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An Index to Evaluate Carrier Competence in Container Inventory Management

Lalith Edirisinghe
CINEC Maritime Campus, Sri Lanka

Zhihong Jin
Dalian Maritime University, China

A W Wijeratne
Sabaragamuwa University of Sri Lanka, Sri Lanka

1. Introduction

Container inventory management (CIM) is an important activity in liner shipping business. The container inventory imbalances (CIIs) can primarily be attributed to global trade imbalances. Well planned, accurately forecasted, realistically allocated, and effectively managed container flows ensure that material and goods are globally supplied on time, in a cost-efficient way. The CIM decisions are usually influenced by many factors (Edirisinghe, Zhihong, & Wijeratne, Container Inventory Management: Factors influencing Container Interchange, 2016). However, there is no standard fool-proof CIM system in place that could effectively and efficiently control these factors (Edirisinghe & Zhihong, Virtual Container Pool: Solution to Container Inventory Imbalance, 2016).

It is identified that managing containers comprises of various parameters such as high detention cost, rising inventories, vessel misses, rejection of cargo by buyers and load times: each of which have a significant impact on economic profit as freight containers are usually exchanged in intermodal stations or terminals. The total sum spent on repositioning an empty container (MTY) is a complex calculation because the cost parameters are varied and numerous (Edirisinghe, Zhihong, & Wijeratne, Evaluation Of Expected Payoff Through Container interchange between shipping lines: a solution to container inventory imbalance in Sri Lanka, 2015).

The increasing complexity of transportation and manufacturing networks poses huge challenges for container in the process. Thus, new business corporation models are an essential factor. There is a great lack of transparency about container movements and inventory in the network which cause substantial inefficiencies in the entire supply chain. This invariably leads to prohibitive costs in transportation, sourcing, material planning and administering containers as well as to an inadequate availability of containers and therefore to low service quality. Striking an optimum