Development of sea-air transport logistics in Taiwan offshore shipping center based on supply chain integration perspective

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Outline

- Introduction
- Literature review
- Recent development of Sea-Air transport in OSC
- Integrating operating mode of Sea-Air transport logistics
- Actual performance and issues of Sea-Air Transport logistics
- Conclusion
1. Introduction

Sea-Air transit mode in Offshore Shipping Center (OSC) offers Taiwan businessmen to enjoy some benefits of value-added service with cheaper freight rate and shorter flying time, not only strengthen market competitiveness for Taiwanese companies in China but also achieve the goal of global logistic hub center in Taiwan.
Total Sea-Air cargoes throughput in 2005 were 7942 Tonnages, the average monthly handling transit cargos were 662 tones, it’s failed to reach the number of 4000 tones per month anticipated by Ministry of Transportation and Communications.
Main purpose of this paper

The purpose of this paper is to make a brief statement as flowing:

- Clarify advantage of Sea-Air transport in OSC.
- Confirm integrated operating mode of Sea-Air transport in OSC.
- Review current development situation of Sea-Air transport in OSC.
- Figure out issues of Sea-Air transport in offshore shipping enter.
2. Literature review

- Supply chain management is an enterprise strive to build closer working relationships with key suppliers and key customers, well-integrated logistics process are key components of successful supply chain management (UNCTAD, 1998).

- Supply chain management is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders (Lambert, Douglas, and Martha, 2000).
3. Recent development of Sea-Air transport in OSC

- The sea-air concept involves the movement of goods usually by sea on the first consolidated sector, and air on the latter, with the transfer between modes taking places a hub (Raguraman and Chan, 1994).
3.1 Sea-Air transport logistics throughput numbers anticipated by government

- Executive yuan in July 4th 2001 permitted to extend functions of Offshore Shipping Center to include sea-air intermodal business for upgrading Taiwanese macro industrial competitiveness. According to sea-air transit cargo number anticipated by government is.

- This policy is not only can save at least five days transit time for Taiwanese businessmen, but also creative about 4000 tonnages per year and 28.2 billions transit business opportunities for Taiwan becoming a global supply chain hub center.
Categories of intermodal transport in Offshore Shipping center

1. Sea-Air Transport
2. Sea-Sea Transport
3. Air-Sea Transport

Ximen/Fuzou (Mainland China)  
OSC (Kaohsiung port)  
U.S.A, E.U, Other place
3.2 Advantages of Sea-Air transport logistics in OSC

- Faster transit time
- Shorter Custom clearance time
- Lower transportation risk
- Competitive freight rate
Comparison of Transit time of freight rate by Sea-Air Transport in OSC

<table>
<thead>
<tr>
<th>Transport modal</th>
<th>Route</th>
<th>Time (day)</th>
<th>Freight (dollars/ kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>Ximen-HKG-L.A.</td>
<td>3</td>
<td>110</td>
</tr>
<tr>
<td>Sea-Air</td>
<td>Ximen-Kaohsiung-L.A.</td>
<td>5</td>
<td>85</td>
</tr>
<tr>
<td>Sea</td>
<td>Ximen-Kaohsiung-L.A.</td>
<td>12-13</td>
<td>3</td>
</tr>
</tbody>
</table>

Unit: day, TWD
4. Integrating operating mode of Sea-Air transport logistics

- CAL and EVA inaugurated a series of Sea-Air intermodal transport service in August 2001. The first carrier formed a strategic alliance relationship with Yang Ming Line, Wang Hai line and OOCL in terms of shipping companies, representing a new cooperative mode of sea-air transport; the latter carrier selected Evergreen Marine as a close trade partner under organizational framework of Evergreen group.

- Due to unfamiliar with regulations and practice of intermodal transport across Taiwan, CAL have to rely on Yes Logistics as a vital role of service window to handle some complex business issues in China, such as foreign currency restriction, bill of lading, custom clearance and shipment loading. She can’t help but make use of Yes Logistics service and only perform forwarding and marketing tasks.
# Integration mode of Sea-Air transport Logistics

<table>
<thead>
<tr>
<th></th>
<th>China Airline</th>
<th>EVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative shipping company</td>
<td>Yang Ming, Wan Hai, OOCL</td>
<td>Evergreen</td>
</tr>
<tr>
<td>Calling port</td>
<td>Ximen, Fuzon</td>
<td>Ximen, Fuzon</td>
</tr>
<tr>
<td>Consolidation channel</td>
<td>Yes Logistic・Freight Forwarder</td>
<td>Evergreen・Freight forwarder</td>
</tr>
<tr>
<td>Customer source</td>
<td>Taiwanese businessmen・Foreign businessmen</td>
<td>Taiwanese businessmen・Foreign businessmen</td>
</tr>
<tr>
<td>Quotation Method</td>
<td>Air freight quotation</td>
<td>Air freight quotation</td>
</tr>
<tr>
<td>Bill of Lading</td>
<td>Air way B/L</td>
<td>Airway B/L</td>
</tr>
<tr>
<td>Transshipment airport</td>
<td>Taiwan Taoyuan International Airport, Kaohsiung International Airport</td>
<td>Taiwan Taoyuan International Airport</td>
</tr>
<tr>
<td>Billing method</td>
<td>Taiwan settlement</td>
<td>China or Taiwan settlement</td>
</tr>
<tr>
<td>Aircraft number</td>
<td>1. 8 B747-200</td>
<td>1. 9 MD11</td>
</tr>
<tr>
<td></td>
<td>2. 8 B747-400</td>
<td>2. 3 B747-400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. 10 B747-400(Combi flightier)</td>
</tr>
</tbody>
</table>
Business flow of Sea-Air Transport

- **Shipper**: FCR, B/L
- **Forwarder**: MAWB & HAWB
- **Airline**: MAWB
- **Custom Office**: Release
- **Consignee**: T6

**Ximen**
- **Shipping company**: S/O
- **Forwarder**: B/L

**Kaohsiung**
- **Airline**: S/O
- **Consignee**: Release

**L. A.**
- **Arrival**: Unload, warehouse entrance, custom clearance, delivery
- **Calling at Kaohsiung port**: Unload, FCL or LCL confirmation, Airport depot entrance, weighting and measuring, Master air-way bill issuing, repacking by pallet, loading, taking off.

**Note 1**: FCR: Forwarder Cargo Receipt, S/O: Shipping Order.
**Note 2**: T6: application document for Sea-Air transfer Cargo
5. Actual performance and issues of Sea-Air Transport logistics

5.1 Actual performance of Sea-Air Transport logistics

- Sea-Air transport cargo throughput via Koahsiung shipping center were increasing from 861 tonnage of 2001 to 7051 accumulated tonnage of November 2006 according to formal statistics of ministry of transportation and communication, especially for transfer cargo volume in 2005 harvested the top achievement of 7942 tonnage.

- If based on 7440 tonnage in 2004 to evaluate annual transfer cargoes, exiting average monthly handling cargo volume was 620 tonnages, this number fallen behind government anticipated number of 4000 tonnage per month, hence actual performance ratio was only 16%.
Sea-Air transport cargo throughput statistic

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006 (1-11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>数列1</td>
<td>0</td>
<td>861.8</td>
<td>4,754</td>
<td>7,450</td>
<td>7,440</td>
<td>7,942, 7,051</td>
</tr>
</tbody>
</table>
5.2 Issues of Sea-Air transport logistics in OSC

- Current sea-air transport of marketing activities is used to being dominated by Air line, Taiwanese airline companies set up office in Ximen handling the business concerning with forwarding, consolidating, data filling, document issuing, cargo tracking and billing directly. However Airline marketing channel still insufficient to attractive a lot of cargo sources compared with majority forwarder’s consolidation ability.

- Data interchange and connection between Sea-Transport custom clearance system and Air-Transport custom clearance system exiting some technical problems. Hence the data filled in Sea-Transport clearance system couldn’t deliver to Air-Transport custom clearance system, it need manpower to re-input some data again for custom clearance and need more labor cost and filling time.
Due to the restriction of air cargo flight routes in Kaohsiung international airport, only a number of air freighters owned by China Air line, dragonair and Japan Asia Airway offering inter-Asia regional service in the KHH. If transit cargo headed for U.S.A or E.U. has to transport by truck to TTY (another code name is CKS).

To prevent illegal commodities smuggling during transit process, Taiwanese custom clearance regulation requiring transit cargos delivered by bonded truck or transported under custom officer custody. It results in increasing transport cost and time waste.

Custom office time is not available for 24 hours service, if missing the duty time or holiday, any application case should be postponed to next day. After cargo lease message transmitted by custom authority, such cargos is permitted to palletize or load by ULD ready for uplifting on board aircraft.
6. Conclusion

- Current throughput number of Sea-Air cargoes handling in 2005 was 7942 Tonnages, the average monthly transit cargos were 662 tones, it’s failed to reach the number of 4000 tones per month anticipated by Ministry of Transportation and Communications.

- It means there are a lot of problems associated with custom clearance application system, transit procedure, operating cost and marketing channel, wasting many total distribution cost and transit time for carriers and third party service providers.
Our government concerned and global logistics industry sectors have to explore the integrated and appropriate alternatives to resolve this issue.

Especially for international trade and logistic across Taiwan strait, if both side government can held a formal administrative meeting to release any obstacles and further open market for both side people to share the precious and delicious fruits based on the peaceful and harmony principal, it will be of the assistance for Taiwan becoming a important global supply chain hub center as foreign companies wish to do the business on the Great Chinese Economic Zone.