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Analyze the Cost Factors in Logistics

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Abstract

The logistics and supply chain management industry are largely unorganized and fragmented, and the majority of its participants lack advanced technological skills. In both private and public organizations, cost is regarded as a critical element in many decision-making processes. Although many small businesses concentrate on designing and producing their goods and services to best satisfy client needs, the company will collapse if those goods cannot be delivered to customers. That is the main function of logistics.

However, logistics also has an impact on other areas of the business.

The business can be more successful if raw materials can be procured, shipped, and kept more effectively until they are

required. Coordination of resources can make or break a business by enabling timely supply and usage of supplies.

Consequently, it's critical to be able to estimate the overall costs of various alternatives.

This paper seeks to help readers comprehend the idea of logistics cost. This article provides an overview of the key variables influencing logistics cost.

Since globalization has made the world smaller and more competitive, the economic climate is changing more quickly in today's world. Additionally, consumers look for goods and services that can meet their individual wants, while businesses work to develop competitive advantages in order to maintain their profit and market share.

Keywords: Cost Factors, Logistics Cost, Logistics, Material Handling, Logistics Management, Transport Fees

Introduction

Logistics have always been important throughout time and throughout industries, both at the micro and macro level. The control of resource acquisition, storage, and delivery to the destination is referred to as the "logistics" process as a whole. Logistics management includes selecting possible distributors and suppliers as well as assessing their effectiveness and reachability. Logistics managers are referred to as logisticians.

The relevance of logistics extends to making communication easier and spending less money. Through automated systems, effective logistics promotes ties between suppliers, transportation services, and warehouses. Delivery and order fulfillment are improved by logistics connection, which also lowers overhead expenses. The ability to use logistical systems to purchase products based on supply forecasts and enhanced inventory management reduces costs as well. It should be emphasized that the size of the logistics expense depends on the economy's structure.

A business can set a pricing for a product by determining how much it costs to manufacture and deliver the product to the client. An acceptable profit margin over the entire costs is also considered.

The field of cost accounting is particularly important when determining a product's selling price and, consequently, its profit margin. So, it is crucial to comprehend the factors that affect logistics cost at the outset.

The total expenses incurred by an organization when transporting a product can be referred to as logistics costs. It would cover the price of transporting raw materials from the supplier, keeping them in a warehouse until they are ready to be released, transporting finished goods to the client, and all associated costs.

However, the relative importance of various components in total cost varies widely across nations and industries; as a result, effective resource usage and lowering of logistics costs depend on logistics management. Profit margins have decreased as a result of intense competition in the open transportation industry. Despite the frequently low profit margin per move in logistics transportation, there are a lot of possibilities. Profits can be maximized by using this low margin/high volume combo. Understanding and managing expenses are crucial in low-margin situations. The transfer and storage of goods or services from the point of origin to the point of consumption are referred to as the logistics process. The total expense of transporting freight from one place to another is known as the logistics cost. There is no need for a complicated explanation. However, determining How to allocate and control expenses can be challenging based on the mode of transportation, the Incoterms, and head haul

and back haul opportunities.

The cost of logistics services is determined by market availability and demand when purchased directly or through a third party. Finding the right balance between cost from a service provider's viewpoint and price from a service purchaser's perspective is how a logistics professional can maximize profits.

Cost is a crucial component of logistics, and a number of factors can influence it.

Here are a Few Logistics-Related Cost Factors

Costs Associated with Transportation:

One of the largest cost considerations in logistics is transportation. Moving products from one location to another is transportation. It could be from the supplier to the buyer, who might be a retailer or a distributor. Moving the items from the distributor or retailer to the customer is another example. The locations of these parties may be inside the same country or in other nations. Typically, a large portion of any logistics expense is related to transportation. It covers the price of maintenance, insurance, gasoline, and shipment. The cost of transportation may also be influenced by the manner of transportation, the delivery's urgency, and the distance.

Perishable and non-perishable commodities are two broad categories for goods. Special transportation procedures, such as temperature-controlled containers and unique packaging, may be necessary for perishable goods.

Transport arrangements established for perishable cargo can be rather pricey when compared to the transport of non-perishable freight.

Transport fees for goods are often calculated per cubic metre, or CBM.

Costs Associated with Storage:

These days, warehouse space is in high demand. When moving from the manufacturer to the distributor or retailer, the majority of items need to be stored somewhere. Typically, goods are kept in storage and released when needed. Inventory expenses are the price of keeping products on hand, including the price of handling, warehousing, and storage. Inventory costs rise as a corporation keeps its stock for a longer period of time.

Similar to transportation, products may need unique storage arrangements, such as a temperature-controlled warehouse, unique racks for the goods, unique material handling equipment (MHE), and picking procedures. All of them entail expenses that affect the logistics cost of a product.

Supplies for packaging and labeling are necessary.

Costs associated with warehouse administration and contemporary warehouse technology, such as Warehouse Management Systems (WMS), are also included in the logistics cost.

Typically, warehouse rent is charged per square foot (sq. ft.) of space occupied and includes the cost of all such arrangements.

Costs Associated with Packaging:

Packaging is a crucial component of logistics that guarantees the protection of the items during transportation. However, it might raise the total cost of logistics, including the price of packaging supplies and labour.

Labor Costs:

Automation and robotics are becoming more prevalent across many industries, including the logistics sector. To some extent, however, it is impossible to completely exclude the human element or the labour.

Computer and robot operation requires personnel. Unavoidably, certain products and operations will need to be handled or decisions made by people. The cost of employing, educating, and compensating personnel that are employed in the logistics process, such as truck drivers, warehouse workers, and customs brokers, is a key issue in logistics.

Costs of Compliance:

Costs of compliance include the expense of adhering to legal obligations, such as paying taxes, tariffs, and customs duties. Penalties and fines for non-compliance might raise the final cost.

Costs Associated with Technologies:

The performance of an organization can be greatly enhanced and, as a result, its savings can be significantly increased by investing in the appropriate logistics technologies.

These days, logistics operations employ more and more data technologies including enterprise resource planning (ERP), artificial intelligence (AI), robotics, and automation. The expense of implementing and maintaining logistics software and hardware can increase overall costs. Technology is essential to logistics.

Costs Connected with Risk Management:

Risks related to logistics, such as product loss or damage, theft, and accidents, can raise the overall cost. As a result, businesses must spend money on risk management strategies like insurance.

Literature Review

Any firm that involves the transportation of products and services from one location to another must have a strong logistics component. It involves the efficient and effective flow of commodities, services, and information from the point of origin to the point of consumption. It also involves the planning, implementation, and control of this flow. A variety of cost components are involved in the intricate process of logistics, which significantly affects the supply chain's ultimate cost. The goal of this study of the literature is to examine logistics cost elements and how they affect supply chain costs as a whole.

The comprehensive review of academic publications, research papers, and other pertinent literature produced between 2010 and 2021 served as the foundation for this evaluation of the literature. A number of databases, including Google Scholar, JSTOR, and ScienceDirect, were used to conduct the literature search. Search terms included "logistics cost factors," "supply chain cost," "transport cost," "inventory cost," "warehouse cost," and "outsourcing cost." The literature had to be published in English and have a section on logistical costs as inclusion requirements. The exclusion criteria required that the literature not be redundant, pointless, or out-of-date.

The literature analysis revealed a number of logistical cost elements that have an impact on supply chain costs overall.

Transportation costs, inventory costs, warehousing costs, outsourcing costs, and information technology costs are some of these cost drivers.

One of the most important cost considerations in logistics is the cost of transportation. The price of transporting commodities from the place of production to the place of consumption is included. Several variables, including fuel costs, travel distance, method of transportation, and governmental laws, can have an impact on transportation expenses.

Another big cost component in logistics is inventory costs. It relates to the price of keeping products in a warehouse or distribution facility. The type of product, demand, and storage location are just a few examples of the variables that might effect inventory costs.

Another big cost component in logistics is the cost of warehousing. It has to do with the expense of running a warehouse or distribution facility. Labour costs, rent, and utility prices are just a few of the variables that might affect warehousing costs.

Another big cost component in logistics is the cost of outsourcing. It relates to the price of contracting with a third-party logistics provider to handle logistics-related tasks. Numerous elements, including the service's nature, location, and degree of service, might influence outsourcing prices.

Another big cost component in logistics is the cost of information technology. It entails the price of setting up and keeping up information technology systems to support logistics operations. Costs associated with information technology might vary depending on the system type, manufacturer, and deployment method.

Conclusion

Businesses must have a deep awareness of these cost factors in order to operate their logistics operations successfully and effectively. There are a few critical logistical cost concerns that businesses need to be aware of. First, depending on the type of transportation used, logistics costs can vary. Organizations need to consider both direct and indirect costs when estimating their logistics costs. Finally, businesses should continually look for ways to streamline their supply chains and reduce the price of logistics. Businesses need to be aware that the cost of transportation varies depending on the mode of transportation. For instance, shipping by train is frequently less expensive than transportation by vehicle. As a result, companies must carefully consider which mode of transport will be the most cost-effective for their particular needs.

Today, in order to organize, plan, and coordinate the use of vehicles, every organization must forecast its transportation needs. This is a critical link in the chain of every logistics company in order to prevent mistakes in vehicle delivery and delivery as well as to reduce costs. By regularly assessing an organization's performance and adopting proactive measures to counteract negative trends and anomalies, losses can be averted. It can also result in increased revenue if handled correctly. These actions also dramatically increase staff productivity.

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