Asia Pacific Aviation

Competitive Dynamics & Growth

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Association of Asia Pacific Airlines
Overview

• Asia Pacific aviation
• Business trends
• Future growth
• Sustainability
• Regulatory challenges
Aviation: delivering global mobility

- Safely connecting people and business
- Wider social and economic benefits
- Outstanding safety record
- Committed to sustainable growth

Source: ICAO Preliminary Traffic Report, ATAG Benefits Beyond Borders

4.1 billion passengers
11+ million daily

35% by value of global trade
Goods worth US$6 trillion
Asia Pacific

- Diverse geographic region
- Home to more than 4 billion people
- Dynamic economies generate 35% of global GDP
- Aviation widely recognised as a key contributor to economic and social development
  - Supports 29 million jobs and US$626 billion in GDP
- Wide range of income levels, rapidly growing middle class

Source: IMF, ATAG Benefits Beyond Borders
Growing middle class

* Households with yearly income between $20,000 and $150,000 at PPP in constant 2016 prices
** Estimate for 1996 split by region

Rapid growth of emerging market consumers

Source: Airbus GMF 2017-2036
Asia Pacific Aviation

US$218 billion revenue
US$8 billion net profit
1,468 million passengers
1,054 million domestic
414 million international
23 million tonnes of cargo
7,867 aircraft

Asia Pacific carriers overall market share:
34% of global passenger traffic
37% of global cargo traffic

Source: Combined AAPA + non-AAPA airlines GMT+5 to GMT+12
### World’s ten busiest international/regional routes

<table>
<thead>
<tr>
<th>Rank</th>
<th>Route</th>
<th>PAX (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hong Kong - Taipei</td>
<td>5.2</td>
</tr>
<tr>
<td>2</td>
<td>Jakarta - Singapore</td>
<td>3.4</td>
</tr>
<tr>
<td>3</td>
<td>Dublin – London</td>
<td>3.4</td>
</tr>
<tr>
<td>4</td>
<td>Bangkok – Hong Kong</td>
<td>3.0</td>
</tr>
<tr>
<td>5</td>
<td>Kuala Lumpur – Singapore</td>
<td>2.8</td>
</tr>
<tr>
<td>6</td>
<td>Hong Kong – Seoul</td>
<td>2.8</td>
</tr>
<tr>
<td>7</td>
<td>London – New York</td>
<td>2.7</td>
</tr>
<tr>
<td>8</td>
<td>Hong Kong – Singapore</td>
<td>2.6</td>
</tr>
<tr>
<td>9</td>
<td>Osaka – Taipei</td>
<td>2.6</td>
</tr>
<tr>
<td>10</td>
<td>Tokyo – Taipei</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: IATA WATS 2017, 2016 data

**Key Asian air routes typically served by five or more airlines**
## World’s ten busiest domestic routes

<table>
<thead>
<tr>
<th>Rank</th>
<th>Route</th>
<th>PAX (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jeju – Seoul</td>
<td>11.6</td>
</tr>
<tr>
<td>2</td>
<td>Sapporo – Tokyo</td>
<td>7.7</td>
</tr>
<tr>
<td>3</td>
<td>Fukuoka – Tokyo</td>
<td>7.3</td>
</tr>
<tr>
<td>4</td>
<td>Melbourne – Sydney</td>
<td>7.3</td>
</tr>
<tr>
<td>5</td>
<td>Hanoi – Ho Chi Minh City</td>
<td>6.3</td>
</tr>
<tr>
<td>6</td>
<td>Beijing – Shanghai</td>
<td>6.3</td>
</tr>
<tr>
<td>7</td>
<td>Delhi – Mumbai</td>
<td>5.5</td>
</tr>
<tr>
<td>8</td>
<td>Jakarta – Surabaya</td>
<td>4.5</td>
</tr>
<tr>
<td>9</td>
<td>Jeddah – Riyadh</td>
<td>4.4</td>
</tr>
<tr>
<td>10</td>
<td>Beijing - Chengdu</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Source: IATA WATS 2017, 2016 data

... also mostly in Asia
Global economic trends

World GDP Growth

2016 2017 2018E 2019F
+3.2% +3.7% +3.9% +3.9%

Emerging & Developing economies
World
Advanced economies

Source: IMF

Synchronized recovery & global economic growth

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Global passenger and cargo traffic

Robust growth in air passenger traffic
Trend rate +6.6% p.a.

Firm air cargo markets
Trend rate +4.7% p.a.

Source: IATA
Evolving airline business strategies

• Business models continue to evolve, adapting to a dynamic marketplace
• Group structures & multiple brands
• Differentiated classes of service
• Unbundling ancillary services at a price
• Revenue optimisation through network connectivity & cooperative relationships

Asia Pacific airlines at the forefront of global industry developments
Airline business models: share by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Full Service</th>
<th>Low Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>82%</td>
<td>18%</td>
</tr>
<tr>
<td>Europe</td>
<td>66%</td>
<td>23%</td>
</tr>
<tr>
<td>Latin America</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>Middle East</td>
<td>94%</td>
<td>6%</td>
</tr>
<tr>
<td>North America</td>
<td>74%</td>
<td>23%</td>
</tr>
</tbody>
</table>

Market Share:
- Global: Full Service 77%, Low Cost 20%
- Growth:
  - Full Service: +6%
  - Low Cost: +13%

Source: IATA WATS 2017, 2016 data
Air fares track changes in fuel costs

Fares remain competitive and very affordable, boosting growth

Source: IATA
Global airline profitability trends

- Robust passenger and air cargo markets
- Average profit margin only 4.6% or US$9 per passenger

Source: IATA
Asia Pacific markets to lead future growth

- Major capital investment required
- Asia Pacific represents 40% of future aircraft orders & associated infrastructure requirements

Source: Airbus GMF 2017-2036
Aviation & Sustainable Development

- Aviation pursuing multi-pillar strategy:
  - Fuel efficiency through technology
  - Operational enhancements
  - Infrastructure improvements
  - Sustainable alternative fuels
  - Supplementary carbon offsets through ICAO CORSIA

- Aviation is the first industry sector to implement a global market based measure
  - ICAO CORSIA technical guidelines - 2018
  - Airline international emissions reporting - 2019
  - ICAO CORSIA carbon offsetting obligations - 2020 onwards

Aviation has set ambitious environmental targets and is delivering on its commitments.
Infrastructure

- Airports and airspace modernisation must keep pace with rapid traffic growth to avoid congestion and delays
- Significant capital investment required
- Slots management is an interim measure, not a solution
- Governments need to think beyond national borders and develop regional air traffic flow management systems

Government role to coordinate infrastructure planning and investment
Global regulatory influences

- Wider impact of US and EU regulations
- Asia Pacific needs a unified voice
- Need for harmonised global standards
Aviation Safety Performance

Western-built Jet Aircraft Major Accident Rates by Operator Region 2007-2017
3-year moving averages

1 major accident in 1.5 million flights
1 major accident in 2 million flights
1 major accident in 3 million flights
1 major accident in 4 million flights
1 major accident in 5 million flights

Source: AAPA

Striving for continuous improvement

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Aviation Security

• Aviation remains highly secure despite perceived risks
• Threats and challenges evolving: no time for complacency
• Shared global concern requires close international coordination
• Mitigation measures need to be proportionate, focus on the probable threat, avoid unnecessary disruption
• Unilateral measures are inefficient and not sustainable
• Support ICAO leadership and multilateral cooperation involving trusted relationships between governments & industry
Cyber Security

- Aviation safety and security is built on a network of trusted relationships involving government & industry
- Growing digital connectivity brings with it increased challenges and vulnerabilities
- Wider regional understanding needed on the shared cyber risk environment
- Cyber security defences may be robust, but some system breaches and break-ins are inevitable
- Insurance as a risk management tool
- Building more resilient systems: focus on response and recovery & re-establishing business continuity
Regulatory Framework & Competition

- Barriers to cross-border consolidation
- Emergence of complex group holding structures
- Varying interpretations of ownership & control restrictions, subsidies, fair competition
- Trade protectionist sentiments holding back some liberalisation efforts
- Cooperation, codeshares, joint ventures
- Competition authorities and antitrust immunity

Global regulatory framework must keep pace with evolving market dynamics
Variable quality of regulatory oversight

- Safety culture is embedded throughout the aviation industry
- ICAO audits assess quality of national regulatory oversight
- Unnecessary duplication of oversight, multiple audits and sanctions add complexity
- ICAO ‘No Country Left Behind’ campaign aims to improve consistency and level of quality assurance

Industry is supportive of good regulatory oversight as quality assurance measure
Taxes & Charges

• Aviation users pay in full for related infrastructure
• Rising taxes and user charges increase overall cost of air travel
• User charges should be transparent, cost-related, non-discriminatory & for current use
• Economic regulation of monopoly service providers often lacking
• Opportunistic taxes hurt the wider economy and inhibit job creation
Passenger Facilitation

- Challenges of processing 11 million daily passengers
- Opportunities to streamline airline, security & border control processes using biometric technologies
- Personal information transfers raise privacy issues
- Border control is a government function and costs must be borne by government authorities

*Balancing passenger facilitation and security needs*
Closing thoughts

• Aviation drives economic and social development
• Flying is safer than ever
• Governments need to rethink and apply collective risk-based approach to aviation security
• Future infrastructure planning is today’s challenge
• Governments need to keep pace with changing market dynamics
• Asia Pacific airlines are shaping the future of global aviation
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