

Informal Education and Developing Entrepreneurial Skills among Farmers in Malaysia

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Abstract—The Malaysian government is promoting entrepreneurship development skills amongst farmers through informal courses. These courses will concentrate on teaching managerial skills as inevitable means for small farms to succeed by making farmers more creative and innovative. Therefore it is important to assess the effect of informal agri-entrepreneurial training in developing entrepreneurship among the farmers in Malaysia. Seven hundred and ninety six farmers (796) farmers were interviewed via structured questionnaire to define their opinion on whether the current informal educational and training establishments are sufficient to teach and develop entrepreneurial skills. Factor analysis and logic regression analysis were used to determine the motivating factors and predict their impact on the development of entrepreneurial skills. The result from the factor analysis led us to investigate the association between these factors and farmers' opinions about the development of entrepreneurial skills and traits through participating in informal entrepreneurship training or education. The outcome has shown us that the importance of informal training to promote entrepreneurship among farmers is crucial. The training should be intensified to encourage farmers to not only focus on the modern technologies but also on the fundamental changes in their attitude towards agriculture as a business.

DOA:

KMO: Kaiser- Meyer- Olkin Test

MOA: Ministry of Agriculture

NMP: Ninth Malaysia Plan

NAP: Third National Agricultural Policy (2000-2010)

Keywords—Entrepreneurial skills, farmers, informal education, Malaysia

I. INTRODUCTION

THE development of agri-entrepreneurship has gained its importance as a business in Malaysia. The Malaysian economy has moved from a production-based economy to a knowledge- turbulent business environment. Therefore the development of entrepreneurship depends on the nation realizing the importance of it as one of the growth engines for the knowledge-based economy in Malaysia.

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based economy [13] and now Malaysia has moved up even further becoming an innovation-based economy. A knowledge-based economy is characterized by constant change and a. To ascertain the development of agricultural entrepreneurship, the government allocated RM 511.9 million to this area in the Ninth Malaysian Plan. This investment is expected to create and develop a total of 260,928 agri-entrepreneurs. The success of agricultural entrepreneurship development lies in innovative training and the inculcation of agri-entrepreneurship skills among the farmers who participate in the educational program organized by the relevant agencies. It is hoped that this will enhance agricultural sector development. During the Ninth Malaysia Plan (9MP) period (2006-2010)[20], the government of Malaysia spelled out the way forwards for the agricultural sector and revitalized the sector as the third pillar of economic growth. Under 9MP the "new agriculture" program will be undertaken, which includes greater orientation towards more modern and commercial scale production; the production of high value added primary and agri-based products, a wider application of information and communication technology (ICT) biotechnology for wealth creation; using better marketing approaches which emphasize product standards and farm accreditation; and the introduction of a higher level of professionalism and the participation of entrepreneurial farmers and a skilled workforce. As a result of these changes, farmers have the chance to benefit from market opportunities and to take greater responsibility for the success of their agricultural activities to be run a business. In other words, farmers need to develop entrepreneurial skills in order to enhance their productivity and the productivity of the agricultural sector as a consequence. Thus the expectations directed at farmers to become agri-entrepreneurs in order to accomplish the motto of the Malaysian government for the agricultural sector "*Agriculture is Business*". Along with the 9MP there is The Third National Agriculture Policy (NAP3 2000-2010) which was introduced in the Eighth Malaysian Plan (8MP, 2000-2005) period. The NAP3 was formulated upon the strengths of the product-based strategic approaches to overcome the issues and challenges that constrain the progress of the agricultural sector. The products-based approach enables a more effective formulation of policy thrusts to meet the challenges of increasing competitiveness and enhancing profitability in agriculture. The NAP3 focuses on resource constraints like land and labor. It also considers sustainability and conservation issues in agricultural development which is the strategy for increasing growth in the sustainable agricultural sector to meet national needs and to become globally competitive.

In order to make the agricultural sector the engine of growth, the government is promoting entrepreneurship development skills amongst the farmers through training courses. The training will teach farmers how to do business activities like the registration of farm records, book keeping (administrative work), good farm management practices, agribusiness marketing and ethical

practices. These courses will also concentrate on teaching managerial skills as this is very important for small farms to succeed. The government believes this is the best way to create new business opportunities because these skills will make farmers more creative and innovative. This will not only help develop the agricultural sector but also the entire economy.

II. PREVIOUS STUDIES ON ENTREPRENEURIAL TRAINING

Realizing educational improvements can be a key element in many development entrepreneurship strategies, yet in empirical research the link between human capital formation and development is often weak [6]. On the other hand, providing access to training courses or schooling does not always lead to the development of entrepreneurial skills that might lead to high living standards or high growth rates for a country [6]. Oversupply of graduate manpower in the recent years has led policymakers to pay more attention to entrepreneurship education as a fundamental issue in creating job opportunities among the younger generation [27]. This issue has been noticed in the agricultural economy and in agribusiness. Therefore the development of agri-entrepreneurship is one of the necessities for the agricultural development of a country which depends on the importation of food to meet the demand of a growing population [23]. Entrepreneurship is the composite of personal values, managerial skills, experiences and behaviors that characterize the entrepreneur in terms of their spirit of initiatives, risk propensity, innovative capacity and management of the firm's relation with the economic environment [22], [4], [25]. Reference [21] indicates that in the process to modernize the agricultural sector, the work culture is the main indicator which needs to be taken into consideration. These changes involve information sharing and knowledge development among the workers. There are certain characteristics of an entrepreneur that have been mentioned and cited in most of the entrepreneurship literature. Some of the characteristics are; the need for achievement, the locus of control, a risk taking propensity, a tolerance for ambiguity, innovativeness and self-confidence [17]. Reference [12] consider these characteristics as capable of representing the entrepreneurial behavior of individuals. However, it should be noted that the overall results of the research on these characteristics are still inconclusive. Entrepreneurial skill is important, because the concept of a skill implies the possibility of learning, and consequently teaching, entrepreneurship. In the psychological literature on entrepreneurship, as well as in some theories by economists, entrepreneurs are often described as individuals with certain kinds of stable and enduring characteristics or features. The emphasis is on personality traits, [2], [5]. Reference [16] have characterized entrepreneurship as a step-wise process which is influenced by both exogenous as well as endogenous factors, such as the existence of a business friendly environment, the availability of the required factor endowments, the ability to acquire desired resources, and the ability to implement and manage the business concept. To a large extent, Morris's conceptual framework assumes that entrepreneurial talent is given. On the other hand, [8] and [10] argue that entrepreneurship can be taught or encouraged through entrepreneurship education. Thus formal education in business or entrepreneurship has been recognized as an influencing factor affecting entrepreneurial growth in developing economies [9], [18], [7]. Reference [1]

shows that among the success factors for Malaysian entrepreneurs in franchising are full support and training from the government, continuous communication and an excellent franchise image. Reference [19] also supports the role of training programs to make farmers become more creative, innovative, motivated and skillful. Thus the government support in the development of entrepreneurial work culture among farmers is very important in influencing the productivity of farmer's agricultural activities. Reference [3] takes the view that entrepreneurship education in Malaysia is not matching students' skill expectations with skill acquisition. Their findings also indicate that the level of understanding of "what is entrepreneurship" is still low among the trainers from the entrepreneurship courses. In lieu of the above discussion, the objective of the study is to assess the effect of informal agri-entrepreneurial training in developing entrepreneurship skills as well as looking at the demographic factors that could enhance the success of farmers as agri-entrepreneurs in their agricultural activities. Hence, agro-entrepreneurial education needs to be evaluated from the standpoint of the farmer's perspectives.

III. DATA AND EMPIRICAL METHOD

A survey was conducted in order to gather information on farmers' opinion and attitude towards agri-entrepreneurship training in Malaysia in late 2009. The farmers were classified into four groups according to their region in Peninsular Malaysia. The 4 regions are: The Northern Region, which consists of four states (Perlis, Kedah, Perak, Pulau Pinang), the Eastern Region (Kelantan, Terengganu, Pahang), the Southern Region with two states (Johor and Melaka) and finally the Central Region (Selangor and Negeri Sembilan). A structured questionnaire was designed to capture the farmers' attitude and opinion on the effect of informal entrepreneurship training courses for enhancing entrepreneurship skills. Since the target farmers were familiar with agricultural business activities and entrepreneurship informal courses, the questionnaire was designed in a way to capture the influence of these courses and activities on farmers' entrepreneurship skills. A likert scale of 1 to 5 (1 representing strongly disagree and 5 strongly agree) was used to measure the farmers' opinions on 27 statements formulated in relation to the empowerment of entrepreneurship traits and skills after receiving informal entrepreneurship training and education. The research population consisted of farmers who were registered with the department of agriculture (DOA). The list of farmers from different states was obtained from the DOA headquarters in Kuala Lumpur. The respondents were selected randomly from each state proportionately to the number of farmers in each state. In total, 900 farmers were selected as respondents and 796 answered the questionnaires completely. A descriptive analysis was used to describe the farmers' profile and their opinion on whether the current informal educational and training establishments are sufficient to teach and develop entrepreneurial skills. The factor analysis approach was applied to reduce the number of the variables and to develop new uncorrelated "factor" variables in order to determine the motivating and stimulating factors on the development of entrepreneurial skills. Subsequently, factor scores from the factor analysis will be incorporated into unconditional logistic regression models along with the selected demographic factors to examine the extent of

their impact of informal training on the development of entrepreneurship skills and traits among the farmers.

A. Logit Model Specification

A Logit regression model was employed because of its ability to represent the complex aspects of the decisions made by individuals which also allows for incorporating important demographic and policy-sensitive explanatory variables. It does not assume a linear relationship between the independent variables and the dependent variable, and does not require normally distributed variables. It is assumed that the decision-maker chooses the alternative with the highest utility among two sets of alternatives; 0 and 1. The event $X = 1$ is considered a success and the event $X = 0$ is considered a failure. The utility of an alternative is determined by a utility function, which consists of the independent attributes of the alternative concerned and the irrelevant parameters. In the random utility theory the true utilities of the alternatives are considered to be random variables, i.e. [15]

$$U_{in} = f(X_{i,s}) + \varepsilon_{in} \quad (1)$$

where

U_{in} = the utility of alternative i for individual n ;

$f(X_{i,s})$ = a function of attributes s related to alternative i ;

ε_{in} = a random disturbance term.

By maximizing the stochastic utility, the probability that an alternative is chosen is defined as the probability that it has the highest utility among all the relevant alternatives. In a logit approach the following assumption is made concerning the random term (Gumbel distribution):

$$F(\varepsilon_n) = \frac{1}{1 + e^{-\mu \varepsilon_n}} \quad \mu > 0 \quad -\infty < \varepsilon_n < \infty \quad (2)$$

$$f(\varepsilon_n) = \frac{\mu e^{-\mu \varepsilon_n}}{(1 + e^{-\mu \varepsilon_n})^2} \quad (3)$$

Since the rescaling of μ does not change the calculated probabilities, μ is usually chosen to be equal to 1. The logit model has grown in popularity to become a standard analytical tool in discrete choice modeling. In fact, at present the logit model has become a widely adopted approach for modal split analysis of multiple choices. The logistic regression procedure estimates the probability of a certain event occurring on the basis of independent variables. For this study, the results are interpreted using the odds ratio, which is the exponentiated coefficient. The odds ratio is calculated by contrasting each category with the reference category. The odds ratio shows a multiplicative change

in the odds for a unit change in an independent variable. For the binary logit model it can be stated as follows:

$$\log \left(\frac{P}{1 - P} \right) = x\beta \quad (4)$$

Where; $x\beta$ is a vector of the independent variables and the estimated parameters. This ratio is called the odds, thus the left-hand side of the equation is referred to as the log of odds or *logit*. The logistic coefficient is interpreted as the change in the logit is associated with a one unit change in the independent variable, holding all other variables constant. The exponential of the logistic coefficient is the effect on the odds rather than the probability. It is interpreted as follows. For a one unit change in the independent variable, the odds are expected to change by a factor of $\exp(\beta)$ when other things are equal. In this study, the dependent variable represents the probability of increasing entrepreneurship skills or traits through participating in informal entrepreneurship training courses. The variable is coded as 1 if the farmers believe that attending informal entrepreneurship training will enhance their agri-entrepreneurship skills development and the variable is coded 0 if otherwise (The independent variables on the other hand were selected factors from the factor analysis along with demographic factors such as age, education level, agricultural experience and agricultural education. The demographic factors were divided into 2 intervals and categorized as 1 when it fell within the labeled category and 0 otherwise. For example the age of the respondents was divided into less than 45 year old and above 45 year old. Similarly the education level was split into higher and lower levels; formal education in agriculture was divided into higher and lower levels; the experience in agricultural activities was categorized into 2 groups of more than 10 years of experience and less than 10 years. The extracted factors from the factor analysis will also be included in the logistic model to gauge the entrepreneurship traits that have been inculcated within the farmers due to the informal entrepreneurship training that the farmers have attended. We call these factors the "entrepreneurial factors".

IV. EMPIRICAL FINDINGS

A. Descriptive Analysis

Table I shows the demographic profile of the respondents from the 4 regions of Peninsular Malaysia. Out of 786 respondents, the Northern region consisted of 201 respondents (25.3 per cent), the East coast region consisted of 245 respondents (30.9 per cent), the Southern region which was home to 182 of the respondents (23.7 per cent) and the Central part of the Peninsular where 168 of the respondents came from (21.1 per cent).

In terms of age distribution, the majority of the respondents, 377 (47.40 per cent), were between 46 – 60 years old and 38.6 per cent of them were between 31 and 45 years old. In addition, 8.30 per cent of the respondents were more than 60 years old while another (5.8 per cent) were less than 31 years old. The age distribution indicated that there are some young individuals who are interested in farming and agricultural business activities. The younger farmers are more ambitious and flexible which is to be expected, therefore they are able to identify more business

opportunities. Out of 796 respondents, 31.3 per cent had only received a primary school education, while 59.5 per cent completed their secondary schooling, while the diploma holders and degree holders made up the remaining 6.2 per cent and 3 per cent respectively. In terms of education in agriculture, out of the 796 respondents, 525 (66 per cent) had not had any formal training in agriculture, 181 (22.7 per cent) of the respondents had completed their certificate level (1 year training in agriculture). Only 90 farmers (11.3 per cent) had received formal training in agriculture at the tertiary level (i.e. a diploma and a degree level). In a developing country like Malaysia it is quite rare to find farmers who have undergone tertiary education in agriculture. Usually the business of agriculture is occupied by smallholders who do not possess a tertiary education level. Out of the 796 farmers, 19 of them have been educated to at least the diploma level in agricultural education. This is a good sign in the sense that to succeed in agri-entrepreneurial development and to inculcate the agri-entrepreneurial skills it is inevitable that formal agricultural education is an important variable. Such education could enhance informal entrepreneurship education in developing good agri-entrepreneurs. In terms of experience in agriculture practices, the majority of the respondents had between 5 to 10 years of experience in agriculture. This group made up (49.40 per cent) of all the respondents. About 224 (28.10 per cent) and 105 (13.3 per cent) had between 10 to 15 years of experience and more than 15 years of experience respectively. Only 74 (9.30 per cent) of the farmers had less than 5 years of experience in agriculture.

TABLE I
DEMOGRAPHIC PROFILE OF RESPONDENTS

Characteristics	Number	Percentage
State of origin		
Northern region	201	25.3
Southern region	182	23.7
Central part	167	21.0
East coast	239	30.0
Age (year)		
≤ 30	46	5.8
31 – 45	307	38.6
46 – 60	377	47.4
≥ 61	66	8.3
Education level		
SR (Primary School)	249	31.3
SPM/SPMV/STPM (Secondary School)	474	59.5
Diploma	49	6.2

Degree	24	3
Education in agriculture		
No schooling	525	66
Certificate	181	22.7
Diploma	14	1.8
Degree	5	0.6
Others	71	8.91
Years of Experience in Agriculture (year)		
≤ 5 years	74	9.3
5 years to 10 years	393	49.4
10 years to 15 years	224	28.1
≥ 15 years	105	13.2

Agri-entrepreneurship is seen in our study as a means of coping with the changes in the environment and thus contributing to the survival and success of farming businesses in the present as well as in the future. Therefore indentifying the similarities and differences in the social background of farmers is necessary to understand their opinions on informal education for promoting entrepreneurship.

B. Effects of Entrepreneurial Education on Farmers

The factor analysis was applied to determine the underlying factors that have been perceived by farmers regarding entrepreneurial skills or traits. Measuring these factors is essential in order to enhance farmers' capacities to build and empower their skills for knowledge and innovation based economy. As stated earlier, several questions were posted to the respondents. These questions were reduced to a few factors which explained the skills and traits pursued by farmers in order to be successful agri-entrepreneurs. The reliability of the survey instrument was deemed satisfactory since the Cronbach alpha for the variables is high and it is at a strong level of reliability with a value of 0.854. Thus, the results of this statistical analysis show a strong convergence of validity. Bartlett's test of sphericity and the Kaiser- Meyer- Olkin (KMO) test of sampling adequacy were initially performed on the statements to confirm the appropriateness of conducting factor analysis [24]. The KMO test for the set of predetermined variables reached values of at least 0.84, which indicate sampling adequacy so factor analysis could be carried out using the 27 statements mentioned earlier. The six factors which account for about 60.681% of the total variance are summarized in Table II.

TABLE II
RESULTS OF FACTOR ANALYSIS

Factors and sub-variables	Sub-variables loading	Variance (% of explained) Eigenvalues
Innovative		24.931
• Ability to try new technology needed to become a successful agro-entrepreneur	0.719	
• I like to try new innovations	0.712	
• Exploring new opportunities can be a key success factor	0.707	
• Knowledge and skill may bring some new agro-entrepreneurship ideas	0.656	
		11.385
Risk taking propensity		
• I am prepared to take risks	0.745	
• I bear all the uncertainty in my business	0.629	
• Confronting with risky situation is in the nature of being an entrepreneur	0.619	
• An entrepreneur should be a risk taker not a risk averse	0.500	
		6.820
Profit Oriented		
• I try to find ways to increase my income	0.714	
• I am able to create new ideas in order to increase profit	0.680	
• I am positive that in 5 years I can multiply my income	0.680	
		6.700
Visionary		
• Open communication to share information is what I always do	0.772	
• I always think of making more opportunities before they happen	0.645	
• I have a principal to increase my productivity, opportunities and popularity	0.558	
		5.577
Managerial Skills		
• I always plan what I want to do according to the schedule	0.830	
• An agro-entrepreneur should have commercial, social and political characteristics to determine their success	0.585	
		5.268
Self Confidence		
• I feel proud if my agricultural product fulfills the characteristics of a quality product	0.689	
• I strongly believe that my business can contribute to the food industry	0.552	
• I have the capability and enough resources to face any challenges in agriculture	-0.584	
Total Variance explained		60.681

The factor analysis found that innovative, responsibility and accountability, profit oriented, visionary, work systematically and self confidence were the major entrepreneurial factors. The results from the factor analysis has led us to explore exactly what determines the influence of informal agri-entrepreneurship training as enhancing and developing agri-entrepreneurial skills among the farmers.

C. Logit Regression Analysis

Given the results of factor analysis, the specific logit model can be specified as:

$$\begin{aligned}
 \log it(Model) = & \beta_0 + \beta_1 x_{Innovative} + \beta_2 x_{Risk\ Taking} \\
 & + \beta_3 x_{Profit\ Oriented} + \beta_4 x_{Managerial\ Skills} + \beta_5 x_{Visionary} + \\
 & \beta_6 x_{Self\ Confidence} + \beta_7 x_{Age} + \beta_8 x_{Education\ Level} + \beta_9 x_{Agricultural\ experience} \\
 & + \beta_{10} x_{Agricultural\ Education} + \varepsilon_i
 \end{aligned} \quad (5)$$

Where; β_0 = constant

β_i = coefficient of x_i

The result of the logistic regression model is shown in Table 3. As was expected, the entrepreneur factors showed positive effects

and there is a positive association between them and informal entrepreneurship education participation.

TABLE III

: ESTIMATED LOGIT REGRESSION MODEL PARAMETERS ON THE IMPACT OF INFORMAL ENTREPRENEURSHIP TRAINING FOR DEVELOPING ENTREPRENEURIAL SKILLS

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Innovative [F1]	.637	.122	27.452	1	.000*	1.891
Responsibility and Accountability [F2]	.074	.095	.600	1	.438	1.076
Profit oriented [F3]	-.103	.092	1.240	1	.266	.903
Visionary [F4]	.186	.095	3.826	1	.050*	1.204
Managerial skills [F5]	.294	.093	10.028	1	.002*	1.341
Self Confidence [F6]	.043	.090	.227	1	.633	1.044
Age [less than 45=0, more than 45=1]	.096	.187	.261	1	.609	1.100
Education level[Diploma and below=0, degree=1]	-.951	.217	19.207	1	.000*	.386
Education in the field of agriculture [Diploma and below=0, degree=1]	-.489	.188	6.738	1	.009*	.613
Experience in agriculture [less than 10 years=0, 10 years and above=1]	-.523	.190	7.590	1	.006*	.593
Constant	.486	.276	3.087	1	.079	1.625
-2 Log likelihood =739.347						
Percentage of correct predictions =71.1						
* significant at level 0.05						

Three entrepreneurial factors that show significant relationships with informal agri-entrepreneurship training are innovative, visionary and managerial skills. The positive coefficient indicates that the farmers' innovative trait or skill is more likely to be enhanced from an informal entrepreneurship course and training. Respondents who like to try new technologies and explore new opportunities are 1.89 times more likely to experience a positive impact on their entrepreneurial development from informal training courses. The visionary factor has a positive coefficient, indicating that the vision to move forward trait that has been identified by the farmers in improving their farm operations has a higher probability to benefit when applied in informal entrepreneurship education. Thus farmers who seek for new key success factors are 1.20 more likely to be influenced by informal entrepreneurial courses. Similarly, managerial skills as perceived by the farmers also show a positive impact from informal training organized by relevant agencies to enhance their entrepreneurship development skills. Respondents who are able to manage their farm in the best manner with the best practices are 1.34 more likely to enhance their entrepreneurship development skills. There are significant but negative relationships between formal education and a farmer's amount of experience in agriculture as well as formal agricultural education and the impact of informal entrepreneurship education in the development of entrepreneurial skills. The negative coefficients indicate that a higher level of formal education, more experience in agricultural activities and formal education in

agriculture all give a lower probability of a farmer developing their entrepreneurial traits by attending informal entrepreneurship training. Thus farmers who had higher formal education are 0.39 times less likely to benefit from informal entrepreneurship training courses in their entrepreneurship development. This may happen because these farmers already have a high educational level therefore they believe in their ability to set their own goals and business direction. It could also be due to the fact that they already went through different types of training to develop their own entrepreneurship skills and traits while they were in college. Similarly, agricultural education and more experience in agriculture also show significant negative relationship. Again the negative coefficient indicates that a higher level qualification in agriculture such as a bachelor degree in agricultural science gives a lower probability of a farmer being influenced by informal entrepreneurship training. Respondents who obtained higher education in agriculture are 0.61 times less likely to benefit from participating in informal entrepreneurship training courses. Similarly the negative coefficient of experience in agriculture indicates that the more experience a farmer has, the less likely they are to enhance their entrepreneurial skills through informal entrepreneurship training. Respondents who have more experience in agriculture are 0.59 times less likely to gain from informal training. The negative relationship may imply that the highly educated and experienced farmers are more confident with their professional, managerial and entrepreneurial skills. However, [11] pointed out that education and previous experience strongly influence individuals in making the decision to begin a successful venture. But yet informal education and experience can

be viewed as an alternative way to acquire and develop basic skills. Studies have shown that successful entrepreneurs accumulate more knowledge, information and education about their surrounding environment over time compared to unsuccessful entrepreneurs [14], [26]. The negative sign could also be due to the egoistic behavior of these farmers. These farmers might think that the education and experience they already have is enough for them to move forward and that informal training in entrepreneurship courses might not help them in developing their entrepreneurship skills as their education level and experience can compensated for informal training. Thus developing entrepreneurial skills or traits are important and need to be re-inculcated among the farmers in order to realize the vision of the Ministry of Agriculture and to empower the farmers with a new paradigm shift in making its objective true that "agriculture is business".

V.DISCUSSION AND CONCLUSION

This study explores various dimensions of farmers' opinions towards informal entrepreneurial training that could contribute in the development of agri-entrepreneurial skills. Two main empirical exercises have been conducted. First, factor analysis was employed to explore latent factors that were perceived by farmers as agri-entrepreneurial activities. The result from the factor analysis (entrepreneurial factors) led us to investigate the association between these factors and farmers' opinions about the development of entrepreneurial skills and traits through participating in informal entrepreneurship training or education. Demographic factors such as education level, experience, holding a degree in agriculture and age were also included to gauge the likelihood that such factors could enhance and have a positive impact in the development of entrepreneurial skills by attending informal entrepreneurship training. Logistic analysis predicted six determinants that are significant in influencing and generating a positive impact on participating in informal entrepreneurial training which help in enhancing the entrepreneurial skills among farmers. These determinants were some of the factors which had been extracted from the factor analysis and included attributes such as innovativeness, visionary and managerial skills. In addition, the determinants also included farmers' demographic backgrounds such as their level of formal education, education in agriculture and experience in agriculture. The results of this study have tremendous potential for helping the FOA members to realize the vision of making agriculture the third engine of growth in Malaysia. Therefore, a careful design curriculum in developing informal entrepreneurial education among farmers should be identified and be carefully implemented. Innovative strategies need to be developed to encourage farmers to attend informal entrepreneurship educational courses. The informal training should be focused on farmers who do not have any educational background either in agriculture or in other fields. Similarly, it would be more productive if senior and experienced farmers who have been in the business for a long time are not included in the informal training. They can be used more efficiently if they can be used as mentors to the younger farmers and less experienced farmers who have not had any formal education in agriculture or even gained much conventional education either. Hence the entrepreneurial skills that the farmers have perceived such as visionary, innovativeness and managerial skills could enhance

their entrepreneurial development and skills by attending informal entrepreneurial training. The farmers' association educational centers for agriculture need to provide training services to make farmers more aware of the benefits of these training courses and to address how participating in them can have an impact on developing their agribusiness. Although there are some negative views among the farmers on the outcome of informal entrepreneurship training, especially among the educated and experienced farmers, their numbers are however small. Almost 80 to 90 percent of the farmers who are in the categories of less educated (only up to secondary schooling) and 50 percent of less experienced farmers believe that informal entrepreneurship training are very useful in developing their entrepreneurial skills or traits. In their opinion, the training courses would help them to develop their innovativeness in agricultural activities, to make more systematic decisions and plan their agricultural activities better. Nevertheless the most important factor that the farmers envisage is to have a goal and a vision to work on. The inculcation of these entrepreneurship skills and traits among farmers are very important in order to make agriculture move forward looking and to increase the standard of living of the farmers. Informal entrepreneurship training should focus on the young farmers who do not have much experience in agriculture and entrepreneurship. These groups of farmers need a lot of guidance in order to build their confidence and belief that agriculture is an enterprising activity where they can make a good living if they turn themselves into agri-entrepreneurs rather than becoming conventional, traditional farmers.

Thus, the importance of informal training for promoting entrepreneurship among farmers is crucial, especially for those who do not possess formal education in agriculture and or have much experience. The training could develop the farmers' entrepreneurship skills and indirectly create a new breed of farmers to spear the development of agriculture in the country. The identifiable factors should be included in the capacity building program for agri-entrepreneurs. In this regard, efforts should be intensified to encourage agricultural entrepreneurs with training that does not only put emphasis on modern technologies and commercialized viable enterprises, but also on fundamental changes in attitude towards farming as an agribusiness.

REFERENCES

- [1] Abu Bakar M. H. & Rozita N. (2003). An encouraging factor for entrepreneur in franchising: A Malaysia experience. University Technology Malaysia. Paper presented at 16th Annual Conference of Small Enterprise Association of Australia and New Zealand on 28 September – 1 October 2003.
- [2] Brockhaus, R.H & Horwitz, P.S. (1986), "The psychology of the entrepreneur", in Sexton, D.L., Smilor, R.W. (Eds), *The Art and Science of Entrepreneurship*, Ballinger, Cambridge, pp.25-31
- [3] Cheng, Y. M., Chan, W. S. & Mahmood, A. (2009), *The Effectiveness of Entrepreneurship Education in Malaysia*, Education and Training, Volume (51), Issue: 7, Page 555-566
- [4] Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory & Practice*, 16(1), 7-25
- [5] Cromie, S. 2000., Assessing entrepreneurial inclinations: some approaches and empirical evidence, *European journal of work and organizational psychology*, 9 (1), 7-30
- [6] Dias, J., & McDermott, J. (2006). Institutions, education, and development: The role of entrepreneurs. *Journal of Development Economics*, 80(2), 299-328.

- [7] Dickson, P.H, Solomon, G.T. and Weaver, K.M. (2008), "Entrepreneurial selection and success: does education matter?", *Journal of Small Business Enterprise Development*, Vol. 15, No. 2, pp. 239-58
- [8] Drucker, P.F. (1985), *Innovation and Entrepreneurship: Practice and Principles*, Harper & Row, New York, NY
- [9] Gibb, A (1996). "Entrepreneurial and small business management: can we afford to neglect them in the twenty-first-century business school", *British Journal of Management*, Vol. 15 No. 1, pp. 51-73.
- [10] Gorman, G., Hanlon, D. & King, W. (1997), "Some research perspectives on entrepreneurship education, enterprise education, and education for small business management: a ten year literature review", *International Small Business Journal*, April/June, pp. 56-77.
- [11] Goedhuys, Micheline & L. Sleuwaegen, (2000), Entrepreneurship and growth of entrepreneurial firms in Côte d'Ivoire, *Journal of Development Studies*, 36, 123-145
- [12] Gürol Y & Atsan N (2006) Entrepreneurial characteristics amongst university students: some insights for entrepreneurship education and training in Turkey. *Education and Training* 48(1):25-38
- [13] Joilson Dias, John McDermott Institute of Strategic and International Studies (2002), *Knowledge-based Economy Master Plan*, Institute of Strategic and International Studies, Kuala Lumpur.
- [14] Lussiers, R. N., & Pfeifer, S. (2001). A cross national prediction model for business success. *Journal of Small Business Management*, 30(3), 228-23
- [15] McFadden, D. (1981). *Econometric Models of Probabilistic Choice*. In: C.F. Mansky, D. McFadden (Eds.), *Structural Analysis of Discrete Data with Econometric Application*. MA: MIT Press, Cambridge.
- [16] Morris, H.M., Donald, K.F. & Minet, S. (2001), "Towards integration: understanding entrepreneurship through frameworks", *Entrepreneurship and Innovation*, February, pp. 35-49.
- [17] Morrison, A (1998a), *Entrepreneurship: An International Perspective*, Butterworth-Heinemann, Oxford
- [18] Morrison, A. (2000a). Entrepreneurship: what triggers it? *International Journal of Entrepreneurial Behavior & Research*, 6 (2), 59-71.
- [19] Muhammad A. S. & Nawawi M. J. (2007). The right approach to train arts entrepreneur in creative industry. Paper presented at 4th SMEs in a Global Economy Conference 2007.
- [20] Ninth Malaysian Plan (NMP), 2006-2010
- [21] Pape, H. (2003), Transforming the work culture. Paper presented by the US Air Force's Work Culture Transformation Broad USA.
- [22] Schumpeter, J. The theory of economic development. , Harvard University Press, Cambridge, MA (1934).Stevenson, H.H., Jarillo, J.C. (1991), "A new entrepreneurial paradigm", in Etzioni, A., Lawrence, P.R. (Eds), *Socio-economics: Toward a New Synthesis*, M.E. Sharpe, Armonk, NY, pp.185-208.
- [23] Smit, A.B., (2004). Changing external conditions require high levels of entrepreneurship in agriculture, *Proceedings of the 15th International Symposium on Horticultural Economics and Management*, Sept. 2004, International Society for Horticultural Science Publication, Berlin, Germany, pp: 167-173.
- [24] Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- [25] Vernon-Wortzel, H & Wortzel, L. (1997), *Strategic Management in a Global Economy*, John Wiley, New York, NY.
- [26] Yusuf, A. (1995). Critical success factors for small business: Perceptions of South Pacific entrepreneurs. *Journal of Small Business Management*, 33 (2), 68-73.
- [27] Zoltan J., Audretsch, D. Pontus B., & Carlsson, B. (2005). The Knowledge Filter and Entrepreneurship in Endogenous Growth, *Papers on Entrepreneurship, Growth and Public Policy*, No. 08, Max Planck Institute of Economics, Jena, Germany.