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[Field Research]

Studies on Strategic Alliance in Global Shipping Market*

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Abstract

Purpose – The purpose of the paper is to examine shipping markets exposed on severe competition after Lehman Brothers crisis in 2008, and look for some alternatives to get it over.

Research design, data, and methodology – The research method to be applied is first to look into world economic situations, and then to investigate supply and demand of shipping markets, and strategic alliances as alternatives, which lead to some implication and lessons.

Results – After the fierce world economic situations after Lehman Brothers crisis in U.S, it has shown that world economic output and growth is not like that of previous years. It is periods of new normal. Then, shipping has been influenced by less trade volumes and, however, shipping capacity has reached to overcapacity in supply terms. Therefore rates down is clear, and it should be needed new way of getting it over market situations. In this sense, strategic alliance is answer for overcoming difficult markets.

Conclusions – From the careful look at all situations, such as world economic situation, supply and demand of shipping market, deep understanding for strategic alliances of shipping, it has reached to conclusion that strategic alliance is only answer for difficult shipping markets.

Keywords: Shipping, Volumes, Overcapacity, Market, Alliances.

JEL Classifications: D74, L9, L91, R41, M16.

1. Introduction

Shipping is very much volatile market, which means it can be fluctuated by supply and demand of shipping markets all the time. From the demand side, world economic situations is directly related to trade volumes that is loaded on ship's spaces of vessels run by shipping companies, and on the other hand, shipping companies have supplied capacities to attract trade cargoes, either container or bulky ones, and this spaces are secured by ordering shipbuilding as newbuilding, or purchasing second-hand vessels, or making charter-party contracts with charterers.

Since 2008 difficult world economic situations, world trade volumes was not enough to offset world shipping capacity, which means lack of cargoes floating on world shipping

business, and this also means overcapacity in shipping spaces as well. Therefore, it is clear that shipping tariff is much below than the past. Then world shipping companies have suffered from severe deficits and one of big world carriers did go bankruptcy eventually.

In this paper, it is an a way of effort to find any alternatives to overcome fierce shipping markets caused by world economic crisis as well as overcapacity. First, world economic situations have been studied, and second, shipping markets to be reviewed in terms of supply and demand and rates, and third, strategics alliances examined as an alternative to overcome difficult market situation in shipping, and then some implications as well as lessons. Then conclusions is followed.

2. World Financial Crisis in 2008-2009

The financial crisis coming from United States has spread over the world market and borders, which has resulted deepest recession and chaos in the global trade transactions.

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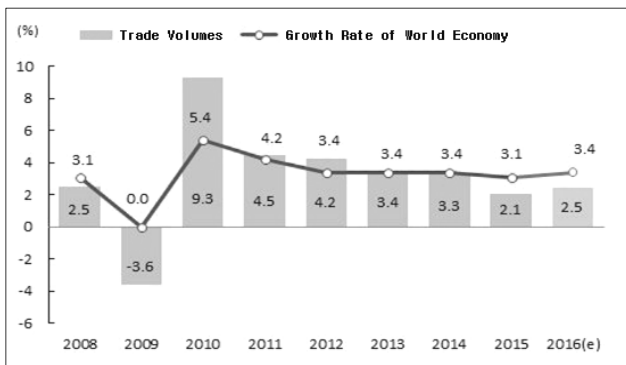
The effect of severe financial troubles has widely influenced to many part of industry, related to manufacturing and shipping sectors as well, which means, leads to significant decline in world economic activities.

However, most affected sectors of economic circles were, needless to mention, financial system on bank credit, namely housing and consumer lending, production and manufacturing industry, and shipping industry that is area of derived demand for global economy and trade. The transportation is just followed by movement of global cargoes regardless of whether containerized or bulky ones. Therefore, it is obvious for shipping industry to decline into global trade falling.

At the time global financial economic crisis has taken place, many international organizations have warned and published some guidance together with advices, but it does not work properly to those who have managed shipping business in field. Especially, big shipping lines in Korea haven't properly coped with such a difficult situations, which is wide spread over global shipping market.

World economic growth — measured by total production, or gross domestic product (GDP) — slowed suddenly in 2008 against the background of the worst financial crisis since the 1930s. Poor demand in advanced economies brought about by falling asset prices and increased economic uncertainty helped pull world output growth down to 1.7%, from 3.5% a year earlier. Growth in 2008 was the slowest since 2001 and well below the 10 year average rate of 2.9% (WTO, 2009).

In 2009, the world's GDP decreased by 2.2 percent, while trade dropped by 14.4 percent as traders and factories used up their inventories (Hoffmann, 2010). Significant forecasts were also released by the WTO and the World Bank, foreseeing the biggest global economic contraction on record since World War II, due to the reduction of global exports by 9% in 2009 (WTO, 2009), as well as a 2.9% decrease in global economic output, representing the first decline since 1982, a 10% decrease in global trade volume for 2009, and a decline of 38-79% in gross domestic product growth in 2009, relative to 2008, in developing nations (The World Bank, 2009). Following sharp fall of the growth rate of world economy in 2009, that of trade volumes was reached to minus level of -3.6% (<Figure 1>).



Source: Clarksons Research, 2017.

<Figure 1> World Economic Growth and Trade Volumes

3. Imbalances and Changes in Shipping Market

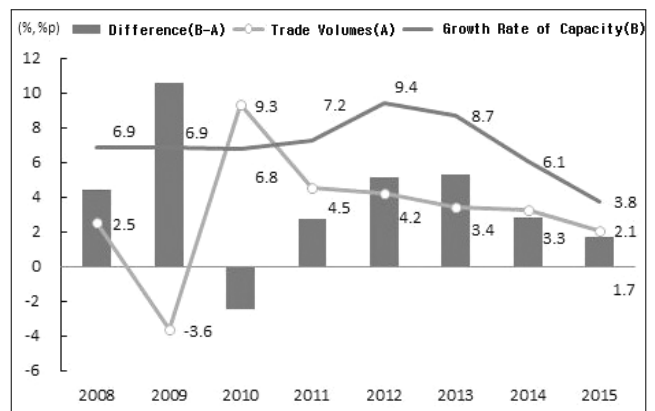
3.1. Difficult Time in Shipping

There have been many influential effects on the area of international trade, maritime sectors such as ports, logistics and transport of global economic situations due to financial bust of the post 2008 period. Liner shipping is one of sectors that has suffered from global financial crisis, especially in relation to capacity of tonnage, new ship-building orders, supplied services and collaboration patterns among the key players.

As far as shipping is concerned, it has been, in particular, influenced from global economic situations because of its nature of derived demand for world trade which is strongly connected with global GDP. Once the international movement of trade volumes has been fallen, demand for shipping and maritime sectors is also suffering from its impacts.

Cyclical patterns that maritime industry has is well known for long time since shipping is all the time volatile nature of business from generation and generation, so called, boom and bust cycle. It is also matter of supply and demand.

Besides a consistent trend to supply side of shipping market, sharp decline of the growth rate of trade volumes (-3.6%) was remarkable, following the Lehmann brothers financial crisis, leading to depression of world economy between 2008 and 2009 (<Figure 2>).



Source: Clarksons Research, 2017.

Remarks: capacity means total ship's space

<Figure 2> World Trade Volumes and Capacity

3.2. Supply Sides

Shipping has played into combination of supply and demand in terms of movement of trade volumes as well as capacity of vessel on sea. However, it is not working properly, it means shipping market is severely imbalanced between supply and demand functions.

Supply side of shipping is, however, closely related to shipbuilding business, which is leading overcapacity of

tonnage. It has also taken a time to deliver new vessel to the market because of a certain gap of time lag, which is required to make a ship, together with full of shipyard's order book. Sometimes, undertaking a new order in booming time has been delivered in bust time in shipping like today.

Following this kind of patterns in shipping business, newly produced ships has caused to price fluctuation, and big order book of newbuilding has led to oversupply of tonnage and consequential decline in vessel prices.

As well noticed as following data (<Table 1>), between 2002 and 2004, demand for containerized trade grew quicker than the supply of container carrying capacity, so the industry ordered new vessels This tonnage is usually delivered two to three years later, and since 2006, the supply of container ships has been growing faster than demand (Kalgora & Christian, 2016). In 2009, the difference in growth rates among percentage units to a staggering 15 points (Hoffmann, 2010).

<Table 1> Annual Growth Rates in Container Shipping

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
D	10.7	2.4	10.5	11.6	13.4	10.6	11.2	10.9	4.4	-9.7	5.2
S	7.8	8.5	8.0	8.0	8.0	10.5	13.6	11.7	10.9	5.2	5.2

Source: Kalgora & Christian, 2016.

Remark: (D) Demand (S) Supply

As shown <Figure 3> in 1998, there were 6 alliances, which represented half of the worldwide fleets (in TEUs). Between 2000 and 2010, the total capacity of the top 30 carriers has been multiplied by two, reaching 10.81 Mteu. By April 2017, three main alliances, H2M, The Alliance, and Ocean Alliance, with a total fleet of 15.862.743 TEUs are supposed to deploy, representing at least 76.6% of the operational market.

3.3. Demand Side

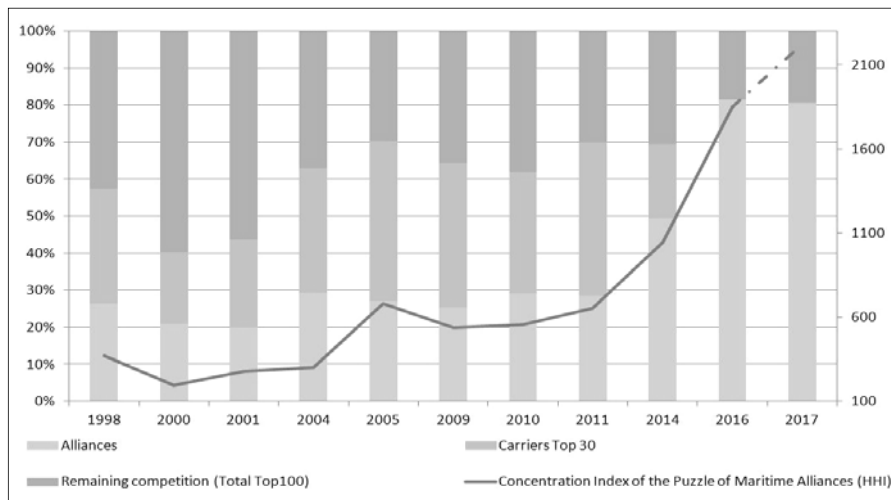
Merchandise trade growth in real terms (i.e., adjusted to discount changes in prices) slowed significantly in 2008 to 2%, compared to 6% in 2007. But trade still managed to grow faster than global output, as is usually the case when production growth is positive. Conversely, when output growth is declining trade growth tends to fall even faster (WTO, 2009).

In dollar terms (which includes price changes and exchange rate fluctuations), world merchandise exports increased by 15% in 2008, to \$15.8 trillion, while exports of commercial services rose 11% to \$3.7 trillion (WTO,2009).

The financial situation of difficult economic environment has led to weak export demand by many companies that closed their business activities, which have finally hampered shipping sector to make a business. This financial crisis has caused world trade be weak, leading lack of demand for transportation sectors including container shipping. However, rate of bulk carrier has influenced to containerized cargo volume, and has consequently resulted in a partial shift of cargo back to the bulk carriage.

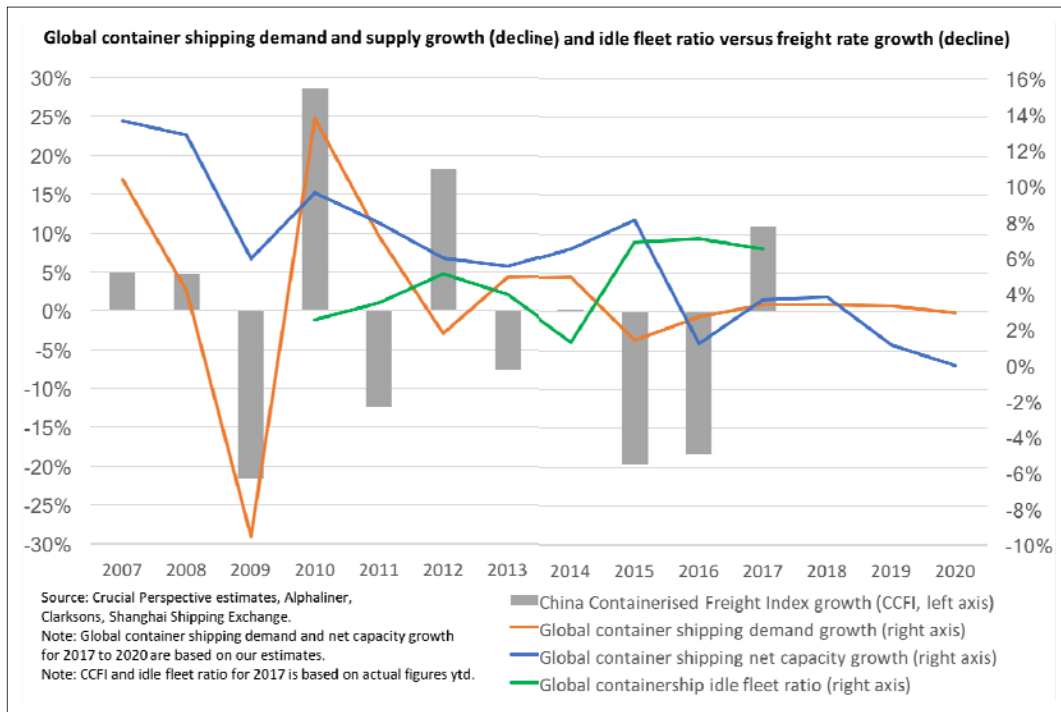
By this result of shipping business, shipping companies has restructured to cope with this difficult situations by redundancy of working staff. For instance, Maersk Line to layoff 3000 employees operating in the container division (January 2008), to reduce by 700 the working places in the Chinese market by 2009, and shut down the global services centre in Guangdong (November, 2008) (Luo et al., 2009).

The chart below shows our projected global container shipping demand and supply growth from 2017 to 2020, in addition to the historical container shipping demand and supply growth and global idle fleet ratio trend as well as freight rate movement (2007 to 2020) (<Figure 4>).



Source: Sanches & Mouftier, 2017.

<Figure 3> Distribution of Fleet Capacity



Source: Crucial Perspective, 2017.

<Figure 4> The Movement of Global Container Shipping

3.4. Shipping Rate

The container freight rates has always been depended upon supply and demand of shipping market, marking important drop by one third between the end of 2008 and the end of 2009. However, the cost of chartering vessels of dry bulk shipping decreased by more than half. With the downturn in trade volumes, shipping operators have recorded remarkable financial losses ever by the low freight and charter rates.

Consequently, freight rates in the containerized business have significantly declined, with the 60% decline in the Europe-Asia lane, between 2008 and 2009 being a prominent example (Alphaliner, 2009). In the Asia- Europe segment, the rate decline was incremental after the first quarter of 2008. In both the Transpacific (US-Asia WB and Asia/ US EB) and the Transatlantic (Euro-US WB and US/ Eur EB) routes the rate reduction was radical after the fourth quarter of 2008 (CI Library, 2010).

As far as business income of shipping company is concerned, the world's largest container shipping company, Maersk Line, reported a loss of \$2.1 billion in 2009. Hanjin

Line lost \$1.1 billion during the same year, NOL lost \$741 million, and similar losses were shown all across the industry. The shares of container carriers today are worth two-thirds less than at their peak in 2007.

<Table 2> shows the all-inclusive freight rates on the three main containerized routes (Pacific, Asia-Europe, and transatlantic). In 2009, freight rates carried on a downward path that had started in the 4th quarter of 2008. In early 2009, some container shipping lines lowered their Asia-Europe freight rates to zero and shippers paid only surcharges. An improvement was first seen on the Asia-Europe route in 3rd quarter of 2009, and then on the other routes in the final quarter.

Liner shippers tried to push freight rates up, by slow steaming as well as by laying up vessels. The voyage time from some northern European ports to Asia increased to a record high of over 40 days. This helped push base freight rates from Asia to Europe from \$600 in October 2009 to \$900-\$1000 by the end of the year. The year of 2009 proved to be an extremely difficult year for container freight rates.

<Table 2> Freight rates on Major Liner Trade Routes

	(in dollars per TEU, and percentage change)					
	Trans-Pacific		Europe-Asia		Transatlantic	
	Asia-US	US-Asia	Europe-Asia	Asia-Europe	US Europe	Europe-US
2008						
First quarter	1 757	845	1 064	2 030	1 261	1 637
Percentage Change	3	6	18	- 1	10	- 7
Second quarter	1 844	987	1 104	1 937	1 381	1 610
Percentage Change	5	17	4	- 5	10	- 2
Third quarter	1 934	1 170	1 141	1 837	1 644	1 600
Percentage Change	5	19	3	- 5	19	- 1
Fourth quarter	1 890	1 196	1 109	1 619	1 731	1 600
Percentage Change	- 2	2	- 3	- 12	5	0
2009						
First quarter	1 670	913	853	1 023	1 481	1 325
Percentage Change	- 12	- 24	- 23	- 37	- 14	- 17
Second quarter	1 383	802	742	897	1 431	1 168
Percentage Change	- 21	- 12	- 13	- 12	- 3	- 12
Third quarter	1 232	817	787	1 061	1 424	1 133
Percentage Change	- 11	2	6	18	0	- 3
Fourth quarter	1 322	883	920	1 422	1 527	1 250
Percentage Change	7	8	17	34	7	10

Source: UNCTAD, 2010.

Remarks: The freight rates shown are "all in", that is to say, they include currency adjustment factors and bunker adjustment factors, plus terminal handling charges where gate/gate rates have been agreed, and inland haulage where container yard/container yard rates have been agreed. All rates are average rate so fall commodities carried by major carriers. Rates to and from the United States refer to the average for all three coasts.

4. Alliance in Container Shipping

4.1. Characteristics of Alliances

Strategic alliances is strongly related to the economies of scale achieved by joint operation of larger vessels, and this means that it contributes to reducing excess capacity and sharing the risk exposed on investment in bigger vessels. These cooperation of alliances makes individual carriers to widen their services areas in terms of geographic coverage, excess new markets and provides a more frequent services term, in favor of shipper's position. However, strategic alliances has been shown in distribution enterprises to expand international market (Choi & Lee, 2012).

It is generally understood that shipping alliances is a sort of tool for shipping company to overcome difficult situations prevailing on shipping market, and it is established by each shipping company based on their own needs (Premti, 2016). Main reason that shipping companies got involved into strategic alliances is low shipping rates as decisive factor shipping companies have always borne in mind. In order to make shipping alliances work well, shipping companies have to utilize two concepts as alternatives to overcome difficult financial situations, that is competition and cooperation. Therefore, joint operation in the form of alliance is to exchange and manage each shipping company's resources in container shipping industry.

4.2. Activities of Joint Operation

There are some activities to be able to reviewed in joint operation of liner shipping, as follows (Premti, 2016).

- the coordination and/or joint fixing of sailing timetables and the determination of ports of call
- the exchange, sale or cross-chartering of space or slots on vessels
- the pooling of vessels and/or port installations
- the use of one or more joint operations offices
- the provision of containers, chassis and other equipment and/or the rental, leasing or purchase contracts for such equipment.

4.3. Cooperation and Competition

Strategic alliances are widespread cooperation agreements between liner shipping companies, which became operational in the 1990s. They normally consist of a small group of carriers which have as their purpose to establish, on a global basis, cooperative agreements involving substantial asset sharing and operational cooperation, while maintaining individual marketing and commercial identities. Normally a strategic global alliance covers at least two of the major East/West trade routes – Europe/ Asia, Asia/United States, or United States/Europe (OECD, 2002).

Given the current market situation, consortia and strategic alliances could raise competition concerns. This is so because very large players are involved in the main alliances and these alliances cover very high shares of trade in the main routes (OECD, 2015).

One key concern is that while consortia and alliances are, in essence, operational agreements, they could lead to an alignment in costs and strategies and could entail capacity discussions. It is important to take into account the share of trade of these alliances, as well as the fact that they can promote their members' access to key strategic information regarding competing carriers which are members of the same agreement. The potential increased transparency and scope for information exchange within cooperation agreements may raise competition concerns as to tacit collusion, and requires a vigilant eye from competition authorities (OECD, 2015).

4.4. Alliance in Shipping Market

Following the financial crisis prevailing in 2008-2009, world economic situations has been suffering from severe

depression and it is still going on shipping industry with both low rate and overcapacity in 2015-2016. Therefore, one of alternatives to cope with these difficulties in shipping is strategic alliances as survival tool. It possibly gives shipping industry some level of rate changes and a way of amendment of service patterns pursuing competitive advantages. It may also be hard task for shipping companies to get out from low rate and overcapacity. One thing is certain, through alliances, shipping lines seek to take on bigger rivals and control rates. Together, the partners have greater leverage.

The 14 largest shipping companies make up 73.1 percent of the market share, and almost all of them belong to alliances. As of July 2016, the world's shipping alliances are aligned as follows:

- 2M Alliance: Maersk and MSC
- Ocean Three Alliance: CMA CGM, UASC, China Shipping
- G6 Alliance: NYK Line, OOCL, APL, MOL, Hapag-Lloyd, HMM
- CKYHE Alliance: K Line, COSCO, HANJIN, Evergreen, Yang Ming

This is how it will look post-reorganization as follows (<Table 3>).

<Table 3> Reorganization of Shipping Alliances

Q1 1998	Q4 2001	Q4 2005	Q4 2009	Q1 2012	Q2 2015	Q2 2017
NWA ----- APL/NOL MOL Hyundai	NWA ----- APL/NOL MOL Hyundai	NWA ----- APL/NOL MOL Hyundai	NWA ----- APL/NOL MOL Hyundai	G6 ALLIANCE ----- APL/NOL MOL Hyundai Hapag-Lloyd NYK Line OOCL	G6 ALLIANCE ----- APL/NOL MOL Hyundai Hapag-Lloyd NYK Line OOCL	THE ALLIANCE ----- MOL Hapag-Lloyd (+UASC) NYK Line K-Line YangMing
GRAND ALLIANCE II ----- Hapag-Lloyd NYK Line P&ONedloyd OOCL MISC	GRAND ALLIANCE II ----- Hapag-Lloyd NYK Line P&ONedloyd OOCL MISC	GRAND ALLIANCE III ----- Hapag-Lloyd NYK Line OOCL MISC	GRAND ALLIANCE IV ----- Hapag-Lloyd NYK Line OOCL			
UNITED ALLIANCE ----- Hanjin(incl.DST-senator) ChoYang UASC	CKYH ----- Hanjin(incl.DST-senator) K-Line YangMing COSCO	CKYH ----- Hanjin K-Line YangMing COSCO	CKYH ----- Hanjin K-Line YangMing COSCO	CKYH ----- Hanjin K-Line YangMing COSCO	CKYHE ----- Hanjin K-Line YangMing COSCO Evergreen	
CYK ALLIANCE ----- K-Line YangMing COSCO				MSC/CMA CGM ----- MSC CMA CGM	2M ----- MSC Maersk Line	2M ----- MSC Maersk Line
Maersk Sea-Land					OCEAN THREE ----- CMA CGM China Shipping UASC	OCEAN ALLIANCE ----- CMA CGM Evergreen COSCO OOCL APL

Source: Ritter, 2015 & icontainers, 2017b.

2M Alliance*: Maersk, MSC (* HMM was initially set to join 2M Alliance but their entry has since been rejected. The trio will instead engage in a 2M+H partnership.)

Ocean Alliance: CMA CGM, China Shipping, APL, OOCL, Evergreen

THE Alliance: K Line, Yang Ming, MOL, Hapag-Lloyd, NYK Line, UASC

The Alliance has signed an agreement for an initial five years. It's set to be one of the leading networks in the container shipping industry. It combines around 3.5 million TEU or 18% share of the world's container fleet capacity (containers, 2017a). Hyundai Merchant Marine wanted to join 2M but was thwarted, so instead has opted to participate in slot purchases and exchanges with MSC as well as Maersk. This is the new brave world of the shipping industry (Mendoza, 2017).

The establishment of the new carrier alliances will make a difference, with the 3 alliances controlling 75% of the global container shipping capacity. The three carrier alliances that have been formed – 2M, OCEAN and THE alliances would control 75% (or 77% including Hyundai Merchant Marine) of the global container shipping capacity with 32% (or 35% including its vessel sharing agreement with Hyundai Merchant Marine), 26% and 17% market shares respectively.

Their dominance is even more pronounced on the two major trade lanes Asia-Europe and Transpacific. On the Asia-Europe trade, 2M, OCEAN and THE will have 40% (including its vessel sharing agreement with HMM), 35% and 23% share of the market, raising their total market share to 98%. On the Transpacific trade, OCEAN, THE and 2M will have 41%, 29% and 19% share of the total market, raising their total market share to 89% (Alphaliner, 2009). In addition, following Hanjin Shipping's bankruptcy, shippers are also more concerned about the risk of cargo transport disruptions and are likely to be more willing to pay more for service reliability and sustainability (Crucial Perspective, 2017).

5. Implication and Lesson

The financial recession of the post 2008 period has a significant impact on international trade, transport and logistics. The shipping business in terms of derived effects is considered to be both negative and positive ones (Samaras & Papadopoulou, 2010). First, the shipping sector has been related to the fierce economic situations of the manufacturers, as the closing down of companies causes to weak demand of exporting. Apart from the negative effects, the economic crisis has given to the chances to shipping firms to optimize own fleet capacity, and to decide on vessel types necessary to be ordered, together with on alternative shipping links.

However, following the financial crisis brought from Lehman Brothers in U.S, world economy has been severely damaged for some time, its impacts have influenced to trade volumes that is inevitable to shipping industry, and lack of cargoes as well as overcapacity lead to rates down in the world shipping market. On the such market situations, shipping companies in the world has been exposed on severe competition, and also have to seek any other alternatives to get it over. One of methods shipping company relies on is forming alliances strategically and working together in the form of oligopolistic competition systems.

Usually, there have been mentioned 3 factors in the shipping business, that is oil price of bunker C, charter party and tariff rate when it is talking about market situations of shipping. As far as shipping depression after year of 2008 is concerned, some other element in relation to 3 factors has to be reviewed in details. During world economic crisis that has caused to less volumes of trade cargoes, it is harsh situation for any industries, as well as shipping industry that is major sector of derived demand. Another thing keep in mind is overcapacity in the shipping market following less demand and more spaces in shipping business. This is coming from either newbuilding or charter party based on much higher rates. Finally, it is noticed that some governmental supports to shipping companies haven't been exercised enough to revive shipping business in troubles in certain countries like in Korea, and it is also lack of expertise about shipping business of credit authority of bank and governmental offices, even management team of shipping company.

From these situations, it is implied that shipping management team in shipping business and shipping circles has to study something important in decision-making processes. All the time it is required to keep tracing on shipping markets in the cycle of boom and bust, then to analyse shipping market to take it out the best solution to overcome difficult market situations among supply and demand, together with tariff rates. To understand market situations carefully and to prepare to get it over difficult market situations is a kind of implications as well as lesson from this cases. Then strategic alliances will be the answer in this cases.

6. Conclusion

It has been studied that difficult markets situations in shipping has been prevailing since Lehman Brothers crisis in 2008, and how shipping market has been suffering from severe difficulty in markets. These situations have caused a lack of trade volumes following the world economic recessions, and furthermore, an overcapacity of ship's spaces coming from newbuilding. Charterparty charges has

also made a shipping company be in troubles.

Order to overcome such a difficult situations in shipping markets, one of options shipping companies to take is to get along with other carrier horizontally, in the name of strategic alliances. Previously 4 alliances employing in the world shipping market have been reorganized since April 2017, following the bankruptcy of Hanjin shipping.

Therefore, it is kept in mind that shipping business is in one way or other, strongly related to world economic situations in terms of trade volumes, and overcapacity of supply side of shipping as also another important matters, however undertaking the shipbuilding order is needed to approach carefully, and finally it is also, like countries as Korea, asked that shipping companies and some parties in shipping circles should understand the nature and management of shipping business more in details.

From the difficult shipping situations, it is clear that strategic alliances could be answer for shipping company to overcome market in trouble, that is widely spreaded on world shipping markets. By forming strategies alliances, each shipping companies in alliances have a chances to be more strong market competitiveness, furthermore shippers in trades activities can be beneficial to their business as well.

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