The Differences between the Supply Chain and Logistics

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Abstract— "Logistics and Supply Chain Management", Often, we see this term. Why is logistics associated with the Supply Chain? Is there a difference between Logistics and Supply Chain? So, this paper will focus on the differences between Logistics and Supply Chain. It is important to know the differences between Logistics and Supply Chain, so that we can deal with them in a correct administrative manner.

***Index Terms*— Supply Chain, Logistics, Differences, Management, Business, Goods**

I. INTRODUCTION

The flow of materials between people and places is known as logistics management. This type of operation is prevalent in large organizations, especially those that interact with other companies to purchase their supplies. There are many areas which are dealing with logistics management. The logistics manager is responsible for coordinating the movement of goods from one location to another. This usually requires managing individuals and operations to deliver products in an efficient manner. The movement of military forces is an example of a logistics management process, because it requires comprehensive coordination between goods and the forces themselves. Humanitarian relief organizations are constantly working with logistics management operations, these non-profit organizations receive goods and financial aid from donors. Most retail stores use logistics management to buy and sell goods, where these companies work with wholesale manufacturers to purchase large quantities of products. [1]

The supply chain is a network of retailers, distributors, carriers, warehousing facilities, and suppliers involved in the production, delivery, and sale of the product to the end consumer. The supply chain usually consists of several companies that coordinate activities to differentiate themselves from competition. The supply chain is a set of steps the company takes to convert raw ingredients into finished products and deliver them to customers. Supply chain management is the process that a company uses to ensure that its supply chain is effective, especially in terms of cost. Supply chain management usually consists of five phases: planning, development, manufacturing, logistics, and returns. [2]

The terms logistics and supply chain management are sometimes used interchangeably. Some say there is no difference between the two terms, that supply chain management is the "new" logistics. To compound this, what is considered supply chain management in the United States is more commonly known as logistics management in Europe, according to the blog for PLS Logistics Services, a logistics management firm in Pennsylvania. When the question was posed in an Inbound Logistics article, the answers varied based on the functions of a supply chain (or logistics) professional handled. Some thoughts from their readers:

- "There isn't a difference today," said Wayne Johnson of American Gypsum.
- "Supply chain management incorporates the field of logistics and logistics is a number of sub-processes within SCM," said Michael Kirby of National Distribution Centers.
- "A 'supply chain management' company is generally a third-party operator managing the total overall movement of product whether inbound or outbound," said William Behrens of Associated Transport Systems, Inc. [3]

Purchasing, materials handling, logistics, transportation, inventory control, and supply chain management have continued to evolve, causing many of these functional areas to intersect with one another. This intersection has resulted in blurred definitions for some of these terms such as logistics and supply chain management. While these two terms do have some similarities they are, in fact, different concepts with different meanings. Supply chain management is an overarching concept that links together multiple processes to achieve competitive advantage, while logistics refers to the movement, storage, and flow of goods, services and information within the overall supply chain. [3]

After reading this paper, you will be able to differentiate between Logistics and Supply Chain. Also, you will be able to know "What are the differences between Logistics and Supply Chain?

II. RELATED WORK

1. Supply Chain: -

1.1 What is a Supply Chain?

The supply chain includes all the activities, people, organizations, information, and resources required to move a product from inception to the customer. For example, in the consumer goods space, this likely spans raw materials, production, packaging, shipping, warehousing, delivery, and retailing. The end goal is simple: meet the customer's request. "By balancing supply and demand across all members of the supply chain," Frayer says, "organizations and channels work together to move the product.". [4]

The term "supply chain" can take on several meanings, iterations and roles. These include:

- The concept of the supply chain, encompassing the process of moving a finished good from procurement to fulfillment in a cycle.
- The industry, which includes the carriers and regulations that oversee transporting goods.

Manuscript received May 03, 2020

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- The function, which is the practice of managing the operations, logistics and inventory levels as part of coordinating the buyers and suppliers.
- These processes and functions, when done well, can add value to any industry, which is why supply chain management should be an essential component of business strategy. [4]

1.2 What is Supply Chain Management (SCM)?

Supply chain management (SCM) is the process of integrating the supply and demand management, not only within the organization, but also across all the various members and channels in the supply chain so they work together most efficiently and effectively.[4]

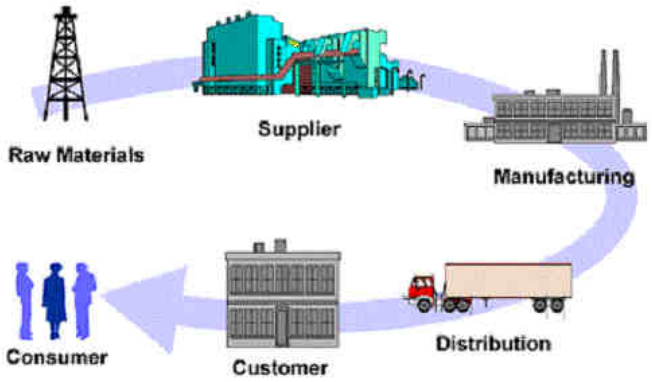

Figure (1):- Supply chain management

1.3 Components of Supply Chain Management System: -

There are five basic components in a supply chain management system. The foundation for each of these components is a solid network of supporting processes that can effectively monitor the information across the supply chain and assure adherence to laws and regulations. This involves a wide number of departments, including HR (Human Resources), IT (Information Technology), quality assurance, finance, product design and sales. [4,5] These components are as following: -

1.3.1 Planning: -

To meet customer demands, supply chain managers have to plan ahead. This means forecasting demand, designing the supply chain intentionally, and determining how the organization will measure the supply chain to ensure it is performing as expected in terms of efficiency, delivering value for customers and helping to achieve organizational goals. [4,5]

1.3.2 Sourcing: -

Selecting suppliers who will provide the goods, raw materials, or services that create the product is a critical component of the supply chain. Not only does this include creating the contracts that govern the suppliers, but also managing and monitoring existing relationships. As part of strategic sourcing, supply chain managers must oversee the processes for ordering, receiving, managing inventory and authorizing invoice payments for suppliers. [4,5]

1.3.3 Making: -

Supply chain managers also need to help coordinate all the steps involved in creating the product itself. This includes reviewing and accepting raw materials, manufacturing the product, quality testing and packaging. Generally, businesses evaluate the quality, production output and employee productivity to ensure overall standards are upheld. [4,5]

1.3.4 Delivering: -

Ensuring the products reach the customers is achieved through logistics and it's fundamental to supply chain success. This includes coordinating the orders, scheduling delivery, dispatching, invoicing, and receiving payments. Generally, a fleet of vehicles must be managed to ship the products from tankers bringing product manufactured overseas to fleet trucks and parcel services handling last mile delivery. In some cases, organizations outsource the delivery process to other organizations who can oversee special handling requirements or home delivery. [4,5]

1.3.5 Returning: -

Supply chain managers also need to develop a network that supports returning products. In some cases, this may include scrapping or re-producing a defective product; in others, it may simply mean returning a product to the warehouse. This network needs to be responsible and flexible to support customer needs. [4,5]

1.4 Benefits of Supply Chain Management: -

1.4.1 Lowered Costs: -

By integrating suppliers and applying technology, organizations can lower operating costs by responding more dynamically to customer needs. For example, managing based on demand keeps organizations from over-producing, which not only reduces labor and raw materials costs, but also cuts down on inventory management costs and transportation costs. [4,5]

1.4.2 Increased Revenue: -

When organizations use technology to stay closer to customer demand and respond more quickly (as in the Walmart example keeping shelves stocked), it's more likely products remain available for customers to purchase. When manufacturing is streamlined to produce just enough, labor and materials can be devoted to developing new items to offer the customer and expand the product mix. Outside the product realm, this may mean offering additional services customers. [4,5]

1.4.3 Asset Utilization: -

With effective supply chain management, organizations can use capitol assets, like production or transportation equipment, most effectively. Rather than adding wear and tear to manufacturing equipment needlessly, businesses can produce to the need. [4,5]

1.4.4 Improving Value: -

Supply chain management allows organizations to deliver more quickly, ensure products are available, reduce quality issues, and navigate returns with ease, ultimately improving value, both within the organization and for the customers. [4,5]

2. Logistics: -

2.1 What is Logistics?

Logistics is generally the detailed organization and implementation of a complex operation. In a general business

sense, logistics is the management of the flow of things between the point of origin and the point of consumption to meet the requirements of customers or corporations. The resources managed in logistics may include tangible goods such as materials, equipment, and supplies, as well as food and other consumable items. The logistics of physical items usually involves the integration of information flow, materials handling, production, packaging, inventory, transportation, warehousing, and often security. [6]

2.2 What is Logistics Management (LM)?

Logistics is an essential component of supply chain management. It involves the planning, carrying out and management of goods, services, and information from the point of origin to the point of consumption. Logistics aligns the complex pattern of traffic and transportation, shipping and receiving, import and export operations, warehousing, inventory management, purchasing, production planning, and customer service. Companies see logistics as a critical blueprint of the supply chain. It is used to manage, coordinate and monitor resources needed to move products in a smooth, timely, cost-effective and reliable manner. [6, 7]

Figure (2):- Logistics Management

2.3 Components of Logistics Management System: -

There are five basic components in a logistics management system.

2.3.1 Storage, Warehousing and Material-Handling: -

It is to enable a steady stream of products to be supplied by manufacturers. Why is this important? Manufacturers need to operate at peak efficiency, but consumers tend not to demand goods at the same rate as a manufacturer supplies them. There tends to be an imbalance between supply, which is steady, and demand, which can be unpredictable. The answer is to store the surplus goods produced by a manufacturer until they are demanded by consumers. To achieve this, warehouse buildings are required. These need specialist storage equipment such as shelving or racks and material handling equipment to move them around the warehouse and to load and unload delivery vehicles. [8, 9]

2.3.2 Packaging and Unitisation:-

A key definition and one of the Rs of logistics are the care and condition of a product. Packaging is an essential part of that. Unitisation is also important as this assists storage and transportation. The easiest product to move and store is a cube, so packaging and unitisation attempts to take all different sizes and shapes of product and pack them as near as possible into a cuboid shape. [8, 9]

2.3.3 Inventory: -

Inventory is a logistics element that is closely related to storage and warehousing. It is concerned with what stock to hold, where the stock is located and how much stock to hold. In effect, inventory is controlling the flows of goods going into and out of a warehouse. How is this achieved? By looking at sales data of past orders and using various mathematical and statistical tools to attempt to predict how much goods will be demanded by consumers. Inventory management is not an exact science, but depending on how variable demand can be, it is a useful tool to help manage the flows of goods through the supply chain. [8, 9]

2.3.4 Transport: -

A major element of logistics that most will recognise is transport. This includes all modes of transport including road vehicles, freight trains, cargo shipping and air transport. Without transport, goods would be unable to move from one stage to another within a supply chain. Some goods with short supply chains, such as foods, do not travel far. Other more complex products consist of many components that can be transported from all over the world. [8, 9]

2.3.5 Information and Control: -

The element of information and control is needed by all the elements to act as triggers to various operational procedures. We have mentioned the information needed for inventory. Order levels help decide what orders need to be picked and packed in warehouses and enable the planning and organisation of transport. Information and control's role is to help design information systems that can control operational procedures. They are also key in the forecasting of demand and inventory as already mentioned. [8, 9]

The Differences Between the Supply Chain Management (SCM) and Logistics Management (LM)

1. Logistics is an activity within the supply chain. [3]
2. Supply chain management is a way to link major business processes within and across companies into a high-performance business model that drives competitive advantage. While Logistics refers to the movement, storage, and flow of goods, services and information inside and outside the organization. [3]
3. The main focus of supply chain is a competitive advantage. While the main focus of logistics is meeting customer requirements. [3]
4. Supply chain management is a relatively new term. While Logistics is a term that has been around for a long time. [3, 12]
5. Logistics management mostly involves transportation functions, focusing on short term goals. LM concentrates on getting freight from point A to point B – on time and in the most cost-efficient way possible. Also, it includes creating partnerships with trucking companies. While Supply chain management controls a broader number of functions and concentrates on achieving customer satisfaction and maximizing profit in a long-term way. Also, SCM covers the management of supply and demand,

control over cost allocation and all collaborations with 3PLs. [10]

Where, 3PLs use a transportation management system (TMS) to support supply chain procedures and transportation choices. Also, TMS software provides visibility into the shipper's supply chain performance through data and reports. Moreover, TMS software enables real-time, tangible information that can be analyzed to identify problems and solutions within the supply chain. Creating solutions with insight gained from TMS data often results in better customer satisfaction. [11]

6. Logistics management refers to managing the flow of goods, information, and resources from the beginning point of external origin to the point of consumption and reverse. Also, logistics has a vital effect on shipped goods and includes all activities involved in the shipping process. Logistics manages the flow within a company and between a company and its suppliers and customers. While Supply chain management is control over integrated network processes, providing the end customer with a product or service and meeting all his/her requirements. It includes numerous aspects of logistics management and demand planning which coordinates processes within and among companies. [10]
7. Logistics Management Processes are (Planning, Scheduling, Implementing, Material handling, Packaging, Distribution, Storage of Goods, Coordination among carriers, Fleet management, and Control Procedures). While Supply Chain Management Processes are (Logistics flows, Customer Order Management, Manufacturing, Distribution, Cost Allocation and Control, Third-Party Collaboration, Management of Supply and Demand, Negotiating Pricing, and Inventory Control). [10]
8. Logistics Management has the goals and objectives within an organizational department is ensuring that customers attain maximum satisfaction during their interactions with the organization. Logistical officers ensure that anything that is needed by the customers is accessed with ease and it is acquired in the right quality and quantity. While supply chain management has the goal and objective of ensuring that the company achieves a competitive and comparative advantage through effectiveness and efficiency. More importantly, supply chain management ensures that the company procures laws materials at lower prices while selling finished goods at the highest prices possible. [12]
9. Logistics Management is involved in a single organization because there are no logistical activities that are required when one company is interacting with the other company. Logistical operations are confined and restricted to an individual organization and the customers willing to cooperate with the team. While supply chain management is involved with multiple agencies that are interacting with the company on a daily basis. Supply chain management must interact with organizations supplying raw materials, companies delivering or transporting finished goods, and companies purchasing their finished products. [12]
10. The number of departments in supply chain management is higher as compared to those in the logistical departments because supply chain management is involved and interacts with multiple organizations. Some of the sections within logistical management include inventory, warehousing, and transportation. Supply chain management has a significant number of sections, which include product development and testing, customer service and satisfaction, integration and information sharing, logistical activities, performance measurement, and procurement and manufacturing among others. [12]

CONCLUSIONS

Logistics is a very old term, firstly used in the military, for the maintenance, storage and transportation of army persons and goods. Nowadays, this term is used in many spheres, not specifically in military after the evolution of the concept of Supply Chain Management. It has also been said that SCM is an addition over Logistics Management as well as SCM comprises of logistics. Both are inseparable; hence they do not contradict but supplement each other. SCM helps Logistics to be in touch with the transportation, storage and distribution team.

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