



OPERATIONS RESEARCH & STATISTICS

OPTIMIZATION EXPERTISE

Experience with large airlines in designing solutions using models like aircraft fleetings, aircraft routing, crew planning, crew scheduling, line bidding and awarding

Developed various software prototypes for solving related optimization problems – Routing & Crew Pairing Generators

8+ years of team experience in relevant domain

FORECASTING & PLANNING EXPERTISE

Experience in applying statistical techniques in schedule profitability forecasting, passenger demand, manpower and engine life forecasting

Knowledge of Statistical Model Building – Multivariate Techniques, Regression, Reliability, and Time Series Forecasting

Extensive experience in Profitability Forecasting

Presented paper on Airport Ground Service Teams Scheduling at National Conference

The DADS Team performs problem analysis, OR modeling and data analysis. Besides, our business analysis can add value by segmenting customers and analyzing alliances and partnerships.

EXPERTISE AREAS

Aircraft Scheduling

SkyTECH has rich experience in areas such as routing, fleetings, scheduling, reliability and profitability. DADS Team has helped a major Airline in the following aspects:

- Preparing routes as per strategy, marketing, legal and operational factors and constraints
- Fleet allocation and management
- Preparation of schedules for the given markets
- Analyzing the reliability of the schedules
- Assessing the profitability of the schedules

The scheduling tools designed by our team are based on an integrated methodology and take complex constraints into account. These tools:

Enhance existing scheduling systems to produce highly effective and profitable schedules which optimize performance

Identifies the most profitable assignment of aircraft, leading to greater efficiencies, while requiring little computer time to execute

Crew Planning & Ground Staff Planning

SkyTECH provides client airlines complete solutions for crew shift planning that include buffering for leaves, attrition and other factors. Our Crew Planning tools handle complex crew deployment and management functions contributing in lowering costs, reducing planning time and enhancing planning performance.

SkyTECH has expertise in support maintenance and enhancement of ground staff planning applications. We have the domain and technology competence to implement the same.

MODELS

Aircraft Routing Model
Crew Pairing Generator
Profitability Tool

PROTOTYPES

Aircraft Routing Model
Fleet Assignment Model

Airport Manpower Deployment
Passenger Volume Forecast
Arrival Rate Determination
Optimum Service
Personnel Deployment
- **to Maximize Service potential**
&
Minimize Manpower Cost

Schedule Reliability
Flight Performance Analysis
Block Time Optimization
Need Based Reallocation

Forecasting” best” Block Time for
Future to reduce Crew Cost

Inventory Management
Month-by-month Forecast for inventory
items

Optimum Inventory Planning to reduce
holding as well as missed Opportunity
Costs

Revenue Management
for Low Cost Airlines

Development of simple plan for optimal
Booking Class allocation

Strategic formulation of
Class Allocation Plan

RESEARCH AREAS

- Using open source solvers to solve airport ground service team scheduling and other related scheduling problems
- Studying open source LP/MIP solvers and their internals
- Using column generation techniques to solve large scale integer programs
- Forecasting unconstrained passenger demand for given markets at high level of accuracy

NEW OFFERINGS

- Customization of fleetling models for mid-sized / small airlines
- Developing an Aircraft Scheduling Suite
- Prototype for the line building tools

TOOLS & TECHNOLOGY

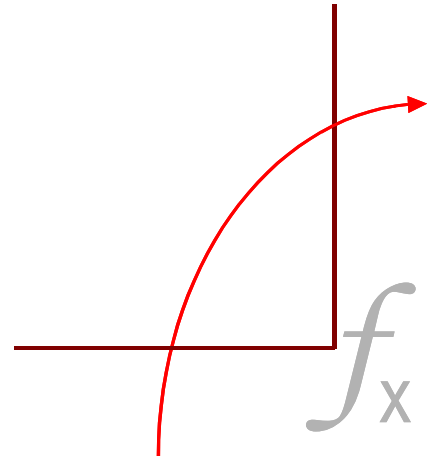
Our expertise in Data Analysis, Forecasting and Modeling is backed by the usage of sophisticated tools and technology. We believe in continual research on Technology Standards and Best Practices so that our clients gain the maximum value addition.

OR Tools

ILOG CPLEX library, ILOG OPL Studio, GAMS, LINDO/LINGO, GLPK/COIN OR (FSF), AMPL, MathProg

Statistical Tools

SAS, Minitab, SPSS, Statistica, Splus, Systat



***DADS @ SkyTECH =
Competitive Problem Solving skills + Airline Domain Knowledge + Proficiency in Programming***

ABOUT SKYTECH

SkyTECH Solutions provides IT consultancy services and develops niche software solutions for global airlines and airports. SkyTECH is an established player in the airline/airport IT domain.

Based in Chicago, SkyTECH has 3 Offshore Development Centers (ODCs) in India at Kolkata, Mumbai and Chennai. SkyTECH's offshore development infrastructure is certified to ISO 9001:2000, SEI CMM Level 5 and ISO 27001:2005.

SkyTECH's diverse client base is geographically spread in the USA and Asia-Pacific, and includes some of the largest airlines, airports and IT consulting firms of the world.

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