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Fleet Planning and airline route evaluation

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Introduction

- Most important Long term decision impacting airline planning and operations.
- Has significant impact on the financial position of the airline, its operating costs and specifically the ability to service routes profitably.
- Huge capital investment has a long term operational and economic horizon.



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Evaluation Process

- Decisions depend heavily on the evaluation process to assess the impact of the new aircraft on the airline's financial performance.
- The evaluation process is the key that can make or break the airline.



Decision Process

- Forecast of expected traffic demand (RPK)
- Planning average load factor (%)
- ASK needed to be generated to meet the traffic demand
- Productivity of the aircraft (ASK per day) results in the number of aircraft to be acquired and its financial impact (Costs)
- Merging revenue estimates with costs results in different margin scenarios for aircraft types being considered



Main Drivers

1. Traffic forecasts
2. Yield forecasts
3. Operating costs estimation
4. Estimated aircraft productivity
5. Holistic drivers feed the decision process system

Data for the drivers come from different databases maintained by different departments making coordination the key, also unfortunately the fleet planning exercise is conducted only when such decisions are to be taken.



Approaches to fleet planning

1. Top down or macro approach based on high level aggregated analysis
2. Bottom up or micro approach based on detailed analysis of data and forecasts by flight and route.

The aggregated macro approach is the most common because detailed 10-15 forecasts are highly speculative



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Airline fleet decision

1. Technical and performance categories
2. Economics of operations and revenue generation
3. Marketing and environmental issues
4. International trade issues



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Technical and performance categories

1. Payload range characteristics – determines the aircraft types ability to carry payload of passengers and or cargo over a maximum flight distance. Airline can sacrifice payload (for extra fuel) for distance but the decision should be optimal.
2. MTO and landing weights affects runway requirements and in turn feasible airports for operating the aircraft type.
3. Fleet commonality issues



Financial/economic issues

1. Financing issues
2. Lease or buy decisions
3. Increase in contribution with new aircraft
4. Trade off is between higher ownership costs and lower operating costs, increasing revenues.



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