Entrepreneurial Motivation of Gen-Y Students: Necessity or Opportunity Driven?

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ABSTRACT

The purpose of this research was to determine whether university students' entrepreneurial motivations were more necessity-driven or opportunity-driven in nature, and to provide a possible profiling of future opportunity-driven or necessity-driven type entrepreneurs based on personality related traits or contextual factors. Using data from a survey of 160 business and engineering students from a private university in Malaysia, the study empirically examined the relationships between both personality traits (need for achievement, self-efficacy, locus of control) and contextual related variables (social norms, university entrepreneurial environment), and university students' perceived entrepreneurial motivations. Respondents to the survey perceived their opportunity-driven motivation (mean = 3.90) to be higher than their perceived necessity-driven motivation (mean = 3.05). Findings revealed that both self-efficacy and social norms had significant positive relationships with opportunity-driven motivation, with self-efficacy having a stronger relationship with it; whereas, only social norms had a significant positive relationship with necessity-driven motivation. Furthermore, students' perceived opportunity-driven motivation was higher among males, and amongst students whose role models were business personalities; whereas, students' perceived necessity-driven motivation was highest among those aged between 21-23 years old. This study provides suggestions on how students' perceived inclinations towards opportunity-driven type entrepreneurship can be fostered more effectively at this private university, through a multidimensional entrepreneurship education curriculum that gives due weight to the inherent tensions embedded within the generational traits of Gen Y students, and their preferred mode of learning.

*Key words***:** *Entrepreneurial Motivation, Entrepreneurship, Higher Learning Institutions, Higher Education Policies, Entrepreneurship Education*

Motivasi Keusahawanan Gen-Y: Berpandukan Keperluan atau Peluang?

ABSTRAK

Tujuan kajian ini adalah untuk menentukan sama ada motivasi keusahawanan pelajar di universiti lebih bersifat keutamaan atau berpandukan peluang, dan untuk menyediakan kemungkinan profil usahawan jenis yang didorong peluang atau keperluan berdasarkan masa depan berdasarkan sifat-sifat yang berkaitan dengan keperibadian atau kontekstual faktor. Dengan menggunakan data daripada tinjauan 160 pelajar perniagaan dan kejuruteraan dari sebuah universiti swasta di Malaysia, kajian ini secara empirik mengupas hubungan antara kedua-dua ciri keperibadian (keperluan untuk pencapaian, keberkesanan diri, lokus kawalan) dan pembolehubah berkaitan kontekstual (norma sosial, universiti persekitaran keusahawanan), dan motivasi keusahawanan pelajar di universiti. Responden kepada kaji selidik itu merasakan motivasi yang didorong oleh peluang mereka (min = 3.90) menjadi lebih tinggi dari motivasi yang didorong oleh keperluan mereka (min = 3.05). Penemuan menunjukkan bahawa kedua-dua keberkesanan diri dan norma sosial mempunyai hubungan positif yang signifikan dengan motivasi berpandukan peluang, dengan keberkesanan diri mempunyai hubungan yang lebih kuat dengannya; sedangkan hanya norma sosial yang mempunyai hubungan positif yang signifikan dengan motivasi yang didorong oleh keperluan. Tambahan pula, motivasi yang didorong oleh pelajar adalah motivasi yang lebih tinggi di kalangan lelaki, dan di kalangan pelajar yang model peranannya adalah personaliti perniagaan; sedangkan motivasi yang didorong oleh motivasi pelajar adalah yang tertinggi di antara mereka yang berumur antara 21-23 tahun. Kajian ini memberi cadangan tentang bagaimana kecenderungan yang dialami oleh para pelajar terhadap keusahawanan jenis yang berpandukan peluang boleh dipupuk dengan lebih berkesan di universiti swasta ini, melalui kurikulum pendidikan keusahawanan multidimensi yang memberi berat kepada ketegangan yang wujud dalam sifat-sifat generasi pelajar Gen Y, dan kaedah pembelajaran pilihan mereka.

Kata kunci: Motivasi Keusahawanan, Keusahawanan, Institusi pengajian tinggi, Dasar Pendidikan Tinggi, Pendidikan Keusahawanan

INTRODUCTION

Entrepreneurship is regarded by governments all over the world as the panacea for sluggish economic development; however, this supposition can be challenged on the basis that little is known about how much entrepreneurs actually contribute to the economy in developing countries (Autio, 2008), as the nature and structure of entrepreneurial activities varies across countries. Hence, it is argued that the type of entrepreneurship – opportunity-driven entrepreneurship or necessity-driven entrepreneurship - prevalent in a particular country would determine the progress of its economic development. Opportunity-driven entrepreneurship is spearheaded by opportunity seeking and profit-driven entrepreneurs, imbued with high levels of creativity and personal ability; whereas, necessity-driven entrepreneurship is helmed by entrepreneurs seeking alternative employment, with low levels of the same (Deli, 2011). Hence, opportunity-driven entrepreneurship, in contrast with necessity-driven entrepreneurship, has positive effects on a

nation's macroeconomic (e.g., results in more value added, increases productivity and competitiveness, positive impacts on economic growth) and microeconomic levels. In short, if the ratio of opportunity-driven entrepreneurship to necessity-driven entrepreneurship is higher, the impact on a nation's economic development might be positive (Global Economic Monitor [GEM] Report, 2011).

According to the GEM Report 2013, Malaysia's nascent (establishment less than 3 months old) entrepreneurship rate (NER) was at 1.5%, and its total early stage entrepreneurial activity (TEA) was at 6.6% (against an average of 12.4% across countries in Asia Pacific and South Asia), respectively, and both rates were the lowest in comparison with other countries (China: NER = 5.2%, TEA = 14%; Indonesia: NER = 5.7%, TEA = 25.5%; Thailand: NER = 7.9%, TEA = 17.7%; South Africa: NER = 6.6%, TEA = 10.6) located in the Asia Pacific and South Asia regions. The said report also showed that in Malaysia, 18.4% of TEA was necessity-driven, and 64.9% of TEA was opportunity-driven, respectively. Ironically, however, since 2011, there has been a trend of an increasing number of necessity-driven entrepreneurs and a decreasing number of opportunity-driven entrepreneurs.

The focus of this paper is on entrepreneurship among Generation Y (Gen Y) youths - those born in the years 1970-2003 - and in particular, graduates of higher learning institutions (HLIs) in Malaysia. This is because governmental policies related to HLIs, notably the Strategic Plan on Entrepreneurship Development in Higher Education (2013-2015), were formulated with three fundamental objectives in mind: (i) developing graduates with entrepreneurial thinking and attributes; (ii) increasing the number of job creators among graduates; (iii) increasing the number of academics with entrepreneurial thought, skills and qualities. The rationales for these policies are twofold: (i) to increase the employability of graduates; and (ii) to increase the number of graduates who choose self-employment as a career path after graduating; both of which are expected to reduce graduate unemployment, and simultaneously stimulate the economy.

However, the above said national entrepreneurship education policies have failed to articulate the effects of the two types of entrepreneurship (namely, opportunity-driven entrepreneurship and necessity-driven entrepreneurship), and also to determine the type of entrepreneurship that should be made the focus of a particular type of HLI. This is because according to the Malaysian Higher Education Blueprint 2015-2025, HLIs in Malaysia comprise varied institutional types: 20 public universities, 70 private universities, 34 private university colleges, 410 private colleges, 91 community colleges, 33 polytechnics, and 14 Higher Institution Centres of Excellence. Qualifications conferred by public and private universities are higher (Degree, Masters, PhD) than those awarded by other types of HLIs (Certificate, Diploma). Nevertheless, it is acknowledged that the above said national policies, which focus on entrepreneurship development in HLIs, have been the catalysts towards the introduction of entrepreneurship education to HLIs in Malaysia. However, will the current entrepreneurship education provided by the said HLIs be able to foster future entrepreneurs; and will the future entrepreneurs be more opportunity-driven or necessity-driven in nature? The answer to this question is pertinent in determining the possibility of achieving the twin targets of Malaysia's higher education entrepreneurship policies, namely, reduction in graduate unemployment, and positive economic development.

The purpose and significance of this study

Past literature, primarily originating from developed economies, has explored the profile of entrepreneurs in terms of their entrepreneurial motivations, and the determinants (e.g., demographic, psychographic, socio-cultural, growth aspirations related factors) thereof (Borozan & Pfeifer, 2014). However, there is scarcity of research relating to the entrepreneurial motivations of students, in terms of predicting whether their future entrepreneurial activity, if any, would be able to create positive economic development. In addition, past studies have also focused primarily on the determinants of students' entrepreneurial intentions, in terms of predicting their actual entrepreneurship behaviour, without considering their type of entrepreneurial motivations. Consequently, past literature has shown that personality traits related factors (e.g., need for achievement, self-efficacy, locus of control), contextual related factors (e.g., social norms and university entrepreneurial environment), and that of demographic related factors (e.g., age, gender, educational background, year of study, family involvement in entrepreneurship, past working experience, current part-time working experience, prior exposure to entrepreneurship education and type of role model) might have associations with students' entrepreneurial intentions.

Therefore, this focused descriptive study provides evidence as to whether the above said determinants of entrepreneurial intentions among students of a private university in Malaysia have an association with their perceived entrepreneurial motivations. A focused descriptive study, such as this, also describes the phenomenon of interest in the context of Malaysia's specific socio-cultural, political, economic and educational environment; enabling other developing countries, that have introduced entrepreneurship education to HLIs, to learn from Malaysia's experience. From a narrower perspective, this study may be beneficial to any business entity in Malaysia that has established itself as a private HLI or chooses to establish itself as one, with respect to its conceptualisation and implementation of entrepreneurship education.

Research Questions

To achieve its research objectives, this study seeks to answer these four questions:

1. What type of entrepreneurial motivation – necessity-driven motivation or opportunity-driven motivation - is prevalent among students in a private university in Malaysia?
2. Do personality traits related factors have relationships with both opportunity- and necessity-driven motivation, respectively, among students in a private university in Malaysia?
3. Do contextual related factors have relationships with both opportunity- and necessity-driven motivation, respectively, among students in a private university in Malaysia?
4. Do demographic factors have associations with both opportunity- and necessity-driven motivation, respectively, among students, in a private university in Malaysia?

LITERATURE REVIEW

Entrepreneurial motivations determine whether entrepreneurs establish a new venture because of wanting to seize an opportunity or rather because of a necessity. Block and Wagner (2007) define opportunity-driven entrepreneurs, as individuals who start a business, voluntarily, to pursue a recognised opportunity for gaining profit, while necessity-driven entrepreneurs are individuals who are driven into self-employment, in the absence of other employment opportunities, or because of the limited opportunity in the wage sector (Thurik *et al*., 2008).

Determinants of entrepreneurial motivations: personality traits related factors

Opportunity-driven entrepreneurs are imbued with high levels of creativity and personal ability that place them at the higher end of the earning distribution (Deli, 2011), and they are more likely to enter self-employment when local unemployment rates are low. In contrast, necessity-driven entrepreneurs are imbued with low levels of creativity and personal ability (Deli, 2011), and often involuntarily fall into self-employment, when they face insecurity of tenure during periods of rising unemployment (Thurik *et al.,* 2008). Thus, the personality traits of individuals are theorised to predispose them to become either opportunity-driven entrepreneurs or necessity-driven entrepreneurs. Furthermore, it was argued that if past research (Karabulut, 2016) theorised or evidenced positive associations between the determinants of entrepreneurial intention, in the nature of personality traits related variables (e.g., need for achievement, self-efficacy, locus of control), and students' entrepreneurial intention, the same determinants would in general also have significant positive associations with opportunity-driven motivation, rather than with necessity-driven motivation.

Need for achievement, self-efficacy and locus of control

A high need for achievement is conceptualised in terms of an individual's higher level of self-confidence, little discomfort in calculated risk-taking, sensitivity to changes in his or her environment, the need for immediate and concrete feedback in terms of individual progress (McClelland, 1965), and the desire to be personally successful (Nathawat *et al.,* 1997; Terpstra *et al.,* 1993). Hence, a person with a high need for achievement would be more motivated to become an opportunity-driven entrepreneur rather than a necessity-driven entrepreneur, as the former would be more self-assured, comfortable with risk, perceptive of changes in the environment and in pursuit of progress.

Self-efficacy makes reference to the respondent's belief in his or her ability to establish a business venture, and to overcome hurdles and challenges along the way, so as to ensure the sustainability of the new business entity created (Bandura, 1977). Hence, self-efficacy reflects an individual's personal belief in establishing and managing a successful and sustainable business venture, that is fraught with uncertainties and challenges, and is integral to opportunity-driven entrepreneurs, who are more inclined to undertake calculated risk-taking, as opposed to necessity-driven entrepreneurs, who are more inclined to undertake safe ventures for the purpose of maintaining one's livelihood.

Locus of control, a generalised construct encompassing varied situations, refers to the extent to which an individual thinks that a desired outcome is dependent upon his or her own efforts or subjected to destiny or chance (Green *et al.,* 1996). A high internal locus of control means that an individual believes that his or her initiatives - rather than destiny or luck - determine the desired outcome. Hence, it predisposes one to become an opportunity-driven entrepreneur rather than a necessity-driven entrepreneur, because the former consciously undertakes to seek a recognized opportunity, riddled with risks and uncertainties that necessitate a higher level of persistence and self-belief in personal efforts.

Determinants of entrepreneurial motivations: contextual related factors

Past research (Hattab, 2014; Isada *et al.,* 2016; Turker & Selcuk, 2009) revealed significant positive associations between determinants of students' entrepreneurial intention, in the nature of contextual related variables (social norms, university entrepreneurial environment) and

entrepreneurial intention. Hence, it was argued that these variables might also affect students' entrepreneurial motivations.

Social norms

Social norms refer to the perceived support from people nearest to the person who is pondering whether to establish his/her own business entity (Ajzen, 1991). It is argued that the persons closest to the respondent would be supportive of both opportunity- and necessity-driven entrepreneurship, although the justification for the support provided could be varied. In the former type of entrepreneurship, support may be provided to the would-be entrepreneur to pursue an endeavour that is risky and innovative, whereas in the latter type of entrepreneurship, support may be provided to the would-be entrepreneur to sustain one's livelihood during difficult economic times. Hence, it is argued that social norms would have significant positive associations with both opportunity- and necessity-driven entrepreneurship, as regardless of type of entrepreneurship, risk is inherent in both, more so in the former rather than the latter, and support from family, friends and significant others is valued.

Entrepreneurial environment

The educational environment at the university, as outlined by the national entrepreneurship education policies, is expected to create an environment that develops students, regardless of discipline, into entrepreneurial leaders whose thinking skills are compatible with an entrepreneurial mind-set, in terms of being appreciative of diverse views, ability to think critically and innovatively, underpinned by a problem solving initiative. Only then would the university be able to produce students who are employable in high-income jobs; and also students imbued with high-perceived levels of need for achievement, self-efficacy and locus of control to initiate the establishment of businesses with respect to high-income jobs. With reference to this variable (entrepreneurial environment), and in line with past research (Bergman & Stenberg, 2007), it was theorised to have a significant positive association with opportunity-driven motivation, rather than necessity-driven motivation. This is premised on the assumption that the educational level of one graduating from a university is higher than those graduating from other types of HLIs encourages him or her towards opportunity-driven entrepreneurship, as a way of self-actualisation through securing autonomy and capitalising on opportunities (Borozan & Pfeifer, 2014). Hence, it was argued that the entrepreneurial environment at the university would have a significant positive association with opportunity-driven motivation and not with necessity-driven motivation.

Determinants of entrepreneurial motivations: demographic related factors

Past research has evidenced that entrepreneurial intention might be factored based upon respondents' demographic related factors. Hence, a higher level of entrepreneurial intention was observed amongst the males (Belwal *et al.,* 2015; Kolveried, 1996), those with past employment experiences (Kolveried, 1996), those with particular types (e.g., business administration, technical education, entrepreneurship) of educational background (Belwal *et al.,* 2015; Jorge-Moreno *et al.,* 2012; Kolvereid & Moen, 1997; Mohamed *et al.,* 2012; Sinha, 1996), those in the early years (e.g., first and second years) of tertiary studies (Jorge-Moreno *et al.,* 2012), and those whose families are involved in entrepreneurship (Kolveried & Moen, 1997; Alsos *et al.,* 2011; Mohamed *et al.,* 2012). Furthermore, Borozan and Pfeifer (2014), in exploring the demographic

determinants, discovered that opportunity-driven entrepreneurs were more likely to be men rather than women. Hence, it was argued that demographic and background related variables might also have significant associations with the students' type of entrepreneurial motivations.

Based on the theory expounded in the section above, and the research model described in the section below, the following hypotheses are put forward for empirical analyses:

H_1: Need for achievement has a positive association with the opportunity-driven motivation of students in a private university in Malaysia.

H_2: Self-efficacy has a positive association with the opportunity-driven motivation of students in a private university in Malaysia.

H_3: Locus of control has a positive association with the opportunity-driven motivation of students in a private university in Malaysia.

H_4: Social norm has a positive association with the opportunity-driven motivation of students in a private university in Malaysia.

H_5: Entrepreneurial environment of the university has a positive association with the opportunity driven-motivation of students in a private university in Malaysia.

H_6: Demographic related factors (e.g., age, gender, educational background, year of study, family involvement in entrepreneurship, past working experience, current part-time working experience, prior exposure to entrepreneurship education, and type of role model) have associations with the opportunity-driven motivation of students in a private university in Malaysia.

H_{1a}: Need for achievement has a negative association with the necessity-driven motivation of students in a private university in Malaysia.

H_{2a}: Locus of control has a negative association with the necessity-driven motivation of students in a private university in Malaysia.

H_{3a}: Self-efficacy has a negative association with the necessity-driven motivation of students in a private university in Malaysia.

H_{4a}: Social norm has a positive association with the necessity-driven motivation of students in a private university in Malaysia.

H_{5a}: Entrepreneurial environment of the university has a negative association with the necessity-driven motivation of students in a private university in Malaysia.

H_{6a}:Demographic related factors (e.g., age, gender, educational background, year of study, family involvement in entrepreneurship, past working experience, current part-time working experience, prior exposure to entrepreneurship education, and type of role model) have associations with the necessity-driven motivation of students in a private university in Malaysia.

RESEARCH METHODOLOGY

The model used in this study includes three groups of independent variables - personality traits (e.g., need for achievement, self-efficacy, locus of control), contextual variables (e.g., social norms, university entrepreneurial environment) and demographic or background variables (e.g., age, gender, educational background, year of study, past working experience, current part-time working experience, family involvement in business, prior exposure to entrepreneurship education and type of role model) - because of their possible significant, positive relationships with opportunity-driven entrepreneurship; and their possible significant negative relationships with necessity-driven entrepreneurship, except for the social norms variable, that is expected to have a significant positive relationship with it.

Population, sample and instrument

Population of the study comprised of students from two different faculties at a private university campus in Cheras, Kuala Lumpur; the Faculty of Business and Information Sciences (total = 2493 students) and the Faculty of Engineering, Technology and Built Environment (total = 1750 students). The study was conducted from May to August 2014. In terms of gender, 53% of the students from the first faculty were males and 47% were females, whereas in terms of nationality, 71% were Malaysians, and 29% were international students. Analysis of their ethnicity revealed that out of a total of 1778 Malaysian students from the first faculty, 87% were Chinese, 9% Indians, 1.6% Malays and 2.2% from other ethnicities (e.g., indigenous peoples). Meanwhile, in terms of gender, 75% of the students from the second faculty were males, and 25% were females, whereas data on their nationality revealed that 65% were Malaysians, and 35% were international students. As for their ethnicity, out of a total of 1140 Malaysian students from the second faculty, 71% were Chinese, 20% Indians, 4% Malays and 5% other ethnicities (e.g., indigenous peoples). In the absence of a sampling frame, the non-probability convenience sampling method was used.

The primary research instrument used in the study was the questionnaire that was divided into three parts. The first part captured information related to the respondents' demographic and background information; while the second part captured their perceptions of personality traits and contextual related variables. The last part captured information related to the respondents' perceptions of the two dependent variables relating to entrepreneurial motivations. The questionnaires were distributed to the targeted respondents, from the above said two faculties, by soliciting the assistance of two students, who distributed the questionnaires when the said respondents were gathered in the lecture hall, before commencement of a lecture, and with the relevant lecturer's prior permission, or via their own personal network. A total of 160 completed usable questionnaires were collected; out of a total of 180 distributed questionnaires (89% response rate), attributable to 20 out of those questionnaires being incomplete or unreturned.

Measuring demographic variables. For the purpose of profiling the sample of 160 respondents, ten variables were measured categorically using a nominal scale, in which data were classified into categories with no ranking implied: age, gender, nationality, year of study, educational background, past employment experience, current part-time working experience, family involvement in business, exposure to entrepreneurship education before university and type of role model.

Measuring opportunity-driven motivation. The variable opportunity-driven motivation was operationalised along the respondents' opportunity type motivations in establishing their own businesses or firms. It was measured using a multi-item scale consisting of 3 items adapted from Olivier *et al.* (2011). Items include "I will start a new business/firm because I want to be independent" and "I will start a new business/firm because I see a market opportunity". The respondents were asked to evaluate their perceived opportunity-driven motivations in becoming an entrepreneur on a 5-point Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Measuring necessity-driven motivation. The variable necessity-driven motivation was operationalised along the respondents' necessity type motivations in establishing their own businesses or firms. It was measured using a multi-item scale consisting of 4 items adapted from

Olivier *et al.* (2011). Items include "I will start a new business/firm if I cannot get a job and I need to maintain myself financially" and "I will start a new business/firm because my family expects me to do so". The respondents were asked to evaluate their perceived necessity-driven motivations in becoming an entrepreneur on a 5-point Likert Scale ranging from 1 (strongly disagree to 5 (strongly agree).

Measuring need for achievement. Need for achievement was measured using a multi-item scale consisting of three items. These items, adapted from Kristiansen and Indarti's (2004) measure for need for achievement, required the respondents to evaluate their perceived need for achievement, on a 5-point Likert Scale (1 = strongly disagree to 5 = strongly agree). Items include "It is important for me to be better than others in a given job" and "I try to be successful in whatever I do and I strive for it".

Measuring self-efficacy. Self-efficacy was measured using a multi-item scale consisting of five items. These items, adapted from Kristiansen and Indarti's (2004) measure for self-efficacy, required the respondents to evaluate their perceived self-efficacy on a 5-point Likert Scale (1 = strongly disagree to 5 = strongly agree). Items include "I am confident that I have adequate leadership abilities to set up my own business/firm" and "I am confident that I would succeed if I started my own business/firm".

Measuring locus of control. Locus of control was measured using a multi-item scale consisting of four items. These items, adapted from Kristiansen and Indarti's (2004) measure for locus of control, required the respondents to evaluate their perceived locus of control on a 5-point Likert Scale (1 = strongly disagree to 5 = strongly agree). Items include "I can control the creation process of a new business/firm" and "I do not believe that chance or luck plays an important role in the job".

Measuring social norms. The social norms variable, was measured using a multi-item scale consisting of five items. These items, adapted from Turker and Selcuk's (2009) measure for perceived relational support, required the respondents to evaluate the extent to which they perceived relational support from significant others on a 5-point Likert Scale (1 = strongly disagree to 5 = strongly agree). Items include "If I decided to set up my own business/firm, my family will provide moral and psychological support" and "If I decided to set up my own business/firm, my close friends will provide moral and psychological support".

Measuring entrepreneurial environment of the university. Entrepreneurial environment of the university was measured using a multi-item scale consisting of three items adapted from Turker and Selcuk's (2009) measure for perceived educational support. These items required the respondents to evaluate their perceptions of educational support on a 5-point Likert Scale (1 = strongly disagree to 5 = strongly agree). Items include "This university's learning environment (e.g., teaching and learning method) encourages me to pursue my own business ideas" and "The creative atmosphere (e.g., business or entrepreneurship related competitions) in this university inspires me to develop ideas to establish a new business".

EMPIRICAL RESULTS

This section elaborates results of the statistical analyses of the questionnaire. All the analyses were conducted using SPSS 17.0. All the items measuring the seven constructs were worded positively. Hence, for each construct, a composite, multi-item mean score of 5 would be read as, respectively, a high level of opportunity-driven motivation, necessity-driven motivation, need for achievement, self-efficacy, locus of control, social norms, and entrepreneurial environment of the university. Conversely, a mean score of 1 would be read as indicating a low level of the same. Accordingly, in analysing the results of the seven constructs, and consistent with Zaidatol (2009), mean responses above 3.80 were regarded as high (high scale), while those between 3.40 and 3.79 were moderate (medium scale) and those below 3.39 were low (low scale).

Descriptive analyses: general demographic factors

A general view of the makeup of this study's sample is presented in Table 1 below. The number of respondents from each of the two different faculties - 80 from each faculty - was equal; and a significant majority (97.5%) of the respondents were Malaysian students. 62.5% of the respondents were females, whereas 37.5% were males. Age wise, 63.8% of the respondents were 21-23 years old, 28.7% were below 21 years of age, and 7.5% were 24-30 years old. Hence, these respondents were born in the years between1990-2003, which according to past research (Shaw & Fairhurst, 2008; Twenge, 2006) are referred to as Generation Y (Gen Y) youths. In terms of their year of studies, 51.2% of the respondents were in their 3rd and 4th year of studies, whereas 48.8% were in their 1st or 2nd year of studies. A significant majority, or 61.9% of the respondents, had past working experiences, and only a small proportion (33.8%) of them were working part-time and studying. Also, 40.6% of the said respondents came from families, where either one, or both parents were engaging in their own businesses. For 40% of the said respondents, their role models were founders of businesses; and interestingly, 38.8% of the said respondents had participated in or attended a course, talk or seminar relating to entrepreneurship prior to joining the university.

Table 1: Demographic factors

	Number	**Frequency**	**%**
Gender	Male	60	37.5
	Female	100	62.5
Age	18-20 years old	46	28.7
	21-23 years old	102	63.8
	24-30 years old	12	7.5
Nationality	Malaysian	143	97.5
	International	17	2.5
Year of Study	First & second year of study	78	48.8

	Third & fourth year of study	82	51.2
Educational Background	Business & information science	80	50
	Engineering & built environment	80	50
Employment experience	Absence of past working experience	61	38.1
	Presence of past working experience	99	61.9
Currently working part-time	Yes	54	33.8
	No	106	66.3
Family involvement in business	Absence of family involvement in business	95	59.4
	Presence of family involvement in business	65	40.6
Participation in entrepreneurial course/talk/seminar before joining the university	Yes	62	38.8
	No	98	61.3
Role model is founder of a business	Yes	64	40
	No	96	60

Descriptive and reliability analyses of the seven variables

Table 2 shows the means, standard deviations and reliability analyses indexes for all the seven multi-item scales based on the sample. The internal consistency of these scales satisfied the tests of reliability analyses because their Cronbach's alpha values were above 0.50. According to Nunnally (1978) and Merchant (1985), a Cronbach's alpha value of more than 0.70

represents acceptable reliability, whereas a Cronbach's alpha values of 0.5-0.6 represent the lowest acceptable reliability.

The information via the mean scores suggests that students' perceived opportunity-driven motivation (mean = 3.90) was higher than their perceived necessity-driven motivation (mean = 3.05). This suggests that a significant proportion of the students were motivated to become entrepreneurs who were driven by opportunity rather than necessity. With reference to the personality related traits, the mean scores suggest that the students perceived their need for achievement to be the highest (mean = 4.03), followed by self-efficacy (mean = 3.55), and locus of control (mean = 3.28). In terms of contextual related factors, and based on the mean scores, the information suggests that the students perceived their social norms to be higher (mean = 3.66) than their perception of the entrepreneurial environment at the university (mean = 3.04). The mean scores for both the factors (locus of control and entrepreneurial environment of the university) fell on the low scale.

Correlational analyses of the seven variables

Table 2 shows the correlations of all the measures. The correlations between all the five independent variables with the dependent variable opportunity-driven motivation are positive. However, the results suggest that only four independent variables, namely, need for achievement (r = 0.17, p <0.05), self-efficacy (r = 0.29, p <0.01), social norms (r = 0.26, p < 0.01) and entrepreneurial environment of the university (r = 0.18, p <0.01) have significant, small, positive relationships, respectively, with it, suggesting support for H_1, H_2, H_4 and H_5. In comparison, the correlations between all the independent variables with the dependent variable necessity-driven motivation are positive too, although the strength of the correlations are relatively weaker. Also, the results suggest that two independent variables, namely, need for achievement (r = 0.15, p <0.05) and social norms (r = 0.20, p <0.01) have significant, small, positive relationships, respectively, with it, suggesting support for H_{4b}.

Table 2: Cronbach's alpha, means, standard deviations and correlations of the study's variables

No	**Variable**	**Cronbach's alpha**	**Mean**	**Std. dev.**	**Variables**						
					1	2	3	4	5	6	7
1	Need for achievement	4.03	0.61	-	0.37	0.23	0.25	0.05	0.1	0.1

					**	**	**		7**	5**
2	Self-efficacy	3.55	0.557	0.37**	-	0.32**	0.08	0.24**	0.29**	0.03
3	Locus of control	3.28	0.70	0.23**	0.32**		0.10	0.21**	0.11	0.02
4	Social norms	3.66	0.59	0.25**	0.08	0.10	-	0.30**	0.26**	0.20**
5	University entrepreneurial environment	3.04	0.78	0.05	0.24**	0.21**	0.30**	-	0.18**	0.11
6	Opportunity driven entrepreneurship	3.90	0.66	0.17*	0.29**	0.10	0.26**	0.18**	-	0.13*

7	Necessity driven entreprene urship	3.0 .5	0 . 6 5	0 . 1 5 *	0 . 0 3	0 . 0 2	0 . 2 0 *	0 . 1 1	0 . 1 3 *	-

** Correlation is significant at the 0.01 level (1-tailed); * Correlation is significant at the 0.05 level (1-tailed).

Multiple regression analyses of the six variables

Multiple regression analyses were used to estimate the relationships of both personality traits related variables (need for achievement, self-efficacy) and contextual related variables (social norms, university entrepreneurial education) with the students' perceived opportunity-driven motivation, and perceived necessity-driven motivation, respectively. Only the variables that had significant correlations with the particular type of dependent variable were included in the analyses. Regardless of the type of dependent variable, there was an absence of multicollinearity between the independent variables, based on the tolerance values of more than 0.10, the variance inflation values of less than 10, and the Durbin-Watson values of 1.8 and 2.1, respectively, that approximates 2.0.

As shown in Table 3 (Model 1), both personality traits and contextual related variables explained 12% of the variation in the students' perceived opportunity-driven motivation. This was supported by the results of the adjusted R^2 (0.120), the F statistics (6.418) and the highly significant corresponding p value ($p < 0.001$). Only one out of the two personality traits related variables (i.e., self-efficacy) had a significant positive relationship with opportunity-driven motivation: need for achievement ($p > 0.05$, Beta value = 0.021, $p = 0.800$), self-efficacy ($p < 0.01$, Beta value = 0.250, $p = 0.003$). In addition, only one out of the two contextual related variables (i.e., social norms) had a significant positive relationship with opportunity driven motivation: social norms ($p < 0.01$, Beta value = 0.218, $p = 0.008$), university entrepreneurial environment ($p > 0.05$, Beta value = 0.060, $p = 0.463$). The higher Beta value for self-efficacy also suggests that in comparison with social norms, it has a stronger significant, positive relationship with students' opportunity-driven motivation. As shown in Table 3 (Model 2), both personality traits and contextual related variables explained only 4% of the variation in the students'
perceived necessity-driven motivation. This is supported by the results of the adjusted R^2 (0.040), the F statistics (4.331) and the significant corresponding p value ($p < 0.05$). Out of the two independent variables, only one contextual related type variable (i.e., social norms) had a significant positive relationship with necessity-driven motivation: social norms ($p < 0.05$, Beta value = 0.175, $p = 0.031$), need for achievement ($p > 0.05$, Beta value = 0.110, $p = 0.171$)

Table 3: Results of multiple regression analyses

Variables	**Opportunity driven entrepreneurship**	**Necessity driven entrepreneurship**

	Model 1		Model 2	
	Beta	t-value	Beta	t-value
Need for achievement	0.021	0.258	0.110	1.377
Self-efficacy	0.250**	2.997	-	-
Social norms	0.218**	2.705	0.175*	2.183
University entrepreneurial environment	0.060	0.736	-	-
R^2	0.142		0.052	
Adjusted R^2	0.120		0.040	
R^2 change	0.142		0.052	
***F*-value**	6.418***		4.331*	
Durbin-Watson	1.8		2.1	

Cell entries are standardised coefficient estimates (n = 160).
*p < 0.05, **p <0.01, ***p < 0.001.

The results given in Table 3 (Model 1) are in support of H_2 and H_4, that both self-efficacy and social norms have significant, positive relationships with the students' perceived opportunity-driven motivation. Also, the results given in Table 3 (Model 2) are in support of H_{4b}, in terms of social norms having a significant positive relationship with perceived necessity-driven motivation. In addition, the results in Table 3 (Model 1) prove that self-efficacy has a stronger significant positive relationship, with the dependent variable opportunity motivation compared with social norms.

Independent samples t-tests and ANOVA analyses of the two dependent and nine demographic variables

Table 4 presents the results of the *t*-tests or One-way ANOVA to evidence whether both dependent variables of this study were significantly different across the groups of this study's nine demographic variables. When the dependent variable was perceived opportunity-driven motivation, significant differences were found across only two out of the nine demographic related variables; gender, type of role model. The degree of opportunity-driven motivation, based on the *t*-tests, was significantly (p < 0.05) higher for the male students (n = 60, mean = 4.02, SD = 0.60) compared with their female counterparts (n=100, mean = 3.83, SD = 0.60); and it was significantly (p < 0.10) higher for those whose role models were business founders (n = 64, mean = 4.05, SD = 0.60) compared with those whose role models were not business founders (n = 96, mean = 3.81, SD = 0.67). Hence, the findings did not provide any general support for H_6 that the demographic variables listed in Table 4 - excluding gender and type of role model - were significantly associated with the students' perceived opportunity-driven motivation. When the dependent variable was

perceived necessity-driven motivation, significant differences were found across only one out of the nine demographic related variables, i.e. age. Using One-way ANOVA, for the variable age, a significant difference was found in the necessity-driven motivation of students across three age groups. Students in the age group of 21-23 had the highest perception of necessity-driven motivation (mean = 3.14; SD = 0.61), followed by those in the age group of 18-20 (mean = 2.92; SD = 0.74), and lastly those in the age group of 24-30 (mean = 2.79; SD = 0.54). LCD test was conducted to determine which age group differed from the other age groups. The results showed that the mean difference (0.22) between those in the 21-23 age group, and those in the 18-20 age group was significant at 0.10 ($p = 0.06$); and the mean difference (0.35) between those in the 21-23 age group and those in the 24-30 age group was significant at 0.10 ($p = 0.08$). Hence, the findings did not provide any general support for H_{6b} that the demographic variables listed in Table 5 - excluding age - had significant associations with the students' perceived necessity-driven motivation.

Table 4: Results of *t*-test or One-way ANOVA

Demographic variables	Opportunity driven motivation	Necessity driven motivation
	Result of *t*-test Result or One way ANOVA	Result of *t*-test Result or One way ANOVA
Gender	$t = 1.72$; $p < 0.10$*	$t = 0.65$; $p > 0.05$ n.s
Age	F = 1.49; $p > 0.05$ n.s	F = 2.84; $p < 0.10$***
Year of study	$t = 1.28$; $p > 0.05$ n.s	$t = -0.01$; $p > 0.05$ n.s
Educational background	$t = 0.44$; $p > 0.05$ n.s	$t = -1.00$; $p > 0.05$ n.s
Past working experience	$t = 0.32$; $p > 0.05$ n.s	$t = 0.32$; $p > 0.05$ n.s
Current part-time working experience	$t = -0.75$; $p > 0.05$ n.s	$t = -0.48$; $p > 0.05$ n.s
Family involvement in business	$t = 0.56$, ; $p > 0.05$ n.s	$t = -0.83$; $p > 0.05$ n.s
Exposure to entrepreneurship education before university	$t = -0.76$; $p > 0.05$ n.s	$t = -0.19$; $p > 0.05$ n.s
Type of role model	$t = 2.31$; $p < 0.05$**	$t = 0.78$; $p > 0.05$ n.s

* male (mean value = 4.02; SD = 0.60); female (mean value = 3.83; SD = 0.60); ** role model is business person (mean value = 4.05; SD = 0.60); role model is non business person (mean value = 3.81; SD = 0.67); *** ages 21-23 (mean value = 3.14; SD = 0.61); ages 18-20 (mean value = 2.92; SD = 0.74); ages 24-30 (mean value = 2.79; SD = 0.54); n.s = not significant

DISCUSSION

A significant majority of the students (92.5%) in this study comprised of those who were born in the 1990s and a minority (7.5%) were born in the 1980s. With reference to past research works by Shaw and Fairhurst (2008), and Zainuddin and Mohd. Rejab (2010), they are aptly described as Generation Y (Gen Y) students, or the millennial. Hence, the findings of this study indicating

their higher perception of opportunity-driven motivation (mean = 3.90) than necessity-driven motivation (mean = 3.05) seem to be consistent with Gen Y's common characteristics or positive personality traits that differentiate them from the predecessor generations (namely, Baby Boomers, Generation X) such as being confident, independent, individualistic, self-reliant, entrepreneurial, results oriented, relishing work and pressure (Shaw & Fairhurst, 2008).

With reference to personality traits related factors, the sample of Gen Y university students in this study perceived that they had a high need for achievement (mean = 4.03), and this is consistent with the above said Gen Y's positive personality traits. Furthermore, their perceived relatively lower levels of both self-efficacy (mean = 3.55) and locus of control (mean = 3.28) in relation to the need for achievement, respectively, can be explained with reference to the negative personality traits of Gen Y: highly anxious and prone to depressive symptoms (Zainuddin & Mohd. Rejab, 2010), seeking approval and praise, emotionally needy, low locus of control (Shaw & Fairhurst, 2008). This low-high contrast might be attributed, according to Zainuddin and Mohd. Rejab (2010), to parenting methods that prevented Gen Y from experiencing failure positively, or those that shaped them into thinking that what they desired would always come to fruition, if they tried hard enough. In this study, 61.9% of Gen Y students had past employment experiences; and there is a possibility that these students experienced events that have exposed them to a clash between their expectations and real-world realities. Hence, they might have experienced events, perceived as beyond their control, in which they were unable to bring about expected results, affecting their perceptions of locus of control and self-efficacy.

With reference to the contextual related factors, the sample of Gen Y university students in this study perceived that they had a moderate level of relational support, based on the mean score for social norms (mean = 3.66); and a low level of educational related support, based on the mean score for entrepreneurial environment of the university (mean = 3.04). The plausible reasons in support of the first finding, based on the Global Entrepreneurship Monitor (GEM) 2013 report, are as follows: only 41.8% of Malaysians view entrepreneurship as a good career choice; Malaysia ranked lowest in ascribing high social status to successful entrepreneurship, and ranked highest in fear of failure (in comparison with 11 Asia Pacific and South Asian countries). The second finding is consistent with the findings of Cheng *et al.* (2009) - who studied the perception of 300 university students (60% were from private institutions) towards entrepreneurship education at their respective institutions (2 public universities, 2 private universities, 1 private college) in Malaysia - that entrepreneurship education in Malaysia was ineffective in terms of matching students' skill expectations with their skill acquisition.

The findings of the multiple regression analyses indicated that self-efficacy had a significant positive association with perceived opportunity-driven motivation (acceptance of H_2). This finding is consistent with that of Borozan and Pfeifer (2014), who discovered a significant positive association between respondents who perceived high competencies for running a business and opportunity-driven entrepreneurship (dependent variable); and a significant negative relationship when the dependent variable was necessity-driven entrepreneurship. Furthermore, based on the study by Zainuddin and Mohd. Rejab (2010), entrepreneurial self-efficacy among the students majoring in entrepreneurship in four Malaysian universities, explained 52.1% of the variation of their entrepreneurial intentions. It is important to note that the results of this study suggested that the same variable might also have a significant positive association with students' perceived

opportunity-driven motivation. Interestingly, social norms had significant positive associations with both opportunity-driven and necessity-driven motivation (acceptance of H_4 and H_{4b}). This convergence in findings, regardless of motivation type, occurs perhaps owing to the very nature of self-employment itself as a career choice that might be perceived as riskier than being employed. Furthermore, the findings are consistent with past studies (see Isada *et al.,* 2016; Turker & Selcuk, 2009) that found a significant positive association between social norms and students' entrepreneurial intention. Moreover, they are also consistent with the negative personality traits of Gen Ys, namely, emotional neediness, anxiousness, seeking approval, and low locus of control.

The multiple regression analyses findings of this study did not suggest any support for H_1, H_3, and H_5 that need for achievement, locus of control and university entrepreneurial environment, respectively, as having significant positive associations with opportunity-driven motivation, although the results of the correlational analyses suggested support for H_1 and H_5. Thus, one might still argue based on the results of the correlational analyses that Gen Y students of this study, who perceived a higher need for achievement, and a university environment that provided entrepreneurial support, would be more motivated to establish a venture in pursuit of an opportunity. Regardless of the type of analyses, locus of control did not have a significant positive relationship with opportunity-driven motivation. This finding is consistent with Kristiansen and Indarti (2004) who did not find any significant positive relationship between locus of control and students' entrepreneurial intention. Perhaps this can be attributed to the dominance of self-efficacy, a personality trait that has a significant moderate relationship with locus of control ($r = 0.32$ $p < 0.01$).

The multiple regression analyses also did not suggest any support for H_{1a}, H_{2a}, H_{3a}, and H_{5a} that need for achievement, self-efficacy, locus of control and university entrepreneurial environment would have significant negative relationships, respectively, with necessity-driven motivation. However, the findings of the correlational analyses showed a small positive significant relationship between need for achievement and necessity-driven motivation and a small positive and insignificant relationship between university entrepreneurial environment and the same; whereas, there were no correlations between both variables locus of control and self-efficacy with necessity-driven motivation. Thus, the authors argued with reference to the results of the correlation analyses, that with the exception of social norms, the other four factors that might have significant positive relationships with opportunity-driven motivation, might not have similar relationships with necessity-driven motivation in terms of the strengths of their relationships.

The findings indicate that both gender and type of role model had significant positive associations with perceived opportunity-driven motivation. Male students and those whose role models were founders of businesses had higher perceived opportunity-driven motivation compared to female students and those whose role models were persons other than business founders. The first finding is consistent with the study by Borozan and Pfeifer (2014) who found that men were more driven to opportunity-driven entrepreneurship compared to women, based on the sample that originated from a developing country (Croatia). The said authors attributed culture as a plausible reason for their finding, that might also explain this study's finding, whereby based on cultural reasons, men are expected to be the primary breadwinner, and women to play a supporting role financially, with more emphasis on her role in managing the family. The second finding might be attributed to the

role of the media in Malaysia that has largely extolled the achievements of entrepreneurs, in particular, opportunity-driven entrepreneurs, positively. This might be a plausible reason based on the study by Borozan and Pfeifer (2014) who discovered an association between positive media exposure of successful entrepreneurs and opportunity-driven entrepreneurship. The findings indicated that only age has a significant positive association with perceived necessity-driven motivation, wherein students aged 21-23 were the most driven towards necessity-driven motivation in comparison with the other two age groups. Perhaps, this can be attributed to the students in this group facing impending graduation, whereby foremost on their minds is the need to be able to earn an income, either via employment or self-employment; and if it were to be self-employment, the nature of self-employment would be least on their minds. This finding is somehow consistent with past research (Levesque & Minniti, 2006), in which a person aged 30-45 is more likely to engage in entrepreneurial activity because by that time, a person would have strengthened competencies and formed networks that would facilitate the establishment of opportunity-driven businesses.

CONCLUSION

This study has provided empirical support for the hypothesised model and answered the four research questions. Findings suggested that students from this private university had higher opportunity-driven motivations in comparison with their necessity-driven motivations, in the context of establishing a future business venture. Secondly, both the variables (self-efficacy and social norms) had significant positive associations with these students' opportunity-driven motivations. Thirdly, only social norms had a significant positive association with these students' necessity-driven motivations. Lastly, with reference to these students' backgrounds and demographic variables, male students and those students whose role models were business founders were more driven by opportunity type motivation, whereas students between the ages of 21-23 years, relative to those between the ages of 18-20 and those between the ages 24-30, were more driven by necessity type motivation.

Policy and management implications

The findings of this study, in furtherance of past research findings, are indicative of the entrepreneurial motivations of students in a private university in Malaysia. It appeared that the students in this study, consistent with the broad nature of Gen Y students but at the risk of stereotyping, expressed higher motivations to become opportunity-driven entrepreneurs rather than necessity-driven entrepreneurs. However, students in the 21-23 age group, who would be graduating soon and formed a significant majority of this sample (63.8%), were prone towards necessity-driven entrepreneurship. Hence, a plausible reason for this seeming conflict in findings might be attributed to the charting of Gen Y students' career paths that might presumably be dependent upon time horizons. For example, in the short term after graduating, the student's aim might be to establish a career path, primarily for the purpose of earning a livelihood. However, with the accumulation of working experiences over the years, the student might in the future make the transition into opportunity-driven entrepreneurship. This theorisation appears consistent with past research (Levesque & Minniti, 2006) that evidences the entrepreneurial age to be the ages 30-45, as by this time, the student graduate would have accumulated sufficient knowledge of the industry, market and networks to establish an opportunity-driven business.

The findings of this study relating to the students in this private university having a more dominant opportunity-driven motivation enable the following speculations to be made: that the students from university type HLIs are more inclined towards opportunity-driven entrepreneurship, as opposed to necessity-driven entrepreneurship because of their higher educational level, in comparison with students from the non-university type HLIs. If the aforesaid speculation holds true, this would mean that the current entrepreneurship education policies to foster student entrepreneurs might have to differentiate between the types of HLIs the students are graduating from. Furthermore, premised upon this same speculation, the entrepreneurship education courses offered at universities in general, or in this private university in particular, should probably be made mandatory to all students regardless of their discipline; and developed based on specific industries that would be tied up to the academic courses pursued by students at the university so as to nurture their entrepreneurial mind-set. In evaluating the current entrepreneurship education offered to university students, the following two questions, addressed with reference to engineering students, can be adapted with reference to the students from different disciplines, need to be answered affirmatively. Are engineering students able to absorb engineering skills and knowledge, with an entrepreneurial mind-set, for the purpose of developing a new technology or process relevant to a particular industry, with a potential market, in furtherance of possible opportunity-driven entrepreneurship, in the future? Also, do these students understand the language and realities of business in determining the feasibility of innovative endeavours?

The students in this study perceived the entrepreneurial environment of their university to be at a low level (mean = 3.04). Also, less than 35% of the proportion of students in this study strongly agreed/agreed that the pedagogy, atmosphere or infrastructure at their university inspired the pursuit of entrepreneurship. Hence, from a managerial perspective at the university level, the delivery of entrepreneurship education - curriculum - must, according to Costa *et al.* (2016) and Farhangmehr *et al.* (2016), emphasise on the importance of multi-dimensional entrepreneurial competencies (e.g., entrepreneurial motivations, social competencies, management competencies, psychological). In a qualitative study by Buang *et al.* (2009), involving 12 Malaysian scientist-entrepreneurs, the respondents believed that for the purpose of developing future scientist-entrepreneurs, it was crucial to develop university students' personality traits, team-working ability, communicative skills, creativity or logical thinking skills, in addition to emphasising the importance of a knowledge in pure science and entrepreneurship related courses. The aforesaid study underlines the importance of developing multi-dimensional entrepreneurial competencies for shaping university students into future opportunity-driven entrepreneurs. In addition to revising the curriculum content in the aforesaid manner, attention must be paid to its delivery that should consider the following components so as to secure the attention and interest of Gen Y students: customisation of the curriculum to specific disciplines, provision of mentoring support, a focus on doing rather than listening, learning interventions that are flexible, stimulating and exciting (Shaw & Fairhurst, 2008).

Entrepreneurship education must pay due attention to strengthening 'entrepreneurial psychology' or self-confidence of students (Pruett & Sesen, 2017), a term that embraces the concepts of self-efficacy, locus of control and social norms. This is because in this study's sample, Gen Y students seemed to have experienced a clash between their need for achievement and locus of control/self-efficacy that might lead unwittingly to high anxiety and depressive states (Zainuddin & Mohd. Rejab, 2010). To avert such a state, students' self-realisation of such tensions and knowledge of

techniques on how to manage them are crucial. Equally important is the positive relational support from family, friends and significant others (that in this study is at the moderate level). Successful business founders should be invited to be part of the university experience as well, as those students whose role models were business founders were more motivated towards establishing opportunity-driven entrepreneurship, in comparison with those who did not have such type of role model. Given the findings of this study that evidenced more male students motivated to establish opportunity-driven entrepreneurship than the female students, women business founders should be invited to make a conspicuous appearance at the said university and encourage female students to adopt this type of entrepreneurship.

From a policy perspective, especially for university type HLIs, the aim should not be to merely see an appreciable increase in the number of students becoming self-employed after graduating. This is because, if the speculation that students from university type HLIs, as opposed to non-university type HLIs, are more drawn towards opportunity type entrepreneurship holds true, they would most likely, based on past research, consider becoming opportunity-driven entrepreneurs at the ages of 30-45. Instead, it is suggested that the aim be replaced with the specific target of increasing the number of opportunity- driven entrepreneurs, who have graduated from the said university. These figures, to be collected by the university through its alumni department, would truly represent the effectiveness of the entrepreneurship education programmes offered at the university, especially if the data collected showed that students from the said university, who have become opportunity-driven entrepreneurs, were below the expected entrepreneurial age bracket of 30-45 years.

Limitations and theoretical implications for future research

The limitation of this study is that it is cross-sectional in nature and prevents inferences to be drawn regarding causality among the variables in this study. Also, given the fact that it is a focused descriptive study, the findings, conclusions and implications may not allow generalisation to other universities in Malaysia, or universities in different cultural and economic contexts. Given resource constraints, this study merely relied upon the responses provided by the students from two different faculties of a private university housed in its campus in Cheras, Kuala Lumpur; hence there was only one source of data collection that introduced the possibility of common method variance. In explaining the findings in this paper, plausible suggestions were also made and these need further investigation, given the particular private university's context.

This empirical study was undertaken in response to the scarcity of research in the area of students' entrepreneurial motivations in HLIs based in Malaysia. Now, Malaysia has formulated the Malaysian Education Blueprint (2015-2025) (MEB), whereby developing students to become job creators and have entrepreneurial mind-sets are two of the many aspirations of the MEB. However, this must be in tandem with the need to foster opportunity-driven entrepreneurs, so as to result in positive economic development for the country. Given the findings of this study, it is suggested that future studies be conducted to examine the entrepreneurial motivations of students from other non-university types of HLIs: Community colleges, Polytechnics, Private Colleges, and Private University Colleges. The said findings might determine the validity of the speculation made by the authors in this paper; and if the speculation holds true, this would mean that the entrepreneurship education curriculum at

different types of HLIs would have different objectives to achieve, and therefore should be measured differently in evaluating its effectiveness, in consideration of the dominant type of entrepreneurial motivations of the particular institution's students.

Appendix A

Table A.1 Questionnaire items to measure opportunity driven motivation, necessity driven motivation, need for achievement, self-efficacy, locus of control, social norms and university entrepreneurial environment

	Opportunity driven motivation *The respondents were asked to rate the extent to which they agreed whether the following statements described their motivations to start a new business/firm on a Likert Scale of 1 to 5 (1 = strongly disagree; 5 = strongly agree)*
1	I will start a new business/firm because I want to be independent (e.g. be able to decide the next course of action on my own, not have to work for someone else).
2	I will start a new business/firm because I see a market opportunity (e.g. developing new manufacturing processes, developing new products/services).
3	I will start a new business/firm as it will allow me to earn a lot of money and increase my income over time.
	Necessity driven motivation *The respondents were asked to rate the extent to which they agreed whether the following statements described their motivations to start a new business/firm on a Likert Scale of 1 to 5 (1 = strongly disagree; 5 = strongly agree)*
1	I will start a new business/firm because it will give me prestige and social recognition (e.g. everyone will know me and respect me).
2	I will start a new business/firm because I want to continue my family's business in the same industry.
3	I will start a new business/firm because my family expects me to do so.
4	I will start a new business/firm if I cannot get a job and I need to maintain myself financially.
	Need for achievement

	The respondents were asked to rate their agreement to statements reflective of their need for achievement on a Likert Scale of 1 to 5 (1=strongly disagree; 5= strongly agree)
1	It is important for me to be better than others in a given job.
2	I try to be successful in whatever I do and I strive for it.
3	I enjoy the achievement of completing my work.
	Self-efficacy *The respondents were asked to rate their agreement to statements reflective of their self-belief or self-confidence in establishing a business and overcoming challenges in doing so on a Likert Scale of 1 to 5 (1=strongly disagree; 5= strongly agree)*
1	I am confident that I have adequate leadership abilities to set up my own business/firm.
2	I am confident that I would succeed if I started my own business/firm.
3	I can make any job/task that I take on a success.
4	I can manage to solve difficult problems if I try hard enough.
5	If I tried to start a business/firm, I would have a high probability of succeeding.
	Locus of control *The respondents were asked to rate their agreement to statements reflective of their driving their own destiny or leaving things to luck on a Likert Scale of 1 to 5 (1=strongly disagree; 5= strongly agree)*
1	I do not believe that chance or luck plays an important role in the job.
2	I can control the creation process of a new business/firm.
3	Becoming a successful person to me is a matter of hard work. Luck has little or nothing to do with it.
4	I do not believe that a good job depends mainly on being in the right place at the right time.
	Social norms *The respondents were asked to rate the extent to which they thought varied members of their social networks would provide moral and psychological support on a Likert Scale of 1 to 5 (1 = strongly disagree; 5 = strongly agree)*

1	If I decided to set up my own business/firm, my family will provide moral and psychological support.
2	If I decided to set up my own business/firm, my close friends will provide moral and psychological support.
3	If I decided to set up my own business/firm, my close relatives will provide moral and psychological support.
4	If I decided to set up my own business/firm, my distant relatives will provide moral and psychological support.
5	If I decided to set up my own business/firm, my lecturer or supervisors will provide moral and psychological support.
	University entrepreneurial environment *The respondents were asked to rate their agreement to statements reflective of their university's entrepreneurial environment on a Likert Scale of 1 to 5 (1=strongly disagree; 5= strongly agree)*
1	This university's learning environment (e.g. teaching and learning method) encourages me to pursue my own business ideas.
2	The creative atmosphere (e.g. business or entrepreneurship related competitions) in this university inspires me to develop ideas to establish a new business.
3	In my university, there is a well functioning supportive infrastructure (e.g. a unit/department in this university that guides or advises student entrepreneurs on setting up their businesses while studying), to support the start-up of new firms by students.

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