

Order size transportation costs and economic order quantity

[Transportation](#)



Transportation Costs, and Economic Order Quantity Jerome Benedict 604 488 9691 Prepare answers to the following questions prior to class. In class you will be given time to discuss your findings in small groups. Be prepared to present your findings either individually, or as a group, to the class. This discussion exercise is worth 2.5% of the overall mark for this module. 1. Is it reasonable to think order sizes are infinitely variable? How does this relate to LET (less-than-truckload) versus FAT (full-truckload), the use of unit trains, and to containers?

In other words, how does the size of a single shipment or order relate to the size of the vehicle carrying it? And, how can a full truckload be directed to a single destination for efficient routing and scheduling? Order sizes definitely variable, unless you are purchasing the same item/Amount every time without variable changes. Using a FAT could reduce your cost for shipping and would help guarantee shipment amounts and reduce issues with customs. If your product is being shipped in LET then it can be stopped and held if other items in the shipment are not verifiable.

The size and weight of the shipment directly relates to the size of vehicle carrying it, these parameters can change costs as they change. Shipping one carton can be expensive as the transport company must pickup, track, handle/trans-ship, deliver and invoice for such a small volume.

Transportation companies would lower rates for larger shipments as they could be directed to one shippers address rather than having to make multiple stops on their route. If a single truck load can pick up from one destination and direct it to a single drop of point, the costs associated to the shipment would be reduced.

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Having a LET would increase scheduling and routing costs as attention would have to be paid to multiple units. Man power and fuel costs would increase.

2. How are stock costs determined, and how do transport costs vary with the quantity shipped, the quantity shipped per shipment, and the quantity shipped per year? Costs vary as you change shipment methods, and there is a trade-off between stock costs and transport costs. How does a logistics manager determine these trade-offs and benefits?

Order Size Transportation Costs And Economic Order Quantity By Jeroboam product, inventory service, and inventory risk. It is displayed as a percentage of reduce value or unit cost. Stock cost can be determined by calculating the cost of the item, multiplied by the number of units on hand and finally multiplied by the percentage given to the cost of holding stock. You need to determine the perfect quantity to hold on hand to meet requirements but also determine how often you want the product shipped to you to maintain the inventory need for production.

You don't want to hold too much stock or your carrying costs will increase but then you don't want to hold not enough, or else your shipping costs will increase because you will need more shipment to cover inventory needs. As a logistics manager, you want to ensure that production doesn't stop and that you don't have too much inventory. Safety stock could be a good choice to avoid stock outs and assist in time of variability. 3. Does EX. have practical use?

How is the application of EX. affected by shipment size? Although EX. is not used to determine actual shipment sizes in the "real world", it is a good

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modeling tool for determining an organization's trade-off and optimization strategy. Discuss. EX. is practical when order quantities are predictable, rarely is this the case. If a vendor offers volume discounts then this equation would not provide much value. EX. is based on the assumption that costs are fixed regardless of the number ordered.

It is a good modeling tool as it encourages the organization to analyze their holding costs and transportation costs. This provides the organization with a practical view of their total costs and will allow them to model their inventory strategy and how it should align to. 4. How does shipment size relate to vehicle size, e. G. Less-than-truckload (LET) vs.. Full- truckload (FAT), less-than-carload (LLC) vs.. Carload, and multi-car shipments in rail? Research and compare shipping issues, such as shipping diamonds vs.. Coal, or armaments vs.. Oranges.

Less-than-truckload (LET) Smaller inventory Longer freight times Lower costs compared to FAT (unless a full truck is needed) Additional Pick up and drop off time Volume Discount Full-truckload (FAT) Shorter transit time Higher cost (fuel) Exclusive truck use Less-than-carload (LLC) Customs issues with consolidated shipments Carload Exclusive car use Easier to coordinate than LLC Multi-car shipments No need to decouple Diamonds Security Small, easy to ship High insurance Small packaging Coal Train or large trucks required Environmental Hazards Need to follow certain specified routes