

# Using EAO Model to Predict the Self-Employment Intentions among the Universities' Undergraduates in Malaysia

Norhazlin Ismail, Nahariah Jaffar, and Tan Siow Hooi

**Abstract**—The statistics have shown that the market is oversupplied with young and inexperienced graduates as the number of graduates has been increasing over the years. At the same time, the growing funds created to assist small enterprises in Malaysia have steadily increased. Hence, to solve the unemployment issue among graduates, there is a potential to make this self-employment an option for graduates to start on their careers. Entrepreneurial Attitude Orientation (EAO) scale was used to measure the students' entrepreneurial attitudes. A survey approach was adopted by sending questionnaires to 2000 students of the public and private universities. The results show that personal control, self-esteem and innovation were found to have significant and positive relationships with self-employment intention. Meanwhile achievement was found to have no significant relationship with self-employment intention. These findings provide important insight to promote and produce a positive image of entrepreneurship as a career.

**Index Terms**—EAO, self-employment, universities undergraduates, Malaysia.

## I. INTRODUCTION

The Institutes of Higher Learning in Malaysia (IHL) are producing an ever increasing number of graduates every year. Reference [5] reported that the number of students graduated in higher education institutes in Malaysia has been increasing steadily over the years from 107,894 in 2006 to 177,169 in 2010. The number of students graduated for bachelors program dominates other levels of study. The increased in the numbers of institute of higher learning may contribute to this scenario. Although it gives opportunity to more students to further their study, according to the graduates' tracer study by Ministry of Higher Education Department, 24.8% of students graduated for bachelors program still unemployed within 3 to 4 months after completion of study. The graduate oversupply contributed to the imbalance of number of graduates in relation to the job opportunities available in the market.

The Malaysian Government has come out with micro-credit loan schemes to help these young and inexperienced graduates to start a business. The access to credit facilities will also help to spur the economic growth.

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The government has created 82 microcredit schemes to assist small and medium enterprises (SMEs) entrepreneurs through banking institutions and non-bank institutions [2]. For example, the 1MCA Micro Credit Loan Scheme for Youths is targeted for youths between the ages of 21 to 45, and it is worth RM50 million whereby applicants can apply for loans up to RM20,000 for a maximum of 5 years loan repayment (three-month grace period before repayments) at 7% fixed interest. Besides giving the loans, the 1MCA Micro Credit Loan Scheme for Youths will come together with training courses for successful applicants. The training course will also provide a platform for applicants to start networking with one another. Hence, the idea to make this self-employment an option for graduates to start on their careers should be supported.

Many studies have been conducted to investigate the characteristics of entrepreneurs (see for instance, [3], [4], and [11]). Reference [10] commented that most of the previous studies on entrepreneur heavily emphasized on personality and demographic approaches. These approaches they stated are suffering with some problems that make them inappropriate to measure the entrepreneurs' characteristics. Reference [10] stated that attitude is a good approach to describe entrepreneurship. They have developed Entrepreneurial Attitude Orientation (EAO) scale which is tested to be high in validity and reliability. Due to the needs to encourage Universities' undergraduates to explore entrepreneurship thus it is essential to understand how to develop and nurture potential entrepreneurs. The research question is whether the universities' undergraduates' attitudes toward entrepreneurship have significant relationship with their self-employment intentions. Therefore this study is taken to predict the entrepreneurship among universities' undergraduates in Malaysia by adopting the EAO model.

## II. LITERATURE REVIEW

Self-employment intention has been defined as the intention to start a new business [13], the intention to own a business [3], or the intention to be self-employed [4]. This career choice is not in favour of young graduates who observe entrepreneurship as their second or even last choice of employability [11]. The individual decision to choose an entrepreneur as a career is sometimes assumed to depend on personality traits. Theory of Planned Behavior [1] has become the most popular used theoretical framework in past studies of entrepreneurial intention. According to the Theory

of Planned Behavior (TPB), human action is guided by three kinds of considerations: beliefs about the likely outcomes of the behaviour and the evaluations of these outcomes (behavioural beliefs), beliefs about the normative expectations of others and motivation to comply with these expectations (normative beliefs), and beliefs about the presence of factors that may facilitate or impede performance of the behaviour and the perceived power of these factors (control beliefs) [1]. Behavioural beliefs produce a favourable or unfavourable attitude toward the behaviour, normative beliefs result in perceived social pressure or subjective norm, and control beliefs give rise to perceived behavioural control. Attitude toward the behaviour, subjective norm, and perception of behavioural control determine intention. The more favourable the attitude and subjective norm, and the greater the perceived control, the stronger should be the person's intention to perform the behaviour.

There are many discussions on entrepreneurship intention around the world which focus on attitude toward the behaviour in an attempt to differentiate between entrepreneurs and non-entrepreneurs. However, only few studies done in Malaysia particularly on Malaysian universities' undergraduates and the EAO model. Thus, it is the aim of this research to shed some new insights to the current entrepreneurship literature.

Reference [9] did a survey among business students and found out that there was a significant relationship between personal traits factor or attitude toward the behaviour and the self-employment intention. However, they examine this personal traits factor in general as the way an individual thinks and behaves without focusing on achievement in business, innovation in business, perceived personal control of business outcomes, and perceived self-esteem in business (EAO model).

Reference [8] did a research using the EAO model on final year business management undergraduates. Their result show that there is a significance difference between undergraduates minored in entrepreneurship courses and non-entrepreneur undergraduates in terms of self-esteem and personal control, with the mean for the entrepreneur undergraduates group being higher in personal control. Hence, there is no significance difference in terms of innovation and achievement. Reference [12] who did a survey on universities students from two public universities and two private universities claimed that there was a positive significant between the need for achievement and entrepreneurial intentions of students to start a business. However, the moderate relationship between the need for achievement and entrepreneurial intention shows there is a variation on level of need for achievement. Reference [8] findings are also quite contradicted with what have been found by [7].

Reference [7] who did a survey on college and undergraduates from private higher educational institutions using the "Big Five" personality measure (Big Five model) found out that personality traits such as agreeableness, openness and conscientiousness generally gave a positive influence on social entrepreneurship dimensions. The items under openness and conscientiousness are quite similar with

innovation and achievement items in the EAO model respectively. The study found that openness exerted significant positive influence on financial returns and social vision whereas conscientiousness was found to exert a positive influence on sustainability and financial returns. In addition, [6] who also did a survey using the "Big Five" personality measure on undergraduates in institution of higher learning agreed that entrepreneurial intention was positively correlated with openness but not conscientiousness. Reference [5] who did a survey on undergraduates in three private universities agreed that there was no significant effect of need for achievement towards entrepreneurial intention besides internal control. They claimed that both independent variables may be affected by other variables. According to [6] conscientiousness was associated with diligence, organization and persistence which suit to self-employment but at the same time it also suit in a larger organization whereas open individuals tend to be curious, imaginative, adventures and receptive to business opportunities. Besides openness, [6] also found that extraversion was significant which describes the extent to which people are active, energetic and enthusiastic.

### III. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

#### A. Entrepreneurial Attitude Orientation (EAO) Model

This study adopts the Entrepreneurial Attitude Orientation Model to predict the Malaysian universities' undergraduates' self-employment intention. The EAO Model is developed by [10] with the purpose to offer an alternative approach to study entrepreneurship. It contains four subscales which are:

- 1) Achievement in business, referring to concrete results associated with the start-up and growth of a business venture.
- 2) Innovation in business, relating to perceiving and acting upon business activities in new and unique ways.
- 3) Perceived personal control of business outcomes, concerning the individual's perception of control and influence over his or her business.
- 4) Perceived self-esteem in business, pertaining to the self-confidence and perceived competency of an individual in conjunction with his or her business affairs.

#### B. Hypotheses Development

With reference to the Theory of Planned Behavior (TPB) by [1], the following diagram (see Fig. 1) depicted the model of this study:

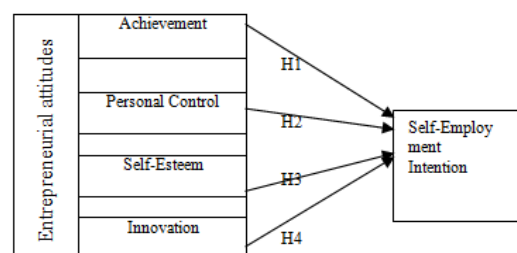


Fig. 1. The model of this study.

The hypotheses for this study are stated as:

- 1) H1: Higher levels of achievement are associated with higher levels of self-employment intention
- 2) H2: Higher levels of personal control are associated with higher levels of self-employment intention
- 3) H3: Higher levels of self-esteem are associated with higher levels of self-employment intention
- 4) H4: Higher levels of innovation are associated with higher levels of self-employment intention

#### IV. RESEARCH METHOD

##### A. Research Design and Instrument

A survey approach is utilized in this study by sending questionnaires directly to the universities' undergraduates. The questionnaire was developed by modifying those of [10] to suit the focus of this study in Malaysia. The questionnaire is divided into three parts. The first part consists of questions related to demographic variables while the second part consists of the entrepreneurial attitude (i.e. the EAO scales). The final part solicits the respondents' self-employment intentions.

##### B. Sample

The sample of this study is the universities' undergraduates in Malaysia. Business and non-business degree holders from seven public universities and 11 private universities constitute the population of this study. These universities selected are those that are listed under tier 5 (Excellent) categories in the Malaysia Quality Agency SETARA rating of year 2011. The sample size is 2000.

##### C. Administration of the Research Instrument

The questionnaires were distributed personally to the universities' undergraduates by randomly approached them at their respective institutions. A pilot test was conducted with 50 respondents drawn from the sample universities' undergraduates in the study. The feedback from the pilot testing required minor amendment on the questionnaire.

##### D. Variables of the Study

The dependent variable is the self-employment intention of the universities' undergraduates. This variable is measured on a 5-point Likert scaling ranging from strongly disagree to strongly agree, by providing the respondents 15 statements related to self-employment intentions. For each statement the respondents were required to circle one number on the scale.

The independent variables of this study are the entrepreneurial attitude of the universities' undergraduates. Specifically, they are achievement in business (Achievement), innovation in business (Innovation), perceived personal control of business outcomes (Personal Control) and perceived self-esteem in business (Self-esteem). These variables are measured using the EAO in 5 point likert scale. There are in total 58 statements given to the respondents which represented by eleven statements on Personal Control, eleven statements on Self-esteem, eighteen statements on Achievement and another eighteen statements on Innovations. For each statement the respondents were required to circle one number on the scale.

#### V. DATA ANALYSIS

##### A. Response Rate

Table I presents the response rate of this study. From the total of 2000 questionnaires distributed, 831 are excluded from the analysis because of they are considered as non-useable. Among factors leading to the exclusion of these questionnaires in the analysis are due to incompleteness in attending the questions and the respondents are not undergraduates. Only 1169 questionnaires are considered as usable representing 58.45% response rate for this study.

TABLE I: RESPONSE RATE

	N	%
Questionnaire distributed	2000	100
Less: Non-useable questionnaire	831	41.55
Usable questionnaire	1169	58.45

##### B. Demographic Profile

As shown in Table II, the profile of the survey respondents comprised of 58 percent female and 42 percent male. The breakdown of race groups of the respondents was as follows: 68 percent was Malay, 18 percent was Chinese, 5 percent was Indian, and the remaining 8 percent was others.

Majority of the respondents aged below 24 years old (85 percent), and 52 percent of them achieved 3.33 and above for their CGPA. The respondents' breakdown in terms of whether they are from public or private universities is fairly represented, i.e. 49 percent are public universities' students and 51 percent are private universities' students. The respondents are also fairly presented by their area of studies in which 45 percent are categorized as business-related students while 55 percent are non-business-related students.

TABLE II: RESPONDENTS BACKGROUND INFORMATION

Characteristics	Freq	%	Characteristics	Freq	%
<b><u>Gender</u></b>			<b><u>Higher educational institution</u></b>		
Male	486	41.6	Public	598	51.2
Female	681	58.4	Private	571	48.8
<b><u>Age</u></b>			<b><u>CGPA</u></b>		
Below 21	412	35.5	Below 2	9	0.8
21-23	569	49.0	2.00-2.66	100	8.6
24-26	170	14.6	2.67-3.32	453	38.8
27 & above	10	0.9	3.33-3.66	387	33.1
			3.67-4.00	219	18.8
<b><u>Races</u></b>			<b><u>Stream of Study</u></b>		
Malay	798	68.4	Pure & Applied Science	216	18.5
Chinese	211	18.1	Tech & Engineering	178	15.2
Indian	61	5.2	Social Science	525	44.9
Others	97	8.3	Arts & applied Arts	223	19.1
			Natural Science	27	2.3

Note: Freq = frequency.

### C. Factor Analysis and Reliabilities

Principal component factor analysis was performed on the four dimensions of entrepreneurial attitudes (i.e. Achievement, Personal Control, Self-esteem and Innovation) to define the underlying structure among the variables in the analysis (Table III). Column 2 of Table III shows the finalized number of items included for each dimension. The values of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for each dimension were all above 0.50 while each of the Bartlett's test of sphericity was significant at 5 percent. Hence, the four dimensions in this model were adequate to represent the data. For the purpose of the hypothesis testing only statements with factor loadings more than 0.50 will be taken (Table IV). In conclusion, six out of eighteen statements on achievement will be included in the final analysis. For innovation, from eighteen statements only six will be included. For personal control, from eleven statements only five will be included and finally for self-esteem from eleven statements only six will be included in the final analysis.

TABLE III: RESULTS OF FACTOR ANALYSIS AND RELIABILITY FOR THE EAO SCALES AND SELF-EMPLOYMENT INTENTION

Construct	No. of items	KMO	Eigen-values	Cronbach $\alpha$
<i>Independent variables</i>				
Achievement	6	0.859	3.053	0.807
Personal Control	5	0.803	2.630	0.772
Self-Esteem	6	0.805	2.475	0.714
Innovation	6	0.779	2.811	0.772
<i>Dependent variable</i>				
Self-Employment Intention	6	0.880	4.040	0.902

Factor analysis was also conducted to confirm the validity of self-employment intention. The result of factor analysis for this intention is also summarized in Table III. A single factor solution emerged with an eigenvalue greater than 1. The KMO measure of sampling adequacy was 0.880 indicating a sufficient intercorrelation, while the Bartlett's test of sphericity was significant at 5 percent. Most importantly, all items of self-employment intention were shown to have factor loadings greater than 0.70 (Table IV).

The reliability tests based on Cronbach's alpha measurements were conducted on dependent variable (i.e. self-employment intention) and the independent variables (i.e. Achievement, Personal Control, Self-esteem and Innovation). As shown in the last column of Tables III, the reliability coefficients ranged from 0.714 to 0.902, indicating that all the reliability coefficients exceeded the minimum acceptable level of 0.6. Hence, one can conclude that the items measuring entrepreneurial attitudes and self-employment intention was assessed to be reliable.

TABLE IV: CONSTRUCTS FOR THE EAO SCALES AND SELF-EMPLOYMENT INTENTION

Construct	Survey Items	Loadings
Achievement	I would spend a considerable amount of time analyzing my future business needs before I allocate any resources	0.698
	I make it a point to do something significant and meaningful at work every day	0.717
	I believe the most important thing in selecting business associates is their competency	0.696
	I would feel good when I have worked hard to improve my future business	0.748
	I would get a sense of accomplishment from the pursuit of my future business opportunities	0.722
	I would always feel good if I make the organization I belong to function better	0.698
Innovation	I believe that to arrive at a good solution to a business problem, it is important to question the assumptions made in defining the problem	0.650
	I believe it is important to continually look for new ways to do things in business	0.671
	I would get excited if I think of new ideas to stimulate my future business	0.719
	I believe it is important to approach business opportunities in unique ways	0.713
	I usually look for colleagues who are excited about exploring new ways of doing things	0.685
	I enjoy taking initiatives for change in business affairs	0.665
Personal Control	I believe that any organization can become more effective by employing competent people	0.698
	I would feel very good if I am ultimately responsible for my own business success	0.806
	I would get excited in creating my own future business opportunities	0.807
	I would spend a lot of time to plan my future business activities	0.640
	My special skills for dealing with people would enable me to create many future business opportunities	0.658
	I believe I can perform very well on my part of any business project I am involved with	0.600
Self-Esteem	I believe successful people handle themselves well at business gatherings	0.678
	I would feel self-conscious when I am dealing with very successful business people	0.627
	I believe that to succeed in business it is important to get along with the people I work with	0.711
	I believe if I have the authority in business it is due mainly to my expertise in certain areas	0.639
	I would feel uncomfortable if I am unsure of what my future business associates think of me	0.589
	I will choose my career as an entrepreneur	0.786
Self-Employment Intention	I prefer to be an entrepreneur rather than to be an employee in a company	0.836
	I am prepared to do anything to be an entrepreneur	0.868
	I will make every effort to start and run my own business	0.812
	I have thought seriously to start my own business after completing my study	0.842
	I have strong intention to start my own business as soon as possible after graduate	0.775

#### D. Regression Analysis

Table V presents the regression estimation for self-employment intention. From this table, given the  $R^2$  of 0.076 it implied that 7.6 percent of self-employment intention can be explained by the four independent variables. The proposed model was adequate as the F-statistic ( $= 23.643$ ) was significant at the 5 percent level. This indicated that the overall model provides a statistically significant relationship between entrepreneurial attitudes and self-employment intention. Personal control, self-esteem as well as innovation were found to have a significant and positive relationship with self-employment intention. Therefore, hypothesis H2, H3 and H4 were supported. However, achievement was found to have no significant relationship with self-employment intention. Hence, H1 was not statistically supported. As shown in Table V, the VIF values for independent variables ranged from 1.911 to 2.965, providing the solid evidence against the presence of multicollinearity.

TABLE V: RESULTS OF REGRESSION ANALYSIS

Model	Coefficient	t-statistic	Collinearity statistics	
			Tolerance	VIF
Constant	0.001			
Achievement	0.041	0.829	0.337	2.965
Personal Control	0.087	1.906*	0.388	2.577
Self-Esteem	0.076	1.944*	0.523	1.911
Innovation	0.113	2.363**	0.357	2.805
$R^2$	0.076			
Adj. $R^2$	0.073			
F	23.643			
Sig F	0.000			

Notes: \*\* and \* indicate significant at 5% and 10%, respectively.

#### VI. DISCUSSION

This study finds that entrepreneurial attitudes such as personal control, self-esteem and innovation have statistically significant relationships with self-employment intention. However, achievement was found to have no significant relationship with self-employment intention. Thus, only H2, H3, and H4 are accepted. This finding on achievement indicates that the universities' undergraduates who are perceived to have high achievement in business however do not intention to be self-employed or in other word to operate own business. This may be caused by other variables, for example achievement may be affected by the personal control or self-esteem. Hence, although the universities' undergraduates who are perceived to have high achievement in business, it does not make any difference on their entrepreneurial intention. In addition as mentioned by [6], achievement in business factor is also needed in a larger organization that may push an individual away from self-employment. This finding on achievement supports the claimed by [5], [6], and [8]. The finding on personal control and self-esteem support the claimed by [8] that entrepreneurship is affected by ones' personal control and self-esteem. In conjunction to the EAO model it is revealed

that the undergraduates who perceived that they have strong control and strong influence over his or her business have greater intention to be self-employed. For self-esteem, the findings support the gist of the EAO model that undergraduates who have high self-employment intention are those who have high level of self-confidence and competency in business affairs. In terms of innovation, the finding conforms to the results claimed by [6] and [7]. In line with the assumption of the EAO model, this finding demonstrated that undergraduates who were highly intended to be self-employed were those who have high level of perceptions and actions to do business activities in new and unique ways.

#### VII. CONCLUSION

The results of this study has conformed to the literature that entrepreneurial attitudes do have positive relationship with self-employment intention. Universities nowadays have position themselves as a hub of entrepreneurship by nurturing an entrepreneurial environment. Besides more entrepreneurial curriculum or seminar to educate and guide universities students, it is now up to the university policy makers and government to team up in promoting and producing a positive image of entrepreneurship as a career. This is because even though students have the relevant entrepreneurial knowledge and skills, if they do not possess positive image about entrepreneurship, they might not interested to venture into the field. Future research may be conducted to investigate the effect of entrepreneurial attitudes on the cyber-preneurship intentions of the undergraduates.

#### REFERENCES

- [1] I. Ajzen. (June 1, 2013). Constructing a TpB questionnaire: conceptual and methodological considerations. [Online]. Available: <http://people.umass.edu/ajzen/tpb.html>
- [2] Anon, "Tekun loans will spur economy: Najib," New Straits Times, February 9, 2013.
- [3] J. M. Crant, "The proactive personality scale as a predictor of entrepreneurial intentions," *Journal of Small Business Management*, vol. 34, no. 3, pp. 42-49, 1996.
- [4] E. J. Douglas and D. A. Shepherd, "Self-employment as a career choice: attitudes, entrepreneurial intentions, and utility maximization," *Entrepreneurship Theory and Practice*, vol. 26, no. 3, pp. 81-90, 2002.
- [5] N. Ismail, N. Jaffar, S. Khan, and T. S. Leng, "Tracking the cyber entrepreneurial intention of private universities students in Malaysia," *International Journal Entrepreneurship and Small Business*, vol. 17, no. 4, pp. 538-546, 2012.
- [6] K. Jusoff, M. Ismail, S. A. Khalid, M. Othman, N. A. Rahman, K. M. Kassim, and R. Shekh Zain, "Entrepreneurial intention among Malaysian undergraduates," *International Journal of Business Management*, vol. 4, no. 10, pp. 54-60, 2009.
- [7] J. Koe Hwee Nga and G. Shamuganathan, "The influence of personality traits and demographic factors on social entrepreneurship start up intentions," *Journal of Business Ethics*, vol. 95, no. 2, pp. 259-282, 2010.
- [8] M. N. Mohd Shariff and M. B. Saud, "An attitude approach to the prediction of entrepreneurship on students at institution of higher learning in Malaysia," *International Journal of Business and Management*, vol. 4, no. 4, pp. 129-135, 2009.
- [9] Z. M. Zain, A. M. Akram, and K. E. Ghani, "Entrepreneurship intention among Malaysian business students," *Canadian Social Science*, vol. 6, no. 3, pp. 34-44, 2010.
- [10] B. P. Robinson, V. D. Stimpson, S. J. Heufner, and K. H. Hunt, "An attitude approach to the prediction of entrepreneurship," *Entrepreneurship Theory and Practice*, vol. 15, no. 4, pp. 13-31, 1991.

- [11] S. Thrikawala, "The determinants of entrepreneurial intention among academics in Srilanka," in *Proc. International conference on economics and finance research*, IACSIT press, Singapore, no. 4, pp. 454-458, 2011.
- [12] F. T. Xue, K. T. Yoon, and C. L. Liang, "Factors Influencing entrepreneurial intention among university students," *International Journal of Social Sciences and Humanity Studies*, vol. 3, no. 1, pp. 487-496, 2011.
- [13] H. Zhao, G. E. Hills, and S. Seibert, "The mediating role of self-efficacy in the development of entrepreneurial intentions," *Journal of Applied Psychology*, vol. 90, no. 6, pp. 1265-1272, 2005.

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