

Entrepreneurship Education as a Catalyst of Business Start-Ups: A Study on Malaysian Community College Students

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Abstract

This study investigates the effect of entrepreneurship education on the Malaysian community college students' inclination towards entrepreneurship. It is built on the previous study by Ooi (2008) which examined the university students' inclination towards entrepreneurship. A sample consisting of 235 students were drawn from four community colleges located in the Malaysian northern region. The students were in the final year of their diploma studies in various disciplines. A survey questionnaire was employed to elicit responses concerning their entrepreneurship inclination and characteristics. Descriptive statistics were used to analyse respondents' characteristics and Partial Least Square Structural Equation Modelling (SEM-PLS) was employed in determining the relationship among the variables of the study. The results of the study indicated that 51 per cent of the community college students would consider commencing a business as their future vocation, whilst 33 per cent stated that they are probably to start a new business venture after completion of their studies. This could be attributed to the effort taken by the community colleges in promoting entrepreneurship among students. The entrepreneurial factors: role models and the role played by the community colleges in promoting entrepreneurship showed a statistically significant positive influence on community college students' decision to pursue an entrepreneurial career. The Partial Least Square – Multi Group Analysis (PLS-MGA) employed for moderating the personal background variables indicated no significant differences on path coefficients between the various groups across gender and working experience. An exception was the effect of role models on entrepreneurial inclination, which was significantly higher with those participants without working experience. Recommendations and future research direction are delivered in relation to the findings of this study.

Keywords: community colleges, inclination towards entrepreneurship, role models, Malaysia

1. Introduction

The magnitude of entrepreneurship as an important key that stimulate and facilitate economic growth has become the focal point of many parties such as policymakers, economists, academics and even students of higher education institution (Luthje & Prugl, 2006; Ooi, 2008). Entrepreneurship as such has been a trendy topic and is attracting a growing interest in academia across the globe (Levie, 1999; Nasiru, Ooi, & Bhatti, 2014). The increasing number of offerings in entrepreneurship at institutions of higher learning can be generally explained by two main reasons: the ability of entrepreneurs to create job opportunities and the need for individuals to obtain business knowledge and skills through education. Entrepreneurship education, through its function, has been extolled as being able to establish and enhance awareness, and consequently encourage self-employment as a cherished choice of career among young and energetic people (Fleming, 1996). Hence, institutions of higher learning are burdened with an indispensable role as a principal source for the would-be entrepreneurs in various business activities such as biotechnology and information technology. Levie (1999), for example, found that institutions of higher learning such as colleges in the U.K., Australia and U.S. offer training in the entrepreneurial study to assist in creating awareness among students that considers entrepreneurship as promising career choice.

Malaysia as a developing country has pushed entrepreneurship development forward to the position of utmost importance. It is clear that the Government pays much attention to entrepreneurship in the country with a variety of support initiatives and policies with regards to financing opportunities and also the availability of physical infrastructure and business advisory services, particularly to the youths (Sarimah, Armanurah & Amir, 2013). In line with the Malaysian government's dream to join the comity of the developed nation around the year 2020,

human capital development is prioritised in order to create competent, dynamic and resilient graduate entrepreneurs (Economic Planning Unit, 2010). This is attested by the then Minister of Higher Education during his speech at the opening of the Career and Graduate Entrepreneurship Carnival (K3G) stated that 'the country needs more entrepreneurs among graduates of higher institutions to catalyze the transformation of the economy to the high-income nation and based on innovation'. (sic) (Anonymous, 2012).

Given its importance in the national economic development, the Ministry of Higher Education Malaysia has taken the initiative to apply elements of entrepreneurial knowledge at various levels of study from secondary school level until the tertiary level. Community colleges have been set up to meet the Government's aspiration. Since its inception in the year 2001, community colleges provide the opportunity to tertiary students in entrepreneurship education and training through its academic programmes, which are both technical and engineering (Buang & Awalludin, 2011; Rasmuna & Norasmah, 2013). The colleges thereupon mainly provide training and skills needed as well as provide opportunities for post-secondary education in the local community prior to entering the labour market through a variety of education, technical as well as vocational training (Department of Community Colleges, 2010).

Community colleges are considered as potential institutions which can impact the local community to participate in entrepreneurship development. They are also playing a strategic role in the human capital development of the local communities by channeling skills, knowledge and fostering a highest ethical standard through ceaseless training, education, and continues learning programmes (Ministry of Higher Education Malaysia, 2008). Sequel to government's efforts in producing more graduates to become entrepreneurs, the Department of Community Colleges has developed a strategic roadmap called the 'Entrepreneurship Strengthening Plan' (SIC) to produce high-performing and economically viable entrepreneurs among students (Sarimah et al., 2013). It also aims to enhance the employability of the college graduates. Under the Tenth Malaysia Plan, an allocation of RM500 million was allocated for higher educational institutions such as community colleges, for the implementation of teaching and training programmes (Economic Planning Unit, 2010). Thus, community colleges are deemed as a platform responsible for providing human capital training and entrepreneurship in an effort to transform Malaysia into a developed status nation (NACEE, 2013).

Due to that, there is a need to study how institutions of higher learning, such as community colleges can develop and nurture potential entrepreneurs through entrepreneurship education. Entrepreneurship education, in this instance, should be able to inculcate and nurture entrepreneurial competency among young people to start up new business ventures (Buang & Awalludin, 2011). Therefore the main objective of this paper is to examine the effect of entrepreneurship education (independent variables) on the Malaysian community college students' disposition towards entrepreneurship (dependent variable). This paper builds on the previous research by Ooi (2008) to examine the inclination towards entrepreneurship among community college students in Malaysia. Recently, as the employment gap is increasingly filled up by entrepreneurial-driven employment, it is vital to know if these students have the same mentality as university students to venture into an entrepreneurial career. This paper also seeks to examine the moderating effect of demographic characteristics on entrepreneurship education and the inclination towards entrepreneurship among community college students. The paper highlights the brief explanation of entrepreneurship education attributes that are capable of influencing community college students' disposition towards entrepreneurship. Each attribute is concisely discussed and the proposed hypotheses for the study follow. The discussion then leads to the methodology, the results and discussion and finally the conclusion.

2. Literature Review

2.1 The Role of Educational Institutions (EIs) in Promoting Entrepreneurship

Educational institutions (EIs) plays a beneficial role in supporting entrepreneurship education to improve societal economy in particular and regional economy in general (Mahlberg, 1996; Co & Mitchell, 2006). Mahlberg (1996) equally noted that colleges and schools have a vital role to play in encouraging entrepreneurship education, since EIs are basically assumed to be the training ground for shaping entrepreneurial skills, aspirations and cultures among students in their pursuit to weather the storm of the robust and ever competitive today's business milieu (Autio, Keeley, Klofsten & Ulfstedt, 1997; Landstrom, 2005). As a provider of entrepreneurship training programmes, EIs are bound to do all their best in creating an enabling environment that could encourage entrepreneurial activities and, incidentally, assist in inculcating an enterprising values among college and university students whom are groomed to be tomorrow's entrepreneurs (Roffe, 1999).

In the study conducted by Autio et al. (1997) on the entrepreneurial intentions of technology that involve science students across four countries, they consistently concluded that the EIs teaching environment is the most

influential factor in students' perceptions of an entrepreneurial career and their entrepreneurial convictions. Similarly, a study by Gasse and Tremblay (2006) demonstrated that university students who gain entrepreneurial experience from an institution entrepreneurial environment are attracted to entrepreneurship. Gasse and Tremblay advocate the important role of universities in teaching entrepreneurship in order to produce successful graduates who confidently venture into new ventures.

However, Fleming (1996) argued that the failure of EIs in preparing their students for self-employment as a career alternative, leads to the loss of a number of potential entrepreneurs. The majority of graduates lack interest in venturing into their own business and prefer a career in the corporate sector instead. Furthermore, Postigo and Tamborini (2002) believed that EIs promote education that leads students towards professional careers rather than fostering an entrepreneurial mentality among students. Another study by Buang (2005) on behaviour towards entrepreneurial career among graduates showed that a mere 10% initiated their own business upon graduation. She, therefore, concluded that EIs were unsuccessful in implementing their entrepreneurship education programme to produce future graduate entrepreneurs.

As a result, EIs need to develop skilful graduates who understand both the value of business and the job creation process. This means that the promotion of entrepreneurship as a possible career path, together with the relevant fundamental business knowledge and skills, is crucial for students to have a realistic attitude towards entrepreneurship (Li & Matlay, 2005; Postigo, Iacobucci, & Tamborini, 2006).

Towards this end, EIs must be able to provide a conducive learning and creative entrepreneurial environment in order to 'see' entrepreneurially-inclined individuals, since the environment can either support or inhibit entrepreneurial activity (Nasiru et al., 2014; Kozan, Oksoy, & Ozsoy, 2006). In actuality, the creation of an entrepreneurial values and skills across EI campuses is deemed to influence decisions of students about entrepreneurship. Students' career preferences are easily affected by the environmental factors in which they are interacting with, while they are young and with impressionable mind looking up for new role models to pursue or copy from (Fayolle & Degeorge, 2006). McLarty's (2005) study of the entrepreneurial potential of graduates in the UK supports the view that EIs have a real influence on graduates' decisions to embark on a business.

In brief, in order to encourage and nurture entrepreneurially-inclined students, students need to be continuously exposed to entrepreneurial competencies and skills to recognise untapped business opportunities. EIs should capitalise on the strengths of experienced academicians and industrial cooperation to enhance entrepreneurial learning among students (Anderson, 2011). It is imperative that EIs be able to merge the elements of entrepreneurial concept and applied knowledge in order to produce entrepreneurial-minded students. This is the environment that has to be created and sustained by EIs. The relevance of EIs in supporting entrepreneurship is inextricably linked to entrepreneurial growth (Autio et al., 1997). All students are potential entrepreneurs who need an entrepreneurial environment to foster their growth and development and stimulate their entrepreneurial interest (Postigo et al., 2006). Ensuring a conducive and supportive entrepreneurial learning environment, and other entrepreneurial supports such as the infrastructure and funds to facilitate and support the development of new ventures among students, can be challenging, but it is vital for EIs to produce new economic catalysts in a country's social and economic development (Luthje & Prugl, 2006). Having highlighted the essential role plays by EIs in fostering entrepreneurship development among students, it is therefore hypothesised that:

Hypothesis 1: The role to promote entrepreneurship played by community colleges increases the likelihood of students to be more entrepreneurially-inclined

2.2 The Entrepreneurial Curriculum and Content

As previously discussed, it is noticeable that entrepreneurship training and education has been a focal point of interest in colleges and universities worldwide (Solomon, 2007). As a result, the entrepreneurial curricula are being developed by many entrepreneurial educators with the aim of preparing students for self-employment (Kruger, 2004). In this information society and a globalised world, educational institutions and entrepreneurial curricula must be able to emphasise the major concerns in the current labour market and the competitiveness that is related to employment (Santos, Guedes, & Fonseca, 2012). However, research in entrepreneurship education linked to the curriculum has been plagued with a number of problems, including the lack of consensus on the appropriateness of entrepreneurial content as well as pedagogical approaches (Garavan & O'Connell, 1994; Solomon, 2007). The entrepreneurial curriculum appears to be an inconclusive debate from little consistency concerning how, who and what to impart to the students in entrepreneurship education with regard to its conceptual and contextual understandings, in spite of the fact that, entrepreneurship education has undoubtedly gained increased attention from academia (Raichaudhuri, 2005). This happens fundamentally due to the four possible points of view held by different stakeholders that engaged in entrepreneurship programmes

development: from the educators' perspective; the student-entrepreneurs; those who proposed the programmes and the evaluators (Bécharde & Toulouse, 1998, p. 318).

Furthermore, the key challenge related to entrepreneurship education is the suitability of the curriculum and the methods applied in evolving students entrepreneurial skills and abilities (Garavan & O'Connell, 1994). With regard to what entrepreneurial courses encompasses, Brown (1999) remarked that, the entrepreneurship course syllabus should be informal and suit the current emphasis on hands-on teaching techniques.

With regard to pedagogical approaches, there are many researchers who stresses for multiple approaches in imparting entrepreneurial skills and knowledge to the students (Fiet, 2000a; Fiet, 2000b), ranging from the contemporary techniques such as textbooks (Fiet, 2002) and examinations at regular interval (McMullan & Cahoon 1979) to the informal like business plan (Audet, 2000), life experience of existing entrepreneurs (McKenzie, 2004); expert discourses (Brown, 1999; Klandt & Volkmann, 2006) and field survey as well as visiting established ventures (Cooper, Bottomley, & Gordon, 2004).

Levie (1999) further contended that the decision to use a teaching method in entrepreneurship is generally revolves around whether the courses are *about* entrepreneurship or *for* entrepreneurship. The latter is aimed at producing capable students dealing with actual entrepreneurial activities or transforming their entrepreneurial knowledge and skills in practical way. Whereas the former i.e Courses *about* entrepreneurship dealt with teaching entrepreneurship as a prerequisite course in the curriculum through unconventional methods (Gibb, 2002). The differences in courses *for* and *about* entrepreneurship in terms of teaching methods used are shown in Table 1.

Table 1. Differences between courses *for* entrepreneurship and courses *about* entrepreneurship

Courses <i>for</i> entrepreneurship	Courses <i>about</i> entrepreneurship
<ul style="list-style-type: none"> • Case studies • Guest speakers • Group projects • Group business plans • Class participation assessed 	<ul style="list-style-type: none"> • Lectures • Individual essays • Individual end-of-term written exams

Source: Levie (1999)

Nonetheless, the variation in curriculum and delivery methods, the ultimate goal of entrepreneurial programmes is to facilitate entrepreneurship alertness among students of higher institutions which, by extension, would enhance their concern in entrepreneurship. Therefore, we hypothesised that:

Hypothesis 2: The entrepreneurial curriculum and content increase the likelihood of Malaysian community colleges students' to be more entrepreneurially-inclined.

2.3 Role Models

A considerable amount of literature has been published on the 'effect of role models on the inclination towards entrepreneurship' (e.g., Krueger, Reilly, & Carsrud, 2000; Van Auken, Stehphens, Fry, & Silva, 2006; Bosma, Hessels, Schutjens, Van Praag, & Verheul, 2012). According to Hisrich et al. (2005, p. 68), role models are "individuals influencing an entrepreneur's career choice or styles". They equally accentuate that role model serves as a vital tool in determining individuals' entrepreneurial callings as they provide important business information and guidance other than accompanying moral support.

In this context, role models are important since they offer individuals with training for socialisation (Postigo et al., 2006). Furthermore, they provide observational learning experience for an individual before embarking on a new venture (Bygrave, 2004; Van Auken et al., 2006). By directly seeing successful persons in business, an individual will wish to imitate them in order to become similarly successful (Caputo & Dolinsky, 1998; Postigo et al., 2006). When discussing about education and training, the role of educators is inextricably important (Boyle, 2007). Educators play a significant role for the learning and teaching activity in entrepreneurship education. According to Hytti and O'Gorman (2004), the critical component in the development of effective enterprise education initiatives are the teachers. Educators or teachers tender a vital role in the process of learning as their teaching styles and attitudes towards entrepreneurship will have significant impact on students. Shulman and Shulman (2004) in their model of teacher development and reflection implied that an educator, as a member of a professional society, must be ready and willing to teach which in turn will encourage motivation among learners, i.e. students. Educators are deemed as the essential motivators to the student's learning and reflection process (Ooi, 2008; Seikkula-Leino, Ruskovaara, Ikavalko, Mattila, & Rytkola, 2010). Therefore,

whether the entrepreneurship education programme achieves its overall objective is mainly dependent on the capability of its educators (Birdthistle, Hynes, & Fleming, 2007).

In the same vein, peers (friends or classmates) are also serves as the influencing factor for individual's disposition towards entrepreneurship (see Bosma et al., 2012). In their study, Dillard and Campbell (1981) indicated that non-parental factors such as peers influenced American students more in determining their career development. This might be due to the students belief that peers are the best place and ways for seeking advice and even resources (Schaper & Volery, 2004). A study of Nanda and Sorensen (2006) recognised the crucial role played by peers in persuading individual's choice to become entrepreneurs. The purported 'peer effects' who have had past encounters in independent work do have an effect on a singular's choice to consider enterprise amid their transitional profession from the present occupation. Dunn's (2004) study also concurred that peers, i.e. friends affect positively the student readiness and preparedness to venture into business. Therefore, with the support and guidance from peers, one is believed to have stronger confidence in deciding his contribution in an entrepreneurial activity. Thus, it can be concluded that peers serve as an important element in determining an individual's inclination towards entrepreneurship. In line with the discussion above, thus it is hypothesised that:

Hypothesis 3: The availability of role models (educators or friends) increases the likelihood of community college students to be more entrepreneurially-inclined.

2.4 The Demographic Characteristics

It has suggested in much research that, the demographic characteristics have influence on a person's disposition towards entrepreneurship (e.g., Koh, 1996; Kirwood, 1997; Reitan, 1997; Lin et al., 2000; Veciana, Aponte, & Urbano, 2005; Carolis & Saporito, 2006; Othman, Ghazali, & Sung, 2006). The common premise is that personal entrepreneurial characteristics contribute to higher inclination towards entrepreneurship (Koh 1996; Kirkwood, 2007). Reitan (1997) recommended that demographic factors, such as gender, deserve to be further investigated, as individuals' perceptions or attitudes towards new venture creation might be influenced by those factors. It has also been suggested by Carolis and Saporito (2006) that the inclusion of demographic characteristics may have a moderating influence on individuals' entrepreneurial behaviour or new enterprise success. For the purpose of this paper, demographic characteristics such as gender, ethnicity, and personal previous working experience will be discussed.

2.4.1 Gender

There have been quite number of studies suggesting that gender differences influence person's inclination towards entrepreneurship or their entrepreneurial behaviours. Specifically, extensive researches has shown that males are more likely to venture into business compared to their females counterpart (e.g. Dunn, 2004; Kristiansen & Indarti, 2004; Veciana et al., 2005; Ooi, 2008). The studies of Ghazali, Ghosh and Tay (1995) and Wang and Wong (2004) on entrepreneurship among Singapore university students had consistently indicated that male students are more likely to venture into business. This coincides with Koh's (1996) study using 54 MBA students in Hong Kong. His findings indicated that the graduates who are more entrepreneurially-inclined tended to be males. This is particularly more prevalent among Asian families as males are regarded as the head of a family. However, Chamard and Fitzgerald's (1998) study of 513 students in Australia pointed out that female students (47 per cent) have higher interest in contemplating about starting a venture compared to males (40.1 per cent). To conclude, based on most empirical evidence, it is suggested that males are more interested in entrepreneurship. Traditionally, it is perceived that entrepreneurship is the domain of males (Wang & Wong, 2004).

2.4.2 Ethnicity

Ethnicity is another demographic factor that is related to the inclination towards entrepreneurship. Some researchers (e.g. Ghazali et al., 1995; Wang & Wong, 2004; Fitzsimmons & Douglas, 2005) have shown that entrepreneurs often come from certain ethnic or minority groups. In their study of 414 MBA students' entrepreneurial intentions from four countries, Fitzsimmons and Douglas (2005) indicated that Chinese and Thai students possess, on average, higher intentions to launch a venture compared to Australian and Indian students. In a comparison study of graduate and non-graduate entrepreneurs in Malaysia, Othman et al. (2006) pointed out that there is significant difference statistically between ethnicity and entrepreneurship, i.e., more entrepreneurs are Chinese. Hence, it is believed that Chinese students are more likely to be inclined towards entrepreneurship than others.

However, a study in Singapore by Wang and Wong (2004) of 5326 undergraduate students rejects the ethnicity factor in students' inclination towards entrepreneurship. Specifically, the findings of their study show that there

is no statistical significant difference between Chinese, Malay and Indian students on their entrepreneurial inclination.

2.4.3 Previous Working Experience

The effect of previous working experience is adequately expressed that:

Experience may have two different and opposite effects on entrepreneurial performance. On one hand, it can provide the entrepreneur with a set of guidelines or knowledge conducive to performance; on the other hand, it may create habits that are hard to change and may act as obstacles to adaptation and better performance (Gasse 1982, pp. 62-63).

Taking Gasse's first remark, much research (e.g., Gasse, 1982; Mukhtar et al., 1999; Henry et al., 2003; Lena & Wong, 2003) has perceived that previous working experience of the individuals influences their entrepreneurial performance positively or negatively. Potential entrepreneurs may have attained the essential information and skills to be successful in the Business enterprise that they are now acquainted with, thus would have the capacity to benefit from their involvement in new pursuits. Mukhtar et al. (1999) concluded that individuals with previous working experience have higher tendency of inclination towards self-employment. Similarly, when studying MBA students' preparedness for entrepreneurship, Thandi and Sharma's (2004) employ MBA students from Australian Graduate School of Entrepreneurship in Swinburne University, and their findings demonstrated that students who had working experience of at least five years considered themselves better prepared for entrepreneurial ventures than those with less or no working experience.

However, in the study of Kristiansen and Indarti (2004) on entrepreneurial intention among university students, have not been in agreement with the previous claims such as Mukhtar et al (1999) and Thandi and Sharma (2004) on the grounds that there is no statistical significant differences on entrepreneurial intention in relation to students that whether they had or not had work experience among Indonesian and Norwegian students.

On the basis of the variation in results of previous studies, this study wants to re-assess the effect of university students' demographic characteristics on the inclination towards entrepreneurship. Specifically, it examines the moderating effect of demographic characteristics on entrepreneurship education and inclination towards entrepreneurship. These assumptions are tested using the following hypothesis:

Hypothesis 4: There is a difference in university students' inclination towards entrepreneurship in the demographic groups defined by the following variables:

- i) gender
- ii) ethnicity
- iii) previous working experience

3. Methodology

Self-administered questionnaires were used for data collection to examine the hypotheses, using community college students in the Malaysian northern region as the respondent for the study. Where, the population of the study was final year students from identified community colleges. The students were taught entrepreneurship as a core subject as part of their study programmes in various areas of studies. The questionnaire for this study was adapted from previous studies. It is close ended format question and based on the 5-point Likert scale where, 1= strongly disagree, 2= disagree, 3= no opinion, 4=agree, 5= strongly agree. Questionnaires in Malay language-version were randomly distributed among the target population with the assistance of their teachers in respective classes. The respondents participate voluntary in this study and one week was given for them to return the questionnaires. After screening, 235 of the questionnaires were returned fully completed and usable, representing the response rate of 83.4 per cent of the sample. Statistical software for social science (SPSS version 18) employed initially for data screening, descriptive statistics and selecting of cases representing groups of sample to test for the moderation of demographic variables. Also, Smart PLS 2.0 software was used to conduct the partial least squares (PLS) analysis (Ringle et al., 2005).

4. Results

In the initial screening, we identified some items whose missing values were substantially high and were therefore excluded from the analysis (Tabachnick & Fidell, 2007). This also led to the exclusion of a construct (entrepreneurial curriculum and content) because all the items measuring the construct have a high percentage (66.4%) of missing values. We then considered the demographic characteristics; based on gender, the respondents were mainly females (58 per cent). With regard to the respondents' place of origin, more than half (55 per cent; N=128) were from urban areas compared to 45 per cent (N=107) who were from rural areas. A

majority of the respondents (53 per cent; N=125) have working experience, while 47 per cent (N=110) have no working experience. Also, the study indicated that 51 per cent of the community college students consider commencing a business as their future career option, with 33 per cent stated that they are likely to start a business after graduation.

The model was tested by conducting partial least squares (PLS) analysis using the Smart PLS 2.0 software (Ringle, Wende, & Will, 2005). The study determined the minimum sample size by multiplying the number of the highest arrows pointing to a particular endogenous construct by 10 as recommended by Barclay, Higgins and Thompson (1995). In the case, we have only the dependent variable as the endogenous construct with only two arrows pointing at it, signifying that a least of sample size of 20 would be sufficient for our analysis. Also, as suggested by Hair, Hult, Ringle and Sarstedt (2014) if the G*power analysis is employed, 52 observations are required in order to attain a statistical power (G*power) of 80per cent for detecting R^2 values of at least 0.25 (with a 5per cent probability of error). Therefore, given the overall sample size of 235 participants, it is believed that PLS is the appropriate tool to be use in testing the direct hypotheses in this study. However, in the condition of grouping our samples to test for moderation using the Multi Group Analysis in PLS (MGA-PLS), it is found that only two variables (gender and working experience) met the requirement for the minimum sample size of 20 as well as 52 observations in the case of power analysis to run the model for moderation. The groupings, based on ethnicity fall short of the requirements and was therefore excluded from the analysis. The variables of gender and working experience are also not visible in the model because they are moderator variables used to perform the multi group analysis.

4.1 Measurement Model

The study used the test for convergent and discriminant validity to check for the adequacy of the indicators in measuring the construct they are supposed to measure. Therefore, for the convergent validity (Bagozzi & Phillips, 1982), the indicators' reliability and construct reliability were assessed (Peter, 1981). To examine indicators reliability, the loadings were considered and were all above the recommended 0.7 value parameter. For the construct reliability and validity, the two indices of composite reliability (CR) and the average variance extracted (AVE) were examined. The CR are all well above 0.6 and the AVE is also above the threshold of 0.5 (Bagozzi & Yi, 1988). Specifically, the lowest CR was 0.847and the lowest AVE was 0.570. Table 2 provides the convergent validity.

Table 2. Item loading, internal consistency, and average variance extracted

Constructs	Items	Loadings	Composite reliability	AVE
Entrepreneurial inclination	B10	.737	.847	.581
	B15	.766		
	B16	.780		
	B22	.765		
Role models	C5	.766	.870	.626
	C6	.810		
	C7	.808		
	C8	.781		
Role of educational institutions	D1	.746	.869	.570
	D11	.711		
	D2	.802		
	D3	.801		
	D9	.711		

The study examined the cross-loadings of the items and the interconstruct correlation matrix having the square root of AVE across diagonal in assessing the discriminant validity of the constructs. The cross loading of items on their respective constructs are shown and shadowed in Table 3. This indicated that each item loads higher on its respective construct than on any other construct, which implies discriminant validity. Also, based on Table 4 as suggested by Fornell and Larcker (1981), where the square root of each reflective construct's AVE is greater than the level of correlations involving the construct. Therefore, it is concluded that the model has satisfied the validity and reliability criteria and could be run to determine the descriptive and predictive power of the structural modelling. Table 4 illustrates the descriptive statistics for the constructs in our model.

Table 3. Cross Loadings

Constructs	Indicators	Entrepreneurial inclination	Role models	Role of educational institutions
Entrepreneurial inclination	B10	.737	.389	.418
	B15	.766	.430	.383
	B16	.780	.481	.455
	B22	.765	.394	.426
Role models	C5	.424	.766	.469
	C6	.437	.810	.445
	C7	.495	.808	.490
	C8	.401	.781	.428
Role of educational institutions	D1	.418	.535	.746
	D11	.431	.333	.711
	D2	.443	.446	.802
	D3	.372	.509	.801
	D9	.412	.370	.711

Table 4. Square root of AVE, Correlations of latent variables, mean and standard deviation

Constructs	Entrepreneurial inclination	Role models	Role of educational institutions	Mean	Std. deviation
Entrepreneurial inclination	.762			3.788	.649
Role models	.558	.791		3.746	.719
Role of educational institutions	.553	.580	.755	3.910	.577

4.1.1 Structural Model

The next step after determining the reliability and validity of the measure is to test the explanatory power of the entire model as well as the predictive power of the independent variables in the sample. The explanatory power can be examined by looking at the squared multiple correlations (R^2) of the dependent variable, the entrepreneurial inclination. Figure 1 indicates the entire sample 39% (R^2 : 0.391) of the variation in the entrepreneurial inclination are explained by the independent variables. The results of running the model indicated that our model have an acceptable R^2 statistics, because, they are greater than the recommended 10% (Falk & Miller, 1992). To test the hypotheses standardized parameter estimates between constructs with the corresponding t-values and p-values indicating the level of significance are examined. To obtain the t-values the bootstrapping procedure in PLS was performed with the number of cases representing the total number of valid observation and using 5,000 bootstrapping samples with no sign changes option. The direct hypotheses are provided in Table 5. The findings show support for the entrepreneurial institutions' role and role models in the sample. All path coefficients shows the expected positive sign and are significant at 0.01 (***) level of significance. Although, the effect sizes (f^2) were small but very close to medium (0.13 and 0.14) impact (Cohen, 1988).

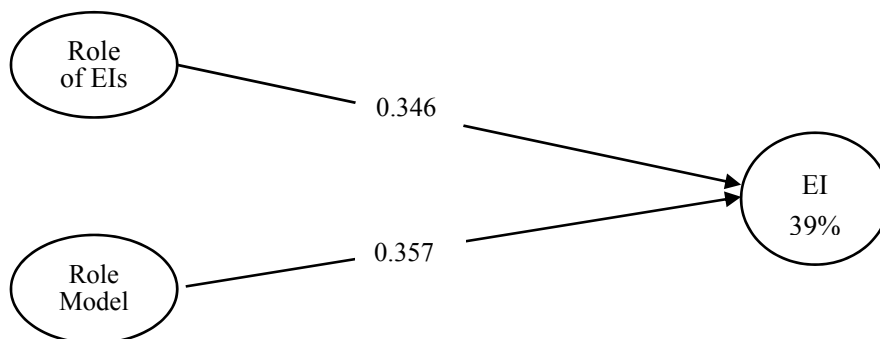


Figure 1. Structural model

Table 5. Structural model assessment

Hypotheses	Relationships	Beta values	Std. error	T-value	P-value	Decision
H1	Role models -> Entrepreneurial inclination	.357	.081	4.404	.000	Supported
H2	Role of educational institutions -> Entrepreneurial inclination	.346	.089	3.868	.000	Supported

4.1.2 Significance of Group Differences

It must be emphasised that the study has established the measures performed adequately, meeting all measurement criteria before performing the multigroup comparison with the data samples. Similar bootstrapping procedure was employed for the sample groups as explained above in the case of the overall data sample. The hypotheses for group differences were then observed given the path coefficients and bootstrap standard errors to determine if significance differences exist between the coefficients of the two groups each within the variables of gender (male and female) and work experience (those with work experience and those with no work experience). The results are presented in Table 6. We first of all examined the Levene's test which guides on the equality of standard errors. For the entire test, the p values were lower than 0.05 which implied that the null hypotheses of equal standard errors were rejected. Hence, we considered the result with unequal standard errors assumed. As shown in Table 6 which provides the summary of the partial least square – multi group analysis (PLS-MGA) results, only one relationship (path coefficient) differ significantly across the two groups of working experience. The effect of role models on entrepreneurial inclination is significantly ($p < .10$) higher with those participants that have no working experience, implying that this group perceives role models as an inspiring source of their future decision to dabble in business.

Table 6. PLS-MGA results

	Group 1: Male		Group 2: Female		Group 1 vs. Group 2			
	Path1	SE (Path1)	Path2	SE (Path2)	Path1-Path2	t-value	Significance level	p-value
RM -> EI	0.403	0.154	0.365	0.081	0.038	0.219		0.413
REIs -> EI	0.317	0.166	0.343	0.080	-0.026	0.142		0.444
n	99		136					
	Group 1: Work experience		Group 2: No work experience		Group 1 vs. Group 2			
	Path1	SE (Path1)	Path2	SE (Path2)	Path1-Path2	t-value	Significance level	p-value
RM -> EI	0.250	0.117	0.480	0.086	0.230	1.591	*	0.057
REIs -> EI	0.418	0.126	0.276	0.091	0.142	0.917		0.180
n	125		110					

Note: path1 and path2 are path coefficients for the groups; SE (path1) and SE (path2) are the standard error of path1 and path2 of the groups, * $p < .10$.

5. Discussion

The purpose of this paper was to examine the relationship between entrepreneurial factors and community college students' disposition towards entrepreneurship. It is posited that entrepreneurial factors positively relate with entrepreneurial inclination. In general, the outcomes of the study analysis shows the empirical support for the role played by EIs in supporting entrepreneurship (Postigo et al., 2006; Nurmi & Paasio, 2007; Anderson, 2011; Buang & Awalludin, 2011). This link may be in attribute to the increasing in students' demands pursuing sustainable education and hands-on entrepreneurial activities from the institutions of higher learning that could prepare them with the required entrepreneurial skills in fixing them for their prospective callings.

In addition, there is a statistical significant positive relationship between role models (e.g. parents or career counsellors) and community college students' inclination towards entrepreneurship. Therefore the hypothesis is supported. The earlier findings showed that students listed parents, career counsellors, teachers/lectures and relatives as being most influential and encouraged them to start a business. The results of the findings are consistent/in line with previous studies of Edwards and Muir (2005) and Birdthistle et. al., (2007), who pointed out that lecturers play an important supportive role in influencing and encouraging students in their inclination towards entrepreneurship.

The result of the multigroup moderation also reveals that for gender groups (male and female); there is no significant difference between the path coefficients in our model. It is also found that there is no significant difference between the path coefficient from the role of educational institutions to entrepreneurial inclination among the two groups (those who have work experience and those without). However, it is realised that a

significant difference exists on the path coefficient showing the relationship between role models and inclination towards entrepreneurial. Surprisingly, this relationship shows that it is higher with the no experience working group, which may suggest that this particular group envisage that role models including teachers (Ooi, 2008; Seikkula-Leino et al., 2010) and close friends (Dunn, 2004; Schaper & Volery, 2004; Sorensen, 2006; Bosma et al., 2012) could impact on their decision to be self-employed in the near future. Another possible explanation for this outcome could be that for those with work experience, they do not think of teachers and close friends as role models since they are already engaged with employers, parents and/or relatives. Hence, they tend to see the bigger picture and the practical reality of establishing a business venture.

The overall results from the test of hypotheses showing significant relationships are all supported by its t-values and p-values (as all were significant at either $p < 0.01$, 0.05 and 0.10). Hence, this study showed that community colleges and role models played a fundamental role in promoting and fostering entrepreneurship in order to produce more entrepreneurially-inclined graduates.

The limitation of this study is that, we could not further test one of the variables (ethnicity) for the multi group analysis as earlier proposed. This is because the group samples do not meet the minimum sample size requirement according to the G^* power analysis or even the 10 times rule (Barclay, Higgins & Thompson, 1995) and also that PLS-SEM requires the consideration of sample size based on model and data characteristics (Hair et al., 2014). Thus, future research considering such multi group variable for similar analysis should cover a wider range of institutions and strategically employ various groups' participation.

6. Conclusion

In this paper, several related variables as well as the community college students' inclination towards entrepreneurship are examined. The outcomes of the study analyses indicated that the entrepreneurial factors, such as the role of college community's to promote entrepreneurship and role models are all statistically significant. These findings anticipated to have positive effects to both the community colleges and students equally. There is need for changes in teaching and learning as a roles played by community colleges, in the same vain, it's much needed in creating an entrepreneurial environment for fostering entrepreneurship among students. Community colleges must be able to design specific and practical entrepreneurial short courses; for example, courses which run for four to six months, to interested students. The courses should emphasise on the pre-start and start-up stages of venture creation which is the most challenging stages for nascent entrepreneurs. On the other hand, students must be ready to switch their present learning attitude to a more hands-on as well as the practical method, which is more appropriate in the process of entrepreneurial learning. Furthermore, schools should employ the services of role models who have practical business experiences in the real sense of it, who can visit and give entrepreneurial talks to students in a bid to supplement the effort of these schools in encouraging self-employment after graduation.

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