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Effective Ness and Illustration of Distribution Systems and Supply Chain Management.

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Abstract: 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. Also investigates the feasibility of using DEA to measure efficiency and rationalize a distribution network as an alternate approach to the conventional method of optimizing delivery routes and schedules for given supply chain management.

Keywords: Centralized/decentralized organizations , customer satisfaction, networks, third party markets, web based interactions, data envelopment analysis(DEA),3PL(Third party Logistics).

Introduction :

Chopra and Meindl (2001) supply chain consists of all stages, direct and in-direct, involved in fulfilling customer requests. They listed following supply chain stages:

1.Components/raw materials
2.Manufacturers
3.Wholesalers and distributors
4.Retailers
5.Customers

Keskinocak and Tayur (2001) view is 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 following components of a supply chain:

1.Sourcing/procurement
2.Manufacturing and distribution
3.Inventory disposal

Also the items used for sale may be classified as the "inventory" .

Lummus and Vokurka (1999) view is supply chains consist of "all the activities involved in delivering a product from raw material through to the customer".

Proposed work:

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

Centralization vs. Decentralization: Centralization is said to be a process where the concentration of decision making is in a few hands. Under centralization , the important and key decisions are taken by the top management and the other levels are into implementations as per the directions of top level. On the other hand, Decentralization is a systematic delegation of authority at all levels of management and all of the organization. The degree of centralization and decentralization will depend upon the amount of authority delegated to the lowest level. By observation in decentralization , the subordinates get a chance to decide and act independently

which develops skills and capabilities for effectiveness in distribution systems.

Energy source : significant in the cost of energy could have an impact on operating costs and distribution. For this reason, it is complicated 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. The transportation management system involves the deployment of solutions and services, such as traffic management, information management, and parking management, which makes the transportation process safe, efficient, and effective. The traffic management system supports in optimizing the transportation networks for improving traffic flows while the information management helps in tracking the passenger and weather information. Being a component of the supply chain management process, the transportation management system solutions enable the enterprises to automate planning, routing, and scheduling of their transportation processes, which leads to reduced freight costs. The transportation management system also provide enhanced visibility into the supply chain management process by providing features such as warehouse management and dispatch management.

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.

DECENTRALIZED VS. CENTRALIZED NETWORKS:

Network centralization is an attempt to improve efficiency by taking advantage of potential economies of scale. Decentralization is an attempt to improve speed and flexibility by reorganizing networks to increase local control and execution of a service. Neither is always better, and neither is always possible in the purest sense. Learn when to opt for decentralized networks and when to choose centralized networks. Centralization is an attempt to improve efficiency by taking advantage of potential economies of scale: improving the average; it may also improve reliability by minimizing opportunities for error. Decentralization is an attempt to improve speed and flexibility by reorganizing to increase local control and execution of a service: improving the best case. Neither is always better, and neither is always possible in the purest sense. When each is done well, it can also realize the benefits of the other:

Flexibility: It is a key to continued success for some and survival for others. When designing a distribution facility, specifying versatile equipment is a critical requirement. The latest technology may look nice at start up, but if it cannot keep pace with unpredictable events, it is

simply a waste of money. Planning for likely (and unlikely) changes in the distribution profile should drive the warehouse design and equipment specifications. For the majority of distribution operations, flexible equipment is the more practical choice.

Global Marketplace: In the ever-changing supply chain, global impact must always be considered. This could be as minor as a domestic customer wanting direct shipments to an international location, or as major as an acquisition by a global company or addition of a key global account. Successful distribution operations are ready for this type of change. Transportation systems should be designed with exports in mind; there should be contingencies for customs documentation and international shipping paperwork. Operations should be designed in a manner that product relabeling or special packaging for international customers can be accomplished easily. Facilities may need to accommodate inbound or outbound airfreight or ocean freight containers. Customer service functions may need to operate in 24-hour mode to assist customers in all time zones. Preparedness is the critical element in a global marketplace. If you are not a global company today, your success will drive you into that marketplace sooner rather than later.

Government Involvement: Central government has a significant role to play as an enabler for decentralization, playing its part in moving to more collaborative relationships between central and local and ensuring that the momentum behind devolution continues, while maintaining sufficient oversight to manage risk and network issues. This will be a challenging balance to strike, particularly given the asymmetrical nature of decentralization, with different places bestowed additional powers and responsibilities in relation to their appetite, capacity and capability. Central government needs to strike a balance between genuinely empowering local areas where the costs, benefits and solutions are localized, and maintaining appropriate national oversight.In addition, involvement in professional societies (many of which conduct lobbying activities) is an effective way to track the pulse of legislative movement and also an ideal forum to make our concerns known. For some ambitious souls, a direct role in local or municipal government may be an effective and fulfilling way to make an impact. By being proactive, distribution leaders can ensure that distribution and government entities can collaborate to provide benefit to both sides without unpleasant surprises.

Real-Time: Customer requirements are moving toward being able to instantly track an order through every step of the fulfillment process to delivery. Optimally, this information is linked to an Internet frontend where a customer can easily log in and see the exact status of their order. Real-time interfaces and host system updates enable this customer-focused initiative.

Paperless: The reality is that paper equates to errors. Language and educational barriers result in paper pick documents that are often misinterpreted, at best resulting in lost dollars within the distribution operation or, worse still, lost customers due to fulfillment issues that escape even the best inspection processes. The solution is paperless systems requiring operator validation that the right steps were followed and that the correct product was picked and packed.

Standardized: With the high growth associated with a successful distribution operation, many of these companies are finding that the investment to develop and maintain an in-house system no longer is viable. Standardized, industry-tailored software is now the rule rather than the exception. Software companies leverage their client base to continually update their product, add-ing far more base functionality than inflexible legacy systems.

Modularity: As companies in the distribution space come and go, their business will typically move to a new distributor or distributors. The ability to quickly take on significant business volumes dictates that modularity is a necessity for a thriving distribution organization. Modularity must be evident in:

Assets: Distribution assets must be modular, providing the ability to easily expand facilities, capacities and equipment to meet increasing demands and diverse products. Many companies design this into a facility, while others are

constantly tracking alternate local space that could be closed on quickly.

Work Assignments: The workforce must be able to handle new work assignments and transfer knowledge to new employees effectively. This is a key to a successful start-up of a new operation or an addition to an existing operation.

Labor Management Systems: These systems must be able to handle the addition of new operations quickly and economically so that performance can be measured and costs kept under control.

Off-Highway Vehicles: In the United States, issues regarding the environment and air quality continue to be under scrutiny. The push for more stringent air-quality regulations will impact the warehouse. Electric vehicles will take over as the preferred models in the warehouse, displacing non-electric vehicles in the process. As this evolution occurs, manufacturers of electric rolling stock will respond with higher power, higher efficiency vehicles to facilitate this process.

Pace: Anyone with access to Web sites can now order product, specify their service requirements, pay for their order online, and track the order right to their doorstep. For distributors, this means that the pace of distribution must increase significantly to account for the reduced lead times, shorter product lives, increased inventory turnover, and greater customer expectations that is considered standard in the modern business-to-business and business-to-consumer marketplace. If a customer places an order today with next-day delivery, a company that picks and ships the order the next day will not be competitive for long. The entire supply chain needs to keep pace, from vendor compliance to information and execution systems in order to support the new economy that the Internet has enabled.

People: Success demands a teambased, participatory organizational culture and a total dedication to customer satisfaction. There are many ways to achieve this, ranging from simple solutions such as employee celebration days, employee suggestion programs, and other simple programs to more structured approaches such as revised organizational designs, compensation/incentive/bonus plans, and other processes that directly tie the distribution associates on the floor to satisfied customers.

Price : While service and quality are key factors in selecting a distribution partner, for many companies, decisions still comes down to price. Successful past relationships are no longer a good indicator of the future. Modern free enterprise demands efficient, effective, and low-cost distribution. Competition is fierce and many low-cost providers will not be here tomorrow as they undercut the market to get short-term volumes at an operating loss. The goal of a successful distribution operation should be to operate within their core values at the lowest cost possible. The path to competitive pricing is to operate efficiently and flexibly at low cost to offer low prices any other way is inviting failure.

Accountability: A successful distribution operation must have accountability. Accountability is made possible by effective leadership, clear communications, and efficient systems and equipment to enable productive operations and a fulfilling work environment. Accountability requires that leadership make difficult decisions while maintaining the commitment of the organization. Accountability requires establishing standards, identifying improvement opportunities and measuring performance. Also required is some form of a reward process that answers the inevitable question, "What is in this for me?" Care must be taken that any rewards are tied to something that can be quantified as a true benefit to the organization; rewards without a basis will result in lack of credibility and a process that will ultimately fail.

Reverse Logistics:

How to handle the products that are coming back into the operation as well as any return-able packaging that must be accounted for on a regular basis is a challenge. The decision on whether to accept the product, whether a refused shipment, an authorized customer return, or an unexpected return must be planned for and communicated with the distribution operation as well as the receiving and handling process for the product or chaos will likely ensue.

Third Party Logistics (3PL): The simplest definition of a 3PL is a company that works with shippers to manage their logistics operations. Logistics can include elements of warehousing, transportation management software, freight rate negotiation, in-depth reporting, forecasting, freight bill auditing and much more. There are

literally thousands of 3PLs in the market that have different models and perform different tasks. Some 3PLs will specialize in certain industries, frozen food for example. Others might specialize in one specific area of logistics such as auditing freight bills, warehousing or providing logistics related software.

We consider ourselves a full-service, co-managed 3PL. A standard full-service 3PL will provide services across multiple industries. Those services will include auditing freight bills, reducing freight rates, reporting and technology in the form of a Transportation Management System (TMS). A co-managed 3PL will bring you these same services but leave the decision making up to you. A standard 3PL will bring best practices but make their own decisions of how to manage your logistics function.

Variety: Special packaging, unitizing, pricing, labeling, kitting and delivery requirements are becoming the norm and must be addressed in any distribution plan. These tasks should be designed into the operation, not "tacked on" as a reactive afterthought. Many companies invest large amounts of capital setting up specialized packing or value-added services (VAS) lines with the mandate to gain competitive advantages and in hindsight gain little except increased costs and headaches.

A few key points need to be concentrated when setting up these operations:
Benefit of the process ,
Recoup the investment ,
Charge the customer for the services ,
Outsource the operation .

CONCLUSION: The intent of this study was to identify illustration factors that influence supply chain efficiency and effectiveness. Here, efficiency is defined as the ability of the distribution function to maximize the ending auction price. Effectiveness is defined as the ability of the chosen factor levels to attract bidder customers. Since many of those factors are under the control of the seller, identifying them may help sellers improve the outcome of their sales. There are several steps we should take to make the most of these keys to distribution network planning.

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