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Level 2 Certificate in International Supply Chain Logistics

## Demand Planning and Forecasting

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ABC Analysis:

ABC Analysis is a method used in demand planning and inventory management to classify items into three categories based on their importance.

- Category A: High-value items that make up a small percentage of the total items but contribute to a large percentage of the total value.
- Category B: Moderate-value items that make up a moderate percentage of the total items and contribute to a moderate percentage of the total value.
- Category C: Low-value items that make up a large percentage of the total items but contribute to a small percentage of the total value.

Available-to-Promise (ATP):

Available-to-Promise is a feature in demand planning and inventory management that provides information on the availability of products to fulfill customer orders. It considers existing inventory levels, incoming shipments, and production schedules to determine when orders can be fulfilled.

Bill of Materials (BOM):

A Bill of Materials is a comprehensive list of all the components, parts, and materials required to manufacture a product. It is an essential document used in forecasting and production planning to ensure that all necessary items are available when needed.

Buffer Stock:

Buffer Stock, also known as safety stock, is an extra quantity of inventory held to protect against uncertainties in demand or supply. It acts as a cushion to prevent stockouts and delays in fulfilling customer orders during unexpected fluctuations in demand.

Capacity Planning:

Capacity Planning is the process of determining the production capacity needed to meet the demand for products or services. It involves analyzing current capacity, forecasting future demand, and making adjustments to ensure that the required capacity is available when needed.

Collaborative Planning, Forecasting, and Replenishment (CPFR):

Collaborative Planning, Forecasting, and Replenishment is a business practice that involves collaboration between trading partners to improve forecasting accuracy, reduce lead times, and optimize inventory levels. It requires sharing information, coordinating plans, and working together to achieve mutual benefits.

Demand Forecasting:

Demand Forecasting is the process of predicting future demand for products or services based on historical data, market trends, and other relevant factors. It is a critical aspect of supply chain management that helps organizations plan production, procurement, and distribution activities effectively.

**Dynamic Forecasting:**

Dynamic Forecasting is a method of continuously updating forecasts based on real-time data, market changes, and other factors that impact demand. It allows organizations to adapt quickly to changing conditions and make informed decisions to meet customer needs efficiently.

**Economic Order Quantity (EOQ):**

Economic Order Quantity is a formula used in inventory management to determine the optimal order quantity that minimizes total inventory costs. It considers factors such as ordering costs, holding costs, and demand variability to find the most cost-effective quantity to order.

**Forecast Accuracy:**

Forecast Accuracy is a measure of how well forecasts align with actual demand. It is calculated by comparing predicted values with observed values and assessing the level of accuracy in predicting future outcomes. High forecast accuracy is essential for efficient supply chain operations.

**Lead Time:**

Lead Time is the time it takes for an order to be fulfilled from the moment it is placed until the products are delivered to the customer. It includes order processing time, production time, transportation time, and any other delays in the supply chain process.

**Material Requirements Planning (MRP):**

Material Requirements Planning is a system used to manage and control the flow of materials needed for production. It calculates the quantity and timing of materials required based on forecasts, production schedules, and inventory levels to ensure that production runs smoothly.

**Order Fulfillment:**

Order Fulfillment is the process of receiving, processing, and delivering customer orders in a timely and efficient manner. It involves coordinating various activities such as order processing, picking, packing, and shipping to ensure that orders are fulfilled accurately and on time.

**Reorder Point:**

Reorder Point is the inventory level at which a new order should be placed to replenish stock before it runs out. It takes into account lead time, demand variability, and safety stock levels to determine the optimal point at which to reorder products.

**Service Level:**

Service Level is a measure of how well an organization meets customer demand by fulfilling orders on time and in full. It is often expressed as a percentage and reflects the reliability and responsiveness of the supply chain in delivering products or services to customers.

**Stock Keeping Unit (SKU):**

Stock Keeping Unit is a unique code assigned to each product or item in inventory for identification and tracking purposes. It typically includes information such as product category, size, color, and other attributes to differentiate between different items.

**Synchronization:**

Synchronization refers to the alignment of various activities, processes, and resources within the supply chain to work together seamlessly towards common goals. It involves coordinating planning, production, distribution, and other functions to optimize performance and improve efficiency.

**Time Series Analysis:**

Time Series Analysis is a statistical method used to analyze historical data and identify patterns, trends, and seasonality in demand over time. It helps in making accurate forecasts by understanding past behavior and predicting future outcomes based on historical trends.

**Vendor Managed Inventory (VMI):**

Vendor Managed Inventory is a practice in which suppliers take responsibility for managing inventory levels at the customer's location. The supplier monitors demand, replenishes stock, and maintains optimal inventory levels to ensure that products are available when needed.

**Weighted Moving Average:**

Weighted Moving Average is a forecasting method that assigns different weights to historical data points based on their relevance and significance. It gives more importance to recent data while considering older data to predict future demand accurately.

**Yield Management:**

Yield Management is a pricing strategy used in supply chain management to maximize revenue by adjusting prices based on demand, capacity, and other factors. It involves setting prices dynamically to optimize profitability and achieve a balance between supply and demand.