

OUTBOUND FREIGHT OPTIMIZATION GUIDELINES FOR REHABILITATION OF THAI AIRWAYS SUPPLY CHAIN PERFORMANCE

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ABSTRACT

Abstract—The purposes of this research divided in three parts 1. To study the efficiency of outbound cargo transportation of Thai Airways International Public Company Limited. 2. To study the rehabilitation of Thai Airways International Public Company Limited. 3. To suggest ways to increase efficiency outbound freight for supply chain performance rehabilitation of Thai Airways International Public Company Limited. This study is a combined method research. A sample of 400 people was randomly selected from the Yamane formula and was selected by purposive sampling in the field of qualitative research. There were 9 key informants (who were selected with at least 7 years of operational experience) through in-depth interviews. The tools used in the study were questionnaires and structured interviews descriptive statistic, multiple regression analysis, stepwise method.

The study found that

1. The analysis results of increasing the efficiency of outbound cargo transportation of Thai Airways International Public Company Limited found that overall the average is at a high level. When considering the aspect with the highest average, the delivery and receipt of Air Waybill documents (overall) was at a high level ($x = 3.90$, S.D. = 0.63) and the cargo inspection was at a high level ($x = 3.52$, S.D. = 0.30).

2. To analyze of the rehabilitation of supply chain performance of Thai Airways International Public Company Limited found that (overall) the opinions were at a high level. When considering the aspect with the highest average is flexibility. is at a high level ($x = 4.23$, S.D. = 0.38) and the supply chain management of Thai Airways Public Company Limited has a linear relationship with the independent variable group was statistically significant at the .05 level and was able to generate linear predictive equations. The variables that can be predicted Overall air cargo efficiency improvement (y) in descending order of resilience (X3) and responsiveness (X4), respectively, can be combined to predict handling by the two variables. Total (y) got 13% (adjusted $R^2 = .130$)

3. Guidelines for improving the efficiency of outbound freight forwarding for supply chain performance improvement of Thai Airways International Public Company Limited found that there should be promotion of employee awareness and the use of systems to increase efficiency. Moreover, including the creation of flexibility that can meet the needs of service users to increase the potential of working with more quality.

Keywords—Efficiency Improvement, Outbound Freight Forwarding, Supply Chain Rehabilitation

INTRODUCTION

Air freight forwarding is a service industry that is growing faster than air freight. Approximately 50% of passenger transport during 1995-2004 (Wong et al., 2009) and growing continuously during the past year with a relationship plus economic development (Button & Taylor, 2000; Bowen, 2000; Kasarda & Green, 2005). Air cargo is different from other modes of transport in that it is fast, economical, efficient and reliable, making the role of air cargo very important in today's society (Ishutkina & Hansman, 2008.)

Air transport is important very important nowadays Especially international transportation because it can be transported faster than other types of transport, convenient and safe, suitable for transporting products that are easy to lose or products that need speed in use. This allows the business to expand rapidly. Both domestic and international, but the cost is more expensive than other types of transportation. "Air Transportation is a type of transportation It is gaining popularity internationally with the development of the airport. commercial in order to comply with the technology and the needs of service users, aircraft manufacturers have created A large aircraft that can carry a large amount of cargo, has a very high cargo flight performance. modern In addition, the storage area or warehouse has been expanded and improved for convenience. in transportation and preventing mistakes in transportation from the originating city to the destination destination as well (Chitpong Ayasanond, 2018). Operational results before the outbreak of the COVID-19 virus disease (COVID-19) is a factor affecting This was the positive driving air freight growth of 9.9% in air freight volume as compared to June 2020. Strongest first half air cargo performance since 2016 2017 changes Regional performance is important It is very important to the air cargo industry. provider in North America contributed 5.9 percent to a 9.9 percent growth from the underlying economy. and good supply chain dynamics continue to be very supportive for for air cargo US inventory-to-sales ratio is low the latest in history which shows that the business must Hurry up to replenish the stock quickly. and generally air cargo is used to carry to do so index Purchasing Managers (PMI), a leading indicator leading to demand for air cargo shows that Confidence in business, production sector output and new export orders is growing rapidly in the economy Most of them are concerned about the changes in the major consumers. The significant transition from products to services has not yet been realized. Cost competitiveness and reliability of air cargo compared to container transport. The container has been improved.

The average price of air cargo compared to transportation costs has decreased dramatically. The growth direction of air cargo is operating rapidly. As the global economy continues to recover from the COVID-19 crisis, air freight is the main source of income for for many airlines due to contending with border closures that continue to destroying the major international passenger business semi-annual performance The strong first seems to continue.

In the airfreight sector and air cargo supply chain management is of paramount importance in enhancing the capacity of Thailand as a manufacturing hub. Agro-industrial products and high-value technology-based services Electronic component products computer products fashion products, chemical products Drug and medical supplies Automotive parts products, agricultural products, perishable products, fresh vegetables, fruits, cut flower orchid products processed food products Logistic service is a product storage center. Adding the value of packaging and packaging along with transportation and distribution via Air by car delivers the product to the distribution center Distributed at the destination or reached the consumer. It is necessary for the country to Decode the logistics industry of Suvarnabhumi Airport as the group's air freight hub. Indochina countries, namely Cambodia, Laos, Myanmar, Vietnam and Thailand (CLMVT) and East Asian countries (East asia) will have a positive effect on the development of Thai people and Thailand as a trading nation. (Trading nation) In the past 10 years, technological advances have make the marketing strategy Trading systems and sales methods have changed. internet to make product information available to consumers and make make consumers Have access to product information and prices with more options to make decisions in choosing to buy products, both quality and price that they are satisfied with and can also choose to order the use of the delivery service that they bought in the form (Mode) transport that they are satisfied with, deliver the goods to their hands quickly and with reasonable shipping costs (Department of Business Development, 2019)

In this regard, the researcher foresees the importance of optimizing the efficiency of outbound freight forwarding to restore the efficiency of Thai Airways International Public Company Limited's supply chain in studying processes and increasing efficiency, namely delivery and receiving of AIR WAYBILL documents and product inspection It also includes the management

LITERATURE REVIEWS

1. Optimization Concept

The business processes that drive transportation efficiency come from the basics. efficient administration This is a cycle of continuously improving the quality of work. In addition, management concepts can be applied. This applies to all transport activities. This study aims to study transportation development guidelines under Albert (2017: 3) and John and Jr. (2009: 9-10), including planning, implementation, evaluation and improvement. set as a guideline In order to increase the efficiency of transportation of transportation service providers for buying and selling business, any form of transportation must give priority to customer satisfaction. Logistics must truly understand the needs of customers. Good transportation management must be able to meet the needs of needs of customers and organizations (Chulaporn Khokjai, 2017; Nai Apiprachayasakul, 2016: 416-418) as Zheng, Hu & Wang (2009) have studied and discovered that Entrepreneurial skills and knowledge are critical to the innovation that leads to successful business operations in the Yangtze River Delta in China.

(Thamrong Udompaijitkul, 2004) Transportation is an important issue in many matters that must be looked at in terms of A place for conducting economic activities Which consists of activities such as procurement, production and product distribution which are in various forms, in general, transportation management is to move objects or Goods from one production source to another destination in the supply chain (Thamrong Udompaijitkul, 2004) said that the supply chain of transportation consists of 4 main components as follows: 2.1.1.1 Collection of goods starts from Get the product from the factory source. The products may be various. Due to different forms, weights, sizes and packing of goods, the goods are usually collected and sent to the central warehouse. 2.1.1.2 Transportation (Transportation) In the warehouse, goods are imported or moved. Goods out of the warehouse are collected together. will be delivered to the destination specified by the customer or 2.1.1.3 Regional Warehouses 2.1.1.3 Delivery is the opposite of the collection process, which is handled proportionally by region and is considered to be in direct contact with the end customer, including delivery to. Customer's home page. 2.1.1.4 Combining and separating products. (Consolidation and De-consolidation) The goods are stored and the goods are consolidated. before being loaded and brought to the transportation process These products may be Collected in the form of a cargo container or on a pallet. or change the mode of transportation to another method without repacking the goods. The economic added value of transportation arises from the movement of goods between two points. There are many factors that create demand for various transportation services.

Concepts and theories of transport the meaning of transport means the movement of people, goods or services from one location to another. In the case of moving people, it is a matter of transporting most passengers. (Sarawut Putnuan, 2019)

It can be concluded that the optimization It is the operation of production and transportation to meet the potential demand as well as the operation under storage. Concrete storage and delivery that can meet the needs of users.

2. Supply Chain Management (SCM)

Supply Chain Management (SCM) is planning or Designed to control operations, monitor activities across the organization. supply chain to make their own organizations more efficient, reduce costs And to increase business competitiveness, many organizations have the idea to use supply chain management, which is both direct and efficient. and indirectly meet the needs of customers in create competitive value operational enhancement internal organization and improvements Supply chain alignment with demand by measuring performance within the supply chain. Each activity that occurs in every production process by the supply chain is a business connection from upstream to downstream. Good business ties will make operations within the supply chain more efficient.

Supply Chain or supply chain is a network that various organizations come together. related from the origin of production to the end of production which has different processes and activities to create value in the form of

goods or services for the final consumer. (Christopher, 1998) as well as (Sompong et al., 2006) defined the supply chain as a network of businesses whose locations are scattered Independent parties to jointly plan and carry out the provision of goods or services to customers by conducting operations in a particular supply chain will cover from Develop products or services, procurement of raw materials, production of goods and services, storage Goods include the delivery of goods or services to the consumer which drives them. For the supply chain to function, it relies on the ability of the members of the supply chain to operate. perform various tasks as As mentioned above, every company operating in the market will be part of At least one supply chain

METHODS

This study was a mixed research study. A sample of 400 subjects was randomly selected from the Yamane regimen and selected by purposive random sampling in the field of qualitative research. Nine key informants (selected with at least 7 years of work experience) passed in-depth interviews. The tools used in the study were questionnaires and structured interviews. Descriptive statistics Multiple regression analysis step method

RESULTS

Analysis results according to Objective 1 : Optimization of Outbound Freight Forwarding of Thai Airways International Public Company Limited

Table 1

Factors Affecting Efficiency of Air Freight Management (Overall)	level		
	X	S.D.	comment
product inspection	3.52	0.30	a lot
Shipping and receiving documents Air Waybill	3.90	0.63	a lot
Total	3.67	0.12	a lot

From Table 1 , it was found that the overall increase in the efficiency of outbound cargo of Thai Airways International Public Company Limited was at a high average level. when considering the side with the highest average Shipping and receiving of Air Waybill documents (overall) was at a high level ($x = 3.90$, $S.D. = 0.63$) and cargo inspection was at a high level ($x = 3.52$, $S.D. = 0.30$)

2. Analysis of the recovery of supply chain efficiency of Thai Airways International Public Company Limited found that (overall) the opinions were at a high level. When considering the aspect with the highest average is flexibility. is at a high level ($x = 4.23$, $S.D. = 0.38$) and the supply chain management of Thai Airways International Public Company Limited has a linear relationship with the independent variable group at statistical significance at the .05 level and can be calculated Linear prediction. Variables that can predict improvement in overall air cargo performance (y), in descending order of resilience ($X3$) and responsiveness ($X4$), respectively, can be combined to predict handling. with both variables including (y) 13% (adjusted $R^2 = .130$)

3.The results of the analysis according to Objective 3 found that the way to increase the efficiency of outbound logistics to improve the efficiency of the supply chain. or Kaizen concept By applying the principle of eliminating unnecessary work steps, consolidating work steps to reduce work steps, reorganizing work, and improving work methods to simplify work. used for this person find ways to improve work processes with the goal of increasing

Performance work of employees to be able to respond to customers faster than before It starts from finding out the reason for taking too much time to document, then recording the time of each working step from the actual situation and Lead times incurred by the export department both before and after the renovation. Then study the problem of applying Work that causes wastage (Waste) and that does not benefit the export department. find and improve Appropriate work according to the principle of eliminating unnecessary work steps, consolidating work steps to reduce leave New jobs and improvements in work methods to simplify work. to get a new way of working

CONCLUSION AND FUTURE WORK

1. The analysis results of increasing the efficiency of outbound cargo transportation of Thai Airways International Public Company Limited found that overall the average is at a high level. When considering the aspect with the highest average, the delivery and receipt of Air Waybill documents (overall) was at a high level ($x = 3.90$, S.D. = 0.63) and the cargo inspection was at a high level ($x = 3.52$, S.D. = 0.30).

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FUTURE WORK

Suggestions this time

1. Efficiency of outbound transportation Should be improved in the management aspects of the document for the export of administrative users. It also affects the airlines' speedy actions towards air cargo.

2. Supply chain improvement and revitalization results There should be increased flexibility and integration of the movement of goods for convenience and safety and lead to an efficient transport process.

Suggestions for the next time

1. Study the management of outbound cargo for the efficiency of the airline's supply chain.

2. To study the causal relationship that influences the handling of export cargo throughout the airline supply chain.

REFERENCES

- Christopher Hood. (1991). *A public management for all seasons*. Public Administration. (69), pp. 3 - 19.
- Green, K. W., Whitten, D. W., and Inman, R. A. (2008), *The impact of logistics performance on organizational performance in a supply chain context*, Retrieved March 28, 2010, from <http://www.emeraldinsight.com/Insight/viewPDF.jsp?contentType=Article&Filename=html/Output/Published/EmeraldFullTextArticle/Pdf/1770130407.pdf>
- Jones, G. R. (2004). *Organizational Theory, Design, and Change*. 4 th ed. New Jersey : Pearson Education.

- Loudon David L.; and Della Bitta Albert J. (1979). *Consumer Behavior : Concepts and Applications*. New York : McGraw-Hill.
- Putnun , S. (2019) . Factors affecting the decision to using Ranong port transport service in Ranong. (Research Report). Bangkok : Suan Sunandha Rajabhat University.
- Wong, D. L., Wilson, D., & Kline, N. E. (2009). *Wong's nursing care of infants and children (7th ed.)*. St. Louis: Mosby.
- Zheng, J., Hu, Z., & Wang, J. (2009). Entrepreneurship and innovation: the case of Yangtze river delta in China. *Journal of Chinese Entrepreneurship*, 1(2), 85-102.)