KEY SUCCESS FACTORS TO SUPPLY CHAIN RISK MANAGEMENT FOR FRESH PRODUCE IN MODERN TRADE OF THAILAND

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Abstract- This paper is explored about key success factors of supply chain risk management in fresh product of modern in Thailand. In the manufacturing industry most of firms are strongly implement with SCRM but not many fresh food industry applied this system. Therefore this research prepare for fresh tropical fruit in Thailand. The questionnaire was sent to sample respondent and analyze by multiple regression analysis. there is a quantitative research. The result about focus to Supplier Relationship Management is very greatest important effect to procurement performance of the firm both in buyer and supplier. Also internal risk factors and external risk factors need to be monitor closely from this research results.

Keywords- Green Supply chain Management, Business Performance, Electronic Industry, Green Industry.

I. INTRODUCTION

Problems arise from uncertainty. In a highly competitive situation, if businessmen have less information or knowledge less than competitors, it can result in a loss of competitive advantage. Therefore, on must conduct risk management in order to reduce or prevent risk from business uncertainty. In particular, agricultural and fresh products which abound in Thailand - for example, meat, seafood, processed meat, vegetables and fruits - all have a high degree of uncertainty due to changing market demands. Plus all have short storage time which is the case for perishable products.

Thai fresh fruits business has strong demands in the domestic markets due to expansion of wholesale and retail trade. As for foreign markets, regional economic cooperation has resulted in expansion of farm area in order to satisfy the market demands. In the domestic market, new channels of retail trade with nationwide network such as Tesco, Big C, Super Cheap and Makro all contribute to increase in cash and income circulation. However, problems can arise from many factors affecting production - such as seasonality, weather, diseases as well as transportation - making the management of the supply chain more difficult which can result in the failure to meet the demands of the end-customers.

Many factors that are risks to business are 1) external factor beyond our control, such as economic conditions, politics, public policy, legislation, regulations, consumer behavior, technology change, natural disaster etc. 2) internal factor that are within control of the organization, such as, command structure, delegation, company rules, information management policy, processes, information technology, equipments, costs, resources, logistics and risk appetite. Moreover, there are other drivers that have impact on risk management of the supply chain such as relationship between buyer, seller, and supplier, purchasing policy and process, product development, skill of supplier as well as requirement on social responsibility. [1]

From the above reasons, we can see that, studying the factors that contribute to the success of management of risk in the supply chain of fresh products in the modern trade business in the large trade format (LTF) have important implications of suppliers of fresh fruits and vegetables, enabling them to increase their income or reduce the cost. Modern trade can supply fresh, natural products successfully despite all the risks involved, and can reduce the total cost of ownership (TCO). Perishable products business can be conducted successfully with efficient risk management and procurement management, enabling all transactions to go smoothly throughout the trade cycle continuality. Therefore, there must be risk management across the entire process, from upstream to downstream of the supply chain so as to be ready to deliver results close what has been projected.

II. FRAMEWORK AND HYPOTHESIS

RISK MANAGEMENT

Risk is many varieties meaning from different views. Risk somehow is lose but there will be opposite as opportunity. Risk is uncertain which result will be different from expectation i.e. better than expect event such as better more return as reduce expenditure, cost saving. The other opposite side is more worse which cause of losing i.e. return lower than expectation. However worse result many impact direction and likelihood. Risk Management by the Committee of Sponsoring Organization (COSO), 2014 with 4 principal objective. 1) Strategy Risk 2) Operational Risk 3) Finance Risk and 4) Compliance Risk

0peraitoal risk is from processing risk which need to process first and the risk comes along processing

work. There will be 3 types of a) operational risk as process risk, b) legal & compliance risk and c) people risk. A) Processing risk might occur from different division that not in plan designed example a company working over hour than schedule as cycle-time risk, over cost of processing, customer satisfaction risk and process execution risk. B) Legal & compliance risk about social responsibility and environment careless or consumer impact such as environmental risk, regulation risk, policy and procedure risk and litigation risk. C) People risk is very important as previous risks. There might be high turn over of employee risk , human resource risk, performance incentive risk and training risk.

Risk Management by COSO (2004).[2]. with 8 elements cover business procedure policy, operation and management as below: 1) Internal Environment is main essential to determine risk management framework such as firm culture, management policy, MIS and etc., 2) Objective Setting that firm need to set an objective to be follow in the same direction. 3) Event Identification to identify all events occurred with firm and people such as policy, people, operation, finance, tax and etc., 4) Risk Assessment process between possibility or likelihood and impact. 5) Risk Response to manage the risks such accept, reduce, transfer or avoid the risks. 6) Control Activities to be control that risk response result effectiveness. 7) Information and Communication to be communicated and managed following the procedure. 8) Monitoring to be evaluated about risk management success or not.

SUPPLY CHAIN MANAGEMENT

In 1998, [3] as the farther of Logistic in Marketing defined sourcing activities, transfer and stock control and inventory management and information management flow line with firm strategy and distribution channel. Focus purpose on maximum profit from present to the future. To fulfill Cost reducing from client requirements.

James R. Stock (2001), [4] determined 8 activities of Supply Chain Management 1) Customer Relationship Management 2) Customer Services Management 3) Demand Management 4) Customer Order Fulfillment 5) Manufacturing Management 6) Supplier Relationship Management 7) Long Term Partnership 8) Product Development and Return policy to support sustain competitive firm.

Firm Performance is firm availability to achieve the target in effectiveness and efficiencies. This research is about to explore the firm operating performance such in non finance and finance performance. Firm performance measurement is many directions such in accounting, marketing and customer satisfaction. [5] Qualitative data and mix method have merged together. Therefore will be concerned and effect the Economic Value and real performance in procurement. Procurement performance or best buy identify to best procurement response such price, quantity, location, product reliability and services [6]

There are many papers research explored about supply risk management (SRM I) and supplier relationship management (SRM II) have been direct effected with firm performance both in finance and non finance. The result was the relationship between (SRM I-II) both positive and negative in firm performance. Most of the firm performance research is sustainability positive greatest result with SRM II. [7]

Supply Chain Risk Management is trend toward just-in-time and lean practice in efficiency rather than effectiveness, reducing cost (at almost any cost) in globalization of supply chains, more complex and valuable, economic scale with centralized distributed and manufacturing in lower cost but at the same time less flexibility, outsourcing non-core business activity but loss of control of supply chain if any need. [8]. Risk can be seen as internal or external to firm, and be seen as internal and external in supply chain such as process risk, control risk, supply risk, demand risk and environment risk. [9]

Procurement performance is many type of measurement

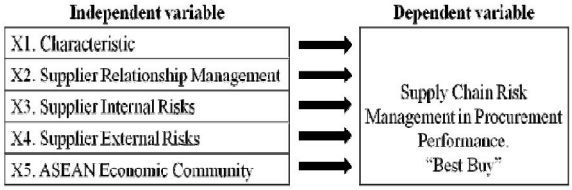


Fig.1. Research framework

HYPOTHESIS

Risk resource from many direction that could control and uncontrolled. This paper is only focus on operation risk that need to concern with supply chain management and some general factor effect with fresh produces as below:

Hypothesis 1: Supplier relationship management positively effects supply chin risk management in procurement performance.

Hypothesis 2: Internal risk factors positively effects supply chin risk management in procurement performance.

Hypothesis 3: External risk factors positively effects supply chin risk management in procurement performance.

Hypothesis 4: ASEAN Economic Community positively effects supply chin risk management in procurement performance.

III. RESEARCH METHODOLOGY

The focus in this study was to explore what will be influence drivers to be effect the supply chain risk management and drive to key success factor of SCRM in procurement performance view. To test empirically if these elements suggested in the literature exist, survey data and quantitative methods were applied. The survey data was collected in 2015 during a research study which the risk explored the current state connecting with supply chain in fresh produce industry with farming producers in modern trade of Thailand with all 3 parties concerning. It was a part of the agriculture producers in Thailand, The Mango Grower Association of Thailand. The association members is 44 organizations around Thailand which has 5-7 committees of each organization so there will be total about 220 respondents who have equivalent knowledge and skill in this field was called "1st party". Thai Fruit Traders and Export Association is total 35 companies will be call "2nd party". Finally "3rd parties" to be reconfirmed the current appropriated SCRM to fresh produces industry in modern trade of Thailand is the buyer or merchandise in fresh food of modern trade such as position senior manager, manager and assistant manager each position of modern trade that will specially only LTF (Large Trade Format) I.e. Tesco Lotus, Big C and Marko there will be total 9 persons. Also research tool is questionnaire to fresh producer and fruit traders as quantitative research and in-depth interview for modern trade merchandise in fresh food as qualitative research. Validity of questionnaire is confirmed by advisor. To determine the reliability of questionnaire was used Cronbach's alpha method. Considering that, all alpha coefficient obtained are more than 70 percent. Research hypothesis were tested through multiple regression analysis MRA. This research is on try out 30 samples from fresh produce suppliers who were modern trade suppliers.

DATA COLLECTION

Preliminary analyses were conducted to ensure no violation of assumption of normality, multicollinearity and homoscedasticity. The values of the variable inflation factor (VIF) score and Condition indices were examined in order to test for multi-collinearly. Al the VIF values were within acceptable bounds, the greatest be 1.000 which was clearly less than suggestion of acceptability put forward by [10]

Table 1: Results of hypotheses test and regression analysis.

Hypothesis	DV	IV	β	SE	t	p*	R^2(adj)	Tolerance	VIF
H_1	Y	X1	-0.229	0.433	-3.254	0.004	92.50%	0.614	1.629
		X13	0.192	0.400	2.143	0.045	93.90%	0.379	2.640
		X15	0.292	0.828	4.470	0.000	82.00%	0.714	1.401
		X29	0.138	0.556	2.060	0.000	86.50%	0.681	1.469
		X30	0.457	0.855	6.022	0.000	63.90%	0.529	1.889
		X41	0.312	0.500	4.399	0.000	89.60%	0.321	3.116
		X42	0.789	0.979	7.043	0.000	50.80%	0.242	4.125
		X46	-1.148	1.206	-13.671	0.000	22.70%	0.431	2.319
H_2	Y	X49	-0.350	0.820	-3.150	0.004	62.10%	0.908	1.102
		X53	0.432	0.932	3.933	0.001	52.10%	0.924	1.082
		X57	0.800	1.022	6.195	0.000	42.50%	0.760	1.316
		X58	-0.261	0.767	-2.181	0.039	67.60%	0.779	1.284
H_3	Y	X82	0.314	1.592	2.008	0.046	35.90%	0.977	1.024
		X90	0.506	1.685	3.364	0.002	67.60%	0.977	1.024

IV. RESULT

Independent variable from many environment such as internal and external firm. Meanwhile the research try to identify by seriously focus by particularly view and general factors.

Hypothesis H_1 states that Supplier relationship management by relationship between buyer - supplier, buyer policy in rejected and contract farming, conflict between buyer – supplier, supplier development, supplier innovation in sustainability and giving knowledge and certified certificate to explore SCRM in procurement performance. All the beta **(β)** for these variables are positive and statistically significant ($p < 0.01$) but 2 factors are negative such supplier innovation and relationship between buyer-supplier. The adjusted coefficient of determination of between 93.90% - 22.70% accordingly. 92.50% (R^2(adj)) indicated that 92.50% of key success factor of SCRM in procurement performance.

Hypothesis H_2 states that Internal Risk Factor by logistic in transportation and packing house availability and packing Supplier relationship management. The beta **(β)** for these variables are positive as capital but 2 factors were negative as cost and logistic. The adjusted coefficient of determination of between 67.60% - 42.50% accordingly.

Hypothesis H_3 states that External Risk Factor by supply risk and competition risk. All the beta **(β)** for these variables are positive. The adjusted coefficient of determination of between 67.70% -35.90%.

Tolerance and VIF is under support multicolineaerly on standard as VIF result of each variable less than 10.

V. DISSCUSION

The results of this research in suggest to focus of limited uncertainly with supplier by supplier relationship management similar to Kothandaraman P. and Agnihotri R. (2012) [11] but some factors are effect to SCRM in procurement performance Imanipour, Rahimi and Akhondi (2012) [12] found that SRM opposite direction such as supplier innovation that might be cost of money to invest for any more research and innovation investment. There is very important but still difficult to convince any potential prospect to implement. Relationship between buyer-supplier also beta negative result and the reason should be found in next research.

Internal risk factors also are very important because of capital but logistic and cost were effect in negative effect to SCRM.

Most of research confirmed about external risk factors is critical effect to SCRM because very difficult to 100% control any uncertainly event from external environment.

CONCLUSIONS

This research is by Multiple Regression Analysis MRA that identify the independent variables effect to SCRM in procurement performance even both finance and non finance such marketing in value added of new product. The result is similar with other paper about research to support about Supplier relationship management is key of success to focus about risk control and prevent to Supply chain risk management in procurement performance.

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