Effectiveness of Distribution Network

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The distribution professionals verify their operations on a daily basis. The modern logistic leader, use the tips like competitive pressures, mergers, acquisitions, new product lines and greater customer expectations, and so forth. This change is a cost of doing business in the latest “new economy”. This research investigates the auction properties that influence efficiency (ability to maximize price and profit) as the distribution link of the supply chain. Also focuses on different key areas that are the roadmap to an effective, flexible and proactively responsive distribution operation.

According to Chopra and Meindl (2001) supply chain consists of all stages, direct and indirect, involved in fulfilling customer requests. They listed five typical supply chain stages:

- Components/raw materials
- Manufacturers
- Wholesalers and distributors
- Retailers
- Customers

Keskinocak and Tayur (2001) establish that the primary goal of supply chain management is to deliver the correct product to the correct place at the correct time while maintaining cost efficiencies. They identified three components of a supply chain:

- Sourcing/procurement
- Manufacturing and distribution
- Inventory disposal

Because businesses set up primarily to provide service have little connection with a manufacturing process, their supply chains encompass only some of the traditional supply chain stages. The seller provides the item for sale, filling the initial supply chain stage. The items listed for sale may be classified as the “inventory” in the process.

Lummus and Vokurka (1999) developed a summary definition of the supply chain based on the works of numerous authors. They state that supply chains consist of “all the activities involved in delivering a product from raw material to customer”.
through to the customer including…distribution across channels, delivery to the customer, and the information systems necessary to monitor all of these activities” (Lummus & Vokurka, 1999).

Here are some important factors impacting the effectiveness of the distribution network.

**CENTRALIZATION VS. REGIONALIZATION**

In distribution network planning, there is a well-established relationship between the number of distribution points, transportation costs and customer service targets. In a graphical sense, the point at which these three entities merge is the optimum balance of facility and transportation costs to develop a low-cost, high service distribution network. Normally, as distribution networks become more centralized, so do the internal support structures such as facility management, order entry, customer service and data processing. Depending on the degree of centralization achieved in support staffs, it is not uncommon to see cost savings of 50% or higher over decentralized networks. The service levels, limitations on total facility size; risk mitigation and throughput peaks must be factored into the decision matrix.

**Energy**

Any significant shift in the cost of energy could have an impact on operating costs and distribution. Many distribution projects that are otherwise viable fail once the cost of energy becomes a factor. This is especially true for energy-intensive facilities such as refrigerated warehouses. For this reason, it is crucial to work with all energy providers to determine the load that a prospective operation would put on the local energy system and develop solutions that conserve energy while achieving goals.

Some interesting energy solutions are:

*Abatement Programs*

Many energy providers provide incentives to users who cut back their usage during defined high load periods. This could be as simple as running the facility on minimal power during off-shifts or as complicated as metering the use of the facility or using a secondary power source (high power generator or solar power) to run normally on a reduced energy load.

*High-Efficiency Units*

Many companies install high-efficiency appliances and fixtures in a facility to conserve energy usage with no performance penalty. There is some investment required, but the payback is often reduced rates and/or a lower monthly bill.

Rising fuel costs make this a very sensitive component of distribution costs regardless of whether transportation is handled via third party carriers or private fleet. Some strategies to consider mitigating this are:

*Cube Out Containers*

When a trailer is partially cubed out, we are often paying to transport air. Utilizing the maximum cube ensures that more of the shipping costs are being used to ship product.

*Mode Assessment*

Depending on service requirements, it may be possible to move from LTL services to truckload, or from parcel to LTL. In general, each shift will result in reduced freight costs.

*Transportation Management Systems (TMS)*

Poor transportation performance often stems from poor transportation planning. A TMS can provide more efficient route planning and load tendering, and result in savings in the process.

*Private Fleet Concerns*

Private fleets can benefit from an in-house fuel supply program to gain control over fuel costs and usage. The investment can be offset by the elimination of one or more fuel supply chain links, reducing operating costs and sometimes allowing fuel blends that are more efficient and economical.
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