

#026 : Transshipment

(Enabling inventory rationing & inventory pooling)

Definition

Transshipment is the on-demand flow of goods between the entities (warehouses or retailers) of the same echelon. It can be reactive or proactive depending upon the strategy followed.

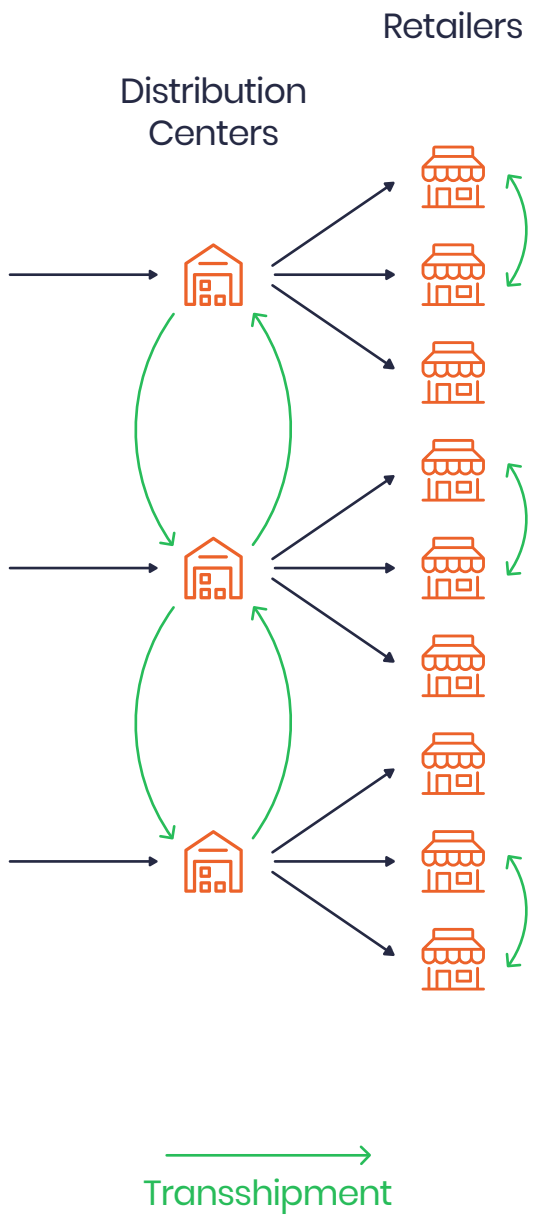
Potential Benefits

4%
reduction in total cost
(reduces inventory and shortage costs but may increase transportation cost)

Types

Reactive: Transshipment is reactive when the decisions are taken after receiving demand. In this case the customer is willing to accept delay in receiving the goods and shortages are not very expensive.

Proactive: Transshipment is proactive when the decisions are taken before receiving demand and usually anticipatory. In this case the customer does not accept delay in receiving the goods and shortages are expensive.



Where AI comes in ?

1

Reactive transshipment is usually more expensive than the proactive one since the latter can enjoy better transportation efficiency (Truck loads) and its planning horizon can be longer.

2

Proactive transshipment requires prior demand information. AI can be used to generate more accurate demand information and stored centrally. Therefore, decisions can be further optimized to have least cost.

3

The optimization problem involved is NP-hard. Heuristics can be used to obtain approximate solutions. Here, AI can also be used to inside the heuristics to obtain better results.