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| **MBA First Year** | **Assignment Solution in Production and Operation Management** |
| **Even Semester (Second Semester)** | **MBA110** |
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**Question Number 1.) Describe essential feature of supply chain management with suitable example?**

**Answer-**

A supply chain is the connected network of individuals, organizations, resources, activities, and technologies involved in the manufacture and sale of a product or service. A supply chain starts with the delivery of raw materials from a supplier to a manufacturer and ends with the delivery of the finished product or service to the end consumer.

SCM oversees each touch point of a company's product or service, from initial creation to the final sale. With so many places along the supply chain that can add value through efficiencies or lose value through increased expenses, proper SCM can increase revenues, decrease costs, and impact a company's bottom line.

Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace.

SCM represents an effort by suppliers to develop and implement supply chains that are as efficient and economical as possible. Supply chains cover everything from production to product development to the information systems needed to direct these undertakings.

Typically, SCM attempts to centrally control or link the production, shipment, and distribution of a product. By managing the supply chain, companies are able to cut excess costs and deliver products to the consumer faster. This is done by keeping tighter control of internal inventories, internal production, distribution, sales, and the inventories of company vendors.

SCM is based on the idea that nearly every product that comes to market results from the efforts of various organizations that make up a supply chain. Although supply chains have existed for ages, most companies have only recently paid attention to them as a value-add to their operations.

In SCM, the supply chain manager coordinates the logistics of all aspects of the supply chain which consists of five parts:

- The plan or strategy
- The source (of raw materials or services)
- Manufacturing (focused on productivity and efficiency)
- Delivery and logistics
- The return system (for defective or unwanted products)

The supply chain manager tries to minimize shortages and keep costs down. The job is not only about logistics and purchasing inventory. According to corporate feedback, supply chain managers, “make recommendations to improve productivity, quality, and efficiency of operations.”

Improvements in productivity and efficiency go straight to the bottom line of a company and have a real and lasting impact. Good supply chain management keeps companies out of the headlines and away from expensive recalls and lawsuits.

**Question Number-2.) Discuss benchmarking concept and its features?**
**Answer-**

**Benchmarking** is the practice of comparing business processes and performance metrics to industry bests and best practices from other companies. Dimensions typically measured are quality, time and cost.

Benchmarking is used to measure performance using a specific indicator (cost per unit of measure, productivity per unit of measure, cycle time of x per unit of measure or defects per unit of measure) resulting in a metric of performance that is then compared to others.

Benchmarking is a process of measuring the performance of a company’s products, services, or processes against those of another business considered to be the best in the industry, aka “best in class.” The point of benchmarking is to identify internal opportunities for improvement. By studying companies with superior performance, breaking down what makes such superior performance possible, and then comparing those processes to how your business operates, you can implement changes that will yield significant improvements.

That might mean tweaking a product’s features to more closely match a competitor’s offering, or changing the scope of services you offer, or installing a new customer relationship management (CRM) system to enable more personalized communications with customers.

There are two basic kinds of improvement opportunities: continuous and dramatic. Continuous improvement is incremental, involving only small adjustments to reap sizeable advances. Dramatic improvement can only come about through reengineering the whole internal work process.

Also referred to as "best practice benchmarking" or "process benchmarking", this process is used in management in which organizations evaluate various aspects of their processes in relation to best-practice companies' processes, usually within a peer group defined for the purposes of comparison. This then allows organizations to develop plans on how to make improvements or adapt specific best practices, usually with the aim of increasing some aspect of performance. Benchmarking may be a one-off event, but is often treated as a continuous process in which organizations continually seek to improve their practices.

In project management benchmarking can also support the selection, planning and delivery of projects.

In the process of best practice benchmarking, management identifies the best firms in their industry, or in another industry where similar processes exist, and compares the results and processes of those studied (the "targets") to one's own results and processes. In this way, they learn how well the targets perform and, more importantly, the business processes that explain why these firms are successful. According to National Council on Measurement in Education, benchmark assessments are short assessments used by teachers at various times throughout the school year to monitor student progress in some area of the school curriculum. These also are known as interim assessments.

**Question Number-3.) Elaborate demand chain management with reference to FMCG products?**

**Answer-**

Demand chain management as a new business model aimed at creating value in today's marketplace, and combining the strengths of marketing and supply chain competencies. Demand chain design is based on a thorough market understanding and has to be managed in such a way as to effectively meet differing customer needs.

A conceptual foundation for demand chain management is proposed. Demand chain management involves (1) managing the integration between demand and supply processes;

(2) Managing the structure between the integrated processes and customer segments and

(3) Managing the working relationships between marketing and supply chain management.

**Demand-chain management** (**DCM**) is the management of relationships between suppliers and customers to deliver the best value to the customer at the least cost to the demand chain as a whole. Demand-chain management is similar to supply-chain management but with special regard to the customers.

Demand-chain-management software tools bridge the gap between the customer-relationship management and the supply-chain management. The organization's supply chain processes are managed to deliver best value according to the demand of the customers. DCM creates strategic assets for the firm in terms of the overall value creation as it enables the firm to implement and integrate marketing and supply chain management (SCM) strategies that improve its overall performance. A study of research group sees DCM as an extension of supply chain management, due to its incorporation of the market-orientation perspective on its concept.

A *Demand-driven supply network* is one method of supply-chain management which involves building supply chains in response to demand signals. The main force of Demand-driven supply network is that it is driven by customers demand.

In comparison with the traditional supply chain, Demand driven supply network uses the pull technique. It gives demand-driven supply network market opportunities to share more information and to collaborate with others in the supply chain.

Many companies are trying to shift from a build-to-forecast to a build-to-order discipline. The property of being demand-driven is one of degree: Being "0 percent" demand-driven means all production/inventory decisions are based on forecasts, and so, all products available for sale to the end user is there by virtue of a forecast. This could be the case of fashion goods, where the designer may not know how buyers will react to a new design, or the beverage industry, where products are produced based on a given forecast. A "100 percent" demand-driven is one in which the order is received before production begins. The commercial aircraft industry match to this description. In most cases, no production occurs until the order is received.

**Question Number-4.) Discuss Basic Concept and Philosophy of Supply Chain Management with example?**

**Answer-**

Use of internet in business can drastically change the situation in the business sector leading traditional enterprise to collapse. In the era of the Digital Revolution, postindustrial society is evolving towards the information society creating the foundation of the New Economy. Its basic elements include globalization processes, massive implementation of Information Technology and the establishment of virtual enterprises. Implemented processes take the form of pro-active business that fosters innovation and personification of its market offer. Enterprises that utilize Internet infrastructure in their activities carry out a specific e-business model. Their key commodity is information. It is based on changing the traditional SCM into e-SCN as well as on creating the so-called ‘Internet value network.’ In order to be created, the enterprise has to be properly prepared for the new conditions, which is called net readiness. The characteristics of supply chains in the new economy, stresses the significance of information and effective business management in addition to a potential effect of the new economy on the market competitiveness of enterprises. Net readiness has been described here based on a study of a group of the biggest Global businesses.

Supply chain management is a cross-functional approach that includes managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and the movement of finished goods out of the organization and toward the end consumer.

Supply chain Strategic activities involve:
1. Optimizing networks, which might include addressing the size, location, and amount of distribution centers, facilities, and warehouses where goods are manufactured.
2. It also involves addressing partnership issues among suppliers, customers, and distributors. This means creating strong channels of communication so that important info comes through,
3. Improve operations via direct shipping, logistics among third parties, and working with cross docking concepts.

Supply chain management makes sure that this process is done in an efficient manner, and that the quality of the finished product offered to the consumer is kept in line with that company's standards.

Main functions of supply chain management are as follows:

1) Inventory management

2) Distribution management

3) Channel management

4) Payment management

5) Financial management

6) Supplier management

7) Transportation management

8) Customer service management

Benefits and importance of supply chain management, reduces inventory costs

a.) Improves customer satisfaction as well as service
b.) Maintains better trust between partners
c.) Provides efficient manufacturing strategy
d.) Improve process integration

e.) Increase cash flow
f.) Improves quality and gives higher profit margin.

**Question Number-5.) Define Bullwhip effect in logistics?**
**Answer-**

Through the numerous stages of a supply chain; key factors such as time and supply of order decisions, demand for the supply, lack of communication and disorganization can result in one of the most common problems in supply chain management. This common problem is known as the bullwhip effect; also sometimes the whiplash effect.

The bullwhip effect can be explained as an occurrence detected by the supply chain where orders sent to the manufacturer and supplier create larger variance then the sales to the end customer. These irregular orders in the lower part of the supply chain develop to be more distinct higher up in the supply chain. This variance can interrupt the smoothness of the supply chain process as each link in the supply chain will over or underestimate the product demand resulting in exaggerated fluctuations.

What contributes to the bullwhip effect?

There are many factors said to cause or contribute to the bullwhip effect in supply chains; the following list names a few:

1.) Disorganization between each supply chain link; with ordering larger or smaller amounts of a product than is needed due to an over or under reaction to the supply chain beforehand.
2.) Lack of communication between each link in the supply chain makes it difficult for processes to run smoothly. Managers can perceive a product demand quite differently within different links of the supply chain and therefore order different quantities.
3.) Free return policies; customers may intentionally overstate demands due to shortages and then cancel when the supply becomes adequate again, without return forfeit retailers will continue to exaggerate their needs and cancel orders; resulting in excess material.
4.) Order batching; companies may not immediately place an order with their supplier; often accumulating the demand first. Companies may order weekly or even monthly. This creates variability in the demand as there may for instance be a surge in demand at some stage followed by no demand after.

5.) Price variations – special discounts and other cost changes can upset regular buying patterns; buyers want to take advantage on discounts offered during a short time period, this can cause uneven production and distorted demand information.
6.) Demand information – relying on past demand information to estimate current demand information of a product does not take into account any fluctuations that may occur in demand over a period of time.

Let's look at an example; the actual demand for a product and its materials start at the customer, however often the actual demand for a product gets distorted going down the supply chain. Let's say that an actual demand from a customer is 8 units, the retailer may then order 10 units from the distributor; an extra 2 units are to ensure they don't run out of floor stock.

The supplier then orders 20 units from the manufacturer; allowing them to buy in bulk so they have enough stock to guarantee timely shipment of goods to the retailer. The manufacturer then receives the order and then orders from their supplier in bulk; ordering 40 units to ensure economy of scale in production to meet demand. Now 40 units have been produced for a demand of only 8 units; meaning the retailer will have to increase demand by dropping prices or finding more customers by marketing and advertising.

Although the bullwhip effect is a common problem for supply chain management understanding the causes of the bullwhip effect can help managers find strategies to alleviate the effect.

**Question Number- 6.) Describe outsourcing concepts with example in reference to Pharmacy industry?**

**Answer-**

SCM outsourcing the entire supply chain management activity of an organization to an external organization that specializes in the same. Outsourcing the supply chain management helps in minimizing overall cost, focus on its core competencies, meet customer demands more effectively and avail greater flexibility in maintaining and operating its supply chain. While outsourcing the SCM activities, organizations take care of integration issues that they might face, when an external organization manages the supply chain, which is the backbone of the organization. If integration phase is taken care of and the third party organization has expertise and prior experience in managing the supply chain of other organizations, SCM can provide strategic advantage to an organization.

E-commerce business is being overwhelmed by supply chain issues. Things like customer service, parts shortages, unprecedented inventory growth, and warranty management can take up internal resources and affect your profit margins, especially if it’s preventing you from focusing on the business.

Supply Chain Management (SCM) companies, E-Commerce sellers can now pay more attention to their core competencies rather than spending all their time and assets managing logistics.

Effective Supply Chain Management has become an essential component for business success, since it translates to healthy inventory levels and fast, reliable delivery, which are critical to uninterrupted business and happy customers.