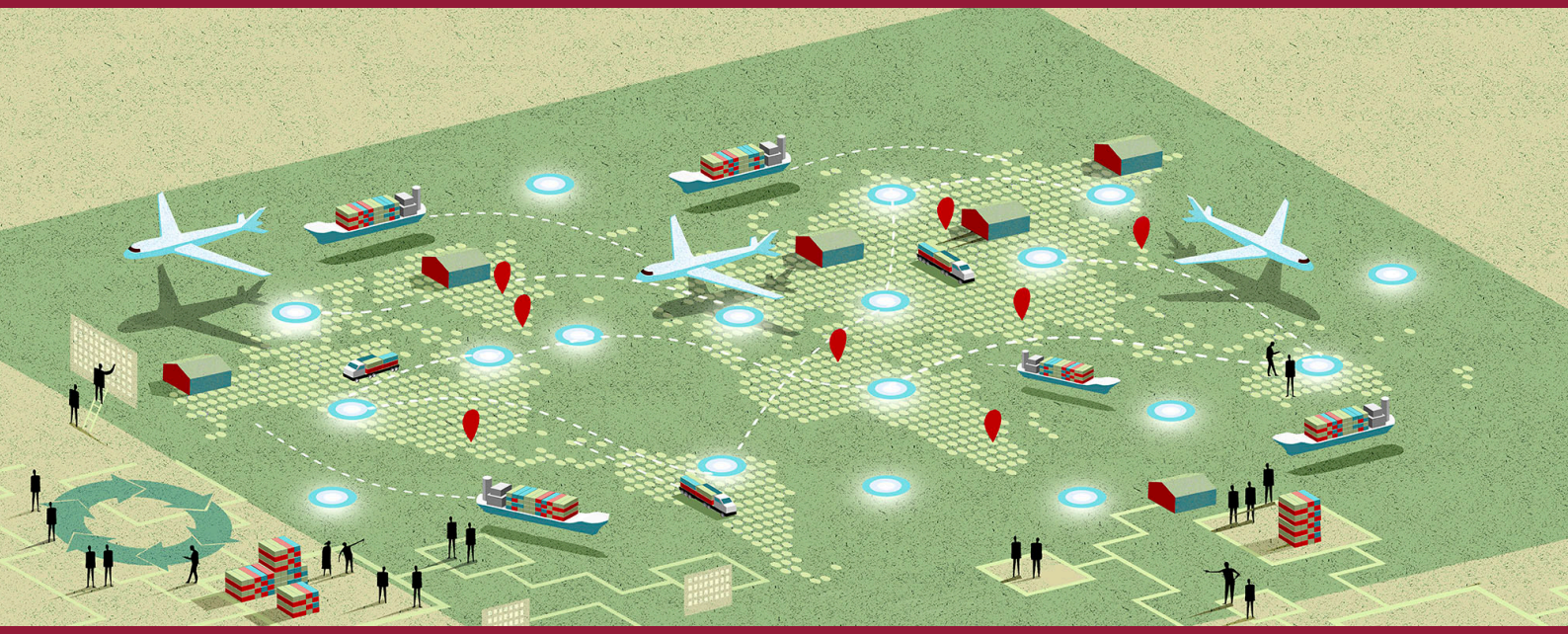

LEAN DISTRIBUTION & TRANSPORTATION

FP

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BACKGROUND

Distribution's traditional core activity has been the transferring of products from the producer to the consumer. However, the actual broad scope refers to the set of operations required to make goods available in markets across different locations and channels. The constantly growing flows of freight represent a fundamental component of contemporary changes in economic systems at the global, regional and local scales, comprehending growth in circulation, structures and operations, in an environment where the dislocation between producers and consumers is becoming a most common situation. Therefore, we can say that it represents the material and organisational support of globalisation, because the physical distribution includes the handling of goods, transportation services (trucking, freight rail, air freight, inland waterways, marine shipping, and pipelines), trans-shipment and warehousing services (e.g. consignment storage), compliance of international trade regulations and exchange of information.

Best practices in distribution and transportation aim to make goods, raw materials and commodities available, while fulfilling four major requirements related to order, delivery, quality and cost fulfilment, and meeting the time-and-space-related arrangement of the whole goods flow throughout the supply chain. The application of these best practices enables greater efficiencies of movement by setting the optimal choice of modes, terminals, routes and scheduling, ensuring that the flow in the whole supply chain, from the raw materials origin to the end customer is never stopped.

Having raw material suppliers, production facilities and end customers scattered throughout the world, embedded in an increasingly integrated global economy market give transportation a key role in a company's financial performance, because it holds the potential to manage and lever the inventory building and holding, the space needs, the total lead time and the geographic impact of the overall supply chain effort, making transportation an excellent candidate for Lean Solutions.

CHALLENGES

The biggest challenge for today's transportation managers is how to orchestrate an end-to-end process, while managing the interplay of various third-parties, such as customers, suppliers, ocean carriers, freight forwarders, customs brokers, government agencies, which in summary means achieving the best lead time for the flow of the goods through a network of Distribution Centres (DC's) to reach all the necessary nodes or locations within the supply chain.

APPLYING LEAN TO THE MANAGEMENT OF FLOW, NETWORK AND NODES WILL POSITIVELY IMPACT AND ENHANCE THE EFFECTIVE USE OF TIME, SPACE, ROUTING AND ENSURING A COMPETITIVE EDGE BY:

REDUCING THE FROZEN CAPITAL AND ASSETS BY MANAGING THE FLOW

An optimised transportation time will impact directly in the level of inventory needed to ensure the service rate – hence less inventory building, less inventory holding and reduced depreciation costs.

CONTROLLING THE CAPITAL INVESTMENT BY MANAGING THE NODES

Flow and throughput oriented facilities have a direct influence in the space needed to hold and handle the inventory, meaning that more operations can be done in the same space available.

OVERCOMING THE GEOGRAPHICAL CONSTRAINTS BY MANAGING THE NETWORK

Optimised routing processes will ensure a smart use of the transportation fleet and reduce the overall operational costs while enhancing the service frequencies, lowering the response time to order and enabling a better visualisation of every link in the supply chain.

DRIVING TRANSPARENCY BY THE IMPLEMENTATION OF TECHNOLOGICAL SOLUTIONS

IT solutions such as Transport Management Systems (TMS) or Radio Frequency Identification (RFID) help to improve the information flow and the traceability of goods, resulting in a better integrated, more transparent, flexible and responsive supply chain.

- Decreasing the level of non-value adding administrative burden
- Complying with global, regional and local trade rules and regulations
- Managing the constantly increasing complexity of the market in terms of fuel cost fluctuation, lack of carrier capacity or customer demand variance due to seasonality, E-commerce, or increasing expectations for value-adding JIT/JIS operations

FOCUS AREAS

Waste in administrative processes can be identified, classified and minimised in the same way as waste in manufacturing. They also have tremendous potential for savings. Lean principles, kaizen methods, and re-engineering approaches can be applied in an office environment for improving documentation flow and reducing the total lead-time in processes, and in general, for achieving excellence in non-manufacturing areas.

AREAS OF WASTE OFTEN IDENTIFIED IN DISTRIBUTION & TRANSPORTATION:

TRANSPORTATION

Unnecessary transports that result in added cost and lower productivity such as out-of-route stops or excessive backhaul.

INVENTORY

Any activity that results in excess – or lack – of inventory being positioned than needed or in a location where needed. An example of this is the need of the supply chain to compensate with inventory building a long delivery time.

MOVEMENT

This includes any unnecessary movement of people, such as walking, reaching or stretching, due to un-optimised loading layouts or lack of material handling resources, like pallet-jacks or lift trucks.

WAITING / DELAYS

People, systems and material delays due to badly integrated processes. Delays of ship arrivals to port, customs clearance processes, waiting for documentation approvals or goods that are not ready to be loaded in shipping areas are some examples.

OVER-PRODUCTION / OVER-PROCESSING

Any duplication of efforts due to uneven demand caused by high fluctuations in freight volumes.

DEFECTS

Activities that cause re-work, returns or adjustments, such as mislabelled orders delivered at wrong facilities, incorrect documentation or wrongly balanced loads that result in the damaging/falling of materials during the transit.

SPACE

Any use of space that is less than optimal, accordingly to the measure and route, e.g. trailers, containers with low or excessive fill-up rate, paid FTL freights used as LTL shipments that are not completed with multiple stop milk runs.

LEAN SOLUTIONS

Bringing control, visibility and delivery stability to the full network by designing and implementing Lean to distribution processes reduces lead time, releases financial stress by enabling a high inventory turnover and ultimately reduces the cost to the total supply chain output.

BY APPROACHING THE WASTE FOCUS AREAS MENTIONED ABOVE WITH LEAN SOLUTIONS, SOME OF THE OPPORTUNITIES FOR IMPROVEMENT AND BENEFITS IN TRANSPORTATION INCLUDE:

- Increase of the inventory turnover
- Information reliability to coordinate the supply chain
- Reduction in transportation lead times by optimising route planning
- Increase the total supply chain visibility
- Enabling a locally, regionally and globally integrated management process
- Increased flexibility to approach and subdue ever changing market conditions and client specifications whilst making as little further investment as needed to achieve it

We implement Lean Solutions in distribution functions in a similar way to other supply chain solutions, decreasing lead-time and significantly reducing costs and meeting the challenges without sacrificing quality.

TANGIBLE IMPROVEMENTS

LEAD TIME

- Route optimisation enables up to 20% reduction of time when shipping direct to customer
- 20% total lead time reduction in a supplier distribution network supply chain while enabling an increase of 50% of the trailer capacity utilising milk runs
- By applying a Lean routing process on international shipments, delivery lead times were cut by 15% due to avoiding unnecessary delays caused by lack of carrier capacity in the market

QUALITY

- Standardising the documentation process lead to a decrease in customs clearance times by more than 25% and a decrease of over 90% in human errors
- Optimised handling approaches and Lean ERP systems decreased the delivery mistakes rate by more than 90% while enhancing the value-adding perception of the customer by 18%

COSTS

- Optimised use of existing distribution centres reduced the need of capital investment by ~30% while increasing flexibility in trans-shipment and cross docking operations process
- The application of Lean in intermodal transportation of a firm's supply chain, reductions between 15% to 20% in transportation costs were achieved while also reducing the carbon print of the firm
- A Lean optimisation of the DC's use and routes lead to a reduction of more than 20% of fuel expenses

Should you be interested to know more about our Lean services regarding this topic, then please contact us:

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