Module 11: Forecasting & Trend Analysis

Different Types of Trend Analysis

Trend analysis helps understand patterns in operational and sales data over time.

A. Upward Trend

Continuous increase in shipment volume or revenue.

Example: Growth during festive seasons or e-commerce sales events.

Action: Increase manpower and fleet capacity.

B. Downward Trend

Decline in sales or shipment volume.

Example: Off-season reduction.

Action: Cost control measures and promotional strategies.

C. Seasonal Trend

Pattern that repeats at regular intervals (monthly/quarterly/yearly).

Example:

High parcel volume during Diwali

Lower demand during monsoon in certain regions

Action: Seasonal staffing and vehicle planning.

D. Cyclical Trend

Long-term fluctuations influenced by economic conditions.

Example:

Business slowdown during recession

Growth during economic boom

Action: Long-term financial planning.

E. Irregular (Random) Trend

Sudden unexpected fluctuations.

Example:

Strike

Pandemic

Policy changes

Action: Emergency response planning.

F. Operational Trend Analysis

Delay trends

Damage rate trends

Complaint frequency trends

Route performance trends

Information Required for Performing Trend Analysis

To perform accurate trend analysis, the following data is required:

A. Sales Data

Monthly revenue

Customer-wise revenue

Service-wise revenue

Region-wise revenue

B. Operational Data

Daily shipment volume

Delivery time performance

Delay frequency

Return shipments

COD collection data

C. Customer Data

Complaint data

Retention rate

New customer acquisition rate

D. Financial Data

Cost per shipment

Fuel cost trends

Employee cost trends

E. External Factors

Festive calendar

Government regulations

Market competition

Fuel price variation

Different Forecasting Methods & Data Requirement

A. Moving Average Method

Data Required:

Historical shipment volume (last 3–6 months)

Use:

Smooths short-term fluctuations to identify long-term trend.

B. Weighted Moving Average

Data Required:

Historical data with more weight to recent months

Use:

Useful when recent data is more relevant.

C. Simple Linear Regression

Data Required:

Time (independent variable)

Sales/Volume data (dependent variable)

Use:

To predict future demand based on linear relationship.

D. Time Series Forecasting

Data Required:

Multiple years of historical data

Seasonal pattern data

Use:

To predict demand considering seasonality and trend.

E. Qualitative Forecasting

Data Required:

Expert opinions

Market surveys

Sales team inputs

Use:

When historical data is limited.

F. Scenario-Based Forecasting

Data Required:

Base year performance

Growth assumptions

Risk factors

Types:

Best case scenario

Most likely scenario

Worst case scenario

Explaining Forecasted Scenarios to Management

A. Steps to Present Forecast

Present historical data summary

Show trend analysis (charts/graphs)

Explain forecasting method used

Present forecast numbers

Explain assumptions

Highlight risks

Suggest action plan

B. Scenario Presentation Structure

1. Best Case Scenario

Higher demand

Increased revenue

Resource expansion required

2. Most Likely Scenario

Moderate growth

Controlled cost increase

3. Worst Case Scenario

Demand drop

Cost reduction strategy required

C. Management Reporting Format

Executive summary

Data analysis charts

Forecast table

Risk assessment

Recommendation plan

D. Key Skills Required for Presentation

Data interpretation

Analytical thinking

Communication skills

Use of Excel/ERP dashboards

Decision-support explanation