

SUPPLY CHAIN MANAGEMENT-1

Unit-III

Determining the Optimal Level of Product Availability:

The level of product availability is measured using the cycle service level of the fill rate. The service rate = The amount of customer demand satisfied from available inventory.

What is the importance of optimal level of product availability?

The level of product availability, also referred to as the customer service level, is one of the primary measures of a supply chain's responsiveness. A supply chain can use a high level of product availability to **improve its responsiveness and attract customers, thus increasing revenue for the supply chain.**

What is optimal level of product availability?

Optimal inventory levels are **the ideal quantities of products that you should have in a fulfillment center(s) at any given time.** By optimizing inventory levels, you reduce the risk of common inventory issues, from high storage costs to out-of-stock items.

How do you measure product availability?

How many ways can you measure product availability?

1. Weekly gap scan score – what the associates can see as out-of-stock on the shelf.
2. Online first-time pick rate – personal shopper pick performance.
3. Image capture – video and photo of what's available either continuously or at set times of the day.

What factors influence the optimal level of product availability?

There are several factors that can influence product availability, such as **demand, production and manufacturing, supply chain, inventory management, distribution, competitors and seasonality.**

What are the factors determining the optimum size?

Technical forces which influence the optimum size of firm are **degree of specialization (division of labour), mechanization and integration of work processes.** In the case of division of labor, a job is split into small functions and each function is assigned to a specific workman.

What are the 6 factors determining the need for products and services?

6 Important Factors That Influence the Demand of Goods

- Tastes and Preferences of the Consumers:
- Income of the People:

- Changes in Prices of the Related Goods:
- Advertisement Expenditure:
- The Number of Consumers in the Market:

What are the three measures of product availability?

The common measures of product availability discussed in this chapter are **product fill rate, order fill rate, and cycle service level (CSL)**. The product fill rate is the fraction of product demand that is satisfied with the product in inventory and should be measured over specified amounts of demand rather than time.

What is the concept of product availability?

Product Availability means the availability for prototype and production quantities of Products, as specified in Schedule 2, and which from time to time will be modified by the parties, to reflect changes in development schedule.

What are the elements of product availability?

Product availability includes **the cost of designing, manufacturing, storing, and delivering different item variances**. With high product availability, customers can visit a business knowing all of their shopping needs can be fulfilled. Alternatively, low availability can result in lost sales and low customer retention.

What are the factors determining the level of supply?

changes in non-price factors that will cause an entire supply curve to shift (increasing or decreasing market supply); these include

- 1) the number of sellers in a market,
- 2) the level of technology used in a good's production,
- 3) the prices of inputs used to produce a good,
- 4) the amount of government regulation

Transportation Decisions in a Supply Chain:

What is transportation decision?

The final set of transportation decisions involves **dock level operations, such as load planning, routing, and scheduling**. These activities encompass the operational execution of the higher-level planning decisions.

When it comes to transportation decision-making in supply chain management, there are many options.

Ever wonder why one shipper chooses a carrier over another, or opts to use a 3pL? Choosing to align with a carrier or a 3pL will play a large part in the success of your company. When evaluating transportation partners, the scope and market area of the product should be

considered. Selection based on cost alone could result in diminishing marginal returns in the long run.

When it comes to carrier decisions, consider using a carrier that services an area specific to your business. This could cut costs as the carrier may frequent your target area regularly. Also, frequency and time sensitivity of your product will play a role in the service level you require.

What are the two transport decisions in the supply chain?

There are several types of transportation decisions that a company must make in order to optimise its supply chain. The first is **mode selection, which involves deciding what type of transportation to use (e.g. air, land, or water)**. The second is **routing, which involves choosing the specific route the goods will take**. The third is scheduling, which consists in deciding when the goods will be transported. And finally, there is capacity planning, which involves ensuring enough capacity to meet the company's transportation needs.

Each of these decisions must be made in order to optimise the supply chain and minimise costs. For example, if company A is shipping its goods from India to China, it must first decide what mode of transportation to use. If they choose air transport, they will need to consider the specific route the goods will take and the transportation schedule. They will also need to ensure enough plane capacity to accommodate the shipment.

Making these decisions can be complex, but it is essential to consider all factors to optimise the supply chain and minimise costs. By understanding the major decision areas in supply chain management, companies can make better decisions and improve their overall efficiency.

How does transportation influence supply chain decisions?

Transportation plays a central role in seamless supply chain operations, moving inbound materials from supply sites to manufacturing facilities, repositioning inventory among different plants and distribution centers, and delivering finished products to customers.

What does transportation decisions depend upon?

Thus, choosing a transportation mode to route passengers and freight between origins and destinations is an important decision. It depends on several factors such as **the nature of the goods, the available infrastructures, origins and destinations, technology, and their respective distances**.

What is sourcing decisions and transportation in supply chain?

Sourcing is an upstream part of the supply chain: It's **the process of strategically choosing the right services and goods that a company needs to run their business**. Sourcing is also the act of buying goods, including seller selection, contract negotiation and measuring the long-term performance of your suppliers.

Who are the participants in transportation decisions?

There are five main stakeholders involved in the transportation decisions: **the shipper, the receiver, carriers and agents, the government and the consumer.**

What are the major factors affecting transportation decisions under supply chain management?

Majorly the Factors Influencing the Cost of Transportation Are demand and supply.

- Fuel Costs. ...
- Labour Expenses. ...
- Means of Transportation. ...
- Inefficient Routes. ...
- The Urgency Of Delivery. ...
- The Distance. ...
- Government Regulation.

What is the importance of transportation method as used in decision-making?

The transportation model can also be used as **a comparative tool providing business decision makers with the information they need to properly balance cost and supply.** This model will help decide what the optimal shipping plan is by determining a minimum cost for shipping from numerous sources to numerous destinations.

Designing Distribution Networks and Applications to e-Business:

How do you design the distribution network?

3 ways to design your distribution network

1. **Manufacturer Storage with Direct Shipping.** In this case, the manufacturer ships the commodity directly to the end customer, bypassing the retailer, who takes the order and initiates the delivery.
...
2. **Distributor Storage with Carrier Delivery.** ...
3. **Retail Storage with Customer Pickup.**

What are the design options for a distribution network?

Based on the choices for the two decisions, there are six distinct distribution network designs that are classified as follows:

1. **Manufacturer storage with direct shipping**
2. **Manufacturer storage with direct shipping and in-transit merge**
3. **Distributor storage with package carrier delivery**

What Is a Distribution Network?

In a supply chain, a [distribution](#) network is an interconnected group of storage facilities and transportation systems that receive [inventories](#) of goods and then deliver them to customers. It is an intermediate point to get products from the manufacturer to the end customer, either directly or through a retail network. A fast and reliable distribution network is essential in today's instant gratification society of consumers.

Understanding a Distribution Network

Developing an efficient distribution network is one of the most critical aspects of the success of a company. It is a component of [strategic planning](#) that allows a company's products to reach customers quickly and efficiently while at the same time keeping costs low for the company so that they may realize larger [profit margins](#).

The [supply chain](#) for goods can involve a far-reaching distribution network depending on the product and where the end customers are located. A manufacturer may have a distribution network to serve [wholesalers](#), who in turn have their own network to ship to distribution networks operated by retailers, who at the last link of the supply chain would sell the goods in their retail stores.

Alternatively, a simplified supply chain could involve a manufacturer shipping finished products to its distribution network and then directly to end consumers.

Location (proximity to the customer) and infrastructure quality are two important attributes of a distribution network. Additionally, the storage, handling, and transportation functions at a distribution site are set up to suit the particular needs of the company to serve its customer base in a geographic area. There can be a high level of sophistication at a single site—and by extension, the entire distribution network—to optimally process order flow of finished goods, whether a handful of large items such as farm tractors or thousands of [SKUs](#) for a retail chain.

What is the importance of distribution networks?

Establishing a reliable distribution network can therefore be a strong competitive advantage and help your business stay competitive. Some of the main benefits of distribution network is **reduced costs, more transparency and collaboration, wider customer reach and faster growth**.

What are the major components of the distribution network?

A typical distribution system can consist of:

- Substations.
- Distribution Feeder Circuits.
- Switches.
- Protective Equipment.
- Primary Circuits.
- Distribution Transformers.

- Secondaries, and.
- Services.

What are the factors influencing distribution network design explain?

These include: **Response time:** Response time is the total time between when a customer places an order and receives delivery. **Product variety:** Product variety is the number of different products / configurations that a customer desires from the distribution network.

What are the six steps in designing distribution channels?

The channel design decision can be broken down into six steps namely:

- Recognizing the need for channel design decision.
- Setting and coordinating distribution objectives.
- Specify the distribution tasks.
- Develop alternative channel structures.
- Evaluate relevant variables.
- Choose the best channel structure

What are the 5 advantages of distribution channel?

Direct distribution allows you to:

- collect valuable data on customer buying habits.
- distinguish yourself from the competition.
- respond to product performance and customer feedback.
- get your products to consumers faster.
- avoid sharing profits with a third-party distributor.
- build relationships with your customers.

What is the importance of distribution management in business?

Distribution management **leads to decreased shipping charges and faster delivery to customers**, and it also makes things easier for buyers as it enables “one stop shopping” and other conveniences and rewards, such as customer loyalty rewards programs.

What is the structure of distribution network?

Mainly, there are three levels in the structure of the distribution channel: they are direct channel, indirect channel and mixed channel. If the producers themselves distribute their products directly to the ultimate consumers, this is called direct channel. In this, no help of intermediaries or middlemen is taken.

What are the advantages of distribution management system?

What Are the Advantages of Distribution Management?

- Organization. If there wasn't a systemized chain of supply then retailers would receive products directly from manufacturers. ...
- Customer Convenience. ...
- Reduced Errors. ...
- Simpler Inventory Monitoring. ...
- Lower Costs. ...
- Accuracy.

What are the 4 factors of distribution?

There are 4 major factors that impact the population distribution in India:

- Geographical Factors.
- Social Factors.
- Cultural Factors.
- Economic Factors.

What are the 5 factors of distribution?

Factors Affecting Choice of Distribution Channel – 5 Important Factors: **Market, Product, Company, Channel and Environment Related Factors**. There are several channels available for the purpose of distribution of goods.