

## The Virtual Container Yard: Identifying the Persuasive Factors in Container Interchange

**Authors :** L. Edirisinghe, Zhihong Jin, A. W. Wijeratne, R. Mudunkotuwa

**Abstract :** The virtual container yard is an effective solution to the container inventory imbalance problem which is a global issue. It causes substantial cost to carriers, which inadvertently adds to the prices of consumer goods. The virtual container yard is rooted in the fundamentals of container interchange between carriers. If carriers opt to interchange their excess containers with those who are deficit, a substantial part of the empty reposition cost could be eliminated. Unlike in other types of ships, cargo cannot be directly loaded to a container ship. Slots and containers are supplementary components; thus, without containers, a carrier cannot ship cargo if the containers are not available and vice versa. Few decades ago, carriers recognized slot (the unit of space in a container ship) interchange as a viable solution for the imbalance of shipping space. Carriers interchange slots among them and it also increases the advantage of scale of economies in container shipping. Some of these service agreements between mega carriers have provisions to interchange containers too. However, the interchange mechanism is still not popular among carriers for containers. This is the paradox that prevails in the liner shipping industry. At present, carriers reposition their excess empty containers to areas where they are in demand. This research applied factor analysis statistical method. The paper reveals that five major components may influence the virtual container yard namely organisation, practice and culture, legal and environment, international nature, and marketing. There are 12 variables that may impact the virtual container yard, and these are explained in the paper.

**Keywords :** virtual container yard, shipping, imbalance, management, inventory

**Conference Title :** ICTLT 2019 : International Conference on Transportation and Logistics Technology

**Conference Location :** Tokyo, Japan

**Conference Dates :** April 22-23, 2019