

## **DETERMINANTS OF ENTREPRENEURIAL CAREER: EXPERIENCE OF POLYTECHNIC STUDENTS**

**Amran Awang, Ima Ilyani Ibrahim, Siti Azreena Ayub**

Universiti Teknologi MARA, Malaysia

E-mails: [amranawang@yahoo.com](mailto:amranawang@yahoo.com) (corresponding author), [ilyani686@perlis.uitm.edu.my](mailto:ilyani686@perlis.uitm.edu.my),  
[azreena\\_aa@yahoo.com](mailto:azreena_aa@yahoo.com)

Received December 2013; accepted March 2014

### **Abstract**

**Purpose-** This study focuses on the factors influencing students' choice of selecting entrepreneurship as their career after graduation. The paper aims to gain more understanding of how personality traits, entrepreneurship knowledge-experience and current economic environment affect entrepreneurial career among polytechnic students in Malaysia.

**Design/methodology/approach-** A theoretical framework based on a literature review is developed. Empirical results were derived from a quantitative approach based on survey method and a cross sectional study. Hypothesis testing were executed where multiple regression analysis utilized to verify the direct relationship between independent variables and dependent variables.

**Findings-** Personality traits and favorable economic environment were proven important in explaining students intention to choose entrepreneurial career as their career choice after they graduated from study.

**Research Implications-** The results shall aid polytechnics management in formulating their curriculum and programs that fit students' priorities that they shall choose their future undertaking as an entrepreneur. Malaysian public policy regarding higher education should consider some changes required in higher learning institutions in the country. Annual budget and higher learning institutions entrepreneurship programs shall be revised accordingly after considering the results of the study.

**Originality/value-** Entrepreneurial intention inquiries in Malaysian institutions have been very limited and an established framework need more serious efforts. This study contributes to entrepreneurial intention body of knowledge.

### **Research Paper**

**Keywords:** Entrepreneurial career, Personality traits, Economic environments, Knowledge and experience, Malaysia

**Reference** to this paper should be made as follows: Awang, A., Ibrahim, I. I., Ayub, S. A. (2014). "Determinants of entrepreneurial career: Experience of polytechnic students", *Journal of Entrepreneurship, Business and Economics*, Vol. 2, No. 1, pp. 21–40.

## **Introduction**

*Entrepreneurship as a career choice has established some empirical evidence in the literature for more than a decade, works of Mitchell (2005), Morris, Lewis and Sexton (1995), Bird (1988), Boyd and Vozikis (1994) have spark studies under entrepreneurial intention label. Similarly in Malaysia, some researchers such as Sh. Ahmad, Othman and Lope Pihie's who have carried out some studies to a certain extent.*

*The study refers to theory of planned behavior (TPB) (Ajzen, 1991), a widely used model of intention as the best predictor of planned behavior. Entrepreneurship has been the classic example of such planned, intentional behavior (Bird, 1988; Katz & Gartner, 1988; Krueger & Brazeal, 1994). Subsequently, entrepreneurial cognition as cited in Mitchell and Chesteen (1995), Mitchell (2005), Mitchell et al. (2002, 2007) proposed a perceived desirability of entrepreneurship cognition model as an affective attitudinal judgment (an emotive response) and entrepreneurs use such judgment to make decisions to act or otherwise.*

*The knowledge and experience are also believed to have some effects in determining a person choice of becoming an entrepreneur. Knowledge is found significantly influence the intention to form a new firm as proved in Dickson, Solomon and Weaver (2008) and Liñán, Rodríguez-Cohard and Rueda-Cantucho (2011). Moreover, studies of Arrighetti, Caricat, Landini and Monacelli, (2013); Carter and Collinson, (1999); Galloway and Brown, (2002); Scott and Twomey, (1988) have proved that experience explained the formation of new ventures.*

*The current economic environment impact as drive for a person to become an entrepreneur as verified in Franke and Lüthje (2004); Gurbuz and Aykol (2008); Tucker and Selcuk (2009); Schwarz, Wdowiak, Almer-Jarz and Breitenacker (2009).*

*The study aims to establish the relationship between individual personality traits, perception on prevailing economic environment and knowledge-experience as the determinants of entrepreneurial career among students in Polytechnic Kota Bharu, Malaysia; a higher learning institution in east coast of the peninsular. The population of the study comprises of all students in the institution. The study is executed according to quantitative approach utilizing cross-sectional survey method in data gathering and analysis.*

*The research is executed to address and seek answers to research questions as follows, (1) how does personality trait explains entrepreneurial career? (2) How economic environment explains entrepreneurial career? (3) How do knowledge and experience explain entrepreneurial career?*

*The paper outlines the content with background of the study, followed by problem statement and research questions. Literature review establishes previous studies prior to hypothesis development and theoretical framework. The methodology spells out the sampling, instrument, data collection and analysis strategy. The*

results are presented in descriptive and inferential analysis. The paper recapitulates the study in discussion, conclusion, limitations and future studies.

### **Background of the study**

Levensburg and Schwarz (2007) cited that some previous research investigated business students' interest in entrepreneurial university programs had identified the characteristics and variables of entrepreneurs found as determinants of entrepreneurial intent (e.g., Hills & Barnaby, 1977; Sexton & Bowman, 1983; Hills & Welsch, 1986; Hutt & Van Hook, 1986; Hatten & Ruhland, 1995; Ede, Panigrahi & Calcich, 1998). In other studies, Henderson and Robertson (1999) found 67 percent of the students taking entrepreneurship course preferred to become entrepreneurs, similar to a study of Sagie and Elizur (1999) in USA that students taking small business course scored higher in entrepreneurial orientation than student taking business and economics course.

Recently, there has been an increased inclination for entrepreneurship among graduates, but the number of participating graduates remains low. Entrepreneurship development has emerged as a university function. Universities produce the future pool of entrepreneurs. Consequently, the entrepreneurial attributes of university students have become a matter of great concern. According to Swain (2008), those entrepreneurial attributes include, opportunities seeking, more initiatives, decision making skills, seeing things through, identifying problems and finding creative solutions.

Entrepreneurs are not "born," rather they "become" through the experiences of their lives as cited in Shapero (1982). Effective entrepreneurship education, make the skills and knowledge accessible for start-ups and growing young businesses. Hence, entrepreneurship education does not just contribute to new business start-ups per se. Shapero (1982) also cited that communities who exercise entrepreneurship education find their students contribute to the school's performance (Pages, 2005). Another research was conducted by Othman and Ishak, (2010) in academic entrepreneur in education mentioned that attitude can predict career choice in this field through aspiration level among graduates. It is clear that attitude plays an important role in motivating an individual's career choice behavior in entrepreneurship. This research investigates the influence of personality on choosing a career in entrepreneurship among graduates in Malaysia. Entrepreneurship is seen as a solution to the ever-growing problem of unemployment among graduates. However, it has been found that this career choice is not favored by younger people, especially graduates, who see entrepreneurship as only their last option (Sh. Ahmad, Baharun & Abd rahman, 2004).

The study also seeks on the impact of current economic environment that could help in explaining the students' propensity towards entrepreneurial career. We discover lack of study in Malaysia pertaining to economic impacts on entrepreneurial intentions among our entrepreneurs.

### **Statement of Problem**

*Entrepreneurship is the least favored career option among Malaysian graduates. Graduates usually expect to secure positions in public and private sectors. Unfortunately, positions in those sectors were getting lesser and even freeze due to policy changes. The situation increases unemployed citizen, moreover the new graduates keep adding to the statistics rapidly. Unemployed graduate phenomenon has been in critical state for almost a decade as reported in Department of Statistics Malaysia in September 2013. Even though proportion of unemployed is 3.1 percent but in numbers of 443,000 does not look small anymore (Labor Force Statistics, Malaysia, September 2013). These statistics remain since late 1990s that signaled Malaysian graduates remained as job seekers. Thus, previous studies have established some findings that suggest entrepreneurship as an option for graduates to reform themselves into job creators. Consequently, entrepreneurship as a career option has not seen very much change since then, thus again we are going to ring another wake-up call urging serious commitment from the incumbents.*

### **Theoretical Development**

*Premise of this study capitalizes on previous entrepreneurship research findings. The literature walks those findings as the building blocks that contribute to the development of the theoretical frameworks. The teachings in entrepreneurship have been expanded across a broad range of areas that inculcate various aspects of business, such as, management, marketing financial, organizational design or marketing skills, because the base of entrepreneurship relies on every steps of business (Bennett, 2006). While education is frequently focused on supporting the development, knowledge, and intellect, entrepreneurship education gives attention to the human being as a whole to build the individual (values and interest), knowledge, self development and competencies (Heinonen & Poikkijoki, 2006).*

*Attitude toward entrepreneurship is an important aspect which helps mold potential entrepreneur in future where students with the right attitude toward entrepreneurship will be more inclined to depend on themselves to run their own business right after graduation (Douglas & Shepherd, 2002; Yaacob & Wan Jusoh, 2004; Fitzsimmons & Douglas, 2005; Kolvereid & Isaken, 2006). Nabi and Holden (2008) argued that the increasing students' interest in entrepreneurship lead to more start-ups in the future. According to Turker and Selcuk (2008), if a university provides effective curriculum for entrepreneurship, the possibility for student choosing an entrepreneurial career increase, alternately more younger people entering the area. Students who are exposed to entrepreneurship education are exposed to more favorable views in small business; the phenomenon shall contribute in enhancing their intention to become entrepreneurs (Kolvereid & Moen, 1997; Neill, 2001; Noel, 1998; Robertson & Wilkinson, 2006; Yaacob & Wan Jusoh, 2004; Waldman, 1997).*

### **Entrepreneurial Career**

*The decision to pursue an entrepreneurial career may be regarded as the closest prerequisite for a successful entrepreneurial career (Schmitt-Rodermund, 2004). It is believed that people's attitudes towards performing a given behavior are based*

on beliefs that performing the behavior will result in desirable outcomes. Entrepreneurial career development has entered a research area where undergraduate and graduate students were the unit analyzed. Determining work values and career intentions in relation to organizational employment versus entrepreneurship (Brenner, Pringle, & Greenhaus, 1991); the impact of a family business on entrepreneurial intentions and attitudes (Krueger, 1993); and understanding what factors are influential in developing entrepreneurial career aspirations (Scott & Twomey, 1988) are examples of such research.

Entrepreneurs create new businesses and take on the risk and rewards of being an owner. However, the job of entrepreneur is not for everyone. For this career, who have intention need to be hard-working, smart, creative, willing to take risks, and have people' skill. In addition, one also needs to have heart, motivated and have drive. Student career expectations are influenced by a variety of factors such as the changing career world, characteristics of various careers, financial factors, education-related factors, family background and role models (Von Broembsen et al., 2005; Kroon & Meyer, 2001).

Roles of entrepreneurship educators are to consider how their modules and teaching approach in entrepreneurship may affect students' attitudes and intentions towards entrepreneurship (Nieuwenhuizen & Groenewald, 2008; Kroon & Meyer, 2001). Earlier empirical work of Owusu-Ansah and Fleming (2001) and Ibrahim and Soufani (2002) found that entrepreneurs who participated in entrepreneurship courses exhibited higher tendencies to start their own businesses compared to those who attended other business courses, or who did not attend any courses. Ladzani and Vuuren (2002), who share this view, highlight the pivotal role training plays in supporting small businesses. They propose that entrepreneurship education is essential for starting and managing a business and therefore it has a powerful influence on entrepreneurial intentions. While some may argue that tertiary entrepreneurship courses are too theoretical, Sullivan (2000) found that entrepreneurs believe that the foundational knowledge gained by participating in academic courses were valuable, when confronted with "real-life" events. Nieuwenhuizen and Groenewald (2008) iterated that explicit knowledge of entrepreneurship concepts enabled graduates to reflect cognitively on the incidents and determine what learning had taken place. In other words, the ability to dissect, reflect, learn and act on a critical incident was seen to be of great importance. Therefore it is expected that education can positively influence entrepreneurial intentions.

Careers are important for every individual because they constitute a variety of benefits and functions that shape the individual's life (Abdul Rahman, 2000; Sidek, 2006). The process of choosing a career is greatly influences making decisions that are complex, convoluted, and time consuming (Olsson & Frey 2002). Career choice is made more complicated by continuous competition, open-mindedness towards suitability for a preferred career, and perseverance in the chosen career (Sidek, 2006). Thus, the process of choosing a career is often a main

*hurdle for an individual (Sidek 2006). Careers in entrepreneurship are growing due to the fact that they can offer endless opportunities (Din, 2002). Thus, it has attracted many people to entrepreneurship, which is open to anyone who interested (Henderson & Robertson, 2000; Wickham, 2004). Other careers alike, entrepreneurship has its own unique level of development ladder (Baron & Shane, 2005), due to its involvement of different individuals and situations and personal time requirements (Baron & Shane, 2005). The development is unique in the execution of activities to produce a new product or service, which indirectly creates an exploratory effort that includes individuals, groups, and communities (Baron & Shane, 2005; Hisrich et al., 2008; Shane, 2003).*

### **Personality Traits and Entrepreneurial Career**

*Mohd Zain et al. (2010) noted that personality trait has been the major determinant of entrepreneurial intention (e.g. Costa et al., 1984; Douglas & Fitzsimmons, 2008). The factors inherent within personality trait include self-efficacy, locus of control and need for achievement (Boyd & Vozikis, 1994; De Noble et al., 1999; Singh & DeNoble, 2003). These elements determine an individual's desire to succeed in life. In addition, it also justifies the ability to see, analyses situation beforehand to prepare for the uncertainty and risk taking. It also could boost self confidence and control over their tasks. Unfortunately, studies in personality trait and entrepreneurial paradigm have not been thoroughly examined in a Malaysian context.*

*Past studies have constantly reported that on personality trait that focuses on the physical and mental activities and attitudes (e.g. Costa, McCrae & Holland, 1984; Douglas & Fitzsimmons, 2008). Personality traits comprised of elements such as achievement motivation, risk assumption aversion, and attitudes regarding control and delegation. Major attributes of personality are showed in high need for achievement, entrepreneurial intention, instrumental readiness, high entrepreneurial acceptability, creative behavior, initiative taking, taking responsibilities, involvement in various types of risks, self-confidence, an internal locus of control, need for independence and autonomy, accomplishment of tasks with energy and commitment, team building, working in teams and independently, working under pressure, leading others, analytical competencies and persistency (Martinez, Mora & Vila, 2007; Ramayah & Harun, 2005; Rodermund, 2004).*

*Many studies that have been conducted have conversely showed that entrepreneurship education does play a significant role to cultivating entrepreneurship among graduates. Based on a study of Kolvereid and Moen (1997), it is shown that comparable to other students, those who major in entrepreneurship revealed that they have greater interest to become entrepreneurs and these students act more entrepreneurial than other students in taking up the challenge to start up a new business. Thus, it is suggested that although it may not be possible to develop entrepreneurship from education exclusively, to certain extent, education does have an effect on personality factor that alter and contribute to the formation of entrepreneurship. Hence we posit:*

*H1: There is a positive relationship between personality traits and entrepreneurial career.*

### **Current Economic Environment and Entrepreneurial Career**

*By the year 2020, Malaysia hopes to achieve its full industrial nation status. In achieving this aim, the country recognizes the importance of having a productive, knowledgeable and skilled workforce that can contribute towards national growth. Furthermore, Entrepreneurs have significant roles in the economic growth of a country. Through their entrepreneurial skills, they help to solve many problems and take steps to correct market deficiencies (Leibenstein, 1968).*

*Entrepreneurs not only provide new goods and services, they also create more and newer jobs (Giacomin et al., 2011). In this sense, job opportunities increase not only in number but also in diversity. Although many efforts have been carried out to create entrepreneurs among graduates, their number is still relatively low. The question arises is that if the students are ready to enter the business world upon graduation, the issue of unemployment among these graduates should not arise since they have the alternative to start their own businesses rather than working for others.*

*The general attitude of the public toward entrepreneurship and the understanding and support of the importance of entrepreneurship in society are key social and cultural norms. Furthermore, entrepreneurship has been seen as a key to economic development in many countries across the globe for many years (UN, 2004). The relationship between entrepreneurship and economic growth, poverty and sustainable development is crucial for future global development, policy and research. No doubt that the definition of entrepreneurship characteristic and entrepreneur has an important consequence on its understanding, but the most important aspect is the development or enhancement of entrepreneurial characteristics and entrepreneurial competence, the availability of supportive entrepreneurial environment and development.*

*Gurbuz and Aykol (2008) proved that favorable economic environment explained entrepreneurial intentions among young educated public in Turkey. In similar vein, various studies such as Franke and Lüthje (2004); Tucker and Selcuk (2009); Schwarz, Wdowiak, Almer-Jarz and Breiteneker (2009) provide some empirical evidence that justify economic environment as important determinants of entrepreneurial intentions.*

*Hence we posit:*

*H2: There is a positive relationship between current economic environment and entrepreneurial career.*

### **Knowledge/Experience and Entrepreneurial Career**

*One of the mechanisms introduced by the government is support on entrepreneurship education this has become an important curriculum in the higher education institutions in Malaysia (Sh. Ahmad et al., 2004). The purpose of entrepreneurship education is to produce graduate entrepreneurship that defines the interaction be-*

tween the graduate as a product of a higher education institution and their readiness to pursue their career as an entrepreneur (Nabi & Holden, 2008).

In Malaysia, entrepreneurship education at higher learning institutes is expanding in multiple academic curriculums (Malaysia, 2006; Mohamad et al., 2005). There are growing numbers of academic courses offered, either as the core course or elective (Hashim & Wafa, 2002). Most of the public universities in Malaysia are offering entrepreneurship course as a core subject at the first degree level. Apart from academic programs, entrepreneurship education is also offered to students at higher learning institutions in the forms of co-curriculum activities and programs which are financed by the Ministry of Entrepreneurship and Corporation Development such as Graduate Entrepreneurship Training, Graduate Basic Entrepreneurship Course, and Graduate Entrepreneur Development Program.

As Wu and Wu (2008) states, engineering students have the highest tendency to start a business. Thus, it seems that academic environments should provide applied practical learning environments to complement academic exercises or case study approaches (Bell et al., 2004) to increase student understanding of market knowledge. Persuading business-oriented teamwork or improving the relationship between the university and industry, for example, could be tools for developing such projects. According to Ali et al. (2010), research had proved that educational programs determined entrepreneurial attitudes of students in a university where considerable improvement in entrepreneurial attitudes was reported in university students as a result of participation in entrepreneurial curriculums (e.g. Schroder & Rodermund, 2006; Soutaris, Zerbinati & Al-Laham, 2007; Zhao, Seibert & Hills, 2005). Thus appropriate educational programs reinvigorate the hidden entrepreneurial potential of students (Wilson, Brown, Anderson & Galloway, 2003). Consequently, economic revitalization through innovation and new job market support a nation's development to a greater extent.

The entrepreneurial education phenomenon encourages higher education authority to introduce element of enterprise into HLIs' curriculum. Students are called for in taking opportunities as a learning ground to develop and test their entrepreneurial skills. Indirect impact of the curriculum also serves the industries which looking for an element of entrepreneurial creativity in its top class graduate as their recruitment potentials (Gibb, 2008). However, there were students who have negative perception towards entrepreneurship due to obstacles experienced in starting a business, such as lack of experience or finance (Sh. Ahmad et al., 2004). The problem may be overlooked in present curriculum, which has focused almost entirely on the needs of aspiring middle and functional managers rather than the needs of aspiring entrepreneurs (Sh. Ahmad et al., 2004). Traditionally, universities and colleges have not prepared students for self-employment as a career option, which result in loss of many potential entrepreneurs. The educational bias towards job seekers personality deprives on the effort in giving appropriate information on self-employment as a career option. However, most universities and col-



leges now are offering number of courses related to entrepreneurship and small business.

According to Shapero (1975), entrepreneurs are the engines of America's economy due to the vast majority of new job creation and the development of new innovations. Entrepreneurs can develop and thrive anywhere. Some people just learn through hard knock or hands-on experience. But, for others, training, support and education help. Furthermore, Shapero iterated that individuals who receive entrepreneurship training at all ages are more likely to start a business, most importantly, to sustain and grow a business. And, these growing companies are the cornerstone of future economic growth, job creator, and wealth generator.

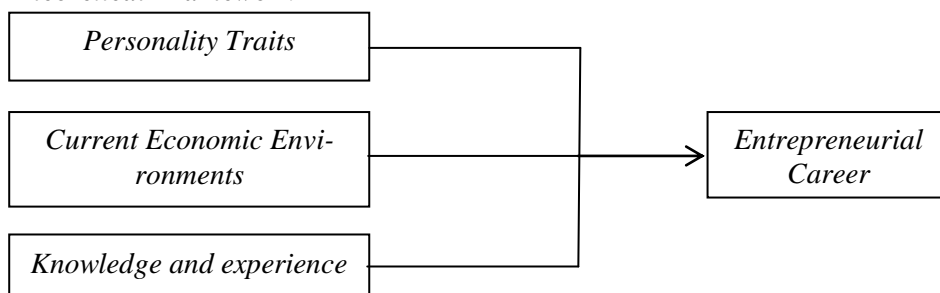
The rest of the world understands the power of entrepreneurs and the usefulness of entrepreneurship education. In the past decade, nearly every member of the Organization for Economic Cooperation and Development (OECD) report has unveiled a new national entrepreneurship initiative (OECD, 2003). The report iterated further that many OECD countries include entrepreneurship in their national education curricula. These efforts are starting to pay off, as worldwide entrepreneurship programs begin to increase. America has long enjoyed encouraging climate for entrepreneurship, but this competitive advantage have witnessed some setbacks. We may continuously assume that previous patterns prevail, or we may keep investing in more efforts that support the next generation of entrepreneurs. We believe that all of these explanations no longer hold true. Given the importance of entrepreneurs to America's prosperity, we need to generate a new pipeline of entrepreneurs who will create jobs and generate new innovations no matter what type of education they choose. Our economic competitiveness depends on it. Meanwhile, we know that entrepreneurship education works. Programs have been operating for two decades now, and they have generated impressive and sustainable improvements in student and school performance. We also know that schools can integrate entrepreneurship education into existing programs and curricula. Entrepreneurship is a career option for all students; both in career as well as technical education pathways and others who have still undecided in their future career goals.

University is an institution through which students pass on their way toward a productive working life. Students will make career decisions after and often before, graduation. In fact, a university education has a significant role in career formation and business development after graduation (Roudaki, 2009). Initiatives to encourage entrepreneurship behavior among individuals particularly among university students are being implemented at universities all over the world. For example, in Australia as discussed by Breen and Bergin (1999), a joint study by the Victoria University of Technology and the Australian CPA found that 86 percent of their academicians agreed that there is a need for the country to develop an enterprising culture. Respondents strongly agreed to what has been referred as Karpin Report (Breen & Bergin 1999) recommendations. Karpin Report is a Report of the Australian Industry Task Force on Leadership and Management Skills in 1995 that

encouraged greater involvement of universities in the teachings of entrepreneurship and suggested a review on universities curricula in order to develop new or extended existing units of study to cover small business and entrepreneurship issues. Hence we posit:

H3: There is a positive relationship between knowledge and experience and entrepreneurial career.

### **Theoretical Framework**



**Figure 1 Theoretical Framework**

### **Methodology and Findings**

#### **Sampling Design**

The sampling design begins with compilation of the elements of the population comprises of 5900 students enroll in ten diploma programs and 7 certificate program. The population frame is easily available through admission and record office. Sample size is determined to ensure the impact justifies the appropriateness and the statistical power of multiple regressions (Hair et al., 2006). Referring to the minimal variability among the elements in the population we compute the formula finding sample size and the result was 590 elements. We run the random sampling method and produced a sample frame of 590 students. However, out of 590 questionnaires distributed 120 were return and usable. The response rate recorded was 20.3 percent.

#### **Measurement**

The questionnaire utilizes in the study comprises of four sections which are A: independent variable number one which is personality traits, in Section B: independent variables number two which is current economic environments next is Section C: independent variable number three which is knowledge and experience, in Section D: dependent variable which is entrepreneur career and lastly in Section E: demographic information. All statements in section A, B, C and D were measured using 5-point Likert scale. The scale adopts the measures of "1" - Strongly disagree; "2" – Disagree; "3" - Neither agree nor disagree; "4" – Agree; and "5" - Strongly agree.

#### **Demographic Descriptive**

The respondents' gender was about equivalent where 53 percent were female respondents and 47 were percent male. The respondents age were also distributed

fairly well where 51 percent were those between 21 to 23 years old, 46 percent were represented by those between 18 to 20 years old and 3 percent were those in older age of above 24 years old. Most of the respondents were diploma level student represented by 86 percent and the rest 14 percent were students studying at certificate level. Most of the respondents were 60 percent from department of commerce of trade and commerce while the rest were 18 percent from electrical engineering, 10 percent from mechanical engineering, 8 percent from public engineering and 5 percent from civil engineering. Most of the respondents were in their senior years of study comprised of 52 percent while 48 percent were at junior level. Goodness of Measures

Table 1, showed the descriptive statistics for all variables. Goodness of measures showed in descriptive analysis justified in statistical indicators such as means, standard deviations, correlation coefficients and Cronbach’s alpha.

**Table 1 Mean, SD, Cronbach’s alpha and Correlation analysis**

	Mean	SD	1	2	3	4
1. Personality Traits	4.35	.48	(0.63)			
2. Current Eco. Env	4.37	.42	.29**	(0.63)		
3. Knowledge and Exp	4.19	.53	.37**	.50**	(0.67)	
4. Entrepreneur Career	4.43	.46	.43**	.40**	.30**	(0.85)

\* $p < .05$ , \*\* $p < .01$ , SD = standard deviation, Cronbach’s alpha showed in parantheses on the diagonal.

**Inferential Statistics: Hypothesis Testing**

Multiple regression analysis (MRA) was utilized to substantiate suggested hypothesis. MRA fit for analyzing the relationship between continuous data of both independent and dependent variables as suggested in Hair et al. (2006). According to Cohen et al. (2003) nature of the variables used in the study are testable using lower order MRA that verify the model and beta coefficients of the determinants. The analysis helps in detecting the direct effect of each independent variable on the dependent variable, consequently with sufficient variance the hypothesis substantiated.

The analysis observed the requirements pertained to quantitative approach; the results could establish empirical outcomes ensuring the representative of the observations generalizable to the population. Thus some quantitative assumptions such as normality, linearity, homoscedasticity and independence of error terms were verified. The normality was detected in the histogram produced in MRA that showed bell shaped histogram of both independent and dependent variable. Similarly, regression curve proved linearity when most of the data lied on the curve. The scatter plot proved no sign of heterocedasticity as shown in Hair et al. (2006). Independence of error terms were verified in Durbin Watson indicated the points scored between 1.5 and 2.5 (Hair et al. 2006).

**Table 2 MRA Results**

Model	Unstandardized Coefficients	B	Std. Error	t
Intercept	3.247	1.558**	.480	
Personality traits		.324**	.089	3.658
Current economic condition		.309**	.107	2.896
Knowledge and Experience		.027	.088	.306
<hr/>				
R Square		.309		
Adjusted R Square		.288		
Standard Error of Estimate		.879		
R Square Change		.309		
F value		14.319**		

\*\* $p < .01$ .

MRA showed the model proposed statistically significant when adjusted R square showed 28.8 percent variance in the dependent variable was explained in the presence of the independent variables. The model proved substantiate the study with significant F value at  $p < .01$ .

Standard error of estimate scored .88 showed the model prediction error was minimal, thus the independents variables predicted the dependent variable well. Personality traits and current economic conditions played significant roles in determining students' career choice as an entrepreneur. This is showed in the beta coefficient of personality traits ( $B = .32, p < .01$ ) and current economic condition ( $B = .31, p < .01$ ) proved directly related to entrepreneurial career choice.

### **Discussions**

The results support part of the proposed theoretical framework where two independent variables were suggested as determinants of entrepreneurial career. The finding justified the research model shown in 29 percent of the variance in entrepreneurial career choice could significantly explained by personality trait and economic environment as indicated in the adjusted R square. Moreover, the model was also substantiated with significant F value at  $p < .01$ . The model also proved its predictive capability shown in smaller standard error of estimate at .88. Thus each determinant's coefficients were also explained in small standard error value (Hair et al. 2006).

The first objective of this research aimed to measure the relationship between personality trait and entrepreneurial career choice. The results proved the significant relationship as substantial and the unstandardized beta coefficient of the relationship has sufficient variance to reject the null hypothesis at  $p < .01$ . So, it

can be deduced that personality traits is an important determinant of entrepreneurial career among students in Polytechnic Kota Bharu. These findings are consistent with previous studies such as Davidsson (1995); Kuratko and Hodgetts (2004) and Niittykangas and Tervo (2002). This is because choosing a career is said to be greatly influenced and stimulated by the individual's personality (Din, 2002). Attitude is a part of personality that is underpinned by belief and is able to evoke emotions that investigate specific behaviors' (Oppenheim, 2000). One could conclude that, personality trait is important in influencing the students to choose entrepreneur as a career, supporting the perceived desirability personality phenomenon predicted in theory of planned behavior (Ajzen, 1991; Nabi & Holden, 2008).

The result revealed that there was a positive relationship between current economic environment and entrepreneurial career in Polytechnic Kota Bharu. The standardized beta coefficient for current economic environment was significant at  $p < .01$ , which implies statistical significant in the relationship. Therefore, one could conclude that current economic environment is an important determinant of entrepreneurial career. These findings revealed that students favor entrepreneurship as career in favorable economic conditions. The finding substantiates some previous studies as reported in Franke and Lüthje (2004), Gurbuz and Aykol (2008), Tucker and Selcuk (2009), and Schwarz et al. (2009).

### **Conclusion**

The study verifies that personality trait and economic environmental condition are important determinants of entrepreneurial career among Malaysian poly technique students. The theory of planned behavior and economic environment model were found relevant in entrepreneurial intention study in Malaysia. The findings could be a benchmark for future entrepreneurship education policy formulation of the country. Future generation could have a better planned education that helps enhance their personality traits towards building entrepreneurial career. The economic environment also explains higher intention among the student who opted for entrepreneurship as their career choice, the environment that facilitated entrepreneurs with financial availability, market opportunity, growth potentials, venture rejuvenation and creation.

### **Future Studies**

Indeed more in depth interrogations are warranted in future studies. More robust analysis with higher order relationships and wider population could shed finer view in explaining these phenomena. More variables such as the entrepreneurial orientation, entrepreneurial actions, and entrepreneurial alertness could be considered into the model that might add rigor to the study and subsequently enhances the theory.

Interrogation in specific personality types remain unresolved as cited in Linan et al. (2011), thus we suggest future study that verify the most influential role in personal decision to start a firm that consequently help develop more effective entrepreneurial education curriculum. Linan, Nabi and Krueger (2013) had achieved

*remarkable findings on entrepreneurial intentions model based on Krueger's perceived behavioral control (PBC) between British and Spanish entrepreneurs. Future study could replicate Linan et al. (2013) probably among Asian nations' entrepreneurs. Ajzen's TPB also remains unjustified among Malaysian entrepreneurs could be a worthwhile effort for future study.*

*Entrepreneurial cognition model of Mitchell (2005, 2007) would be another platform in future studies that seek answers to why and how students' perceived desirability work in choosing entrepreneurship as their future undertakings.*

### **Acknowledgement**

*The appreciation goes to Siti Azreena for completing the thesis and her pursuit as a degree holder.*

### **References**

1. Abdul Rahman, A. (2000). *Perkerjaan dalam kehidupan*. Malaysia, Petaling Jaya: Prentice Hall.
2. Aghazamani, A., & Roozikhah, E. (2010). *Entrepreneurial characteristics among university students: A comparative study between Iranian and Swedish University students*. *European Journal of Social Sciences*, Vol. 18 No. 2, pp. 304-310.
3. Ajzen, I. (1991). *Theory of planned behavior*. *Organizational Behavior and Human Decision Processes*, Vol. 50, pp. 179-211.
4. Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
5. Ali, A., Topping, K. J. & Tariq, R. H. (2010). *Entrepreneurial attributes among postgraduate students of a Pakistani university*. *US-China Education Review*, Vol. 7, No. 5, pp. 66-77.
6. Arrighetti, A., Caricati, L., Landini, F., Monacelli, N. (2013). *Explaining entrepreneurial orientation among university students: Evidence from Italy*. *C.MET Working Papers*, pp. 1-24.
7. Autio, E., Keeley, R. H., Klofsten, M., Parker, G. G. C., & Hay, M. (2001). *Entrepreneurial intent among students in Scandinavia and in the USA*. *Enterprise and Innovation Management Studies*, Vol. 2, No. 2, pp. 145-160.
8. Bandura, A. (1982). *Self-efficacy mechanism in human agency*. *American Psychologist*, Vol. 37, pp. 122-147.
9. Bandura, A. (2001). *Social cognitive theory: an agentic perspective*. *Annual Review of Psychology*, Vol. 52, No.1, pp. 1-26.
10. Baron, R. A. (2004). *The cognitive perspective: a valuable tool for answering entrepreneurship's basic "why" questions*. *Journal of Business Venturing*, Vol. 19, No.2, pp. 221-239.
11. Baron, R. A. & Shane, S. A. (2005). *Entrepreneurship: A Process Perspective*. Canada: Thomson South Western.
12. Beck, L., & Ajzen, I. (1991). *Predicting dishonest actions using the theory of planned behavior*. *Journal of Research in Personality*, Vol. 25, pp. 285-301.
13. Bell, J., Callaghan, I., Demick, D. & Scharf, F. (2004). *Internationalising entrepreneurship*

- education. *Journal of International Entrepreneurship*, Vol. 2. pp. 109-124.
14. Bennett, R. J. (2007). *Expectations-based evaluation of SME advice and consultancy: An example of Business Link services*. *Journal of small business and enterprise development*, Vol. 14 No. 3, pp. 435-457.
  15. Binks, M, Starley, K, & Mahon, C. L. (2006). *Entrepreneurship education and the business school*. *Technology analysis and strategic management*. Vol. 18 No. 1, pp.1-18.
  16. Bird, B. (1988). *Implementing entrepreneurial ideas: the case of intentions*, *Academy of Management Review*, Vol. 13 No. 3, pp. 442–454.
  17. Boyd, N. and Vozikis, G.S. (1994), *The influence of self-efficacy on the development of entrepreneurial intentions and actions*, *Entrepreneurship, Theory and Practice*, Summer, pp. 63-77.
  18. Breen, J. & Bergin, S (1999). *An Examination of Small Business and Entrepreneurship Education in Australian Universities*. In L. K. Jago and J. Breen (eds.), *Small Business, Smart Business. Proceedings of the 12<sup>th</sup> Annual SEEANZ Conference (Melbourne: Victoria University, May 1999)*, pp. 17-30.
  19. Brenner, O. C., Pringle, C. D. and Greenhaus, J. H. (1991). *Perceived fulfillment of organizational employment versus entrepreneurship: Work values and careers intentions of business college graduates*. *Journal of Small Business Management*, Vol. 29 No. 3, pp. 62-74.
  20. Buang, N. A., Othman, N., Abang Zainuren, Pawan. F. (2005). *Hubungkaitan Pendidikan Universiti dengan Tingkah Laku Kerjaya keusahawanan Siswazah kearah Pembangunan Kurikulum Pendidikan Keusahawanan yang Berkesan*. IRPA 8th RM Research Project.
  21. Cohen, J., Cohen, P., West, S. G. & Aiken, L. S. (2003). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences (3<sup>rd</sup> ed.)*. New Jersey: Lawrence Erlbaum Associates, Publishers.
  22. Costa, P. T., McCrae, R. R., & Holland, J. L. (1984). *Personality and vocational interests in an adult sample*. *Journal of Applied Psychology*, Vol. 69, pp. 390-400.
  23. Davidsson, P. (1995). *Determinants of entrepreneurial intentions*. RENT IX Workshop, Piacenza, Italy.
  24. DeNoble, A., Jung, D. & Ehrlich, S. (1999). *Entrepreneurial self-efficacy: the development of a measure and its relationship to entrepreneurial action*. In Reynolds, R., Bygrave, W., Manigart, S., Mason, C., Meyer, G., Sapienza, H., Shaver, K. (Eds), *Frontiers of Entrepreneurial Research*, P&R Publications, Waltham, MA.
  25. Dickson, P. H., Solomon, G. T., Weaver, K. M. (2008). *Entrepreneurial selection and success: Does education matter?* *Journal of Small Business and Enterprise Development*, Vol 15 No. 2, pp. 239–258.
  26. Din, M. S. (1992). *The development of entrepreneurship and enterprise in higher education in Malaysia*. Unpublished PhD Thesis. University of Durham.
  27. Douglas, E & Fitzsimmons, J. (2008). *Individual intentions towards entrepreneurship vs. intrapreneurship*. ASGE.
  28. Ede, F. O., Panigrahi, B, & Calcich, S. E., (1998). *African American students' attitudes toward entrepreneurship*. *Journal of Education for Business*, Vol. 73 No. 5, pp. 25-34.
  29. Fitzsimmons, J. R., & Douglas, E .J. (2005). *Entrepreneurial Attitudes and Entrepreneurial Intentions: A Cross-Cultural Study of Potential Entrepreneurs In India, China, Thailand And Australia*. Babson-Kauffman Entrepreneurial Research Conference, Wellesley, MA.

30. Fatoki, & Olufunso, O. (2010). *Graduate Entrepreneurial Intention in South Africa: Motivations and Obstacles*. *International Journal of Business and Management*, Vol. 5 No. 9, pp. 87-98.
31. Frank, N. & Lüthje, C. (2004). *Entrepreneurial intentions of business students—A benchmarking study*. *International Journal of Innovation and Technology Management*, Vol. 1 No. 3, pp. 269–288.
32. Galloway, L. & Brown, W. (2002). *Entrepreneurship education at university: A driver in the creation of high growth firms*. *Education and Training*, Vol. 44 No. 8/9, pp. 398-405.
33. Gerry, C., Marques, C. S. & Nogueira, F. (2008). *Tracking student entrepreneurial potential: personal attributes and the propensity for business start-ups after graduation in a Portuguese university*. *Problems and Perspectives in Management*, Vol. 6 No. 4, pp. 45-53.
34. Giacomini, O., Janssen, F., Pruett, M., Shinnar, R. S., Llopis, F., Toney, B. (2011). *Entrepreneurial intentions, motivations and barriers: differences among American, Asian and European students*. *Int Entrep Manag J*, 7, 219-238.
35. Gibb, A. A. (2008). *Entrepreneurship and enterprise education in schools and colleges: Insights from UK practice*. *International Journal of Entrepreneurship Education*, Vol. 6 No. 2, p. 48.
36. Gibb, A. A. (1999). *Can we build effective entrepreneurship through management development*. *Journal of General Management*, Vol. 24 No. 4, pp. 1-21.
37. Gurbuz, G. & Aykol, S. (2008). *Entrepreneurial intentions of young educated public in Turkey*. *Journal of Global Strategic Management*, Vol. 4, pp. 47-56.
38. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis sixth edition*. NJ: Pearson-Prentice Hall.
39. Hashim, M. K. & Wafa, S. A. (2002). *Small and Medium-Sized Enterprises in Malaysia: Development Issues*. Kuala Lumpur: Prentice Hall Pearson.
40. Hatten, T. S., & Ruhland, S. K. (1995). *Student attitude toward entrepreneurship as affected by participation in an SBI program*. *Journal of Education for Business*, Vol. 70 No. 4, pp. 224-227.
41. Heinonen, J. & Poikkijoki, S. (2006). *An entrepreneurial-directed approach to entrepreneurship education: mission impossible?* *Journal of management development*, Vol. 25 No. 1, pp. 80-94.
42. Henderson, R., & Robertson, M. (1999). *Who wants to be an entrepreneur? Young adult attitudes to entrepreneurship as a career*. *Education & Training*, Vol. 41 No. 4/5, pp. 236-246.
43. Higher Education Commission (2008). *Higher education news and views*. Islamabad: Higher Education Commission.
44. Hills, G. E., & Barnaby, D. J. (1977). *Future entrepreneurs from the business schools: Innovation is not dead*. In *Proceedings of the 22nd International Council for Small Business* (pp. 27–30). Washington, DC: International Council for Small Business.
45. Hills, G. E., & Welsch, H. (1986). *Entrepreneurship behavioral intentions and student independence, characteristics and experiences*. In *Frontiers of Entrepreneurship Research: Proceedings of the Sixth Annual Babson College Entrepreneurship Research Conference* (pp. 173–186). Babson Park, MA: Babson College.
46. Hisrich, R. D., Peters, M. P. & Shepherd, D. A. (2008). *Entrepreneurship*. Seventh edition. New York: McGraw-Hill.



47. Ibrahim, A. B., & Soufani, K. (2002). *Entrepreneurship education and training in Canada: a critical assessment*. *Education and Training*, Vol. 44 No. 8, pp. 421-430.
48. Institute of Business Management (2007). *Entrepreneurship center*. Bahauddin Zakariya University: Mulatan Pakistan. Available: <http://bzu.edu.pk/ecbzu.html>.
49. Katz, J. and Gartner, W. (1988). *Properties of emerging organizations*. *Academy of Management Review*, Vol. 13 No. 3, pp. 429–441.
50. Kolvereid, L. & Moen, O. (1997). *Entrepreneurship among business graduates: does a major in entrepreneurship make a difference?* *Journal of European Industrial Training*, Vol. 21 No. 4, pp. 154 - 160
51. Kroon, J. & Meyer, S. (2001). *The role of entrepreneurship education in career expectations of students*. *South African Journal of Higher Education*, Vol. 15 No. 1, pp. 47-53.
52. Krueger, N. F. (2003). *Thinking Entrepreneurially: Entrepreneurial Cognition*. In Z. Acs (ed.) *International Handbook of Entrepreneurship Research*.
53. Krueger, N. & Brazeal, D. V. (1994). *Entrepreneurial potential and potential entrepreneurs*. *Entrepreneurship Theory and Practice*, Vol. 18 No. 3, pp. 91–104.
54. Kuratko, D. F. & Hodgetts, R. M. (2004). *Entrepreneurship: Theory, Process, Practice*, 6<sup>th</sup> ed., Boston, MA: Thomson South Western.
55. *Labor Force Statistics, Malaysia (2013)*. Malaysian Department of Statistics. Available at: <http://www.statistics.gov.my>.
56. Ladzani, M. W. & Vuuren, J. J. (2002). *Entrepreneurship training for emerging SMEs in South Africa*. *Journal of Small Business Management*, Vol. 40 No. 2, pp. 154-162.
57. Liebenstein, H. (1968). *Entrepreneurship and development*. *American Economic Review*, Vol. 58 No. 2, pp. 72-83.
58. Liñán, F., Nabi, G. & Krueger, N. (2013). *British and Spanish entrepreneurial intentions: A comparative study*. *Revista de Economía Mundial*, Vol. 33, pp. 73-103.
59. Liñán, F., Rodríguez-Cohard, J. C. & Rueda-Cantuche, J. M. (2011). *Factors affecting entrepreneurial intention levels: a role for education*. *International Entrepreneurship Management Journal*, Vol. 7, pp. 195–218.
60. Lüthje, C. & Franke, N. (2003). *The “making” of an entrepreneur: Testing a model of entrepreneurial intent among engineering students at MIT*. *R&D Management*, Vol. 33 No. 2, pp. 135–147.
61. Malaysia. (2006). *Rancangan Malaysia Kesembilan 2006-2010*. Malaysian National Printers.
62. Mitchell, R. K. (2005). *Turning up the global value creation engine: The road to excellence in international entrepreneurship education*. In J.A. Katz and D. Shepherd (eds.), *Cognitive approaches to entrepreneurship research in entrepreneurship, firm emergence and growth*, Vol. 6, pp. 185-248.
63. Mitchell, R. K. & Chesteen, S. (1995) *Enhancing entrepreneurial expertise: Experiential pedagogy and the new venture expert script*. *Simulation and Gaming*, Vol. 26 No. 3, pp. 288-306.
64. Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P., Morse, E. & Smith, J. (2002) *Toward a theory of entrepreneurial cognition*. *Entrepreneurship Theory and Practice*, Vol. 26, pp. 93-104.
65. Mitchell, R. K., Busenitz, L., Bird, B., Gaglio, C. M., McMullen, J., and Morse, E., Smith, J.

- (2007) *The central question in entrepreneurial cognition research. Entrepreneurship Theory and Practice*, pp. 1-27
66. Mohamad, A., Amir, A. R. & Abdullah, S. (2005). *Kepentingan pendidikan keusahawanan kepada organisasi dan negara. National Conference on Skills and Competencies in Education*, pp. 101 – 106.
67. Mohd Noh, S. (2006). *Perkembangan Kerjaya: Teori dan Praktis*. Serdang: Penerbit Universiti Putra Malaysia.
68. Mohd Zain, Z., Mohd Akram, A. & Ghani, E. K. (2010). *Entrepreneurship intention among Malaysian business students. Canadian social science*, Vol. 6 No. 3, pp. 34-44.
69. Morris, M., Lewis, P. & Sexton, D. (1994). *Reconceptualizing entrepreneurship: An input-output perspective*, *Advanced Management Journal*, Vol. 59 No. 1, pp. 21-31.
70. Nabi, G. & Holden, R. (2008). *Graduate entrepreneurship: Intentions, educations, education and training. Education and Training*, Vol. 50 No. 7, pp. 545-551.
71. Nieuwenhuizen, C., & Groenewald, D. (2008). *Entrepreneurs' learning preferences: A guide to entrepreneurship education. Acta Commercii*, pp. 128-144.
72. Niittykangas, H. & Tervo, H. (2002). [Intergenerational mobility in self-employment: a regional approach. ERSA conference papers](#), *European Regional Science Association*, p. 350.
73. OECD (2003). *Entrepreneurship and Local Economic Development: Programme and Policy Recommendations*, Paris: OECD.
74. Olsson, O. & Frey, B. S. (2002). *Entrepreneurship as recombinant growth. Small Business Economics*, Vol. 19 No. 2, pp. 69-80.
75. Oppenheim, A. N. (2000). *Questionnaire Design, Interviewing and Attitude Measurement*. Continuum International Publishing Group Ltd.
76. Othman, N., Harun, H., Lope Pihie, Z. A. & Buang, N. (2006). *Entrepreneurial attitude index for teenagers in Malaysia. Final Report Project IRPA. No. 07-02-02-0036 EA279*.
77. Othman, N. & Ishak, S. (2009). *Attitude towards choosing a career in entrepreneurship amongst graduates. European Journal of Social Sciences*, Vol. 10 No. 3, pp. 419-434.
78. Othman, N., & Karim, F. (2010). *Entrepreneurship Behaviour amongst Malaysian University Students. Pertanika Journal fo Social Science and Humanity*. Vol. 18 No. 1, pp. 23-32.
79. Othman, K., Anas, Y. & Wan Jusoh, W. J. (2004). *A study of entrepreneurial intention among young Malaysian: A case study of Universiti Tenaga Nasional (UNITEN) student. The 3rd International Conference on SMEs in a Global Economy: Economic Resilience in East Asia- Role of SMEs and Stakeholders proceedings. Holiday VillaSubang. 6-7 July*.
80. Owusu-Ansah, W.A. & Fleming, P. (2001). *The impact of entrepreneurship education on business venturing: A longitudinal study of Irish graduates. 11<sup>th</sup> IntEnt Conference Proceedings*.
81. Ramayah, T. & Harun, Z. (2005). *Entrepreneurial intention among the student of Universiti Sains Malaysia. International Journal of Management and Entrepreneurship*, Vol. 1, pp. 8-20.
82. Rodermund, E. S. (2004). *Pathways to successful entrepreneurship: Parenting, personality, early developmental competence and interests. Journal of Vocational Behavior*, Vol. 65 No. 3, pp. 498-581.
83. Roomi, M. A. & Parrot, G. (2008). *Barriers to development and progression of women entrepreneurs in Pakistan. Journal of Entrepreneurship*, Vol. 17 No. 1, pp. 59-72.

84. Roudaki, J. (2009). *University Students perceptions on entrepreneurship: Commerce students attitudes at Lincoln University*. *Journal of Accounting Business & Management*, Vol. 16 No. 2, pp. 36-53.
85. Sagie, A. & Elizur, D. (1999). *Achievement motive and entrepreneurial orientation: A structural analysis*. *Journal of Organizational Behavior*, Vol. 20 No. 3, pp. 375-387.
86. Schmitt-Rodermund, E. (2004). *Pathways to successful entrepreneurship: Parenting, personality, early entrepreneurial competence, and interests*. *Journal of Career Behavior*, Vol. 65, pp. 498-518.
87. Scholten, V., Kemp, Ro., & Omta, O. (2004). *Entrepreneurship for life: The entrepreneurial intention among academics in the life sciences*. *European Summer University Conference 2004, Enschede, The Netherlands*.
88. Schroder, E. & Rodermund, E. S. (2006). *Crystallizing enterprising interests among adolescents through a career development programme: The role of personality and family background*. *Journal of Vocational Behavior*, Vol. 69 No. 3, pp. 494-509.
89. Schwarz, E. J., Wdowiak, M. A., Almer-Jarz, D. A. & Breitenecker, R. J. (2009). *The effects of attitudes and perceived environment conditions on students' entrepreneurial intent: An Austrian perspective*. *Education and Training*, Vol. 51 No. 4, pp. 272-291.
90. Scott, M. G. & Twomey, D. G., (1988). *The long-term supply of entrepreneurs: Students' career aspirations in relation to entrepreneurship*. *Journal of Small Business Management*, Vol. 26 No. 4, pp. 5-13.
91. Segal, G., Borgia, D., & Schoenfeld, J. (2005). *The motivation to become an entrepreneur*. *International Journal of Entrepreneurial Behaviour & Research*, Vol. 11 No. 1, pp. 42-57.
92. Sexton, D. L., & Bowman, N. B. (1983). *Comparative entrepreneurship characteristics of students: preliminary results*. In Hornaday, J., Timmons, J., & Vesper, K. (Eds), *Frontiers of Entrepreneurship Research*, Babson College, Wellesley, MA, pp. 213-32.
93. Sh.Ahmad, Z., Baharun, R., & Abd Rahman, S.H. (2004). *Interest in entrepreneurship: an exploratory study on engineering and technical students in entrepreneurship education and choosing entrepreneurship as a career*. *RMC project: Vot 71790 Faculty of Management and Human Resource Development Universiti Teknologi Malaysia*. August 2004.
94. Shapero, A. (1975). *The displaced, uncomfortable entrepreneur*. *Psychology Today*, Vol. 9 No. 11, pp. 83-88.
95. Shapero, A. (1982). *Social dimensions of entrepreneurship*. In C.A. Kent et al. (Eds.) *The Encyclopaedia of Entrepreneurship*, pp. 72-89.
96. Shastri, R. M., Kumar, S., & Ali, M. (2009). *Department of Humanities and Social Sciences, Motilal Nehru National Institute of Technology, Allahabad-India*. *Entrepreneurship orientation among Indian professional students*. *Journal of Economics and International Finance*, Vol. 1 No. 3, pp. 085-087.
97. Sidek, N. N. (2006). *Perkembangan Kerjaya: Teori dan Praktis*. *Serdang: Penerbit University Putra Malaysia*.
98. Singh, G. & DeNoble, A. (2003). *Early retirees as the next generation of entrepreneurs*. *Entrepreneurship: Theory and Practice*, Spring, pp. 207-226.
99. Sirat, M., Buang, A. A., Shuib, M., Isa, A. M. M., Bakar, R., Pandian, A., Mahmood, W. A. K. (2004). *Masalah Pengangguran di kalangan siswazah*. *Pulau Pinang: National Higher Education Research Institute, USM*.
100. Souitaris, V., Zerbinati, S. & Al-Laham, A. (2006). *Do entrepreneurial programs raise the entrepreneurial intention of science and engineering students? The effects of learning in-*

Awang, A. Ibrahim, I. I., Ayub, S. A. 2014. *Determinants of entrepreneurial career: Experience of polytechnic students*

*spiration and resources. Journal of Business Venturing, Vol. 22 No. 4, pp. 566-591.*

101. Swain, H. (2008). *Fostering entrepreneurial spirit: Times higher education*. Retrieved June 24, 2008.
102. Topimin, (2006). *Fostering entrepreneurship: A challenge for an education institution. The second National Entrepreneurship Conference proceedings, Hotel Vistana, Pulau Pinang. 9-10 December.*
103. Tucker, D., & Selcuk, S. S. (2009). *Which factors affect entrepreneurial intention of university students? Journal of European Industrial Training, Vol. 33 No.2, pp.142-159.*
104. UN (2004). *Unleashing entrepreneurship: Making business work for the poor. Report of the Commission of the Private Sector and Development to the UN. Available at: <http://www.undp.org/cpsd/report/index.html>.*
105. Von Broembsen, M., Wood, E. & Herrington, M. (2005). *Global entrepreneurship monitor. South African Executive Report. Cape Town: UCT. Graduate School of Business.*
106. Wickham, P. A. (2004). *Strategic Entrepreneurship 3rd ed.. Harlow, England: Prentice Hall.*
107. Wiesma, W. & Jurs, S. G. (2005). *Research Methods in Education: An Introduction, (8th ed.). Boston: Allyn & Bacon.*
108. Wilson, L., Brown, W., Anderson, M. & Galloway, L. (2003). *Entrepreneurial ambitions among male and female entrepreneurship students in Scotland. Proceedings of 48th World Conference of the International Council for Small Business, pp. 1-14.*
109. Wilson, F., Kickul, J. & Marlino, D. (2007). *Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. Entrepreneurship Theory and Practice, Vol. 31 No. 3, pp. 387-401.*
110. Wood, M. S. (2009). *“Does one size fit all? The multiple organizational form leading to successful academic entrepreneurship”*. *Entrepreneurship Theory and Practice, Vol. 33 No. 4, pp. 929-947.*
111. Wu, S. & Wu, L. (2008). *The impact of higher education on entrepreneurial intentions of university students in China. Journal of Small Business and Enterprise Development, Vol. 15 No. 4, pp. 752 – 774.*
112. Yaacob, K. & Wan Jusoh, W. J. (2004). *A study of entrepreneurial intention among young Malaysians: A case of Universiti Tenaga Nasional's (UNITEN) Students. Paper presented at the 3rd International Conference on SMEs in a Global Economy, organized by Universiti Teknologi MARA, Malaysia and University of Wollongong, Australia,*
113. Zainal Abidin, F. & Bakar, H. (2005). *Entrepreneurship education: The case of Universiti Utara Malaysia. Sintok: Universiti Utara Malaysia.*
114. Zhao, H., Seibert, S. E. & Hills, G. E. (2005). *The mediating role of self-efficacy in the development of entrepreneurial intentions. Journal of Applied Psychology, Vol. 90 No. 6, pp. 1265-1272.*

**Amran AWANG** is an Associate Professor in entrepreneurship in Faculty of Business Management Universiti Teknologi MARA Perlis (UiTM) since year 2000. Earned doctorate degree (PhD) from Malaysian Science University (USM) in 2007 in Corporate Management and Entrepreneurship, MBA in management from Webster University, St Louis, MO in 1989 and Bachelor of Science in Business Administration from Tri-State University, Indiana, USA in 1988. A resource person and lecture in technology entrepreneurship and research methodology courses in UiTM. Supervise eight PhD and master by research students. A faculty academic advisor, committee member of state academic board,

*curriculum and research development in the university. An external examiner for Northern University Malaysia (UUM) PhD thesis. Served as the chair of the EMIC, an international conference convened in 2007 and 2011. Editor and editorial board member of more than ten local and international journals. Published more than 20 articles in journals and conference proceedings.*