**Supply Chain KPIs & Metrics**

🔄 **Demand Planning & Forecasting**

1. Forecast Accuracy: Measures how close forecasts are to actual demand.  
   *Importance:* High accuracy improves inventory planning and reduces overstock or stockouts.
2. Mean Absolute Percentage Error (MAPE): Calculates the average percentage error between forecasted and actual values.  
   *Importance:* Offers insight into forecast reliability and planning effectiveness.
3. Demand Variability Index: Tracks fluctuations in demand over a period.  
   *Importance:* Helps in planning buffer stock and improving supply chain responsiveness.

**📦 Inventory Management**

1. Inventory Turnover Ratio: Number of times inventory is sold and replaced during a period.  
   *Importance:* Indicates inventory efficiency and product demand.
2. Days of Inventory (DOI): Average number of days items stay in inventory before being sold.  
   *Importance:* Helps reduce holding costs and improve liquidity.
3. Stockout Rate: Percentage of orders delayed or unfulfilled due to lack of stock.  
   *Importance:* Impacts customer satisfaction and service levels.
4. Carrying Cost of Inventory: Total cost of holding inventory including warehousing, insurance, and depreciation.  
   *Importance:* Helps identify cost-saving opportunities and optimize inventory levels.
5. Safety Stock Level: Extra inventory held to prevent stockouts due to demand or supply uncertainty.  
   *Importance:* Ensures service continuity and reliability.

**🚚 Logistics & Distribution**

1. On-Time Delivery (OTD): Percentage of orders delivered on or before the committed date.  
   *Importance:* Directly affects customer satisfaction and service reliability.
2. Average Delivery Time: Average time taken from order placement to delivery.  
   *Importance:* Reflects efficiency of logistics and transportation.
3. Freight Cost per Unit: Average cost incurred in transporting one unit of product.  
   *Importance:* Impacts overall supply chain cost structure.
4. Perfect Order Rate: Percentage of orders delivered on time, in full, and without errors.  
   *Importance:* Indicates overall supply chain excellence.
5. Return Rate: Percentage of products returned by customers.  
   *Importance:* Signals issues in product quality, fulfillment accuracy, or customer expectations.

**🏠 Production & Fulfillment**

1. Cycle Time: Time taken to complete a production cycle or fulfill an order.  
   *Importance:* Affects agility and responsiveness of the supply chain.
2. Order Fill Rate: Percentage of customer orders fulfilled completely from stock.  
   *Importance:* Reflects supply readiness and fulfillment efficiency.
3. Capacity Utilization: Measures how much of the available production capacity is being used.  
   *Importance:* Helps in managing resources and scaling operations.
4. Overall Equipment Effectiveness (OEE): Combines availability, performance, and quality to assess equipment productivity.  
   *Importance:* Boosts manufacturing efficiency and reduces downtime.

**📉 Cost & Financials**

1. Total Supply Chain Cost (% of Sales): Total cost incurred in the supply chain as a percentage of sales revenue.  
   *Importance:* Measures cost efficiency and profitability of supply chain operations.
2. Procurement Cost per Order: Average cost involved in procuring one order.  
   *Importance:* Highlights procurement efficiency and cost control.
3. Cash-to-Cash Cycle Time: Time between paying for raw materials and receiving cash from sales.  
   *Importance:* Reflects working capital efficiency and cash flow health.

**⚠️ Risk & Resilience**

1. Supplier Lead Time Variability: Inconsistencies in the time suppliers take to deliver goods.  
   *Importance:* Helps in risk planning and inventory buffering.
2. Disruption Recovery Time: Time taken to recover operations after a disruption.  
   *Importance:* Measures supply chain resilience and continuity.
3. Supply Risk Score: Aggregated risk score based on supplier reliability, geopolitical issues, and natural disasters.  
   *Importance:* Enables proactive risk management and sourcing diversification.