STORAGE – INTEGRAL COMPONENT OF THE LOGISTIC SYSTEM

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Abstract: A very important objective of logistics is the storage of material goods necessary to ensure the uninterrupted operation of activities to achieve successful missions . The typical definition of the concept of filing emphasizes that it is a space storage of stocks of goods. This paper aims to show the role and importance of storage in the logistics system. Storage related field has become a comprehensive economic category includes sizing issues, reducing expenditure and storage issues related to structure types, conservation and use of material.

The originality and value of this study comes from the suggestions that have been made about the concepts and methods that could improve the logistics business in order to secure material storage.

Keywords: storage, stocks, goods, management

JEL classification: M11, M21

1.INTRODUCTION

The term "logistics" comes from the Greek word "Logistical", meaning "counting craftsmanship, skilled in making calculations". Cojocaru (1991) argues that logistics origin appears as the "logistics" title given to officials of the Roman and Byzantine armies. One of the oldest accepted definitions for logistics would be that all the preparations and actions are needed to supply the armed forces in the most effective manner of goods and supplies, leaving most favorable circumstances confrontations. One of the basic definitions of logistics is that of M. Christopher, showing that it is "the science that deals with strategic planning of supply, distribution, or storage of materials (associated with the flow of information), choosing the most appropriate channels marketing (distribution) to make maximum profits now and in the future with actual costs as low as possible. "(Balan, C. 2006). Currently all logistics in the military means all means necessary to apply strategic and tactical field decisions.

So , logistics is defined as the strategic management of the acquisition, movement and storage of materials, semi-finished and finished products (with corresponding information flows these processes) within public institutions and distribution channels in order to satisfy the lowest orders costs for the organization.

Hence, logistics is not limited exclusively to military life, more and more activities in the private sector and state owned logistics (business, manufacturing, education, research, medicine, tourism), it can be said that in a broader sense is found in all social activities as a necessary and crucial for their success. Logistics incorporates functions related to material management, distribution, storage, transport. Logistics, through its content, is a whole chain of several activities, the core of any economic strategy. Logistics is the science of planning and execution of movement, maintenance and includes issues related military operations: design and development, acquisition, storage, transportation, distribution, maintenance, evacuation and disposition of material (equipment, vehicles, weapons, ammunition, fuel, etc..) transport of personnel and materials; acquisition or construction, maintenance, operation and disposition of facilities; purchase or provision of services; medical and health service support. Storage of goods has a very important role in logistics gear. Without storage institutions could not carry out activities smoothly.

Storage of goods is equivalent to transport their time and not in space. It is an important component of the distribution of goods, and the need for storage and duration are determined by natural conditions considered economic and other considerations. Storage was initially considered a necessary but generating costs are substantially modifying conceptual during the twentieth century, reaching the XXI century to consider the ideal target in terms of storage, the relentless reduction of stocks of goods that are not moving until there will be a quasi-continuous motion. The ultimate goal will be removing the need to store in any point of the network, including between production units, between them and customers. Storage of goods will change in the future, under the influence of mutations in relations with suppliers, production and distribution.

2. Objectives:

In logistic system of storage includes a set of support activities that help achieve the necessary assurance of the staff of an institution. Perspective on the role and functions of store significant mutations in decades. Among the decisions taken by logisticians on deposits of goods includes determining the number of deposits, determining the location, sizing deposits and internal configuration . The warehouse is a space to store goods. He may belong to the manufacturer, a wholesaler, a retailer, a salesman or a public. Storage is a key logistics strategy , it directly affects customer service levels and costs that the company's profitability .

The strategic role of storage in making performance of the financial market and the firm's management determines finding the most efficient storage system must : provide discounts on transport costs; to achieve economies of distribution process ; maintain sources of supply and to streamline supply ; to adapt to changing market conditions : seasonal fluctuation in demand , competition , to mitigate differences of time and space that exists between producers and consumers to ensure the synchronization of transport in intermodal technologies due to the difference of the various modes of transport capacity . For example : automotive , rail - track - naval etc.

To achieve economies in production ; program to support JIT manufacturing firms , distributors and consumers. Storage has an important role for the distribution based on the concept of "speculation" according to which the manufacturer focuses on producing large quantities of stocks taken as distributors in exchange for price facilities and other facilities in the promotion and sale of products. In this situation, use indirect channels long and divided storage function between producers and distributors on minimum cost principle. (Bucklin, 1991). Heritage of public institutions is a public, state owned him, manager's mission and executive staff being to harness these resources and performance management processes to achieve the objectives of the institution, by responsible directly or indirectly.

2.1. Evolution of the concept of storage

Deposit presence in logistic system is considered a necessity. The typical definition of the concept of deposit emphasizes that it is a storage of stocks of goods. The deposit has been defined in the literature as a special place for housing for goods deposited for safekeeping. After the Second World War have appeared regional warehouses allowing extensive coverage of regional areas.

Modern storage equals not keeping goods in a special space for a long period. Storage operators specialized in offering a wide range of storage related services, such as: invoicing, labeling, packaging, evidence inventory, create promotional packages, transport a wide territorial area. Between 60 and 70 specialists in storage have focused on the need to promote new technologies to improve their operations. In the 80's, attention turned to improving the configuration warehouse and techniques for handling goods. In the 90's, keywords have become storage flexibility with respect to market changes and the effective use of information technology.

XXI century, the ideal objective in respect the storage is considered to be constant reduction of inventories of goods that are not moving until you achieve a quasi-continuous motion. Acquire new information technologies critical to inform the storage. With the disappearance of the need for storage, logistics systems managers must pursue permanent reduction of inventories as compared to current levels.

2.2. Role, functions and types of deposits.

Storage is related the need to maintain stocks and is considered a support activity that contributes to the mission of ensuring the right product logistics in quantity and quality required, in the right place at the right time.

2.2.1. The role of the deposit consisting of:

a) coordination of supply and demand, is to provide the quantities of products needed to satisfy the demand in the following situations: uncertainty regarding the application; uncertainties cycle performance; seasonal demand; seasonal production.

b) achieving cost savings. Storing has an impact on costs in other fields of activity of companies can determine obtaining cost savings in the fields purchase; production; transport;

c) continuing or delaying production when the production or processing can continue in storage (eg some food: wine, cheese and fruit);

d) achievement of marketing objectives. The link between the storage and marketing is determined by the role storage spaces in satisfying customer demands so; reduced delivery time by placing werehouses near the customers thus ensuring reduced required timeframe for honoring the orders; adding value by offering special services in accordance with customer requirements, such as billing, packaging, creation of

promotional packages; increase market presence by maintaining existing customer loyalty and attract new customers.

2.2.2. Deposits' functions

In logistic systems , deposits can perform the following main functions:

a) storing and keeping goods. Traditional function of the repository is to maintain stocks of goods and protection. In terms of the duration of storage in stock there are three types of storage:

- Long-term storage (food , alcoholic beverages subject to a process of aging) . Keeping high for long periods of permanence , which means an excess of stock over the normal level , is justified only on condition that a safety stock . Factors that provide excess stock are : seasonal demand; variance application; conditioning products such as cereals, fruits, meat and so on; anticipated purchases speculation; Special contractual arrangements such as tax cuts for large quantities.
- Seasonal storage, achieved by central warehouses of companies that make products to sell seasonal period from production to the season;
- Temporary storage, achieved by distribution centers, during the production of the goods and their removal by the customer. Temporary storage function emphasizes movement and includes storage of necessary and the completion of the core due to their fluctuations. Course during temporary storage of products in stock, while generating utility depends on the design of the logistics system, experience regarding the specifics of the market and demand change.

b) consolidation of deliveries: goods received from various sources are reunited for delivery via a single transport. The advantages are: achieving lower transmission rates; decongestion of download client platform; reduce the total costs of distribution for each manufacturer.

c) dividing the lot in order to constitute tenders adapted to different types of customers this function is fulfilled when: freight rate per unit is greater than the source to the warehouse, but the warehouse to customers; customer order in quantities less than the capacity of a means of transport.

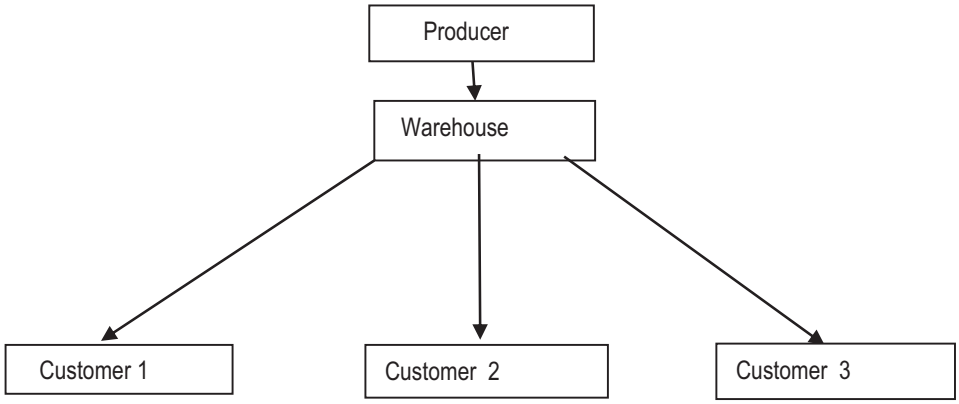

Figure no. 1
Division of lots

d) creating an assortments structure is found in two variants, depending on the source of the products:

- production units of the same company. The warehouse receives goods from several factories of the same manufacturer and delivers many customers a wide assortment of products.

- production sites belonging to different companies. The warehouse creates assortment combinations from several suppliers.

e) movement of material goods; Movement function in turn consists of several activities: reception; transfer order selection and Sending.

Reception Activities include handling and unloading products received from the carrier, the record to date, and tracking of warehouse stocks, the establishment of damage and aging products in stock, check the records and inventory orders and shipments. The transfer includes: the physical movement of goods in the warehouse to sort and combine specialized places and shipping products to customers. Selecting commands refers to the group and a range of products in the quantities desired by customers, plus wrapping. The reference is to build and manage loading units as a means of reference (pallets, containers), loading vehicles, checking the expedition.

2.2.3. Types of deposits

a) by type of goods stored and secured storage conditions : general warehouses in which to store a wide range of products ; highly specialized warehouses is arranged for storing products that require special conditions such as foods stored in warehouses, cold stores, cellars (basements) and sheds .

b) fulfill the role we deposits after long term storage (storage facilities) and warehouse distribution center ;

c) after the warehouse meet private ownership : owned by the same company that owns management and ownership of the goods stored and handled in the warehouse ; public warehouse belonging to a company specializing in warehousing and logistics operations and provide services to interested customers in return for a fee; deposit contract : based on a long-term arrangement exclusively for a particular customer ;

d) by destination: collecting deposits; Transit and transhipment warehouses; deposits seasonal and long-term storage, the state reserves include deposits, grain silos;

e) fire resistance warehouses fire resistant, made of concrete, bricks, etc. deposits less resistant to fire, which include construction and flammable materials; flammable deposits.

f) where the filing serviced warehouses directly serving production; warehouses serving the movement.

3. METHODOLOGY

Location deposits. Variants and modern methods of placing the werehouses. Conditions of design, the placement and arrangement of werehouses

Designing and building a repository must have as starting point the following elements of substantiating: type and size of warehouse (area, volume); type and destination area for warehouse space components (storage, packing, drying, cold, etc.). Main relations between different surfaces, namely the correlation between flows of

goods, packaging, transportation; functional ordering of deposit; structural characteristics of the deposit.

Location deposit. Basic criterion is the siting of a rational organization of leading products as short circuit distribution.

The place that builds the warehouse must meet certain conditions:

a) land disposal conditions: be in or near the service area, but outside the congestion; liberating to be away from areas of harmful agents; to close an artery of communication, the most easily accessible places; provide opportunities natural camouflage against air and ground observation; the election of the most suitable system for storage and use of modern means of transport - handling.

b) conditions on the properties of the land: to be dry slightly high and slightly tilted; not be subject to flooding from groundwater or gathered from rain and snowmelt runoff (upper level of groundwater to be at least 4-5 meters from the ground surface to remove such emergence and penetration of water into basements her construction capillary walls); have a strong power aotupurificare (coarse-grain soil).

The building will work the warehouse must meet certain conditions, namely: to be oriented north - south; have sufficient natural and artificial light; possibilities have water and electricity; be secured storage conditions set standards for each type of goods (typically should provide a storage temperature of between 0 and 25 ° C and a relative humidity of 50-85%); rooms to be clean, dry, with automatic or mechanical ventilation; area appropriate to the nature, volume and destination of products and allow proper organization of storage; include facilities and accommodation for performing specific operations storage; ensure product integrity and safety; correspond to the ecological, veterinary, labor protection and fire-fighting.

Determination of humidity and temperature warehouses will perform hygrometers and thermometers are installed on one of the interior walls to a height of 1.5 m from the floor.

Maintenance warehouses. Maintenance depots shall be:

a) day - after the program handling the stores to be restored to working order, swept (if possible using vacuum), airy, shutters or curtains left and the doors sealed.

b) Weekly - airing is complete, in dry, recommended morning. Do not ventilate warehouses fog, wind, storm, rain, snow, smoke or temperaturaeste -10 ° C or lower.

c) Monthly - Clean dust and spiders nests on all materials and interior walls.

d) annually - is whitewashing the interior walls (if is possible).

Disinsectization and disinfection warehouses. Disinsectization and disinfecting sheds are running to destroy insects, rodents, fungi and molds that attack stored materials and preventives. These operations are done twice in the period 1 September to 31 March in equal time intervals and monthly from 1 April to 31 August.

For destroying insects, larvae pupae, eggs, use chemical means as: naphthalene, insecticides or their equivalent.

To destroy rodents use mechanical means (racing and pitfalls of various kinds), chemical (arsenic, sulfur dioxide pliers, phosphorus, barium carbonate, thallium sulfate, lime or equivalent), biological (destruction with dogs and cats) and using microbial cultures associated with toxic chemicals under the supervision of specialized bodies and the observance of personal protective measures.

Factors that influence quality of stored products:

The quality and quantity of stored products exert their influence a range of factors relating both to the actual products and the storage space:

a) internal factors (product specific): nature and characteristics of products and materials; Physical and chemical properties; biological status and sanitation; technological processing stage;

b) external factors (related to storage space): temperature; humidity; brightness; maintenance status; packaging. A good storage must ensure equilibrium between internal factors and external storage space, so that changes are controlled within the limits of the rules.

4. ANALYSES

Today warehouse functions are more complex compared to the primary objective, which is to store material goods. Current storage systems must fit in modern production systems of type MPR (Material Requirement Planning), DRP (Distribution Requirement Planning), JIT (Just in Time) Kanban, contributing to their effectiveness by maximizing the utility of time, that the warehousing and storage costs. Storage costs are significant elements of the total cost of distribution.

Over the years, storage has evolved from a minimum based on the logistic system of the company, to be considered one of the most important functions.

As part of the logistics system, storage can be defined "safekeeping of products to and from points of production and consumption and providing information to company management about the situation, the conditions and status of assets held."

The literature has introduced the term "distribution center". Storage is a more general term, more comprehensive, while "distribution center" is defined in the narrower sense; "Like a warehouse of finished products and place orders can be made wholesale or retail."

Gerry Hatton in "Logistics management and distribution" (1999) shows that in addition to semantic gap , using the term distribution center means a change of conception. The image repository is associated constant movement of goods to the final destination, helping to maximize the utility of time, that minimize storage time and reduce the corresponding costs.

5. CONCLUSIONS

The main functions of the storage and distribution center are:

- reception : check the quantity and quality of goods;
- storage : storing and moving goods at the reception , storage and handling;
- order processing: includes processing orders, checking goods, packaging and transport units handling, transportation from the place of storage to the load;
- shipment of goods: stacking or storage, shipping paperwork, and sometimes transportation to customers.

Out of the four methods mentioned above the one that is most suitable to use in public is Just in Time method.

This method was first used in 1950 by the Japanese company Toyota aims to reduce to zero if possible, materials stocks. Under this method the material goods are brought into the institution exactly when they are needed.

Just in Time improves the competitiveness of the institution will spend less by eliminating unnecessary organizational activities created by a traditional organization: stocks, handling, security, control, quality, reliability. It is seen as a philosophy of stock

control the purpose of maintaining the necessary quantities of material at the specified points at the right time to achieve the required amount of products and is a programming algorithm that the entire supply channel - retail is synchronized to meet production or customer requirements.

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