Chapter 3  Airline Economics, Markets & Demand

**Learning Objectives:**

The student will know the following terminology:

- **Airline System-Wide Measures**
  - Traffic / Revenue Passenger Miles (RPM)
    - 4 types of traffic
  - Yield
  - Capacity/ Available Seat Miles (ASM)
  - Unit Cost
  - Load Factor = Passengers/ Capacity
    - Average Leg Load Factor
    - Average Network Load Factor
  - Rejected Demand/Spill

- **Basic Airline Profit Equation = Revenue - Cost**
  - Airline Profit Maximizing Strategies

- **Air Transportation Markets**
  - Typical Air Passenger Trip
    - Markets
      - Opposite
      - Parallel
      - City-pair
      - Region-pair
  - Direct/ Connecting Flights
  - Dichotomy of Demand and Supply

- **Origin-Destination (O-D) Demand**
  - Factors affecting Volume of O-D Demand
  - Quality of Service Factors
  - Total Trip Time Model
  - O-D Demand Models
    - Linear/ Additive \( D = a - bP \)
    - Multiplicative \( D = aP^b \) where \( b < 0 \)
  - \( E_P = \text{Price Elasticity} = \Delta\% \text{ Demand}/ \Delta\% \text{ Price} \)
    - Business Passengers - “inelastic”
    - Leisure Passengers - “elastic”
  - \( E_T = \text{Time Elasticity} = \Delta\% \text{ Demand}/ \Delta\% \text{ Time} \)
    - Business Passengers - “elastic”
    - Leisure Passengers - “inelastic”
  - Saturation Frequency
  - 4 Types/ Segments of Air Travel Demand
  - O-D Market Demand Function - \( D = M \times P^a \times T^b \)

- **Airline Competition**
  - Market Share
  - Frequency Share
  - Market Share / Frequency Share Model “S-curve”
The student will be able to perform the following analysis (i.e. problems):

- What do airlines do to maximize revenues
  - Elastic vs. inelastic airfares
- Calculate
  - Market Share
  - Frequency Share
  - O-D Traffic
  - O-D Supply
  - Price Elasticity
  - Time Elasticity
  - Average Leg Load Factor
  - Average Network Load Factor
  - Basic Airline Profit
  - % Connecting Passengers
  - % Non-Stop Passengers
- Identify from Diagram
  - Point-to-Point vs Hubbing Network
  - Different Markets
- Calculate frequency of service impacts to Total Trip Time Model