

SUGGESTIONS FOR IMPROVING PROFITABILITY AND COMPETITIVENESS OF SHIPPING COMPANIES IN CHINA

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Abstract

This paper explores Chinese small and medium sized shipping companies' strategies in management finance and investment. Some suggestions on how to improve profitability and competitiveness of shipping companies in China are proposed. Our data is based on a survey of opinions of more than one hundred top and middle level managers from shipping companies in Ningbo, which share typical characteristics of small and medium sized shipping companies in China. We develop two new influential scoring methods to analysing the data. Our analysis is robust by comparing the results from two methods.

Keywords:

Shipping Companies, Profitability and Competitiveness, Influential Scoring

1. INTRODUCTION

1.1 IMPORTANCE OF SHIPPING INDUSTRY

Shipping means the transport of cargo between seaports by ships (Lun, Lai and Cheng 2010). It is a traditional marine industry which plays an important role in international trade (IMO Maritime Knowledge Centre, 2012). Compared with other transportation models such as railway, highway and airway, shipping is comparatively cost efficiency and environmental friendly (Lorange, 2009). Therefore, China as one of the largest import and export countries in the world is highly dependent of shipping industry to transport goods all around the world (UNCTD 2014). Moreover, shipping plays an irreplaceable role in national strategic goods transportation such as iron ore. According to Review of Maritime Transport of United Nations Conference on Trade and Development, China has become the world's largest iron ore importers. Since 2000, there is surge in demand of iron ore and coal in China for steel production (UNCTAD 2012).

1.2 CURRENT SITUATION OF SHIPPING INDUSTRY IN NINGBO

There are about 140 shipping companies in Ningbo. Majority of them are small and medium sized private enterprises focusing on dry bulk shipping market. There are also a few companies participating in container shipping and oil shipping. Very few of them ship liquid gas. Their business areas mainly concentrate on coastal areas around Yangtze River Delta and Ningbo. Only eight shipping companies in Ningbo expand their business to foreign countries but only to near ocean such as Southeast Asia countries and Middle East. To some extent, Ningbo shipping companies share typical characteristics of small and medium sized shipping companies in China.

In recent years, shipping industry is in market depression. Ningbo shipping companies like most of shipping companies suffer from various problems such as global economic downturn and global shipping overcapacity (Narula 2014). A large number of shipping companies in Ningbo get loss. Some of them even go to bankruptcy. According to the participants of our research, 43.4% Ningbo shipping companies think they still have a little profit, while 55.6% of them get loss. Among these 55.6%, 20% suffer from serious loss.

1.3 REASONS FOR CHOOSING NINGBO SHIPPING COMPANIES AS A CASE STUDY

The development of marine economy has become Chinese national strategy and been proposed in the twelfth five year plan (2011-2015) for Chinese national economic and social development. Meanwhile, it has also been regarded as the new growth engine for national economic development in the coming years. Shipping as the key pillar of marine economy, will also gain great attention and support from Chinese government. Moreover, China has recently proposed the conception of "Silk Road Economic Belt" and "21st Century Maritime Silk Road" in 2013 also called "Belt and Road Initiatives". It is a development strategy and framework focuses on connectivity and cooperation among countries mainly in Eurasia but also include Oceania and East Africa. "Silk Road Economic Belt" includes countries in Central Asia, West Asia, the Middle East and Europe which situated on the original Silk Road but also extent to South Asia and Southeast Asia (Caixin 2014). "21st Century Maritime Silk Road" covers the regions of Southeast Asia, Oceania and North Africa and includes the South China Sea, the South Pacific Ocean and the wilder India Ocean Areas (China Institute of International Studies 2014). "The aim of the belt and road is to meet the development needs of China. Countries along the routes and the region at large, will serve the common interests of relevant parties and answer the call of the times for regional and global cooperation" (Xi, 2015). Therefore, the implement of this strategic concept will brings many opportunities for Chinese shipping companies in terms of favourable policies, market opportunities and the gathering of professional talents and institutions.

Ningbo has rich marine resource and favour able geographical location. It is located midway on the eastern coast of China, in the South of the Yangtze River Delta and the east part of Zhejiang province (News, 2015). Meanwhile, Ningbo port has become one of the leading ports in the world (American Association of Port Authorities, 2011). Moreover, Ningbo is the core area for China's national economy development. In 2011, Zhejiang province has become the first

National Marine Economy Development Zone in China (Government 2011). Ningbo as one of the most important port city in China plays a significant role in promoting marine economy in China.

The favourable policies and geographical location set up a competitive foundation for Ningbo shipping companies. Guanxi (means good connections) plays a very important role in China (Tsang, 1998). To some extent, Ningbo shipping companies as local companies might be able to benefit from national strategic planning. Understanding the shipping industry in Ningbo also has national implications for policy makers because Ningbo companies have typical characteristics of many other Chinese shipping companies.

1.4 PURPOSE OF RESEARCH

This paper is going to explore Ningbo shipping companies' strategies in management, finance and investment. Firstly, in management perspective, we will mainly focus on Ningbo shipping companies' perception on the source of competitive advantages and their perception on customers' supplier selection criteria. In the meanwhile, we are going to understand Ningbo shipping companies' market expansion strategies and methods to solve ship overcapacity problem. Secondly, in terms of finance, we will focus on the positive and negative effects of finance to shipping companies. Thirdly, in investment perspective, we will explore Ningbo shipping companies' investment strategies in ship purchase and rent. By understanding Ningbo shipping companies' current situation and also based on the fact that Ningbo shipping companies share typical characteristic of Chinese shipping companies, some suggestions on how to improve profitability and competitiveness of shipping companies in China will be proposed.

2. MAIN SECTION - METHODOLOGY

We use survey method to collect data. The total number of questionnaires that we received is 109. The main participants include chairman of the board, CEO, general manager, manager, head of office and staff. There were two stages to collect data. At the first stage, the questionnaires were sent out to 140 shipping companies in Ningbo through mail with the help of Ningbo Shipping and Port Administration Bureau. However, the response rate is 14.3% (we only received 20 questionnaires). In the second and stage, we sent out questionnaires while middle and top level managers attending training courses organized by Ningbo Marine Safety Administration, so that we got high percentage of response rate.

In the questionnaire, most of the questions have multiple choices. The participants are required to order multiple choices for each question according to their importance. Then the results show that some answers are ordered while some answers are not ordered. That is to say, for the same question with multiple choices, some participants answer the questions and also order their choices, while some participants just choose the answers without ordering these choices. Therefore, two methods have been proposed to analyse the data.

In the first method, we do not consider the ordering of their choices. For each question, we simply count the number of

participants who has selected a particular factor, which we define as the frequency of this factor. The Fig.1 displays frequencies of factors in decreasing order for the question of source of profitability and competitiveness of shipping companies. The higher is the frequency, the more important is the factor. For the second method, we consider the ordering of importance of choices. For each factor, it can be listed as the first choice by one person and listed in second or third choice by other participants. For each factor, we need considering the number of participants who place it as the first choice (frequency for the first choice), the number of participants who place it as the second choice (frequency for the second choice), the number of participants who place it as the third choice (frequency for the third choice), and so on. The Fig.2 displays frequencies by the order of choices for each factor. In order to compare importance of different factors, we can calculate the influential score for each factor using the following formula:

$$\text{Influential Score} = \sum_{i=1}^n \text{frequency}_i \cdot \text{weight}_i = \text{frequency}_1 \cdot \text{weight}_1 + \text{frequency}_2 \cdot \text{weight}_2 + \text{frequency}_3 \cdot \text{weight}_3 + \dots + \text{frequency}_n \cdot \text{weight}_n,$$

where, frequency_i is the frequency for the i^{th} choice, weight_i is the weight of the importance for the i^{th} choice and n is the total number of choices.

In this study, we define,

$$\text{weight}_i = n - i + 1$$

so that the first choice has weight n , the second choice has weight $n - 1$, the third choice has $n - 2, \dots$, the n choice has weight 1. For example, if there are 9 choices, then the first choice has weight 9, the ninth choice has weight 1. The Fig.3 displays influential scores for factors in decreasing order. The higher is the influential score, the more important is the factor.

3. MAIN SECTION-FINDINGS AND ANALYSIS

Influenced by financial crisis in 2008, shipping companies are still suffering from global market downturn and global overcapacity. They compete for business fiercely in market depression. They need to build competitive advantages in order to win business. The Fig.1, Fig.2 and Fig.3 demonstrate the perception of middle and top managers from Ningbo shipping companies on source of company's competitiveness. As we have mentioned in the methodology part, two calculation methods have been adopted. The Fig.1 is based on the first calculation method (count the frequency of each factor without considering the order). The Fig.2 is based on participants' order of the choices. The Fig.3 is based on the second calculation method using information from Fig.2. From Fig.1, it can be seen that good relationship with customers is the most important source of profitability and competitiveness perceived by Ningbo shipping companies (appear 82 times), followed by company's brand (appear 63 times), service level (appear 57 times), good supplier relationship (appear 44 times) and low price (appear 35 times). In the meantime, by using the second calculation method (influential score), similar results are revealed. Good customer relationship is still the main source of company's profitability and competitiveness. The good

customer relationship which has the highest influential score of 377 is the most important source of profitability and competitiveness followed by company's brand (with influential scores of 278), service level (with influential scores of 214), low price (with influential scores of 157) and good supplier relationship (with influential scores of 152). The only difference between two calculation methods is that low price is the fifth source of profitability and competitiveness in Fig.1 while it becomes the fourth source in Fig.3.

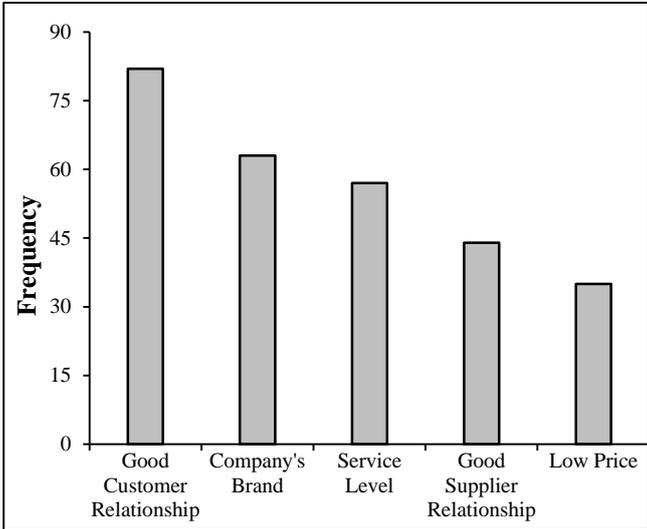


Fig.1. Source of Profitability and Competitiveness of Shipping Companies (calculation method one)

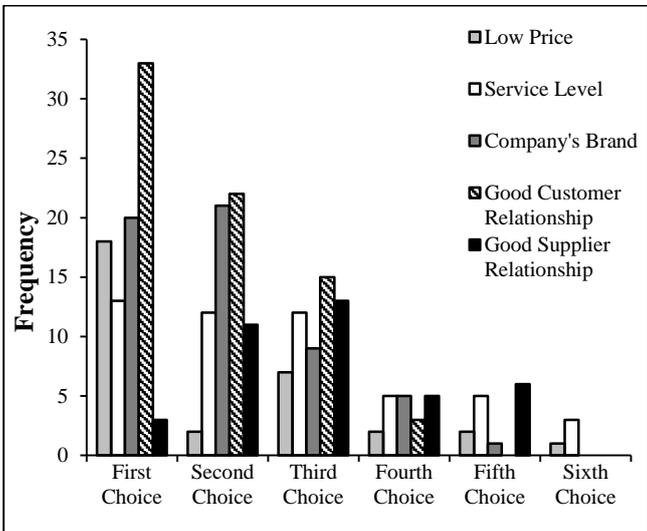


Fig.2. Source of Profitability and Competitiveness of Shipping Companies (participants' initial order of the choices)

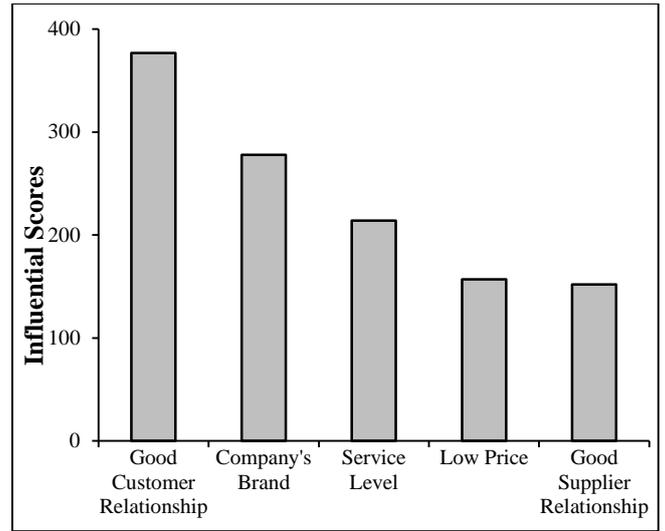


Fig.3. Source of Profitability and Competitiveness of Shipping Companies (calculation method two)

The Fig.4, Fig.5 and Fig.6 show cargo owners' criterion for selecting shipping companies. According to participants' perception, what customers (cargo owners) care most is freight rate when they choose suppliers. Based on the first calculation method, freight rate is the most important selection criterion for cargo owners perceived by middle and top level managers in Ningbo shipping companies (appear 91 times). That means competitive price is key to win customers. However, cargo owners will also review shipping companies' service. Good service appeared to be the second most important selection criterion for customers (appear 75 times). So shipping companies with good service records are more likely to win customers. Company's reputation is also important criterion for customers (appear 72 times). Sailing time (appear 39 times) and shipping route (appear 37 times) will also be considered by cargo owners when they choose suppliers. Based on the second calculation method, freight rate which has the highest influential scores of 365 is the most important criterion for cargo owners followed by company's reputation (with influential scores of 250), good service (with influential scores of 131), sailing time (with influential scores of 82) and shipping route (with influential scores of 77). From these two calculations, it can be seen that the same result is identified on the most important criterion for supplier selection. That is freight rate. Nevertheless, according to the first calculation, participants think good service is more important than company's reputation. While in the second calculation, company's reputation is perceived to be the second most important criterion and good service is followed behind company's reputation. However, good service and good reputation need each other. A company without good service is hard to get good reputation. One thing that is also worthy of noting is that sailing time is not in the first priority of customer's supplier selection criterion. To some extent, it also reflexes that the demand of shipping is not sufficient and the global economy is still at recovery stage after financial crisis in 2008.

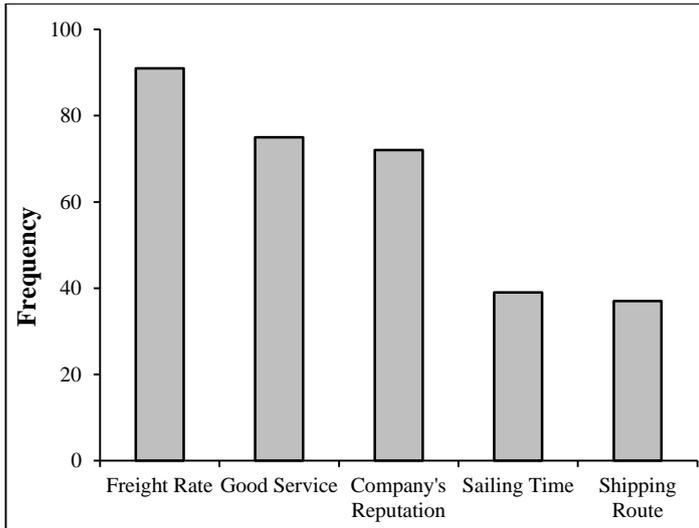


Fig.4. Supplier Selection Criteria by Customers (calculation method one)

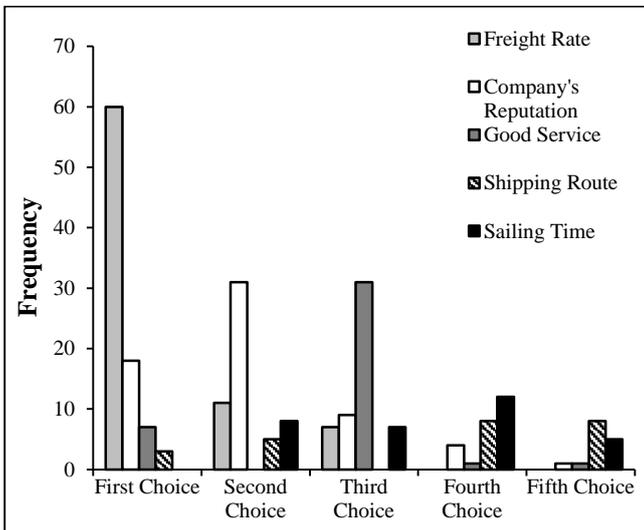


Fig.5. Supplier Selection Criteria by Customers

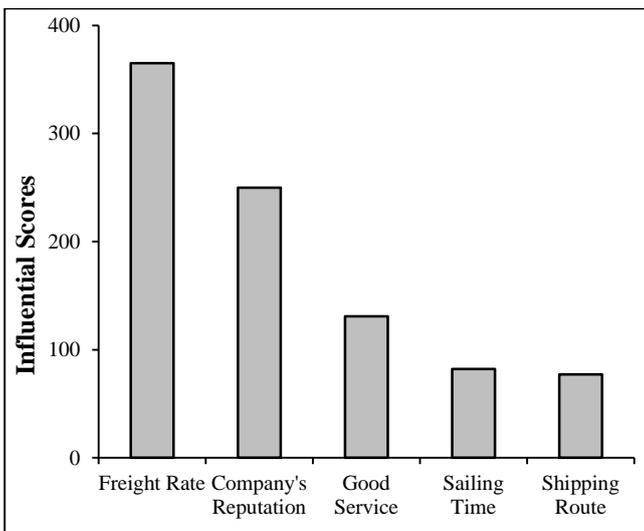


Fig.6. Supplier Selection Criteria by Customers (calculation method two)

Shipping companies have tried their best to overcome difficulties they are currently facing with which include overcapacity, low demand, low freight rate, the increase of oil price, high financing cost and lack of financing channels. The Fig.7, Fig.8 and Fig.9 demonstrate some strategies that have adopted by Ningbo shipping companies to cope with the difficulties. From Fig.9, it can be seen that the most popular strategy adopted by Ningbo shipping companies is to adjust shipping route which has the highest influential scores of 291. That is to say companies' shipping route is designed to fit both the requirements of customers and cost saving. The second most chosen strategy is to reduce debt to asset ratio (with influential scores of 258). This can reduce financing cost significantly. Ningbo shipping companies have tried to reduce ship overcapacity and to sell ships which have equal influential scores of 161. While there are also some companies that have changed ship buy and rent ratio (with influential scores of 92). There are also shipping companies that have tried to invest in financial products to manage the volatility risk of freight rate and fuel oil price (the influential scores for buying fuel oil future is 28 and for investing in freight rate option and freight rate future is 22). A few shipping companies have considered investing in other areas besides shipping industry (with influential scores of 19). However, due to shipping market downturn, there are very few companies that have spare money to invest in other areas. Compared with Fig.9, the Fig.7 which uses the first calculation method shows similar results. Based on these two calculation methods, the most popular strategy is to adjust shipping route and the least popular strategies are to use financial products to manage freight rate and fuel oil price fluctuation.

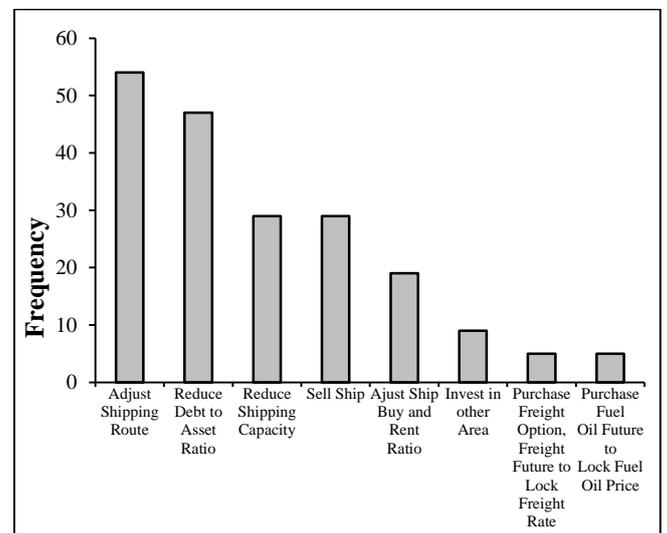


Fig.7. Strategies in Overcoming Difficulties (calculation method one)

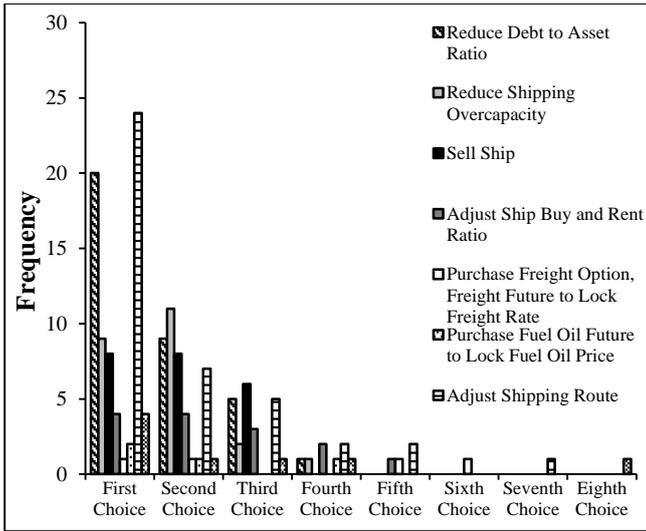


Fig.8. Strategies in Overcoming Difficulties

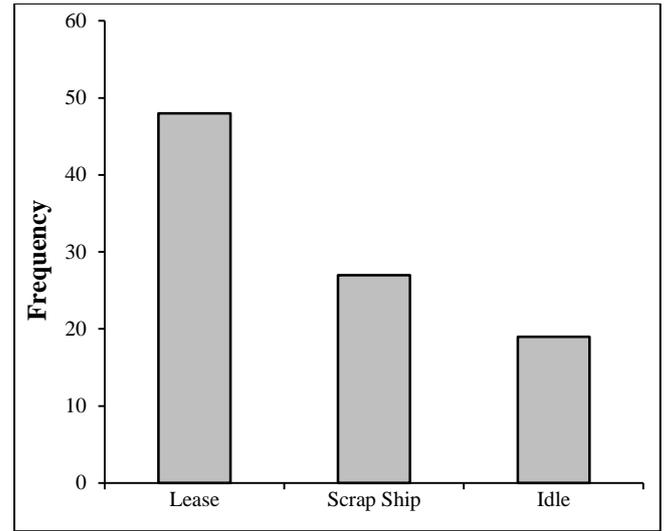


Fig.10. Methods to Solve Overcapacity Problems (calculation method one)

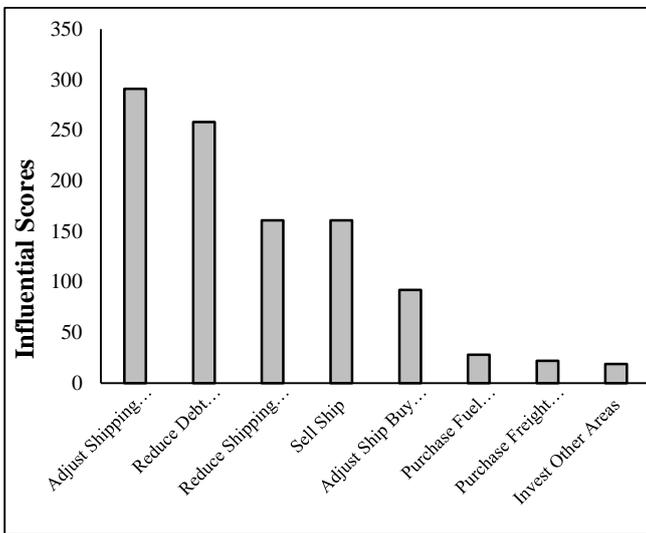


Fig.9. Strategies in Overcoming Difficulties (calculation method two)

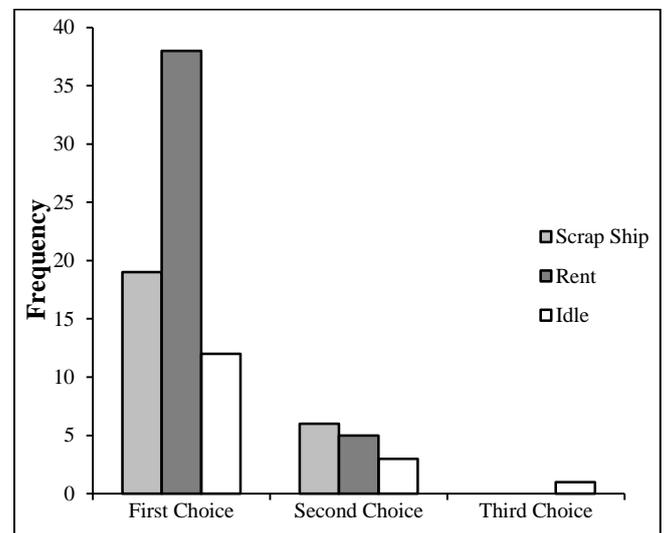


Fig.11. Methods to Solve Overcapacity Problems

As global shipping overcapacity is the most serious problem for international shipping industry. The middle and top level managers in Ningbo shipping companies have used some ways to reduce shipping overcapacity. According to two calculation methods, as shown in Fig.10, Fig.11 and Fig.12, most of companies lease ships to some other companies. The second most chosen method is to scrap ship. However, there are some companies think it is unworthy of scrapping ship and they still wait for the recovery of the market. So these companies remain the extra ships idle even if these idle ships cost a lot for daily operation. Meanwhile there are also participants provide some suggestions on how to deal with overcapacity such as explore oversea market and develop 20,000 (deadweight tonnage) ship to meet market demand.

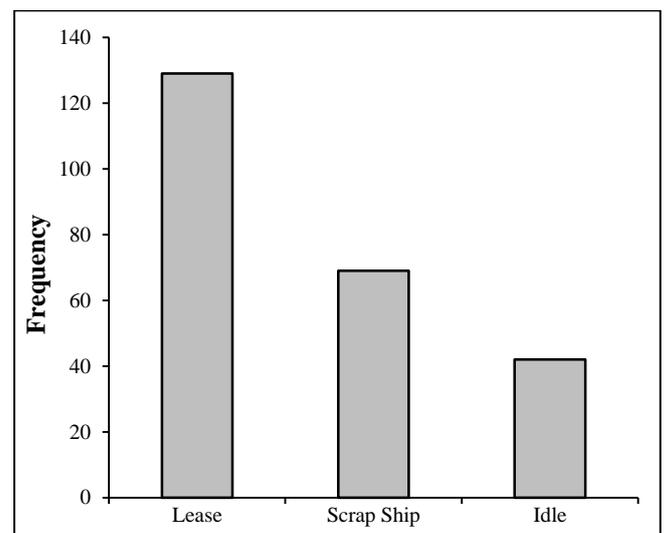


Fig.12. Methods to Solve Overcapacity Problems (calculation method two)

In terms of Ningbo shipping companies' attitude towards finance, 78 participants (71.6%) think finance has positive impact on shipping industry while 20 participants (18.3%) think that finance has negative impact on shipping industry. Moreover, participants also list their perception on various positive impacts of finance. According to Fig.13, extend financing channels is the most important impact of finance on shipping industry (appear 81 times). Speed elimination of vessels is the second most important influence of finance (appear 49 times), followed by speed modernization of vessels (appear 46 times), improve efficiency (appear 34 times), reduce risk (appear 25 times), simplify procedure (appear 23 times), and reduce financing cost (appear 15 times). Based on the second calculation method, shown in Fig.15, the top two positive influences of finance are extend financing channels (with influential scores of 442) and speed elimination of vessels (with influential scores of 218). The only difference between the results of calculation method one and calculation method two is speed modernization of vessels which is listed in the first calculation method as the third most important positive influence of finance. Nevertheless, speed modernization of vessels (with influential scores of 95) is listed as the sixth position, following behind improve efficiency (with influential scores of 152), reduce risk (with influential scores of 121) and simplify procedure (with influential scores of 117). From both calculations, it can be seen that reducing financing costs is listed at the last. That means the development of finance has limited impact on reduce financing cost.

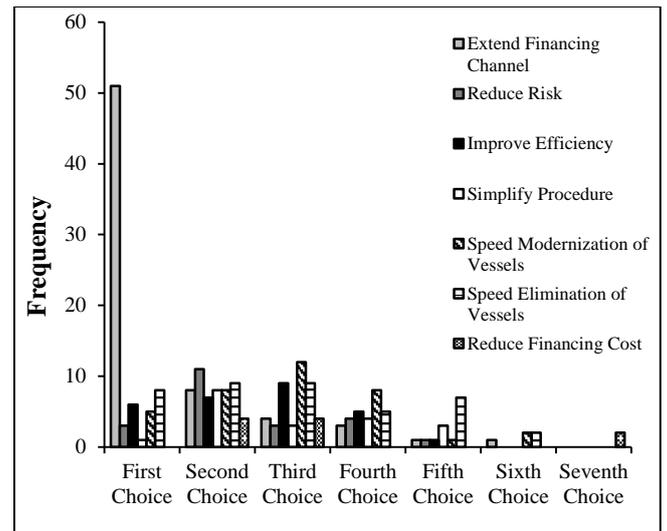


Fig.14. Finance has positive impact on shipping industry

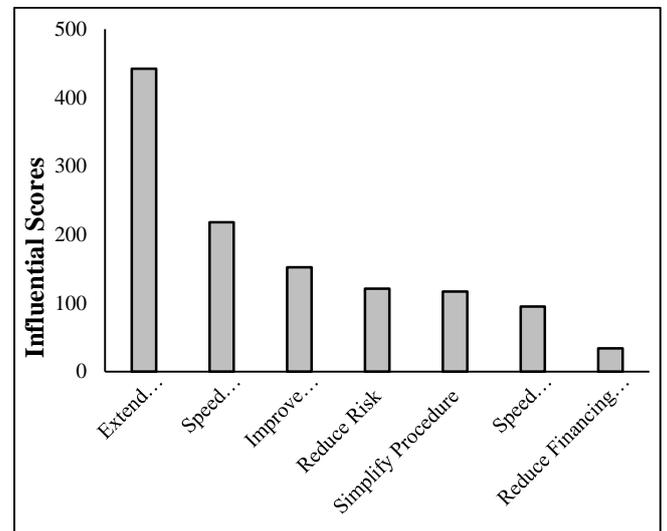


Fig.15. Finance has positive impact on shipping industry (calculation method two)

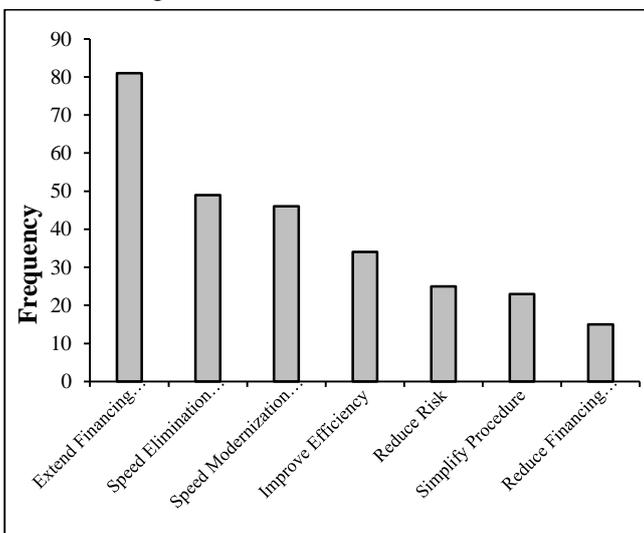


Fig.13. Finance has positive impact on shipping industry (calculation method one)

Apart from the positive impact of finance, there are also many negative impact of finance. Based on the first calculation method, shown in Fig.16, the negative impact of finance is to speed ship upgrade and create unfavourable position for traditional ship owner (appear 178 times), increase risk (appear 144 times) and increase financing cost (appear 70 times). While based on the second calculation method, shown in Fig.18, increase risk has the highest influential scores of 178. That means Ningbo shipping companies think that the development of finance will increase risks. The development of finance will also have negative impact on speed ship upgrade and create unfavourable position for traditional ship owner (with influential scores of 144) and increase financing cost (with influential scores of 70). There are also some participants mentioned that finance development lead to ship capacity increasing. Some pointed out that the development of finance has nothing to do with private shipping companies.

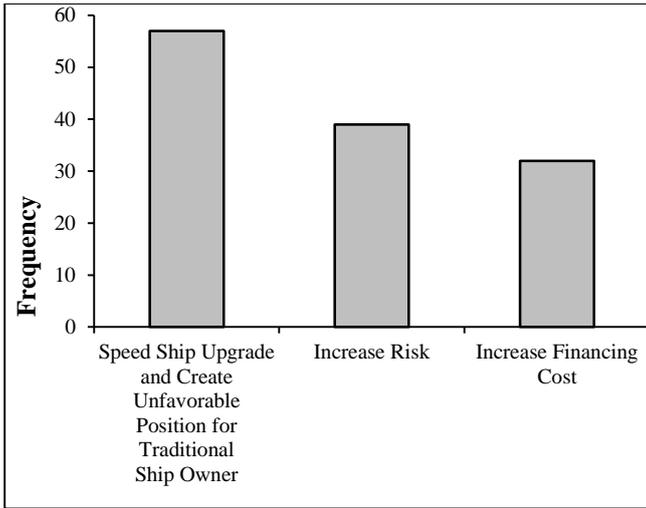


Fig.16. Finance has Negative Impact on Shipping Industry (calculation method one)

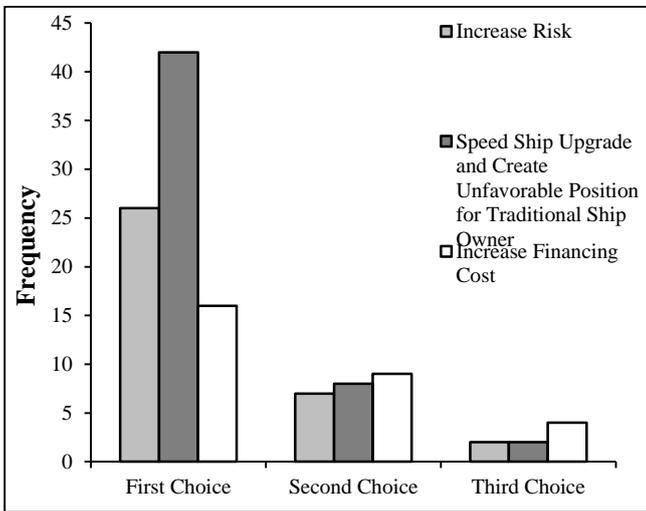


Fig.17. Finance has Negative Impact on Shipping Industry

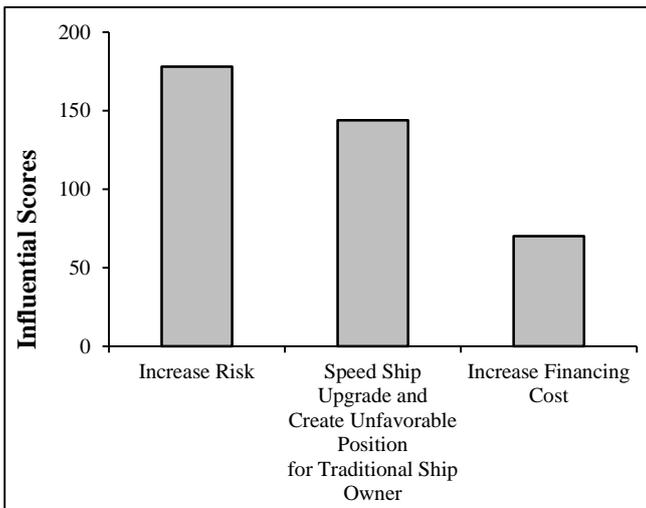


Fig.18. Finance has Negative Impact on Shipping Industry (calculation method two)

As for the questions of when shipping companies will consider buying ships, the first calculation method shown in Fig.19 and the second calculation method shown in Fig.21 have the same results. Most of participants' point of views are to buy ships in market depression when ship price is low (appear 52 times based on first calculation method and has the highest influential scores of 121 based on the second calculation method). Preferential policies introduced by governments is the second most important factors that Ningbo shipping companies will consider (appear 45 times in the first calculation method and has the influential scores of 92 in the second calculation method). When the freight rate is high, shipping companies will consider purchasing new ships (appear 29 times based on the first calculation method and has the influential scores of 66 based on the second calculation method). Although listed as the fourth choice, there are a few think they will invest in new ships when the market is inprosperity and the ship price is high (appear 24 times based on the first calculation method and has the influential scores of 61 based on the second calculation method). Moreover, there is a few people think that they will consider building new ships when there is sufficient and stable demand for shipping, when ship price is low, when the volume of business increase, when there is a need for structure adjustment or when the shipping market begin to recovery.

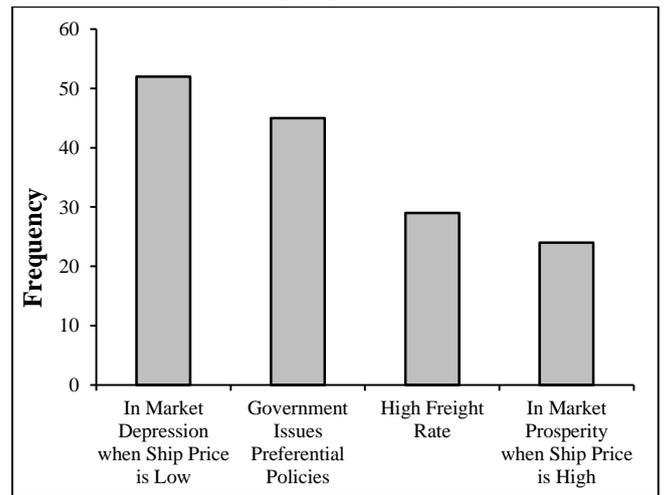


Fig.19. Timing of Ship Purchase (calculation method one)

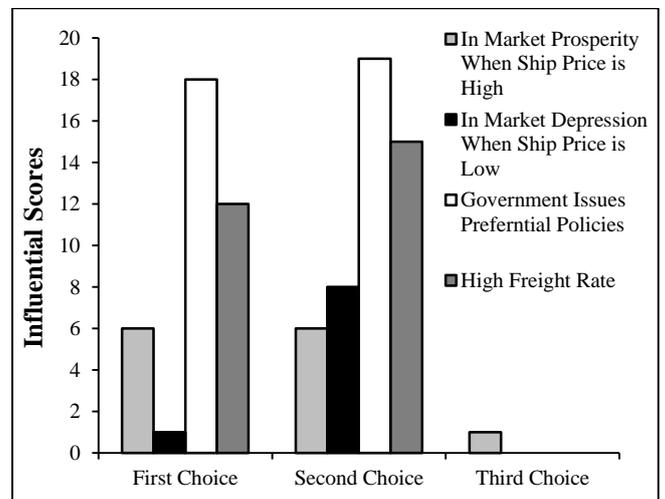


Fig.20. Timing of Ship Purchase

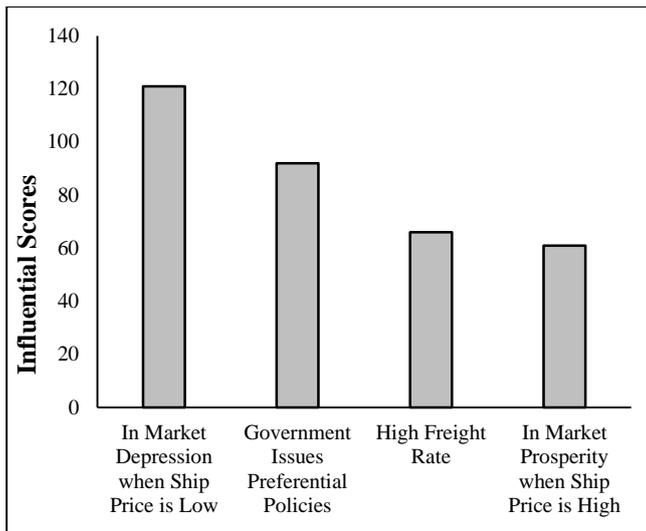


Fig.21. Timing of Ship Purchase (calculation method two)

To sum up, based on the survey, it seems that good customer relationship, company's brand and reputation are crucial to the profitability and competitiveness of Ningbo shipping companies (see detail in Fig.1 and Fig.3). Meanwhile, under current market depression, most of shipping companies have adjusted shipping route to fit low market demand in order to lower the cost (see detail in Fig.7 and Fig.9). Then, in order to relieve overcapacity problem, many Ningbo shipping companies choose to lease ships (see detail in Fig.10 and Fig.12). Moreover, Ningbo shipping companies list some positive and negative impact of finance. However, the development of finance has limited impact on financing cost reduction (see detail in Fig.13, Fig.15, Fig.16 and Fig.18). Furthermore, the survey also reviews that Ningbo shipping companies might consider investing in new ships when in market depression and ship price is low (see detail in Fig.19 and Fig.20).

4. MAIN SECTION - SUGGESTIONS FOR STRATEGIES TO IMPROVE SHIPPING COMPANIES' COMPETITIVENESS

Because Ningbo shipping companies have share similar situations with many other Chinese shipping companies, in following part we will present some suggestions for strategies to Chinese shipping companies based on this survey study on Ningbo shipping companies.

4.1 ESTABLISH GOOD CUSTOMER RELATIONSHIP

Customer is fundamental for shipping companies' survival and development. Good customer relationship is identified as the most important factor for the profitability and competitiveness of shipping companies (see detail in Fig.1 and Fig.3). Different things should be considered in order to establish good relationship with customers. Safety of cargo is foremost for customer (IMO 2013). That is because freight rate is only a small part of cost for customers compared with the value of the total goods. So it is fundamental responsibility of

shipping companies to ensure all the cargos are safely arrived without broken or loss. Therefore, shipping companies should comprehensively evaluate climate, ship condition, local culture and legal requirements along the routes and relevant ports to firmly ensure the safety of cargos. Moreover, providing good service is also helpful to build good customer relationship. The Fig.4 shows that good service is the second most important criterion when customers choose shipping companies. In current shipping market, freight rate is very transparent. Different shipping companies have quite similar price for the same routes. Although price is still the most important criterion by customers to select suppliers, it is hardly for shipping companies to win and sustain competitive advantage with low price strategy rather good service, close communication, accurate information, on time response and professional risk management become critical factors to compete for customers. Furthermore, keep customer information confidential is important to establish good relationship with customers. In order to establish mutual trust with customer, all the information in terms of contract, cargo information, destination and other private information of customers should be confidential.

4.2 NICHE MARKET FOR SMALL AND MEDIUM SHIPPING COMPANIES

According to the survey, most of Ningbo shipping companies are small and medium sized private enterprises focusing on dry bulk shipping market. In the meantime, freight rate seems to be the most important factor for customers (see detail in Fig.4 and Fig.6). Therefore, it can be seen that there is intense competition between shipping companies as they compete for the same market which is deeply affected by financial crisis. Small and medium sized companies lack of ability and capability to compete with large foreign shipping companies such as Maersk, Mediterranean shipping companies and state owned shipping enterprises in China such as China Ocean Shipping (Group) Company (COSCO). In order to be competitive, small shipping companies can avoid cutting shipping route and focus more on liner routes or small-tonnage bulk cargo transport market and provide personalized transportation service for small and medium sized customers. So far, the most important shipping routes for Chinese shipping companies are Trans-Pacific routes (Asia to North America including South America and Australia), Mediterranean route (Asia to Europe) and Transatlantic route. Nevertheless, with the construction of "One Belt and One Road", Chinese enterprises are encouraged to invest in infrastructure in foreign countries. In the meantime, there will be increasingly trade and cooperation between China and countries around the "Belt and Road". Therefore, more opportunities will arise for small shipping companies such as transport goods and necessities to support the construction of infrastructure or have more shipping demand derived from increasing trade and cooperation. There is also high potential to open new shipping routes in Asia. Ningbo shipping companies can rely on Ningbo port and actively participate in new Asia shipping routes created by "One Belt and One Road" initiatives. This strategy is practical as Ningbo shipping companies also adopted some strategies to adjust shipping routes to meet market demand (see detail in Fig.7 and Fig.9).

4.3 BUILD COMPANY'S REPUTATION

Company's reputation is shown to be important in supplier selection criterion by customers (see detail in Fig.4 and Fig.6). Corporate reputation is a strategic asset for firm that reflects the extent to which the external stakeholders evaluate firm's performance as "good" or "bad". It is hard to create trade and imitate. It also takes considerable time and needs stable and consistent investment from the firm (Roberts and Dowling, 2002). Scholars have pointed out that a firm's reputation and image can be positively affected by its ethical behaviours and are more likely to be generated from CSR practice (Carter, 2000, McWilliams et al., 2006). In contrast, reputation is easily to be damaged by negative publicity (Jenkins, 2001). A company without good reputation is hardly to attract good customers, suppliers, employees and it is also very likely to be monitored and regulated by government. Good stakeholder management is helpful to build company's reputation. Stakeholders can include employees, customers, suppliers, stockholders, banks, environments and government "who can affect or is affected by the achievement of the organisation's objectives" (Freeman, 1984). As for shipping companies, their stakeholders include international organizations, governments, employees, ship classification societies, investor, customer, suppliers, and communities etc.

4.4 SOLVING OVERCAPACITY PROBLEM

Overcapacity is the most serious problem for the current global shipping market. It is very difficult for an individual shipping company to overcome and solve this problem. As shown in the survey, Ningbo shipping companies' first priority is to lease ships. Followed by scrapping ship and leaving the ships idle (see detail in Fig.10, Fig.11 and Fig.12). However, there are a few methods that can be adopted by Ningbo shipping companies such as exploit new shipping routes created by China's national strategic framework of "One Belt and One Road" initiatives. In the meantime, it is also rationale to scrap old and out of date ships as it is costly for ship's daily operation when there is insufficient market demand. So in the current market depression, it is good opportunities to update the structure of freight capacity. Meanwhile, low steaming (economic speed) is also a solution to prolong sailing time and digest a few surplus capacities (Magirou, Pasraftis & Bourtas 2015). Low steaming is also a popular way which not only can solve overcapacity but also can reduce fuel cost.

4.5 REDUCE FINANCING COST

According to the survey, it seems the development of finance has limited impact on financial cost reduction (see detail in Fig.13, Fig.15, Fig.16 and Fig.18). The development of finance enables shipping companies to extend their financing channels from traditional bank loan to financing leasing, bond financing and listing. There are large financing demands for shipping companies as shipping industry is capital intensive industry. So financing cost takes a significant proportion of company's cost. Shipping companies should change their financing methods from merely focus on bank loans to financing channels. With the establishment of China (Shanghai) Pilot Free Trade Zone, it brings more opportunities and space

for finance innovation in shipping. So far there are a few shipping funds in China such as Shanghai shipping industry fund, China ship building industry fund, Zhejiang shipping industry fund, Dalian port and shipping funds. Therefore, shipping companies should adopt some new financing channels and compare financing cost of different channels.

4.6 CAUTIOUSLY INVEST IN FINANCIAL DERIVATIVES

According to the participants of the survey, it seems that financial derivatives are not very popular among shipping companies (see detail in Fig.7 and Fig.9). It is because financial derivatives are new to shipping companies or shipping companies are concerned about the potential risks of financial derivatives. Nevertheless, if the financial derivatives such as oil futures and freight rate options are used only as risk hedge mechanisms rather than speculative tool can help shipping companies to reduce the volatility of fuel oil and freight. Then they will be useful for shipping companies to sustain their competitive advantages without influenced by the unpredictable fluctuation of oil price and freight rate.

4.7 RECOMMENDATION FOR TIMING OF SHIP PURCHASE

The timing of ship purchase should be evaluated comprehensively. Based on the survey, most Ningbo shipping companies think that they will consider buying ship when the market is in depression and the ship price is low (see Fig.19, Fig.20 and Fig.21 in detail). Nevertheless, it is hard to predict when the market bottom is and when the market begins to recover. Companies also need consider that normally government will issue preferential policies when market is in depression in order to stimulate market demand. However, Ningbo shipping companies still need to consider broadly about the global market structure, market demand, company need, and freight rate when making ship purchase decision.

4.8 ESTABLISH GOOD SUPPLIER RELATIONSHIP

Good supplier relationship is also crucial to the competitiveness of shipping companies. Although in Fig.1 and Fig.3, good supplier relationship is not considered as important as good customer relationship, company's competitive advantages not only comes from company itself but also comes from the whole supply chain. Price should be not considered as the sole standard for supplier but reliable quality, easy communication and close cooperation should also be included. If company changes suppliers often, there will be higher unpredictable risks. The suppliers of shipping companies include shipping agency, freight agency, ship builder, ship classification society, service providers etc. Take ship builder for example, good relationship and long term cooperation with ship builder to some extent can reduce the risks of ship delivery delay, quality defect and other risks associated with suppliers such as employee strike and employee turnover which indirectly affect the competitiveness of shipping companies.

5. CONCLUSION

In this paper, we have presented a survey study for shipping companies in Ningbo, China. We developed two methods (the frequency method and the factor influential scoring methods) to analyse the survey data, which is based on opinions of more than hundred top and middle level managers in Ningbo shipping companies. Our study has implications to other small and medium sized shipping companies in China.

We find that good customer relationship, company's brand and service level are the top three source of profitability and competitiveness of shipping companies in Ningbo. We also find that freight rate, good service, company's reputation are the three major criteria by customers when selecting shipping companies. Meanwhile, adjusting shipping route, reducing debt to asset ratio, and reducing shipping capacity are the major strategies adopted by Ningbo shipping companies to overcome current market depression. As to the method of solving overcapacity problem, Ningbo shipping companies choose to lease, scrap and idle ships. Managers have different views on whether finance has positive or negative impact on shipping companies. There are more people think finance have positive impact in terms of extending financing channels, speeding eliminating of vessels and improving efficiency (the first three impact), while there are also a few think finance can bring risks, provide unfavourable position for traditional ship owners as finance speed up ship upgrade, and also increase financing cost. In the meantime, as to the questions of the timing of ship purchase, the first three priorities are in market depression when ship price is low followed by when governments issue preferential policies and when freight rate is high. There are also a few Ningbo shipping companies choose to rent ships rather than buy new ships. Finally, we discuss several strategies such as establish good relationship with customers and suppliers, find a niche market, build reputation, methods to relieve overcapacity problem, reduce financing cost, cautiously invest in financial derivatives and timing of ship purchase to help Ningbo shipping companies to improve their profitability and competitiveness.

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