

Moderating Effect of Logistics and Supply Chain Issues on the Relationship between Entrepreneurial Orientation and Market Orientation

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Abstract: Business expansion either locally or internationally is a vision of most firms, even for small and medium sized enterprises (SMEs). In order to achieve this market expansion, previous studies have identified the importance of market orientation towards superior firms' performance. At the same time, firm-level market orientations are also important. However, the existence of logistics and supply chain issues such as transportation, packaging, documentation and warehousing are expected to thwart firms' effort in establishing their market orientation. This study focuses on identifying the effect of logistics and supply chain related issues on the relationship between entrepreneurial orientation and market orientation among SMEs in Malaysia. The result indicates that logistics and supply chain issues moderate the relationship between entrepreneurial orientation and market orientation. However, the moderation effect is weak, based on the Cohen f^2 effect size calculation. This study shows that logistics and supply chain issues do have some weak effect on the relationship between both variables. Thus, SME managers need to resolve any logistics and supply chain related issues experienced by the company in order to improve their market orientation.

Key words: *Analisis, Buku Teks, al-'Izzah dan Bahasa Arab*

INTRODUCTION

Business expansion either locally or internationally is a vision of most firms, even for small and medium sized enterprises (SMEs). SMEs may venture into a new market or even internationalized their business for more profit. Technological advancements and declining trade barriers have open up an opportunity not only to big conglomerates but also are enabling the SMEs to become international in a quick yet effective way. If a proper strategy is taken, these micro enterprises may become a Born Global or International New Ventures (INVs) company, which refers to the firm that start selling internationally right from its establishment [1]. In order to achieve this market expansion, the management of the company needs to develop the market orientation of the company. Narver and Slater [2] considered market orientation as the organizational culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, superior performance for the business. Firms that are market oriented are continuously responding to the changing in customer and market needs. As such, firms need to invest in new technologies and equipment, provide training to their workforce and also explore new markets. At the same

time, having a high level of entrepreneurial orientation is also expected to boost SMEs competitive advantage. Entrepreneurial orientation is firm-level strategic orientations which include an organization's strategy-making practices, managerial philosophies, and firm behaviors that are entrepreneurial in nature [3]. In addition, venturing into new market, especially across borders require effective logistics and supply chain strategies. Firms need to have an efficient logistics and supply chain strategies and network that span across international borders. Effective international logistics and supply chain strategy will not only help firms penetrate into new foreign markets but also offers significant cost savings if it was executed efficiently. Issues in logistics and supply chain aspects such as transportation, packaging, documentation, warehousing and so on are expected to negatively affect firm's intention to expand their business [4].

According to SME Corporation Malaysia, 97.3% or 645,163 of 662,939 business establishments in this country are consists of SMEs. The contribution of SMEs towards Malaysian GDP is 35.9% in 2014 and accounted for 65% of the total employment in this country [5]. Malaysian SMEs are defined based on their sector, as shown in table 1.

Table 1: Definition of SMEs in Malaysia

CATEGORY	SMALL ENTERPRISE	MEDIUM ENTERPRISE
Manufacturing	Sales turnover from RM300,000 to less than RM15 mil., OR employees from 5 to less than 75	Sales turnover from RM15 mil to not exceeding RM50 mil., OR employees from 75 to not exceeding 200
Services and Other Sectors	Sales turnover from RM300,000 to less than RM3 mil., OR employees from 5 to less than 30	Sales turnover from RM3 mil to not exceeding RM20 mil., OR employees from 30 to not exceeding 75

Source: Official website of SME Corp. Malaysia (www.smecorp.gov.my)

There are various factors attributed towards the success of Malaysian SMEs as identified by previous studies. These include factors such as reputation of honesty, good customer service and hard work [6] leadership behaviors of leaders [7], and government business support [8]. In addition, a study by Hung et al., [9] identify six main factors that contribute towards the success of Malaysian SMEs namely networking, product, and ability to focus on market, customer, supportive management, and leadership. A later study by Lo et al., [10] identified both technology and entrepreneurial orientations as significant success factors for SMEs in terms of financial and non-financial performance. In addition, top management support is found to be significantly and positively related to financial performance.

Despite the success, there are also cases where SMEs failed to sustain their business. Kannan [11] list out some reasons for SME’s failure which include poor business planning, ignoring competitors, lack of technology, lack of financial planning and lack of entrepreneurial skills. Earlier study by Fatoki [12] shows that there are both internal and external factors that may cause SME’s business failure. Internal factors include lack of management experience, lack of functional skills and poor staff training and development and poor attitudes towards customers. External factors

include logistics and supply chain inefficiency, high cost of distribution, competition, rising costs of doing business and lack of finance. It is clear from Fatoki’s [12] findings that one of the causes of SMEs failure is logistics and supply chain inefficiency. Therefore, this study was conducted with the objective is to identify the effect of logistics and supply chain related issues on the relationship between entrepreneurial orientation and market orientation of SMEs in Malaysia. Hopefully, the findings may provide a better understanding on how this factor might influence SMEs inclination towards market expansion and their success potential.

LITERATURE REVIEW

According to the Council of Supply Chain Management Professionals, supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities [13]. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers of raw materials and finished products, intermediaries, third party service providers, for both the upstream and downstream activities as shown in Figure 1. In essence, supply chain management integrates supply and demand management within and across companies.

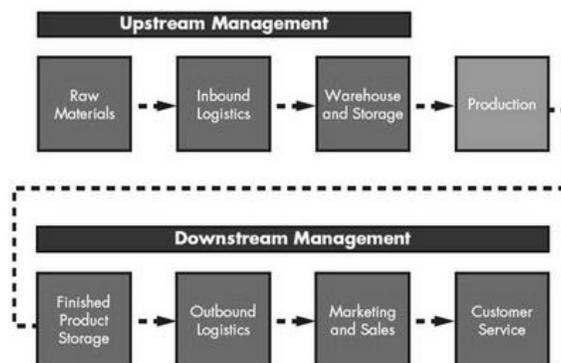


Figure 1: Logistics and supply chain activities

Logistics management is defined as that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements [13]. The definition indicates that logistics are part of the supply chain management that move and position inventory to the desired time, place and possession at the lowest total cost. Therefore, logistics and supply chain issues refers to the barriers associated with any of the logistics and supply chain activities, starting from raw materials acquisition until customer service as shown in Figure 1. These issues tend to offset a firm's effort to establish an efficient supply chains system and often lead to higher total supply chains costs and decrease flexibility that will adversely affect the firm's competitive position [14]. Lack of knowledge on logistics and supply chain strategy or in other words high level of logistics and supply chain issues is expected to negatively influence the market expansion intention of managers [15] and reduce the possibility of risk taking behavior and intention to venture abroad [14].

The complexity of logistics and supply chain management that include different business customs, inadequate logistics infrastructure, restrictive regulatory frameworks and different levels of supply chain services give rise to issues that tend to offset efforts to establish an efficient supply chain and often lead to higher total supply chain costs. Previous studies have tried to identify the logistics and supply chain issues faced by firms. Among them are time-based competition issues, trade issues, transportation issues, restructuring issues and country specific issues [16]. Some studies look at technology, distribution, transportation and telecommunications infrastructure, communication and functional silos (the organizational structure of the firm). Foggin et al., [17] describe major supply chain issues as a five-factor model that includes inventory, customer service, organization, systems and product flow issues.

Narver and Slater [2] define market orientation as a competitive strategy that generates the right kinds of behavior to create enhanced value for the consumer and therefore assures better long-term results for corporations. It is based on the firm's orientation towards the customer, orientation towards competitors and inter-functional coordination. Market orientation is expected to provide solid foundation for firm's competitive advantage and simultaneously enhance

business performance [2, 18]. It is also the organization-wide generation of market intelligence, dissemination of the intelligence across departments and organization-wide responsiveness to it [19]. Firms that are market oriented will continuously respond to the changing in customer and market needs. As such, firms need to invest in new technologies and equipment, provide training to their workforce and also explore new markets. Entrepreneurial orientation can be defined as the inclination of firms towards more innovative, proactive and risky actions [20]. Previous study tries to clarify the elements of entrepreneurial orientation as the organization's willingness to innovate and rejuvenate its market offerings (innovativeness), to take risk by trying out new and uncertain products or services (risk-taking) and to be more proactive than its competitors in seeking out new marketplace opportunities (pro-activeness) [21].

HYPOTHESIS AND CONCEPTUAL FRAMEWORK

Previous studies posit a positive relationship between entrepreneurial orientation and market orientation. Narver and Slater [2] found out that businesses may achieve market orientation's full potential when they are driven by an entrepreneurial orientation. Studies by Morris et al., [22], and Matsuno et al., [23] also generate similar findings. In addition, Tennakoon [24] found a strong positive relationship between entrepreneurial orientation and market orientation provided that the firm size is high. The strength of the relationship appeared to be lessened for smaller firm sizes. Based on the above findings, the first hypothesis of this study is:

H1: There is a positive relationship between entrepreneurial orientation and market orientation.

As stated earlier, logistics and supply chain issues are found to negatively affect market expansion or internationalization [15] and reduce the risk taking behavior [25]. Thus, it is considered as the moderating variable for this study as it is expected to influence the strength of the relationship between entrepreneurial orientation and market orientation. In other words, the existence of issues in logistics and supply chain management tend to offset SMEs efforts to create a better market orientation strategy in its business, thus effecting market expansion. Based on these arguments, the second hypothesis of this study is:

H2: Logistics and supply chain issues moderates the relationship between entrepreneurial orientation, and market orientation.

The conceptual framework of this study is shown in Figure 2.

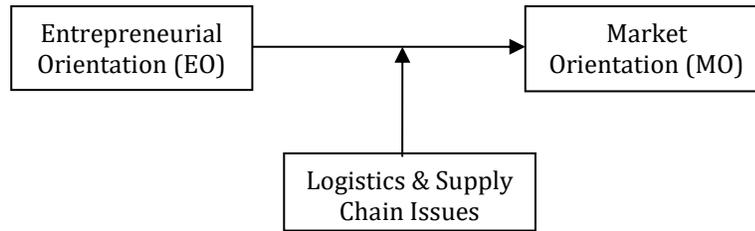


Figure 2: Conceptual framework of the study

RESEARCH METHODOLOGY

In order to test the hypothesis, this study used a quantitative research design, where data were obtained through survey questionnaires. The population of the study is SMEs in three states located at the northern region of Malaysia namely Kedah, Perlis and Penang. The sampling frame is the Malaysian SME Business Directory that is available online at “www.smeinfo.com.my”. Samples were chosen based

on a convenience basis. The survey questionnaire for this study was developed based on measures used in previous related studies as highlighted in Table 2. The items for entrepreneurial orientation, and market orientation used the 5 point Likert Scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). On the other hand, the items for supply chain issues used the 5 point Likert Scale ranging from 1 (Rarely Happen) to 5 (Always Happen).

Table 2: Survey questionnaire items

Variables	No of Items	Sources
Entrepreneurial orientation	6	Khandwalla [26]
Market Orientation	7	Naver and Slater [2]
Logistics and supply chain issues	11	Abdullah <i>et al.</i> , [4]

Before the actual distribution of the survey questionnaires, a pilot study was conducted to determine the readers understanding of the items and to confirm the internal reliability. A total of 30 companies were selected based on convenience basis and the result indicates that all the variables of the study have a Cronbach’s Alpha value of more than 0.7, which is the cut-off value or the acceptable reliability level. For the actual data collection, the surveys were distributed both by mail and by self-administered. A total of 106 mail survey questionnaires were returned out of 300 surveys distributed. Thus, the survey response rate is 35.3%. Data gathered from survey questionnaires were analyzed using SPSS for the descriptive findings, while the relationship between variables and the moderating effect were tested with a Partial Least Square Regression Technique, using SmartPLS 2.0 software.

FINDINGS

Demographic: Location wise, both the state of Kedah and Penang have equal numbers of companies, which are 38 or 35.8% each, while the other 30 SMEs are located in Perlis. Majority of them are in the food and beverages industries with a total of 46 companies (43.4%), followed by pharmaceuticals and healthcare

product with 26 (24.5%), and agriculture with 14 SMEs (13.2%). In terms of years of operations, almost half of the SMEs involved in this study have been operating in between 6 to 15 years, with a cumulative total of 52 SMEs and cumulative percentage of 49%. 32 SMEs (30.2%) are relatively new SMEs as they have been operating for less than 5 years. In contrast, 11 SMEs (10.4%) are established SMEs as they have been operating for more than 25 years. For the number of employees, 44 SMEs employ less than 5 employees (41.5%), followed by 38 (35.8%) that employs in between 6 to 75 employees. 5 firms (4.7%) have more than 200 employees. Analysis on SMEs’ annual turnover shows that more than half of these SMEs earned less than RM 300,000.00 annually, which is 54 SMEs (50.9%). Another 28 SMEs (26.4%) earned in between RM 301,000.00 to RM 15 Million, while 15 (14.2%) earned in between RM 15.1 million to RM 30 million yearly. Only 3 SMEs (2.8%) earned more than RM 50 million annually.

Reliability and Validity

Content reliability: All scales used in this study are derived from previous studies and the draft questionnaire is pilot tested at 30 SMEs. Based on the result of the pilot test, the Cronbach Alpha value fulfils

the minimum cut-off value and thus, content validity has been fulfilled. **Convergent validity:** Outer loadings value for individual item (indicator) for each latent variable (construct) and the Average Variance Extracted (AVE) value helps determine the convergent validity of the model. Construct that have an (AVE) value of more than 0.5 are considered to have high convergent validity [27]. Table 3 indicates that the AVE value for logistics and supply chain issues are less than 0.5 and therefore, indicators with outer loading of less than 0.50 which are

Iss1, Iss2, Iss4 and Iss5 were removed from further analysis. Literature indicates that indicator with outer loading of less than 0.40 should be eliminated if the AVE value is less than 0.50 [28]. The result indicates that outer loading for all items are satisfactory after the model is re-run without the removed items. AVE value for logistics and supply chain issues has increase to 0.544 after the removal of 4 items and therefore, confirms the convergent validity of the model.

Table 3: Outer loadings, AVE and composite reliability value

Indicators	Loadings	AVE	Composite Reliability
<i>Entrepreneurial Orientation</i>		0.689	0.929
EntOr1	0.811		
EntOr2	0.884		
EntOr3	0.832		
EntOr4	0.595		
EntOr5	0.915		
EntOr6	0.902		
<i>Market orientation</i>		0.647	0.927
MktOr1	0.768		
MktOr2	0.827		
MktOr3	0.771		
MktOr4	0.870		
MktOr5	0.871		
MktOr6	0.787		
MktOr7	0.728		
<i>Logistics & Supply Chain Issues</i>		0.350*	0.838
Iss1	0.169	0.544**	
Iss2	0.479		
Iss3	0.572		
Iss4	0.244		
Iss5	0.406		
Iss6	0.546		
Iss7	0.737		
Iss8	0.758		
Iss9	0.839		
Iss10	0.731		
Iss11	0.620		

Discriminant validity: It shows that a test of a concept is not strongly correlated with other tests designed to measure theoretically different concepts. Square root of the average AVE is calculated and compared with the correlations among the latent variables using the latent variable correlation matrix output of PLS [29]. This is also known as a Fornell Larcker Criterion method. Correlations between constructs are displayed in the lower left off-diagonal elements in the matrix as shown

in Table 4. Square root of AVE shared between the construct and its measure should be greater than the variance shared between the construct and other constructs in the model [30]. The result shows that the diagonal elements highlighted in bold (square root of AVE) are greater than the off-diagonal elements in both corresponding rows and columns, which provided evidence of discriminant validity.

Table 4: Latent Variable Correlation Matrix

	EntOr	Issue	MktOr
EntOr	0.8303		
Issue	-0.1973	0.7378	
MktOr	0.7671	-0.3273	0.8043

Assessment of the Structural Model

In order to test the hypothesis, first the direct relationship between entrepreneurial orientation and market orientation was tested and the results which include path coefficients, t-values, significant or not significant and the variance explained values (R^2) is available in Table 5. It indicates that entrepreneurial orientation has a significant positive relationship with market orientation where the path coefficient is 0.767

($t=19.07$, $p < 0.01$). Therefore, H1 is accepted. The model explains 58.8% of the variance in market orientation based on the R^2 value. The model was then re-analyzed as logistics and supply chain issues construct are added into the model. The result indicates some changes in the path coefficient between the entrepreneurial orientation and market orientation, as the value has decrease from 0.767 to 0.711. The variance explained value or R^2 has also increase to 0.624.

Table 5: Path Coefficient, T-Value and Significance

		Sign	Path	T-Value	Sig	R^2
Without Moderator	EntOr → MktOr	+	0.767	19.07	Yes*	0.588
With Moderator	EntOr → MktOr	+	0.711	10.02	Yes*	0.624

* Note: Significant at $p < 0.01$

The strength of the moderating effect was examined by comparing the proportion of R^2 from the model without the moderating variable with the R^2 of the full model,

which includes the moderator [31]. This formula is used to determine the effect size (f^2) of logistics and supply chain issues as a moderating variable.

$$f^2 = \frac{R^2_{\text{model with moderator}} - R^2_{\text{model without moderator}}}{1 - R^2_{\text{model with moderator}}}$$

$$f^2 = \frac{0.624 - 0.588}{1 - 0.624}$$

$$f^2 = 0.0957$$

According to Cohen [31], moderating effect with effect size f^2 of 0.02 may be regarded as weak, 0.15 as moderate and more than 0.35 may be regarded as strong. Therefore, it can be concluded that logistics and supply chain issues do moderate the relationship between entrepreneurial orientation and market orientation of SMEs in Malaysia, but the effect is rather weak as the effect size is only 0.0957.

DISCUSSIONS

The finding indicates that there is a significant positive relationship between entrepreneurial orientation and market orientation. The relationship is strong as the path coefficient value is 0.767. According to Chin [32], the standardized paths should be at least 0.20 and ideally above 0.30 in order to be considered meaningful or have a strong relationship, while coefficients of 0.10 are neither theoretically nor practically interesting. The

finding is similar to previous studies that posit a positive relationship between these two variables, such as by Tennakoon [24], Narver and Slater [2], Morris et al., [22] and Matsuno et al., [23]. Thus, it may be assumes that SMEs with greater innovativeness, pro-activeness and risk taking behavior will have a higher level of market orientation. These entrepreneurial characteristics will make SMEs more willing to explore and expand their business even beyond the national border. In terms of the moderating effect of logistics and supply chain issues on the relationship between entrepreneurial orientation and market orientation, the moderation effect towards the relationship between both variables is rather weak. This result however is in line with the other research findings which states that logistics and supply chain issues are found to negatively affect market expansion or internationalization [15] and reduce the risk taking behavior [14], as evidence through the path

coefficient value decrease in the later model (with moderation). Logistics and supply chain issues may reduce the impact of entrepreneurial orientation on market orientation, even though the effect is not that strong. SMEs might be proactive, have risk-taking behavior, innovative and continuously innovate, but these might not be good enough to enhance their market orientation if there are some logistics and supply chain issues that may hamper business expansion either locally and internationally. Therefore, it is important for SMEs to solve any logistics and supply chain related issues and at the same time improve these two aspects in order to improve their market orientation.

This study contributes towards SME managers, the government and also relevant policymakers. It is very clear from the above findings that inculcating entrepreneurial orientation within the SMEs may help enhance their market orientation. Managers should encourage innovativeness among the employees and the same time ready to take risk, be proactive and improve product or process innovations if they want to improve their market orientation and ultimately the business performance. Although business performance is not a focus of this study, it is generally proven by other researchers that market orientation will eventually leads to better business performance [33, 34, 35]. This study has some limitations. It involved only SMEs within the Northern Region of Malaysia, and due to difficulties in gaining completed survey from the respondents, the number of samples are relatively small. Hence, the result may not represent the total SME population in Malaysia as a whole. Future study may try to expand the location and number of samples and make comparison of the result. Most literatures on entrepreneurial orientation show that it consists of three main elements namely proactiveness, innovativeness and risk taking. This study just focused on entrepreneurial orientation as one factor that influences the market orientation of SMEs. A similar study that is more focus and looks at these three dimensions as three different independent variables, and logistics and supply chain issues as the moderator is worth a study.

DISCUSSIONS AND CONCLUSIONS

As a conclusion, expanding market reach either locally or going global is what most managers are looking forward to these days and SME owners in Malaysia are no exception. Firms however need to have good market orientation which is expected to provide solid foundation for firm's competitive advantage and simultaneously enhance business performance. Entrepreneurial orientation, which is the SMEs inclination towards more innovative, proactive and risky actions, may enhance their market orientation. However, existence of logistics and supply chain issues

which encompasses inventory, transportation, information system, documentation, and packaging issues are expected to moderate the effect of entrepreneurial orientation on market orientation, but the finding of this study shows that the effect is rather weak.

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