Lecture Outline

- Review: Evolving Network Strategies

- US Airline Network Developments
  - Impacts of Recent US Mergers
  - International vs. Domestic Network Growth

- Global Network Expansion: Emerging Carriers
  - Rapid Growth of Competing Hubs

- Airline Cooperation and Consolidation
  - Alliances and Code-sharing
  - Joint Ventures
  - Mergers and Acquisitions
Review: Evolving Network Strategies

- From linear – to hub construction – to hub-to-hub flying
- From national dominance – to a regional footprint – to a global focus
- Domestic networks supporting international growth
  - International expansion contributes to improved on board revenue for the domestic operation
The Evolution of Networks

**Pre-Deregulation**
Route vs. Route

**1980s-1990s**
Hub vs. Hub

**21st Century**
Network vs. Network

**STRUCTURE**

- **Point-to-Point**
  5 City Pairs

- **Hub Operation**
  55 City Pairs

- **Network Operation**
  231 City Pairs

**COMPETITION**

- Pre-Deregulation
  Route vs. Route

- 1980s-1990s
  Hub vs. Hub

- 21st Century
  Network vs. Network

www.airlines.org
US Airline Network Developments

• Industry consolidation through mergers
  ▪ US Airways and America West in 2005 [US Airways]
  ▪ Delta and Northwest in 2008 [Delta]
  ▪ United and Continental in 2010 [United]
  ▪ Southwest and AirTran in 2012 [Southwest]
  ▪ American and US Airways in 2014 [American]

• International vs. Domestic Network Growth
  ▪ Domestic Capacity Cuts and Shifts to Regional Partners
  ▪ International Network Expansion
US Carrier System RPM Traffic Share
12 Months 2012

Source: Aviation Daily, 1/21/2013
Impacts of Mergers on Flight Volumes

- US Airways and Delta Airlines effectively absorbed flight volumes of America West and Northwest, respectively, with little to no change in total mainline flight volumes.
Drop in US Domestic Capacity – Shift to Regional Partners

Source: ATA
International v. Domestic Network Growth

• Inter-continental growth has proven successful in conjunction with alliance partners
  ▪ Presence of low cost carriers make domestic profitability difficult
  ▪ Low cost carrier operations primarily focus on largest origin and destination markets which makes profitable flying more difficult

• Important to diversify route portfolio between international and domestic flying
  ▪ Domestic networks sized primarily to feed international flights can benefit from carrying international connecting passengers
  ▪ Higher yield international traffic helps to compensate for higher cost structures of more mature carriers in the market
Domestic Departures from U.S. Airports

- Drop of 1.3 million departures/year since 2007.

Source: Diio Mi Schedule Data
Total US Domestic Capacity Index
Flights Down 14%; ASMs Down 8% Since 2007

Source: Diio Mi Schedule Data
Capacity Shift from U.S. Domestic to International Routes

Billion Domestic ASMs

Down 10.1% from 2007 to 2011

Billion International* ASMs

Up 5.8% from 2007 to 2011

Source: Airlines for America
Diversification of the Route Portfolio Critical to Improved Profitability

Percent of Capacity in International Markets

Source: MIT Airline Data Project
US Airline International Service Index
Larger Aircraft and Longer Flights Since 2004

Source: Diio Mi Schedule Data
Global Network Expansion: Emerging Global Carriers

• Continued rapid growth of these airlines will affect global traffic flows
  ▪ Emirates (Dubai), Etihad (Abu Dhabi), Qatar (Doha) and Turkish (Istanbul) building large hubs that depend on connecting traffic
  ▪ Future success is highly dependent on negotiating new bilateral rights to further expand their hub networks

• Implications for airports
  ▪ Emerging carriers looking for new spoke cities to feed their connecting global hubs with 6th freedom international traffic
  ▪ Operations involve long-haul, wide-body (and A380) aircraft and full-service products (premium classes, lounges)
  ▪ Competition among airports to attract these new services – at BOS, Turkish will start May 2014 and Emirates in March 2014
Geographical Advantage to Access the Emerging Market Traffic Flows

Source: Airbus
Flights from Emerging Carrier hubs have more than doubled since 2004

- Flights to all regions have increased rapidly over the past 8 years
- Nearly 50% of flights are destined to Europe

Source: Karim Al-Sayeh, Innovata SRS, accessed through Diio Mi
Competition with European Hubs
Airline Cooperation and Consolidation

• Regulatory hurdles block the type of cross-border consolidation that has occurred in other industries.
  ▪ International flight operations still regulated by bilateral agreements
  ▪ Limits on foreign ownership of airlines in many countries
  ▪ Influence of political and union forces against such consolidation
  ▪ Anti-trust laws can constrain mergers and cooperation even within same country

• Many forms of cooperation possible:
  ▪ Code-sharing agreements between two airlines
  ▪ Membership in global airline alliances
  ▪ Joint ventures to share both revenues and costs
  ▪ Mergers and acquisitions
The Synergies of Airline Cooperation are Determined by the Level of Integration

Economical Benefit/Complexity

100%

Depth of integration

Merger/ M&A

100%

Bilateral Joint Ventures (Profit)

Bilateral Joint Ventures (Revenue)

Alliances

(JV)

Blocked Seat Agreements (Codeshare)

Sales Incentive Agreement

Special Prorate Agreement (SPA)

Interline Agreements

1

2

3

4

5

6

7

8

no cooperation

(Free sale) Codesharing
Code-Sharing

• Under a “code-share” arrangement, partner airline places its own code on an alliance flight:
  ▪ Partner markets and sells its own tickets for the flight
  ▪ Flight is actually operated by another alliance airline
  ▪ Flight is listed twice (or more) in airline schedules and computer reservations systems (CRS)

• Code sharing increases consumers’ perceptions of network coverage in CRS displays:

  EXAMPLE:
  TK 012 JFK-IST
  also listed as US* 5003 JFK-IST
Airline Alliances and Network Coverage

• “Strategic alliances” between two airlines take the economic logic of hub networks one step further:
  ▪ Partner airlines can expand their network coverage without increasing their own flights and operating costs
  ▪ Leads to further consolidation of loads, as two or more airlines now contribute passengers to a single “alliance flight”
  ▪ Marketing power of larger networks is reinforced--more destinations, seamless connections, frequent flyer benefits
  ▪ Additional cost savings are possible in alliance airlines due to combined flights, airport check-in and club operations, integrated purchasing and information systems
International Alliance Networks

• International alliances link their networks through hub-to-hub flights

• Global Strategic Alliance -- Strongly connected domestic networks linked together through high-density flights between international hubs
Growth of Global Alliances

# Global Airline Alliances

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>2000</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year of Formation</strong></td>
<td>1997</td>
<td>2000</td>
<td>1999</td>
</tr>
<tr>
<td><strong>Member Airlines</strong></td>
<td>27</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td><strong>Annual Revenues</strong></td>
<td>$174 B</td>
<td>$112 B</td>
<td>$92 B</td>
</tr>
<tr>
<td><strong>World RPK Share</strong></td>
<td>30%</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Destinations Served</strong></td>
<td>1135</td>
<td>832</td>
<td>712</td>
</tr>
<tr>
<td><strong>Countries Served</strong></td>
<td>181</td>
<td>169</td>
<td>145</td>
</tr>
</tbody>
</table>

Advantages of Airline Alliances

• Airlines can strengthen networks and market position against competing alliances:
  ▪ Expand network coverage with little risk or increased operating costs, and no new capital required (aircraft or facilities)
  ▪ Access to new O-D markets and incremental revenues
  ▪ Increased market shares in existing markets due to greater presence, meaning increased traffic, revenues, and profit

• For consumers, a “seamless” travel experience:
  ▪ World-wide service with single check-in, consistent passenger service standards, club rooms and FFP benefits
Disadvantages of Airline Alliances

• Potential for disagreements among airline partners:
  ▪ Can be difficult and costly to completely standardize customer service standards and procedures
  ▪ Cost savings might not be as great as anticipated
  ▪ Conflicting network and revenue sharing objectives
  ▪ Possible for one partner to actually lose revenue as dominant airline exerts market and RM strengths
  ▪ Alliance relationships are not permanent, as airlines switch partners and alliances

• For consumers, confusion about code-sharing, operating carriers and potentially anti-competitive impacts.
## Consolidation Activity Around the Globe

**Selected M&A and/or Cross-Border Investment: 2005-Present**

<table>
<thead>
<tr>
<th>USA</th>
<th>Non-USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic/Shuttle America</td>
<td>Air France/KLM</td>
</tr>
<tr>
<td>US Airways/America West</td>
<td>Copa/AeroRepública</td>
</tr>
<tr>
<td>SkyWest/Atlantic Southeast</td>
<td>Lufthansa/Swiss</td>
</tr>
<tr>
<td>Pinnacle/Colgan</td>
<td>Air China/Cathay Pacific*</td>
</tr>
<tr>
<td>Lufthansa/JetBlue*</td>
<td>Cathay Pacific/Dragonair</td>
</tr>
<tr>
<td>Delta/Northwest</td>
<td>Lufthansa/Brussels*/BMI/Austrian</td>
</tr>
<tr>
<td>Republic/Midwest/Frontier</td>
<td>Avianca/TACA</td>
</tr>
<tr>
<td>United/Continental</td>
<td>British Airways/Iberia</td>
</tr>
<tr>
<td>Pinnacle/Mesaba</td>
<td>LAN/TAM</td>
</tr>
<tr>
<td>SkyWest-ASA/ExpressJet</td>
<td>LAN/Aires</td>
</tr>
<tr>
<td>Southwest/AirTran</td>
<td>TAM/TRIP*</td>
</tr>
</tbody>
</table>

*Source: ATA and Deutsche Bank Global Research*  
*Strategic investment but not full ownership or control*
### Different Models of M&A Integration

<table>
<thead>
<tr>
<th>Examples</th>
<th>One Brand</th>
<th>Co-Brand</th>
<th>Multi-Brand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><img src="https://example.com/united" alt="United Airlines" /></td>
<td><img src="https://example.com/airfrance-klm" alt="Air France/KLM" /></td>
<td><img src="https://example.com/lufthansa-brussels-bmi" alt="Lufthansa/Brussels/BMI" /></td>
</tr>
<tr>
<td>Characteristics</td>
<td>Full integration</td>
<td>Very high integration</td>
<td>High integration</td>
</tr>
<tr>
<td></td>
<td>One management</td>
<td>Integrated management</td>
<td>Management teams</td>
</tr>
<tr>
<td></td>
<td>One brand</td>
<td>Two brands</td>
<td>Multi-brand</td>
</tr>
<tr>
<td>Advantages</td>
<td>Maximum of synergies</td>
<td>Higher synergies</td>
<td>Profit center orientation</td>
</tr>
<tr>
<td></td>
<td>Fast decision processes</td>
<td>Maintain (national) brands</td>
<td>Maintain (national) brands</td>
</tr>
<tr>
<td>Disadvantages</td>
<td>Loss of a potentially well known brand</td>
<td>Higher complexity</td>
<td>Higher complexity</td>
</tr>
</tbody>
</table>

Source: Lufthansa Presentation to MIT (2010)
Factors Affecting Future Networks

• Network Structure
  • No evidence of shift away from large hub and spoke networks
  • Even LCCs have been developing “focus cities” for connections

• Industry Consolidation
  • Recent (and future) mergers could eliminate smaller hubs
  • Alliances and joint ventures reinforce largest international hubs

• Availability of New Aircraft Options
  • 787 delivery delays, A350 still years away
  • Replacement alternatives for smaller narrow-body fleet?