THE SUPPLY CHAIN AND TRANSPORT

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Abstrakt

The transportation and distribution world is a rapidly changing landscape marked by unprecedented complexity. Increased global trade makes logistics supply chains longer, more dynamic, and customer expectations continue to rise. This article is mainly about key issue faced by the transportation distribution and explanation of supply flow in transport context.

Key words

Transport, supply, supply management, supply flow, demand-Driven Supply Network (DDSN)

Whether shipping from Chicago or Shanghai, companies must be able to collaborate more effectively with their key trading partners carriers, suppliers, or customers—to drive maximum efficiencies while delivering world-class service. Consequently, organizations must consider these business processes more strategically and look for more refined and adaptable closed-loop solutions.

Solutions for transportation and distribution have been designed and proven to empower transportation as a strategic enterprise by enabling best industry practices in the areas of design, procurement, planning, execution, and visibility. These solutions consistently create quantifiable value by synchronizing those critical transportation and distribution processes across multiple modes, enterprises and borders, while driving optimal operating efficiencies and greater service performance.

Key challenges faced by the transportation and distribution industry can include:

- 1. Rising profitability pressures including increased fuel costs, driving hours-of-service regulations, and new regulatory mandates driven by security, which can have a large impact on profit margin.
- 2. Severe capacity issues including a shortage of drivers and equipment and an imbalance in freight flows driven by global sourcing.

- 3. Greater need for inbound and outbound freight visibility and control on a global basis.
- 4. Increasing customer expectations for transportation performance including expectations of 99.9% on-time delivery performance, reduced damage-in-transit, flexibility and ability to adapt to order changes, as well as order and shipment visibility

Traditionally, transportation and distribution companies focused on:

- 1. Short-term cost reduction
- 2. Adversarial shipper-carrier relations
- 3. Distributed planning and execution
- 4. Manual processes with minimal automation
- 5. Operational silos across inbound and outbound transportation management
- 6. Reactive approach to managing exceptions and service disruptions
- 7. Cost-centered business model

Today, transportation and distribution companies must focus on:

- 1. Emerging transportation practices
- 2. Sustainable cost-service optimization
- 3. Collaborative shipper-carrier partnerships
- 4. Centralized planning, localized execution
- 5. Integrated inbound, outbound, and interfacility transportation management
- 6. Proactive and automated monitoring and resolution of exceptions and service disruptions
- 7. Profit-center business model that can be leveraged as a strategic weapon
- 8. Outsourcing in supply chain and storages (Kmet' at all, 2007)

A supply chain is a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers. Supply chains exist in both service and manufacturing organizations, although the complexity of the chain may vary greatly from industry to industry and firm to firm. Realistic supply chains have multiple end products with shared components, facilities and capacities. The flow of materials is not always along an arborescent network, various modes of transportation may be considered, and the bill of materials for the end items may be both deep and large. We classify the decisions for supply chain management into two broad categories -- strategic and operational. As the term implies, strategic decisions are made typically over a longer time horizon. These are closely linked to the corporate strategy (they sometimes {\it are} the corporate strategy), and guide supply chain policies from a design perspective. On the other hand, operational decisions are short term, and focus on activities over a day-to-day basis. The effort in these type of decisions is to effectively and efficiently manage the product flow in the "strategically" planned supply chain. There are four major decision areas in supply chain management: 1) location, 2) production, 3) inventory, and 4) transportation (distribution), and there are both strategic and operational elements in each of these decision areas.

Transportation is one part of four major decision areas in supply chain management. Transport is a deliberate movement of transport units on transport roads (Grendel Peter, 2006) The mode choice aspect of these decisions are the more strategic ones. These are closely linked to the inventory decisions, since the best choice of mode is often found by trading-off the cost of using the particular mode of transport with the indirect cost of inventory associated with that mode. While air shipments may be fast, reliable, and warrant lesser safety stocks, they are expensive. Meanwhile shipping by sea or rail may be much cheaper, but they necessitate holding relatively large amounts of inventory to buffer against the inherent uncertainty associated with them. Therefore customer service levels, and geographic location play vital roles in such decisions. Since transportation is more than 30 percent of the logistics costs, operating efficiently makes good economic sense. Shipment sizes (consolidated bulk shipments versus Lot-for-Lot), routing and scheduling of equipment are key in effective management of the firm's transport strategy.

In Transport Company we should mainly focused on supply management which will concentrate on supply at retail levels of support. Retail supply levels are located closer to the customers, who typically place an order when they need the item. Retail levels of support are characterized with an order size of 1 each for the item when needed. It is typically the wholesale supply level that only waits to order an Economic Order Quantity (EOQ) of the item.





Traditional supply flow

The Logistics chain influences the Mean Time To Obtain (MTTO) a spare. One part of the logistics chain is the supply chain.

In a 3 level traditional supply chain, the decentralized, forward location will obtain its spare from an intermediate support location. The intermediate support location in turn is re-supplied by the centralized supply location.

In a traditional 2 level supply chain, the centralized stock age location will supply the decentralized, forward location directly. A non-traditional supply chain relies on managed Total Asset Visibility (TAV). With TAV, it is more likely to have one decentralized location supply another decentralized location when no spares are available at the support's more centrally located higher echelon.

The supply chain has also been called the value chain and the service chain, depending on the "fad of the moment", or sometimes, we think, the weather, or sun spot activity. Just like anything else, supply chain management is no panacea, nor should it be embraced as a religion. It is an operational strategy that, if implemented properly, will provide a new dimension to competing: quickly introducing new customerized high quality products and delivering them with unprecedented lead times, swift decisions, and manufacturing products with high velocity. The true restructure of the supply chain starts with the physical elements, not the virtual. Information transfer is critical to swiftly moving parts through the chain of processes, but information is only one of six key elements. Fast delivery is critical in most markets today. Many companies address this market demand by carrying higher inventories. Inventory is a hedge against lead time. Higher levels of inventory are often maintained because a company is unable to produce the material within the time demanded by the market. Analyzing the processes in the supply chain can identify the causes and facilitate solutions to reduce overall throughput time. Compressing time in the chain of events from the time a customer places an order until the order is satisfied can provide a competitive edge without the burden of carrying excessive inventory. New idea in the context of warehouses is their virtual form. We define virtual warehouses as warehouses, where information about level of stock of particular commodity will be accessible between interested person (company) and commodity in agreed mode will be also really available. (Tižová, Šebo, 2005)



Fig. 2. Optimized Mangement

Needs to optimized management

Most companies lose their profit margin by overlooking the management of market mediation cost that includes safety stock, safety capacity, price protection, returns and lost sale

Supply chain management flows can be divided into three main flows:

- 1, the product flow
- 2, the information flow
- 3, the finances flow

The product flow includes the movement of goods from a supplier to a customer, as well as any customer returns or service needs. The information flow involves transmitting ordersand updating the status of delivery. The financial flow consists of credit terms, payment schedules, and consignment and title ownership arrangements.

There are two main types of SCM software: planning applications and execution applications. Planning applications use advanced algorithms to determine the best way to fill an order. Execution applications track the physical status of goods, the management of materials, and financial information involving all parties.

Some SCM applications are based on open data models that support the sharing of data both inside and outside the enterprise (this is called the extended enterprise, and includes key suppliers, manufacturers, and end customers of a specific company).

This shared data may reside in diverse database systems, or data warehouses, at several different sites and companies.

Demand-Driven Supply Network (DDSN) is one method of supply chain management which involves building supply chains in response to demand signals. The main force of DDSN is that it is driven by customers demand. In comparison with the traditional supply chain, DDSN uses the pull technique. It gives DDSN market opportunities to share more information and to collaborate with others in the supply chain. This results that companies have a better view of customers demand. DDSN uses a capability model that consists of four levels. The first level is reacting, the second level is Anticipating, the third level is Collaborating and the

last level is orchestrating. The first two levels focus on the internal supply chain while the last two levels concentrate on external relations. An important component of DDSN is DDM ("realtime" demand driven manufacturing). DDM gives customers the opportunity to say what they want, where and when. Competitive advantages are mainly to create sustainable competitive advantages with DDSN, companies have to do deal with three conditions: Alignment (create shared incentives), Agility (respond quickly to short-term change) and Adaptability (adjust design of the supply chain).There five common are made misconceptions of demand driven (DDSN).

Companies might think they are demand driven because they have a good forecast of their company; they have implemented lean manufacturing; they have great data on all their customers; they think it is a technology project and the corporate forecast is a demand visibility signal. Organizations need to recognize this and that they won't make the same mistake.

Conclusion

Transport is a one of the four parts of supply management system in company. In analysis of outputs of supply management we must count on it. One of techniques which analyzed supply chain management is DDSN (Demand-Driven Supply Network). DDSN analyzed supply chains in response to demand signals.

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