Transportation and Logistic Chains

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Abstract-

Purpose: to introduce the issue of the transportation and logistics chains. Finding: outlines how the individual papers affect the debate on the nature and development of transportation in the supply chain. Originality: provides a summary of the perspectives studied within the transportation in the supply chain.

Keywords- Transportation, Logistic, customer service, system, time

1. Introduction

This research is on the transportation and logistics chains. Products are transported between different places in different stages within a supply chain. Transportation has a large impact on both responsiveness and efficiency. Faster transportation allows a supply chain to be more responsive but reduces its efficiency within a supply chain (Chopra & Meindle, 2007, p.53). Transportation has a significant impact because it controls the speed of response and replies as stated in Newton's third law of every action there is always opposed an equal reaction. An example of Amazon is a company that sells products on the internet and uses UPS or FedEx, which is a transportation company that delivers products to customers. This is an example of transportation within a supply chain. In logistic today wrote an article for Rosenau transportation to gain real-time visibility to customers. This article about Rosenau found a solution to assistance improve dispatch, routing, and customer service to provide real-time visibility to its customers, and reduce operating costs by making more stops in fewer miles. They also focused on improving the information it provides to its customers on delivery, pickup status, at the same time correcting the efficiency and productivity of dispatchers and customer service reps. Shortly it will be executing an advanced route optimization solution to reduce the miles driven, and the fuel used and thus reduce the carrier's environmental impact. (Rosenau Transport Gains Real-Time, 2009)

According to, Sreenivas and Srinivas, due to the trend of nationalization and globalization in recent decades, logistics has advanced greatly since the 1950s and is still growing in various areas. Logistics has improved industries by optimizing production and distribution processes based on new management techniques that enhance the efficiency and capacity competitiveness of enterprises (Sreenivas & Srinivas).

All companies seeking to expand their businesses to contribute in advancing the growth of sales as well as improve the methods to include all customers in various geographical regions, both by the high population growth or moderate. However, globalization has changed everything so that the companies paid to spend more money on transportation to reduce the time to ensure the delivery of products to the consumer of course,

besides compliance with new government regulations. A factor that has made these companies improve performance is the technology information, transportation, and logistics solutions. They have contributed to the mobilization of the stock of companies to enable them to obtain goods shortly as well as the right of access to customers; also, the right place at the right time along with it is likely that you will get a sale and delivery while reducing costs and enhance its services to avoid delays and fines. All companies operating in this area and for global programs with logistics, which includes transport and logistics functions only on the implementation of orders from inception to delivery of this position to gain visibility at home and abroad for the supply chain as well as lower costs and improve customer service. That all these components to ensure the quality of the application must examine the following possibilities: Transportation planning, transportation procurement, route planning, transportation management, small parcel shipping, and international trade logistics (infor).

The important point in a logistic chain is the transportation that connects the separated activities. Transportation is jointing between stages in the supply chain. In other words, it is the way to move products from manufacturing to the final consumers and vice versa.

This research focused on:

- Development of logistic
- The role of transportation in supply chain
- Modes of transportation
- Transportation infrastructure and policies
- Discussions and conclusions

2. Development of logistic Definition

“Part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers’ requirements.” (Sreenivas & Srinivas).

In other words, the process connects all of the means of providing raw materials to, from the company, and to suppliers of transmission products. It depends more on the provision of logistics from raw materials to the network such as the transfer process, material handling from the beginning to the end of production and the sale, disposal of waste, and add customer to increase the competitiveness of the market. In general, the optimum utilization of investigative meet the demands of customers of any goods or services must provide the information to provide that service in addition to benefiting from the network to meet customer requirements in a timely manner.

Either, “Council of Logistics Management (1991) defined that logistics is part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers’ requirements. Johnson and Wood are

definition (cited in Tilanus, 1997) uses ‘five important key terms, which are logistics, inbound logistics, materials management, physical distribution, and supply-chain management, to interpret. Logistics describes the entire process of materials and products moving into, through, and out of the firm. Inbound logistics covers the movement of material received from suppliers. Materials management describes the movement of materials and components within a firm. Physical distribution refers to the movement of goods outward from the end of the assembly line to the customer. Finally, supply-chain management is somewhat larger than logistics, and it links logistics more directly with the user’s total communications network and with the firm’s engineering staff” (YUE, TSENG, & TAYLOR, 2005)

3. The role of transportation in the supply chain

I mentioned at the beginning of this research that transportation is referring to the movement of any product from one location to another.

Transport refers to the movement of products from one place to another and that the beginning of the supply chain in dealing with customers. Where is the new vision and wide in the work of transport, including supply chain management and logistics, and procurement. The cost of shipping and transport, for example, arrived in shipping and transport costs in the United States almost 6% of gross domestic product.
Many manufacturers and retailers were able to use the state in managing the supply chain to reduce inventory and storage costs, with the possibility of delivery to the client quickly.
Any successful supply chain is linked to the use of large and adequate transportation. For example, Wal-Mart has been used effectively to respond to the transportation system to reduce overall costs. In developing countries, Wal-Mart is running across the docking, a process in the product that is exchanged between the trucks so that each truck to go to a retail store and product suppliers a different form.

At the same time, the exponential growth in shipment from China creates opportunities for bottlenecks on both. That is where many leading companies have invested in the purchase of large offices in China, India, and elsewhere.
This point shows that are two keys players in any means of transport that takes place within the supply chain. The shipper is the party, which requires the movement of product between two points in the supply chain. Carrier is the party who moves or transports the product. For example, when Dell uses UPS to ship the computers from the factory to the customer, Dell is the shipper and UPS is the carrier.

3.1 Transportation in supply chain cost

Chopra and Meindle stated for two kinds of transportation costs:

3.1.1 Inbound transportation costs are the costs that included bringing material into a facility.

3.1.2 Outbound transportation costs are the costs that sending material out of a facility.

The relationship between both is the outbound transportation cost per unit is higher than inbound costs because the inbound is typically larger. (Chopra & Meindle, 2007,p78). They also mentioned increasing the number of facilities can decrease total transportation cost, which refers to the figure-1

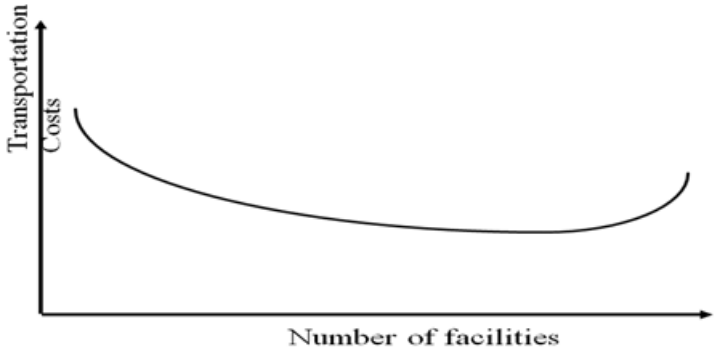

Figure-1

4. Modes of transportation

The supply chains follow combination modes of transportation following:

4.1 Air fright logistic (air)

Airfreight logistics is very important in industries and services to complete the supply chain and functions. Where they provide with the speed of delivery, as well as a reduced risk of damage, security, flexibility, and ease of access to good views of the ordinary, but the disadvantage is the high courier fees. Reynolds, Feighan (2001) and said air cargo logistics is selected 'when the value per unit weight and relatively high speed of delivery is an important factor. The properties of airfreight logistics in the following:

(1) aircraft, airports, and separated. Therefore, the industries only need to prepare aircraft for their operation.

(2) it allows for faster delivery in long-haul destinations.

(3) air freight transport is not affected by the terrain.

The data indicate that the transport of goods in the market continues to grow. There is a view of the directions of global markets and logistics and air cargo also to change their services. Future directions for the development of airfreight, and integration with other transport modes, the internationalization of the coalition, and the integration of the airlines, and the pattern of the future of logistics, and air freight to cooperate with other modes of transport. Such as sea and land transport, to provide service on the base just in time, and transport from door to door. (YUE, TSENG, & TAYLOR, 2005)

4.2 Land logistic (truck, rail, water, and pipeline)

Land logistics is considered very important in logistics activities. They are providing services for air transport and maritime transport from airports and ports. Additional logistical capacity, the positive ground is the high-level access in the wild. The major means of transport logistics are land transport by rail, road

transport, and pipeline transport.

For rail transport to and comparative jeopardy of high endurance capacity, the less the impact of climatic conditions, and low power consumption, but that the disadvantages of the high cost of basic facilities and the difficulty in the cost of maintenance, with the lack of flexibility of the pressing demands, and time-consuming in the organization of railroad cars. As for the transfer of land, he has the advantages of investment funds being cheaper, ease of access being high, and mobility and availability. On the other hand, Disadvantages, are low capacity, low safety, and slowness. The advantages of pipeline transportation of high capacity, less the impact of climatic conditions, and cheaper the process of drawing, and the continuation of the means of transport; disadvantages of costly infrastructure and the difficulty of control, goods, specialization, and needs regular maintenance.

The excessive use of road transport also brings many problems, such as traffic congestion, pollution, and traffic accidents. In the future, to improve road transport in the transport efficiency and reliability, a revolution in the field of transport policy and management is required, for example, pricing. (YUE, TSENG, & TAYLOR, 2005)

4.3 Package carriers

Package carriers are transportation companies such as FedEx, The United States Postal Service (USPS), and the Uninterruptible Power Supply (UPS), The package can be small because the package carriers use air and should weigh about 150 pounds, also package carriers are expensive and cannot compete with less than truckload carriers on price for large shipments. Thus, shippers use package carriers for small and time-sensitive shipments. Package carriers also pickup the package from the source and deliver it to the destination site. With an increase in just in time (JIT) deliveries and focus on inventory reduction, demand for package carriers has grown. (Chopra & Meindle, 2007. P389)

For example, the goal of DHL is nothing less than to transform the logistics industry and to deliver beyond our customers' expectations wherever and whenever they need us - by offering the most comprehensive suite of services and becoming the only genuine one-stop source for logistics solutions, globally fig-2.

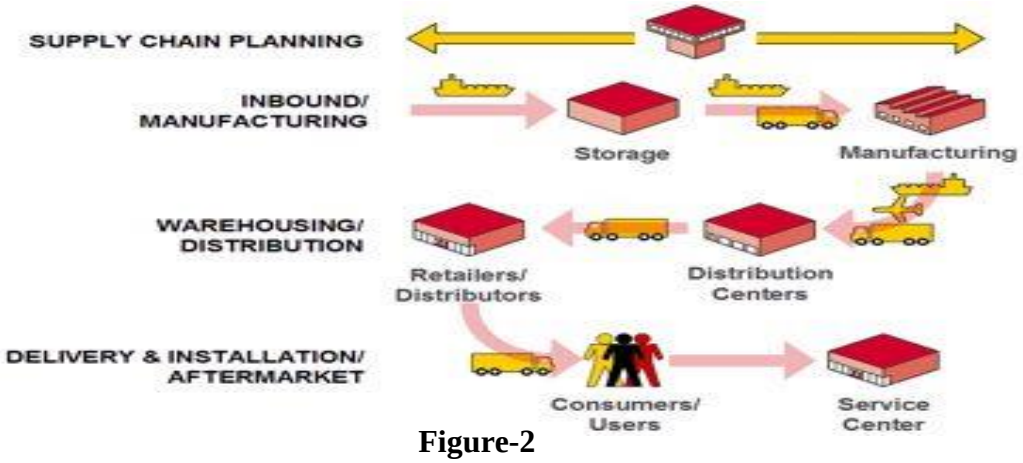

Figure-2

The supply chain in the package carrier for DHL express is the flow of goods, within information and finance. It starts by sourcing raw materials which contain semi-finished goods, that are scheduled and transported into factories to be made into finished products (see Diagram up). Then pass through warehouses or distribution centers and are delivered to retailers, wholesalers, or direct to consumers' homes or business premises. Finally, aftermarket activities involve the maintenance and repair, or the return and recycling, of products at the end of their life. Supply chain planning optimizes overall flows and inventories, by balancing resources with demand at all stages. (DHL)

5. Transportation infrastructure and policies

Transportation is the infrastructure that means roads, seaports, airports, rail, and canals. All these exist along with nodes and links of the transportation network. All countries are taken responsibility for a significant role in building and managing these infrastructure elements. The transportation and infrastructure focus on operational and policy issues within transportation and infrastructure areas that affect logistics operations.

6. Discussions

How can quickly deliver products to consumers with a common consensus on the control operators?

That the integration of logistics services and e-business is the current trend is currently in some companies. In order to obtain a position that is more beneficial and building a complementary relationship, which is its reliance on networks and industries, such as Yahoo and E-Bay, and often cooperates with the logistics industry. Integration can reduce the middle-level procedures. For example, producers can immediately provide products to more customers of the station. To reduce costs more efficiently. Besides, companies do not have to take inventory and warehouse costs only, and therefore it becomes a modern industry of lower cost and more efficient division of specialization. For example, customers can obtain an order of goods at shops. Through E-logistics, the state of competition in industries could be promoted in the knowledge economy.

Moreover, promoting business activities should include transport systems in various stages. The integration between different applications is to provide comfort through the promotion of the system of information flow and business processes. Consumers and businesses can make it more efficient and easier through the assistance of e-commerce and the Internet. Physical delivery, still rely on the transportation system to end processes. The cost of transport is maybe one-third of the cost of logistics. At the same time, transport systems and techniques are required in almost every activity of logistics services. And therefore the reform of patterns of business for consideration in transport systems.

7. Conclusion

I have tried to cover papers on the part of the scope of logistics activities of transportation systems and attempts to determine the role of transport in transport systems and logistics. Knowing that is most of the major contents of the research include a review of the development of logistics services, operations and personalities from different transport activities, logistics, and logistics applications in various fields, and logistics city, and the future direction in the development of logistics services, and cooperation with the transport regulations.

To summarize, logistics, transport, and some importance in the supply chain must be. First, the transport system and supply have a more and more important in our society. Next, transport and transport systems, logistics, and interrelationships that the needs of logistics management and transportation of the implementation of its activities at the same time, it can be to the success of the transport system and supply help to improve traffic and transport, environment and development. Third, as it contributes the highest transport costs among the relevant elements of logistics systems, improving the efficiency of transport can alter the overall performance of the transportation system and supply. Finally, play and transport an important role in the logistics system and activities appear in the various sections of logistics services. Without linking transportation and logistics, services cannot be a powerful strategy to bring their full play.

Review of Transport and Logistics in a broad sense may help to integrate the benefits of different applications of cases to overcome the disadvantages of the present. On the other hand, a Review of the transport systems provides a clear idea of the applications in transportation logistics. The development of logistics services will still be active in the following decades and logistics that can be applied in other areas.

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