

Supply chain management and logistics network



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Posting ID: 227180 Back to Library Cart Problem go to solution Business, Other - Other KLF Electronics KLF 1. KLF Electronics is an American manufacturer of electronic equipment. The company has a single manufacturing facility in San Jose California. (20 points) KLF Electronics distributes its products through five regional warehouses located in Atlanta, Boston, Chicago, Dallas, and Los Angeles. In the current distribution system, the United States is partitioned into five major markets, each of which is served by a single regional warehouse.

Customers, typically retail outlets, receive items directly from the regional warehouses in their market area. That is, in the current distribution system, each customer is assigned to a single market and receives deliveries from one regional warehouse. The warehouses receive items from the manufacturing facility, Typically, it takes about two weeks to satisfy an order placed by any of the regional warehouses. In recent years, KLF has seen a significant increase in competition and huge pressure from their customers to improve service levels and reduce costs.

To improve service level and reduce costs, KLF would like to consider an alternative distribution strategy in which the five regional warehouses are replaced with a single, central warehouse that will be in charge of all customer orders. Part A: Describe how you would design a new logistics network consisting of only a single warehouse. Part B: Provide an outline of such an analysis; what are the main steps? Part C: Specifically, what data would you need? Part D: What are the advantages and disadvantages of the newly suggested distribution strategy relative to the existing distribution strategy? . As the Purchasing Manager in a manufacturing firm, you would be

expected to identify and know various aspects related to transportation/traffic in order to effectively perform your job. Today, during the staff meeting, your boss asked you for advice on two aspects of transportations: (20 points) a. What are the major considerations when handling materials? i. Discuss the following: 1. Load Unitization, 2. Space Layout, 3. Storage Equipment Choices, and 4. Movement Equipment Choices. b. What legal forms of transportation are available to the company? i.

Identify the legal forms of transportation. ii. Discuss the legal forms of transportation. iii. Provide one example for each legal form of transportation.

3. Consider the supply chain for breakfast cereal. Discuss the competing objectives of the farmers who make the raw materials, the manufacturing division of the company that makes the cereal, the logistics division of the company that makes the cereal, the marketing division of the company that make the cereal, the distribution arm of the grocery chain that sells the cereal, and the manager of the individual grocery store that sells the cereal.

20 points) 4. You have been called in as a consultant to a large drugstore chain which has 24, 000 inventory line items. Explain how inventory classification could help this company to better control its inventory. (20 points) 5. Discuss how each of the following helps to alleviate the bullwhip effect: (20 points) a. E-Commerce and the Internet b. Express Delivery c. Collaborative forecasts d. Everyday low pricing e. Vendor-managed inventory

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The response addresses the queries posted in 1718 Words, APA References
Answer 1 Part A: Logistics design Due to increasing competition in the world,
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the company has to advance its logistics system. To meet the ever increasing demands of the customers, the company is planning to form a single regional warehouse that will be in charge of the customer orders. Logistics is responsible for the movement of people and materials in the organization. Logistics department of the company decides as to how and when, the raw materials or other finished or semi-finished products should be moved and stored (Li, 2007).

If the company plans for a single warehousing system, then it is basically focusing on the centralized warehousing which is responsible for serving the whole market. The network will be designed with the help of complete analysis of the company's operations. This will help to design an efficient strategy for the company. The location and size of the warehouse will be decided. The transportation and facility costs will also be calculated. The cost set up will be properly estimated. The network will consist of various facilities like manufacturing center, vendor, distribution center and customers.

There will also be a variety of raw materials and finished products that flow among these facilities. Part B: Steps There are various steps that will be involved for designing a new logistics activity. In the first step, the currently operating network in the organization should be analyzed. In the second step, the network optimization database should be designed and populated. After this in the third step, the alternatives for network design should be created. In the fourth step, the network optimization model should be adopted.

In the fifth step, the tool for network optimization should be selected. In the sixth step, the network optimization should be implemented. In the seventh step, the alternative network designs will be evaluated. In the last and the final step, the reconfiguration costs for the network will be analyzed (How to design a logistics network in 10 steps? 2006). Part C: Data Required

The data that will be required for this design network is as follows:

- A list of all the products of the company.
- The location of the customers.
- Warehousing cost and transportation cost.
- Demands of the customer for each product.
- Size of shipment by product.
- Cost of processing the order.
- Patterns of the orders by size, content and frequency (The Logistics Network: design and planning, 2001).

Part D: Advantages ;

Disadvantages The newly suggested strategy will help the company in a number of ways. It will help in speeding up the production activities of the company. It will reduce the facility cost of the company. The safety stock required in centralized system is also less.

It will also reduce the inbound transportation costs. The disadvantages of such a system are that the lead time will increase and it will become difficult for all the customers to easily approach a single warehouse. The activities will become complex and the outbound transportation cost will increase (Maniezzo, 2009).

Answer 2 Part A: Material handling considerations There are various considerations while handling the materials and care should be taken, while working over this activity. The following things need to be considered:

Load Unitization: This is an important factor of consideration for material handling. Load unitization is the packaging and arranging of the item or

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items in a particular manner that can be handled as a unit. It should be considered that the items are banded in a securable manner. In this, the physical packaging of the product needs to be considered for its protective packaging. Overhang pallets for packaging should not be used as they can damage the product (Lock, 1998). Space Layout: It is also an important point of consideration in material handling.

The space layout should be such so that the materials can be handled in an easy and comfortable manner. The space layout should be according to the products and for the ease of the workers. Storage Equipment Choices: It is to be considered as it is the greatest factor that contributes to the storage cost. The storage equipment choices include automated storage and retrieval systems, carousel storage and retrieval system, automated guided vehicle system and power ; free conveyors. These equipment choices need to be considered to check the efficiency and cost effectiveness of the logistics network.

Movement Equipment Choices: it is also an important consideration in the material handling and it will help in allocating the movement of the materials for transport. The equipment choices help in managing the movement of the equipment for storage and transport. Part B: Legal forms of transportation
There are various forms of legal transportation which involves regulation of the operating rights. The forms of legal transportation are common carriers, contract carriers, exempt carriers and private carriers. Common carriers provide services under closed regulation, as per the published tariff.

They operate in a particular geographical area and for a specific commodity. Example of common carrier can be 'highway transportation'. Contract carriers provide services at individually negotiated rates and operate under a regulatory authority. They have pricing freedom and have no service compulsion. They operate on the guidelines that there should be no rate discrimination between the customers. Example of contract carrier is 'rail transportation'. Exempt carriers are those which are not liable for taxation and free from obligations.

These are used for agricultural commodities in the United States. Example of exempt carriers is water transportation. Private carriers look after their own goods transportation. They are not governed by cost and service regulations. They cannot carry the goods of others, although many regulations have now permitted to do so. Example of private carrier is air transport (Magee, Copacino ; Rosen field, 1985). Answer 3 In the supply chain for breakfast cereals, everyone has its own competing objectives which inspire them to produce the product by giving his best possible effort.

In the supply chain, the objectives of the farmers are to produce the best quality raw materials and earn maximum profit for him and his family. He wants to sell it at the best possible price and puts all his efforts to produce the cereals. The competing objectives of the manufacturing division of the company are that they should produce the quality and type of product that is demanded by the customer. Its main aim is to acquire efficiency in production and to produce better than its competitors (Maniezzo, 2009).

The logistics division of the company also has certain competing objectives. It works with the objective of managing all the materials and manpower related activities. It handles the storage of materials in an efficient manner. The management of transportation, purchasing of raw materials, storage and supply of finished products are the main aim of the logistics division. The objectives of the marketing division of the company will be to market the product in an attractive and effective manner. The packaging should be attractive and should display the special qualities of the products.

It also has the objective of deciding the pricing and promotional activities of the product. The objective of the distribution arm of the grocery chain is to distribute maximum quantity of the product to the retailers and cover more targets as compared to their competitors. The objective of the grocery store that sells the cereal will be to sell the best quality products to the customers. They also serve the customers and fulfill their requirements. Answer 4

Inventory classification is very helpful for controlling the inventory when a company has such a wide variety of inventory line items.

There are basically five different types of inventories that are fluctuating inventories, anticipation inventories, cycle inventories, transportation inventories and decoupling inventories. Fluctuating inventory will help in managing the irregular demand of the products. Anticipated inventory helps in managing the unpredictable demand of the product. Cycle inventory helps in equating the consumption and production of the products. Transportation inventories are managed, where the time taken to transport a product is more and so meet the demands, it is maintained.

Decoupling inventory is maintained to cover up the increasing demand of the product or the increasing purchases of the product. Inventory classification will help the company in inventory control, as, it will help in proper planning of the production system as materials will be available wherever and whenever required. It will also help in satisfying the orders of the customers as per the committed date. It can also help in solving the problem of rush order inventory. It will also help in timely management of the inventory (Stadtler ; Kilger, 2004). Answer 5 Bullwhip effect is the enlargement of the demand fluctuations i. . increases and decreases in demand. This is often caused by price fluctuations, rationing, misperceptions of feedbacks, ordering panics, forecasting errors etc. It can be alleviated with the help of various tools like internet, express delivery, collaborative forecasts etc. Internet and e-commerce helps in giving more accurate information to the suppliers about the demand of a product. It helps in prevention of deformation and wrong communication of the demand related information. It also assists in reducing the lead time, as; it eases the order processing activity.

Express delivery helps in reducing the demand variance and also reduces the lead time. It refers to timely and very fast delivery of the products to the wholesalers and to the ultimate customers. In collaborative forecasts procurement, product management and sales participate. Collaborative forecasts help the stakeholders in arriving at a particular demand forecast and alleviate the bullwhip effect. Everyday pricing also alleviates the bullwhip effect. There are certain demand hikes, which are created by periodic promotions and this leads to increase in demand fluctuations.

Everyday pricing helps in preventing the increasing demand fluctuations and alleviates the bullwhip effect (Stadtler ; Kilger, 2004). Vendor managed inventory is helpful for the supplier as, it assists in monitoring the downstream demand. With this, the supplier can make a good and effective decision related to various activities like what quantity should be shipped for the customers and what quantity should be kept on hand. So, with the help of vendor managed inventory, the supplier does not have to depend upon the order data.

Thus, the supplier does not have to rely on order data for demand estimation and alleviates the bullwhip effect. References How to design a logistics network in 10 steps? (2006). Retrieved February 6, 2009, from http://outsourced-logistics.com/operations_strategy/outlog_story_7990/ Maniezzo, V. (2009). Logistics network. Retrieved February 6, 2009, from <http://www3.csr.unibo.it/~maniezzo/didattica/TranspLogistics/2%20-%20Logistics%20Network.pdf> Magee, J. F. , Copacino, W. C. ; Rosenfield, D. B. (1985). Modern Logistics Management: Integrating Marketing, Manufacturing, and Physical Distribution.

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