SUPPLY CHAIN MANAGEMENT OF THE ENTREPRENEURS RAMPS PALM OIL IN THE NORTH SOUTHERN OF THAILAN.

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ABSTRACT

The purposes of this research were to study the level of supply chain administration of oil palm industry and capability in logistics service, to study the level of administration of entrepreneurs in relationship administration between supply chain administration of oil palm industry and capability in logistics service. Instrument used in data collection from sample was 350 sets of questionnaire who were palm yard entrepreneurs in Suratthani Province. Statistics used in data analysis were percentage, mean, standard deviation and Chi-Square. From the research found that, logistics management is one part of the supply chain administration function, the purpose is to reduce cost of administration expenditure to the lowest level. So that, the administration to the production and working safety and to the specific certain date that affect the capability of the logistics services.

Keyword: Supply Chain, Palm oil, Logistics

INTRODUCTION

The oil palm tree is the oil plant which had the highest potential to produce oil when compared to other plants for example coconut, olive, cotton, peanuts, soybean, sunflower, rapeseed etc. in term of oil production rate per rai of the palm up to 6-10 times compared to oil production rate from other plants; however, the areas plant the oil palm around the world just has only 5 percent of total oil planted area but the quantity of palm oil production is as high as 36 percent of oil production quantity from all kind of plants. The ASEAN region is majority source of the world oil palm by the main producing countries were Indonesia and Malaysia where have total production of crude palm oil is approximately 52.5 Million Tons or 85 percent of total production in whole world and there were total export portion palm oil over 90 percent of export volume in the world market cause Indonesia and Malaysia have high rule to determine the price of palm oil in the world market. For Thailand is the third rank of crude palm oil production in the world by average yield approximately 2 Million Tons or 1.2 percent of crude oil production in the world. Most oil palm plantation and crude palm oil extraction factories in Thailand were in the southern region for 85 percent of all oil palm plantation area nationwide. However, there was more expanded oil palm plantation to North, Middle and Northeast region last year that aligned with state strategic of expanding oil palm plantation to support renewable and alternation energy plan of nation effective Thailand had the oil palm plantation area around 4.7 Million rais in 2017 and oil palm production 11.2 Million Tons (Warerat Pechsrimung. 2017)

Even though most oil palm production was increased in Thailand by expanding plantation, the productivity per rai was relatively low due to oil palm species were planted in Thailand mostly was the low quality getting little oil yield per rai, there were oil only 14 to 17 percent compared to oil palm from Indonesia and Malaysia which were oil palm up to 20

percent. Additional most Thai farmer structure was small who had average cultivated area around 20 to 25 rais per case. They were different from Indonesia and Malaysia where had the large proportion over 80 percent, average cultivated area over 200 rais per case affected the efficiency in production management of Thai farmer to be low. For selection oil palm species, treatment of palm fruit, harvesting and preserving oil palm fruit should be harvested before ripening impact the result in low oil productivity included product sales was often through middleman or nearby oil palm pouring area as result the productivity per case to be low which was not worthwhile delivery crude palm oil to factories directly (Office of the National Economic and Social Development Board 2016). As reason impacted the cost of oil palm in Thailand was higher than Indonesia and Malaysia from disadvantage of cost above caused Thai authority to intervene in whole oil palm market mechanism pass National Oil Palm Policy Committee or KhorNhorPhor was responsibilities for 1). Handle the policy and oil palm development plan in whole system and 2). Oil palm production management included allocating production for consuming, using in industries, importing oil palm and palm oil (through Warehouse Organization where is the enterprise under Ministry of Commerce) included buying oil palm productivity from farmer some period particular high season in the product through market and price fallen then Department of Internal Trade (under Ministry of Commerce)

Illustration 1; Thai Crude Palm Oil Price increased trend higher than Malaysia since the end of 2013

Source: Department of Internal Trade, 2013-2017

From business competitive situation in the past and disadvantage of cost above caused Thai authority to intervene in whole oil palm market mechanism effected business intensity competition and executive level were under pressure to make the organization had to manage cost efficiency more. Business competition concerned customer satisfaction majority, responding requirement promptly in line with customer change and maintain production cost to be low, getting high profit by producing volume appropriately. Therefore, bring the equipment to assist within organization management was efficiency necessary and which were the equipment cloud help entrepreneur in current competitive environment as well which is supply chain management system

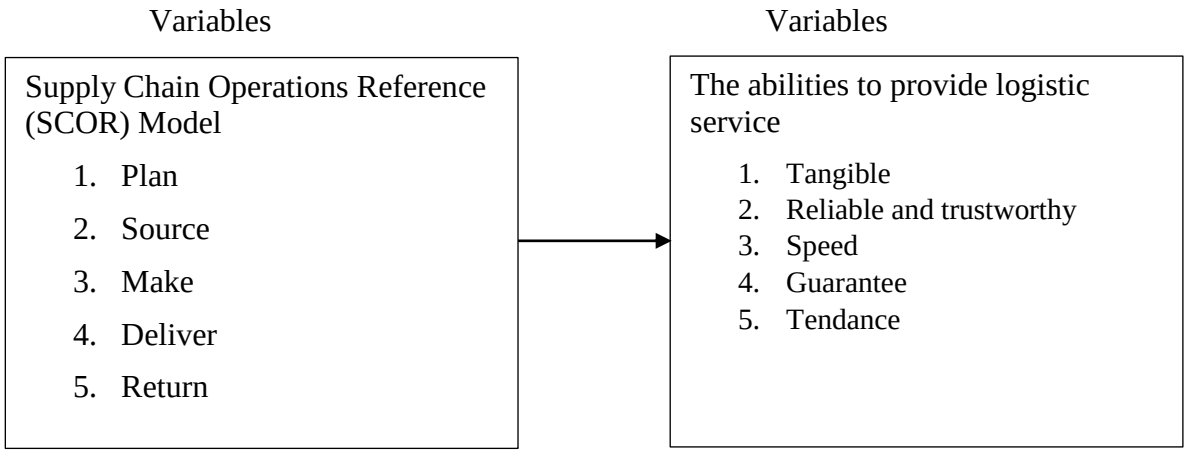
OBJECTIVE

The following objectives of this research were;

1. To study the relationship management level between oil palm supply chain management and providing service capacity
2. To study management level of entrepreneur in relationship management between oil palm supply chain management and providing service capacity

Conceptual framework of research

Conceptual framework of research of relationship management between supply chain management of oil palm industry and the capacity to provide logistic service. Researcher studied, collected and summarized the conceptual framework shown the relationship of variable explain the framework on illustration 1.1. Source; Parasuraman



METHODOLOGY

Population and sampling group

Populations in this research was the crude oil palm factory entrepreneur at north southern such as Chumporn, Ranong and Suratthani (Information and Communication Technology Center, Ministry of Industry, 2017)

Sampling group

Populations and sampling group in this research was the crude oil palm factory entrepreneur at north southern such as Chumporn, Ranong and Suratthani for 70 factories by using purposive sampling. Researcher distributed questionnaire 5 sets to one factory by specifying 3 people joining to interview such as entrepreneur, operation person and oil palm farmer

Research and quality inspection tools

Research tool was the questionnaire and interview form. Researcher took questionnaire to 3 specialists to review before distributing to sampling group in order to analyze and find validity value of questionnaire by evaluating during question and choice answer whether related to objectives then found that the questionnaire had the IOC: Index of Item- Objective Congruence as 0.84 and Reliability 0.79 which cloud be used

1. Questionnaire in this research was built by concept and theory that there were the details as follow;

Section 1. Regular question focused on the personal factors of respondent for 5 questions which were the answer choice

Section 2. Providing supply chain service question such as plan, raw material procurement, production, delivery and returning

Section 3. Question about the providing service capacity of pouring area entrepreneur at Suratthani such as tangible, reliable and trustworthy, speed, guarantee and tendance

Data analysis

When data had been collected, researcher analyzed quantitative data analysis by taking data from questionnaire 350 sets for statistical analysis such as percentage and average then conclusion of study was proposed in form as the following table

Part 1 Regular question of respondents by classifying analysis as gender, age, career, income, and education level at the same time data analysis was implemented description statistics using statistical percentage

Part 2 Data about supply chain management

2.1. Data about the relationship between supply chain management of oil palm industry and providing supply chain management service capacity by using data analysis method as description statistics such average

2.2. Data involved relationship between supply chain management of oil palm industry and providing supply chain service capacity. Feature of questionnaire was rating scale in each question had 5 answer choices such as most, high, medium, low and minimal and creating the average level criteria for consideration relationship between supply chain management of oil palm industry and providing logistics service to indicate satisfaction for 5 levels such as the opinion of management were most, high, medium, low and minimal

2. Interview in this research, research selected structured interview of relationship between supply chain management of oil palm industry and providing logistics service capacity then taking this interviewed form to specialist reviewing the content found that interviewed form had the relevant index 0.67 and 1.00 by group discussion issues using the explain supply chain operation reference (SCOR) model such as plan, source, make, deliver and return included providing logistics service capacity such as tangible, reliable and trustworthy, speed, guarantee, and tendance.

Data collection

1. Primary data was data from survey of targeted populations using questionnaire to align with objectives and using theory and related research guidance to specify questions and precision testing

2. Secondary data was data from studying document, research, articles and websites included government office, state enterprise, government organization and related private sector

RESULTS

1. Found that most population was female, age 31-40 years, married, education level lower bachelor degree who were small entrepreneur invested by own capital in amount of 1-5 million baht, running business buying palm 1-5 years, starting business to buy palm 1-5 years, yearly revenue from crude palm oil factory 1-5 years

2. Data analysis about supply chain management to respond requirement of crude oil palm factory entrepreneur in north southern

Table 1. Summarize average and standard deviation of supply chain management to respond the requirement of entrepreneur in north southern

Supply chain to respond the requirement of entrepreneur	X	S.D.	Priority level
1. Plan	4.36	0.53	High
2. Source	3.92	0.36	High
3. Make	4.39	0.31	Most
4. Deliver	3.41	0.29	High
5. Return	1.17	0.31	Minimal
Total	3.45	0.29	High

3. Data analysis of management level of entrepreneur in management between oil palm supply chain management and providing logistic service capacity

Table 2 Summarize average and standard deviation of management level of entrepreneur to manage the relationship between oil palm supply chain management and providing logistic service capacity

Providing logistic service capacity	X	S.D.	Priority level
1. Tangible	4.29	0.33	High
2. Reliable and trustworthy	4.81	0.29	High
3. Speed			
4. Guarantee	4.56	0.28	High
5. Tendance	4.84	0.30	Most
	4.68	0.34	High
Total	4.64	0.25	High

4. Finding relationship between management and providing logistic service capacity

Table 3 Relationship during supply chain management to respond the requirement of operating plan and providing logistic service capacity

Supply chain management to respond the requirement of operating plan	Providing logistic service capacity	
	X2	Sig
1. Tangible	69.91	0.000*
2. Reliable and trustworthy	81.93	0.000*
3. Speed		
4. Guarantee	111.93	0.000*
5. Tendance	47.33	0.000*
	44.21	0.000*

DISCUSSION

From above study cloud be explained hypothesis testing in this research. Researcher used the conference interval 95 percent of significant level 0.05 by the hypothesis in this research as follow;

1. Supply chain management and providing logistic service capacity had relation. From study found that logistic management was the part of supply chain management system to reduce cost, low expense in whole system and still respond service level agreement (SLA) to customer, lack to mutual support and cooperation in oil palm in value chain. Therefore, enhance the level oil palm value chain was necessary to develop logistics management first, product was increasing efficiency and oil palm fruit, second enhance process by applying modern technology in processes with research and development together to keep up with the rapidly changing technology and economy situation, to survive in lifestyle and enhance oil palm supply chain level by joining group together to enhance competitiveness when had the

strong association to develop in fields included communication, knowledge, technology and budget effected enhancement level both value chain and sustainability development accordance with Glenday et.al. (2015) said that manufacturing area in upstream of the process for small farmer included applying to Good Agricultural Practice and implementing technology in produce process since upstream to downstream of the process, it could promote the business to have lower production cost

Premjit Sutnunt (2016) studies value chain analysis of oil palm at Chonburi getting the study result found that process enhancement level by promote modern technology for implement in logistic management and research and development connecting to transport systematically effected proportion of logistic cost for land transportation from production source to the exporting and import port to upstream market; however, transportation cost during Lao, Vietnam and China in the future cloud reduce in this part, it become advantage for land transportation when compared to sea transportation. Moreover, the advantage of road transportation was speed from time reduction caused the good quality when products were arrived destination and the price adjustment in market to keep up with the situation. Significant factor would build profit to related person in all level particular farmer. Therefore, using the logistic strategy was more importance to increase competitiveness of oil palm industry such as using relationship strategy between buyer and seller consisted by creating relationship continuously, there was specified relationship level together. In addition, it still had good communication enough caused effected directly that made organization fastness to work and it effected the cooperation during organization consisted crating connection between organization, working improvement required planning, benefit sharing. Furthermore, using information technology to assist in the job consisted by using technology of many functions in organization, information technology development, communication by information technology in term of relationship found that those factors effected the fastness to work in organization consisted by ability to change, flexibility, and speed which factors effected the organization had high competitiveness included cost reduction advantage, speed of cost effectiveness response advantage caused the oil palm industry had more competitiveness so organization development by using logistic strategy was more importance, this was the importance factor to run business the happening when working process improvement to optimize with that organization; however, analysis result cloud indicate that organization was operating business successfully and there was competitiveness beyond competitor had to use logistic factor to help in management

Supply chain of pouring area of oil palm had similar flow process by starting from oil palm farm of farmers through harvested by themselves or hired harvesting team or harvesting team of pouring area forwarded to the oil palm in the area and sent to nearby oil palm factory or might send to large pouring area for sending to oil palm factory next. The increase amount of pouring area reflecting insufficient output that farmer would be able cover the cost to deliver the output to factory by themselves and the pouring area owner sold to outside area also reflecting the capacity to support output of factory in the area was insufficient and bargaining power problem between buyer and seller in supply chain (Boontree Chunkub. 2015)

Accordance with Narongrit Adultananusak and Ladda Thavitayasakul (2018) said that several transportation system improvement continuity was more importance for development of logistic system in Thailand because logistic cost in Thailand was higher when compared to other countries. The reason was the most transportation in Thailand relying on road transportation. It did not use transportation model which was low transportation cost per unit and high using fuel efficiency (for example rail and sea transportation) in more proportion. Hence, if government could improve infrastructure included the effectiveness of providing several logistic service models particular rail transport which was good performance. It was

not useful only in oil palm industry but also useful for other more export industries and effected to logistics cost reduction in Thailand as well. Chatuporn Sungkawan (2014) said that factor logistic management important was effective and efficient of standardized management efficiency. Besides, research added more opinion that it should control cost, transportation cost and transportation rate calculation specified the freight rate structure that considered weight and transportation distance to be fair between employer and entrepreneur

Recommendation for next research

1. Should study more about the independent variable such as information technology factor, society factor, economy factor, psychological factor which were the factors to effect supply chain management of oil palm industry

2. Should study other requirements of oil palm industry entrepreneur to develop and improve varieties management model involving supply chain i.e. planting, treatment, harvesting, after harvesting management, oil palm pouring area management, transportation etc.

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