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Research on brand strategies of CDL Company

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RESEARCH ON BRAND STRAGIES OF CDL COMPANY

By

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In

INTERNATIONAL TRANSPORT AND LOGISTICS

DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature):_____

(Date):_____

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ABASTRACT

Title of Dissertation: **Research on brand strategies of CDL Company**

Degree: **Master of Science in International Transport and Logistics**

Abstract: The international oil trade is developing prosperously and rapidly. Under the healthy development of oil trade sector, international oil transport industry is offered good opportunities as well as severe challenges. In the fluctuant oil transport market, along with drastic competition, how to be prominent is a common question facing oil transport companies. This article presents an example of CDL Company, which was once small-scaled at its foundation decades ago and gradually developing into nowadays international-standard and professional shipping company with oil carriage as core business. In the dissertation, the author use Fishbone Diagram and Extension Analytic Hierarchy Process (EAHP) to research and analyze the problems emerging from its brand establishment and find main problems, then based on the research and analysis as above, this article proposes to establish CDL Company's brand strategies in accordance with the targeting market, own fleet structure, risk preventing and service quality in order to achieve a worldwide famous shipping company.

The article is divided into four parts; the first part analyzes the operating environment together with the market situation. The second part uses Fishbone Diagram and Extension Analytic Hierarchy Process (EAHP) to analyze the problems of CDL Company's brand strategies and find the main problems based on the analysis. The third part The last part presents the brand strategies project and implementation scheme. The last part gives the conclusion.

KEYWORDS: Deep sea oil transportation, Brand strategy, Fishbone Diagram, EAHP

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LIST OF ABBREVIATIONS

AHP	Analytic Hierarchy Process
EAHP	Extension Analytic Hierarchy Process
FFA	Forward Freight Agreement
IMO	International Maritime Organization
DWT	Deadweight
VLCC	Very Large Crude Carrier
M	Million

CHAPTER1 INTRODUCTION

1.1 Background of this dissertation

Petroleum, as its high energy density, easy transportability and relative abundance, has become the most important source of energy since the mid-1950s. With prosperous development of maritime trading, the oil tanker, which was emerged as a specialized vessel in the 1950s, was developed for the need of oil transportation. Due to the development of the oil tanker, maritime transportation for oil has developed rapidly.

Nowadays under the growing development of oil trade, the international oil transportation faces good opportunities as well as severe challenges. In the fluctuant oil transportation market along with intense competition, how to be prominent is a common problem for oil transport companies, especially for Chinese oil transport companies. The suited brand strategies are important for Chinese transport companies. China has been the world's second largest oil-consuming countries since 2005, daily oil consumption is larger than Japan and only less than American, which was 6.55million barrels per day. In 2008, daily oil consumption is 8 million barrels per day. It is estimated that the consumption will increase to more than 10 million barrels per day in the year of 2012. However foreign ship owners carry more than 90 percent of oil import transportation while Chinese ship owners carry less than 10 percent. Compared with foreign ship owners, Chinese owners lack management, technology and experience. In current international situation, oil is precious worldwide and Chinese government has launched a strategic plan of oil reserve. But since the large proportion of oil import is taken by the foreign carriers, which imposes a big potential threat to the national security in case of occurrence of unexpectation, oil may not be transported and supplied in time.

Considering the situation, Chinese government proposes a policy that China's oil imports should be undertaken by domestic carriers. According to the policy, Chinese government encourages ship owners and national oil majors to enhance cooperation so as to ensure the safety of oil transportation for China. This is on the other hand; offers domestic oil transport companies a big opportunity to increase the brand influence.

Therefore, as one of the largest maritime oil shipping company in China, CDL Company should improve the shining hour to find company's weakness, and draw up suited brand strategy accordingly to increase global credibility and competitive strength.

1.2 Literature review

With the development of economy, more and more companies pay attention to effect of brand. From the website About.com, American Marketing Association (AMA) defines a brand as a "name, term, sign, symbol or design, or a combination of them intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of other sellers.

Jean-noel Kapferer (2008) said that brands have become major player in the society. He thought the brand penetrates all spheres in our life, economic, social, culture, sporting, even religion. And there are two paradigms of identification of brand. One is customer-based and focuses exclusively on the relationship customers have with the brand (from the total indifference to attachment, loyalty and willingness to buy and rebuy based on beliefs superiority and evoked emotions). The other aims at producing measured in dollars, euros or yen. Both approaches have their champions.

Mark Batey (2008) thought that Brands allow marketers to add meaning to products and services, but it is consumers who ultimately determine what a brand means. Brand

Meaning takes a comprehensive and holistic look at how consumers find and create meaning in brands. It explores the fundamental conscious and unconscious elements that connect people with products and brands.

For the relationship between brand strategies and organization, SiccoVan Gelder (2005) though that not only is a brand the property of an organization in the sense that it impacts on and is impacted by the policies, activities, structures, culture, history and character of the organization. The organizational influences on the brand are both direct and indirect. The business strategy has direct baring on the brand, as the brand seeks to translate the objectives of the strategy into customer experience. Other direct and indirect organizational influences on the brand are international convention and the international legacy of the brand.

In strategy management and brand strategy, core competencies are important aspect. Michael A. Hitt (2002) said that core competencies distinguish a company competitively and reflect its personality. Core competencies emerge over time through an organizational process of accumulating and learning how or deploy different resources and capabilities.

Arthur A. Thompson (2006) thought that the core competencies outline a common understanding of the essential skills and knowledge that are regarded as necessary to work in injury and violence prevention. These competencies provide a basis for professional development and are intended to guide future training and curriculum development efforts.

Miichael A. Hitt, R. Duane Ireland and Robert E. Hoskisson(2005) thought there are 2 steps to build core competencies, one is value, other one is rare.

With the development of shipping market, although majority of Chinese shipping companies also build brand strategies, there are some problems in the process. Some

scholars also look into these problems. Some articles are mentioned about the possible solution of brand strategies for those companies, but more emphasis has been put on the fact and to use qualitative analysis instead of analyzing which are the crucial problems to use quantitative analysis, such as Teng Chunyan(2007) argued that COSCO Qingdao how to build brand strategies. And Xu Xin(2004) said that Chinese shipping companies should make customers satisfied to build brand strategies. Those articles just state a fact of those works but no how to evaluate those problems to find the crucial problems.

In this dissertation, the author will use some quantitative analysis to find the crucial problems. Some articles like Japanese Jia Wen Zhang Ren (Liu Shanhai translate) gives the Fishbone Diagram to find the problems progressively. Luo Yimei(2007) thought that the Fishbone Diagram is good for finding problems in producing, and she gave an example of Bao steel company. Zhu Kejun, Zhang Xinla(1997) discussed how to use AHP to solve the problems. Gao Jie, Sheng Zhaohan(2001) give the method of EAHP. Zheng Zhaoning, Wu Yuying, Bao Hanlin(2001) combine Fishbone Diagram with EAHP to give a company diagnosis in progress of building brand strategies. They suggest 4 steps to give the diagnosis. Step1: Find some problems to build Fishbone Diagram. Step2: According to the Fishbone Diagram, build hierarchical structure model. Step3: Build extension judges matrix and calculating. Step4: Calculate the weight of elements.

1.3 The framework and content of this dissertation

The main goal of this dissertation is to use Fishbone Diagram and Extension Analytic Hierarchy Process (EAHP) to research problems which are in shipping company brand strategies, and find crucial problems. According to the research, author gives methods and suggestions to solve problems. In this dissertation the author will take CDL Company as a typical Chinese transportation company example to study. Firstly, the author analyzes situation of oil demand in China and development of oil tanker fleet in

the world. Secondly, introduce situation of brand strategies in CDL Company, and combine the situation with the analysis in first part to find the problems of brand strategies in CDL Company, then the author use Fishbone Diagram and extension analytic hierarchy process to research and find the key problems. In the third part, the author gives some rational suggestions for the brand strategies of CDL Company according to the analysis, which is in second part. The last is conclusion.

1.4 Methodology

In this dissertation, the author will combine the Fishbone Diagram, which is used to analyze qualitatively in principles of management, with Extension Analytic Hierarchy Process (EAHP) to analyze the problems in brand strategies of CDL Company to give operable suggestions to be carried out.

Fishbone Diagram is used extensively in business management. Fishbone Diagram is not a numerical analysis, it divide problems into different levels so as to indicate relation of problems. So Fishbone Diagram can describe problems qualitatively. In this dissertation, the author firstly analyzes the macro environment, and then according to situation of CDL Company, uses Fishbone Diagram to conclude qualitatively problems in different levels.

When Fishbone Diagram is finished, the problems will be listed in details. But among these problems, which are primary, which are secondary, how to measure? How to define the importance and degree of priority in main problems? Extension Analytic Hierarchy Process (EAHP) can be used to answer the questions. Chinese scholar Cai Wen created Extension Analytic Hierarchy Process (EAHP) in 1983; he combined Extenics with Analytic Hierarchy Process (AHP). There are three steps to analyze quantitatively to distinguish the key problems.

Step one, transform Fishbone Diagram into Hierarchical Structure Model.

Step two, use Extension Analytic Hierarchy Process to calculate.

Step three, get weighting of every problem.

CHAPTER2 TANKER TRANSPORTING ANALYSIS OF THEBUSINESS ENVIRONMENT

2.1 China’s oil consumption and transport capacity

2.1.1 China’s oil consumption and oil production

The industry of oil shipping develops with the growing demand of oil. So the oil tanker transportation has close affinity to the oil demand. Oil, as the important strategic materials relating to the oil industry, is a crucial foundation of the national economy in China. The demand of oil occupies 20 percent in China’s energy demand; it has important position in industry and daily life. Next to the United States, China has become the world's second largest oil importer instead of Japanese. With China's sustained and steady economic growth, shortage of oil resources has become a more and more prominent limitation for China’s economic development. China's oil and oil products consumption in 2008 reached 8million barrels per day; covering 9.3% of the world’s total consumption. The number increased 0.4 million barrels per day compare with 7.6 million barrels per day in 2007. According to China Petroleum and Chemical Industry Association statistics, China’s oil apparent consumption was 365 million tons, a growth of 5.8% year-on-year. In 2008, China’s oil products apparent consumption was 215 million tons, a growth of 11.2% year-on-year. The consumption per day is shown in table 2.1 from 2000 to 2008.

Table 2.1 China’s oil consumption per day (Unit: million barrels per day)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Consumption	4.8	4.9	5.0	5.3	5.5	6	6.5	7.6	8

(Data source: China Petroleum and Chemical Industry Association)

Since reform and opening up, China's oil demand is generally taken into account by the moderate growth in the process of rapid growth. China's oil consumption in 2000 reached 224 million tons, which noticeably accelerated thereafter. National oil consumption in 2005 reached 320 million tons. China's oil imports in 2006 reached 145 million tons, and it is 18.36 million tons more than that in 2005. During this period the Chinese economy development maintains at high speed, furthering accelerate the process of industrialization, especially in transportation and petrochemical industries such as fuel consumption. In addition, the urban population greatly increased. The proportion of energy use of oil in rural area also increased significantly. A variety of factors will keep China's oil demand continues to grow rapidly. According to China National Petroleum Corporation statistics, in 2008 oil consumption is 379 million tons, gasoline consumption is 64.4 million tons, diesel oil consumption is 144 million tons, and kerosene consumption is 13.1 million tons. Compare with consumption in 2007, the oil consumption growth is 3.8%, the oil products growth is 3%.

With the fast-growing demand for oil consumption, China's oil production has increased comparatively much slowly. In 2008, the output of Shengli Oil Field, the largest Oil Field in China, is 0.55 million barrels per day. The output of other China’s oil fields is 0.4 million barrels on average. Although the average annual growth rate of oil production is 1.79% in the next 15 years, this growth is very limited to comply with the oil demand in China. In 2008, oil imported accounted for 53% of the total oil consumption in China. It is estimated that oil imported will be contribute 60% to the

national consumption, which means China must depend on oil import a lot to satisfy oil demand in the long term.

Due to China’s large demand for import of crude oil, it gives opportunities to China crude ocean transportation companies, especially such as CDL Company which locates target market on domestic oil import companies in China.

2.1.2 The source of oil imports

According to Chinese Customs statistics, China's oil imports in 1999 came from 28 countries, in 2000 an increase of five oil country, reaching 33, the relatively decentralized source of imports. However in 2001, the number of the main supply countries reduced to 29 along with a trend of centralized source of imports. In 2004, this trend of centralization was accelerated with only 20 supply countries. Among the supply countries, the Middle East, Africa, and Southeast Asia respectively accounted for 50%, 22% and 12% of the oil imports. In 2007, China’s oil imports reached 160 million tons with value of 80 billion US dollars - 26.33 million tons imported from Saudi Arabia, 25 million tons from Angola, 20.54 million tons from Iran, 14.53 million tons from Russia and 13.68 million tons from Oman. For example, in September 2008, 8.73 million tons oil was imported from Middle East, which occupied 58.11% of total imports in the month and 387 tons and 186 million tons from Africa and the Caspian Sea areas, which occupied 25.73% and 9.05% of the total imports in the month. From the example, we can see that the main source of China’s oil imports is Middle East area. Africa and the Caspian Sea areas are becoming new sources of China’s oil imports. The top four countries exporting crude oil to China are Saudi Arabia, Iran, Angola and Russia. Middle East is still the main source of imports. From Africa of crude oil in Angola in recent years, a gradual increase in the volume of imports of crude oil supply of China's imports has risen to third place in the country.

Table 2.2 The reserves and day output of the source of China's oil imports

Country	Reserves（billion barrels）	Day output（million barrels）
Saudi Arabia	2620	850
Iran	1360	350
Angola	54	90.2
Russia	102	950

(Data source: China Petroleum and Chemical Industry Association)

In table 2.2, in both reserves and output aspect, there are large numbers of petroleum in Middle East area, so the area is main source of oil imports. Though the reserves and daily output of Angola is not large, it is a new source of oil imports, and there are large numbers of petroleum not to be extracted. Now more and more countries pay attention to Angola's petroleum, especially China. Angola has become one of China's overseas oil development areas. China has gradually integrated into the international economic cooperation; overseas oil exploitation will be increased in the future. Experts estimate the amount of oil exploitation will be 25 million tons in 2010, and it will be 50 million tons in 2020.

No matter the oil imports come from the Middle East, or from West Africa, large oil tankers are necessarily required to transport oil from a long distance. Therefore for the main Chinese oil shipping company like CDL, it brings a big opportunity to develop, set up brand strategy and seize the market.

2.1.3 Demand for ocean shipping

In addition to a small number of imports of crude oil by rail, pipeline transportation, most of China's oil imports are completed by ocean transportation. Since 1993 when China became a net importer of petroleum products, the volume of seaborne imports of crude oil shows a geometric growth. According to Customs statistics, in 1993 China's imports of crude oil by shipping were 15.7 million tons. The amount rose to 70.27 million tons in 2001 and 145 million tons in 2006. Over the 13 years, the annual growth of imports is close to 10 million tons, a total increase of more than 9 times. The IEA forecasts that in 2010 the total of China's oil consumption will reach 350 million tons, domestic production of 180 million tons, so it is demanded about 50 percent to be imported from abroad by sea; in 2020, China's oil demand is estimated a minimum amount of 450 million tons, domestic production will reach 180 million tons, imports of crude oil reached 270 million tons, which means 60% of external dependence.

From the amount of domestic oil production, consumption and the analysis of demand by ocean transportation, China's oil imports, and oil consumption will maintain a long-term trend of rapid growth. In view that China's current oil imports oil mainly depends on sea transport, China's future oil fleet is the fundamental guarantee for healthy and stable development of national energy supply. From this, with development of economy, oil demand is great in China; it gives opportunities to large oil shipping companies in China, especially CDL Company, which locate target market in China.

2.2 Distribution and development trend of the world tanker fleet

2.2.1 Distribution of the world tanker fleet

According to Clarkson statistics, by the end of 2008, the number of ships has reached 5372, about 36,830,000dwt. And amount of oil tanker fleet is the largest sector in world; it shares 38.5% of total tonnage of the world's merchant fleet. The overall distribution of the oil tanker fleet is as following:

(1) Calculated in accordance with vessel types.

The very large crude carriers (VLCC) (more than 200,000 DWT) accounts for 40% of the total DWT of tankers, 505 vessels of 149.1 million DWT. Suezmaxs(12-20 million DWT) accounts for 15% , with 362 vessels of 54,900,000DWT; Aframax (8-12 million DWT) occupies 21%, with 749 vessel of 77,200,000dwt and Panamax (6-8 million DWT) is 6.5%, with 343 vessels of 24,100,000dwt, as shown in table 2.3.

Table 2.3 Structure of the world tanker ship

SHIP TYPE	DWT（TON）	NO.	PERCENT（%）
VLCC	149,100,000	505	40
SUEZMAX	54,900,000	362	15
AFRAMAX	77,200,000	749	21
PANAMA	24,100,000	343	6.5
HANDYMAX	73,400,000	2,352	14.5
SMALL SIZE	10,200,000	2,038	3
TOTAL	389,000,000	6,349	100

(Data Source: Clarkson)

(2) Calculated by the flag state.

The world's largest three flag states for oil tankers are Panama flag (822, 51,480,000 tons); Liberia (512, 41,550,000 tons) and Greece (235, 25.38 million tons). China ranks

in the 17th with 165 vessels of 3.39 million tons, accounting for 1.1% of the world total DWT of tankers.

(3) Calculated by DWT.

The top three of the world's largest oil tanker owners are Bermuda Fredriksen Group (17 million tons, 70 vessels, average single-ship 240,000dwt); Japan's Mitsui OSK Lines (1384 million tons, 121 vessels, average single-vessel DWT 120,000 tons) and Japan's Nippon Yusen Kaisha (1002 million tons, 41vessels, single-DWT ship 210,000 tons on average). The two of China's largest owner: CDL Company and ZH Company respectively rank in the 15th and 21st, specifically in Table 2.4.

Table 2.4 Ranks of the world's tanker owner

	OWNER	**COUNTRY**	**Dwt**	**NO**	**AVERAGE DWT**
1	Fredriksen Group	Bermuda	17,004,396	70	242,920
2	Mitsui O.S.K. Lines	Japan	13,840,054	121	114,381
3	Nippon Yusen Kaisha	Japan	8,736,602	51	196,454
4	Teekay Shpg. Canada	Canada	8,166,712	83	109,357
5	Overseas Shipholding	USA	8,217,533	74	111,048
6	Zodiac Maritime Agy	USA	8,089,551	72	112,355

7	Angelicoussis Group	Bermuda	7,508,916	30	250,297
8	Malaysia. International Shipping Corporation	Malaysia	7,292,203	66	110,488
9	Euronav (UK) Agen.	UK	6,976,293	29	240,562
10	BW Ltd.	China Hong Kong	6,359,179	29	219,282

(Data Source: Clarkson)

2.2.2 Development Trend of the world tanker fleet

Petroleum has become a kind of important strategy energy for every country, so the international oil trade is developing prosperously and rapidly. To satisfy the oil demand, the development of the world tanker fleet has shown a trend along with prosperous oil trade development.

(1) Large-scale ship

With the continuous improvement and development of shipbuilding technology in the world's shipbuilding industry, the growth of carrying capacity of an oil tanker has become an important indication of the development of tanker fleet. Take tankers of DWT above 200,000 tons as an example, according to advisory body to the world the authority of the United Kingdom shipping broker Clarkson statistics, the average of the

tonnage in this range is 248,256 tons in 1975. This figure has grown to an average of 282,217 tons in dwt in 1985. By the end of the year of 2007, the average tonnage has reached 292,839 tons in dwt (see specific table 2.5).

Table 2.5 In 1970-2007 more than 200,000 tons dwt class oil tankers changing table

YEAR	FLEET NUMBER	TOTAL DWT（MILLIION TON）	AVERAGE DWT
1975	476	118.17	248,256
1980	719	192.91	268,303
1985	487	137.44	282,217
1990	412	115.74	280,922
1995	436	124.64	285,871
2000	424	123.59	291,485
2007	486	142.32	292,839

(Data Source: Clarkson)

Nowadays, the two main import sources of crude oil to China are the Middle East and the West African, the two oil exporters of long-range. The amount of imports from the two regions respectively accounts for about 50% and 25% of the total oil import to China. According to assessment on investment in economic evaluation basis for the ship of carrying oil in such routes, VLCC is regarded as the best cost-effective long-range transport of crude oil. Therefore further large-scale oil tankers will be the trend of the tanker fleet development in China and other countries in the world.

(2) The phasing out of single-hull vessels

The safety of oil transportation is the paramount concern in oil transportation business. In early days, transport of oil mainly depends on single-hull tankers. Since the transportation safety issues around the world have been gradually paid attention by tanker owners, new buildings of tankers have been all changed into double hull structure since the mid-90s. However the early built single-hull tankers are still used for oil transport in the meantime. Due to the defect of design, single-hull tankers would have frequently oil pollution incidents, causing great pollution to the environment of the sea and huge compensation of related enterprises. There are the main oil tanker incidents in Table 2.6.

Table 2.6 The main oil tanker incident

VESSEL NAME	PLACE	TIME	LEAKAGE QUANTITY	COMPANSATION FEE （MILLION USD）
Exxon Valdez	USA	1989.3	37,000	5,000
New Carissa	USA	1999.2	238	45
Erika	FRANCE	1999.12	20,000	600
Levoli Sun	FANCE	2000.10	4,000	10
Amorgos	GREECE	2001.1	1,500	16
Prestige	SPAIN	2002.11	20,000	1,300

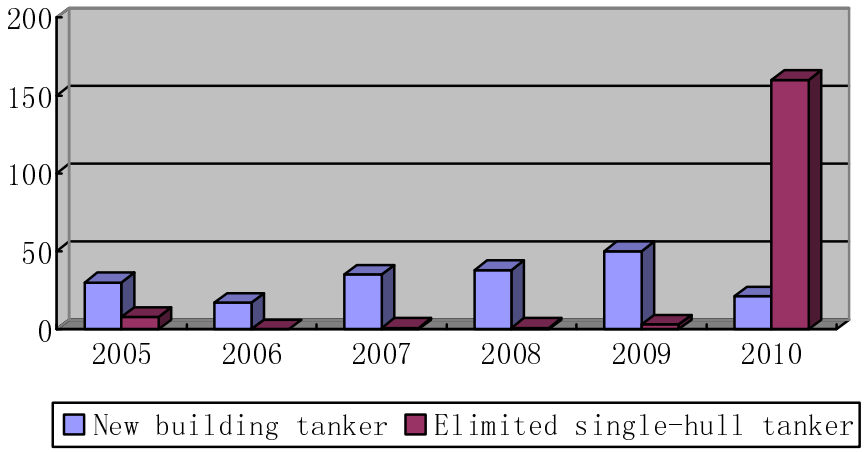
(Data Source: Clarkson)

A large-scale oil tanker is loaded with hundreds of thousands of tons of crude oil, in case of the event of a major oil spill accidents, the consequences would be unimaginable. Table 2.6 shows that in the year of 1989, the U.S. oil giant Exxon Corporation (hereinafter referred to EXXON Corporation) in Alaska waters for its paid more than 50 billion US dollars for compensation of the leak of 37,000 tons of crude oil. After occurrence of oil leak accident by the VLCC "Prestige" in Spain water in the year of

2002, the EU immediately set to work on an Act of accelerating the process of phase-out of single-hull tankers and decided to carry out the implementation in European Union waters since October, 2003. At the same time, EU member states and the European Commission apply to the International Maritime Organization (hereinafter referred to IMO) for revise of the "Responsibility for maritime oil pollution Agreement (hereinafter referred to as MARPOL) 73/78 by-laws of a" Proposal. In December, 2003, IMO amended Annex 13 of the MARPOL Convention, setting out the timetable of phase-out for single-hull tankers, concretely shown in Table 2.7.

Table 2.7 IMO requirements of single-hull tankers out of the timetable

Oil tank type	**Year to off duty**
Category 1 oil tankers Can not meet the special requirements of ballast tanks of the 20,000dwt ship	Constructed from 1973-1981. Will be phase out between 2003-2007
Category 2 tankers To meet the special requirements of ballast tank 20000dwt ship	Constructed from 1973-1989. Will be phase out between 2003-2015
Category 3 oil tankers More than 5,000dwt oil tanker	Constructed from 1973-1989. Will be phase out between 2003-2015



(Source: IMO)

Figure 2.1 IMO agreements of more than 200,000single-hull tankers out of histogram

Figure 2.1 shows the quantity of single-hull ship of more than 200,000 tons to be phased out within the specified time-limit every year. By the year of 2010, the phase-out number is estimated to be 160, which means 41,000,000dwt single tankers will quit from the western maritime market, so these single-hull tankers have to face three kinds of chooses: Firstly, to be out of market and scraped; secondly, to be converted to a floating oil storage devices such as FPSO (Floating Production Storage and Offloading); the third method is to do a condition assessment program (CAP) to check if the ship is able to continue to trade in the eastern market. In the year of 2010, the distribution of the world's tanker fleet will have great changes in structure. The growing demand for double-hull tankers should further increase the fluctuant situation in the freight market. In addition, if any oil pollution incidents of single-hull tankers happen in the eastern waters before the year of 2010, the trading of single-hull tankers will be subject to more stringent restrictions. If the single-hull vessels are completely eliminated from the transport market in 2010, under current speed of construction of new-building tankers and with the impact of the world's financial crisis, the world's tanker fleet will not be

able to meet the demand for oil transport, and consequently the freight will also be greatly affected.

2.3 The development of China tanker terminals

2.3.1 The situation of berths

In the year of 2006, there are totally 9 terminals that can admit tankers over DWT 200,000 tons along the lengthy coastline of China, including two terminals in Dalian and Qingdao in North China; four terminals in the range of Ningbo port and Zhoushan port in East China holding tankers over DWT 250,000 tons: Cezi Terminal, Suanshan Terminal, Daxie Terminal and Aoshan Terminal; and furthermore three terminals in South China: Zhanjiang terminal, Maoming terminal and Yangpu terminal. China had changed its role into pure import country of crude oil since the year of 1993, and the imported quantity has been increased rapidly since then. In recent years, with the development of large-scale tankers, the demand of oil terminals for VLCC has been gradually increased as well. However, the current construction status of China oil berth could not meet the increasingly demands of tanker transport. There are two prominent problems about China oil terminals.

(1) Lack of large-scale depth berth

At present, in the international shipping market, the main tankers for ocean shipping are over DWT of 100, 000 tons. Among the total fleet, the tankers over DWT of 200, 000 tons has acted as the main force of international transport. China uses such kind of tankers to import crude oil from Middle East, Africa and Europe etc. By the year of 2006, there are 9 large scale crude oil terminals over DWT of 200,000 tons alongside the

China coastline with the receiving capacity up to 100,190,000 tons per year; while as per the statistics of custom, the crude oil imported quantity of China in 2006 is 145,000,000 tons. In light that the crude oil import mainly depends on ocean shipping carry and ocean shipping carry mainly depends on tankers over DWT of 200,000 tons, it is obviously that we are lack of large scale oil berths.

2) The problem of rational ports distribution in areas surrounding Bohai is still pending

The interior in areas surrounding Bohai is the main industrial base in Northeast of China, demand of oil and oil products is very large. But compared with other areas in China, there is large gap in the field of port distribution in this area. Presently, the distribution for transfer base of Ningpo and Zhoushan ports has come into being in the area of Yangtze Rive triangle, the distribution for main discharging ports of Huizhou and Maoming has come into being in the South of China. However, there is only one large scale crude oil terminal over DWT of 200,000 tons at Dalian port and another berth under construction in Northeast of China. So according to the situation of more petroleum and chemical companies in areas surrounding Bohai, and more projects of imported oil transportation for choice, in the future, the oil berths should be built in accordance with the demands of petroleum and chemical companies, which needs series of demonstrations to definite and perfect the rational ports distribution of this area.

2.3.2 Construction layout of berths

With development of Chinese economy and due to the influence of the low increasing of Chinese crude oil product, the oil imported quantity will be increased continuously, so the dependence for imported oil consumption will be increased consequentially.
The quantity for crude oil imported of China reached 120million tons in 2004, while in

the further 5-10 years, this figure is bound to increase under the development of the economy. As per the conservative forecast of the International Energy Agency (IEA), the figures of crude oil imported quantity could reach 150million tons in 2010. As per optimistic estimation, the figures could breach 200 million tons. Moreover, in order to ensure the safety of use of petroleum, China has started-up the system of petroleum reservation; the most possible source of the reservation should still be from abroad. At the same time, the oil terminals, which act as the first receiving stations of the imported petroleum, could not meet the increased demands basis current capacity of turnover. To change the situation, The State Development and Reform Commission has required to accelerate the speed of building coastal terminals for receiving tanker between 250,000DWT and 300,000DWT in the year of 2006.

From the year of 2006-2007, there are 5 terminals under construction that can receive tankers above DWT 200,000 tons in China. Among them, the Huizhou terminal will be expanded to receive tankers of DWT 300,000 tons from that of DWT 150,000 tons; another terminal of receiving tankers above DWT 300,000 tons will be built besides the current 250,000tons capacity terminal in Huangdao port, Shandong Province; a new 300,000 tons capacity terminal had been listed into the schedule of constuction in Quanzhou,Fujian Province under the integrative construction of the refining industry; the Weizhou terminal in Guangxi Provice is dealing with the matching facilities for the 8,000,000 T/per year project of Sinopec; the construction of a 300,000 tons' capacity terminal has been completed in the second half of 2008. Please refer to table 2.8 for details.

Table 2.8 2006 -2008 completed oil terminals over DW200,000

No.	area	scale
1	Huizhou,Guangzhou	300,000
2	Huangdao,Shandong	300,000

3	Quanzhou,Fujian	300,000
4	Weizhou,Guangxi	300,000
5	Tianjin	300,000

Moreover, there are another four ports in the works: Tangshan, Hebei Province; Qinzhou, Guangxi Province; Zhuhai, Guangdong Province; Yingkou, Liaoning Province. These ports are trying for construction of crude oil terminals to receive tankers above DWT 300,000 tons. Among them, Tangshan,Hebei is planning to build two terminals in the scale of DWT 300,000 tons in 2010;while Qinzhou,Guangxi is planning to build terminal of DWT 300,000 tons to meet the requirement of the 10 million tonnage refinery; the ports construction plans of Zhuihai,Guangdong and Yingkou are also in preparations actively.

In analysis of current status and planned receiving capacity in the future of Chinese tanker terminals, it is still required to enhance the force, improve the working efficiency so as to ensure the carrying safety of national energy.

CHAPTER3 Analysis of CDL Company brand strategies problems

3.1 Brief introduction of CDL Company

CDL Company is the largest and leading state-owned ocean-going shipping company in China, specializing in professional liquid bulk transportation. The company focuses its business mainly on oil tanker service, and engages in liquefied gas carrier, chemical tanker and other business in the meanwhile. CDL Company now owns and operates 31 oil tankers (include hired 5 oil tankers) with a total deadweight of approximately 5,050,000 tons. The scale of the fleet includes 13 VLCCs, about 3,800,000dwt, 3 Suezmax oil tankers, about 480,000dwt and 11 Panamax oil tankers, about 770,000dwt. To satisfy the market demand for oil transportation, CDL Company has been continuously expanding its oil tanker fleet. By now the company has shipbuilding contracts for 9 ships under construction or to be built, among which includes 5 VLCCs. By end of 2010, the company tanker capacity is estimated to reach more than 8,000,000dwt.

Table 3.1 The situation of CDL Company oil tanker fleet

Owned and Controlled				New Building				DWT AT 2012
Owned (NO., M.DWT)		Time Chart (NO., M.DWT)		Owned (NO., M.DWT)		Time Chart (NO., M.DWT)		M.DWT
26	3.60	5	1.41	9	2.12	4－6	0.9－1.2	8.03－8.33

In the development of CDL Company, there are four phases: the Establishing phase (years 1975 -1980), the rapid development phase (years 1980 -1991), adjust the phase of the operation (years 1992 -2000) and Rapid growth phase (years 2001 -2008). CDL Company has experienced the four phases from a small company owning four

second-hand timber carriers to a large scaled and professional oil transplantation company with many oil tankers and specialized employees.

3.2 The situation and problems of CDL Company brand strategies

3.2.1 The situation of CDL Company brand building

With the deepening of China's market economy development, business activities have become increasingly more mature in various industries; brand strategy has been paid attention by more and more companies. The companies should consider seriously and put more energy into brand strategy because it must be done carefully in a long term. To get advantage in the competition, enterprises, which are in the domestic market or international market, should reinforce their brand popularity and brand favorite. Different from other service industries, the customers of oil transport companies are mostly national oil companies or international oil traders, as a result of the tremendous amount of money is involved in oil trade, at the same time national economic development is affected directly by oil trade, the customers of oil transport companies are relatively limited to a small range. Therefore, oil shipping companies should pay more attention to the cultivation and maintenance of the brand strategies.

Since the establishment of the company, CDL has experienced fluctuation of oil tanker market. The company is well aware of the establishment of the company grow in size and strength of the fundamental, is to ensure the sustainable development of the source. With expanding fleet and operating region, according to situation of international market, CDL Company have built brand strategies in three aspects with the principle of establishing in domestic market and developing international market at the same time.

(1) Scale of operation

For enterprises, scale of operation is the key factor to raise brand awareness, as same as the above, the size of fleet is the key factor for shipping companies. As the customer base of an oil transport company are major international oil companies and carriage of crude oil is the key issue to ensure the regular development of a country's economic. So if an oil transport company has a too small oil tanker fleet, it will result in at the early stage the impression by the customer that the company are not of stability, strength and doses not have solid protection of operation management, making the company losses customers. In view of this concept, since the year of 2002 when the company started to operate oil transport business, CDL have developed oil tanker fleet with in-depth market research and seized market opportunities by contracting for new buildings and purchasing second hand ships from other ship owners. By the first quarter of 2009, the company has owned total of 31 tankers (including 5 time chartered oil tankers) with a total tonnage of 4,450,000dwt, which has made itself become the largest crude oil tanker fleet transportation company in China. Not only the greatly impact in the domestic market, the brand of CDL company, has also attracted, oil majors and shipping companies from Canada, South Korea, Japan and other countries of the world to visit the company for the purpose of seeking cooperation projects in the future. This showed that the rapid development of fleet has gained directly upgrade company’s reputation on the international market.

(2) Globalization

During expending on fleet scale, how to use the own advantages, getting rid of single transport operations and improving the brand's reputation had become the most important development plans for CDL Company. So according to need of development, except for basing on the domestic market, the company has used its own advantage to

develop international market. Since the year of 2004, the company has actively developed cooperation with oil companies all around world, including South Korea, Singapore, United Kingdom, the United States and other major oil importing countries as the customers. CDL Company has signed many contracts of transportation with S. Korea oil company, CPC Corporation of Taiwan, FRONTLINE of Norway, BP of British, CHEVRON of the United States, TOTAL of France, etc. The company has expanded its trading range around the world and formed a unique golden route of "Middle East - the United States -- West Africa - Asia-Pacific", which has greatly improved the company's brand awareness in international markets.

(3) Management system

In order to enhance the competitiveness of the company and achieve the goal of No.1 of China's tanker fleet, the company has adopted advanced international management standards and implements scientific management. The leading commit of CDL Company think this will be able to enhance operational efficiency, and safety standards in line with international requirements and can continue to meet the needs of the international oil companies and port States and the development of increasingly stringent standards. In the year of 2005, the company began to study safety management standard (hereinafter referred to TMSA) introduced by the International Maritime Organization. In the year of 2006, basis on the framework of the overall structure of TMSA with the 12 elements from company, CDL Company set up standard safety and environmental management system so as to make sure its continuous and healthy development.

3.2.2 The problems of CDL Company brand strategies

Although CDL Company has acquired various achievements and its brand has been set

up gradually, but compares with other international oil tanker ship owners and large oil transport enterprises, CDL Company still has a big gap, and there are some problems in the brand strategies as well. These problems have become the bottleneck of restricting the company's development. Combining the situation of CDL Company's brand strategies with tanker transport analysis of the business environment which is given in Chapter 2, there are four problems for CDL Company to concern in the brand strategies.

(1) Single market target

Since the year of 2002, CDL Company has developed greatly in its oil tanker fleet. This is mainly based on the Chinese Government's strategy of "national fleet for national oil transportation". So CDL Company has the initial target as the main ocean transportation company for China's crude oil imports. According to statistics, more than 80% of total annual transporting capacity had serviced for China's crude oil imports. In recent years, the company is becoming aware of the drawbacks of the single market and trying to develop other markets, however, the progress remains slow. According to analysis in Chapter 2 on the demand of oil imports in China, it is believed that China's oil demand will be larger in the future and sources of China's crude oil imports will continue to be expanded. The world's leading tanker owners including but not limited the United States, Greece and Japan, are actively developing the Chinese market, which causes the fierce competition in domestic market of oil transportation and leads a decreased trend of freight. Facing the situation, CDL Company bears huge pressures among the fierce competition. Due to lack of development for other market and unclear concept of the customer base in advance, CDL Company can not change its business range to other routes in time of high freight market.

(2) Irrational structure of oil tanker fleet and age of fleet

Although CDL Company has made progressive development from two ships to 31 tankers and the scale of its oil tanker fleet has been expanded by new-building ships and second hand ships. The Company ignored the existing fleet age and irrational structure of the fleet. Before the year of 2006, CDL Company only owned five VLCCs for international transportation, accounting for 20% of the total quantity of the oil tanker fleet in CDL Company. For the Asia-Pacific region, the average fleet age was 11 years and 70% of fleet is more than 10 years old. If the irrationality of the structure of the ship and unsatisfied vessel age cannot be well solved, it will definitely cause the company in risk of security, threat of potential market, increasing cost of ship's operation, and negative impact on the company's brand-building in the future.

(3) Quality of service is relatively weak

Tanker transport services included two main parts-- the safety of ship's transportation and efficiency of ship's operation. With tens of thousands of tons of crude oil loaded in an oil tanker, if there is an event of oil spills, the consequences would be too ghastly to contemplate. Oil tanker companies have to pay a painful price for oil leaking, and the event gives environment irreparable damage. As a developing oil tanker owner such as CDL Company, any security issues to the company, which is caused by oil spills, will be a fatal blow. On the other hand, the efficiency of ship operations is also an important sector in the process of brand building, in order to make the improvement of the efficiency of ship operations, it does not only require ship's equipment, but also the demand for high-quality professionals staffs. For instance, there are only 616 employers graduate from college or higher within total of 3024 employees in CDL Company; it is only 20% of all employees. So the ship operators are often faced with difficult problems raised when managers can not be the most comprehensive way to solve the problem, resulting in reduced operational efficiency of ships and have the negative impact on the company's brand reputation.

(4) The weak risk prevention

At the present time, the world economy has been influenced by the economic crisis, especially for shipping enterprise, the influence is more intense. The market of tanker freight has the marked characteristic of frequently fluctuating and concussion, the reason is that oil is not just a common commerce goods, it is also an important strategic material. For example, at the early of 2008, VLCC freight rate was staying at WS300, but it fall-off under WS100 in less than one month. This is a typical manifestation of the tanker market. Facing the situation, CDL Company does not take effective measure to ease the pressure of economic risk. The nonstandard operations can give risk to the company. Sometimes the charterers are old customers of the company, they can pick up the goods without original bill of lading, not returning original bill of lading and not supplying the bank guarantee or third party's guarantee. These nonstandard operations are harmful for the brand and benefit of company.

3.3 Fishbone Diagram of problem diagnosis of CDL Company brand strategies

3.3.1 Fishbone Diagram

Fishbone Diagram is a creative method to find all reasons of problems designed by professor Ishikawa who works in Tokyo University in Japan; it is widely used in fields of technology and management. Because its physical look is like fishbone and all kinds of reason of problems are listed in the diagram, Fishbone Diagram is also called characteristic factor diagram. Basically, there are six steps to finish Fish Diagram, the steps are as follows:

Step1: The team leader needs to gather members for a problem, who are experts and relevant person, to set up a workgroup. The members must have certain depth of understanding for the problem.

Step2: The team leader draws a triangle on the blackboard or a paper, and then he or she can write the problem in the triangle, which is looked as head of Fishbone Diagram. After finishing the triangle, the team leader draws a straight line at the end of triangle, the straight line is called fish ridge.

Step3: Members of the workgroup draw some straight lines, forty-five degree angle between the straight lines and fish ridge, which are called large bone. Then the members line out main causes of the problem on them.

Step4: The causes have been divided into further detailed points, and then medium bone and small bone can be painted. The team leader and members should list all causes of the problem as many as possible.

Step5: The members optimize causes of the problem listed in the fishbone diagram, which are found in step4. (The Fishbone Diagram as shown in figure 3.1)

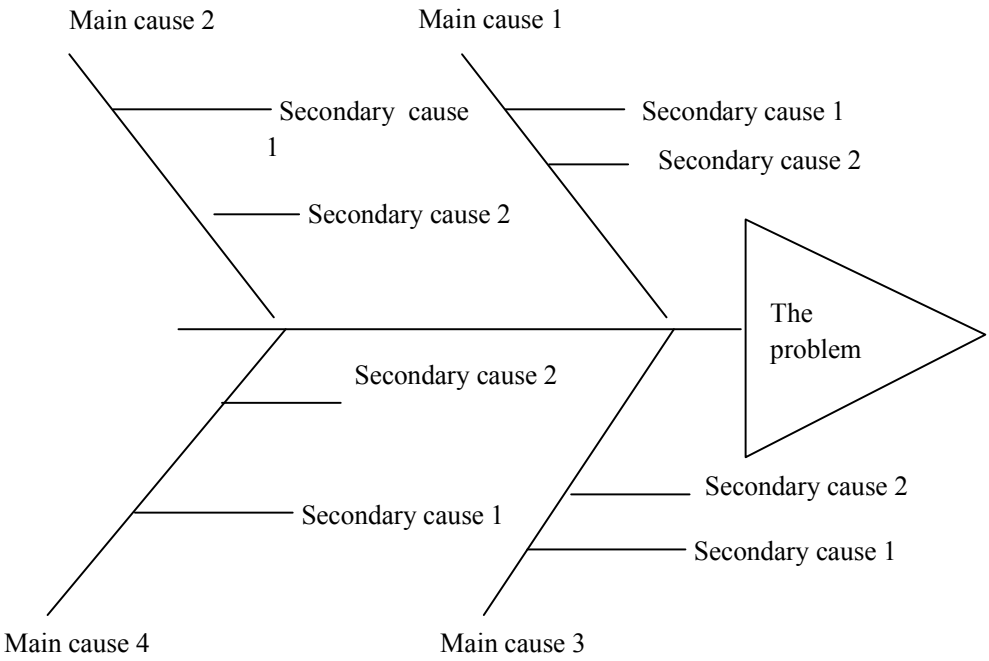


Figure 3.1 The Fishbone Diagram

Step6: According to the Fishbone Diagram, the members can discuss the causes.

3.3.2 Fishbone Diagram of the problem diagnosis

As mentioned earlier in this dissertation, Fishbone Diagram will be used to clearly list various kinds of causes of problems and weakness in CDL Company brand strategies. So according to the steps of drawing Fishbone Diagram, the author gathers leader of CDL Company, business controller of CDL Company, tutor, exporters and several classmates to set up a workgroup and discuss to find several main causes, secondary causes of the problems and weakness in CDL Company brand strategies. Then the members finish the

Fishbone Diagram on the basis of step2 to step6. The Fishbone Diagram is shown in figure 3.2.

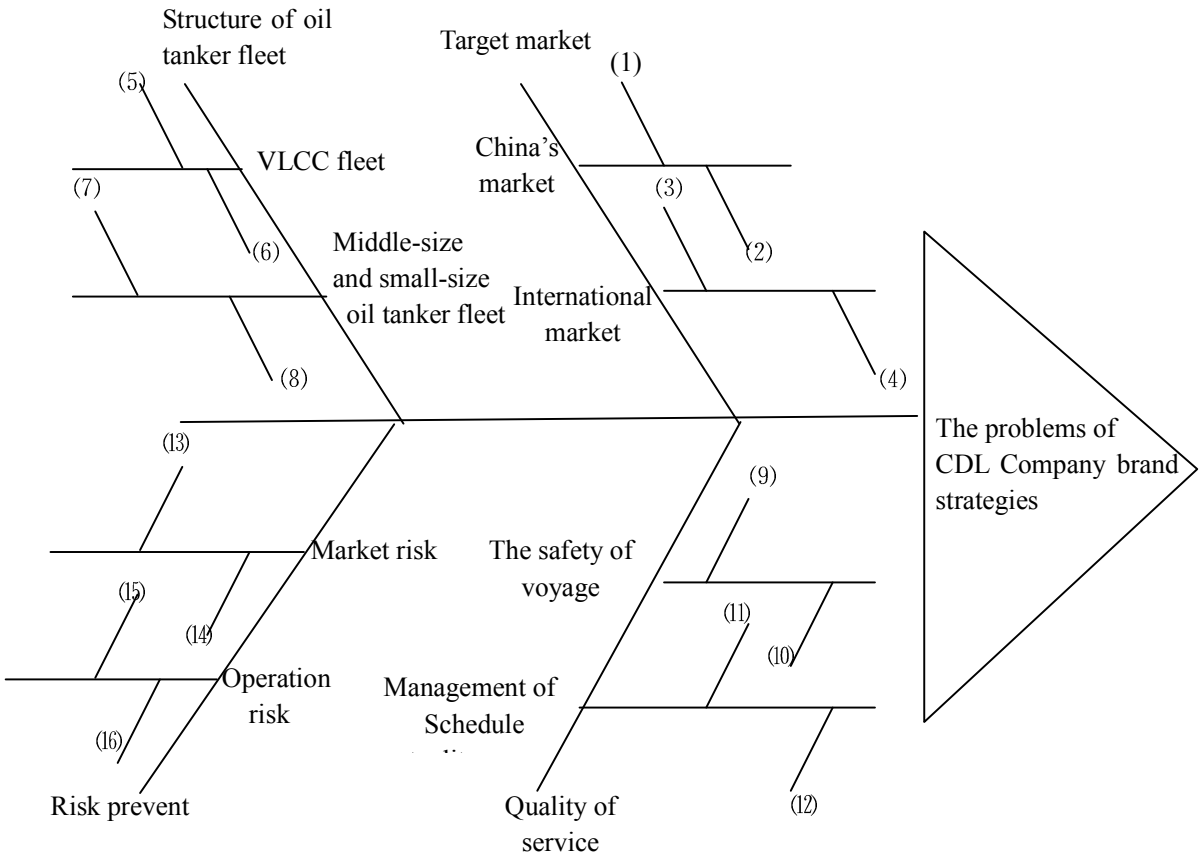


Figure 3.2 The Fishbone Diagram of problems of CDL Company brand strategies

In the figure 3.2, the numbers from (1) to (16) respectively present different causes as following:

The number (1) represents the national policy, the number (2) represents strategic partners, the number (3) represents the market factors of VLCC trading, the number (4) represents the risk of Panamax oil tanker, the number (5) represents the profits in shipping, the number (6) represents the cost in shipping management, the number (7)

represents the trend of freight fluctuation, the number (8) represents the proportion of vessel age of the CDL Company, the number (9) represents the ship's grade management, the number (10) represents the adaptation to voyage and cargo of new buildings and related guidance for safety of shipping, the number (11) represents on-board Management, the number (12) represents on-shore management, the number (13) represents the training of professionals from the workers to study the tanker shipping market, the number (14) represents using hedging activity of FFA to prevent risk, the number (15) represents the loss of release the goods without presentation of original bill of lading, the number (16) represents choose of creditworthy customers.

The level of causes is listed clearly in figure 3.1, though some causes not listed in the Fishbone Diagram, after consulting experts and analyzing practical situation, the author considers the level of causes, which is in figure 3.1, can be used as the foundation of the following analysis of the problems of CDL Company brand strategies.

3.4 The quantitative analysis of the problem of CDL Company brand strategies

3.4.1 Extension Analytic Hierarchy Process

The Analytic Hierarchy Process (hereinafter referred to AHP) and Extenics make up Extension Analytic Hierarchy Process (hereinafter referred to EAHP).

The AHP is a structured technique for dealing with complex decisions. Rather than prescribing a "correct" decision, the AHP helps the decision makers find the one that best suits their needs and their understanding of the problem. Based on mathematics and psychology, AHP was created by Doctor Thomas. L. Satty who works in university of Pittsburgh of the United States in the 1970s and has been extensively studied and refined since then, which is a banausic decision method. It can test scientifically degree of

consistency of people's determination through quantizing difficult and complicated qualitative issues based on precise mathematical manipulation. AHP can reflect absolutely people's thinking mode, it has strict logical reasoning and self-contained mathematical background.

Extenics was developed in 1983, by Chinese scholar Cai Wen, one of the national distinguished experts of China. The base theory of extenics is a theory of matter elements and of extension set; the logical unit is matter elements. The theory of matter elements and of extension set can judge the degree of a certain object belong to certain collection that is assessing whether an object or plan is good or not, and then using correlation function with $(-\infty, +\infty)$ to quantize and thin the assessment. The theory is a new method to assess plan from the angle of change.

Extenics has a special method of its own called the extension method. It contains the opening up method of matter-element (divergent tree, chain of resolving and combining, conjugate pair, correlative net and implied system); the transformation methods of matter-element (basic transformations and transformation operations, conductive transformation and compound transformation) and extension thinking methods (rhombus thinking method, transforming bridge method and key strategy method).

When determining calibration of integer and reciprocal, which are assigned from 1 to 9, in process of building a judges matrix in AHP, fuzziness of people's judgment appears commonly. So consistency of satisfaction, which is in judgment of the matrix, will directly influence the authenticity of sorting vectors which is based on the judgment matrix. To avoid the fuzziness of people's judgment in this process, EAHP is created by Chinese scholar Cai Wen, and the theory combines Extenics with AHP to solve the

fuzziness of people's judgment in the process of analysis. EAHP is not only used to make the complicated problems become clearly and stratified, but also quantify the problem. Further, we can find the key of problem.

When the causes of the problem have been listed at large after finishing Fishbone Diagram, we still can not make sure which are the main causes and which are the secondary causes. Even we can not judge the importance and the level of priority of the main causes. However, EHAP can solve this problem. According to the Fishbone Diagram, we can transform it into the hierarchical structure model, and then use EHAP to calculate the weighted value of every cause. The steps of EHAP are as flows:

Step one: According to the Fishbone Diagram, we can build hierarchical structure model.

Step two: Building extension judgment matrix and calculating.

The formulas and sequence of calculating are as follows:

① $$A_{ij}^{k} = \frac{1}{T} \otimes (a_{ij}^{1} + a_{ij}^{2} + \cdots + a_{ij}^{T}) \quad (1)$$

② Calculating the normalization eigenvector x^{-}, x^{+} of positive component, it is matched along with maximize eigenvalue of A^{-} and A^{+}.

③ Calculating based on $A^{-} = \left\{ a_{ijij}^{-} \right\}_{m_k \times n_k}$, $A^{+} = \left\{ a_{ijij}^{+} \right\}_{m_k \times n_k}$

$$k = \sqrt{\sum_{j=1}^{n_k} \frac{1}{\sum_{i=1}^{n_k} a_{ij}^{+}}} \quad , \quad m = \sqrt{\sum_{j=1}^{n_k} \frac{1}{\sum_{i=1}^{n_k} a_{ij}^{-}}} \qquad (2)$$

④ Calculate weight vector

$$S^k = (S_1^k, S_2^k, \cdots, S_{n_k}^k)^T = \langle kx^-, mx^+ \rangle \qquad (3)$$

⑤ Level sequencing

$$V(a \geq b) = \frac{2(a^+ - b^-)}{(b^+ - b^-) + (a^+ - a^-)} \qquad (4)$$

⑥ Normalization

$$p_h^k = (P_{1h}^k, P_{2h}^k, \cdots, P_{n_k h}^k)^T \qquad (5)$$

Step three: Calculating the weight of every factor in every level.

3.4.2 The analysis of problem of CDL Company based on EAHP.

After analysis of the tanker transportation and consulting related experts, we can find the main causes, secondary causes of problem in CDL Company's brand strategy according

to the Fishbone Diagram shown in figure 3.2, and then we can use EAHP to analyze the problem deeply.

First, according to the steps of making EAHP, we should transform the Fishbone Diagram into hierarchical structure model, as shown in figure 3.3.

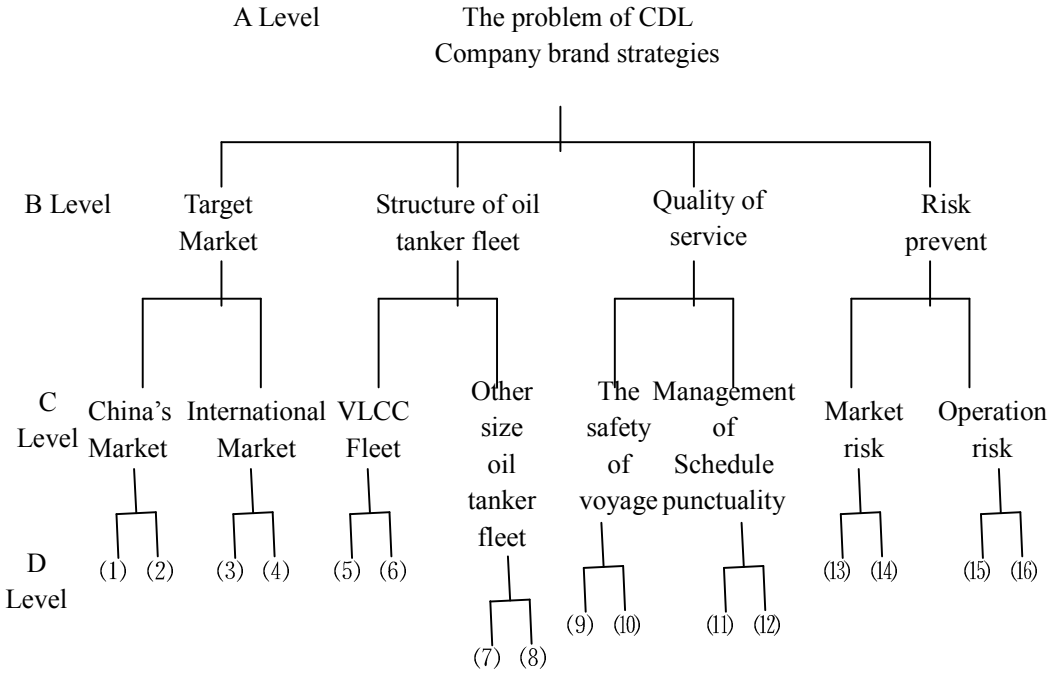


Figure 3.3 Hierarchical structure model of problems of CDL Company

In figure 3.3, the number (1)-(16) which are in D level are as the same as the meaning of number of (1)-(16) which are in figure 3.2.

Second, the extension judgment matrix is established and calculated basis on formulas (1)-(5). According to the requirement of general objective (A level), four members of the

workgroup give a mark to targets which are in B level to get interpretational criteria after comparing, and then building the extension judgment matrix, the judgment matrixes are shown in table 3.2-table3.5.

Table 3.2 The extension judgment matrix based on mark of member1 giving

	B_1	B_2	B_3	B_4
B_1	<1,1>	<0.38,0.75>	<3.67,4.33>	<2.33,3.67>
B_2	<1.33,2.67>	<1,1>	<4.33,5.67>	<1.67,2.33>
B_3	<0.23,0.27>	<0.18,0.23>	<1,1>	<0.30,0.37>
B_4	<0.27,0.43>	<0.43,0.60>	<2.67,3.33>	<1,1>

Table 3.3 The extension judgment matrix based on mark of member2 giving

	B_1	B_2	B_3	B_4
B_1	<1,1>	<0.27,0.43>	<3.33,4.67>	<2.67,3.33>
B_2	<2.33,3.67>	<1,1>	<4.33,5.67>	<1.67,2.33>
B_3	<0.21,0.30>	<0.18,0.24>	<1,1>	<0.30,0.37>
B_4	<0.30,0.37>	<0.43,0.60>	<2.67,3.33>	<1,1>

Table 3.4 The extension judgment matrix based on mark of member3 giving

	B_1	B_2	B_3	B_4
B_1	<1,1>	<0.43,0.60>	<2.67,3.33>	<3.33,4.67>
B_2	<1.67,2.33>	<1,1>	<4.67,5.33>	<1.33,2.67>
B_3	<0.30,0.37>	<0.19,0.21>	<1,1>	<0.27,0.43>
B_4	<0.21,0.30>	<0.38,0.75>	<2.33,3.67>	<1,1>

Table 3.5 The extension judgment matrix based on mark of member4 giving

	B_1	B_2	B_3	B_4
B_1	<1,1>	<0.21,0.30>	<2.67,3.33>	<2.33,3.67>
B_2	<3.33,4.67>	<1,1>	<3.33,4.67>	<1.67,2.33>
B_3	<0.30,0.37>	<0.21,0.30>	<1,1>	<0.30,0.37>
B_4	<0.27,0.43>	<0.43,0.60>	<2.67,3.33>	<1,1>

Calculating A^- and A^+ based on table3.2-table3.5 and formula (1):

$$A^- = \begin{bmatrix} 1 & 0.32 & 3.09 & 2.67 \\ 2.17 & 1 & 4.17 & 1.59 \\ 0.26 & 0.19 & 1 & 0.29 \\ 0.26 & 0.42 & 2.59 & 1 \end{bmatrix} \quad A^+ = \begin{bmatrix} 1 & 0.52 & 3.92 & 3.84 \\ 3.34 & 1 & 5.34 & 2.42 \\ 0.33 & 0.25 & 1 & 0.39 \\ 0.38 & 0.64 & 3.42 & 1 \end{bmatrix}$$

Calculating the normalization eigenvector x^- , x^+ based on A^- and A^+

$x^-(0.253,0.251,0.244,0.252)$

$x^+(0.258,0.257,0.231,0.254)$

And then according to formula(2), we can get k and m:

$$k = 0.904 \qquad m = 1.030$$

Calculating based on formula(3)

$S_1 =< 0.229,0.266 >$ $S_2 =< 0.226,0.265 >$

$S_3 =< 0.221,0.237 >$ $S_4 =< 0.228,0.262 >$

Calculating based on formula(4)

$V(S_1 \geq S_3) = 1.70$ $V(S_2 \geq S_3) = 1.60$

$V(S_4 \geq S_3) = 1.64$

Calculating based on formula(5)

$P_1 = 1.70$ $P_2 = 1.60$ $P_3 = 1$ $P_4 = 1.64$

We can get sequence of four factors in B level relative to A level

$P = (0.286,0.269,0.168,0.276)^T$

For the sequence of factors which are in C level relative to B level and which are in D level relative to C level, we can use the same method as above; the results are in table 3.6 and table 3.7

Table 3.6 The sequence of factors which are in C level relative to B level

	C_1	C_2	C_3	C_4
ϖ	0.812 0.188	0.694 0.306	0.183 0.817	0.768 0.232

Table 3.7 The sequence of factors which are in D level relative to C level

	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8
ϖ	0.781 0.219	0.693 0.307	0.831 0.169	0.635 0.365	0.833 0.167	0.236 0.764	0.167 0.833	0.500 0.500

Third, calculate the weight of every factor in every level.

We use the weight of factors in B level to calculate the weight in C level and D level.

The weight of factors in C level relative to B level

$$\varpi^{(C)} = (0.232, 0.053, 0.186, 0.082, 0.031, 0.137, 0.212, 0.064)^{T}$$

The weight of factors in D level relative to C level

$$\varpi^{(D)} = (0.181, 0.051, 0.037, 0.016, 0.155, 0.031, 0.052, 0.030, 0.026, 0.005, 0.032, 0.130, 0.035, 0.177, 0.032, 0.032)^{T}$$

We can find the problems pressing for solution in CDL Company brand strategies from the results as above. In the C level, China's Market, VLCC fleet and the safety of voyage of are the key causes. In the D level, national policy, the profits in shipping, choose of creditworthy customers and the adaptation to voyage and cargo of new vessels are the key causes, which we should consider as priority.

CHAPTER4 THE SUGGESTIONS OF IMPROVING CDL COMPANY BRAND STRATEGIES

After years of development of the socialist market economy, shipping companies' have paid great attention to brand ideas and brand strategy. China's shipping companies have entered a period of vigorous brand development. For CDL Company, she needs to improve brand building by re-positioning target markets, adjusting the structure of the fleet and etc. CDL should develop brand internationalization based on the premise of the establishment in China's market. According to the analysis in the Chapter 3 and after consulting experts again, some suggestions are given as follows.

4.1 The target market adjustment

4.1.1 Focus on China's oil shipping market

The positioning of the target market for the shipping companies, particularly for international shipping transport enterprises is essential. According to the results of analysis in chapter3, the cause of China's market in C level, which is belonged to the cause of target market in B level, is one of the three key causes for CDL Company to improve its brand strategies, and the cause of national policy is the key factor for China's market. Not only because of the factor of continued growth in global oil demand, but also for the purpose of meeting China's "national oil national shipping" strategy development, therefore, the positioning of the company's target market will focus on China's crude oil transport.

Since 1990s, the economy and oil consumption in China have grown steadily and strongly. As the late start of China's state-owned oil tanker company and low tonnage supply, there are not enough Chinese oil tankers to undertake the transportation of China’s oil imports, most of China’s oil imports are carried by foreign ship owners; it further leads to enormous hidden danger to the safety of China's oil transport. Facing the situation, Chinese government put forward the policy of "national oil national shipping" in the year of 2006. With the target that by the end of 2010, 50% of China’s oil imports will be transported by Chinese oil tanker fleet, Chinese government provide various preferential policy to the Chinese ship owners to encourage them to build new oil tankers. So as China's large oil shipping company, the main direction of CDL is to develop the tanker fleet based on the development of the domestic market. Through several years’ developing, until the beginning of 2009, CDL Company have owned and controlled 5,010,000dwt including 1,410,000dwt time chartered vessels and have owned and controlled 3,020,000dwt-3,230,000dwt new building vessels on order, the transportation capacity will be over 8,000,000dwt in 2012. Compared with other three oil transport companies, CDL have significant advantage. The transportation capacity of Chinese tanker owners is as follow in table 4.1.

Table 4.1 The transportation capacity of Chinese tanker owners

COMPANY	OWNED AND CONTROLLED				NEW BUILDING				DWT AT 2012
	OWNED (NO., M.DWT)		TIME CHART (NO., M.DWT)		OWNED (NO., M.DWT)		TIME CHART (NO., M.DWT)		M.DWT
CDL	26	3.60	5	1.41	9	2.12	4－6	0.9－1.2	8.03－8.33
ZH	56	3.58	1	0.047	24	3.45	0	0	7.08
NY	31	1.30	1	0.11	32	5.52	0	0	6.93
MH	15	2.70	0	0	10	2.78	0	0	5.48

On VLCC fleet in table 4.1, CDL Company has owned and controlled 13 vessels,

3,800,000dwt; the company has owned and controlled 5 vessels, 1,500,000dwt new building vessels. ZH Company has owned and controlled 5 vessels, about 1,500,000dwt; the company has owned and controlled 9 vessels, 2,700,000dwt new building vessels. NY Company has owned and controlled 4 vessels, 1,200,000dwt; the company has owned and controlled 14 vessels, 4,200,000dwt new building vessels. MH Company has owned and controlled 3 vessels, 820,000dwt the company has owned and controlled 9 vessels, 2,700,000 new building vessels. According to the data, CDL is the largest oil tanker company in China not only in aspect of VLCC quantity, but also in aspect of total deadweight, the brand advantage is obvious. So CDL Company builds target market based on China's market and use the advantage of oil tanker fleet to support actively the national policy of "national oil national shipping" in order to create stable external environment for brand building in China.

In addition to supporting national policy, in the aspect of market development, the company should use its advantage to establish a long-term stable strategic cooperation partnership relationship with its domestic customer. Currently CDL has established solid relationship with the top 3 of the leading major oil companies and Zhuhai Zhen Rong Company in China (in particular in table 4.2).

Table 4.2 Basic introduction of CDL strategic co-operation partners

Name of the company	Introduction	Cooperation
China International United Petroleum & Chemical Corporation	UNIPEC is currently China's largest crude oil import company that import oil in the volume of 80-90 million tons annually, formerly known as the joint venture company of Sinopec and Sinochem. Currently, UNIPEC	Long-term Transportation Agreements

（UNIPEC）	needs to charter into 12-14 very large crude carriers per month for the route from Middle East to China, totally 3.5-4 million tonnes.	
Sinochem Corporation (Sinochem)	Sinochem was established in 1950, is the key enterprise owned by SASAC(State-owned Assets Supervision and Administration Commission of the State Council), formerly known as China National Chemicals Import and Export Corporation. Sinochem is the earliest company to monopoly China's crude oil imports. The company established a joint venture in 1993 with China National Petroleum Corporation and Sinopec. At present, Sinochem needs to charter into 2-3 very large crude carriers per month for the route from Middle East to China, 0.6-1 million tonnes.	Voyage Charter Cooperation
Petrochina International Co.,LTD （Chinaoil）	Chinaoil is the crude oil foreign trade company established in 1993 by mutual fund of China National Petroleum Corporation and Sinochem. As the Chinaoil has its own transport fleet, so it has less demand and needs to charter into 1-2 very large crude carriers per month, 0.3-0.6 million tonnes.	Voyage Charter Cooperation
Zhuhai Zhen Rong Company	Zhuhai Zhen Rong company was established in 1994. It is under the management of the Central Enterprise Work Commission and the	Voyage Charter Cooperation

	key state-owned enterprise to assume the national professional tasks. The company currently imports from the Middle East each year 12 million tons of crude oil and needs to charter into 2-3 very large crude carriers per month, 0.6-1 million tonnes.	

From table 4.2 we can see that except the long-term transportation agreements with UNIPEC, CDL Company's cooperation with other corporations are voyage charters. In view of this, CDL should be in extensive co-operations in various ways in its future development, including signing of long-term transportation contracts for establishment of long-term stable strategic cooperative partnership relationship with the main major companies, building joint venture fleet, combining the supply, capacity, the interests of ship owners and cargo owners closely, and sharing and reducing the risk of fleet investment and operation. This kind of close co-operation can provide 70% of the supply guarantee for the entire fleet and then have stable customers in the domestic market.

4.1.2 The suggestions of developing the Asia-Pacific, Africa, the U.S. Gulf market

According to analysis on oil shipping market in China, the target market is the main cause for brand building. However for an international shipping company, the internationalization of a company's brand is the direction of brand development and also the trend of economic development. After the establishment of strategic relationship with the Chinese charterers, at the same time, CDL Company should also make efforts to expand markets from other countries in the world. Such expanded markets can include charterers from South Korea, Singapore, Thailand and other Asia-Pacific countries and from Africa, the U.S. Gulf market. In this way, the CDL Company can not only improve

the fleet profit, but also enhance the ability to resist risks. Meanwhile, the company will open up the international market, make reasonable adjustments to the direction of the fleet operations and improve its operation efficiency. CDL can develop international market from following two aspects:

First, with gradual phasing out of single-hull VLCC from the international shipping market in the next 5 to 6 years, CDL Company should continue to strengthen and consolidate the cooperation with the customers using double-hull very large crude carriers in Asia-Pacific region, endeavor to sign loose type of long-term transport contracts, and improve the market competitiveness in the Asia-Pacific region. Meanwhile according to the current domestic competitive situation, the characteristics of VLCC market, as well as operating capacity analysis of its own VLCC, the company must vigorously explore the US Gulf and Africa routes market to avoid vicious competition with other Chinese transport in the Asia Pacific region, to build worldwide network of cargo supply channels, and to strive for the balance in different target markets, and even to allocate slightly higher operating capacity in the Europe and the United States market than in the Asia-Pacific market, in order to maximize market benefits, and establish solid cargo basis for building the brand of CDL Company's VLCC.

Second, in accordance with the market positioning of Panamax fleet, CDL Company should adopt tactics of grasping the Asia-Pacific market and the U.S. Gulf market together. Asia-Pacific market is the Panamax fleet's basic market for CDL Company and the company's long-term business partners are there that support us extensively, but at the same time the market competitions there are very keen. while the characteristics of the US Gulf market is relatively higher freight than the Asia-Pacific market, but very high requirements on the ships' performance, what's more, CDL Company has not got many major customers in long-term cooperation in this area. According to the

characteristics of the two major Panamax markets, the company's strategy should be to time charter ships that originally operated in the Asia-Pacific market to US Gulf market by getting the ships managed by major international ship management companies. On the one hand, it can ease the operating pressure and vicious competition of the Asia-Pacific market, on the other hand, the company's profit can be increased.

4.2 Optimization of the fleet structure

Basis on the calculation and analysis in Chapter 3, the VLCC fleet and the profits in shipping are also the key causes for brand strategy. The structure of the fleet might lead to different operational benefits even that the size of the fleet is the same. Therefore the company should pay full attention to the fleet structure's adaptability to the market according to the target market. Fleet structure can be optimized in two aspects as type of ships and age of ships. In the aspect of fleet age, as the ageing of ships is inevitable for any shipping company, what CDL company can do is to repair the old ships in a timely schedule so as to maintain the status of these ships. On the other hand, in the aspect of fleet type, the measures should be more flexible. The Company should adjust the types of fleet timely according to the market requirement in different period.

Nowadays, oil export areas are mainly located in the areas of the Middle East, West Africa, but oil import countries are mainly America, Japan, South Korea, China and other countries that are far from the export areas. Tankers used to transport crude have different deadweight, and the transport costs have big differences. We take VLCC, ships of 100k tons and ships of 50k tons to transport 25k tons as an example to compare the cost and benefit, it is as follows in table 4.3.

Table 4.3 Comparison of the freight for different types of tankers carrying 250k tones crude oil

Tanker Type	Crude oil (k tones）	Voyage	Freight million yuan）	Port Cost （million yuan）	Freight per tone (yuan)
VLCC	250	1	10	1*1	44
100k tones	100	2.5	4*2.5	0.8*2.5	46.8
50k tones	50	5	2*5	0.7*5	54

From the table above, we can see that in the same long-haul transport of crude oil, the greater the tonnage, the more the cargo it can carry and the lower the unit cost. Therefore VLCC is more suitable for long-haul transport of crude oil. In view of the above characteristics, in the course of CDL Company, the fleet structure should be based on VLCCs, which also means that this type of ships should account for more than three-quarters of the total tonnage of the Company. On the other hand, because the oil tanker is expendable, considering the structure of the fleet age and taking into account of the impact of market volatility, the various types in various stages of age should have a relatively balanced ratio so that the overall fleet costs will be controlled at a relatively stable level. This not only can enhance the ability to resist the downturn in the market, but also helps to contribute the long-term development of the tanker fleet. Furthermore, it can avoid too many ships phase-out at the same time, causing lack of fleet tonnage and affecting the continuous operation.

Take apart from vigorous development of the VLCC fleet, the Panamax tanker fleet should be considered by CDL Company, which is also the direction of fleet development. Although cannot compete with VLCC in long-haul oil transport market, Panamax have

its own advantage in special trading market. The main trading areas for Panamax tankers are the Asia-Pacific region and the western US Gulf market. Compared with the freight for large crude carriers, although the freight for Panamax tankers is lower than that for large crude carriers, Panamax tankers' freight has smaller fluctuations, and market risk is relatively smaller. The freight rates comparison for VLCC and Panamax tanker is shown in figure 4.1.

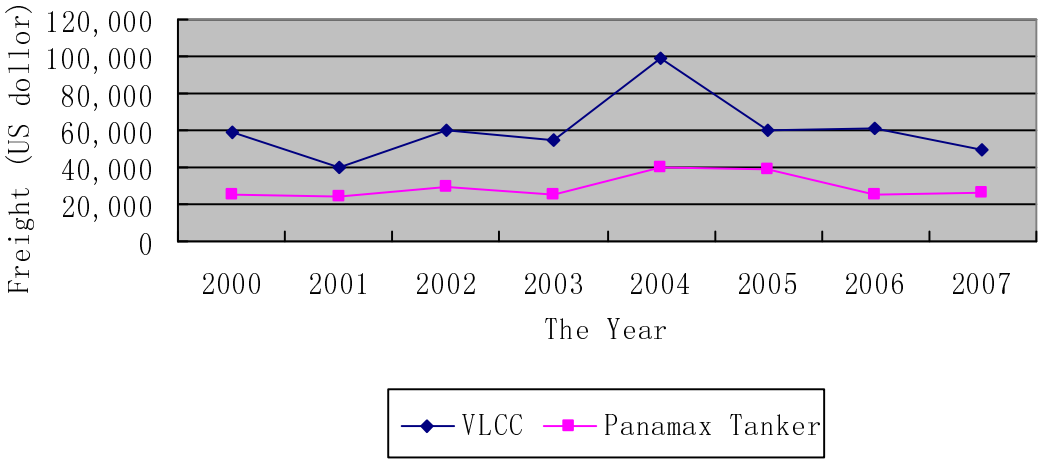


Figure 4.1 Freight rates comparison for VLCC and Panamax tanker

From figure4.1, we can see that freight of Panamax tanker is more stable than freight of VLCC, so at the same time of developing large crude tankers, maintaining the stable and healthy development of the Panamax tankers is the most effective way for the company to reduce market risk.

4.3 Ensuring safe operation of ships

Safe operation of ships is the most important factor for an oil tanker company; it is indispensable part of managing and building the brand, and ensuring safe operation of

ships is as the same as improving quality of service. If an oil shipping company can not sure the safety of their ships' operation, which also means the safety of cargo on board cannot be guaranteed during transportation, it will play a negative impact on the charterers' choose of such ship owners to carry their cargos. Any accident during the whole voyage will greatly reduce the company's brand image, it leads the customers will not chose service of the company. So CDL Company should ensure safe operation of ships from following two aspects:

First, CDL Company should strengthen its management on the ship's grade and the supervision and guidance of the voyage safety. Currently CDL Company has improved 9 provisions in its "Procedures Manual". For the purpose of meeting the requirement of major oil companies, the Company has updated 25 provisions in the "Ships Manual", such as the procedure for crew's recruitment, manning and management, the procedure for crew's training, control procedures for the management of records, procedure for identity, assessment and control of risk, management procedures for maintenance of ships and equipments, etc. These measures of improvement will be of importance in guiding of strengthening ship's grade management. In the meanwhile, in order to develop and build good brand appearance in the future, CDL Company should amend provisions of ship's grade management and actively receive new international provision according to the new standards of international oil companies and the new situation for the company to establish a "health, safety and environment-friendly management system". In addition to absorbing advanced ship management from abroad, the company should also improve the provision based on Chinese situation. Due to the risk in the voyage, CDL Company should strengthen the supervision and guidance of the voyage safety and adhere to proper risk identification, risk assessment and risk control based on risk management. As for key areas and special ships, the ship shore must do a good job of risk assessment in advance, implementing 24-hour track and management.

Second, the company should improve the adaptation to voyage and cargo of new building vessels. CDL shall implement pointed measures in repair and maintenance work for their ships. For the newly-built oil tankers, the Company need to track closely and actively the status of the daily operation of the ships, solving problems the ships in time, ensuring that the warranty items can be resolved timely, so as to warrant safe operation of ships. As for those ships that are older than 10 years, besides strengthening the repair and maintenance and ensuring supplies of spare parts and fuel, the Company need to increase the frequency of inspection for the hull structure and equipment, arrange safety assessment on a regular basis, and improve constantly the files of old ships' technology. And the company should design rational route and ensure schedule punctuality in order to improve quality of service.

4.4 Risk prevention

4.4.1 Prevention of operation risk

CDL Company should prevent two risks. First is operation risk. In international tanker shipping market, taking delivery of cargo without presentation of original bill of lading or without return of original bill of lading or not providing of letter of indemnity by bank or third party has become a popular type of operation as usual, but this operation is prohibited in earlier days. In buyer's market these days, when ship owners require their charterers to presenting the original bill of lading for taking delivery of the cargos, the charterers always just refuse to follow such procedure. Though the tanker shipping market is transparent correspondingly, and cargos are hold by international oil companies normally, the phenomenon of delivery of cargo to the wrong receiver still exists sometimes. In order to avoid such operation risk, CDL Company should strengthen customer grade management and improve the approval procedure for delivery

of goods without presentation of original bill of lading. At the same time, the company needs to enhance its inside control, searching information in a wide range, enhancing client risk level assessment. When working with new contractors, CDL need to choose strong customers with a good reputation and credit so as to avoid the transfer of risk and loss raised from the trade contract of the customers. When the voyage is finished, the company need to take back original bill of lading as soon as possible to reduce the potential risk in operation.

4.4.2 Prevention of market risk

Second is market risk. Tanker freight is changing very quickly, the reason is that oil is not just a common commerce goods, it is also an important strategic material. So it is easier to be reflected by politics, international relationship and other noncommercial factors. Based on the typical characteristic, CDL should enhance tracking on freight market, catch hold of market trend. Basis on the current fleet structure, the Company needs to develop a flexible and varied business operation such self-operation, chartering-in, chartering-out and joint of Pool etc. The period for chartered-in or chartered-out vessels shall be divided into long term, mid-term and short-term in a scientific way so as to make sure the stable benefit of the Company.

Along with the oil tanker fleet fast growing, CDL should make a research in control of risk of freight and build a scientific internal risk management based on principle of FFA. So the business of FFA is for the maintenance of the value of assets. Meanwhile CDL should improve management, picking up employee's integrative skills, building up an international professional tanker company.

CHAPTER5 CONCLUTION

With the growth of world's oil demand, deep ocean oil transportation is developed lushly. As the second largest countries for oil imports in the world, China requires a huge amount of oil imports, which also means a large scale of tankers are required consequently to transport the oil. However by today, China still has not enough tanker fleets to undertake the transportation of oil imported and cannot ensure the oil safety strategy. In view of above, the Chinese government has proposed and implemented the policy of "National oil national shipping", encouraging the tanker shipping companies to expand their tanker fleet. For China's tanker shipping companies, they shall act to be strategically situated and take precaution before it is too late in their general brand strategy. So how can China's tanker shipping companies establish their own brand strategy and enhance their brand influence in the international shipping market has become problems pressing for solution.

The author of this dissertation takes CDL Company as a typical example and uses the theories of Fishbone Diagram and Extension Analytic Hierarchy Process (EAHP), to analyze the problems when CDL Company set up its brand strategy. According to the analysis, the main causes and minor causes have been clearly distinguished, which help CDL Company to realize the current development status of its building of brand strategy. After consulting the experts combined with the domestic and international tanker shipping market, the author further analyzes and discusses the main problems of CDL Company's brand strategy in four aspects of target market, fleet structure, and service quality and risk management in a quantification method, then advices following proposals for the CDL Company: Based on the current domestic shipping market, the Company shall expand its brand by sourcing international shipping market, optimizing its fleet structure, developing VLCC fleet and Panamax fleet in the meantime,

standardizing operative procedures to prevent operation risk, paying close attention to the market for guarding against market risk, and ensuring operation safety to improve the service quality.

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