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Business case

Special Implementation Project

Traffic Forecasts

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Outline

- Planning parameters
- When ?
- Why ?
- How ?
  - ✓ Input
  - ✓ Basic forecasts
  - ✓ Peak period forecasts
  - ✓ Output
- Alternative forecast techniques

Planning Parameters

- Annual number of flights
- The average daily number of flights
- The number of flights in the peak day
- The number of flights in the peak hour
- Peak instantaneous aircraft count

When?

- New Air Navigation Services Facility
- Existing Operations

Why?

- Physical Planning
  - ✓ To define the air navigation services facilities required
  - ✓ To determine the scale and timing of implementation
- Financial Planning
  - ✓ To estimate capital and operating expenditure
  - ✓ To estimate operating revenues
  - ✓ To carry out Cost/Benefit & Cash Flow Analysis

Facts to consider

- Peak demand rather than annual demand must be used in order to evaluate requirements
- Traffic Peaks by hour of the day, by day of the week, and by month of the year
- The level of detail of the forecast requirements will depend on the planning phase

Why study peaking

- Capacity utilization most critical during daily and hourly traffic peaks
- Peaking continues as markets grow
- The distribution of demand over any period is predictable

Input:
Key Historical Parameters

- Yearly, monthly and daily aircraft movements
- Fleet mix and capacity
- Load factors
- Peak period parameters

Basic Forecasts

- Forecast of passenger traffic
- Assumptions of future trends for fleet mix & average aircraft size
- Assumptions for future load factors
- Unconstrained aircraft movements by type
- Historic data for passenger, aircraft movements

Movements Forecast Development

$$\text{Movements} = \frac{\text{Passengers}}{(\text{Load factor}) * (\text{Average Seat})}$$

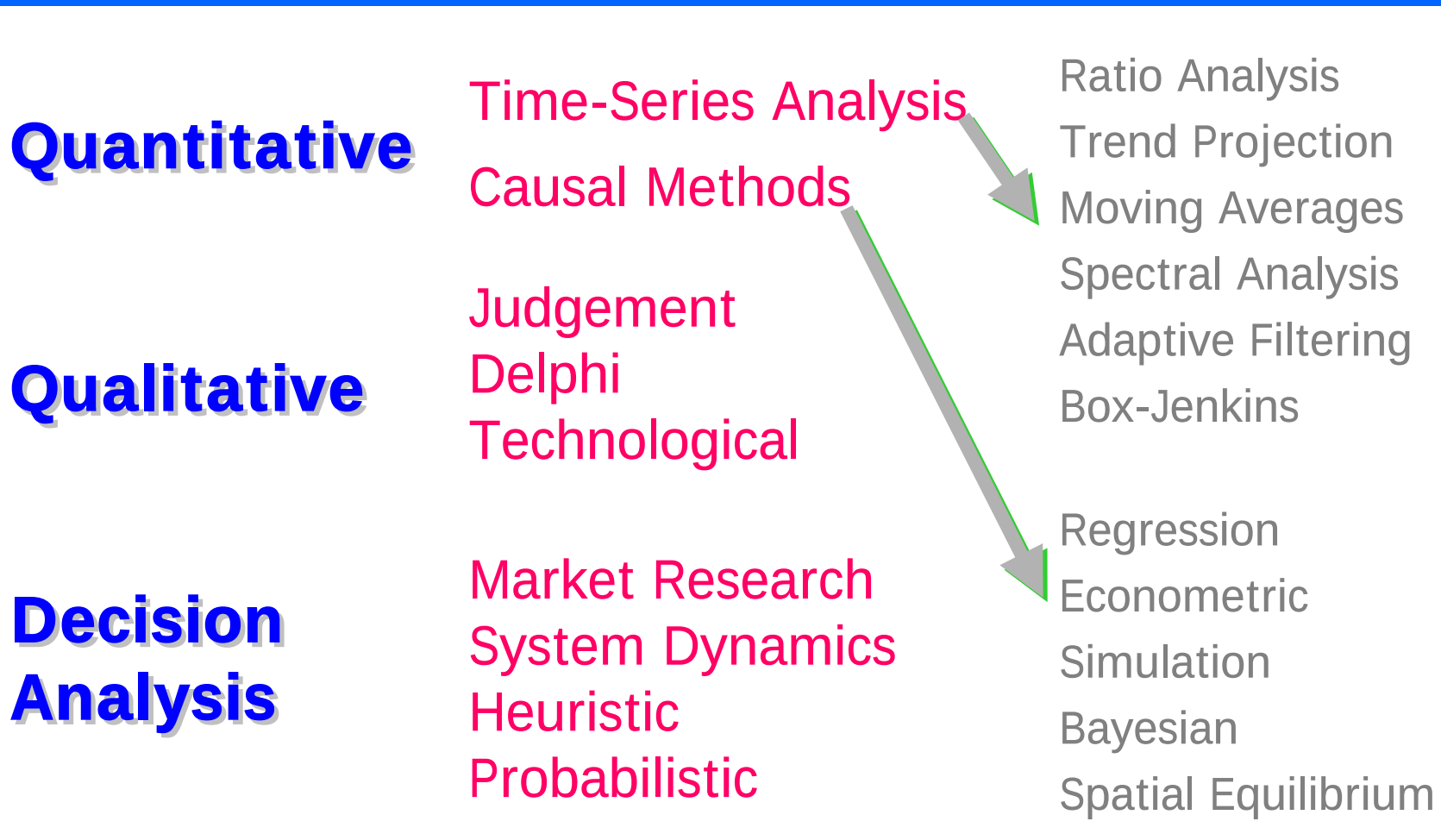
Peak period forecasts

- Analysis of time profile of air traffic
- Ratios of busy periods applied to annual,monthly or weekly traffic
- Trend projection of these ratios
- Factors affecting peak period traffic trends:
  - ✓Business & holiday traffic mix
  - ✓Curfews at airports
  - ✓Changing route patterns

Output: Planning parameters

- Annual aircraft movements
- Average day of the peak month or week traffic
- Peak day of the average month or week traffic
- Peak hour of the average day traffic
- Others

Alternative Forecast Techniques



References

- ICAO Airport Planning Manual (Doc 9184-AN/902), part 1, Chapter 3
- ICAO Manual on Air Traffic Forecasting (Doc 8991/2)
- Reports on the Traffic Forecasting Groups (TFGs)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