

## AIRPORT COMPETITION MODEL

Illustration: KLM / Air France

### Contents

- Background for Benelux
- The Air-Co-Model
- Case: the KLM / Air France alliance

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## Actors in the Air Transport System

- Airlines
  - Airports
  - Air Transport Users
- 
- External Developments (such as the alliance) affect all three !
  - Development of the Air-Co-Model: **Air Transport Network Competition**
    - addressing scope of relevant issues
    - for integrated approach (all three actors)

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## Background specific for 'greater Benelux'

- Large hinterland: Over 50 million travellers to and from Benelux, Ruhrgebiet and Ile-de-France
- Overlapping catchment areas of main airports: Amsterdam, Brussels, Düsseldorf and Paris
- Congestion at main road corridors in the hinterland of the airports

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## Background specific for 'greater Benelux'

- High speed trains connecting the main areas, as well as the airports
- New developments at the 'air-side':
  - low cost carriers giving opportunities for regional airports
  - collapse of Sabena
  - alliance between KLM and Air France

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## AIR-CO-Model Functionalities

- **MARKET SIZE:** Determination of # round trips between airport hinterland regions and other parts of the world (i.e.: between Utrecht and USA)
- **MARKET DISTRIBUTION:** Determination of route between hinterland and 'the world'
  - airport - airline - routing (direct/indirect), i.e.: Utrecht-Schiphol-KLM-Direct-USA
- **IMPACT:** Determination of the impacts for the actors
  - Airports (# passengers)
  - Airlines (# passengers, revenue)
  - Users (service levels offered, user costs)

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## Current state of the model

- Development started in summer 2003
- Application for Benelux area
- Structure applicable for any relevant hinterland area
- Data processing in progress
  - Land access data completed (distance, travel times etc.)
  - OAG Schedule Data
  - Airport data
- Quantitative indications of 'orders of magnitude'
- Main mechanisms represented
- Results may already be used in 'strategic evaluations'

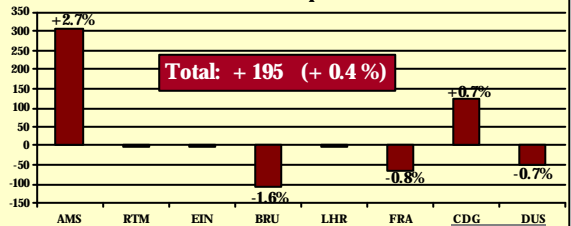
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## Effect of Network Integration: Airports

Change on Demand in Hinterland (Round Trips \*000)

- Amsterdam and Paris Ch.de Gaulle improve their service levels
- Relative attractiveness of both airports increases



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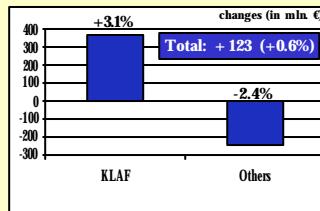
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## Effect of Network Integration: Airlines

Change on Airline Revenues

- Similar changes in # round trips for KL/AF resp. other airlines
- Network integration: over € 350 million additional revenue (3%) in hinterland markets



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## The KLM / Air France Alliance

Possible Phases in the alliance

- Integration of current network structure (code-sharing)
  - joining existing networks only
  - no further optimisation
- Optimisation of the network

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## Effect of Network Integration: Users

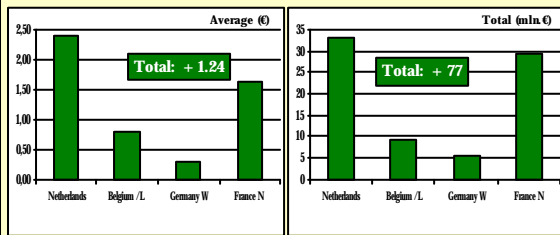
- Benefits of better service levels for air transport users
- More connections: higher consumer surplus
- Highest average benefits in the Netherlands: € 2.40
- Total consumer benefits in NL: € 33 mln.

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## Effect of Network Integration: Users

Change on Consumer Benefit



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## Which is primary hub ?

- Determining factors
  - Geographical location
  - Home market size
  - High speed train connections for hinterland feed
  - Political factors ?
- Paris seems to be more favourable regarding above determining factors

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## Further optimisation of the network

- Benefits of integration limited to the demand side
- Most alliances limit co-operation to demand side
- Merging enables measures on cost side
- Rationalisation may be important aspect
- Relevant questions:
  - One primary hub supported by secondary hubs (hierarchical hub system) or two hubs with equivalent role ?
  - If hierarchical hub system, which hub is primary ? (Amsterdam or Paris)
  - If two equivalent hubs, how to allocate traffic: specialisation on world regions or similar role for both ?

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## 'Mixed Model' Network Rationalisation

- Assumptions
  - Paris primary hub for secondary (smaller) ICA-destinations
  - Amsterdam keeps role in primary ICA-destinations (i.e. JFK)
  - KLM at Schiphol loses 24% of its intercontinental frequencies
  - Air France at Paris: 3% more intercontinental frequencies
- Effects:
  - Relative attractiveness of all airports, except Schiphol, increases

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## Primary hub or twin hubs ?

- For European flights: twin hub system
- For intercontinental flights: both models are seen
  - STAR-alliance: Primary hub Frankfurt, secondary hubs Copenhagen and Munich
  - Wings-alliance: Equivalent role for Detroit and Minneapolis in intercontinental traffic
  - Is mixed model optimal?
    - Primary ICA-destinations (such as JFK): twin hub system
    - Secondary ICA-destinations: one primary hub only (hierarchical)

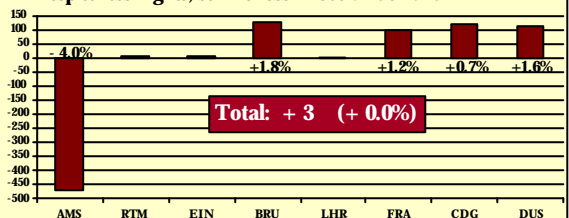
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## Effect of Network Rationalisation: Airports

Change on Demand in Hinterland (Round Trips \*000)

- Not only CDG, but also BRU and DUS benefit
- AMS loses 4% of its hinterland
- Despite less flights, still no loss in overall demand



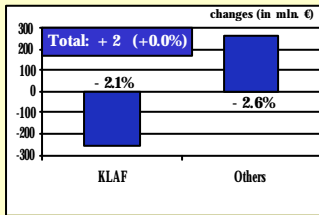
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## Effect of Network Rationalisation: Airlines

### Change on Airline Revenues

- Revenues of KLAf decline 2% by assumed rationalisation
- Scope for cost cutting higher? At least some scope from reduction of 10% in ICA-flights of alliance



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## KLM / Air France Alliance: conclusions (1)

- Short term (up to 5 years): 'win-win-win' situation in the Netherlands and France
  - Schiphol, Paris CDG
  - KL/AF-alliance
  - Dutch and French users
- Benefits for alliance only at demand side
- Network assurances prevent big steps in rationalisation on short term: less benefits on cost side

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## Effect of Network Rationalisation: Users

- Air service quality in the Netherlands deteriorated, as Dutch hinterland is most dependent of Schiphol
- Change in consumer benefit € 3.80 in NL
- Effects less severe in peripheral areas
- € 4.80 in Amsterdam, € 1.00 in Limburg
- Peripheral areas may use other airports (DUS or BRU)
- Little change in consumer benefit outside NL, as air service quality of their airports has not deteriorated (small improvement at CDG, no change elsewhere)

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## KLM / Air France Alliance: conclusions (2)

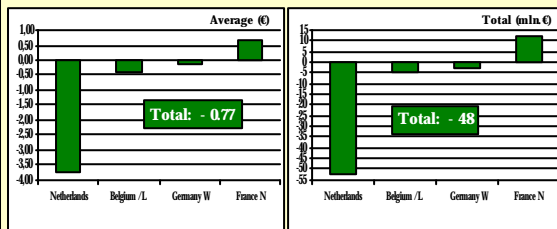
- Long term (after 5 years): network rationalisation expected
- Concentration of secondary intercontinental flights at primary hub likely
- Paris is more likely candidate for primary hub
- Relative declining air service quality of Schiphol

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## Effect of Network Integration: Users

### Change on Consumer Benefit



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## KLM / Air France Alliance: conclusions (3)

- Negative effects in O/D-volume for Schiphol may be small (few percent in case shown)
- Negative effects may - in O/D-volume - even be compensated by market growth over time
- However structural effect: more intercontinental O/D-passengers via Paris
- Negative effects on connecting traffic for Schiphol may be significantly larger, as declining network quality at Schiphol is concentrated at KLM's intercontinental network

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