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SIGNIFICANCE OF PHYSICAL DISTRIBUTION MANAGEMENT IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

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ABSTRACT

Logistics is the function that moves both tangible materials and intangible material (e.g. through the operations to the customers supply chain means. " A supply chain consists of a series of activities involving many organizations through which the materials move from initial suppliers to final customers. There may be different supply chain for each product. The chain of activities and organizations is named differently as per the situation. If the emphasis is on operations then it is called process; if the emphasis is on marketing then it is called logistics; if the emphasis is on value-addition then it is called value-chain; if the emphasis is on meeting customer demand then it is called demand chain; if the emphasis is on movement of material then we use the most general term i.e., supply chain. A supply chain may be considered as a group of organizations, connected by a series of trading relationships. This group covers the logistics and manufacturing activities from raw materials to the final consumer. Each organization in the chain procures and then transforms materials into intermediate/final products, and distributes these to customers.

INTRODUCTION

Logistics is the function that moves both tangible materials and intangible material (e.g. through the operations to the customers supply chain means. " A supply chain consists of a series of activities involving many organizations through which the materials move from initial suppliers to final customers. There may be different supply chain for each product. The chain of activities and organizations is named differently as per the situation. If the emphasis is on operations then it is called process; if the emphasis is on marketing then it is called logistics; if the emphasis is on value-addition then it is called value-chain; if the emphasis is on meeting customer demand then it is called demand chain; if the emphasis is on movement of material then we use the most general term i.e., supply chain. A *supply chain* may be considered as a group of organizations, connected by a series of trading relationships. This group covers the logistics and manufacturing activities from raw materials to the final consumer. Each organization in the chain procures and then transforms materials into intermediate/final products, and distributes these to customers.

The supply chain can be defined as the integral management (within the company and through other companies) of the company's various logistical stages such as materials procurement, production, storage, distribution and customer service. The Supply Chain concept should be seen as a whole, that is, the entire system from the origin of procurement to the final consumption of goods or services.

SUPPLY CHAIN ACTIVITY

In supply chain network we must include all the organizations involved in the production of certain goods or services (from the origin of procurement to final consumption), and each of the logistical stages within these organizations. Thus, the supply chain is a network linking and interweaving different supply chains of all the companies involved in a production process.

The supply chain activity therefore constitutes complex objects, as it involves decision-makers from many different companies, who sometimes have no direct relationship and are placed in very different geographical locations; yet the decisions they make are



mutually dependent upon each other. Hence, there is a need for an information system capable of linking together the different members of the chain so that there is an open communication between them.

Concept and Definition:

The concept of supply chain is not new, It was a traditional Concept. Historically we have moved from physical distribution to logistics management and then to supply chain management. This major difference seems to be that supply chain management is the preferred name for the actualization of "integrated logistics", with it acting as an enabler, it is now possible to have an integrated process view about the logistics and all allied processes related to business.

"supply chain is network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer".

Supply chain management has provided the next logical stage in the evolution of competitiveness for the manufacturing organization and added, importantly, a concern for the flow of materials to and from the organization. Supply chain management integrated suppliers to the end consumers and emphasized the need for collaboration to optimize the whole system.

DEVELOPMENT OF LOGISTICS

Logistic activity has a history of thousands of years old, dating back to the earliest form of organized trade. As this area of study however it first began to gain attention in the early 1990s. More emphasis has been given to logistics after the Gulf war in 1990-91 when the efficient and effective distribution of store supplies and person were the key factors for success. With rising interest rates and increasing energy cost logistics received more attention as a major cost driver. Logistics cost became a more critical issue for many organization because of globalization of industry. This has affected logistics in two primary ways. First, the growth of world-class competitors from other nations has caused organization to look for new way to differentiate their organizations and product offerings. Second, as organizations increasingly buy and sell offshore, the supply chain between the organizations becomes longer, more costly and more complex. Excellent logistics management is needed to fully leverage global opportunities. Information technology input has given a next boom to logistics management. This gave organization the ability to better monitor transaction intensive activities such as ordering movement and storage of goods and materials. Combine with the availability of computerized quantitative models; this information increased the

ability to manage flows and to optimize inventory levels and movement. Other factor contributing to the growing interest in logistics include advances in information technology, increased emphasis on customer service, growing reorganization of the system approach and total cost concept.

SIGNIFICANCE OF LOGISTICS IN THE ECONOMY

Logistics play a key role in the economy in two significant ways. First, logistics is of the major expenditures for business. By improving the efficiency, logistics make an important contribution to the economy as a whole. Second, logistics support the movement and flow of many economic transactions; it is an important activity in facilitating the sale of virtually all goods and services. One of the fundamental ways that logistics add value is by creating utility. From an economic stand point utility represent the value or usefulness that an item or service has in fulfilling a want or need. There are four types of utilities namely; Form, Possession, Time and Place. Form utility is the process of creating the good or service or putting them in proper form for the customer to use. Possession utility is value added to a product or service because the customer is able to take actual possession like credit arrangement and loans. These two utility are not directly related to logistics but these are not possible without getting the right item needed for consumption or production to the right place at the right time and in the right condition at the right cost.

LOGISTICS AND SCM

Volume of goods being transported reaches a certain level some companies purchase their own vehicles, rather than using the services of haulage contractors. However, some large retail chains have now entrusted all their warehousing and transport to specialist logistics companies. For some types of goods, transport by rail still has advantages. When lead-time is a less critical element of marketing effort, or when lowering transport costs is a major objective, this mode of transport becomes viable. Similarly, when goods are hazardous or bulky in relation to value, and produced in large volumes then rail transport is advantageous. Rail transport is also suitable for light goods that require speedy delivery (e.g. letter and parcel post). Except where goods are highly perishable or valuable in relation to their weight, air transport is not usually an attractive transport alternative. For long-distance overseas routes air transport is popular. Here, it has the advantage of quick delivery compared to sea transport, and without the cost of bulky and expensive packaging needed for sea transportation, as well as higher



insurance costs. The chosen transportation mode should adequately protect goods from damage in transit (a factor just mentioned makes air freight popular over longer routes as less packaging is needed than for long sea voyages). Not only do damaged goods erode profits, but frequent claims increase insurance premiums and inconvenience to customers, endangering future business.

PHYSICAL DISTRIBUTION MANAGEMENT (PDM)

Physical distribution management (PDM) is concerned with ensuring the product is in the right place at the right time. It is now recognised that PDM is a critical area of overall supply chain management. Business logistical techniques can be applied to PDM so that costs and customer satisfaction are optimised. There is little point in making large savings in the cost of distribution if in the long run, sales are lost because of customer dissatisfaction. Similarly, it does not make economic sense to provide a level of service that is not required by the customer but leads to an erosion of profits. This cost/service balance is a basic dilemma that physical distribution managers face. The reason for the growing importance of PDM is the increasingly demanding nature of the business environment. In the past it was not uncommon for companies to hold large inventories of raw materials and components. Although industries and individual firms differ widely in their stockholding policies, nowadays, stock levels are kept to a minimum wherever possible.

Physical distribution management (PDM) is concerned with the flow of goods from the receipt of an order until the goods are delivered to the customer. In addition to transportation, PDM involves close liaison with production planning, purchasing, order processing, material control and warehousing. All these areas must be managed so that they interact efficiently with each other to provide the level of service that the customer demands and at a cost that the company can afford.

COMPONENTS OF PDM

Order processing

Order processing is the first of the four stages in the logistical process. The efficiency of order processing has a direct effect on lead times. Orders are received from the sales team through the sales department. Many companies establish regular supply routes that remain relatively stable over a period of time ensuring that the supplier performs satisfactorily. Very often contracts are drawn up and repeat orders (forming part of the initial contract) are made at regular intervals during the contract period. Taken to its logical conclusion this effectively does away with ordering and

leads to what is called 'partnership sourcing'. This is an agreement between the buyer and seller to supply a particular product or commodity as and when required without the necessity of negotiating a new contract every time an order is placed. Order-processing systems should function quickly and accurately

Inventory

Inventory management, is a critical area of PDM because stock levels have a direct effect on levels of service and customer satisfaction. The optimum stock level is a function of the type of market in which the company operates. Few companies can say that they never run out of stock, but if stock-outs happen regularly then market share will be lost to more efficient competitors. The key lies in ascertaining the re-order point. Carrying stock at levels below the re-order point might ultimately mean a stock-out, whereas too high stock levels are unnecessary and expensive to maintain. Stocks represent opportunity costs that occur because of constant competition for the company's limited resources. If the company's marketing strategy requires that high stock levels be maintained, this should be justified by a profit contribution that will exceed the extra stock carrying costs.

Warehousing

Transportation can be carried out in bulk from the place of manufacture to respective warehouses where stocks wait ready for further distribution to the customers. This system is used by large retail chains, except that the warehouses and transportation are owned and operated for them by logistics experts. Levels of service will of course increase when number of warehouse locations increases, but cost will increase accordingly. Again, an optimum strategy must be established that reflects the desired level of service.

Transportation

Transportation usually represents the bulk of distribution cost. It is usually easy to calculate because it can be related directly to weight or numbers of units. Costs must be carefully controlled through the mode of transport selected amongst alternatives, and these must be constantly reviewed. The patterns of retailing that have developed, and the pressure caused by low stock holding and short lead times, have made road transport indispensable volume of goods being transported reaches a certain level some companies purchase their own vehicles, rather than using the services of haulage contractors. However, some large retail chains have now entrusted all their warehousing and transport to specialist logistics companies.

The chosen transportation mode should adequately protect goods from damage in transit. Not only do damaged goods erode profits, but frequent claims

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