

# Students' Entrepreneurial Inclination at a Malaysian Polytechnic: A Preliminary Investigation

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## Abstract

This paper reports preliminary results of an ongoing project to examine students' inclination towards entrepreneurship at a Malaysian polytechnic. The study used a self-administered questionnaire to explore the influence of entrepreneurial intent, perceived behavioral control, self-efficacy, perceived barriers, perceived support factors and attitude towards entrepreneurship in technical and non-technical student samples. Findings of this study revealed that non-technical students were more inclined to become entrepreneurs and drop out of their studies should business opportunities arise. They also perceived to having sufficient knowledge to become entrepreneurs as compared to their technical counterparts. Technical students indicated their unwillingness to become entrepreneurs immediately after completing their studies and perceived difficulties in getting financial aid to start a business. These preliminary results could be helpful in examining the effectiveness of the present entrepreneurship syllabus and its teaching approaches.

**Keywords:** Entrepreneur, Entrepreneurship, Entrepreneurial Inclination

## 1. Introduction

The issue of graduate unemployment and the current interest regarding the subject of entrepreneurship in Malaysian schools and Institutes of Higher Learning have been in the news for a number of years. In 2009, the Minister of Higher Education revealed that out of the 170,000 graduates produced yearly since 2006, 30 % of these graduates were still unemployed ("Fewer unemployed graduates expected," 2009, p.2). According to a report prepared by the National Economic Advisory Council (NEAC) on the New Economic Model (NEM), about a quarter of graduates from local public universities remained unemployed six months after completing their studies in 2008 (NEAC, 2010). A study by Md Yusof, Rohani and Yong Zulina (2009) showed that in 2008, 24 % of Malaysian graduates were unemployed. The same study revealed the following figures for the year 2008: 24.7 % unemployed first degree graduates and 21.5 % unemployed diploma graduates. The researchers also reported that only 1.7 % of diploma graduates ( $n = 16,761$ ) and 1.1 % of first degree graduates ( $n = 41,925$ ) were self-employed.

Against this backdrop, the New Economic Model which was announced by the Malaysian Prime Minister in March 2010 that placed entrepreneurship as the key driver of the economy for the next decade was timely. Not surprisingly, one of the sources that the government identified in creating entrepreneurs was university graduates. However, according to the Deputy Higher Education Minister, only 2.4 % of graduates became entrepreneurs upon graduation

and this number was relatively small compared with those in developed countries (Azlan, 2009). A few months earlier, the Minister of Higher Education expressed his disappointment that only 10,000 graduates attended entrepreneurship programs organized by the Ministry each year ("Fewer unemployed graduates expected.," 2009, p.2). Thus this preliminary study was carried out in support of the government's agenda to make entrepreneurship as a career choice among Malaysian graduates.

## 2. Review of Literature

### 2.1 Demographic Factors, Personality Traits and Entrepreneurial Inclination

A review of literature on the entrepreneurial inclination of students reveals a consistent interest in identifying the factors that influence an individual to become an entrepreneur. Some of these studies investigated the students' inclinations of being self-employed by looking at influencing factors such as age, gender, educational and family backgrounds, and prior business experiences (e.g. Kristiansen & Nurul Indarti, 2004; Shay & Terjensen, 2005). Other studies (e.g. Hian, 1996; Yar Hamidi, Wennberg & Berglund, 2008; Palaniappan & Rafik-Galea, 2009) used intention models such as the Entrepreneurial Event Model (Shapero, 1982) and the Theory of Planned Behaviour (Ajzen, 1991) in examining traits, for example; risk taking, creativity and perceived barriers.

Kristiansen and Nurul Indarti (2004) in a study of entrepreneurial intention among Indonesian and Norwegian students found that age, gender and educational background had no significant impact on entrepreneurial intention. Another study by Shinnar (2009) showed that there were no significant differences between male and female students regarding interest in entrepreneurship. Shay and Terjensen (2005) however found that males had higher aspirations than females to start their own businesses. Yar Hamidi, Wennberg and Berglund (2008) in a study on creativity in entrepreneurship education found that high scores on creativity tests and prior entrepreneurial experiences indicated positive entrepreneurial intentions, whereas perception of risks had a negative influence. Palaniappan and Rafik-Galea (2009) also found that school students who perceived themselves as creative had high levels of initiative, prefer challenging tasks and had higher entrepreneurial tendencies.

A study of entrepreneurial inclination and psychological characteristics by Hian (1996) showed that entrepreneurially inclined students had greater innovativeness and higher propensity to take risks as compared to those that were not entrepreneurially inclined. In Singapore, a study by Wang and Wong (1998) on the level and determinants on interest in entrepreneurship among undergraduates discovered that the significant deterrents to becoming entrepreneurs were inadequate business knowledge and perceived risks. Luthje and Franke (2003) also showed that personality traits had a strong impact on the attitude towards self-employment where entrepreneurial intent was directly affected by perceived barriers and support factors.

Studies on the entrepreneurial inclination of Malaysian students from a gender perspective revealed mixed results. Ooi (2008) on a study of university students in Northern Peninsular Malaysia found that gender, along with other factors such as programs of study, previous working experience and mother's occupation had significant differences on undergraduates' inclination towards becoming entrepreneurs. The above findings supported the results of an earlier study where male university students were found to exhibit higher entrepreneurial intention compared to their female counterparts (Zaidatol Akmaliah & Afsaneh, 2009a). Another study by Mohd Nizam, Norhamidi, Dzuraidah., Jaharah, Nishata Royan, and Shahida Azura (2009) found that female and Chinese students showed higher inclination towards becoming entrepreneurs as compared to male and non-Chinese students.

There are also a number of studies on Malaysian students' entrepreneurial inclination using the intention model. Based on the Theory of Planned Behaviour (TPB), a study by Arifatul Husna, Zainol, Zakiyah and Adura (2010) revealed that perceived behavioural control was the strongest factor in influencing students to become entrepreneurs. However, in a previous study of 1554 university students, Zaidatol Akmaliah (2009) found that the students' score on perceived behavioural control was only moderate. In another study of entrepreneurial spirit between students with and without entrepreneurship experience, Zaidatol Akmaliah and Abdullah Salleh (2008a) found that the former scored higher mean in constructs associated with entrepreneurial spirit where the three main predictors were subjective norms toward entrepreneurial behaviour, entrepreneurial self-efficacy and entrepreneurial interest.

### 2.2 Entrepreneurship Inclination of Malaysian Polytechnic Students

Based on the literature reviewed, only a few studies have been conducted on Malaysian polytechnic students' entrepreneurial inclinations. One of the earliest studies in 1994 by Baharu showed that polytechnic students with the following demographic factors exhibited high entrepreneurial orientation: female students, rural students and prior exposure in handling financial account. In focusing on agricultural engineering students at a local polytechnic, another study showed a high level of confidence among the respondents in pursuing a career as entrepreneurs (Ismail, 2006). These findings contradicted the results of a study of accounting students by Sarimah (2001) who

found that the respondents had a low interest in becoming entrepreneurs where they listed job security as the main factor in choosing a career. A similar study of hotel and catering students of two polytechnics also revealed that the respondents were not fully prepared to become entrepreneurs after finishing their studies (Mohd Fairuz, 2006). As argued by Mohd Zahari (2010) in his study on entrepreneurship education and polytechnic students' entrepreneurial tendencies, the uneasiness of students to become entrepreneurs could partly be attributed to the syllabus in used which was not effective in imparting entrepreneurial knowledge, skills and attributes. The study also revealed that lecturers lacked relevant entrepreneurial skills, knowledge or training and teaching approaches were inappropriate. These findings supported an earlier study by Mohd Zin (2002) where he discovered that the level of entrepreneurship inclination among polytechnic commerce lecturers was low.

### *2.3 Entrepreneurship-related Programs in the Malaysian Polytechnic Education System*

In the Malaysian polytechnic education system, three entrepreneurship-related programs are offered to the students. The first program is P3117 Keusahawanan (*Entrepreneurship*) which is a compulsory subject for third-semester Diploma in Business Studies and Diploma in Marketing students. Another entrepreneurship-related program is P3130 Pembangunan Usahawan (*Entrepreneur Development*) which is only offered to engineering students in their fifth or sixth semester of their studies. This new program was only introduced in the January 2010 academic session. The third entrepreneurship-related program is R2001 Keusahawanan dan Pengurusan Organisasi (*Entrepreneurship and Organizational Management*) which comes under the purview of the co-curriculum department of the respective polytechnics. This program is mandatory to all second semester students, irrespective of their fields of study. There are similarities between the three programs where the focus is on entrepreneurship issues, choosing ideas and opportunities and developing business plans. Additional topics in P3130 Pembangunan Usahawan include basic management, basic marketing and financial management. For R2001 Keusahawanan dan Pengurusan Organisasi, the two main topics are entrepreneur development and organizational management. A quick survey on the number of engineering students taking the P3130 Pembangunan Usahawan revealed a totally unexpected statistic: only 5 diploma students ( $n = 624$ ) registered for this program in the July 2010 academic session.

### **3. Statement of Problem**

The Graduate Tracer Studies which was started in 2003 by the Malaysian Ministry of Education, and continued by the Ministry of Higher Education have not fully focused on getting the graduates' feedback on entrepreneurship. Since the government places a high-priority status on developing an entrepreneurial culture among the students for national development, there is growing concern that graduates do not have the inclination, the right attitudes or sufficient entrepreneurial skills to become self-employed. Thus Institutes of Higher Learning like the polytechnics have a key role to play by providing training and inculcating an entrepreneurial culture in the campuses. However, studies on polytechnic students' inclination towards entrepreneurship are far and few. Hence in getting a better understanding of polytechnic students' attitude towards entrepreneurship, studies focusing on students' entrepreneurial inclination would be helpful in supporting the government's effort in producing more entrepreneurs from the polytechnic education system.

### **4. Objective of the Study**

The objective of this study was to investigate and compare the degree of entrepreneurial inclination of two groups of students at a Malaysian polytechnic. Specifically, this study sought to compare the degree of entrepreneurial inclination of DPM (Malay acronym for Diploma in Business Studies) students with DUB (Malay acronym for Diploma in Quantity Surveying) students. These two programs were chosen to represent technical (quantity surveying) and non-technical (business studies) students in investigating and comparing their entrepreneurial inclinations toward entrepreneurship.

### **5. Methodology**

#### *5.1 Design*

This study used a quantitative, descriptive design based on entrepreneurial intention models (Shapero, & Sokol; 1982, Ajzen; 1991, Krueger, & Brazeal; 1994) where data was collected to assess the entrepreneurial inclination of a group of technical and non-technical students. A survey instrument was designed specifically for this study. The instrument used comprised of demographic variables and six personality components. These components were entrepreneurial intent, perceived behavioral control, self-efficacy, perceived barriers, perceived support factors and attitude towards entrepreneurship.

#### *5.2 Sample and Data Collection Procedure*

This study involved 32 Diploma in Business Studies (DPM) students and 33 Diploma in Quantity Surveying (DUB)

students of a Malaysian polytechnic. For the purpose of this study, DUB students were considered as technical students whilst DPM students were considered as non-technical students. Both groups of semester five students had completed a twenty-week mandatory internship program with various public and private organizations. Twenty five students (38.5%) were males and forty students (61.5%) were females. The students were briefed on the purpose of the study and instruction was given on how to respond to the questionnaire. The questionnaires were administered in-situ and all the response sheets were retrieved from the respondents.

### 5.3 Instrumentation

Items in the survey instrument were designed based on the Theory of Planned Behaviour (Ajzen, 1991), the Entrepreneurial Potential Model (Kruger & Brazeal, 1994) and other literatures. The instrument was divided into two main parts. Part A was on the demography of respondent (sex, race, and type of training provider (public/private)). Part B was divided into five sections: entrepreneurial intent (6 items), perceived behavioral control and self-efficacy (5 items), perceived barriers (6 items), perceived support factors (6 items for DPM students and 4 items for DUB students) and attitude towards entrepreneurship (3 items). A Likert-type scale was used with five choices (strongly agree (SA) = 5, agree (A) = 4, neutral (N) = 3, disagree (D) = 2 and strongly disagree (SD) = 1). Cronbach's alpha was used to determine the internal reliability of the survey instrument. The instrument was tested in its entirety and the five sub-sections of the survey were tested independently. The Cronbach's alpha reliability coefficients for the individual sections of the survey ranged from a low of 0.657 to a high of 0.829. These results indicated moderate to high levels of internal reliability.

### 5.4 Data Analysis

The Statistical Package for the Social Sciences program (SPSS) version 12 for windows was used to analyze the data. Statistical analyses were used to investigate and compare the entrepreneurial inclination of both groups of students with regards to their entrepreneurial intent, perceived behavioral control, self-efficacy, perceived barriers, perceived support factors and attitude towards entrepreneurship.

## 6. Results

### 6.1 Demographic Analysis

Demographic data collected on student participations included gender, race, and type of training provider (public or private sector). The total number of students involved in the study was 65. There were only 6 male students ( $n = 26$ ) from the DPM program compared to 19 male students ( $n = 33$ ) from the DUB program. Non-Malays constituted 14.3 % and 6.5 % of the total number of students from the DPM and DUB programs respectively. As for the type of training providers, one third of the respondents undertook their training with government agencies (Table 1).

### 6.2 Descriptive Statistics

#### 6.2.1 Entrepreneurial intent - Mean and frequency distribution of responses.

Students' perceptions on entrepreneurial intent was assessed and compared (Table 2). The majority of DUB and DPM students ( $M = 3.88$ ,  $SD = 0.82$  and  $M = 3.91$ ,  $SD = 0.96$  respectively) felt that they were inclined to become entrepreneurs (item 1). However, a bigger percentage (30.3 %) of DUB students was non-committal compared to only 12.5 % of DPM students. DPM students rated themselves as significantly more entrepreneurial ( $M = 3.72$ ,  $SD = 0.99$ ) than did DUB students ( $M = 3.48$ ,  $SD = 0.75$ ). This was reflected by a bigger percentage (65.7 %) of DPM students who stated that they would choose to become entrepreneurs after completing their studies (item 2). In comparison, only 45.5 % of DUB students stated likewise. On the likelihood of being self-employed in the near future, there was no significant difference between DUB ( $M = 3.76$ ,  $SD = 0.90$ ) and DPM ( $M = 3.75$ ,  $SD = 0.92$ ) students. A significant percentage of DUB and DPM students (69.7 % and 78.1 % respectively) stated that they saw themselves as entrepreneurs in the next ten years (item 3). On the choice of becoming an entrepreneur or working for some organization, 65.7 % of DPM students and 48.5 % of DUB students chose to become entrepreneurs (item 4). There was also no significant difference between the two groups of students when comparing the likelihood of quitting their studies should business opportunities arise (item 5). However, more DPM students (31.3 %) than DUB students (15.2 %) stated the possibility of not finishing their studies should business opportunities come along. On the question of educational experience, 65.7 % of DPM students agreed that the time spent studying at the polytechnic was part of their plan to become entrepreneurs compared to only 30.4 % as registered by DUB students (item 6).

#### 6.2.2 Perceived behavioural control and self-efficacy - Mean and frequency distribution of responses.

The perceived behavioural control and self-efficacy of DPM and DUB students were assessed and compared. Results of item 7 (Table 3) indicated that DUB students felt they had more capabilities and resources to become

entrepreneurs ( $M = 2.94$ ,  $SD = 0.97$ ), but this difference was not statistically significant. A comparison of respondents' perception of having the knowledge to conduct a business (item 8) showed that there were significant differences between DPM students ( $M = 3.75$ ,  $SD = 0.62$ ) and DUB students ( $M = 3.15$ ,  $SD = 3.15$ ). Almost eighty percent of DPM students indicated that they had the necessary knowledge as compared to DUB students (39.4%). Also, 30.3 % of DUB students disagreed that they had the knowledge to conduct a business, which was in sharp contrast to only 3.1 % of DPM students who stated likewise. On leadership skills needed of an entrepreneur (item 9), 59.4 % of DPM students registered their agreement compared to only 30.3 % of DUB students. DPM students also showed higher levels of confidence in having the mental maturity and perseverance needed to become entrepreneurs (68.8 % and 78.1 % respectively). As for DUB students, the respective percentages were 39.4 % and 54.6 % (items 10 and 11). However, these differences were not statistically significant.

### 6.2.3 Perceived barriers - Mean and frequency distribution of responses.

Students' perceived barriers toward becoming entrepreneurs were also investigated (Table 4). No significant differences between the two groups of students were identified when dealing with issues of entrepreneurship barriers. Fewer DPM students (31.3 %) perceived having difficulties in getting loans from banks (item 12) compared to their DUB counterparts (42.4 %). A slightly bigger percentage of DUB students stated that they perceived difficulties in getting new ideas (63.6 %) and not having the skills (54.6 %) to start a business (items 13 and 14). In comparison, only 59.4 % and 40.7 % of DPM students stated likewise. On the perception of getting enough capital to start a business, more than half of the respondents felt they would encounter difficulties (item 15). Surprisingly, more DPM students (71.9 %) perceived getting the capital as a barrier compared to DUB students (57.6 %). A bigger percentage of DPM students (75.0 %) also rated risks as perceived barriers (item 17) compared to DUB students (63.6 %).

### 6.2.4 Perceived support factors and attitude towards entrepreneurship - Mean and frequency distribution of responses.

The perceived support factors and attitude of both groups of students were assessed and compared (Table 5). Both DPM and DUB students were in agreement that entrepreneurs had a good image in society (item 18). Even though there were no significance differences between the two groups (in reference to entrepreneur's good standing in society), the percentage of DPM students (93.8 %) in agreement far out-numbered the percentage of DUB students (63.6 %). However, on the family support factor (item 19), there were significant differences between DPM ( $M = 3.59$ ,  $SD = 0.98$ ) and DUB ( $M = 3.21$ ,  $SD = 0.93$ ) students. Slightly more than 50 % of DPM students stated that their families encouraged them to become entrepreneurs. In contrast, only 30.3 % of DUB students agreed that their families were all for entrepreneurship whilst 48.5 % took a neutral stand on this factor. There were also significant differences on the factor of polytechnic educational experience inspiring the students to start a business. The mean scores for DPM and DUB students were 3.91 ( $SD = 0.73$ ) and 3.12 ( $SD = 1.02$ ) respectively. A bigger number of DPM students (75.1 %) and only 27.3 % of DUB students agreed that the polytechnic educational experience inspired them to become entrepreneurs (item 20). An alarming figure of 51.5 % of DUB students could not make up their mind on this support factor. On the one semester mandatory internship undertaken by the students (item 23), again a bigger percentage of DPM students (65.6 %) agreed that the industrial experience inspired them to become entrepreneurs. For DUB students, only 45.4 % stated their agreement. On a positive note, both groups of students (DPM: 81.2 % and DUB: 75.7 %) were in agreement on being their own 'bosses' rather than being salaried workers (item 24). A majority of the students (DPM: 71.9 %, DUB = 72.7 %) were also in agreement that they could get more income by becoming entrepreneurs (item 25). On the attitude of forming a new enterprise rather than managing an existing company (item 26), more DPM students (62.5 %) registered their agreement compared to DUB students (42.4 %). Two encouraging results were gathered regarding the entrepreneurship subject (P3117 Keusahawanan) offered exclusively to DPM students. An identical percentage of students (93.8 %) agreed that the subject developed their social and leadership skills needed by entrepreneurs (item 21) and gave them the knowledge to start their own businesses (item 22).

## 7. Discussion and Conclusion

The purpose of this study was to compare the degree of entrepreneurial inclination between technical (quantity surveying) and non-technical (business) students at a Malaysian polytechnic. The study produced a number of interesting outcomes : a) non-technical students were more inclined to become entrepreneurs compared to technical students, b) more non-technical students were inclined to drop out of their studies should business opportunities arise, c) a high percentage of non-technical students considered their polytechnic educational experience as a stepping stone to become entrepreneurs, d) more non-technical students perceived having the knowledge to become entrepreneurs compared to technical students, e) a larger number of technical students were non-committal on becoming entrepreneurs, and f) a higher number of technical students perceived difficulties in getting assistance

from financial providers.

The finding that indicated non-technical students were more prepared to become entrepreneurs than technical students was somewhat expected. This finding is parallel to the results of a study by Hytti, Paasio and Pukkinen (2005) which showed that people with the background in business had more positive attitudes towards entrepreneurship than people with a background in engineering. Previous studies have also shown that technical students tend to have a late start in entrepreneurship activities (Galloway, Anderson & Brown, 2006) and weak in entrepreneurial orientation (Caroline & Remi, 2006). Not surprisingly, a study by Zahariah, Amalina and Erlane (2010) found that more than half of Malaysian business students surveyed had intentions to become entrepreneurs. This finding also supported results of a study of Malaysian secondary school students where 'art' students' illustrated higher intentions to become entrepreneurs compared to 'science' students (Zaidatol Akmaliah & Afsaneh, 2009b). Similarly, another study of science and engineering students of normal and technical schools in Malaysia suggested that the students' entrepreneurial intention is in the moderate to low category (Zaidatol Akmaliah & Abdullah Salleh, 2008b).

In relation to the number of students intending to quit their studies should business opportunities arise, the low score meant that students valued their education even though they had entrepreneurial intentions. However, steps should be taken to ensure that entrepreneurship education in polytechnics is relevant and applicable in the real business world. Gilbert (2010) proposed that entrepreneurship education in Institutes of Higher Learning should emulate the real practice; creative, risky, exciting and satisfying. Since the majority of polytechnic students are in the 20 - 22 age bracket, it is also important to note the findings of a study in attitude change towards entrepreneurship which found that those in the 20 – 22 age bracket were the most influenced after undergoing an entrepreneurship program (Hatten & Ruthland, 1995).

It was also heartening to discover that more than 60% of non-technical students agreed their polytechnic educational experience inspired them to become entrepreneurs and the knowledge gained would help them start their own enterprises. More non-technical students also agreed that they had the knowledge to become entrepreneurs when compared to technical students. As argued by Lee and Wong (2003), an individual's positive attitude towards entrepreneurship education promotes business start-up. Previous studies have shown that entrepreneurial intent is directly affected by perceived barriers and support factors (Luthje & Franke, 2003; Akpomi, 2008; Shinnar, 2009). The above findings were supported by Wang and Wong (2004) who found that inadequate business knowledge and perceived risks are deterrent to entrepreneurial intent. Thus the larger number of technical students not declaring their intent in becoming entrepreneurs was arguably due to factors related to perceived barriers. This could be traced back to their less than encouraging responses on; a) having adequate knowledge and skills, b) ease of getting financial support, c) getting entrepreneurship ideas, and d) risks in business.

## 8. Suggestions

This study illustrated an above average inclination towards entrepreneurship among the students surveyed. Lack of exposure, experience and information could be factors that contributed to this scenario. In the polytechnic education system, more than sixty percent of the programs are considered technical programs. Thus, the high response rate in the category of 'neutral' amongst technical students for item 2 (entrepreneurial intention) and item 20 (polytechnic educational experience) is a cause for concern and needs to be investigated further. Post-graduation studies are also necessary in examining the effectiveness of the entrepreneurship education (curriculum, teaching methods, etc.). Further investigations should also be carried out to: a) include students from all programs and at all levels of study, and b) determine the level of competency of lecturers teaching entrepreneurship-related subjects. Longitudinal studies are also helpful in investigating changes in attitude toward entrepreneurship over the study period. Other studies that could be carried out include examining the relationship between students' demographic characteristics and their entrepreneurial inclinations. Findings from these studies would help the policy makers, curriculum developers and polytechnic educators in improving the present curriculum and delivery systems, thus helping to accomplish the national agenda of creating an innovative entrepreneurial culture and making entrepreneurship as a career choice among polytechnic graduates.

## References

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211
- Akpomi, M.E. (2008, December). Entrepreneurship Among Graduates-to-be of Business/Management Faculties and Economic Development in Nigeria. [Electronic version]. *European Journal of Economics, Finance and Administrative Sciences*, (14), 52–61

- Arifatul Husna, M.A., Zainol, B., Zakiyah, S., & Adura, A. (2010). Predicting Entrepreneurial Intention Among Malay University Accounting Students in Malaysia. *Unitar e-Journal*. [Online] Available: [http://ejournal.unirazak.edu.my/articles/Predicting\\_Entrepreneur\\_p1v6n1Jan10.pdf](http://ejournal.unirazak.edu.my/articles/Predicting_Entrepreneur_p1v6n1Jan10.pdf)(July24(July24, 2010)
- Azlan, A.B. (2009, November 17). Getting more grads to become entrepreneurs. *The New Straits Times*, p.B7
- Baharu, K. (1994). *Orientasi Sikap Keusahawanan di Kalangan Pelajar Politeknik di Malaysia*. [Entrepreneurial Orientation among Malaysian Polytechnic Students]. (Unpublished master's thesis).Universiti Utara Malaysia, Perlis, Malaysia.
- Caroline, V., & Rémi, B. (2006). Developing an Entrepreneurial Spirit among engineering college students: what are the educational factors? In A. Fayolle and H. Klandt (eds.) *International Entrepreneurship Education Issues and Newness*. [Online] Available: [http://rb.ec-lille.fr/perso/papers/E\\_Elgar\\_chapter\\_project\\_Verzat\\_Bachelet.pdf](http://rb.ec-lille.fr/perso/papers/E_Elgar_chapter_project_Verzat_Bachelet.pdf)(July21, 2010)
- Fewer unemployed graduates expected. (2009, July 22). *The New Straits Times*, p.2
- Galloway, L., Anderson, M., & Brown, W. (2006). Are engineers becoming more enterprising? A study of the potentials of entrepreneurship education. *International Journal of Continuing Engineering Education and Life Long learning*, 16(5), 355–365
- Gilbert, D. (2010). Integrating Theory and Practice for Student Entrepreneurs: An Applied Learning Model. *Journal of Enterprising Culture*, 18(1). 83–106
- Hatten T.S., & Ruhland, S.K. (1995). Student attitude toward entrepreneurship as affected by participation in an SBI program. *Journal of Education for Business*, 70(4), 224–227
- Hian, C.K. (1996). Testing hypothesis of entrepreneurial characteristics. A study of Hong Kong MBA students. *Journal of Managerial Psychology*, 11(3), 12–25
- Hytti, U., Paasio, K., & Pukkinen, T. (2005, June), *Entrepreneurial intentions of university students and graduates – a Finnish perspective*. Paper presented at the ICSB 2005 World Conference, Washington DC, USA. [Online] Available: <http://www.tse.fi/EN/search/Pages/StaffSearch.aspx?k=pukkinen&start=30>
- Ismail, L. (2006). *Faktor-Faktor Keyakinan Diri Dalam Menceburi Bidang Kerjaya Keusahawanan di kalangan Pelajar Kejuruteraan Pertanian Politeknik Kota Bharu Kelantan*. [Confidence Factors in Entrepreneurship among Agriculture Engineering Students of Kota Bharu Polytechnic, Kelantan]. (Unpublished master's project report). Universiti Tun Hussein Onn, Johor, Malaysia.
- Kristiansen, S., & Nurul Indarti. (2004). Entrepreneurial Intention Among Indonesian and Norwegian Students. *Journal of Enterprising Culture*, 12(1), 55–78
- Krueger, N.F., & Brazeal, D.(1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice*, 18(3), 91–104
- Lee, L. & Wong, P.K. (2003). Attitude towards Entrepreneurship Education and New Venture Creation. *Journal of Enterprising Culture*, 11(4),339–357
- Luthje, C., & Franke, N. (2003). The ‘making’ of an entrepreneur: Testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management*, 33(2), 35–147
- Md Yusof, A.B., Rohan, J.,& Yong Zulina, Z. An Overview of Graduate Employability of Recent Graduates: Some Facts and Figures. *Seminar on Employability. The Ministry of Higher Education of Malaysia,Putrajaya.21-22 July 2009*. [Online] Available: [http://www.alumni.upm.edu.my/employability/papers/002\\_Prof\\_%20Dr\\_Yusof\\_Abu%20Bakar.pdf](http://www.alumni.upm.edu.my/employability/papers/002_Prof_%20Dr_Yusof_Abu%20Bakar.pdf)(August15, 2010)
- Mohd Fairuz, R. (2006). *Kesediaan Bakal Graduan Hotel dan Katering Politeknik Dalam Menceburi Bidang Keusahawanan Katering*. [Readiness of Polytechnic Hotel and Catering Graduates in Entrepreneurship]. Unpublished master's project report). Universiti Tun Hussein Onn, Johor, Malaysia.
- Mohd Nizam, A.R., Norhamidi, M., Dzuraidah A.W., Jaharah, A.G., Nishata Royan, R.R., & Shahida Azura, M.A. (2009). Engineering Students towards Entrepreneurship Awareness. *Seminar Pendidikan Kejuruteraan dan Alam Bina (PeKA'09)*. [Online] Available: <http://pkukmweb.ukm.my/~upak/pdf/PeKA09/P4/33.pdf>(June10, 2010)
- Mohd Zahari, I. (2010). *Developing Entrepreneurship Education: Empirical Findings from Malaysian Polytechnics*. (Doctoral dissertation, The University of Hull, United Kingdom). [Online] Available:

- <https://edocs.hull.ac.uk/muradora/objectView!getDataStreamContent.action?pid=hull:2682&dsid=document.pdf&imeType=application/pdf>(July 10, 2010)
- Mohd Zin, M. (2002). *Kecenderungan Keusahawanan Di Kalangan Staf Akademik Jabatan Perdagangan Politeknik-Politeknik Kementerian Pendidikan Malaysia*. [The Entrepreneurial Inclination among the Commerce Department Academic Staff of Malaysian Ministry of Education Polytechnics]. (Unpublished master's thesis). Universiti Utara Malaysia, Perlis, Malaysia.
- National Economic Advisory Council. [NEAC] (2010). *New Economic Model for Malaysia. Part 1: Strategic Policy Directions*. Kuala Lumpur: Author.
- Ooi, Y.K., (2008). *Inclination towards entrepreneurship among Malaysian university students in Northern Peninsula Malaysia*. (Unpublished doctoral dissertation). Swinburne University of Technology, Melbourne, Australia.
- Palaniappan, A.K., & Rafik-Galea, S. (2009). Creativity and Entrepreneurial Tendencies among Form Two Malaysian Students. *Journal of Applied Sciences*, 9(19), 3539–3546
- Sarimah, C.H. (2001). Pemilihan Kerjaya Berorientasikan Keusahawanan di kalangan Pelajar Perakaunan Politeknik Kementerian Pendidikan Malaysia: Kajian Empiri. [Entrepreneurial Orientated Career Choice among Accounting students of Malaysian Ministry of Education Polytechnics: An Empirical Study]. (Unpublished master's thesis). Universiti Utara Malaysia, Perlis, Malaysia.
- Shapiro, A., & Sokol, L. (1982). The Social Dimensions of Entrepreneurship. . In C.A. Kent, D.L. Sexton, & K.H. Vesper (eds.), *Encyclopedia of entrepreneurship*, 72–90. Englewood Cliffs, NJ: Prentice–Hall.
- Shay, J., & Terjensen, S. (2005). Entrepreneurial aspirations and intentions of business students: A gendered perspective. [Online] Available: [http://www.babson.edu/entrep/fer/2005FER/chapter\\_ii/summary\\_ii7.html](http://www.babson.edu/entrep/fer/2005FER/chapter_ii/summary_ii7.html)(June 20, 2010)
- Shinnar, R., Pruett, M., & Toney, B. (2009). Entrepreneurship Education: Attitudes across campus. *Journal of Education for Business*, 84(3), 151–159
- Wang, C.K., & Wong P.K. (2004). Entrepreneurial interest of university students in Singapore. *Technovation*, 24(2), 163–172.
- Yar Hamidi, D., Wennberg, K., & Berglund, H. (2008). Creativity in Entrepreneurship Education. *Journal of Small Business and Enterprise Development*. 15(2), 304–320
- Zahariah M.Z, Amalina M.A., & Erlane, K. G. (2010). Entrepreneurship Intention Among Malaysian Business Students. *Canadian Social Science*, 6(3),34–44
- Yar Hamidi, D., Wennberg, K., & Berglund, H. (2008). Creativity in Entrepreneurship Education. *Journal of Small Business and Enterprise Development*. 15(2), 304–320
- Zahariah M.Z, Amalina M.A., & Erlane, K. G. (2010). Entrepreneurship Intention Among Malaysian Business Students. *Canadian Social Science*, 6(3),34–44
- Zaidatol Akmaliah, L.P. (2009). Entrepreneurial as a Career Choice: An Analysis of Entrepreneurial Self-Efficacy and Intention of University Students. *European Journal of Social Sciences*, 9(2), 338–349
- Zaidatol Akmaliah, L.P., & Abdullah Salleh, A.S. (2008a). Development of Entrepreneurial Spirit among Students: A Case Study. *International Journal of Interdisciplinary Social Sciences*, 3(3), 213–220.
- Zaidatol Akmaliah, L.P & Abdullah Salleh, A.S. (2008b). Science and Engineering Students: Are They Entrepreneurial? *International Journal of Learning*, 15(7),105–110
- Zaidatol Akmaliah, L.P & Afsaneh, B. (2009a). Entrepreneurial Intention of University Students: An Analysis of Gender and Ethnic Groups. *International Journal of Knowledge, Culture and Change Management*, 9(4), 49–60
- Zaidatol Akmaliah, L.P & Afsaneh, B. (2009b). Developing Future Entrepreneurs: A Need to Improve Science Students Entrepreneurial Participation. *International Journal of Knowledge, Culture and Change Management*, 9(2), 45–58

Table 1. Demographic Data

Type of Program				
	Diploma in Business Studies		Diploma in Quantity Surveying	
No. of Respondents	32		33	
Gender	Male	6	Male	19
	Female	26	Female	14
Race	Malay	28	Malay	31
	Chinese	2	Chinese	2
	Indian	2	Indian	-
	Others	-	Others	-
Training Provider	Public	11	Public	11
	Private	21	Private	21

Table 2. Entrepreneurial Intent - Mean and Frequency Distribution

Item	Diploma in Quantity Surveying (n = 33)					Diploma in Business Studies (n = 32)				
	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)
1	3.88	0.82	3.0	30.3	66.6	3.91	0.96	9.4	12.5	78.1
2	3.48	0.77	6.1	48.5	45.5	3.72	0.99	15.6	18.8	65.7
3	3.76	0.90	12.1	18.2	69.7	3.75	0.92	12.5	9.4	78.1
4	3.61	1.16	18.2	33.3	48.5	3.84	1.11	12.5	21.9	65.7
5	2.30	1.10	51.6	33.3	15.2	2.84	1.22	40.6	28.1	31.3
6	3.18	1.01	27.3	42.4	30.4	3.63	0.87	9.4	25.0	65.7

Likert Scale Code: SD = Strongly Disagree = 1, D = Disagree, Neutral = 3, A = Agree, Strongly Agree = 5

Table 3. Perceived Behavioral Control and Self-Efficacy - Mean and Frequency

Item	Diploma in Quantity Surveying (n = 33)					Diploma in Business Studies (n = 32)				
	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)
7	2.94	1.06	36.4	27.3	36.3	2.81	0.97	34.4	43.8	21.9
8	3.15	0.94	30.3	30.3	39.4	3.75	0.62	3.1	25.0	71.9
9	3.24	0.83	15.2	54.5	30.3	3.50	0.76	12.5	28.1	59.4
10	3.27	0.76	15.2	45.5	39.4	3.59	0.95	15.6	15.6	68.8
11	3.58	0.66	3.0	42.4	54.6	3.81	0.86	12.5	9.4	78.1

Likert Scale Code: SD = Strongly Disagree = 1, D = Disagree, Neutral = 3, A = Agree, Strongly Agree = 5

Table 4. Perceived Barriers - Mean and Frequency Distribution

Item	Diploma in Quantity Surveying (n = 33)					Diploma in Business Studies (n = 32)				
	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)
12	3.36	0.93	18.2	39.4	42.4	3.16	0.85	21.9	46.9	31.3
13	3.52	0.97	18.2	18.2	63.6	3.47	0.95	21.9	18.8	59.4
14	3.30	1.05	24.3	21.2	54.6	3.16	1.02	34.4	25.0	40.7
15	3.55	0.75	9.1	33.3	57.6	3.69	0.89	15.6	12.5	71.9
16	3.24	0.94	27.2	18.2	54.5	2.97	0.99	46.9	12.5	40.6
17	3.70	0.98	15.2	21.2	63.6	3.91	0.89	9.4	15.6	75.0

Likert Scale Code: SD = Strongly Disagree = 1, D = Disagree, Neutral = 3, A = Agree, Strongly Agree = 5

Table 5. Perceived Support Factors and Attitude towards Entrepreneurship - Mean and Frequency Distribution

Item	Diploma in Quantity Surveying (n = 33)					Diploma in Business Studies (n = 32)				
	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)	Mean	Std. Dev.	SD & D (%)	Neutral (%)	SA & A (%)
18	3.76	0.97	12.1	24.2	63.6	4.19	0.54	0	6.3	93.8
19	3.21	0.93	21.2	48.5	30.3	3.59	0.98	15.6	28.1	56.3
20	3.12	1.02	21.3	51.5	27.3	3.91	0.73	3.1	21.9	75.1
21	Items 21 and 22 are not relevant to Diploma in Quantity Surveying students					4.28	0.58	0	6.3	93.8
22						4.31	0.59	0	6.3	93.8
23	3.27	1.09	24.3	30.3	45.4	3.63	1.21	21.9	12.5	65.6
24	3.97	0.77	3.0	21.2	75.7	4.13	0.98	6.2	12.5	81.2
25	3.97	0.95	9.1	18.2	72.7	4.03	1.06	12.5	15.6	71.9
6	3.30	0.88	15.1	42.4	42.5	3.66	1.09	12.6	25.0	62.5

Likert Scale Code: SD = Strongly Disagree = 1, D = Disagree, Neutral = 3, A = Agree, Strongly Agree = 5