



SNS COLLEGE OF TECHNOLOGY , COIMBATORE - 35



23BAE743 LOGISTICS AND SUPPLY CHAIN MANAGEMENT

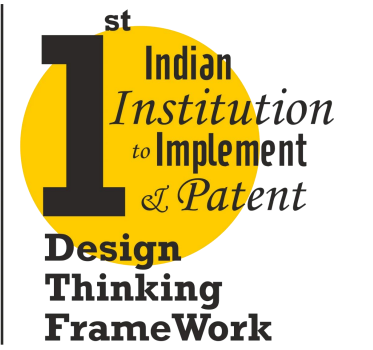
UNIT 5 SCM Performance Drivers and Forecasting



Guess the Topic



Logistics Drivers (Location, Inventory, and Transportation)



Recap

Drivers of Supply Chain Performance





Logistics Drivers: Optimizing Location, Inventory, and Transportation

In today's globalized economy, efficient logistics are essential for businesses to thrive.

This presentation explores the crucial drivers of successful logistics: location strategy, inventory management, and transportation optimization.



Introduction to Logistics Drivers

Location Strategy

Choosing the right location impacts costs, efficiency, and market access.

Inventory Management

Balancing supply and demand, minimizing storage costs, and avoiding stockouts.

Transportation Optimization

Choosing the most efficient modes and routes to minimize time and cost.

Technology Integration

Utilizing software, data analytics, and automation for improved logistics.

Importance of Location Strategy

Cost Reduction

Strategic location minimizes transportation costs by placing facilities closer to suppliers or customers.

Proximity to resources lowers raw material acquisition expenses, reducing overall production cost.

Improved Efficiency

Centralized locations streamline operations by simplifying distribution networks.

Reduced transportation time and distance improve delivery speeds, increasing customer satisfaction.

Market Access

Locating near major markets or transportation hubs increases visibility and accessibility for customers.

Proximity to key demographics and economic activity provides access to a larger customer base.

Factors in Site Selection

1

Proximity to Suppliers

Reduces transportation costs and lead times, ensuring timely access to materials.

3

Transportation Infrastructure

Access to highways, railroads, airports, and ports facilitates efficient goods movement.

5

Land Availability and Cost

Sufficient land for future expansion ensures long-term growth and operational flexibility.

7

Utilities and Infrastructure

Reliable power, water, gas, and telecommunication services are crucial for uninterrupted operations.

2

Customer Proximity

Shortens delivery routes, improves customer satisfaction, and enhances responsiveness.

4

Labor Availability

Access to a skilled workforce ensures operational efficiency and cost-effective staffing.

6

Regulatory Environment

Favorable regulations, permits, and incentives create a conducive business environment.

8

Community Support

Positive relationships with local communities foster a supportive and collaborative environment.

Inventory Management Principles

1

Demand Forecasting

Accurate demand prediction is crucial for maintaining optimal inventory levels.

2

Inventory Control

Efficiently managing stock levels minimizes storage costs and prevents stockouts.

3

Safety Stock

Maintaining a buffer of inventory safeguards against unexpected demand fluctuations.

4

Lead Time Management

Optimizing the time between ordering and receiving inventory ensures timely fulfillment.

5

Inventory Turnover

Monitoring how quickly inventory is sold and replenished helps assess efficiency.

6

ABC Analysis

Categorizing inventory by value and impact to prioritize management efforts.

7

Just-in-Time (JIT) Inventory

Minimizing inventory holding costs by receiving materials just before use.

Inventory Optimization Techniques

1

Demand Forecasting

Predicting future demand accurately is crucial for managing inventory levels and avoiding stockouts.

2

Inventory Control Systems

Automated systems track inventory levels, order quantities, and lead times to optimize stock management.

3

ABC Analysis

Categorizing inventory by value and impact helps prioritize management efforts for high-value items.

4

Just-in-Time (JIT) Inventory

Receiving materials just before use minimizes holding costs and reduces waste, but requires a reliable supply chain.

Transportation Modes and Considerations

Road Transportation

Trucks are versatile and cost-effective for short-to-medium distances.

They offer flexibility for door-to-door deliveries and can access various locations.

Rail Transportation

Trains are ideal for large volumes over long distances, offering efficiency and lower fuel consumption.

Railways are well-suited for transporting bulky goods and are less susceptible to traffic congestion.

Water Transportation

Ships are highly cost-effective for large-scale international shipments, particularly for bulk cargo.

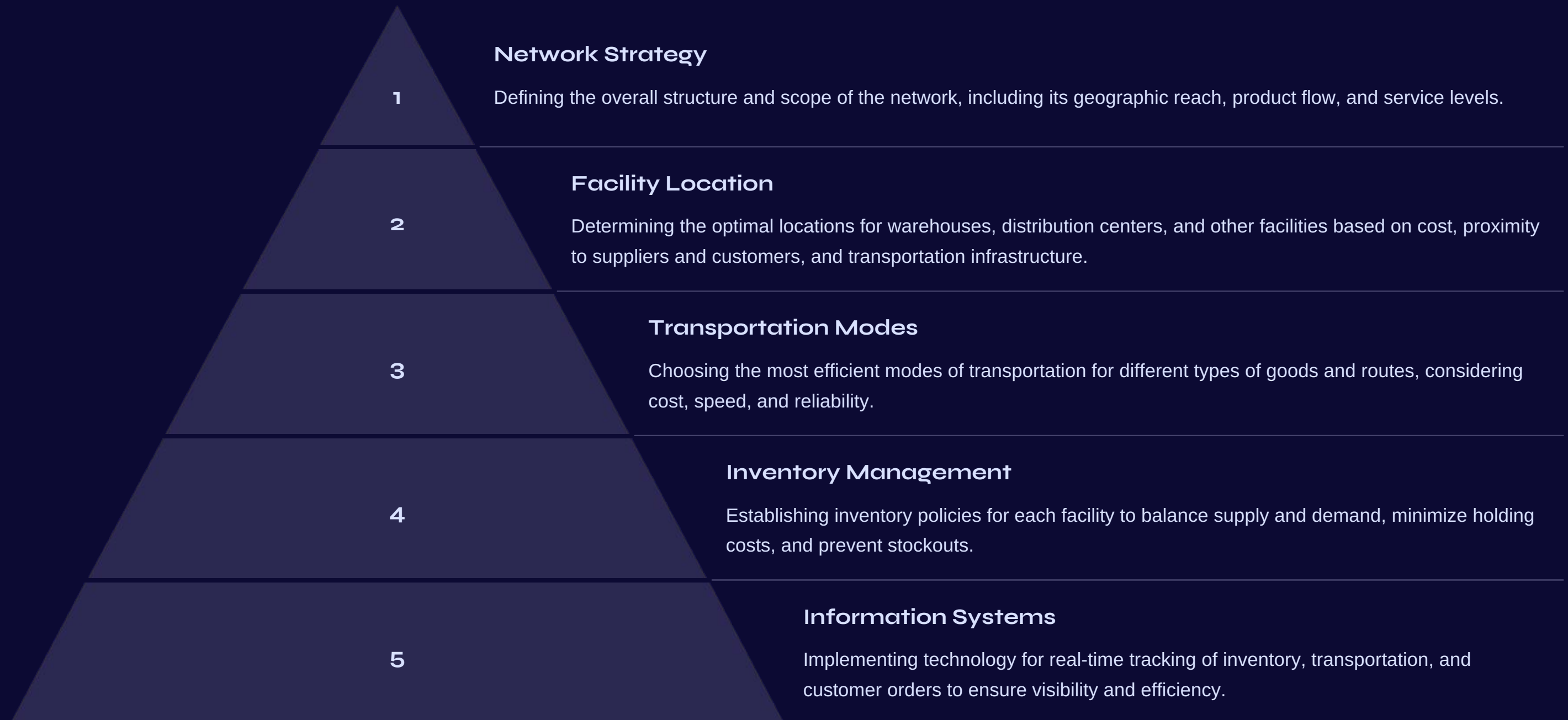
They provide a cost-effective mode for transporting goods across oceans and seas.

Air Transportation

Airplanes offer the fastest mode for urgent or time-sensitive shipments, but are also the most expensive.

They are suitable for high-value or perishable goods where speed is a priority.

Logistics Network Design



Integrating Location, Inventory, and Transportation

1

Location Strategy

Determines the optimal placement of facilities to minimize transportation costs and optimize proximity to suppliers and customers.

2

Inventory Management

Influenced by facility locations, as inventory levels need to be balanced considering transportation distances and lead times.

3

Transportation Optimization

Optimized based on facility locations and inventory levels, considering cost, speed, and reliability of different transportation modes.



Leveraging Data and Analytics



Location Optimization

Analyzing historical data and real-time information for location strategy



Transportation Optimization

Improving route planning, delivery efficiency, and minimizing costs



Inventory Management

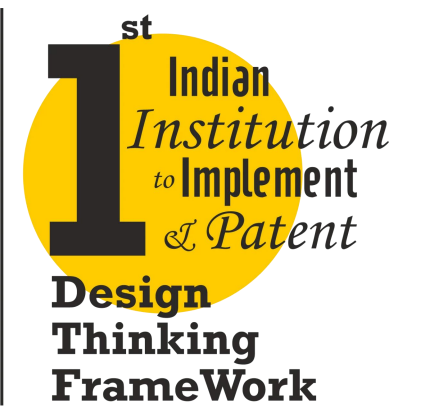
Predicting demand, optimizing stock levels, and managing supply chains



Performance Tracking

Monitoring key metrics for continuous improvement and identifying areas for optimization





Thank You

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