

CONTAINERIZATION FROM IDEA TO INDUSTRY STANDARD

Dr. D.Arivazhagan¹, Dr.R.Srinivasan², S Dolan R³

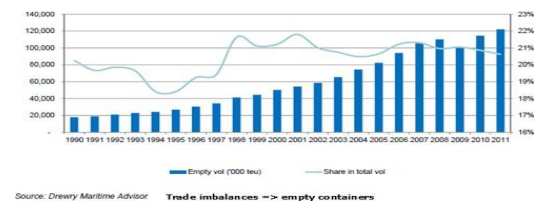
¹Professor, ²Associate Professor,, ³Second Year MBA Student

The Background

Since the beginning of containerization, the shipping industry has shown enviable developments in increased productivity, vessel capacity, speed ,safety, reduction in service time and cost. Despite these achieved efficiencies, marine container logistics has been suffering from severe trade imbalances between the major trading regions. And these imbalances cause one of the biggest hidden costs to the shipping industry– repositioning of empty containers! As per an article appeared in the Shipping watch , every year Maersk Line moves around 4 million empty container from point A to point B which costs around USD 1 billion.

Drewry Shipping Consultants estimated that there were over 82 million port to port moves of empty TEUs worldwide

in 2010. The Port of Los Angeles alone reported 831,370 empty TEU shipments during the first half of 2011, representing over 42% of their outbound container traffic

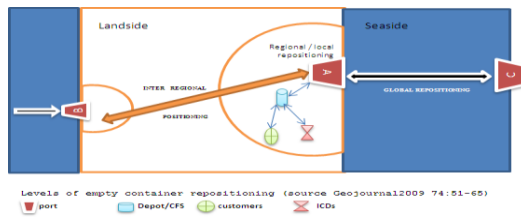


Empty Containers are re positioned at various levels , namely **Global ,inter regional, regional and local.**

- (a) The **global level** involves massive all sea empty container repositioning from surplus to deficit area (eg.Cochin to Chinese ports).
- (b) The **inter-regional level** involves either balancing repositioning inside a wide geographical area (within Asia , Europe , ISC) or on a leg finally leading to global repositioning (Tuti / Chennai > Colombo / Port Kelang > Europe / USA).
- (c) The **regional level** involves the empty balancing between ports / ICDs of same region (Cochin to Tuti / Mangalore

/Bangalore/Coimbatore) by road , rail or by sea using coastal services.

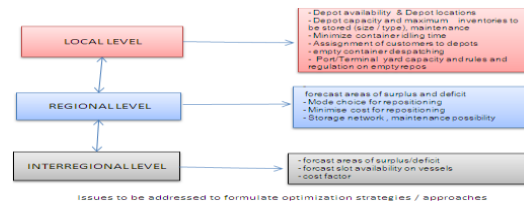
The **Local level** involves empty shunting between marine terminal and depots, the storage and maintenance issues



Each empty container move involves fuel and electrical consumption by ships, terminals, trucks, and railroads and results in excessive unproductive empty vehicle miles in a region. Hence, another important aspect to be considered associated with repositioning empty containers is the carbon footprint

Due to insufficient port / depot infrastructure and poor logistics management strategies of the carriers, the whole process of empty container evacuation used to be cumbersome , time consuming and expensive. This situation demands for an empty container management strategy which rationalizes the repositioning, storage and maintenance of empty containers in major importing regions. For formulating a suitable management

strategy, issues mentioned in the below chart are to be addressed



Management Strategies

Various empty container logistics management optimization strategies for minimizing the cost to carriers are currently either being explored or implemented to a certain extent. The most popular strategies includes

- (i) Effective service net work design with empty container reposition considerations to avoid vessel calls dedicated to empty repositioning.
- (ii) Matching cargo to empty containers to reduce empty frequency
- (iii) Design of a empty storage & maintenance network

Transportation options for less expensive repositioning

Among the upcoming management strategies to reduce



the energy, cost and effort to reposition empty container , the most popular one is the concept of folding containers. Presently a number of options are under various stages of implementation, including Staxxon folding/nesting container technology (New Jersey), Holland Container Innovations (Delft), CargoShell (Rotterdam) and Foltainer (Brisbane), all of them have developed their own collapsible or composite container designs. If empty containers can be folded and nested and moved in sets of 2 or more, occupying the same space and dimensions as one container, operators could save huge money on account of transportation, handling and storage.

Another recent innovation is the Tworty Box, which means two 20 ft containers that can be linked together to form a single 40 ft unit ! The first tworty box completed its maiden voyage from Hamburg to Montreal on the containership OOCL Montreal



Even though the empty container repositioning is a non-revenue generating, complex, expensive and tiresome exercise, it is an integral part of the maritime sector, which balances demand and supply between regions. Ultimately only time will tell whether it is folding containers, tworty boxes, trans- loading, or some other solution which will address this growing global issue .

References

1. TOMAS RISTIANSSEN, Published in Shipping watch on 31.10.12 at 13:52 <http://shippingwatch.com/articles/article4891909.ece> - "Empty containers cost Maersk Line USD 1 billion a year "
2. Jason Chiang, Sr.Manager, Drewry Maritime Advisor , presentation made in Philippines, Feb 2013,



- 11th ASEAN Port and Shipping 2013 “Outlook of global container port market with a focus on Asia”
- e/article/staxxons_spacesaving_shipping_container
<http://ashasmaritimeneews.blogspot.in/2013/07/new-gen-containers.html>
3. S.Theofanis , M.Boile, Centre for Advanced Infrastructure and Transportation, Rutgers University ,NJ,USA, GeoJournal (2009) 74:51-65, Published on line on 21/10/2008 by Springer Science+Business Media B.V 2008 – Empty marine container logistics – facts,issues and management strategies
 4. Jason Zasky,published inFailure Magazine,“Staxxon’s Space-Saving Shipping Container”
 5. Suresh, N., & Bhavadharani, S. (2021). An Empirical Study on the Impact of Passenger Loyalty Program on Passenger Retention with Reference to Air India. Productivity, 62(1).
 6. <http://failuremag.com/featur>