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Are Malay Small-Scale Agro-Entrepreneurs Ready to Face Future Challenges? An Analysis of Attitudes towards Work Values

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ABSTRACT

A vital question receiving much attention in the revitalization of the agro-food sub sector in Malaysia concerns the readiness of Malay small-scale agro-entrepreneurs to compete in an increasingly competitive agriculture market. This study reports on the readiness of Malay small-scale commercial farmers in terms of attitude towards entrepreneurial work values. Seven hundred and eighty five Malay small-scale farm producers participated in the survey. A variation of attitudes towards performance, continuous improvement, quality, and innovation/risk-taking values were observed. Most of them had a positive rather than a very favorable attitude towards the four entrepreneurial work values. Hence, many are still vulnerable to compete in an emerging liberalized market. The results showed that the attitudes towards entrepreneurial work values significantly differed according to factor of participation in non-formal courses, participation in business networks, age, and level of education. Implications of the findings are discussed.

INTRODUCTION

This paper deals with the readiness of Malay small-scale agro-entrepreneurs to face the emerging challenges of a competitive agriculture market. The context of small-scale agricultural entrepreneurs in Malaysia is changing dramatically. In the 80s and 90s, the agriculture sector, including the agro-food sub-sector, was neglected and marginalized due to uneven development between the industrial and agricultural sectors. A marked decrease in the agricultural contribution to the gross domestic product from 10.2 percent in 1995 to 8.9 per cent in 2000 (Malaysia, 2001) testifies to the declining role of agriculture then.

Now the agriculture sector has bounced back with the realignment of the national development policy. In the Eighth Malaysia Plan (2001-2005) and Ninth Malaysia Plan (2006-2010), the government has formulated and implemented a number of policies and strategies to revitalize all sectors of agriculture. In boosting the productivity and efficiency of the agro-food sub-sector, one of the strategies is to enhance commercialization and entrepreneurship of the small-scale farmers. This is because the government recognizes that, along with the private sector, small-scale entrepreneurs have a modernizing role and that the agro-food sub-sector has immense potential as a new source of growth and wealth (Malaysia, 2006).

Recognizing the pivotal role of small-scale agro-entrepreneurs in realizing the objective of increasing agro-food productivity in the country,

strategic policies and development programs have been initiated to develop more agro-entrepreneurs and to augment their competitiveness through modern and commercial-oriented practices, driven by progressive work values. Presently about ten percent of commercial farmers produce sixty per cent of the national output, while about ninety percent of small-scale farmers contribute only forty per cent of the overall output. The commitment to realize the commercialization and entrepreneurship agenda of small-scale agro-entrepreneurs is evident from the fact that the government has increased development expenditures and allocations for the agro-food sector including the entrepreneur capacity building program in the Ninth Malaysia Plan (Malaysia, 2006).

A commercialization strategy for transforming the agro-food sub-sector is imperative and timely in light of the food security issues and the increasingly high food import bill incurred by the nation. Hence, the Ministry of Agriculture and Agro-Based Industry has set a target to increase food exports and, accordingly, reduce the trade deficit by 2010 toward surplus by 2015 (Bani, 2001). The agro-food sector is expected to contribute around five per cent to gross domestic product under the revised Third National Agricultural Policy. However, this can only be realized if the sector is transformed and developed into a modern, dynamic and viable commercial entity.

Several key challenges were identified and a number of strategic policies and programs are in place to ensure development of the agro-food sub sector. The transformation of the agro-food sub sector to a vibrant sector entails the application of appropriate modern technology and changing the mindsets of farmers and investors, in addition to enabling policy, fostering a pro-business environment and providing easy access to markets, land and capital (Malaysia, 2006).

With the opening up of the agricultural market through the implementation of AFTA and WTO, the challenges of transforming the agro-food sub sector are even more demanding. The small-scale commercial farmers in Malaysia need to increase their productivity and enhance their competitiveness in order to survive in the increasingly competitive agriculture market. One obvious consequence of the changing landscape and the development trend in the agro-food sector is the way in which small-scale agro-entrepreneurs approach and carry out their farm operation.

Accordingly, the principal question in this report is whether Malay small-scale agro-entrepreneurs are ready to face the emerging and future challenges of the increasingly competitive agricultural environment. To answer the readiness issue, the present analysis examines profiles of Malay small-scale agro-entrepreneurs in terms of work values orientation and its relationship with participation in non-formal training, participation in business networks, years of experience in agriculture, age and level of education. Readiness of small-scale agro-entrepreneurs in facing the demands and challenges of contemporary agriculture is an important issue worthy of immediate attention and examination; unfortunately however, local literature on the subject is very much lacking. The lack of research in this area is understandable given the fact that agriculture in Malaysia was not given priority in the 90s.

Review of Literature

Many have argued that the success or failure of individuals to respond to a changing environment is associated with a lack of readiness. Readiness is both a state and a process. While readiness has been defined in various ways, generally it entails willingness and ability to perform. This conceptualization, according to Dalton and Gottlieb (2003), requires that readiness be judged in terms of a fixed set of criteria or predetermined standards. In the context of the present study, readiness of small-scale agro-entrepreneurs in facing the demands of a changing agricultural environment is conceptualized as the extent to which the small-scale agro-entrepreneurs assign importance to work values assumed to characterize entrepreneurship and competitiveness. According to Garforth et al. (2006) and Lichtenberg and Zimmerman (1999), how strongly one attaches importance and belief to a particular object such as work values essentially reflects his or her attitudes towards the object, in this study work values.

Productivity, success and competitiveness of small-scale agro-entrepreneurs are certainly a function of a host of factors. In addition to structural and physical factors such as access to land, capital and finance, inputs and market, agro-entrepreneurs must have strong work values and competencies to survive in a competitive

environment. As the agriculture economy is increasingly knowledge-based and knowledge-driven, Malaysia must increase its knowledge base, invest in capacity building and promote utilization of appropriate modern technologies and practices of entrepreneurial work values.

The importance of work values in impacting behavior and outcomes is widely recognized. Past studies on profiles of successful or competitive farmers (Duram, 1997; Yasunobu, Yee, and Paim, 1997; Mullins, 1996; Lea and Worsley, 2006; Ulhoi, 2005) and on technology adoption (Adrian, Norwood and Mask, 2005; Rehman *et al.*, 2006) have observed that values, attitudes towards values, and personal characteristics are factors that influence farmers' behaviors. The focus of this study is on attitudes towards work values since entrepreneurship is value-based as pointed out by Moris and Schindehutte (2005). Subramaniam and Mia (2003) argued that values are essentially attributes of individuals which reflect their preferences for particular states of affairs over others. Dose (1977) viewed values as standards or criteria for choosing goals or guiding action. Accordingly, values realized in one's occupation should have implications on the way in which entrepreneurs approach a venture.

Although there have been numerous studies conducted on work values, most were on work values of managers and employees, and the relationship of work values with individual or organizational outcomes. Studies that specifically focused on the work-values of successful or competitive farm entrepreneurs are not many (Austin *et al.*, 1996; Pyysiainen, 2006; Yasunobu, Yee and Paim, 1997). In the context of this study, a review of the limited available literature and drawing on general literature on entrepreneurship suggest that concerns on performance, innovation, continuous improvement, and quality are among the key values associated with competitiveness. Gielen, Hoeve and Nieuwenhuis (2003) and Nieuwenhuis (2002) pointed out that learning, continuous improvement, and innovative capacity is essential in entrepreneurship. Lans *et al.* (2004) reported that courage and risk-taking, and being innovative and learning oriented are some of the enterprising skills required in a competitive environment. Austin *et al.* (1996) in their study found that farmers can be differentiated according to attitudes towards work values and observed that attitudes towards work values have an influence on farm management style. They found that entrepreneur farmers had a positive attitude towards innovation, risk taking, and continuous learning. Yasunobu, Yee and Paim (1997) in their study of characteristics of successful or entrepreneur farmers found that entrepreneur farmers are highly performance and outcome oriented, innovative and learn continuously.

Being quality conscious is also an important attribute of entrepreneurs in a competitive environment. As pointed out by many researchers (Duram, 1997; Gielen, Hoeve and Nieuwenhuis, 2003; Vanslembrouck, Huylenbroeck, and Verbke, 2002) one important consequence of the liberalization of markets is that farmers are expected to meet the demand for quality products and environmentally sound production systems. While the growth in demand for agro-food creates opportunities for agro-entrepreneurs to increase production and income, the opportunity is only meaningful if producers are able to supply quality and safe products. Meeting these requirements is one of the challenges of agriculture identified by the government. Lack of concerns on the quality and safety of products together with the lack of focus on performance, innovation, and continuous improvement makes small-agro-entrepreneurs vulnerable to liberalization and increased competition. In other words, their ability to compete will be undermined if they lack competitive work values.

In this study, it was assumed that the work values orientation of small-scale agro-entrepreneurs has a bearing on their ability to cope with the emerging demands and challenges of contemporary economies. Nevertheless, little is known about the work values orientation of Malay small-scale agro-entrepreneurs. Hence, the research question posed in this study was:

RQ: What is the attitude of Malay small-scale agro-entrepreneurs towards concerns on performance, quality, continuous improvement, and innovation/risk-taking in agricultural production and market activities?

The survival and growth of entrepreneurs are also contingent on their ability to capitalize on available resources. In this sense, networks and networking are important. Smallborne and Welter (2001) pointed out that networks often play a key role in helping entrepreneurs mobilize resources and cope with constraints. Gielen,

Hoeve and Nieuwenhuis (2003) argued that innovation is a learning process in which knowledge networks play an important role. Rasmussen and Nielsen (2004) pointed out that in a knowledge-based agriculture one of the fundamental characteristics of entrepreneurship is connectivity to business networks. In addition to networks as a source of information and knowledge, non-formal learning is an important aspect of entrepreneurship. The role of non-formal learning in the development of a stronger entrepreneurial orientation has been underscored by some, for instance, Lans et al. (2004) and Ladzani and Van Vuure (2002).

Based on the literature reviewed, there is support for a relationship between participation in non-formal learning and business networks with work values orientation, but empirical evidence is lacking. The review suggests the following hypotheses:

H1: There is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/ risk-taking between those who have attended project management courses and those who have not.

H2: There is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/ risk-taking between those who have attended technical/production courses and those who have not.

H3: There is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/ risk-taking between those who have attended entrepreneurial courses and those who have not.

H4: There is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/ risk-taking between those who participate actively in business networks and those who are not active.

Although the focus of the present analysis is on work values and its relationship with participation in non-formal learning and participation in business networks, a couple of demographic variables were also examined. These variables included age, years of experience in agriculture, and level of education. Many previous studies have observed that age, years of experience in agriculture, and education level are factors associated with change, responsiveness, and adoption (Duram, 1997; Yasunobu, Yee and Paim, 1997; Mullins, 1996). Hence, it is hypothesized that:

H5: There is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/ risk-taking across age groups.

H6: There is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/ risk-taking across levels of education.

H7: There is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/ risk-taking across years of experience in agriculture.

METHODOLOGY

Sample

The current study focuses on Malay small-scale entrepreneurs involved in cash crop, livestock, and inland fish farming. The first step taken in the sampling process was creating a sampling frame. Lists of agro-entrepreneurs were obtained from the Farmers' Organization Authority, the Departments of Agriculture, Fisheries, and Veterinary Services. The farmers were short listed by limiting those involved in cash crop, livestock and inland fish farming only. Those involved in down stream agricultural activities were excluded. The sampling frame was divided into four regions, representing agro-entrepreneurs in the north, eastern, south, and central regions of the country. The respondents were randomly selected and only those who met the criteria set in the study and gave their consent were interviewed. Out of 800 small-scale entrepreneurs contacted, a total of 785 agreed to participate in the study voluntary.

Almost all (93.5%) of the respondents were males. Their age ranged from 24 to 67 years, with a mean of 46.5 years. A majority of the respondents (62.3%) were cash crop farmers, 28.9% were livestock farmers, and another 8.8% were fish farmers. A majority lacked formal training in agriculture with only 33.9% having formal qualifications in agriculture. A majority (81.2%) had education up to Malaysia Certificate of Education or SPM; only 18.8% had tertiary education. The respondents varied in years of experience in agriculture, from one year to 33

years (with a mean of 9.9 years). The respondents also varied in terms of their exposure to non-formal training programs and participation in business networks. The socio-demographic profile of the respondents is summarized in Table 1.

Measurement

The dependent variables are attitudes towards four values orientations- performance, quality, continuous improvement, and innovation/risk-taking oriented. Likert scales were constructed to measure attitudes towards the four work values. As pointed by Garforth *et al.* (2006), Lichtenberg and Zimmerman (1999), and Bergevoet *et al.* (2004), an attitude is a disposition to respond favorably or unfavorably to an object. In the present study, the objects were work values. Respondents were measured by the extent to which they subscribed to the four work values orientations, and this was measured in terms of how strongly the respondents attached importance to the work values. The respondents were asked to indicate their level of agreement with a series of Likert-items representing the four work values. The four scales were specifically developed because there are no available scales that serve the purpose of this study. Items of the scales were developed based on inputs of

TABLE 1
Distribution of respondents by gender, age, level of education, years of experience in agriculture, non-formal courses attended, and participation in business networks

Variable		Percentage (n=785)
Gender	Male	93.5%
	Female	6.5%
Age (years)	≤ 30	5.6%
	31-40	19.9%
	41-50	42.9%
	≥ 51	31.6%
	Range	24-70
	Mean (Standard Deviation)	46.5 (9.55)
Level of education	SRP	42.0%
	MCE	39.2%
	STPM/Diploma	15.7%
	Degree	3.1%
Formal qualification	No formal training	66.1%
	Certificate in agriculture	31.5%
	Diploma/Bachelor in agriculture	2.4%
Years of experience in agriculture (year)	< 9	57.8
	10-17	29.0%
	18-25	6.7%
	>25	6.5%
	Range	1-33
	Mean (Standard Deviation)	9.9 (7.41)
Project management short course	None	45.4%
	Once	33.6%
	More than once	21.0%
Technical/production short course	None	58.9%
	Once	25.6%
	More than once	15.5%
Entrepreneurship short course	None	58.7%
	Once	23.3%
	More than once	18.0%
Participation in business networks	Not-active	16.1%
	Somewhat active	60.0%
	Active	23.9%

interviews with four Director Generals of departments under the Ministry of Agriculture and Agro-based Industry. The scales were pre-tested and improved prior to actual use in data collection.

Specifically, attitude towards performance-oriented values was measured with seven items that asked respondents about how much they agreed with statements such as "I am willing to work even at odd hours to ensure my project succeed," "I always do my work according to what was planned in my business plan," or "To me, agriculture work must be commercially oriented in order to succeed." Attitude towards quality-centered values was measured with five items which asked respondents how much they agreed with statements such as " I feel proud when I produce quality farm products," "I always treat my clients well because they are very important for my business," or "I am responsible to produce safe and environmental friendly products." Attitude towards continuous improvement values was measured with five items such as "I always seek and discuss new ideas from different sources to improve my agriculture business," "I always seek ways to reduce farm cost without lowering the quality of my produce," or "I always seek continuous improvement in the ways I carried out my agriculture work." Attitude towards innovation and risk-taking was measured with five items such as "I like to try new innovation, things and ideas," "I am willing to take risks in doing new things if it leads to increase in farm productivity," or "I am fully responsible for my own innovative action."

All items were assessed on a five-point Likert scale (1= strongly disagree, 2=disagree, 3=somewhat disagree, 4=agree, 5=strongly agree). A higher score on the scale indicates more favorable attitudes towards work values. All scales, the performance-oriented (Cronbach's alpha = 0.70), the quality-centered (Cronbach's alpha = 0.68), the continuous improvement-oriented (Cronbach's alpha = 0.69) and the innovation/risk-taking oriented (Cronbach's alpha = 0.66) achieved an acceptable level of reliability.

The independent variables in the present analysis were participation in a technical/ production course, project management course, entrepreneurship course, and participation in business network. Respondents were asked to report how many times they had attended a technical/production, project management and entrepreneurship course in the last three years. The responses were categorized into three: never, once, or more than once. The respondents were also asked to report how many business-related associations they joined and what was their membership status (1= ordinary member or 2= committee member). The responses to these questions provided a measure on participation in business networks. The resulting scores were categorized into three categories (active, somewhat active, or not active). In addition to these independent variables, age, level of educational attainment and years of experience in agriculture were also assessed.

Data Collection

This quantitative study employed a survey research design. The data was collected through face-to-face interviews using a structured questionnaire. The respondents were interviewed by trained enumerators either at their residence or farm. The instrument used was pre-tested prior to the actual data collection. The actual data collection was conducted in March 2006 until July 2006. The interviews were conducted in the national Malay language. On average, each session took about half an hour.

RESULTS AND DISCUSSION

In order to gain a better understanding of the readiness of Malay small-scale farmer entrepreneurs to face the challenges of contemporary agriculture in terms of their work values orientation, it would be useful to examine closely the demographic profile of the respondents.

The sample mean age for the study was almost equivalent to the national mean, and four in every ten were in the 40 to 50 years age category. This means that many of the respondents were in a productive age and have more years to stay in the farm production business. While a majority of the respondents had no formal qualification in agriculture, many were in the agricultural production business for quite sometime. The fact that they had been in business for a period of time suggests that they are successful farmers, and they must have a keen interest in and commitment towards agriculture as their career. Otherwise, they would have been out of the business a long time ago. Additionally, their field experiences should

provide them with practical knowledge on how to deal with emerging difficulties and challenges in the agricultural production business. Although most of them lack formal agricultural education, the majority had non-formal training in the past three years. This suggests that they have basic competencies (but not sufficient) for coping with the changes in the agricultural environment. Nevertheless, their readiness to respond to the emerging challenges of a competitive agricultural environment is also contingent upon their attitude towards entrepreneurship work values, which lies at the heart of the present study.

Table 2 summarizes the distribution of respondents by attitude towards work values orientation. Attitude towards work values was categorized into three groups. Those with a score equal to or less than one standard deviation below the mean were considered as having an unfavorable attitude, while those with a score equal to or more than one standard deviation above the mean were categorized as having a very favorable attitude. Those with a score within one standard deviation from the mean were categorized as having a favorable attitude. As shown in Table 2, the respondents varied in their attitude towards concerns for performance, quality, continuous improvement, and innovation-risk taking. It shows that these work values were weighted differently by the respondents. On a positive note, a majority of the respondents had a favorable attitude towards the four work values-performance, quality, continuous improvement, and innovation/risk-taking values (the percentage ranged from 64% to 71%). The data also revealed that about two in every ten had very favorable attitudes, particularly on continuous improvement values. This pattern of findings suggests that the majority of the samples, to some degree, have the fundamental attributes of entrepreneurs, however, the attributes need to be strengthened. In a competitive environment, entrepreneurs need to apply these work values as they are essential in entrepreneurship as argued by Lans *et al.* (2004), Gielen, Hoeve and Nieuwenhuis (2003), and Nieuwenhuis (2002). In the presence of these qualities, therefore, it is assumed that the majority of respondents have the capacity to respond to the challenges and demands of contemporary agriculture.

A comparative analysis across the four work values orientation revealed that, relatively, a majority of the respondents fared better in concerns for performance, quality of products and continuous improvement. The least prominent was innovation/risk-taking oriented values. The differential focus on concerns for these values suggests that it is more informative and more practical to be specific on discussing about readiness of the agro-entrepreneur to face emerging challenges in terms of their work values. A general statement on readiness would not reveal any deficiency or gap in attitude towards performance, quality, continuous improvement or innovation and risk-taking. In the present analysis, it was observed that attitudes toward innovation/taking risks need to be improved. A weak attitude towards innovation involving risk taking would certainly limit their entrepreneurial potential and ability, and hence they would not be able to survive in the competitive market. As pointed out by Lans *et al.* (2004) and Nieuwenhuis (2002), innovation and risk-taking is necessary for competitiveness. While there are areas for improvement, many of the respondents value performance, quality, continuous improvement and innovation/risk-taking, and therefore have the potential to compete in the changing and competitive agriculture market.

The study predicted differences in attitudes towards work values orientation between those respondents who have received training in project management with those who have not. As shown in Table 3, those who have not attended project management courses in the past three years have a lower mean rank compared with those who had all four work values studied. The difference is significant, except for continuous improvement orientation; hence, H1 (i.e. there is a difference in attitude toward concerns for performance, quality, continuous improvement and innovation/risk-taking between those who have attended project management course with those who have not) is partially supported. This means that those who have received project management course training are more likely to have favorable attitudes towards concerns for performance, quality, and innovation/risk-taking.

The role of technical/production courses is even more significant. Those who have not participated in any agricultural technical/ production courses have a lower mean rank compared to those who have the four work values. The difference is significant, and hence, H2 (i.e., there is a difference in attitude towards

TABLE 2
Distribution of respondents by attitude towards work values

Work values	Attitude (n=785)		c	
	Unfavorable	Favorable	Very Favorable	(Sig. level)
Performance oriented	15.6	68.1	16.3	426.8 (.000)
Quality-centered	9.3	71.2	19.5	517.4 (.000)
Continuous13.3 improvement oriented	64..8	21.3	355.1 (.000)	
Innovation-risk	17.7	64.2	18.1	335.2 (.000)

Note.
Figures are percentages.
Unfavorable is the category with scores equal to or less than one standard deviation below the mean. Very favorable is the category with scores equal to or more than one standard deviation above the mean. Scores of one standard deviation from the mean are categorized as favorable.

concerns for performance, quality, continuous improvement and innovation/risk-taking between those who have attended technical/production course and those who have not) is fully supported. The impact of exposure to technical courses is expected because agriculture is a discipline governed by precise science. As such, current technical knowledge should enhance one's advantages and competitiveness.

Contrary to expectations, there is a non-significant difference in attitudes towards the work values studied between those who have not received entrepreneurial courses and those who have. Hence, H3 (i.e., there is a difference in attitude towards concerns for performance, quality, continuous improvement and innovation/risk-taking between those who have attended entrepreneurial course with those who have not) is not supported. The reason for this contradictory finding is unclear. The study failed to observe the expected difference probably because the course is not effective in terms of strengthening work values. Although logically, such a course should be effective, practically it had little impact on the development of work values.

H4 hypothesized that those who are connected to business networks are more likely to have more favorable attitudes towards performance, quality, continuous improvement, and innovation/risk taking values. The hypothesis is partially supported. As shown in Table 3, the test yields significant results only on attitudes towards performance and continuous improvement, but not on quality and innovation/risk taking. A possible explanation for this finding is that those who are concerned with productivity and are committed to continuous improvement would invest time in networking with fellow agro-entrepreneurs and the relevant associations. This finding is in line with the assertion (e.g., Rasmussen and Nielsen, 2004; Smallborne and Welter, 2001) that networks often play a key role in helping entrepreneurs to mobilize resources and cope with constraints.

Attitudes towards the four work values also vary across age group. Those aged 30 and below have the highest mean rank on the performance-oriented and continuous improvement values, followed by the 31-40 age group. However, in the quality-centered and innovation/risk-taking oriented values, the 31-40 age group has a significantly higher mean rank. The difference is significant; therefore H5 (i.e., there is a difference in attitude towards concern for performance, quality, continuous improvement and innovation/risk-taking across age group) is fully supported.

Similarly, attitudes towards work values also vary across different levels of education. Those who have a first degree had a higher mean rank on performance-oriented, continuous improvement, and innovation/risk taking-oriented values compared to the other groups with a lower education qualification; but not on the quality-centered values. Hence, H6 (i.e., there is a difference in attitude towards concerns on performance, quality, continuous improvement and innovation/risk-taking across level of education) is partially supported. Finally, years of experience in agriculture indicated no significant influence on attitudes towards work

TABLE 3
Mean ranks of work values by participation in non-formal training programs and business networks (n=785)

Work Values	Attended project management course			Attended agriculture-technical course			Attended entrepreneurial course			Participation in business network		
	None	Once	More than once	None	Once	More than once	None	Once	More than once	Not active	Somewhat active	Active
Performance oriented	367.04	434.93	379.47	368.84	419.72	437.63	403.13	485.34	466.85	373.19	391.46	466.09
	χ^2 = 14.52 ρ = 0.001			χ^2 = 12.94 ρ = 0.002			χ^2 =3.03 ρ = 0.219			χ^2 =16.98 ρ = 0.000		
Continuous improvement oriented	376.01	404.18	409.51	371.48	423.05	420.33	392.95	399.42	381.87	365.57	381.80	472.60
	$\chi^2$2 = 3.58 ρ = 0.167			$\chi^2$2 =9.90 ρ= 0.007			$\chi^2$2 =0.485 ρ= 0.784			$\chi^2$2 =19.85 ρ= 0.000		
Quality-centered oriented	363.02	415.50	419.47	411.17	440.95	466.53	382.89	425.76	380.66	405.58	385.55	401.12
	$\chi^2$2 = 11.36 ρ = 0.003			$\chi^2$2 = 16.50 ρ = 0.000			$\chi^2$2 =5.29 ρ = 0.071			$\chi^2$2 =1.16 ρ = 0.559		
Innovation/risk taking oriented	366.90	405.89	426.50	411.05	430.16	436.40	387.74	398.01	400.98	411.75	382.48	397.95
	$\chi^2$2 = 9.36 ρ = 0.009			$\chi^2$2 =19.14 ρ = 0.000			$\chi^2$2 =0.519 ρ = 0.771			$\chi^2$2 = 3.19 ρ = 0.202		

Note. The Kruskal-Wallis test of significance was used.

TABLE 4
Mean ranks of work values by age group, level of education and years of experience in agriculture (N=785)

Work Values	Age Group (years)				Level of Education				Years of Experience in Agriculture			
	≤30	31-40	41-50	≥51	SRP	SPM	STPM /Diploma	Degree	≤9	10-17	18-25	≥26
Performance oriented	496.20	466.18	364.34	365.91	372.06	400.10	407.41	489.73	366.19	400.13	409.50	382.70
		χ^2 =34.87	ρ = 0.000			χ^2 =8.97	ρ = 0.003			χ^2 =4.595	ρ = 0.204	
Continuous improvement oriented	482.48	455.32	365.47	373.67	392.53	383.15	388.48	532.58	370.34	403.39	381.45	360.03
		χ^2 =25.961	ρ = 0.000			χ^2 =9.94	ρ = 0.019			χ^2 =3.84	ρ = 0.279	
Quality-centered oriented	426.55	440.93	383.28	368.43	377.75	399.94	402.61	447.29	375.47	381.93	434.65	355.10
		χ^2 =11.77	ρ = 0.008			χ^2 =3.46	ρ = 0.326			χ^2 =4.106	ρ = 0.250	
Innovation/Risk taking oriented	354.01	455.26	382.36	362.05	367.98	408.59	404.80	459.10	377.65	3843.84	421.47	336.18
		χ^2 =17.21	ρ = 0.001			χ^2 =8.02	ρ = 0.046			χ^2 =4.02	ρ = 0.259	

Note. The Kruskal-Wallis test of significance was used.

values. Thus, H7 (i.e., there is a difference in attitude towards concern for performance, quality, continuous improvement and innovation/ risk-taking across years of experience in agriculture) is not supported. The reason for failing to find support for H7 is not known. Probably, weaknesses in the measurement used contributed to the failure to support H7.

CONCLUSION AND IMPLICATIONS

The study was carried out to ascertain the readiness of Malay small-scale agro-entrepreneurs to face the challenges of the competitive agricultural environment. It is assumed that agro-entrepreneurs need to subscribe to entrepreneurial work values. A favorable attitude towards performance, quality, continuous improvement and innovation/risk taking are considered essential work values in order to compete and cope with the emerging challenges. This study provides empirical evidence surrounding the work values orientation of Malay small-scale farmers in terms of concerns for performance, quality, continuous improvement and innovation/risk-taking. Based on the level of attitudes observed, it is concluded that most of the Malay agro-entrepreneurs have the right attitude towards competitive work values, meaning that they attach importance to performance-driven, quality conscious, continuous improvement, and innovativeness including risk-taking, in which all the values are considered essential for sustainability and competitiveness in the present liberalized agricultural market.

Although most of the Malay small-scale agro-entrepreneurs have the potential to cope with the challenges of the competitive market, many fall under the category of having a favorable rather than very favorable attitude towards concerns on performance, quality and continuous improvement. The percentage of very favorable attitudes towards competitive work values is quite low, i.e. two in every ten. In this sense, many are still vulnerable in the present liberalized market. Thus, more capacity building and development programs to strengthen entrepreneurial work values need to be systematically and effectively implemented. More importantly, since many are middle-aged farmers with agricultural experience, there is potential and room for advancement and growth.

It is important to note that a substantial percentage of farmers are found to have unfavorable attitudes towards concerns for innovation/risk taking, performance, quality, and continuous improvement. Hence, this group of farmers is very vulnerable to marginalization in the present competitive market. This group of farmers needs urgent attention and intervention programs. Who are these people? Threy were those who lacked participation in non-formal or formal training and lack connectivity to business networks, in particular.

The Kruskal-Wallis test showed that there is a significant difference in attitude towards entrepreneurial work values between those who had non-formal training in agriculture courses, particularly on the technical and production aspects as compared to those who had not attended any non-formal training programs in recent years. One important implication of this finding is that the relevant development agencies need to continue their commitment to invest in farmer development and capacity building programs. It is recommended that the relevant agencies not only provide opportunities and incentives for agro-entrepreneurs to continuously upgrade their managerial and technical knowledge and practices, but that such programs be targeted to those who were left behind in terms of participation in non-formal training development programs. At the same time, agro-entrepreneurs should be willing to pay for participation in non-formal training programs because such an investment will help them to develop competitiveness in terms of knowledge.

The study also suggests that agro-entrepreneurs need to strengthen connectivity to business networks as it was found that favorable attitudes towards performance and continuous learning are connected with participation in business networks. Thus, another recommendation is for the relevant development agencies to provide more opportunities for small-scale agro-entrepreneurs to network through more non-formal training and development programs.

The findings of this study are limited by the fact that although data were collected from Malay commercial farm producers, most were small-scale farmers. Based on the scale of operation, the samples are essentially micro-entrepreneurs. In this sense, the findings could not be generalized to other types of agro-entrepreneurs. Another limitation is the cross-sectional nature of the data, which does not allow statements about causality. Reliable and precise measurements of work values

orientation towards performance, quality, continuous improvement and innovation/risk-taking are needed. Future studies in this area should improve on the instruments used to collect the aforementioned data. Finally, since the nature of the agricultural production business varies by type of producer, future studies should also examine agro-entrepreneurs' work values accordingly.

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