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The Development of model to import raw material for clothes under management based on theory logistics and supply chain: case study of ABC (Thailand) co, ltd.

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ABSTRACT

The objective of research : 1.To study the issue and form of importing raw materials clothes by management based on the theory of logistics and supply chain case study of ABC (Thailand) Co., Ltd. 2.To create an appropriate format in the import of raw materials by sea. And 3.To increase the performance related to the operational model to import raw materials clothing by sea re-constructed. As well as the cost of transport to import raw materials from overseas by boat with the highest effectiveness and efficiency.

The research results reveal the process development follow by management based on theory logistics and supply chain, could authentically reduce the cost through the application of logistics and supply chain approach; transportation cost, defective or failure cost, and lost and damage cost. Those will directly affect the production and delivery processes, and can create competitive edge in the market; however, one disadvantage is the higher labor cost. Therefore, this is Thailand's opportunity in terms of presenting potential on lingerie export business to the world market. As a result, the business could bring currency into the country which could give a good answer for this research.

Key Words : Import raw material for clothes, Logistics, Supply Chain

INTRODUCTION

Several companies in clothing industries had to be shut down or removed their production base out of Thailand due to many competitive factors especially higher wages compared to the new bases such as Vietnam, India, Sri Lanka etc. One of the main factors was imported raw material for clothing production which caused its manufacturing costs increased and the entrepreneurs could not avoid this situation. They had to import this raw material from abroad because of the customer's orders. As a result of this, the customers were the one who made specifications for resources, types or size, and form of the materials for their orders. In the mean time, the existing material in Thailand could not be full filled their satisfaction both in quality and variety. Consequently, importing raw and essential materials was one of logistical cost. If logistics management strategies were implemented, the causes of high value of importing cost could be found. The significances of the problems revealed that importing material for clothing manufacturing was the key factor to producing enough products to the customer needs. The entrepreneurs had to face with increasing cost situation from the main problems in importing materials which were. 1) Spending more time in importing methods and process which led to delay materials delivery for producing. 2) High price in import process. 3) Possibility in goods damaging and lost during shipment which the entrepreneurs could not be avoidable to importing. Accordingly, the researcher was interested in studying the patterns of importing raw materials by sea using in clothing industries in order to enhance the effectiveness of importing and decline overall cost in transportation. The study of problems, guide lines, and patterns of importing raw materials by sea was conducted in order to create an appropriate pattern of the process. Despite of management and enhancement their potential with brand new pattern for the concerning people in operating toward the importing raw

materials by sea was implemented in logistics process and supply chain in order to support possibility of continuous production which satisfied the customer needs with continuous production. Importing raw materials from abroad to produce clothes worthily and effectively was required feasible planning, strategically logistics management and potential supply chain. These were considered as the most important factors that could save the cost of production which led to improving their potential in competition. Additionally, it was in accordance with the government's strategy arranged for Thailand becoming AEC member in the near future.

Purposes of the Study

1. To study about the problems, guide lines and patterns of importing raw materials by sea in case study of ABC (Thailand) Co., Ltd.

2. To establish the appropriate patterns of importing raw materials by sea with strategic management in case study of ABC (Thailand) Co., Ltd.

3. To boost up the capacity of concerning people toward the new pattern of raw materials importing for clothing industries.

Scope of the study

According to the purposes of the study, the researcher stipulated the scope of the study as the followings.

1. Population or the targets of the study were the 130 employees of ABC (Thailand) Co., Ltd. from management level to operational level in Procurement Department, Importing Department, and Inventory Department which were divided into below.

1.1 management level 10 persons

1.2 managers / Supervisors 20 persons

1.3 operating officers 50 persons

1.4 operating officers from transportation companies 25 persons

1.5 officers from authorized customs brokers 25 persons

Expected Results

1. The most effective process and procedures of importing raw materials for clothing industries by sea provides the best pattern, simple procedures and short process which can be less spending time and cost of raw materials importing. It can decrease logistics cost of companies which can increase their competitive potential even they pay high wages than others.

2. Giving work satisfaction to the related operating officers both inside and outside the organizations which are the followings.

2.1 It is the benefit for the importing department as they can spend a reasonable time systemically, reduce papers, shorten time spent in each procedure, and be convenient to follow up their works. Additionally, the procurement department who purchases raw material can apply this concept to plan the orders effectively with low cost of logistics but still receive quality goods as expected.

2.2 Inventory management is also granted the benefit in storage and distribution accurately.

3. Reducing the impact toward production lines about delay so that the orders cannot be finished on time.

Details of the Experiment

The study of The Development of model to import raw material for clothes under management based on theory logistics and supply chain: case study of ABC (Thailand) co., ltd. was conducted by documentary research and the related literatures were as below.

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Concept and theories about CPFR (Collaborative Planning Forecasting and Replenishment) Ratchanee Radkhuenkhan (2009) proposed the concept of CPFR that it was aimed to improve and corporate between buyers and suppliers. Both of them agreed to make a plan, sales forecast, and replenishment in order to create an accordance among buyers and suppliers through information technologies (IT) which could make them up-to-date. As logistics and supply chain management was significant in business association which was covered from upstream to downstream or it could be said that from suppliers to end customers. Everyone should corporate each other in order to exchange their information; for example, raw material order, inventory, production, transportation and delivery, therefore they could reduce the cost and increase customer's satisfaction. As a result of this, applying CPFR process was a collaboration in supply chain to visualize goods demand throughout the chain and delivery goods or raw materials exactly to the actual needs of the customers. Consequently, ordering and delivery was effective, so called Order fulfillment, and storage management in adequacy with the needs, then the cost could be declined and boosted sales figure including provided quality service to the customers. Collaboration establishment by information sharing or created a single set of information was made to bring about forecast process that was closed to customer's demands. The cost of production was avoided from Bullwhip effect which was affected to inventory cost increasing too high and causing damages. It also affected to the competitive capability in business. Moreover, only collaboration among several units in supply chain like manufacturers and suppliers was not enough as the manufacturers could not aware of the next level of supply chain. Collaboration establishment required unity and trust between all partners in supply chain. Concept of CPFR was based on the intimacy between suppliers and customers. If each unit planed and worked separately without synchronization with each other, there was a gap occurred in between services and increased much costs of organization. It should be started with information sharing that everyone could accessed to data in order to learn about others thoroughly based on collaborative relationship. In the group, members consulted together about how much each point could reduce its cost and how to reach at the peak was required integration of information from each unit in the organizations.

According to the study of CPFR, it could be concluded that CPFR was the collaboration between buyers and suppliers in planning, goods forecast and replenishment through information technology leading to the counterparts could update and exchange data to each other. While Supplier Relationship Management or SRM was a new idea in logistics management and pattern of Collaborative Transportation Management or CTM was a collaboration in transportation aimed to develop corporation in relation between buyers, seller, transportation service provider and outside logistics agent. The researcher brought CPFR, SRM, and CTM model to apply in the study of process of methods and procedures of model of importing raw material from oversea by shipment in order to improve their service, effectiveness, and cost related to goods transportation. Additionally, this study was concerned about the process of the delivery of clothing through logistics agents which was deemed to be the strategy to boost up their potential in logistics activity management. It could be said that logistics created collaboration led to alliance in problem solving together. The result was reasonably synthesized in order to discover the new working process under the collaboration from all units which were ABC (Thailand) Co., Ltd. staffs from Procurement department, Inventory of raw material Department, and Importing Department dealing with suppliers including outside counterparts in the collaborate network chain as logistics service providers. The researcher interviewed with the following people namely operating officers related to making orders, people in importing department and inventory department about integration of all procedures in importing raw materials intending to study the Collaborative Planning Forecasting and Replenishment. The interview also was made concerning about transportation collaboration

related to information and movement that the manufacturers and buyers cooperated with transportation service providers in order to mange goods delivery with efficacy and effectiveness.



Figure 1 International Transportation

RESEARCH TOOLS

This study applied 2 types of research tools which were primary tools and secondary tools.

Part 1 Primary tools

1. Interview with the concerning operating officers who work in order department, importing department, and warehouse keeping raw materials was conducted related to overview of importing process in both 2 types, including the detail of each step, source of expenses, patterns, duties of each activity, time consumption together with recent problems and obstacles. The researcher prepared the interview to exchange information in structural format.

2. Observation on working and operation in each activity to find out how importing process in both 2 types was.

3. Using questionnaire about the assessment of importing formats that the operating officers feel the most satisfaction and to find the best format of importing as well as strengths and weakness of it.

Part 2 Secondary tools

1. Collecting the actual data in the process, and the order of activities in procedures in real operation that people accepted or used in general in transportation process that the entrepreneurs has proceeded in present time. Data has been collected since the raw material was moved into the containers at the place of origin in China until it was delivers to Hong Kong and Thailand respectively. When the goods had reached to the destination, they were delivered to the warehouses at the factories. It could be said that data collection was to reflect organizational working structure, and it also had been made into a chart of business process mapping showing flow and connection of data using information system of internal and external working of organization.

DATA ANALYSIS AND SYNTHESIS

This study was based on qualitative analysis and quantitative analysis.

Part 1. Qualitative analysis

Phase 1. The study of process and procedures of importing raw materials by sea including expenses of 2 types of goods transportations were composed of international transportation expenses, managing expenses, and custom formality. Domestic transportation expenses was made data analysis by concept of PDCA which was a guideline for working process analysis to study recent problems. Moreover, the concept of CPFR, SRM and CTM was applied in building collaboration of alliance in order to deal with the problems together. Then the result was synthesized reasonably to discover the new working process under the

collaboration from all units which were ABC (Thailand) Co., Ltd. staffs from Procurement department, Inventory of raw material Department, and Importing Department dealing with suppliers including outside counterparts in the collaborate network chain as logistics service providers. All result was summarized and edited the content, making graph and comparative chart in 5 ways as follow.

1. Discovery and study in order to improve into better procedure focusing on the purpose of research.

2. Considering the possibility of the process, assessing the strength and weakness, evaluating the effectiveness to make further analysis.

3. Making data analysis from observed and edited data in order to reveal key variables for the whole process and to discover the causes of the problems including strength and weakness from charter 1 added to consider in the analysis as well.

4. Trial and improve procedures.

5. New process should be consistency, accurate and feasible. In order to avoid defects occurred in the future, post-test is required to set standard and accurately implement.

Phase 2. The study of concepts and theories of management of collaboration in development for cooperation in between organization and outside organization according to the concept of CPFR, SRM and CTM was made. Such organizations were composed of Procurement department, Inventory of raw material Department, and Importing Department from Garment (Thailand) Co., LTD. and suppliers including collaborate network chain as logistics service providers in order to specify format of collaboration which led to this research happened.

Phase 3. The Study of chain integration strategic creating by the activities connecting between inside the organization and outside organization through data integration was initiated. Data had been flown since starting order – delivered – transportation. The pattern of the new integration according to the related concepts and theories was applied to establish the pattern of process of importing raw materials which was mainly based on the collaboration management.

Phase 4. Studying about cost of raw material transportation in present time and also the cost probably might occurred was made when the new strategy was applied to change or improve.

Phase 5. Studying of the initiative of E-Logistics method to integrate transportation – custom formality (shipping) – delivery in the same direction that was focused on instant information technology system called ERP or Enterprise Resource Planning. However this system cannot be implemented to cover all detail of transportation.

Part 2. Quantitative analysis

The questionnaire related to importing pattern was designed in order to reveal what was a satisfaction, strength – weakness of each pattern of importing materials. The consideration was made mainly upon its utility of time and management.

Then, the analysis process was undertaken based on the following principles.

Part 1. Time recording for working of the 2 importing patterns had been made on the delivery date from the country of origin, to the containers, until reached to the port in Thailand, pass the custom formality, and ended the process at the warehouse of the importers or the factory. This record was made to ensure that the order of raw material was delivered on time that production was operated exactly and accurately according to the quality and price specified on

the order. The report was exhibited the analyzed value using chart showing the operation both in descriptive text and flow chart.

Part 2. The costs of transportation of the 2 importing patterns had been considered from the country of origin to warehouse of the importers or the factory of the manufacturers. The result was shown with average and percentage.

Part 3. Comparison the process and procedures of the 2 importing patterns in cost of transportation in all expenses, all damages including quickness of delivery throughout strength and weakness was exhibited in chart of analysis.

RESULT AND DISCUSSION

The results of analysis according to the 3 purposes of the study that the researcher made were as the followings.

Part 1. Establishing the proper pattern and process of importing raw materials by sea.

Logistics management was required which shown in the chart below presented importing process and management.

1. Picture exhibited importing with 3 types of container services namely Type 1: CFS/CFS, Type 2: CY/CFS which the 2 types were the present condition before improvement, while Type 3 : CY/CY was the pattern using after improvement.

TYPE 1.



Figure 5 Pattern of importing in LCL with container services type CFS/CFS

TYPE 2.





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TYPE 3.



Figure 7 Pattern of importing in FCL with container services type CY/CY

2. Importing Management. The comparison of the procedures showing the flow of documents before and after improvement revealed that the procedures were decreased and spent shorter time. As a result of this the operation of importing and logistics service providers, both transportation providers and authorized customs brokers, were more convenient and quicker and reduced errors. According to table 4 showing process in the part of after improvement was the missing part that cut off, and figure 8 and 9 were presented to document flow.

Importing method BEFORE improvement	Importing method AFTER improvement	
 Authorized custom brokers Informed about container's status as it was type CFS service, move the container to the custom warehouse for the forwarder agents. Verified related documents and send import declaration entry to the custom by batch of goods and separate them as tax exemption or tax calculation. Paid expenses at the sea port and inform clearing date to the importers. Waited for a permission to access to the containers and moves all goods to the custom's container yard. Call trucks to transfer the goods by shipment and invoice that may be incorrect or coming at the same time. 	 1. Authorized customs brokers Informed the forwarder agents about container's status as it was type CY service, move the container to the custom's yard. Verified related documents and send import declaration entry to the custom by batch of goods and separate them as tax exemption or tax calculation. Paid expenses at the port and inform clearing date to the importers. 1.4 Received container yard bill at once, no need to queue up. 1.5 Called trucks to load containers in order to transport goods to the factory for production line. 	
 2. Transportation Agents Informed vessel company about container's status referred to shipping agent noticed as CFS service and open the container to the custom. Issued the charge list to shipping agent to state on import declaration entry. Issued D/O sheets for shipping agent. Provided service to open the container to transfer the goods to container yard of custom. Sea Port Port authority enters to container yard of custom. 	 2. Transportation Agents Informed vessel company about container's status referred to shipping agent noticed as CY service. Issued the charge list to shipping agent to state on import declaration entry. Issued D/O sheets for shipping agent. 2.4 No process for open container Sea Port Goods have not been moved out of participant. 	

Table 3. Comparison of process in operation of each unit.

Authorized custom brokers

Importing method before improvement required 5 procedures 1) informed the forwarder agent about container's status as it was type CFS service, open the container and move to container yard of custom. 2) Verified the document, filled the details on import declaration entry and submitted it to the custom based upon batch of goods and separate them as tax exemption or tax calculation. 3) Paid expenses at the sea port and informed clearing date to the importers. 4) Waiting for a permission to access to the containers and moves all goods to the custom's yard. 5) Contacted trucks to transfer the goods by shipment and invoice that may be incorrect or coming at the same time. On the other hand, importing method after improvement required 5 procedures 1) Informed the forwarder agents about container's status as it was type CY service, moved the container to the custom container yard. 2) Verified related documents and filled the details on import declaration entry and submitted it to the custom based upon batch of goods and separate them as tax exemption or tax calculation. 3) Paid expenses at the sea port and inform clearing date to the importers. 4) Received container yard bill at once, no need to queue up. 5) Called trucks to load containers in order to transport goods to the factory for production line.

Importing method before improvement differed from method after improvement which were 1) Container service : Before improvement was CFS, After improvement was CY 2) On the forth procedure : Before improvement the agent was waiting queue to open containers and moved the goods to container yard of custom; however, After improvement was receiving container yard bill at once, no need to queue up. 3) On the fifth procedure: Before improvement, call trucks to load containers in order to transport goods to the factory separated by shipment of invoice that may be incorrect or coming at the same time, while after improvement, the agents called trucks to load containers in order to transport goods to the factory for production line.

Transportation Agents

Importing method before improvement required 4 procedures

1) Inform vessel company about container's status referred to shipping agent noticed as CFS service and open the container to container yard of custom.

2) Issued the charge list to shipping agent to state on import declaration entry. 3) Issued D/O sheets for shipping agent. 4) Provide service to open the container to transfer the goods to container yard of custom. On the contrary, there were 3 procedures for importing method after improvement which were 1) inform vessel company about container's status referred to shipping agent noticed as CY service. 2) Issued the charge list to shipping agent to state on import declaration entry. 3) Issued D/O sheets for shipping agent.

Importing method before and after improvement were different in 1) detail informing to vessel agents about container's status according to shipping agents, method before improvement was CFS, while after improvement method was CY. 2) After improvement method required less procedures than the other because there was no opening the container procedure.

Sea Port

Importing method before improvement was found as Port authority enters to contain yard of custom, whereas after improvement the goods had not been moved out of the container.

	1 a D I	e + Exhibited the amount of decreased nours of hipporting operators	WUIK.	
Working procedures for before and after improvement			Working Before	g Hours After
1	BEFORE	Receive invoice & packing from Procurement Department, then manually operate. Plan for loading is sent from the origin by the transportation agent, invoice & packing is sent by supplier with database in computer which transfer data of import declaration entry without printing twice.	n manually nt, invoice & 5 2 Isfer data of	
2	BEFORE	Correction invoice and submit to claim the rights before granting importing permission. Correction invoice and submit to claim the rights before granting importing permission.	1	1
3	BEFORE AFTER	Scan invoice &P/L sheets of Delivery Order (D/O) to the shipping agents Invoice is sent by computer system in 1. to shipping agent. ส่งข้อมูลอินวอยซ์ด้วยระบบคอมพิวเตอร์ตามข้อ 1. ให้ตัวแทนออกของ	2	0.5
4	BEFORE Receive pre-alert shipment from transportation agent together with copied B/L, counting Ctns, CbM. AFTER Receive pre-alert shipment from forwarder agents together with copied B/L, checking carton, volume, CBU.			
5	BEFORE	Match invoice and B/L sheet **if invoice sheet was incorrect with ProcurementDepartmentMatch complete invoice and B/L sheet.	3	1
6	BEFORE Check goods status from transportation agent to follow up the order. AFTER If document is incomplete, contact shipping agent.			
7	BEFORE Confirm the documents of each container with shipping agent. AFTER Confirm the completion of documents in order to release goods of each invoice in the container in weekly with shipping agent.		5	1
8	BEFORE AFTER	EFORECheck certain vessel arrival to set plan for delivery goods to factory.Check certain vessel arrival to set plan for delivery goods to factory on one day after the arrival.		1
9	BEFORE AFTER	Prepare the documents and alert to the Store officers to receive goods. Prepare the documents and alert to the Store officers to receive goods.	1	0.5
10	BEFORE AFTER	Goods are delivered to the factory. Goods are delivered to the factory.	36	5
	- Bef - Afte	Fore improvement method takes 62 hours to finish the process of each order. er improvement method takes 15.5 hours to finish the process of each order.		

Table 4 Exhibited the amount of decreased hours of importing operator's work.

Table 5 Comparison of time spending in importing management for Before/After improvement.

	Before	After	Advantages
Time to wait for	3 Days	1 Day	Left more time from papers
goods delivered.			managing in importing
			department and ware
Operating time of	3 Days	1 Day	house to spend for other
importers of buyers			activities.
Damages	2,200 pcs. / 8,800 B	None	
Lost	6 рсз. / 1,014 В	None	

Table 6 Comparison of goods transfer management in sea port for Before/After improvement.

	Container Yard	Open container to transfer goods to container yard at sea port or custom	After release, goods are transferred into truck and delivered to the factory
Before	\checkmark	\checkmark	\checkmark
After	\checkmark	×	×

Table 3 was shown process and procedures in detail from starting order to delivery at the factory. Table 4 was exhibited the order of operation compared before and after improvement. Table 5 and table 6 were exhibited the order of operation compared before and after improvement in 3 units using information in 1 week before improvement.

References

Kamonchanok Suthiwartnarueput. (1997). **Strategic management for sea transport**. Bangkok : Public Photo & Advertising Co.,Ltd.

- Kotchakorn Kiatdamrongkul. (1997). Case study of Logistics Management of ABC Marine Transportation Company. Faculty of Commerce and Accountancy. Chulalongkorn University
- Port Authority of Thailand. (2010). **Importing Process : LCL and FCL.** Retrieved from http://www.bkp.port.co.th/bkp/service/thai/service.asp.

Chantharat Anusornpanich. (2005). Case study of Cost of Marine Transportation Activities in Import and Export in Shipping Business. Bachelor of Science in Logistics, Faculty of Science, Chulalongkorn University.

Jesada Leelakijkul. (2005). **The Study of Supply Chain Management in Case of Industrial Companies**. Bachelor of Science in Logistics, Faculty of Science, Chulalongkorn University.

Chanikarn Thiensut. (2008). **What is PDCA Circle.** Retrieved on March 2008 from www.ku.ac.th, www.eduserv.ku.ac.th/km/index2.php?option.

Chortip Luechaiwuth. (2000). **Collaboration in Planning, Forecasting and Replenishment.** Retrieved on March 2010 from www.logisticscorner.com/index/php.

Chaiyos Chaimankong and Mayukaphan Chaimankong. (2009). Transportation Strategy. Bangkok : Vision Press.

Trakoon Phoomsanao. (2010). New Alternative of Sea Insurance . Bangkok : Saengdao Publishing.

Thanit Sorat. (2007). Applying of Logistics and Supply Chain Management. Bangkok : V-Serve Logistics.

Narupol Phakakarn and Nanthi Sutthikarnnarumai. (2008). **The Study of Cost of Logistics in Importing of Bar Steel from Japan.** Bachelor of Business Administration Program in Logistics Management, School of Business, University of the Thai Chamber of Commerce.

Phakanat Srimahasap. (2010). **The Protection of Goods Damages and Lost in Transportation with Milk Run System.** Retrieved on July 2010 from http://logisticscorner.com.

Ratchanee Radkhuenkhan. (2009). **Collaboration Establishing and Connection in Information Technology System**. Retrieved on August 2009 from http://logisticscorner.com.

Ruth Bhanomyong et.al. (2007). **Supplying and Relation Management with Suppliers in Supply Chain**. Retrieved on August 2009 from Logistics Book.

Walailak Attatherawong, Watcharee Chantharaprakaikul. (2006). **Management and Design of Supply Chain**. Bangkok : Top.

Withaya Suharitdamrong. (2007). Collaboration in Supply Chain. **Industrial Technology review**. Vol.13. No.161 February 2007.

Council of Logistics Management. (2010). **Logistics Management**. Retrieved on August 2010, from http://www.logistics-adviser.com.

Samran Thonglek. (2005). Shipping management. Bangkok : Saengdao Publishing.

Suphoj Laongam. (2005). **The Improvement of order fulfillment with Business Process Model : Case Study of Garment Industries**. Retrieved on June 2010, from http://logisticscorner.com.

Supattra Klinklai. (2009). **Concept of Quality Circle PDCA in TQM : Total Quality**. Retrieved on November 2007, from www.vcharkarn.com.

Suwat Janyaphun. (2010). Collaboration, Key Strategy of Supply Chain. Logistics Digest, March 2010.

Browning, B. & A. White. (2000). Collaborative Transport Management. Logility, Inc. White Paper.

Tobias Kihlen&TekniskaHogskolan. (2005). **On Logistics in the Strategy of the Firm InstitutionenForEkonomiskOchIndustriellUtveckling**. University Dissertation from EkonomiskaInstitutionen.

Toyota Institute & Toyota Motor Corporation.(2004). **Toyota Business Practice Problem Solving Basic**.Version. 1.3.

TTIS Fashion Biz.(2010). **Main Export Market of Thai Clothing.** from TTIS Fashion Biz, Vol. 10 No.90 Sep. Oct 2010.