

Digital Supply Chain Model for the Cargos Maritime Transport Management in Thailand

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Abstract— The aim of this paper is to study and to assess digital supply chain model for the cargos maritime transport management in Thailand. A samples are ten experts in the field of information and supply chain. The data is analysed by means and standardized deviations. The paper consists of seven elements namely main elements Shipper, Port Operator, Freight forwarders , Suppliers ,Customers and Satisfaction. The assessment about digital model in supply chain for the cargos maritime transport management in Thailand using Black-Box technique. The research findings revealed that digital model in supply chain for the cargos maritime transport management in Thailand is appropriate at the high level , the ten experts agreed.

Keywords— *Digital supply chain model, cargos maritime transport management, Thailand*

1. Introduction

The maritime supply chain, one of the transportation modes, is becoming increasingly important today as trade increasingly depends on maritime transport, which can carry cargoes at the lowest cost, with the highest transport capacity, through unrestricted waterways, and optimize mass transportation of goods. Additionally, the maritime supply chain dominates all other forms of international transportation. Among all modes of transportation, maritime transportation is the most lucrative and economical.[9],[11] In addition, the Asia-Pacific has emerged as a key hub for the restructuring of the world's economies, trade, and geopolitics. The Indian Ocean has developed into a hub for the maritime industry as a result of this transformation, and the Thailand Economic Corridor has become one of the key components of the Maritime Silk Road [10] and [11]. Thailand must improve its soft and hard infrastructure in

order to keep up with the global economic and geopolitical transformation in Asia [11] and [13]. So, The digital supply chain management idea is applied to maritime transportation. Due to the business' requirement to be highly competitive and the nation's increasing reliance on foreign competitors, it will be optional. organizations in the industry must have staff with the knowledge, aptitude, and abilities to work effectively to boost productivity if they want to remain highly competitive. Therefore, in order to raise their values and meet customer demand, firms need to have access to enough information and resources. As a result, the organization's entire system of activities, from upstream to downstream, is supported by the supply chain and digital process. It permits the organization to quickly review the information system to make sure that the organization runs smoothly [2] and [3] Upon awareness, the researcher decided to investigate and evaluate digital supply chain model for the cargos maritime transport management in Thailand for ensuring customer satisfaction

2. Literature Review

The flow of cargo between two destinations while utilizing both maritime (ocean) and land transportation is referred to as a maritime supply chain. It is a vast network of interconnected systems that includes land-based logistics systems, shipping lines, port terminal operators, and freight forwarders. Shipping lines own and manage the ships that carry the commodities across the ocean, while freight forwarders are businesses or individuals who arrange the shipment of products. The port space where products are delivered and then controlled by land-based logistics systems to transport the items to their destination is owned or leased by port terminal owners. To prevent delays

or misdirected shipments, all of these are crucial points of contact and must be in continual contact. a bad climate, overcrowded ports and congested shipping routes can complicate any shipment if they are not carefully planned, observed, and rerouted as needed.

In today's world the Technology in supply chain for cargos Maritime Transport Management has expanded to add technology, customer tastes, and global trade patterns.[12]

3. Research Methodology

3.1 Researches the paper on the digital supply chain model for the cargos maritime transport management in Thailand

3.2. Develop digital supply chain model for the cargos maritime transport management in Thailand

3.3 Selection of ten experts to estimate digital supply chain model for the cargos maritime transport management in Thailand .

3.4. Make questionnaire for evaluate the model's suitability.

3.5 Five supply chain experts and five digital experts presented the current digital supply chain model for the cargos maritime transport management in Thailand to the ten experts.

3.6 Examine the outcomes of the mean and standard deviation analysis of the digital supply chain model for the cargos maritime transport management in Thailand in accordance with the five assessment criteria.

4. Research results

Research results about digital supply chain model for the cargos maritime transport management in Thailand are shown in figure 1.

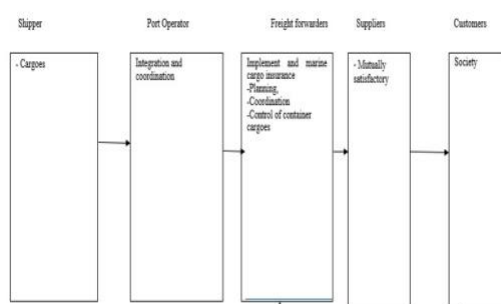


Figure 1: Digital supply chain model for the cargos maritime transport management in Thailand

1. Shipper

Shipper means the owner of goods or his agent who exports to , or orders or imports from, abroad of cargos carried by sea .The shipper will send raw materials or cargos through Port Operator .

2 Port Operator

Port Operator means the owner of goods or his agent who exports to , or orders or imports from, abroad of cargos carried by sea means a place where service of berthing, loading of discharging cargos are provided for vessel. Port Operator are recognized for being not only a self-sufficient and integral space for transferring physical cargo but a systematic link in a multimodal logistics supply chain

3. Freight forwarders

Freight forwarders refer to a freight forwarder, assisted by carriers, arranges for the safe transportation of cargos that have been assigned into their care. The appearance of freight forwarding is connected to the growth of goods manufacturing and the evolution of trade and transport. The demand for this service occurs when the purchaser no longer takes charge of the transportation of their commodities themselves but entrusts this responsibility to specialized transport companies. Nowadays, freight forwarders are active stakeholders in the transportation chain, primarily engaged in moving cargo. Freight forwarding comprises a range of encompassing operations. Moreover, a freight forwarder is an intermediary who operates by order of importers, exporters or other entities that appoint them to arrange transportation in secure, efficient,

4 Suppliers

Suppliers refer to mutually satisfactory.

5. Customers

Customers mean the end-of-process component of model . They include the society. Finally, the end product will provide added value to the supply chain

6.Satisfaction

Satisfaction mean the data from the questionnaire. .[1],[2],[3],[4],[5],[6] ,[7] and [8]

Table 1: Results for evaluation of digital supply chain model for the cargos maritime transport management in Thailand

List of Evaluated Items	\bar{X}	S.D.	Appropriate Level
Main elements	3.65	1.18	High
Shipper	3.70	0.82	High
Port Operator	3.70	0.82	High
Freight forwarders	3.70	0.82	High
Suppliers	3.70	1.05	High
Customers	3.60	0.84	High
Satisfaction	3.70	0.82	High
Total	3.67	0.91	High

From the table 1, The experts found that digital supply chain model for the cargos maritime transport management in Thailand is highly appropriate ($\bar{X} = 3.67$, S.D. = 0.91).

5. Conclusion

Digital supply chain model for the cargos maritime transport management in Thailand is appropriate at the high level development. The rating mean of 3.67 and standard deviation of 0.91, which means that the model is appropriate at the high level. The model could be applied in support the tasks

6. Discussion

Digital supply chain model for the cargos maritime transport management in Thailand is considered to be high appropriate ($\bar{X} = 3.67$, S.D. = 0.91, and the design was corresponds to the research of Chansamut and PiriyaSurawong has studied supply chain and information system about educational [1] In addition, with the study of Chansamut suggesting that supply chain and information system . [2],[3],[4],[5],[6]

7. Recommendation

Digital supply chain model for the cargos maritime transport management in Thailand is considered to be high appropriate if possible it should be case studies of an organization that implement the model and efficiently.

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