

Learning Objectives:

The student will know the following terminology:

- Airline Pricing and O-D Markets
 - Pricing
 - Regulated Pricing
 - “Deregulated” or Liberalized Pricing
 - Revenue Management
 - Theoretical Pricing Strategies
 - Cost-Based Pricing
 - Demand Based Pricing
 - Service Based Pricing
 - Price Discrimination vs. Product Differentiation
 - Price Discrimination
 - Product Differentiation
 - “Willingness to Pay”(WTP)
 - Differential Pricing Model
- Airline Differential Pricing / Market Segmentation
 - First Class, Business Class, and Economy
 - Restrictions on Lower Fares
 - Advance Purchase, Minimum stay, cancellation fees and change fees
 - Saturday night stay condition most effective
 - Disutility
 - Simplified Fare structures
 - Impacts on Differential Pricing Model
- Airline Revenue Management (RM)
 - Differential Pricing
 - Yield Management
 - Computerized RM Systems
 - 3rd Generation RM System
 - Revenue Management Techniques
 - Overbooking
 - Physical Capacity (CAP) - Actual # of seats on the flight, usually maximum capacity of the aircraft
 - Authorized Capacity (AU) - Maximum # of bookings that an airline is willing to accept
 - Confirmed Bookings (BKD) - $BKD \leq AU$ - Total # of passenger reservations that have been accepted
 - No Show Rate (NSR) - Mean % of passengers with confirmed bookings that do not show up
 - Denied Boarding's (DB)
 - Spoilage (SP)
 - Show up Rate (SUR)
 - Waitlisted passengers (WL)

- Go-show passengers (GS)
- Stand-by passengers (SB)
- No-shows (NS)
- Show-ups (SU)
- Passengers Boarded (PAX)
- Voluntary DB (VOLDB)
- Overbooking Models
 - Mathematical overbooking problem, Find $OV > 1.00$ such that $AU = CAP * OV$
 - Manual/Judgmental Approach, $AU = 100 * OV = 100 * (1 + NSR)$
 - Deterministic Model, $AU = CAP / (1 - NSR)$
 - Probabilistic/Risk Model, $AU = CAP / ((1 - NSR) + 1.645 \text{ STD})$
- Fare Class Mix (Flight leg Optimization)
 - Partitioned vs. Serial Nesting
- Traffic Flow (O-D) Control (Network Optimization)
 - “fare class control”:
 - High-yield (“full”) fare types in top booking classes
 - Lower yield (“discount”) fares in lower classes
 - Yield-Based Fare Class Structure
 - The O-D Control Mechanism
 - Revenue value buckets (“greedy approach”)
 - EMSR heuristic bid price
 - Displacement adjusted virtual nesting
 - Network “optimal” bid price control

The student will be able to perform the following analysis (i.e. problems):

- Discuss Airline Pricing Strategies
- Discuss Airline Differential Pricing Methods
 - Impacts on Differential Pricing Model
- Discuss Airline Revenue Management Techniques
 - Overbooking Models
 - Fare Class Mix (Flight leg Optimization)
 - Traffic Flow (O-D) Control (Network Optimization)
- Identify from Diagram
 - Different components of Computerized RM Systems
- Calculate
 - Authorized Capacity (AU) for different Overbooking Models
 - Revenue from the Differential Pricing Model