SIGNIFICANCE OF THE AIR CARGO FOR THE AIRPORTS

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1. Introduction

2. How airport understands cargo

3. What can and is ready to offer

4. Is cargo an attractive market for every airport

5. Case study – situation in Croatia

6. Conclusion
1. Introduction

1.1. Cargo as a business function

Figure 1. Cargo as a business function

Handling Division

- Passanger handling
- Aircraft handling
- Cargo handling

Source: Made by author.
1.2. Cargo as a business process

Figure 2. Cargo as a business process and its decomposition

![Diagram of Cargo process and its decomposition]

- Input
  - Cargo process
  - Rules and controls
  - Mechanisms
- Output
  - A-01
  - A-02
  - A-03
  - A-04
  - A-05
  - A-06
1.3. Cargo as a business sector

1. Cargo traffic is truthful reflex of trade running around the world.

2. After the global crisis the rapid growth of global trade and air cargo traffic is expected.

3. Cargo is a global business circa 60 billion US$.


5. Cargo supports 32 million jobs around the world.

The response of this question is complex. According this aspect we can divide airports as:

1. Mostly Cargo airports:
   - Liège (309,000 pax; 674,000 t Cargo, 7th biggest in Europe, 2011)

2. Major airports for Cargo and passenger traffic: (Table 1)

3. Airports without Cargo traffic:
   - Charleroi (5,900,000 pax, 2011)
   - Croatian airports (Pula, Rijeka, Dubrovnik, Zadar, ...)
Table 1. Major airports for cargo and passenger traffic

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>City</th>
<th>Airport</th>
<th>Code</th>
<th>TTL Cargo 2011</th>
<th>Total Pax 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>HK China</td>
<td>Hong Kong</td>
<td>Hong Kong</td>
<td>HGK</td>
<td>3.976.768</td>
<td>53.314.213</td>
</tr>
<tr>
<td>2.</td>
<td>USA</td>
<td>Memphis In</td>
<td>Memphis</td>
<td>MEM</td>
<td>3.916.410</td>
<td>4.344.313</td>
</tr>
<tr>
<td>3.</td>
<td>China</td>
<td>Shanghai</td>
<td>Pudong IA</td>
<td>PVG</td>
<td>3.065.268</td>
<td>41.450.211</td>
</tr>
<tr>
<td>4.</td>
<td>USA</td>
<td>Anchorage</td>
<td>Anchorage</td>
<td>ANC</td>
<td>2.543.105</td>
<td>-</td>
</tr>
<tr>
<td>5.</td>
<td>Korea Rep.</td>
<td>Incheon</td>
<td>Incheon IA</td>
<td>ICN</td>
<td>2.539.221</td>
<td>35.191.825</td>
</tr>
<tr>
<td>6.</td>
<td>France</td>
<td>Paris</td>
<td>ADP-CDG</td>
<td>CDG</td>
<td>2.300.063</td>
<td>60.970.551</td>
</tr>
<tr>
<td>7.</td>
<td>UAE</td>
<td>Dubai</td>
<td>Dubai IA</td>
<td>DXB</td>
<td>2.269.768</td>
<td>50.977.960</td>
</tr>
<tr>
<td>8.</td>
<td>Germany</td>
<td>Frankfurt</td>
<td>Frankfurt</td>
<td>FRA</td>
<td>2.214.939</td>
<td>56.436.255</td>
</tr>
<tr>
<td>9.</td>
<td>USA</td>
<td>Louisville</td>
<td>Louisville</td>
<td>SDF</td>
<td>2.188.422</td>
<td>-</td>
</tr>
<tr>
<td>10.</td>
<td>Japan</td>
<td>Tokyo</td>
<td>Narita IA</td>
<td>NRT</td>
<td>1.945.351</td>
<td>28.068.714</td>
</tr>
</tbody>
</table>

Source: Cargo Airport and Services, Oct. 2012 & ACI.
According this figures we can answer the question “How airport understands cargo”:

1. Cargo is crucial to airports operation:
   - Liège (facilities, equipment, trained staff, marketing, contracts, investment, organization, quality, IT, etc.)

2. Cargo is very important to airports operation: (Table 1) (the same needs as under 1)

3. Cargo is inessential to airport operation:
   - Charleroi, some of Croatian airports (No needs as under 1 & under 2).
Airports where Cargo is crucial (1) and airports where Cargo is very important to airports operation (2) can and ready to offer:

- Cargo handling all types of aircraft as a service;
- Investment in new facilities (warehouse, park places, road connection, etc.);
- Investment in new Cargo equipment;
- New jobs - factor of social stability;
- New training programs;
- Commercial politics, incentives, etc.;
- Competitiveness (quality of service) continuous improvement as a main principle;
- Service for the regional economy.

Figure 3. Deming cycle
On the basis of said we can answer the question: “No it is not”. It depends of few factors, such as:

1. Depends on the position of the airport (capital, industrial area, main transport corridors, role in intermodal network, etc.).
2. Depends on the mission and vision of the airport (what management plan to do in the future);
3. Depends on the development strategy (materialization of the vision);
4. Depends on the real possibilities (geographic position, economic strength, demand, competition, etc.).
5. Case study - situation in Croatia

Figure 4. International airports in Croatia
1. Zagreb Airport’s (ZA) share in total air cargo traffic in Croatia in period from 1993 to 2010 was 85.35% average.

2. ZA is mainly international airport, in period 2001-2010 was 84.19% international Cargo traffic average.

3. Transfer Cargo traffic 4.95% average (is not regional hub).

4. In international traffic arrival (imports) dominated with 70.23% (import-oriented economy).

5. In domestic traffic departure dominated with 95.05%.

6. ZA is able to provide handling services for any Cargo A/C.
There was many impacts of former cargo traffic development on ZA (1993-2006):

Table 2. Positive correlation between Cargo volume on ZA and economic indicators in Croatia

<table>
<thead>
<tr>
<th>Correlation between</th>
<th>Rank correlation (Spearmans’ coefficient)</th>
<th>Intensity of the positive correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft movements &amp; Cargo volume</td>
<td>0.4462</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Value of Import &amp; Cargo volume</td>
<td>0.5429</td>
<td>MODERATE</td>
</tr>
<tr>
<td>GDP &amp; Cargo volume</td>
<td>0.5912</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Value of Export &amp; Cargo volume</td>
<td>0.7231</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

Source: Made by author.
Cargo business Invoiced Revenue Contribution on ZA:

1. Direct:
   - 6,53% of total revenue
   - 7,02% of operating revenue

2. Indirect (Invoiced by other divisions on ZA):
   - landing fees for Cargo charter aircrafts,
   - handling charges for Cargo charter aircrafts,
   - office rent by forwarders,
   - warehouse rent,
   - Croatian Post office rent,
   - CTN Cargo handling charges (involved in A/C handling charges),
   - 8,77% of total revenue
   - 9,42% of operating revenue
Figure 5. Strategic business model guidelines

Source: Made by author.
Figure 6. Arrangement in space NPT i ZACC
Figure 7. Zagreb Airport Cargo City

1. Taxiway system
2. Cargo terminal zone
3. Integrator zone
4. Technical maintenance zone for A/C
5. Offices and business activities
6. Fuel tanks
7. Junction to railway strip
8. Junction to South ringroad
Figure 8. One of the possible design solutions

Source: Helios.
Figure 9. One of the possible design solutions (warehouse and apron)

Source: Helios.
Figure 10. One of the possible design solutions (RFS ramps)

Source: Helios.
Figure 11. Factors that determine the position of airports in Cargo

- National role of the airport
- Competitiveness
- Stakeholder requirements
- Mission, vision and business strategy
- Commercial policy

Source: Made by author.
Thank you for your attention!

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