

Impact of Time Definite Surface Transport Options

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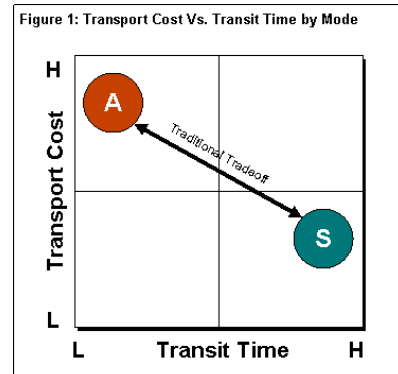
Finally, a disruptive innovation!

Wikipedia defines a 'disruptive innovation' as "a technological innovation, product, or service that eventually overturns the existing dominant technology or status quo product in the market. Disruptive innovations can be broadly classified into *lower-end* and *new-market* disruptive innovations. Sometimes, a disruptive technology comes to dominate an existing market by either filling a role in a new market that the older technology [or service] could not fill [for instance traditional FCL / LCL surface transport does not fill time-definite requirement], or by successively moving up-market through performance improvements until finally displacing the market incumbents [for instance faster transit times in surface transport]." We regard the advent of the service of *time-definite* surface transportation (and specifically LCL time-definite services) as a 'disruptive innovation.'

Let us understand why we regard this service as such, and what the competition needs to know about this to make their next move.

Breaking down the components of the transportation service offerings

Consider the matrix of unit cost vs. transit time as shown in Figure 1. We see traditional surface transport as the green 'S' circle (long transit time, low unit cost) and traditional air freight as the red 'A' circle (low transit time, high cost). The typical tradeoff is made on the axis between these two circles as indicated, where higher cost items (typically lower weight) are traditionally shipped using air freight while lesser value items are shipped using surface modes.

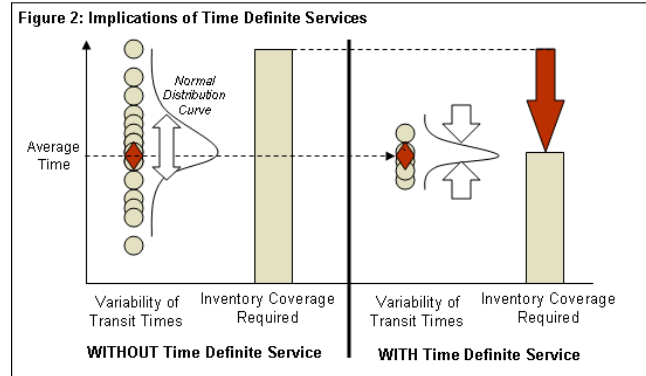


The stereotype of surface transport modes (excluding the parcel service industry) is that they are not time-definite, whereas air freight generally is. Surface transport usage hence forces companies to stock higher levels of inventory due to the high variability of transport lead times and lack of commitment on delivery dates. Companies that had urgency of product or need for time-definitiveness used air cargo (at a premium cost) to assure themselves of their shipment arriving within a shorter and promised time period. Until recently, this matrix was sparse, and there were only the two choices of surface transport (watts and all) or air transport.

Entry of a new 'disruptive innovation' of time definite surface transport

It's all well and good when you're ordering a book from Amazon.com to expect a time-definite shipment using traditional courier parcel services (UPS, FedEx, DHL, etc.), but this service was not generally available in larger lot sizes that international trade requires. With the emergence of time-definite services, companies are now able to reap the advantages of certain components of air transport without having to pay the price. They can definitively predict when their shipments will arrive, and minimal variability, allowing them to remove inventory out of their businesses, as we

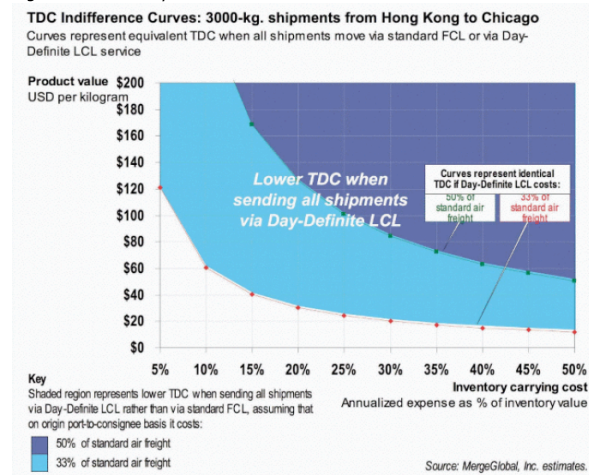
show in Figure 2. On the left, we see the wide spread of transit times indicating their wide variability. The 'normal distribution curve' indicates that whereas the average shipping time was within a tight bandwidth, there are many cases where the transit time was far above or below the average. Companies need to compensate for this wide bandwidth of variability by having a significant amount of inventory. On the right side of the graphic, we see that with a time-definite service, the bandwidth of transportation lead times is significantly tighter, even though the average time has stayed the same. This brings up another important distinction: don't confuse 'Time-Definite' with 'Time-Reducing'. We distinguish between the two because while they each add value but are not necessarily synonymous. By reducing the variability of time, it may not necessarily reduce the actual time for transportation. However, it is certain that by reducing the variability of lead time through time-definite services, the carrier can enable a company to reduce its overall working capital investment in inventory.



Another goodie – carriers are finally recognizing companies' inventory costs

We have written several articles on this industry issue – larger lots / full container-loads mean higher inventory carrying costs for the companies using surface transportation carriers. The tradeoff between inventory costs and LCL is beginning to surface in the industry. A recent *MergeGlobal* report showed that the tradeoff to ship LCL actually pays off for companies. For products which are higher value but high enough for them to be beneficial to be shipped by air, this type of movement is ideal. In today's dynamic market environment, companies need to be growth oriented to be stay in the competitive league. To stay in this league, they must have cash available to fuel their growth. One key source of cash is working capital, aka investment in inventory and its storage and carrying cost. If carriers can help reduce the time to market, albeit at a higher cost, and if this cost is less than the inventory related costs, it's a winning combination for all.

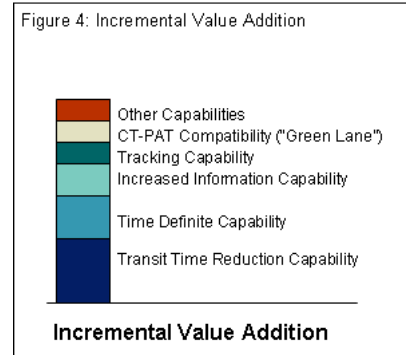
Figure 3: Inventory Cost vs. LCL cost tradeoff



The combination of LCL and time-definite services is an ideal one for companies who need to preserve working capital and yet accelerate speed to market and distribution reach. Conway/APL's *OceanGuaranteed* is one of the emerging options which are a perfect strategic fit for such enterprises.

The de-coupling of service components to add incremental value

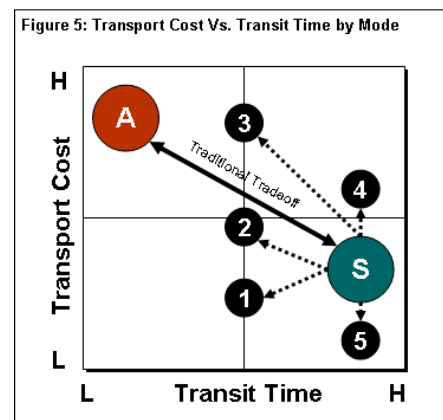
What the surface carriers offering time-definite services have done is to effectively de-couple the various components of the rival air freight offering and selectively begin to offer these in their surface mode services. Where the carriers can add value is through reduction of transit time (faster ships), time-definite capabilities, tracking and monitoring capability, CT-PAT compatibility and 'green-lane' services, and other capabilities, as we see in Figure 4.



By effectively de-coupling these components, we envision that carriers should offer more of these services. For example, information visibility is already prevalent, but more value added information such as possible risks could start surfacing as additional services that the carrier can offer. All these components incrementally add more value to the companies using these carriers, and also allow carriers to break to the ever-increasing pressure on their prices by adding on more value-added services, and allowing them to compete along more dimensions.

Time-Definite services is but one of several emerging options

In order to understand these emerging options, let us look once again at the cost / time matrix again with some additional scenarios, as shown in Figure 5. We can see the Surface (green 'S' circle) and Air modes (red 'A' circle) with the tradeoff between them. The 5 emerging directional options that begin to emerge for surface carriers are as follows:



- 1. Lower cost, shorter transport time:** This can be done relatively simply through information availability, green lane capability and compatibility with CT-PAT, and lot-size bulk agreements. This negatively impacts inventory carrying costs, as it is almost a pure cost-play on bulk shipment commitments, and with tiered services as a sweetener
- 2. Higher cost, shorter transport time:** This option is where customers pay for additional services, which is plausible in captured markets where there is a monopoly / duopoly of carriers on some lanes. It can result in quicker turnaround times for carriers, thereby increasing their asset utilization and therefore margins. This is where we see time-definite LCL plays coming in.
- 3. Significantly higher cost, shorter transport time:** This is a pure service play, and there must be significant value add for the company using this carrier, in terms of value added services. For instance, this type of service offering must lower transportation lead times as well as create value by offering third-party inventory management and optimization, customer service to end-customers, and other services that the company considers non-core, but which the transportation provider can absorb and grow. This is another zone where we see time-definite LCL plays coming in.
- 4. Higher cost, same transportation time:** This is where we plot basic time-definite services. There is no change in transportation time, but carriers can charge a premium for the time-definitiveness of the delivery service and can

legitimize it with the potential inventory reductions, as indicated in Figure 2 earlier.

5. **Lower cost, same transportation time:** This is what carriers of today are most comfortable with – price wars and price-based negotiations. Carriers who continue in this space will find themselves obsolete, bought out, consolidated, and driven out of the market.

It certainly is an interesting time in the industry with the emergence of time-definite transportation services. We envision that this is one of the emerging services that will find a good and strong foothold in the industry, with add-ons like time-definite LCL and other components adding value to customers.

Watch out – this is just the beginning for more disruptive innovations headed your way!

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