

# A Study on the prospect of Sea & Air multi-transport in the perspective of international logistics environment

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**Abstract :** *The positive and negative opinion to cargo demand of Incheon's SAMT in the near future remains cloudy. Considering port and shipping environmental changes and the logistics situation of China which explains the lack of facilities in Chinese airports, the creating of SAMT cargoes of the Incheon region could catches a favorable opportunity to be a logistics hub in the North-East Asia. On the other hand, as open-sky policy and direct-call service has been carried out between China and N.A.(North America), Incheon could cause a loss of competitiveness in SAMT because the enhancement in the aspect of the connectivity of Chinese airlines and shipping lines makes customer sent to last destination their cargoes whenever they want.*

*In the same context, this paper analyses on conditions of domestic and international SAMT and proposes in this uncertainty future forecasting of SAMT of Incheon by scenario planning according to changes in integrated SAMT, measuring the likelihood of final scenario. This study shows the Sea & Air multi-transport volume will have either slight increase or decrease from the current condition. Consequently, RFS expansion and system & service improvement through strong ties with major cities in China will be required in a short run aspect. Nonetheless, we also need to take domestic & international transportation environment into account in the long run.*

**Key words :** *Incheon port, IIA(Incheon international airport), SAMT(Sea & Air Multi-Transport), Scenario analysis, Scenario planning, Northern China.*

## 1. Introduction

Sea & Air multi-transport is an integrated transport system combining truck, car ferry, and air transport, and is the service which makes contribution to the reduction of the freight damage ratio and provides a reasonable price and time compared with Air transport. The positive and negative opinion to cargo demand of Incheon's SAMT in the near future remains cloudy.

Considering port and shipping environmental changes and the logistics situation of China which explains the lack of facilities in Chinese airports, Service and international air networks, the creating of SAMT cargoes of the Incheon region could catches a favorable opportunity to be a logistics hub in the North-East Asia.

On the other hand, as open-sky policy and direct-call service has been carried out between China and N.A.(North America), Incheon could cause a loss of competitiveness in SAMT because the enhancement in the aspect of the connectivity of Chinese airlines and shipping lines makes customer sent to last destination their cargoes whenever they want.

In this uncertainty, this study will focus on both a positive possibility to create a value-added cargo as a new

growth-source to boost economy of region and a negative possibility to lose a ground as a hub of multi-transport in north-east area.

An attractive element of SAMT could substitute for air cargo as a cost-effective transport mode and also shipping cargo as a time-effective transport mode.

Besides, Incheon has a favorable geographical location to attract multi-transport cargoes from North-China cities in which their airport capacity is beyond their own cargoes generated from hinterland.

Therefore this study will perform forecasting on future of SAMT which will be proposed by scenario planning according to changes in integrated SAMT of Incheon.

Especially, this paper analyses on conditions of domestic and international SAMT and proposes in this uncertainty future forecasting of SAMT of Incheon by scenario planning according to changes in integrated SAMT, measuring the likelihood of final scenario.

## 2. Review of the previous studies

SAMT has been the subject of many studies so far, and most of them were focused on decisive factors of

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competitiveness. They concluded with suggesting the policy to activate it with competitiveness factors by analyzing the other previous studies.

Especially, Chung(2007) proposed the competitive strategies of Incheon on SAMT in the North-East Asia which proposed to make target on cargoes of a direction toward North America from China rather than them of a direction toward Europe from China and also enlarging RFS(Road Feeder service) system, being operating between Incheon and Qingdao, to shanghai, weihai and Yantai.

Back(2006) and Lee(2006) emphasized port and airport competitiveness between Korea and China, establishing a dedicated port in Incheon international airport and additionally reducing lead time by cutting down redundant procedures in port.

Kim(2005) and Park(2004, 2005) regarded main factors for competitiveness of SAMT as establishment of extensive network, a cheap charge and simplification of customs process.

KMI & KOTI (2004) suggested a set of unique assertions with establishment of warehouse and a private dock for SAMT in Incheon international airport, of supply chain network with North Korea.

This study has a definite discrimination in the point of future forecasting of SAMT of Incheon by scenario planning in this uncertainty, to suggest more specific strategies of Incheon to attract SAMT cargoes.

### 3. Analysis on conditions of domestic and international Sea & Air multi-transport

#### 3.1 Future of Korea-China Trade

According to Korea International Trade Association(2008), the regional trade continues to grow and its volume is expected to increase. The figure in 2005 was USD 332.5 billion and it is projected to grow at around USD 720 billion in 2015 with its share of total trade rising from 20.2% to 22.25%. Meanwhile, it is predicted that China's status in the region will soar, making the trade with China alone 45% of the regional trade.

The total export to China is forecasted to grow from USD 24 billion in 2005 to USD 50 billion and the total import from China increasing from USD 46.9 billion to USD 70 billion as well.

#### 3.2 Surge in demand for air transport in North East Asia

The performance report shows a rapid growth of air

transport in North East Asia that the four great airports in the region appear in world's top 10 airports in terms of international airfreight handling and the four airliners of the region are also included in world's top 10 scheduled cargo airlines.

Table 1 World's top 10 scheduled cargo airlines

Rank	Airlines	1,000 ton · km
1	Korean Airlines Co.Ltd.	7,982
2	Deutsche Lufthansa A.G.	7,669
3	Singapore Airlines Ltd.	7,603
4	Cathay Pacific Airways Ltd.	6,458
5	China Airlines	6,037
6	Federal Express Corporation	5,642
7	Societe Air France	5,528
8	Eva Airways Corporation	5,285
9	Cargolux Airlines International S.A.	5,149
10	British Airways p.l.c.	4,760

Boeing's latest forecast unveils that world's air cargo industry will grow by 6.4% yearly to form a market with an estimated value of 58,5 trillion KRW by year 2020. Especially, the increase in Asia will achieve the highest growth rate of 8.6% per annum till 2020, easily surpassing the industry growth average. Asian cargo industry will grow 7.0% per year, while China and North East Asia excluding China will see an annual growth rate of 7.1% and 6.9%, respectively.

#### 3.3 Integration of air transport according to 'Open Sky' agreement in North East Asia

International Civil Aviation Organization initially called for a Multilateral Agreement between concerned parties but then later World Trade Organization (founded in 1994) and Organization for Economic Cooperation and Development together served an active ground for discussions over multilateralism and regionalism.

European Union (EU), the North American Free Trade Agreement and Association of South East Asian Nations are typical examples of regionally integrated industry of air transport. By following through with 3-stage process of 'Open Skies Agreement' to cope with the expansion of U.S. based airlines into Europe, EU attained highly integrated system similar to the current domestic air transport system in the United States. Up until now EU has been negotiating with the U.S. over "EU-US Open Aviation Area" in pursuit of creating an integrated market. ASEAN, Korea, China and Japan have been leading this movement to form a regional

'Open Skies' in Asia. Numerous Talks regarding air transport had been held since 1997 and the MOU on "Cargo-Only Open Skies" among all the member states was signed up in 2002. A coordinative committee has provided the road map that plans out air transport market restructuring by 2015.

### 3.4 A yearly shift in cargo volume of SAMT

The SAMT cargo volume of Incheon International Airport had increased over the previous 8 years by 61,006tons at 2008 which marked a 3.6 times increase compared to a cargo volume of 16.760tons at 2001 when the Incheon international airport was opened

Table 2 Yearly cargo volume and increasing rate of SAMT

section	2001	2002	2003	2004	2005	2006	2007	2008
Cargo volume(ton)	16,760	24,977	33,436	39,783	44,946	45,680	46,450	61,006
Increasing rate(%)	-	49.03	33.87	18.98	12.98	1.63	1.68	31.33

Source : Incheon Airport Authority

During 2001-2008, the volume of transported cargo had increased 22.21% annually, on average. Even though the increasing rate of 2002 showed a remarkable growth of 49.03%, the annual growth rate has recently decreased since then and finally falling into 1.63% at 2006 1.68% at 2007.

In spite of negative perspective by a set of reduction of SAMT volume during close two years, its volume of 2008 stood at sharply increasing rate of 31.33% for the previous year of 61,006ton, giving a positive signal to restoration of its volume.

In the aftermath of global recession, SAMT took advantage of chance to shift cargo from air transportation with a favorable price and also by marketing activities of entities of Incheon's SAMT.

The future prospective of cargo volume of SAMT could propose a viewpoint in the two positive aspects. Firstly, SAMT cargo of Incheon is deeply linked to the gap between cargo demand generated from northern cities of China and supply capacity of facilities to handle it. In other words, although China's air freight is rising fast, IIA(Incheon International Airport) could have a lucky opportunity to attract it due to a lack of facilities. Moreover, China has been in deficiency of supply capacity for air cargo by 2015 as shown in the following <table 3>.

Secondly, IIA's competitive superior in comparison with international airports of China's main cities could give significant advantage to bring a bright prospect for SAMT cargo. IIA has performed a splendid achievement in service excellence by winning 2009 Airport of the Year, Best Airport

Worldwide by Airports Council International for 4 consecutive years from 2005 until 2008.

On the contrary, Service quality and international air network in Chinese considering connectivity with the other airlines and cities is much behind. Table 5 showed this competitive comparison in the aspect of connectivity of IIA and China's main airports

Table 3 The relation of supply and demand Quantity of SAMT at each 2010, 2015

Section	2010(thousands ton)	2015(thousands ton)
Facility capacity	11,800	17,200
Air cargo demand quantity	12,213	20,194
Supply/demand	-413	-2,994

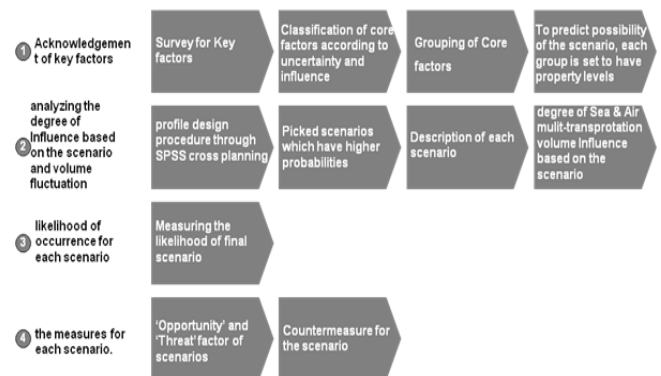
Source : Incheon Airport Authority

## 4. Future of Sea & Air multi-transport in Incheon

It is uneasy to predict an integrated volume of Sea & Air multi-transport in Incheon as variables exist in the volume of transport, transport network expansion, and infrastructures of transport both in China and Incheon, all of which are tied up with worldwide logistics environment and ports and airports in China. Therefore in order to have a close look at the future of Sea & Air multi-transport, I will implement 'Scenario Planning Method' which is appropriate measure to take under uncertain circumstances.

### 4.1 Overview of the Scenario Planning

Scenario Planning is a typical example of strategic forecasting and it provides vision and strategy by utilizing scenario-based forecast. Scenario, as a script serves in a play, is a story-telling type of description which helps effectively understand various uncertain future developments.



<Picture 1> Scenario Planning Process

Thus I have implemented scenario planning in analyzing the prospects of Sea & Air multi-transport in Incheon. The scenario planning process can be divided into 4 stages, i.e. Acknowledgement of key factors, analyzing the degree of Influence based on the scenario and Sea & Air multi-transport volume fluctuation, likelihood of occurrence for each scenario and the measures for each scenario.

#### 4.2 Acknowledgement of key factors

Variables shown on <Table 5> may bring about various ripple effects depending on the relative significance of each detail, the degree of influence on the Sea & Air multi-transport industry and uncertainty about the future progress.

If variables are somewhat predictable and they change as predicted, the ripple effect could be considered as a ‘Trend’ that dominates the future. On the contrary, those variables with high uncertainty thus hardly predictable but still significant in aspect of the ripple effect may be regarded as the core factors for future changes.

A survey was conducted to draw up possible measures for each scenario. As a result of one-week survey in April 2008, it found the variables for change through in-depth interview with hands-on workers from 41 firms, determined 21 detailed properties, and examined the uncertainty & influence of the properties. 41 forwarders (integrated overseas cargo transporters) who were based in the capital area and had provided Sea & Air multi-transport service in the past 2 years were polled in the survey.

Courtesy call was placed, prior to door-to-door survey, to each participant in order to elaborate on the survey. Respondents who gave out misled answers were asked to fill in the sheet again at site.

Table 4 An overview of the characteristics of the respondents

Category	Frequency				
	Staffr	Manager-Senior Manager		General Manager	Executives
Position	16	11		10	4
	39%	26.8%		24.4%	9.8%
Years of Experience	Less than 5	5 to10	10 to 15	15 to 20	20 - 25
	11	14	10	3	3
	26.85%	34.1%	24.4%	7.3%	7.3%
Number of Employees	Less than 5	5 to 100		100 to 300	More than 300
	9	25		4	3
	22.0%	61.0%		9.8%	7.3%

Then we had conducted quantitative analysis to evaluate uncertainty and influence of the variables found in the survey, and derived new pattern of changes that took the interactions of variables into consideration, i.e. key factors of the scenario.

The core factors of Sea & Air multi-transport industry can be classified as shown in picture 3 according to the uncertainty and the influence level. In order to draw up the future scenario, 12 core factors of which uncertainty and influence levels are medium and above are selected as they would yield higher uncertainty and influence.

Table 5 Uncertainty and influence variables considering environmental changes

Variables for Changes	Details	Uncertainty	Influence
World trade Conditions	Continuous increase of container traffic due to economic development in China	2.5	4.5
	Deteriorating profits in digital industry and acceleration of relocating production base in China	2.9	3.6
	Development of economic bloc in Northeast Asia (FTA expanded regional exchanges)	3.5	4.6
	Rapid expansion of FTA worldwide (regional exchanges increase)	2.0	4.0
	Decrease in export and facility investment due to financial market instability	3.3	3.2
Air · Sea Transport Industry Conditions	Increase in the number of flights and vessels between China and the U.S. due to Air & Maritime Agreement	3.5	4.9
	Frequent alliance system changes between competitors in airlines and container liners	3.2	3.8
	Increase in domestic air transport and sea transport	3.4	4.2
	Increase in the number of light weighted & compact cargoes due to technological development	3.4	4.4
	Contraction of the airline industry due to the hike in oil prices	3.5	4.4
	Expansion of Ports and exchanges in North Korea induced by revitalization of economic cooperation with the South	4.7	4.4
	Development of Incheon Newport at an opportune time and of the berth only for the Sea & Air multi-transport	4.7	4.5
	Emergence of LCCs(Low Cost Carriers) & long-range large aircrafts	3.2	4.3
Logistics Technology Development	The pace of technological development in maritime transportation such as WIG and ultra high-speed vessels	4.8	4.5
	New technological development to enhance productivity in ports	4.5	4.4
Airport · Port Infrastructure	Enhancement of the quality of customer service provided in ports & airports in China	3.5	4.4
	Expansion of facilities (Infrastructures) in major ports and airports in China	3.5	4.9
	Maintenance & Improvement of inland transport network in China	3.2	4.1
	IIAC's expansion of the network & share in the air transport industry	3.8	4.9
	Ultra large container carrier's cost efficiency increase	3.8	3.5
	Building new airport in the Southeast and increase in demand	3.4	3.3

12 core factors then classified into 4 groups, which is “Increase in trade between regions and nations induced by FTA expansion”, “Degree of increase in the number of flights between China and U.S. based on the pace of development of ports and airports in China”, “Pace of development in transportation technology” and “Pace of infrastructure development in domestic ports and airports”.

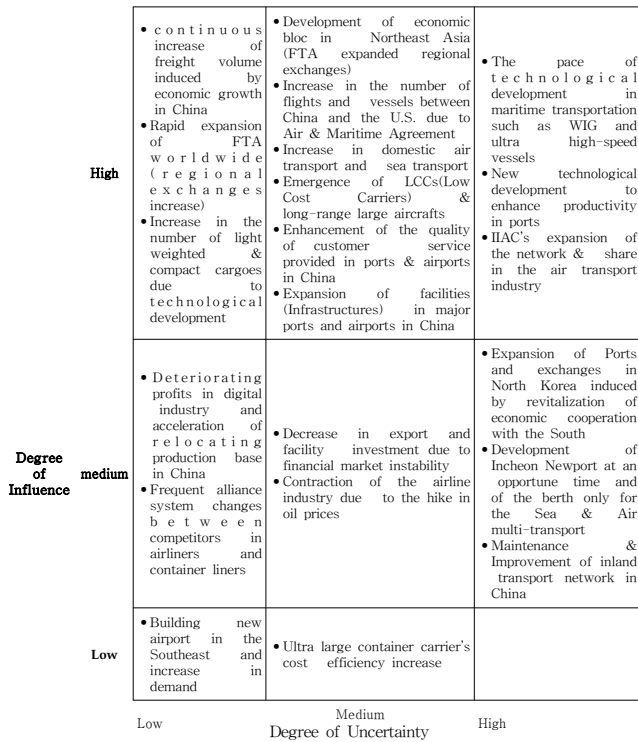
To predict possibility of the scenario, each group is set to have two property levels as shown on Table 7. ‘Increase in trade between regions and nations induced by FTA expansion’ is set to 5% and 15%. ‘Degree of increase in the number of flights between China and U.S. based on the pace

of development of ports and airports in China' is set to 'Noticeable' and Gradual Improvement'. 'Pace of development in transportation technology' is set to 'Current Condition' and 'Gradual Improvement'. 'Pace of infrastructure development in domestic ports and airports' is set to 'Noticeable' and Gradual Improvement'. Thus we may predict scenarios for each core factors.

scenarios excluding 1 black file representing imaginary situations have come out as a result of the procedure. Then we picked 6 scenarios which have higher probabilities excluding 5 cards which have a lower realistic possibility.

Table 7 Chart of selected scenario

Scenario	Increase in trade between regions and nations induced by FTA expansion (%)	Degree of increase in the number of flights between China and U.S. based on the pace of development of ports and airports in China	Pace of development in transportation technology in port and maritime industry	Pace of infrastructure development in domestic ports and airports and network expansion
1 "Unexpected luck"	15	Gradual Improvement	Gradual Improvement	Noticeable
2 "Peaceful future"	15	Gradual Improvement	Gradual Improvement	Gradual Improvement
3 "Winner and loser"	5	Gradual Improvement	Current Condition	Gradual Improvement
4 "The age of limitless competition"	15	Noticeable	Current Condition	Gradual Improvement
5 "Good old days"	15	Noticeable	Current Condition	Noticeable
6 "Severe ordeal"	5	Noticeable	Gradual Improvement	Gradual Improvement



<Picture 2> Classification of core factors according to uncertainty and influence

Table 6 Property levels corresponding to each group

Group	Property Level	
	5%	15%
Increase in trade between regions and nations induced by FTA expansion	Noticeable	Gradual Improvement
Degree of increase in the number of flights between China and U.S. based on the pace of development of ports and airports in China	Current Condition	Gradual Improvement
Pace of development in transportation technology	Noticeable	Gradual Improvement
Pace of infrastructure development in domestic ports and airports	Noticeable	Gradual Improvement

### 4.3 Scenario planning according to changes in integrated Sea & Air multi-transport industry of Incheon

#### 1) Draw a final scenario

We conducted profile design procedure through SPSS cross planning with using property levels of the groups. 11

#### 2) Description of each scenario and the prospect of Sea & Air multi-transport volume

Followings are summary of the 6 selected scenarios.

'Unexpected luck' is when trade volume increases in South Korea-China-Japan, South Korea-America and South Korea-Europe and at the same time infrastructure of ports and airports in China cannot cope with increasing transport volume, all of which induced by FTA expansion. In addition, transshipment cargoes will rise due to infrastructure expansion such as IIAC's 3rd stage development and Incheon New Port operation, and increase in the number of flights and vessels to and from Incheon. This will allow Incheon to become integrated transport base in Northeast Asia.

'Peaceful future' predicts that Incheon will fail to become an integrated transport base of Northeast Asia not strongly backed by proper infrastructure development and network expansion. Incheon will see, however, continuous growth of Sea & Air multi-transport volume, making this scenario similar to 'Unexpected luck' in this sense.

'Winner and loser' is the scenario that FTA expansion will not bring about enough trade volume increase in South Korea-China-Japan, South Korea-America and South Korea-Europe. Plus, poor development of transportation technology and of infrastructure in ports and airports will result in slight increase of integrated Sea & Air multi-transport volume for only a certain period of time.

'The age of limitless competition' indicates that while FTA expansion causes increase in trade volume in general, Sea & Air multi-transport volume in Incheon will see only small

increase due to China’s facility and network expansion.

‘Good old days’ predicts that while FTA expansion causes trade volume to increase in South Korea–China–Japan, South Korea–America and South Korea–Europe, Sea & Air multi-transport volume in Incheon will show continuous decrease as a result of fierce competition in the region caused by China’s facility and network expansion.

‘Severe ordeal’ indicates that while FTA expansion will not accompany significant effect, China will expand transportation facility and network in ports and airports nationwide. As a result, Sea & Air multi-transport volume in Incheon will nearly disappear. Each scenario is summarized with prospect of trade volume in table 9.

Table 8 Summaries of scenarios and the prospects of trade volume

Scenario	Description	Prediction of Sea & Air multi-transport volume in Incheon
“Unexpected luck”	- FTA expansion causes trade volume to increase in Korea - China - Japan, Korea-America, and Korea-Europe. However, China lacks proper infrastructure and network to support the volume.	- Demand for an integrated transport in Incheon drives the city to become an integrated transport base in North East Asia - Transshipment Cargoes may increase
“Peaceful future”	- Trade volume increases as FTA expands. However, China lacks strong infrastructure or proper network to accommodate increased volume.	- Continuous growth of Sea & Air multi-transport volume
“Winner and loser”	- Only slight increase of trade volume as a result of FTA expansion	- Small increase in integrated Sea & Air multi-transport volume for only a certain period of time
“The age of limitless competition”	- Trade volume will increase as a result of FTA expansion but Incheon will see only small increase due to China’s facility and network expansion	- Flat or slight decrease in the volume
“Good old days”	- Trade volume will increase as FTA expands but Korea will find it difficult to maintain the volume due to China’s facility and network expansion.	- Continuous decrease in the volume
“Severe ordeal”	- Trade volume will remain flat, not affected by FTA expansion - China will expand facility and network - Lack of development in infrastructure and network in domestic ports and airports	- The volume will significantly decrease and may nearly disappear

#### 4.4 Measuring the likelihood of final scenario

This chapter deals with measuring the likelihood of the scenario through survey and provides action to each scenario. Analysis is based on “Opportunity” and “Threat” of SWOT method and the measure for each case is provided.

##### 1) Measuring the likelihood of the scenario

Once the likelihood of each scenario is measured, it then converted into a percentage point so that the sum of all scenarios becomes 100%.

‘Unexpected luck’ was rated the lowest with a probability of 12.7% due to rapidly deteriorating economic conditions at home and abroad. The pace of increase in trade volume will slow down. At the same time, China’s transport volume will rise coupled with fast development of infrastructure of ports and airports in China. Consequently, this will make Incheon’s securing transshipment cargoes unlikely.

‘Peaceful future’ was marked the second lowest with 14.7%. Even though continuous development is predicted in the infrastructure of ports and airports in Incheon, nearby region’s development will surpass that of Incheon. Thus Incheon will be unable to grow to become an integrated transport base in Northeast Asia.

‘Winner and loser’ was placed in the second highest with 18.9% possibility. If current trend continues, even FTA expansion may not be able to revitalize the trade. The pace of trade volume increase in Korea–China–Japan, Korea–U.S., and Korea–Europe will dwindle. Consequently, the Sea & Air multi-transport volume will slightly increase for only a certain period of time.

‘The age of limitless competition’ topped the list with 23.5% in the survey conducted among hands on employees in the field. Many of them predict that FTA expansion and China’s expanding infrastructure and network will negatively affect Sea & Air multi-transport in Incheon on the assumption that the economic condition at home and abroad will improve. As a result, securing enough volume of transshipment cargoes will be unlikely, thus the volume will remain at current condition.

‘Good old days’ and ‘Severe ordeal’ that predicted continuous decrease, and significant decrease and near disappearance of the integrated transport volume in Incheon showed relatively low possibility of 17.3% and 13%, respectively.

Overall, the survey answers can be grouped into two types of outlooks: positive or negative. While the expectation of increase in the Sea & Air multi-transport volume represents 46.2%, decrease or remaining at current condition shows higher expectation of 53.8%.

Table 9 Likelihood of each scenario

Scenario	Prospects of Sea & Air multi-transport	Likelihood in percentage
“Unexpected luck”	- Rapid increase in the volume	12.7%
“Peaceful future”	- Continuous growth in the volume	14.7%
“Winner and loser”	- Small increase in the volume for only a certain period of time	18.9%
“The age of limitless competition”	- Remaining at the current level	23.5%
“Good old days”	- Continuous decrease in the volume	17.3%
“Severe ordeal”	- Significant decrease and near disappearance of the volume	13.0%

Note: Average likelihood of each scenario was measured from collected survey results. The figures were then recalculated to have the sum of 100%.

### 5. Conclusion and Countermeasures

China alone is hardly able to cope with overflowing volume of air transport from America or Europe to Northeast China. Thus it will provide a good opportunity for Incheon to grow as a Sea & Air multi-transport hub in Northeast Asia.

However, Incheon still lacks appropriate system to predict highly uncertain Sea & Air multi-transport industry and still hasn't come up with a proper measure to secure the volume.

The objective of this research is to predict future Sea & Air multi-transport volume by analyzing possible scenarios and figure out proper measures. The two most probable scenarios from chapter 4 will be analyzed based on 'Opportunity' and 'Threat' of SWOT Analysis and the countermeasures for each will be provided.

The analysis shows the Sea & Air multi-transport volume will have either slight increase or decrease from the current condition. <Table10>, <Picture3> specifies factors of Opportunity/Threat and provides measures for each.

'Opportunity' factors are emergence of cargo-only airlines departing from Korea, expansion of RFS (Road Feeder Service), domestic infrastructure development at an opportune time, China's supply/demand imbalance of facilities, and strengthening cooperative ties for integrated transport between Incheon and major cities.

'Threat' factors include fall in the trade volume with global financial instability, intensifying competition over cargoes due to China's transportation infrastructure development, remaining obstacles in Sea & Air multi-transport, firms' deteriorating profits affected by the hike of oil prices, and reduced transportation infrastructure expansion affected by domestic financial instability.

Consequently, RFS expansion and system & service improvement through strong ties with major cities in China will be required in a short run aspect. Nonetheless, we also need to take domestic & international transportation environment into account in the long run.

Table 10 'Opportunity' and 'Threat' of two scenarios

Scenario	Opportunity factors	Threat factors
<p><b>"Winner &amp; Loser" and "The age of limitless competition"</b></p>	<ul style="list-style-type: none"> <li>- Emergence of cargo-only airlines</li> <li>- RFS(Road Feeder Service) expansion</li> <li>- infrastructure development in ports and airports of Incheon</li> <li>- China's supply/demand imbalance in facilities to accommodate domestic volume</li> <li>- strengthening ties for integrated transport between Incheon and major cities</li> </ul>	<ul style="list-style-type: none"> <li>- Fall in the trade volume with global financial instability</li> <li>- Intensifying competition over cargoes due to China's transportation infrastructure development</li> <li>- Remaining obstacles in Sea &amp; Air multi-transport</li> <li>- Firms' deteriorating profits affected by the hike of oil prices</li> <li>- Reduced transportation infrastructure expansion plan affected by domestic financial instability</li> </ul>



<Picture 3> Countermeasure for the scenario

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