Entrepreneurial Orientation among Bumiputera Small and Medium Agro-Based Enterprises (BSMAEs) in West Malaysia: Policy Implication in Malaysia

Amran Awang (Corresponding author)
Faculty of Business Management, Universiti Technologi MARA, 02600 Arau, Perlis, Malaysia
Tel: 60-12-4095-407 E-mail: amranawang@yahoo.com

Zainal ariffin ahmad
School of Management, Universiti Sains Malaysia, MINDEN, 11800 Penang, Malaysia
Tel: 60-16-4909-461 E-mail: drzaba2001@yahoo.com

Abdul Rashid Said Asghar
Faculty of Applied Science, Universiti Teknologi MARA, 02600 Arau, Perlis, Malaysia
Tel: 60-19-5166-996 E-mail: abdrashid@perlis.uitm.edu.my

Khairul Anwar Subari
Faculty of Business Management, Universiti Technologi MARA, 02600 Arau, Perlis, Malaysia
Tel: 60-19-4455-258 E-mail: khas@perlis.uitm.edu.my

Abstract

Resurgence in agricultural-based sectors in Malaysia recently has prompted this study to explore the entrepreneurial orientation (EO) patterns as an indicator to explain Malaysian agro-based enterprises. The study is based on 615 observations of Bumiputera small and medium agro-based enterprises (BSMAEs) in three regional growth corridors (RGCs) throughout the Peninsular. Item analysis were done for all items in all regions and based on regions to describe their central tendency shown in mean and standard deviation value. Exploratory factor analysis (EFA) was run to segregate EO items into specific factor based on regions under study. Subsequently, analysis of variance (ANOVA) and discriminant analysis were run to indicate significant difference in some EO dimensions explaining the RGCs under study. EO dimensions of proactiveness and autonomy orientations were found significantly explained the RGCs. The findings suggest remodification of present policy formulation for small an medium enterprises development at regional level.

Keywords: Entrepreneurial orientation (EO), Regional growth corridor (RGC), Bumiputera small and medium agro-based enterprises (BSMAEs), Malaysia

1. Introduction

Malaysia comprises of thirteen states where eleven are situated on the peninsular and two are on west coast of the Borneo island. All states on the peninsular were segmented into three regional growth corridors (RGCs), they were, the northern corridor of economic region (NCER), the Iskandar development region (IDR) and the eastern corridor of economic region (ECER). These RGCs shall help to reduce economic disparities between regions (Malaysia, 2006). Among the objectives of RGCs is the development of self reliant and sustainable Bumiputera small and medium agro-based enterprises (BSMAEs).

The study extends the emerging entrepreneurial orientation (EO) concept that has been proven as significant predictor of SMEs' performance superiority and sustainability (Miller, 1983; Lumpkin & Dess, 1996; Wilklund, 1999). The aim of this research is to investigate the impact of EO in BSMAEs in RGCs on the Malaysian peninsular. Subsequently other studies has proved that EO was also an important determinant of SMEs

performance within Asia and other developing countries such as India, Indonesia and Brazil (Awang, Khalid, & Yusof, 2009; Kreiser, Marino & Weaver, 2002a; Montiero da Silva, Montiero Gomez, & Corriea, 2009).

EO construct consists of the innovative, proactive and risk taking dimensions as theorized in Miller (1983) establishes its strong correlation with entrepreneurship. On the other hand, Covin and Covin (1990), Dean (1993) and Lumpkin and Dess (1997) conceptualized competitive aggressiveness as another significant EO dimensions. Other dimension claimed as EO dimension is autonomy discussed in Hart (1991), Shane, Venkataraman and MacMillan (1995) and Lumpkin, Cogliser and Schneider (2009). The arguments of conceptualization of five EO dimensions into one or multiple construct and the possible relationships were discussed in some studies such as Covin, Green and Slevin (2006), Kreiser et al. (2002a), Lumpkin and Dess (1996), and Wilklund (1998).

Lumpkin and Dess (1996) argued that EO is a multidimensional construct where each dimension vary rather than covary. However, other studies (cf. Bhuian, Menguc & Bell, 2003; Brown & Kirchoff, 1997; Covin, Green and Slevin, 2006; Wilklund, 1998; Wilklund & Shepherd, 2003) operationalize EO as a unidimensional construct. Consequently, Covin et al. (2006) iterated that EO could be a unidimensional construct but the multidimensional impact undeniably phenomenal in specific setting.

This study suggests that EO factors are critical in formulating firm-level entrepreneurial culture reformation in Malaysia. Issues in firm level entrepreneurship inquire in-depth study encompassing regions and boundaries of a country (Lumpkin & Dess, 1996; Miller, 1983). Kreiser et al. (2002a) establish pertinent factors of EO such as innovative, proactive and risk taking posture among firms in various countries in all parts of the world. Thus the study addresses issue of to what extent does EO explains Malaysian BSMAEs?

2. Literature Review

2.1 Malaysian RGCs and EO

Under the ninth Malaysia plan (RMK9) where the goals of its socio-economic development to be materialized within 2006-2010. Among them were to revitalize the agro-based sectors as a powerful economic engine. The first RGC established was the southern economic region namely the Iskandar Development Region (IDR) comprised of the state of Johor, Melaka, Negeri Sembilan dan Selangor. The second establishment was the Northern Corridor of Economic Region (NCER) comprised of the other four west coast states such as the state of Perak, Penang, Kedah and Perlis. The key players were the agro-based entrepreneurs lead by our Government Link Corporation (GLCs), the Sime Darby Group Berhad and all states economic development corporations (SEDCs). The third establishment was the Eastern Corridor Economic Region (ECER) with similar support cited in NCER. And the fourth establishments were the Sabah and Sarawak Economic Region of East Malaysia.

The RGCs were the extention of our growth strategy focused at regional levels. The master plan was strategized through the New Economic Policy (NEP) in 1970-1990 continued with the New Development Policy in 1990-2000 and finally the Vision Development Policy in 2000-2020. However, Malaysia (2004, 2006, 2008) reported that the economic distribution among major races as well as states' wealth remain unbalanced. One of the key indicator was the economic participation achievement among races that showed the majority group achieved less than 19% and some states remained poor. Among the reasons of the under achievement was the entrepreneurial quality of the entrepreneurs and enterprises (Malaysia, 2006). This has led to the Tenth and Eleventh Malaysia Planning (2010-2020) that aim to boost the development of new generation of entrepreneurial oriented human capital and firms capable to take part in global market. The plan also suggests that the focus will be concentrated on regional basis. Thus, we aim to explore to what extent does differences in EO explain the three RGCs on the Peninsular?

2.2 EO-The Concept and Approach

EO refers to the behavior influences the process, decision-making styles and practices of a firm's management and employees (Lumpkin & Dess, 1996) that leads to superior firm performance. This section discusses the building blocks of EO concept and its operationalization approach. Consequently, the five dimensions of EO were elaborated individually and recapitulated with some concluding remarks.

Dess and Lumpkin (2005) acknowledged work of Mintzberg (1973) and Khandwalla (1977) as to how EO took its root when the study identified entrepreneurial planning, and adaptive modes of strategy making. The study was extended by Hart (1991, 1992) when four factors of participative, entrepreneurial, adaptive and simplicity emerged from the strategy making process (SMP) construct. Furthermore, Dess, Lumpkin and Covin (1997) adopted the SMP into entrepreneurial strategy making (ESM) construct reaffirm that entrepreneurship variables were representation of some of the strategic variables.

Miller and Friesen (1982) and Miller (1983) noted EO as entrepreneurship in their research bearing the three dimensions of innovativeness, proactiveness and risk taking being part of their 11 SMP dimensions. Covin & Slevin (1991) extends the study on the conceptual model of firm behavior that hinges on the three entrepreneurship posture. Later on Lumpkin and Dess (1996) proposed EO with five dimensions inclusive of competitive aggressiveness and autonomy. Subsequently, work of Dess et al. (1997) refines the entrepreneurial strategy making (ESM) construct that comprised of four SMP items adopted from EO construct proposed by Lumpkin and Dess (1996).

Issues in EO measurement were argued by entrepreneurship scholars since the last three decades, dimensionality issue has spark numbers of studies. Dimension found in studies (e.g. Miller, 1983; Covin & Slevin, 1989; Dess et al., 1997, Kreiser et al., 2002b), EO was operationalized using a 9-items construct. However, newer studies (cf. Dess and Lumpkin, 2005) added more items to the EO construct. Dess and Lumpkin (2005) operationalized EO with 21 items, they proposed number of items as in parantheses; innovativeness (5 items), proactiveness (4 items), risk-taking (4 items), competitive aggressiveness (3 items) and autonomy (5 items). Issue in dimensionality hinges on unidimensional versus multidimensional argument, Kreiser et al. (2002b) concluded that multidimensionality was found justified in the study, however unidimensional or aggregate dimension could be used for specific occassion but after careful consideration.

In-depth studies towards a psychometric indicator for EO were found in some studies. Effort in formulating EO into a structured construct was found in Knight (1997) when he examined eight EO items in English and French to verify proactiveness and innovativeness dimensions free from cultural bias. The study established Knight's ENTRESCALE as a three dimensional measure of EO construct across culture and later on Kreiser et al. (2002b) verified in a study among SMEs in Australia, Finland, Mexico, Netherland, Norway and Sweden. Specific dimensional issues such as competitive aggressive and autonomy dimensions were singled out in some studies. Lumpkin and Dess (1997) proved that proactive and competitive aggressive dimension were distinct and Lumpkin, Cogliser and Schneider (2009) established items for autonomy dimensions. Details of each dimension discussed in the next paragraph.

Innovativeness refers to a firm's effort to acquire opportunities and introduce novelty in technological processes and decision making. It involves firm's expenditure in R & D in developing new product or services and new market. Innovative firms emphasize on new methods and employ large number of skill workers (Dess & Lumpkin, 2005). Innovativeness means that firms have to take into consideration how departmental innovations such as the technology and engineering (research in new product and processes), product-market (market research, product design, and innovation in advertising and promotion) and administrative (new management systems, control techniques and new organizational structure) to be exploited for achieving competitive advantage.

Proactiveness refers to firm's effort to be ahead of others in using new technologies, selling new product or service in the market. It involves taking opportunities other than at hand and focuses on new product or service development (Lumpkin & Dess, 2001). Proactive firms champion in exploiting trends to suit future needs of customers and anticipate changes in demand or emerging problems that lead to new venture opportunities (Dess & Lumpkin, 2005). First mover advantage explains proactiveness when firms are the first to enter new market and establish brand identity, implement administrative techniques or adopt new operating technology in an industry (Lieberman & Montgomery, 1988).

Risk-taking refers to firm's commitment in high cost projects and taking bold and prompt actions to reduce losses. It also involves large amount of investment in new technology and always sells new product or services in new market (Dess & Lumpkin, 2005). Risk taking orientation means that firms have to take risk to obtain high financial returns by assuming high levels of debt, commiting large amount of firms' resources, introducing new product into new market and investing in unexplored technologies and opportunities (Shapiro, 1994).

Competitive aggressiveness refers to firm's effort to outperform competititors by utilizing extraordinary strategies. It involves large amount of investment in marketing strategy to combat industry trends that threaten its survival or market position. It is also indicated by being the market leader and adopt "first in the market" strategy (Lumpkin & Dess, 2001). Smith, Ferrier and Grimm (2001) noted that firms with aggressive orientation are willing to combat competitors by slashing prices and sacrificing profit in order to dominate market share or spend aggressively to acquire manufacturing capacity. Dess and Lumpkin (2005) contend than aggressive firms may be very assertive in leveraging the results of other entrepreneurial activities such as innovativeness and proactiveness for firm development and growth

Autonomy refers to firm's effort in encouraging employees to participate in firm's planning. Employees are free to make decisions about new idea without referring to higher auhority. It also encourages employees to implement new ideas even though they have to break firm's rules or regulations. New idea generations is the utmost importance in the firm whereby everybody is welcome to contribute and it is more important than firm's regulations. Firm ignores work rules and procedures to involve employees in new idea development (Shane et al., 1995). Thus Dess and Lumpkin (2005) noted that new ideas have to cross two critical stages, the project definition (a promising opportunity has to be justified in terms of whether it will be attractive in the marketplace and how well it fits with the firms' other strategic objectives) and project impetus (its strategic and economic impact must be supported by senior managers who have experience with similar projects. The project then becomes an embryonic business with its own organization and budget). Burgelman (1983) emphasizes 'product champion' (play important entrepreneurial role by scavenging others to take a chance on promising new ideas) strategy to ensure advances in both project definition and impetus.

Final remark for this section refers to Peter Drucker (1985) who iterated that today's enterprises will not be able to survive in this era of rapid 'creative destruction' and the ICT driven economy without entrepreneurship drivers. Entrepreneurs have to ensure that they behave as strategic leaders driving their firms with EO proficiency in this new competitive landscape. Therefore, embracing an entrepreneurial orientation in the entrepreneurs-led firms would secure survival and sustainability of enterprises (Wilklund, 1999). A strategic entrepreneurship should be a compulsory option for firms to adopt into themselves, their team and organization as a whole.

3. Methodology

3.1 Sampling and Unit of analysis

The study observes on the response of owner or manager who represents one BSMAEs in Peninsular Malaysia where each BSMAEs were the unit of analysis. The list and particulars of BSMAEs were supplied by Malaysian Agriculture Department, Muda Development Authority (MADA), Kemubu Development Authority (KADA), Federal Agricultural Marketing Authority (FAMA), Agro Bank and Farmers Association Organizations (FAOs). The list supplied comprised of 3876 SMAEs, after scrutinizing the details of the firms, we manage to mail a questionnaire to each of 2000 BSMAEs selected. The selection was done according to non-proportionate random sampling technique.

A total of 615 questionnaires were returned where 135 BSMAEs in southern region representing 22 percent, 349 BSMAEs from the northern region representing 57 percent, and 131 BSMAEs from eastern region representing 21 percent.

3.2 Intsrument and measurement

EO dimensions were adopted from earlier studies such as the dimension of innovativeness, proactiveness and risk taking used in Miller (1983) and refined by Covin and Slevin (1989, 1991). Competitive aggressiveness used in Lumpkin and Dess (2001), and autonomy adopted from Shane et al. (1985). A total of 29 items of EO measures anchored on a 5-point Likert scale, response to statements range from "1" – strongly disgree to "5" – strongly agree. Six items of autonomy, 8 items of innovativeness, 5 items each of proactiveness, competitive aggressiveness and risk taking.

3.3 Data analysis strategy

This analysis strategy capitalizes on item analysis prior to exploratory factor analysis (EFA) of the BSMAEs' EO dimensions based in the region where they operate. Item analysis was the first step to verify the content validity (Schriesheim, Powers, Scandura, Gardiner & Lankau,1993). Furthermore, Hinkin (1995) cited that any measure should be judged and must be adequately captured specific domain of interest without any extraneous content.

The EFA unleashes some validity issues such as the criterion, convergent and discriminant. Internal consistency is also measured in Cronbach's alpha to gauge items' stability and consistency. In detecting factor loading pattern in each region, thus EFA were done separately to subjects in each region studied. On the other hand, to detect differences of dimensions explaining each region, factor loading of overall sample were also analyzed using the one-way ANOVA and discriminant analysis (DA). This is done to avoid bias of region specific measures (Hair, Black, Babin, Anderson & Tatham, 2006).

Assumptions for ANOVA and DA as indicated in normality, linearity, multicollinearity, homocedasticity and independence of error term were ascertained. Normality is achieved as shown in skewness scores of the variables were below 3.0 and all data follow on normal distribution straight diagonal line observed in normal distribution

plot. Linearity is achieved as shown in scatter plot where all data were linear. Multicolinearity was not a threat when all correlation coefficient between variables were below .70. Homocedasticity was observed in scatterplot diagram when the data spread evenly about IV-DV line. Independence of error term was observed in the value of Durbin-Watson between 1.5 to 2.5 (Hair et al., 2006).

3.4 Common method variance

Bias in common method variance (CMV) was found as minimal threat to the analysis referring to factor analysis and ANOVA outcomes. Each factor extracted proved their distinctiveness shown in the communality of more than .50 in each item and the substantial percentages of variance explained (Podsakoff & Organ, 1986). Bias on self reported instruments that influenced respondents' self perception towards firm analysis shown in ANOVA that proved no significance difference.

4. Result

4.1 Descriptives

Demographic of the firms' owner or manager response to questionnaires was as follows, most of them were owners represented by 95.3% and 4.7% were the managers. The gender was female represented by 59% more than male. The age brackets were dominated by respondents who are more than 40 years old represented more than 70%, whereas those with 40 years or younger represented by 30%. Education background showed most representations were those finishing lower level education represented more than 85%, on the other hand, 15% were college graduates.

Firms' demographics divided into five categories. First, BSMAEs type of business represented by 70% were the manufacturers and processors of agro-based product, 15% were agricultural product producers, 8% were those in livestock sectors and 3.7% were firms that offer services in agriculture sector, and 2.9% were BSMAEs in fishing industry. Second, firms' legal registration status 78.9% were the sole proprietorship, both private limited company and partnership represented by 10.4%, and only 2 BSMAEs were public limited companies. Third, firms' size according to number of employees 77.9% were those firms categorized as micro business that employed less than 5 workers, 22% were those firms employed between 6-50 employees and only one BSMAEs employed more than 50 employees. Fourth, firms' cycle influence, 71% were those influenced by the cycle and only 22% were those firms free from cyclical influence. And fifth, agriculture dependence were represented by 48.3% of those BSMAEs fully dependence on agriculture sector and 51.7% were those not totally dependence on the sector.

4.2 Item analysis

The analysis produced six items showed mean value more than 4.00 on scale of 5.00. Most of the items were on 3.0 scales, and five items showed mean value less than 2.5. Eleven items showed their standard deviation less than 1.0 indicating the items parameter tend to concentrate around the mean (refer Table 1). Item analysis for 29 EO items based on the three regional corridors under the study showed twelve of them were significantly different at $p<.05$ (refer Table 2).

Insert Table 1 about here

Insert Table 2 about here

4.3 Factor Analysis

As demonstrated in Table 3 showed five factors loadings of EO namely the risk taking, autonomy, proactiveness, innovativeness and product market innovativeness where each factor's variance was explained more than 10 percent. The analysis showed significant Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy of .68 with explained total variance of 59 percent. The analysis utilized 135 samples from four states comprised of the state of Selangor, Negeri Sembilan, Melaka and Johor in the southern corridor of economic region also known as Iskandar development region (IDR).

Factor 1(labeled as competitiveness) loaded with four items, eigenvalue 2.12 and the variance explained was 14.2 percent. Two items were those theorized as risk taking and the other two were among the competitive aggressiveness dimensions. Factor 2 loaded with four items of autonomy, eigenvalue 1.98 and the variance explained was 13.2 percent. All items were measures of the autonomy dimension. Factor 3 (labeled as risk taking) loaded with three items, eigenvalue 1.73 and the variance explained by 11.5 percent. two items were those from risk taking and one item was innovativeness measure. Factor 4 loaded with two items of innovativeness measures, eigenvalue 1.55 and the variance explained by 10.3 percent. Factor 5 (labeled as product market

innovativeness) loaded with two items of innovativeness measures, eigenvalue 1.51 and the variance explained by 10 percent. Reliability of all dimensions indicated by Cronbach's alpha were more than .60.

NCER comprised of the states of Perlis, Kedah, Penang and Perak. Three states were those of agriculture based except Penang that focused mainly on industry. Table 3 showed that NCER states' BSMAEs were explained by 63.6 percent of total variance in their EO. The KMO sampling adequacy level was at .72. Six factors were extracted with loadings of more than .50. Each factor exhibited within this region was somewhat similar to IDR's BSMAEs. All factors were reliable with Cronbach's alpha more than .70 except one factor showed Cronbach's alpha of .60.

Table 4 showed factor 1 (labeled as risk taking) loaded with five items, the factor was explained by 12.9 percent of the variance, eigenvalue 2.83. Factor 2 (labeled as competitiveness) loaded with five items, the variance explained was 12.1 percent, eigenvalue of 2.67. Factor 3 (labeled as innovativeness) loaded with four items, variance explained was 11.6 percent and eigenvalue of 2.56. Factor 4 represented autonomy loaded with four items, the variance explained was 11.62 and eigenvalue of 2.56. Factor 5 (labeled as product market innovativeness) loaded with two items, variance explained by 8.0 percent and eigenvalue of 1.75. Factor 6 represent proactiveness loaded with two items, variance explained was 7.4 percent and eigenvalue of 1.62.

Insert Table 3 about here

Insert Table 4 about here

Table 5 showed result of factor analysis for EO in eastern corridor economic region (ECER) comprised of three states of Kelantan, Terengganu and Pahang. Total variance explained was 65.5 percent with KMO measures of sampling adequacy of .72. BSMAEs in eastern corridor showed that five factors explained their EO. Factor 1 (labeled product market innovativeness) loaded with three items, the variance explained was 15.7 percents with eigenvalue of 2.03. Factor 2 represented four items of autonomy dimensions with eigenvalue 2.03 and the variance explained by 15.6 percent. Factor 3 loaded with two items of innovativeness dimensions, eigenvalue 1.63 and the variance explained by 12.6 percent. Factor 4 loaded with two items representing proactiveness dimension, eigenvalue 1.45 with variance explained by 11.1 percent. Factor 5 (labeled as participative innovation) loaded with two dimensions, eigenvalue 1.38 and the variance explained by 10.6 percent. All factors were reliable except the proactiveness dimension that showed alpha coefficient below .50.

Insert Table 5 about here

SMAEs EO's differences between the economic regions in Malaysia analyzed using one-way analysis of variance (ONE-WAY ANOVA) to identify the significant variance. Verifying which EO dimension explained the difference, stepwise discriminant analysis (DA) was used.

One-way ANOVA showed significant different among all EO dimensions as in table 6. All but innovativeness dimension (p=.12) proved otherwise. However, stepwise DA as shown in table 7 ascertained only two dimensions of EO i.e autonomy and proactiveness contributed most to the discriminant functions. Wilk's lambda = .95 of the discriminant function ($\chi 2 = 29.79$, $df = 4$, $p<.000$) held significance for the whole model. Autonomy dimension was found to be the most important variable in explaining the discriminant function at Wilk's lambda = .97 ($F = 10.3$, $p<.01$), followed by proactiveness dimension with Wilk's lambda = .95 ($F = 4.8$, $p<.01$). Table 8 demonstrated the classification result of DA where prediction of group membership using classification function coefficient was at 56.6 percent.

Insert Table 6 about here

Insert Table 7 about here

Insert Table 8 about here

5. Discussion and Conclusion

BSMAEs owners and managers in Malaysia were mainly beyond forty years old who possess sufficient skills and experience to develop the industry. On the other hand, the presence of 30 percent of younger BSMAEs entrepreneurs in the industry who are below forty years old shall provide strategic human capital for the industry in the long run. In addition, most of the BSMAEs were the manufacturers and processers, these type of entities emphasize on value added activities and product that have high potential to generate superior returns.

The item analysis for each 29 EO items based on Malaysian three RGCs showed some significant differences. Twelve items that contain phrases such as freedom in decision-making, freedom in implementing newness, new product, new technology, exploring into unrelated opportunity, prompt and bold action, leading the market, investment in marketing, and selling new product in the new market were found significantly different between

regions. The findings showed that BSMAEs in Malaysia are regionally dependence in executing their entrepreneurial practices, processes and decision making regarding those elements. The findings suggest that prescriptions for firm level entrepreneurship development policy and programs should be geared according to regional strength and resources.

The extracted items that load into distinct factors were found to be somewhat different between regions. The latent construct of all EO dimensions was not as expected except autonomy dimension, ten items that should load on proactiveness and competitive aggressiveness found significant in both dimensions, two distinct dimensions were found explaining the eight items representing innovativeness where the dimension were relabeled, and risk taking items were found in all dimensions except autonomy. Thus EO in Malaysian SMAEs partially resemble those small and medium enterprises (SMEs) in other part of the world, measures theorized in Covin and Slevin (1989), Lumpkin and Dess (1997), Kreiser et al. (2002b), Covin et al. (2006) are appropriate to a certain extent.

Pattern of EO dimensions among BSMAEs entrepreneurs in the three economic region in Malaysia proved indifferent on the west coast, however east coast entrepreneurs (ECER) showed distinct pattern. IDR and NCER BSMAEs possess similar EO dimensions except proactiveness dimension. On the other hand, BSMAEs in ECER possess different types of innovative inclination besides proactiveness and autonomy dimensions.

ANOVA suggests that all EO dimensions explained the three regions except innovativeness, SMAEs on ECER is leading with their highest mean scores on all significant dimensions compared to other corridors. However, DA verifies that autonomy and proactive orientation explained all three regions but the strength seems indicative enough. Referring to the highest mean value of autonomy orientation is found among SMAEs in the ECER followed by the northern and southern corridors, on the other hand, proactive orientation was led by the south followed by the ECER and NCER.

Besides argument on the direct impact of EO on other variables, this study offers one option of valid and reliable measures of firm level entrepreneurship in addition to previous studies. And we manage to benchmark the strength of EO dimensions between regions. Thus, future studies should extend the study to all regions inclusive of Malaysian territory on Borneo island. In establishing EO as pertinent theory for entrepreneurship development in Malaysia, study should extend to multiple level of analysis and diversified level ranging from firms, industries to intercontinental studies.

This study justifies EO dimensions that fit in Malaysian agro-based entrepreneurs warrant intensive future research. EO at firm level manages to predict our regional development potential beyond the Ninth Malaysia plan (2006-2010), thus in the next planning stage (i.e. Tenth Malaysia Plan - 2011-2015) entrepreneurship development shall be the major predictor of a sustainable and progressive nation (Wilklund, 1999). Future studies also should embark on EO within specific domain or sectors (such as, technology entrepreneurship, ecopreneurship and social entrepreneurship – individually or combined) testing all strategic variables as proposed in strategic entrepreneurship (SE) (Kuratko & Audretsch, 2009).

6. So what?

BSMAEs in Malaysia are potential entities as another economic engine of growth as reflected in the composition of the entrepreneurs and type of business they undertake. Malaysian SMAEs future development should spearhead in strategic firm-level entrepreneurship paradigm as proved in the entrepreneurs' scores in EO. Thus, the agro-based entrepreneurs characteristics, industry and impact of EO on SMAEs proposed an alternative approach in the present entrepreneurship development strategy. The findings suggest that the present entrepreneurs development policy should be modified to fit each SMAEs' EO appropriate for each RGC.

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Table 1. Descriptives of Entrepreneurial Orientation Items[a]

Entrepreneurial Orientation Factors	Mean	Std. Deviation
1. Our employees participate in firm's planning	3.47	1.13
2. Our employees are free to make decision	2.03	1.03
3. Our employees are encouraged to implement newness	2.08	1.03
4. Our employees are free to spark new idea	3.99	.95
5. Our firm favors new idea more than rules and regulation	2.80	1.09
6. Our firm overules employment rules to involve worker in new idea	2.48	1.00
7. Our firm give special attention to research and development	4.07	.92
8. Our firm considers new idea as very important	4.36	.73
9. Our firm treats usage of new method as very important	4.22	.76
10. Our firm markets many lines of product/services since last 5 years	3.58	1.07
11. Our firm frequently change product/services since last 5 years	3.23	1.10
12. Our firm spends large amount of money in new product/services	3.19	1.11
13. Our firm spends large amount of money in R & D	3.24	1.15
14. Our firm employs many skill workers in each department	3.60	1.05
15. Our firm always the first to introduce new technology	3.52	1.05
16. Our firm always the first to offer new product/services	3.36	1.00
17. Our firm always take unrelated opportunities	3.29	1.08
18. Our firm stops selling old product when market offers new product	2.30	1.01
19. Our firm acts assertively in order to achieve objectives	4.19	.77
20. Our firm typically adopts a very competitive posture	4.00	.89
21. Our firm adopts unusual method to overcome competitors	3.17	1.07
22. Our firm always lead the market	3.48	.98
23. Our firm invests heavily in marketing	3.26	1.07
24. Our firm adopts "follow the leader" strategy in the market (Recode)	2.67	1.00
25. Our firm invests in high cost projects	2.48	.98
26. Our firm acts boldly in order to achieve objectives	3.97	.83
27. Our firm acts promptly to reduce losses	4.15	.80
28. Our firm always invest in new technology	3.18	.98
29. Our firm sells new products/services in new market	3.28	1.02

[a]1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree, N = 615.

Table 2. Entrepreneurial Orientation Items ANOVA Based on Regions

Entrepreneurial Orientation Factors	Mean			Std. Deviation			F-Value
	North	South	East	North	South	East	
1. Our employees participate in firm's planning	3.44	3.46	3.56	1.12	1.08	1.20	.49
2. Our employees are free to make decision	2.05	1.86	2.16	1.02	0.81	1.25	2.97*
3. Our employees are encouraged to implement newness	2.04	1.92	2.34	0.99	0.86	1.25	6.35**
4. Our employees are free to spark new idea	3.99	3.84	4.11	0.92	1.05	0.90	2.75
5. Our firm favors new idea more than rules and regulation	2.76	2.73	2.97	1.09	1.04	1.16	2.07
6. Our firm overules employment rules to involve worker in new idea	2.49	2.44	2.49	0.99	0.95	1.03	.14
7. Our firm give special attention to research and development	4.07	4.16	4.01	0.85	0.87	1.11	.90
8. Our firm considers new idea as very important	4.33	4.37	4.46	0.72	0.72	0.73	1.55
9. Our firm treats usage of new method as very important	4.18	4.24	4.30	0.77	0.72	0.75	1.23
10. Our firm markets many lines of product/services since last 5 years	3.52	3.63	3.71	1.10	1.05	1.03	1.73
11. Our firm frequently change product/services since last 5 years	3.16	3.25	3.42	1.11	1.09	1.07	2.73
12. Our firm spends large amount of money in new product/services	3.12	3.29	3.29	1.11	1.11	1.12	1.75
13. Our firm spends large amount of money in R & D	3.17	3.35	3.32	1.14	1.13	1.20	1.63
14. Our firm employs many skill workers in each department	3.58	3.48	3.77	1.04	1.06	1.07	2.69
15. Our firm always the first to introduce new technology	3.40	3.76	3.61	1.08	0.80	1.13	6.62**
16. Our firm always the first to offer new product/services	3.25	3.51	3.49	1.04	0.89	0.97	4.94**
17. Our firm always take unrelated opportunities	3.19	3.54	3.30	1.06	1.03	1.16	5.24**
18. Our firm stops selling old product when market offers new product	2.21	2.35	2.48	0.97	0.96	1.14	3.58*
19. Our firm acts assertively in order to achieve objectives	4.14	4.30	4.21	0.75	0.66	0.89	2.38
20. Our firm typically adopts a very competitive posture	3.95	4.11	4.03	0.92	0.65	1.01	1.71
21. Our firm adopts unusual method to overcome competitors	3.15	3.18	3.21	1.05	1.10	1.11	.16
22. Our firm always lead the market	3.35	3.72	3.57	0.95	0.85	1.10	8.02**
23. Our firm invests heavily in marketing	3.17	3.29	3.44	1.06	1.14	1.01	3.08*
24. Our firm adopts "follow the leader" strategy in the market (Recode)	3.20	3.44	3.54	1.00	0.89	1.05	6.66**
25. Our firm invests in high cost projects	2.44	2.56	2.50	0.95	0.97	1.06	.88
26. Our firm acts boldly in order to achieve objectives	3.88	4.03	4.15	0.83	0.75	0.89	5.87**
27. Our firm acts promptly to reduce losses	4.06	4.22	4.31	0.85	0.62	0.77	5.21**
28. Our firm always invest in new technology	3.12	3.22	3.27	0.94	0.97	1.07	1.18
29. Our firm sells new products/services in new market	3.17	3.33	3.53	1.04	0.98	0.94	6.18**

*p<.0.05, **p<.01.

Table 3. Entrepreneurial Orientation (EO) Factor Analysis (IDR)

		Component				
EO statements and dimensions	Comm-unality	1	2	3	4	5
1. Competitive aggressiveness						
A26. Our firm acts boldly in order to achieve objectives	.60	**.768**	.033	-.030	-.071	.050
A20. Our firm typically adopt a very competitive posture	.56	**.705**	-.079	.155	.165	.050
A27. Our firm acts promptly to reduce losses	.50	**.686**	.097	-.105	.043	.056
A19. Our firm acts assertively in order to achieve objectives	.51	**.646**	-.127	.185	.192	.033
2. Autonomy						
A5. Our firm favors new idea beyond rules and regulation	.60	.010	**.746**	-.042	.185	.051
A3. Our employees are encouraged to implement newness	.50	.032	**.674**	.107	-.143	.015
A2. Our employees are free to make decision	.52	-.070	**.655**	.113	-.135	.226
A6. Our firm ignores employment rules to involve worker in new idea	.46	-.030	**.637**	.229	.041	-.033
3. Risk taking						
A23. Our firm invests heavily in marketing	.64	.203	.088	**.756**	.117	-.045
A25. Our firm invests in high cost projects	.61	.123	.243	**.706**	-.201	.001
A12. Our firm spends large amount of money in new product/services	.63	-.206	.104	**.701**	.131	.252
4. Innovativeness						
A7. Our firm gives special attention to research and development	.70	.120	.038	-.017	**.825**	.034
A8. Our firm considers new idea/approach as very important	.65	.113	-.075	.069	**.784**	.123
5. Product market innovativeness						
A11. Our firm frequently changes product/services since last 5 years	.76	.095	.048	.101	-.013	**.857**
A10. Our firm markets many lines of product/services since last 5 years	.69	.082	.128	.012	.185	**.793**
Eigenvalue		2.12	1.98	1.73	1.55	1.51
Percent of variance (Total = 59.24%)		14.15	13.21	11.51	10.31	10.06
Cronbach's alpha		.68	.64	.61	.60	.66
Kaiser-Meyer-Olkin Measure of Sampling Adequacy. .681						
Bartlett's Test of Sphericity — Approx. Chi-Square 905.269						
Df 105						
Sig. .000						

n = 135

Table 4. EO factor analysis (NCER)

	Component					
	1	2	3	4	5	6
1. Risk taking						
A19. Our firm acts assertively in order to achieve objectives (.68)	**.798**	.058	.144	-.075	-.077	.071
A20. Our firm typically adopt a very competitive posture (.59)	**.728**	-.014	.057	-.178	-.005	.153
A26. Our firm acts boldly in order to achieve objectives (.55)	**.709**	.161	-.122	-.063	-.060	.062
A27. Our firm acts promptly to reduce losses (.60)	**.664**	-.124	.066	-.067	.342	.121
A9. Our firm treats usage of new method as very important (.60)	**.617**	.178	.316	.007	.198	-.214
2. Competitive aggressiveness						
A25. Our firm invests in high cost projects (.60)	-.049	**.739**	.015	.128	-.192	-.034
A13. Our firm expends substantially large amount in R & D (.71)	-.056	**.695**	.140	-.043	.447	-.022
A12. Our firm expends substantially large amount in new product/services(.58)	.170	**.666**	-.163	.039	.289	-.001
A23. Our firm spends substantially large amount in marketing (.53)	.084	**.623**	.026	.251	.080	.250
A29. Our firm sells new products/services in new market (.52)	.146	**.595**	.150	.078	.289	.180
3. Innovativeness						
A7. Our firm give special attention to research and development (.75)	.127	.290	**.774**	-.187	.133	.006
A4. Our employees are free to spark new idea (.69)	-.036	-.212	**.748**	.222	-.092	.167
A8. Our firm considers new idea/approach as very important (.61)	.343	.129	**.680**	-.050	.106	.058
A1. Our employees participate in firm's planning (.56)	-.068	-.098	**.641**	.324	.039	.157
4. Autonomy						
A2. Our employees are free to make decision (.66)	-.201	.074	.021	**.767**	.093	-.136
A3. Our employees are encouraged to implement newness (.63)	-.207	.020	-.050	**.754**	.122	-.041
A6. Our firm overules employment rules to involve worker in new idea (.64)	-.046	.198	.057	**.749**	.006	.173
A5. Our firm favors new idea beyond rules and regulation (.67)	.130	.128	.426	**.663**	-.015	.111
5. Product market innovativeness						
A10. Our firm markets many lines of product/services since last 5 years (.66)	.045	.151	.073	.058	**.793**	-.028
A11. Our firm frequently change product/services since last 5 years (.62)	.060	.223	.022	.187	**.679**	.268
6. Proactiveness						
A16. Our firm always the first to offer new product/services (.80)	.138	.029	.087	.122	.074	**.870**
A15. Our firm always the first to introduce new technology (.73)	.114	.286	.336	-.137	.130	**.697**
Eigenvalue	2.83	2.67	2.56	2.56	1.75	1.62
Percent of variance (Total = 63.57%)	12.87	12.11	11.63	11.62	7.96	7.38
Cronbach's alpha	.77	.76	.73	.76	.60	.71
Kaiser-Meyer-Olkin Measure of Sampling Adequacy. .716						
Bartlett's Test of Sphericity — Approx. Chi-Square 1062.27						
Df 231						
Sig. .000						

n = 349, communality is in parantheses.

Table 5. EO factor analysis (ECER)

		Component				
	Comm-unality	1	2	3	4	5
1. Product market innovativeness						
A10. Our firm markets many lines of product/services since last 5 years	.78	**.860**	.060	.141	-.128	-.023
A11. Our firm frequently change product/services since last 5 years	.67	**.788**	.014	.131	.169	.002
A16. Our firm always the first to offer new product/services	.54	**.700**	-.001	.095	.093	.184
2. Autonomy						
A3. Our employees are encouraged to implement newness	.67	-.109	**.794**	.002	.053	.139
A2. Our employees are free to make decision	.60	-.049	**.764**	.013	-.107	-.062
A6. Our firm overules employment rules to involve worker in new idea	.50	.127	**.664**	.200	-.005	-.002
A5. Our firm favors new idea beyond rules and regulation	.47	.187	**.550**	-.034	.310	.182
3. Innovativeness						
A13. Our firm spends large amount of money in R & D	.82	.157	.029	**.862**	-.121	.187
A12. Our firm spends large amount of money in new product/services	.69	.207	.136	**.745**	.263	-.081
4. Proactiveness						
A24. Our firm adopts "follow the leader" strategy in the market (Recode)	.76	.036	-.038	-.078	**.866**	.032
A17. Our firm always take unrelated opportunities	.56	.072	.119	.392	**.618**	.087
5. Autonomus innovativeness						
A1. Our employees participate in firm's planning	.78	-.011	.183	-.069	-.057	**.861**
A7. Our firm give special attention to research and development	.69	.212	-.056	.284	.247	**.706**
Eigenvalue		2.03	2.03	1.63	1.45	1.38
Percent of variance (Total = 65.57%)		15.65	15.63	12.55	11.11	10.63
Cronbach's alpha		.72	.66	.68	.44	.51
Kaiser-Meyer-Olkin Measure of Sampling Adequacy. .716						
Bartlett's Test of Sphericity Approx. Chi-Square 1062.27						
Df 101						
Sig. .000						

n = 131

Table 6. Analysis of Variance (ANOVA) of EO Dimensions based on Region

Significance test single variate				**Region Mean**		
Dimension	*F*	*Df*	Sig.	NCER	IDR	ECER
Risk taking	5.92	2, 612	.003	4.01	4.17	4.18
Autonomy	4.07	2, 612	.018	2.33	2.24	2.49
Competitive Agg.	3.13	2, 612	.044	2.97	3.12	3.14
Innovativeness	2.15	2, 612	.117	61.07	63.34	63.11
Product innovativeness	2.97	2, 612	.052	3.34	3.44	3.56
Proactiveness	5.71	2, 612	.000	3.28	3.60	3.47

Table 7. Discriminant Analysis (Stepwise) between Regions

					Classification Function Coefficient		
Step	Sub Scale	F to Remove	Wilks' Lambda	Sig.	NCER	IDR	ECER
1	Proactiveness	10.304	.967	.000	5.36	5.99	5.67
2	Autonomy	4.80	.952	.000	3.44	3.15	3.68
	(Constant)				-13.36	-15.85	-15.95

Table 8. Classification result from Discriminant Analysis

Predicted groups					
Actual group	Number of Cases	NCER	IDR		ECER
NCER	349	344 (98.6%)	5	(1.4%)	0 (0%)
IDR	135	131 (97.0%)	4	(3.0%)	0 (0%)
ECER	131	130 (99.2%)	1	(0.8%)	0 (0%)