



Original article

Preparation of dry ports for a competitive environment in the container seaport system: A process benchmarking approach^{*}

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Abstract

The significant exodus of containers inland due to the container revolution has increased the salience of inland terminals for efficient freight distribution. Further, the migration of containers gradually inland has forced seaports to depend on these inland terminals to determine their competitiveness and offer a mechanism for competitive freight price to the consumer. The performance of dry ports need to be improved along with the dynamic nature of maritime business, to efficiently fulfil the demand all the key players in the container seaport system, provide economies of scale and scope to their respective clients and enhances the importance of inland networks to improve and consistently elongate the competitiveness of container seaports. Predicated to these importance, this paper aims to enhance dry port performance by adapting a process benchmarking strategy among the Malaysian dry ports. Prior to the adaptation of the process benchmarking approach, a grounded theory had been conducted as a method of analysis among the key players of the Malaysian container seaport system in order to provide essential inputs for the benchmarking. Through this paper, the outcome shows all four Malaysian dry ports need to improve their transportation infrastructure and operation facilities, container planning strategy, competition, location and externalities in order to assist all the key players in the container seaport system efficiently and effectively.

Key words: dry ports, Malaysia, container seaports, benchmarking, grounded theory

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1. Introduction

The consistent growth of containerization since the middle of 1900s requires the integration of intermodal terminals in the container seaport system to manage and develop the significant components in seaport competitiveness. The assistance of intermodal systems especially dry ports are highly anticipated by the container seaports and other key players in order to move along the shifting paradigm of seaport centric logistics towards consumer centric logistics which has been widely discussed by Lee and Cullinane (2016). The evolution of seaports from 4th generation towards 5th generation demanded an intersection of dry ports to assist container seaports to adapt with the current trends in global trade. As a result, the emergence of dry ports in the seaports system has become a significant complement for seaports due to the vicissitude nature of seaports.

Dry ports have become an important medium for seaports to face the instability of global trade, rapid changes in globalization as well as prioritization of regionalization to fulfill the need of economies of scale and scope especially from the Asian economic community. Predictably, the dynamic nature of maritime business, the changes from various components especially from shipping activities, seaport operations as well as inland network have brought a significant impact on the competitiveness of container seaports. Hence, dry ports which possess optimum operational elasticity have become a main component for seaports as a place to rely on to sustain in the competitive market.

Nevertheless, the dependency of seaports on dry ports to preserve the competitiveness requires dry ports to have optimum productivity, maximum process efficiency as well as satisfied service quality. Therefore, a benchmarking tool has been adapted in order to enhance dry ports efficiency and simultaneously improve container seaport efficiency. According to Dias et al. (2009), the benchmarking strategy is critical to compare their performance with respective competitors and design their own strategy to sustain in the dynamic market. This paper intends to conduct a benchmarking analysis on the main Malaysian dry ports by focusing on their respective roles in the container seaport system. It is important

to improve the performance of these intermodal terminals in the container seaports system as well as accelerating the efficiency of freight distribution from seaport to dry ports and vice versa. To attain this analysis, a grounded theory has been implemented as a methodological approach to explore the internal and external performance of Malaysian dry ports in the container seaport system. Taking into account that dry ports are key components in freight logistics networks, the performance evaluation is essential to provide an effective decision prior to improving their efficiency and therefore enhance the competitiveness of container seaports in this region.

2. Motivation for a process benchmarking in Malaysian dry ports

Major impediments particularly from the intermodal system especially on transportation inefficiency, lack of effective container management, high competition with seaports, location of some intermodal terminals in less strategic perimeters, and externalities (Jeevan et al. 2015) indicated the seaports are unable to rely on the dry ports in order to improve their performance. This is because the current limitation faced by the dry ports has caused several significant issues on dry port performance as well as to the seaports.

Aforementioned issues have affected the competitiveness of seaports in this nation. For example, key issues especially in punctuality in serving their hinterland and foreland stakeholders, leaving empty space in the vessels, congestion and frequent accidents at seaports, delays in vessels turnaround time, ineffective seaport-hinterland connectivity, monopoly among road freight hauliers, limitation in modal shifting facilities, inefficient container management system, over-reliance on road transportation, less integrity in container flow to and from seaports and unhealthy and weak road infrastructure were detected as major issues faced by Malaysian dry ports (Jeevan et al. 2014). Those implications limit the real potential of Malaysian dry ports and as a consequence have affected the performance of container seaports. Hence, this situation limits the capacity of dry ports and

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