommended that in the future, a more comprehensive

study be carried out to include all polytechnic students in Malaysia. Future studies should also investigate the extent of the students' intentions and to what degree they have followed through.

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