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World Maritime University

Shanghai, China

The Research
On
Competitiveness of the Shipping Sectors in Pudong Shipping
Cluster of Shanghai International Shipping Center

By

FENG Yuan

CHINA

A research paper submitted to the World Maritime University in partial

Fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE

2011

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DECLARATION

I hereby certify that all the material in this dissertation that is not my own work have all 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 not necessarily endorsed by the University.

(Signature):_____

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Abstract

**Title of Research Paper: Competitiveness of the Shipping Sectors in Pudong
Shipping Cluster of Shanghai International
Shipping Center**

Degree: Master of Science in International Transportation & Logistics

The advent of new shipping era makes the competition between international shipping tend to be more intense, however, the financial crisis in 2008 has further improved position of Shanghai in international shipping, and then how to seize a golden opportunity for development and break the bottleneck of the development is the problem urgently needed to be solved as well as the inevitable process in the build-up of Shanghai International Shipping Center.

Based on the literature review of the related competitiveness in Shanghai international shipping center, the development history of international shipping center were also reviewed noting that the function of the current international shipping has been shifted, then the criteria for evaluation should be adjusted accordingly. Subsequently, the evaluation index for the competitiveness of Shanghai international shipping center were built, and application of AHP was used for contrastive analysis of shipping development conditions in Shanghai and London, drawing the conclusion that Shanghai have already a certain amount of hardware foundation, but management level and service level of the soft environment should urgently be enhanced in accordance with the relevant literature and expert advice.

On this basis, probe into shipping services, policy, information and other aspects in terms of shipping competitiveness at Pudong New Area is carried out, pointing out that shipping accumulation area of Pudong New Area has already formed a certain advantage in the natural conditions, economic base, hardware conditions, etc, but

there are still many shortcomings in terms of the management level, personnel status, information platform, therefore difficulties in the soft environment, in particular, needs to be overcome. In the meantime, historical time and preferential policies has brought new opportunities to the development in Pudong new area, and what we need to do is to play to our strengths ceaselessly, potential threats for competition at home and abroad can be overcome.

Keywords: Shanghai international shipping center London international shipping center Pudong Accumulation Area AHP SWOT Analysis

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Chapter One

Introduction

1.1 Research Background

1.1.1 The new period in shipping industry has come and competition between international shipping is becoming increasingly fiercer

In the 21st century, the world trade has entered a brand new era and port development is no exception, and the port function is constantly rising, the fourth generation of the port has already come. In 1960, the ports in the first generation focusing on labor and capital have not been able to meet modern needs any more, the ports in the fourth generation emphasizing low-carbon technology emerged as time requires. Due to the continuous improvement in the function and requirement of the international shipping center, and correspondingly substantial changes has been witnessed in the resource allocation of city and hinterland, complete upgrade in port as well as the collection, distribution and transportation system, the perfection degree in the industrial chain of shipping, services industry level in shipping, therefore the core competition between the shipping center cities will also be adjusted, competition in software conditions has become an important trend in the shipping center, then the evaluation indicators for shipping centers along should also be changed accordingly.

1.1.2 International industrial restructuring in the financial crisis and Shanghai International Shipping Center emerge as the times require

A financial crisis in 2008 has brought certain change in the pattern of shipping the world over, and the international industrial structure will be further adjusted, when developing countries and emerging economies will play a more important role on the international stage, especially rapid growth will continue to be maintained in Northeast Asian area, followed by the demand for the upgrade of shipping services, then one emerging international shipping center city with collection and distribution and transportation as well as high-end shipping services system is bound to needed in Northeast Asian area.

Shanghai is the No. 1 city in mainland China, economic, trade, financial and shipping hub in mainland China. In terms of geographic location, Shanghai is located in the central part of north-south coastline and seated in the Yangtze River estuary, and is connected with ten provinces in China along the west of Yangtze River, has huge economic hinterland in the Yangtze River and the entire Yangtze River Delta with the perfect port infrastructure; Shanghai occupies irreplaceable core position in the financial insurance in China with relatively complete industrial chain of shipping; from the perspective of history and culture in port development, Shanghai port has had 800 years of development history with rich culture and Shanghai style atmosphere; In education and training, Shanghai Maritime University has a history of a century feeding professionals to the shipping industry continuously. Therefore, it is not impossible for Shanghai to become the forerunners in international shipping center with unique domestic conditions desiring.

It was clearly stated in Document No.19 issued by State Council that the international shipping center with a global shipping capacity of resources allocation is to be built until 2020 during "12th Five-Year " period, and Pudong is of great significance to the construction of Shanghai International Shipping Center, Pudong new area should avail of this golden opportunity for development, speed up industrial restructuring and integrated adjustment of productivity layout in Shanghai through linkage between the west and east, which contributes to a comprehensive rationalization and upgrade of industrial structure. After amalgamation between Pudong new area and Nanhui area, the new district gathered three of the six original accumulation areas of shipping after the merger, which has Waigaoqiao shipping and logistics accumulation areas, Lujiazui shipping and financial services area, logistics and maritime multi-service accumulation area in Lin Gang New City, with various kinds of infrastructure, rich maritime resources, and in the meantime, Pudong new area has advantages of both shipping manufacturing and shipping services industry in terms of industrial integration. The layout of shipping industry and layout re-shaping of the urban functions is just around the corner in Pudong new area, to realize the situation clearly

is the pre-condition to meet with opportunities and challenges with ease.

1.1.3 How to build a world-class shipping center with competitive edge is the challenge the accumulation area faces in Pudong District and Shanghai

London is the recognized international shipping center in the world, occupying the commanding heights or high ground of the international shipping services. For the time being, 20% of the ship's classification management institutions are permanently seated in London, where 50% of the tanker charter business, 40% of the bulk carrier business, 18% of shipping financing size and 20% of the total amount of shipping insurance the world over have been conducted in London [1] . More than 1750 companies and agencies worldwide engaged in shipping business have offices in London, among which 2.1 billion pounds revenue was contributed to UK only in 2008 by maritime services. London now has over 400 shipping broker companies, which has the world leading level in marine insurance, ship leasing, charter brokerage, ship financing, ship ratings, legal and accounting advice, dispute resolution services and other aspects.

In 2010, the competitiveness index of international shipping centers the world over was issued in Pudong, Shanghai, as the first international maritime shipping center index in the world's shipping history, London, Tokyo, Hong Kong were the top three, and Shanghai, determined to create International Shipping Center ranked fifth. This reflects from one side the rapid development of the Shanghai international shipping in recent years, on the other hand, the report was evaluated mainly from the areas like "carbon emissions, global resources allocation capacity", analysis of hardware and software environment in Shanghai is not that detailed. This paper aims at the probe into the status quo of shipping development in Shanghai, the comparison of shipping software and hardware conditions in Shanghai and London using Analytic Hierarchy Process (AHP) to discover the problems existing in the development of Shanghai in the shipping, and on this basis, to analyze the functional positioning of Pudong in the rapid maritime development during the "12th Five-year Plan" in Shanghai, and finally

proposals were put forward for reference.

1.2 Literature Review

1.2.1 Competitiveness research

It is pointed out in "New Palgrave Economics Dictionary" that competition is a kind of contending act between the individuals (or groups and international). It refers to the process or the state that the economic body strives for the scarce resources, which includes factors of production, distribution network, market share, goodwill and other tangible and intangible resources. Competitiveness is the overt or latent power of economic mainstay in the the process of struggle to obtain scarce resources, through the systematic review on the competitiveness theory, Mr. Duan Feng (2005)divided into the following genres: theory of comparative advantage, competitive strategy theory, school of resource dependence, theory on the organizational capabilities, core competence theory, competency-based competition theory [2], some of the points in the Porter competitive strategy theory will be mainly used to analyze in this paper.

1.2.2 Research on competitiveness of the port

Some research has been carried out in both theory and practice on the competitiveness of port, and the current study is being conducted from two aspects of the quantitative and the qualitative. On the qualitative research, Mr. Mo Bao Min (2002), first analyzed the characteristics of port services and then pointed out that the key strategies of port competition can include competition strategy of integration between port and shipping, price competition strategy, differentiation business competition strategy, market-based port boosting strategy [3]; Mr. Chen De ming (2001) analyzed the economic and trade development trends and favorable conditions of Shanghai's formation into the pivotal port, clearly clarified the new development requirements of Shanghai port against the backdrop of fiercer competition in international pivotal port and put forward that only through the full play of various aspects of the comparative advantages can Shanghai International Shipping Center be built faster and better [4]. Based on the analysis into business status and competitive layout of China's container

pier, Mrs. Gu Ya zhu (2006) approached the competitive factors of container terminal, pointed out the various major ways of enhancing the competitiveness of container wharf: cultivation of industrial clusters, development of "port combination", investment and cooperation and exploration of "free port" policy and the like[5].

In terms of quantitative probe into the competitiveness of the port, through the analysis into a survey data of port hardware and software facilities, Zou You jia and Xi Xiang ying (1998) pointed out the gap between port of Shanghai, the largest port in China, and ports in the surrounding countries and regions like Hong Kong, Singapore, Kaohsiung, Kobe, Busan. [6]. Kevin Austine (2005) conducted the analysis into relative competitiveness on the two adjacent container ports of Shanghai and Ningbo, assessed needs of service based on the premise of the two ports with the same hinterland, and made detailed analysis of the current supply capacity and future program of expansion, followed by assessment of relative competitiveness in aspects of service quality and price both in Shanghai and Ningbo [7]. Based on the analysis of the competitiveness at Qingdao Port, Mr. Duan Feng (2005) approached the internal and external conditions of Qingdao Port in the advantages and disadvantages, opportunities and challenges at Qingdao Port, followed by a comprehensive evaluation of the competitiveness of Qingdao Port using AHP (AHP) and combination of quantitative analysis and qualitative analysis, and ultimately defined a clear strategic target positioning of Qingdao Port and proposed a strategy and suggestions to enhance competitiveness [8]. Through the related probe into competitiveness of ports in Southeast Asia on Kaohsiung Harbor, Mr. Lu Jin shan (2002) laid down a set of evaluation index system on port competitiveness, expert scoring were used on the competitiveness levels of hardware and software condition of Kaohsiung, Keelung, Pusan, Hong Kong, Singapore, Kobe, Tokyo, Shanghai and other ports, and got the final ranking of port competitiveness [9].

1.2.3 Correlated research on Shanghai International Shipping Center

Shanghai International Shipping Center is still in the state of planning and construction, which involves more literatures on this side currently. The writer thinks it can be divided into three directions, which is mainly carried out from the perspectives of policy, competition theory, quantitative analysis, etc.

From the viewpoint of policy, Mr. Gan Chang sheng (2005) put forward the focus on national policy support with the stress on financing and active encouragement of innovation and introduction of other project financing on the basis of reviewing the existing investment and financing policy of water transport infrastructure in China, as well as reviewing history of the investment and financing transport investment and financing policies in other international shipping center [10]. Mr. Feng Zhan Qing (2006) propose that the build-up of an international shipping center in Shanghai is to pay attention to the shipping industry, port industry as well as the coordination of industry, and put forward their own ideas on the development strategy of related industries, such as large industrial development strategies in LinGang area, industrial development strategy of port services and urban development strategy [11]. Hsu Pei-sing (2004), Director-general of Shanghai Municipal Port Administration Bureau, interpreted the regulations on the port of Shanghai, focusing on how to seize the current favorable situation to further improve strategic planning of Shanghai's development, to further enhance the port capacity in allocation of resources and boost competitive edge in Shanghai [12].

From the perspective of competition theory, Mr. Xu Xing (2003) puts forward the inefficiency and backward system, serious challenges of competition and others faced by Shanghai international shipping center in the process of construction after analysis, and thus pointed out the theory of competitive advantage combination pertinently to carry out its SWOT analysis, and concluded that reform and innovation should be conducted from the construction of deep-water port, realignment of the Yangtze estuary waterways, accelerated construction of related services, consummation of Shanghai shipping market [13]. Proceeding from the soft environment construction in

Shanghai, Ms. Wu Xiaohui (2004) compared and analyzed the status quo of the soft environment in London, Rotterdam and other five well-known international shipping centers, pointed out the eight useful experiences such as improvement of shipping legal system, construction of quality shipping information centers [14]. Mr. Huang Shao qing (2008) focused on the status and role of financial industry in the building of international shipping center, pinpointed that the developed financial sector is a strong support for the building of an international shipping center and consummate financial service system is an important factor to ensure efficient operation of international shipping center through the analysis into overview of development in financial industry London and other shipping centers. [15].

In quantitative analysis, Ms. Lv Xiaoyan (2007) used the abstract comprehensive assessment method for the evaluation of the competitiveness between ports of Shanghai and Busan, and pointed out that as Yangshan Port has been put into operation, the overall competitiveness of Shanghai port has been slightly higher than that of Busan port, but there is still a gap in port environment, information-based management compared with the Busan port, which requires the further improvement [16]. Mr. Duan Feng (2005) analyzed the competitiveness of Qingdao port by the use of AHP, determined and reviewed the competitiveness based on the three aspects of port scale, basic conditions and logistics support, software evaluation, which ultimately the specific suggestions on Qingdao port were put forward [17].

Through a systematic review of the literature, we can see that the current probe into the construction of Shanghai international shipping center are quite a few together with many suggestions, however, the number of related theory as to competition is small, and there is almost no related theory concerning the shipping accumulation area at Pudong, therefore, taking Shanghai international shipping center as a breakthrough point for the probe into the maritime cluster at Pudong will have theoretical and practical significance to some extent.

1.3 Research Methods

The following three methods were adopted in the paper: first, normative research, through the theoretical review and sort-out of literature, which laid the theoretical foundation for competitiveness of the shipping accumulation area at Pudong, then empirical study was applied together with data collection, expert interviews and etc to provide some data support for AHP. To better understand the real situation of the current accumulation area at Pudong, SWOT analysis will also be used in the paper as a secondary analysis, which laid the foundation for the suggestions for strategy.

1.4 Structural Framework

A brief review of the development history of international shipping center was done based on the review of the related competitiveness of Shanghai international shipping center, and then the AHP analysis was used for the assessment of conditions for shipping development both in Shanghai and London, on which the competitive edges at Pudong New Area including shipping services, policy, information were discussed and finally the relevant conclusions was drawn, this route chart of research is just shown in Figure 1-1.

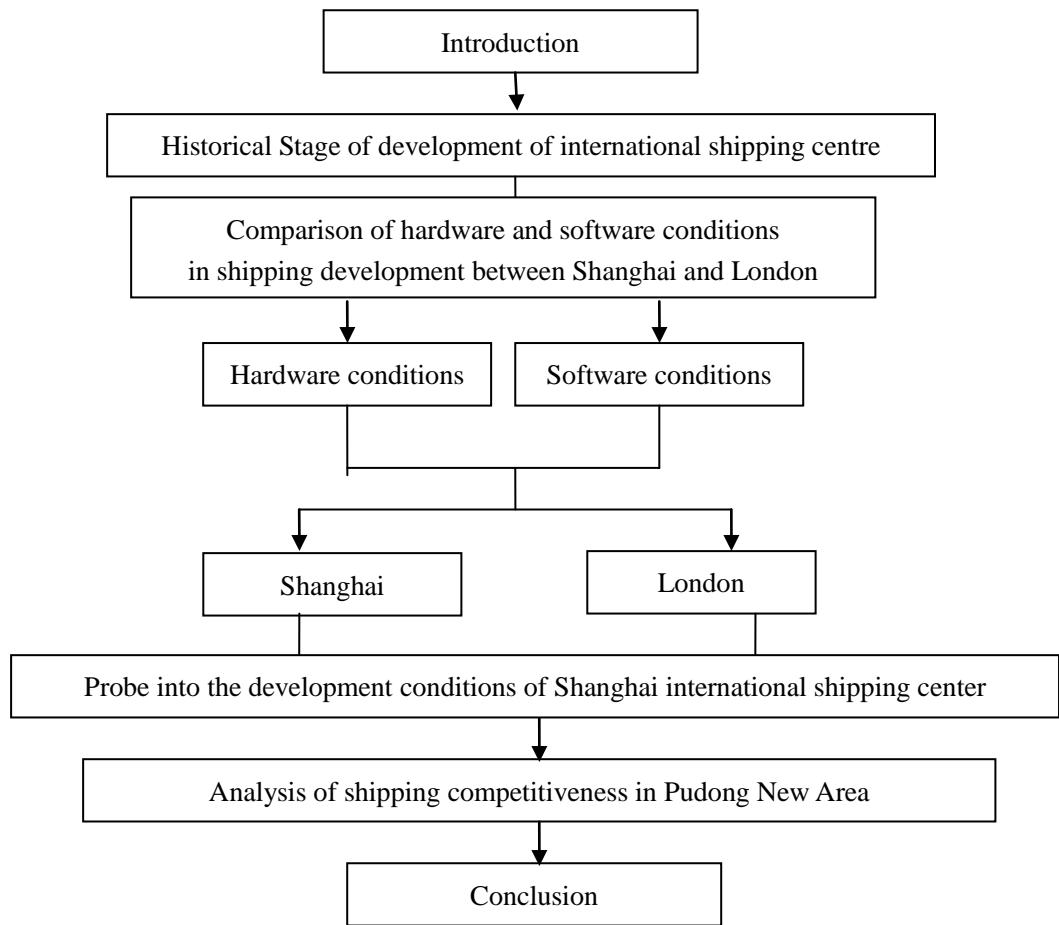


Figure 1-1 Chart of Research Mentality in the paper

Chapter 2

Historical Stage of Development of International Shipping Center

2.1 The concept of an international shipping center

International shipping center is a concept of comprehensive development and the relatively accepted definition, just as Ding Yong jian (2005) said, is that an international shipping center is the port city with the status of an international shipping hub recognized by the public in the international area coverage and the international shipping as a core bond, promoting the coordinated economic development in local and the related areas (such as peripheral or economic connection area), which will contribute to the rational layout of the related industries and ultimately actualize the best allocation of resources in [18]. From this definition, an international shipping center is not simply the definition of "a port", in fact, the role of international shipping center is the function of a port city, and the positioning on the function of city as a whole is a relatively broad concept. Mr. Zhang Lian jun (2003) considers that an international shipping center can be identified as an international shipping hub, which integrate the shipping market with mature development, the consummate logistics system, the collection, distribution and transportation system, and many flights or sea routes, relied on the international financial, trade, and economic center [19].

International shipping center is in the dynamic process of development, the international shipping has undergone several generations of functional evolution and development, together with geographical change from the emergence of shipping. These changes are produced in the wake of international trade, especially the promotion of navigation. Increasingly all-too-frequent international transactions have enhanced the trade volume substantially, developed the new section and domain of trade continuously, launched the seamanship revolution, which can increase the

navigation coverage and choose more alternative routes as well as provide more technical basis.

2.2 The historical stage of development in international shipping center

2.2.1 Phase I before 1960s

Late in 18th century until early in 19th century, industrial revolution broke out in Europe makes Britain become the world's factory quickly, and London became the world's international shipping center in the first generation in virtue of a good location, advantageous port conditions, the rapid development of industrialization, and the main function of the shipping center in the first generation is to provide facilities for those international ships during transit, namely the "shipment transit type" shipping center, and the importance of natural and economic environment has been demonstrated in the shipping center of the first generation, and due to the backward economic development and underdeveloped trade, Lisbon, Portugal and Tunisia, Italy have lost the core position of port in the world, which was eventually replaced by some Western European plate such as Rotterdam and London and the like. The main cargoes dealt in by shipping center of the first generation is bulk cargoes, expressed as low value-added services like simple sub-boxes and others, and resources and labor are the important factor in the determination of industrial competitiveness. The shipping center of the first generation can be defined as "shipping in the transit."

2.2.2 Phase II 1960s until 1980s

The international shipping center of the second generation emerged after World War II and the time period was from 1960s until 1980s, London was the first city conducting the functional transformation, with the original simple service functions transformed into the shipping services, transaction, shipping information services, London has become a global center in shipping, maritime services and ship leasing, whereupon a series of shipping exchanges are produced in London which can actualize the scheduling of global shipping market, offering of information, provision of shipping insurance, information consultation, etc. The impact of services like

marine insurance, marine technology and information consultation, maritime law has started to spread around the world. The second phase of development in international shipping center is the diversification stage of the international shipping center, and became the forerunner of international shipping center development, and then the manufacturing sectors around the Great Lakes in New York City have already been very strong, and at that time the U.S. economy, finance and trade position have improved significantly after the secondary industry revolution, and New York has also become an international shipping center of the second generation with prominent functions, and the New York Shipping Exchange can be mentioned in the same breath with London Baltic Shipping Exchange, which laid a basis of New York in the position of international shipping; Singapore, Hong Kong are the representative of the new generation during this period, with the transfer function of the international shipping center and the volume of goods in international transit occupied above 70% of port capacity, and meanwhile liberalization management and began to be implemented in the shipping center with the active implementation of a free port policy, and the most important is the increasing improvement in the value-added services of the port, including the deep water port facilities, container yard, warehousing, ship repair and rental, provision of information and other range of almost every related services with the significant growth in the industrial chain [20].The shipping center of the second generation can be regarded as "value-added processing."

2.2.3 Phase III from 1980s until the end of the twentieth century

From 1980s until the end of the twentieth century, the third technological revolution has brought about the rapid development of the global economy as well as increasing elevation of science and technology levels, during which the integration process of the world economy has been speedily facilitated and the multinational corporations has become an important economic mainstay in the shipping center city and started to actively participate in the allocation of resources within the radius of shipping, the shipping center has made the rapid development from the function, development

patterns and influence and other aspects. Besides London, New York, Hong Kong, Singapore, a number of new cities began to emerge, the international status of Shanghai has been boosted on the increase, but the new city is not yet fully equipped in terms of the function.

From the viewpoint of specific functions, international shipping centers in the third generation have significantly tended to be more complete, the shipping centers in the first two generations focused mainly on allocation of cargo resources, which shows logistics and its extension services, but the core functionality in the third generation tends to be even more rich and refined in the allocation of resources, not only includes the traditional allocation of cargoes, but also the allocation of various intangible resources like serial industry, capital, information, services and talents and others, and the connotation of allocation of extremely rich resources more and more weakens the role of natural conditions at this time, and the development of economy and finance become major factors in the restriction of the development of shipping centers, likewise, the shipping center has also become a comprehensive resource allocation center, which lays a foundation for the allocation of resources in economic hinterland and the surrounding areas[21]. The shipping center in the third generation can be considered "resource allocation model."

2.2.4 Phase IV From the beginning of the twenty-first century until the present

Since the 21st century, the shipping centers in the first three generations are the highest forms of the shipping center in the shipping history, compared with the shipping centers in the previous generations, it has the following characteristics: first, low-carbon. The international shipping center in the fourth generation not only means energy conservation and environmental protection in the port city, green sea and airports, and clean fuel fleet standing in the world, but also becomes the trading center with low carbon emissions in the area; Second, the global aero-naval intelligence network. At present, any seaport and airport is only a node in the network of airports and seaports as well as the logistics and flow of funds the world over. The

international shipping center in new era is to "keep foothold on the nodes and create the hubs"; the port in the fourth generation will become the main port in the international shipping center. The concept "port combination separated in physical space but linked by the public operators or management departments" raised by United Nations Conference on Trade and Development at the turn of the century could be the priority among priorities in the international shipping center of the fourth generation. "Virtual combination port" and "multiple and direct sea-river-land transport" are still in the ascendant; "Integrated logistics services" will be the optimal allocation of bulk minerals, petroleum energy and its manufactured goods; "International shipping productivity " reached the unprecedented height; "International shipping " and "Global Shipping Services will jointly be built into intelligence-intensive and emerging industries in the international shipping center of the fourth generation, then in order to achieve a win-win situation [22]. The international shipping center in the fourth generation is also called "low carbon with intellectual network."

2.3 The basic characteristics and functions of the shipping center

Through its introduction of concept and review of history, the international industry center has the following basic features and functions:

First, the international shipping center is port clusters with modern and large-scale deep-water port as a pivot and hub rather than the usual ports, in other words, the ports may not be formed into the international shipping center, but the international shipping center is to be premised by modern and large-scale deep-water port clusters and strong related services system of shipping.

Secondly, the international trade center should have the global and broad network of international sea-route, or includes some ports that can mobilize the global sea-routes, which makes the services and sea-routes cover the globe.

Third, the back-up of driving the international shipping center is not only just the global shipping industry, but also those modern logistics system which supports the shipping industry, together with the very strong service systems such as the related value-added services, collection, distribution and transportation systems in multimodal transport, information services and door-to-door service, which ensures the operation of international shipping center.

Finally, the international shipping center has a strong function of bringing along the industry. International shipping center not only makes for the development of shipping industry, but also results in the multiplier effect in the advanced manufacturing and service industry driven by shipping industry, which makes the shipping industry and other industries have a complementary role on each other. The development of the shipping industry in itself is relied on the development of various modern service industries such as the port city of the international shipping center, international finance, international trade in local area and others, and on the other hand, the development of shipping industry can also further promote the development of modern service industry such as port city of international shipping center, the international finance and international trade in local areas.

2.4 The change in standard of competitive power in shipping center

It can be seen that the international shipping center has undergone four stages of its development with increasingly complete functions, and the natural conditions like geographical location has no longer the core element that determines the competitiveness of shipping center, Shanghai, as an rising international city, the financial shipping economic crisis in 2008 has brought about certain negative effect to the shipping economy, but, on the other hand, it has not only laid the social status of internationalization as well as the adjustment of function and positioning in Shanghai from the ability of China's shipping industry to resist risks in the international community, but also brought forward the new requirements for the building of

Shanghai international shipping center, and meanwhile the evaluation indicators of competitiveness should also be adjusted with the times.

Chapter 3

Comparison of Software and Hardware Environment in Shipping Development between Shanghai and London

3.1 Survey of Shipping Development between Shanghai and London

3.1.1 Overview of shipping development in London

International shipping center in London witnessed the evolution of the four major courses in the international shipping center, which is the well-deserved forerunner in the current international shipping center, and the development of the international shipping center in London have also gone through four stages, in early 18th century, the international shipping center in London initially formed and exports of commodities accounted for 4 / 5 or more in Britain, which had already had strong capital strength, production capacity and trade strength; After the first industrial revolution, the developed mining industry and textile industry in London had created a lot of freight demands, and at this time the global business center, trade center and financial center began to shift to London, thus the insurance, shipping, finance have developed synchronously, which makes London become an international transportation hub as well as a major gateway of Europe to the world. London and European countries experienced a number of economic damages during World War I, especially after the global economic crisis and World War II, the international status of the United Kingdom suddenly dropped, but London remained in the strong position as the top international shipping center with very gigantic merchant fleet, diversified shipping services and developed charter market, but at the same time competitors against London began to increase and New York has started to become the metropolitan city like London contending for the monopoly of the international market. However, the level of additional services in international shipping of London is still taking the lead in the world.

London, as the port dealing with the most non-fuel-based cargoes in the UK, even if

some old docks and piers are closed, remained the core port status in the UK handling 10% of the maritime cargo transport volume nationwide, with the coastline of 150 km from Margate in Kent Shire and Clacton in Essex Shire to Dante Township and the three million staff directly employed. 1 Cargo throughput in London reached 52.7 million tons and container throughput hit 2,027,000 TEU in 2007, after the completion of project, Brown Field, as the gateway port in London the handling capacity of modernized large vessels and containers will be further enhanced again, reaching 350 Million TEU in the cargoes throughput. The related services of international shipping in London also hold strategic position in the world with 18% in ship financing, 23% in insurance underwriting, and 50%, 40% in distribution of cruise ships and dry bulk charter respectively, 50% in tonnage of second-hand vessels. Figure 3-1 is the various proportions of ship finance, insurance underwriting and other in the international service sectors in London.



Figure 3-1 Market share of shipping services in London internationally

Source: Dong Gang. International shipping center in London and the probe into the dynamic evolution of the British shipping industry, Water Works .2009 (12)

The strengths of the international shipping center in London has mainly the following aspects:

(1) London is an international financial center

London inter-bank offered rate (LIBOR) is the current benchmark interest rate prevailing in international finance, LIBOR loan terms are also the important standards in the global ship financing market.

(2) London is the hub of international shipping information

As the city with the largest number of the professional shipping media accumulated, the authoritative international shipping companies like Drewry Shipping Consultants Co., Clarkson Research, the authoritative international shipbuilding companies such as Lloyd's Register Marine Co., and the authority in container transport - the international containerization information centers are located in London as well, a number of international research reports and related data also published in London to guide the operation of the shipping market in the world and promote shipping transactions such as the "Yearbook of International Containerization", "Lloyd's Shipping Economist ", which are authoritative books.

(3) London is the center of shipping finance and marine insurance

The total volume of shipping loans in London in 2006 reached 18% of the global total with the ship's premium income accounting for about one-fifth of total revenue the world over. Besides, the world's most important shipping exchange has been in London and the Baltic Shipping Exchange has occupied position of sign post in the international shipping market since the 17th century, which has more than 600 companies, more than 2000 representatives, and the 75% transportation business of the dry bulk cargoes in the world.

(4) London is also the official and unofficial concentration area of international maritime agency

There are currently over 18 international organizations with their headquarters in

London, the only professional maritime agency under the United Nations- the International Maritime Organization had set its headquarter in London as well. Therefore, it is seated in the service center of international maritime law, and in the disputes, the application of any international laws in the United Kingdom are more extensive than that of any international laws in other countries. In addition, the world's largest shipping broker companies are in London as well, which has completed the contracts of more than half the cruise ship transportation and more than a third dry bulk transportation. Besides, the only specialized maritime agency under the United Nations-the International Maritime Organization headquartered in London. London is the international maritime legal services center the world over. In the solution of the maritime disputes, the application of British law is more extensive than laws of any country in the world. In addition, the largest international shipping agent company is based in London. London completed the world's 50% of tanker transportation contracts and 30%-40% of the dry bulk transportation contracts are fulfilled in London.

3.1.2 Situation of Shanghai shipping development

Early in May, 1994, during the inspection in Shanghai, Premier Li Peng advanced that an international shipping center should be built in Shanghai. In November that year, the Ministry of Communications conducted research and consultation with the related leaders in Shanghai and reached a preliminary agreement on a research report, which pointed out the logistics system with developed shipping market and improved container logistics as well as extensive flights, routes should be strived to be built in Shanghai international shipping center and become the international shipping hub. Certain conditions have been achieved in both hardware and software, such as complete ports and piers, the storage area, collection, distribution and transportation conditions and the deep water channel, etc, which should also be equipped with sound management and services for support.

The biggest problem encountered in the process of building Shanghai international shipping center is that there is not shorelines of over 15 meters in Shanghai, then the container deep-water port can not be achieved, and later the Yangshan Island in Zhoushan maritime space became the ideal site for construction of deepwater port in August, 1995. [23]. In early 1996, construction of international shipping center was launched, and in September 1997, Jiangsu province, Zhejiang province, Shanghai and other provinces and cities jointly set up the combinative administrative bodies of container ports in the first case nationwide – Shanghai port, and "Pre-feasibility Study Report of the First Phase Project in Yangshan Deep Water Port Area", " General Planning of The Map-out of Yangshan Deepwater Port, Shanghai International Shipping Center", " Pre-feasibility Study Report of the First Phase Project in Lu Yang Cross-sea Bridge" and the corresponding preparation of reports issued at the end of 1998, and the first phase project of the Yangshan Deep Water Port was approved by the State Council the 94th executive meeting in February, 2001, and the Yangshan deep water port project was officially launched in April, 2002, and the first phase of the project in Yangshan Deepwater Port in Shanghai had been completed and opened in 2005, the construction of Yangshan Deepwater Port project was officially completed in December 2008, and then Shanghai realized the real stride from the harbor in the estuary to sea port [23].

It has been shown in the statistics that cargo throughput in Shanghai Port in 2010 surmounted more than 600 million tons, ranking first in the world for four consecutive years, and meanwhile container throughput in Shanghai Port in 2010 reached 29.069 million TEUs, up by 16% with the corresponding time, surpassed the Singapore and ranked first in the world for the first time [24].

3.2 Comparison and Analysis of Shipping Center Development between Shanghai and London

In a sense, the early start in London had some advantage of predominance, while the late start in Shanghai with the rapid development also showed the associated subsequent advantage, where the strengths of the hardware were compared between

Shanghai and some of the major ports in China and London, just as shown in Table 3-1. The results showed that the strength in terms of hardware facilities and the like in Shanghai is not lower than that in London, and then the soft environment can still be considered the major gaps currently.

Table 3-1 in London and the country's main port on the hardware comparison

	London	Shanghai	Dalian	Tianjin	Qingdao
Container throughput in the world rankings	>45	5	39	28	20
The number of deep-water berths	40	97	40	53	32
Navigable channel depth (Unit: M)	12	16	15.5	15.5	17

The soft environments in international shipping centers between Shanghai and London were briefly compared here, which were listed in the following table.

Table 3-2 Comparison of soft environments in international shipping centers between Shanghai and London

	London	Shanghai
Management levels	the high degree of policy improvement with high transparency, consummate legal system	unimproved policy with less transparency and inadequacy of laws and policies
	economic benefits, logistics services and high integration of port management	there are still some faults in economic benefits, logistics services and port management

	market economy-orientation, market norms and strong regulation of prices	there still exists a certain lack in the role of government to regulate the market behavior and regulate market prices
Service levels	highly information-based	low information-based
	a long history of financial markets and improved services	the value-added insurance industry is pretty backward
	a high degree of the related convenience services in line with international standards	convenience level of the related services to be improved with each passing day, but there is still much room for growth
Talents Status	more than thirty institutions including the State University of London, City University, which foster a lot of talents for the shipping and transport-related industries, focusing on professional training	some sixty universities and institutions including Fudan University, Shanghai Maritime and others s, focusing on the comprehensive training
	1.02 million working population in London with a high proportion of senior personnel	23 million working population in Shanghai with the high total number of senior personnel

It can be seen that the monopoly status of London in the international shipping centers has been attained after years of cumulative development, which has been closely related with its economic foundation and historical development and the like, however, the hardware environment in Shanghai has already reached the world-class level, but there is still a far cry from London in the building of the soft environment, which is a relatively long process that cannot be accomplished overnight. For the time being, the comparative analysis of hardware and software environments between London and Shanghai is not many here at home and abroad and the method of AHP will be used here.

3.3 The theoretical basis of AHP (Analytical Hierarchy Process)

AHP refers to the systematic approach of dividing the target into the multiple objectives or criteria, and then further breaking down into a number of levels in the multiple indicators (or criteria, constraints), and calculating the single-level sequencing (weights) in the gradation and the total sequencing by the abstract quantitative methods of qualitative indicators, as the target (multiple indicators), and optimization of decision-making by multi-programs.

The problem of decision-making is divided into different levels of gradation in the orders of the general objective, sub-goal in various layers, criteria of evaluation to the specific program of transfer devices, and then the priority weight of every element in each gradation against that of elements in the previous gradation through the methods of Eigenvector solution to determine the matrix, and finally the methods of weighted sum and hierarchical add-up are used on the alternative options for the overall weighting, and the greatest in the final weighting is the optimal solution. The so-called "Weight of Priorities" is a relative measurement, which shows the evaluation standard of alternative programs in the certain characteristics or sub-goals, the relative measurement degree of superiority under sub-goals, as well as the relative the degree of measurement of importance compared with the previous layer of targets. AHP is more suitable to the stratified and staggered target system of evaluation indicators, and the target value is hard for quantitative description of decision-making problems. Its use is to build a matrix of judgment and find the largest eigenvalue and its corresponding feature vector W , and it is the weight of the relative importance of indicators in certain levels related to that of the previous level after normalization [25].

The use of AHP will be undergone through the establishment of hierarchy model, followed by the construction of contrast matrix, calculation of the weight vector as

well as the consistency test to make up the structural matrix and a couple of steps. Due to space limitations, not too much introduction will be done in this article.

It should be noted here that the contrast matrix is constructed in accordance with 9 grades of importance and its evaluation given by Saaty in the paper. The table of the proportion and scale is just shown in Table 3-3,

Table 3-3 Chart of Proportion and Scale

The importance of indicators	Quantization value
Equally important	1
Somewhat important	3
Strongly important	5
Highly important	7
Extremely important	9
Intermediate values between the two adjacent judgments	2、4、6、8

3.4 Building of Evaluation Indicator System

At present, there is not much analysis into the design of indicator system in the study of competitiveness in the international shipping center, Mr. Duan Feng (2005) put forward the evaluation indicator system in the port of Qingdao in his master's thesis "Study on Competitiveness in port of Qingdao", but due to the fact that compared with the concept of shipping center, the concept of port is a lot subtler, so there is some reference but cannot be completely consulted, the writer will innovatively restructure the hardware and software conditions of shipping development in between Shanghai and London in accordance with the relevant foreign language literature and some experience of internship and practice here.

3.4.1 Definition of brass-tag indicators

Brass-tag indicators are clearly visible and measurable indicators that can be measured and calculated, for example, the share of cargo throughput and container throughput in the hub port in the total the world over, the share of the amount of container operations and the like, and refined to the number of international flights, density of international flights, collection, distribution and transportation system in the modern ports, quantity of ship, depth of channel, which also can be some basic indicators measuring the shipping center. According to the basic functions of the international shipping center, the hardware indicator is divided into four aspects: integrated throughput and capacity, collection, distribution and transportation system, electronic information platform and infrastructure.

3.4.2 Definition of soft makers

The soft indicators shipping center domestically, for instance, the refined various indicators of the cultures in international shipping center of Shanghai and other aspects are quite a few, such as Mr. Jin Zhen dong (2010)divided the soft indicators into the soft power of government and economy in the thesis "Research into the construction and evaluation of soft power indicator system in the international shipping center", Ms. Wu Xiaohui (2004) indicated the indicators of the soft environment should include the six areas such as shipping policies and laws, government services, shipping market, financial environment, information services, human resources and the like in " Construction of the soft environment and the role of government in Shanghai international shipping center", in which the management level, service level and human conditions are comprehensively applied for judgment. Therefore, the indicators for building of the hardware and software conditions in the development of Shanghai and London shipping conditions are just as below:

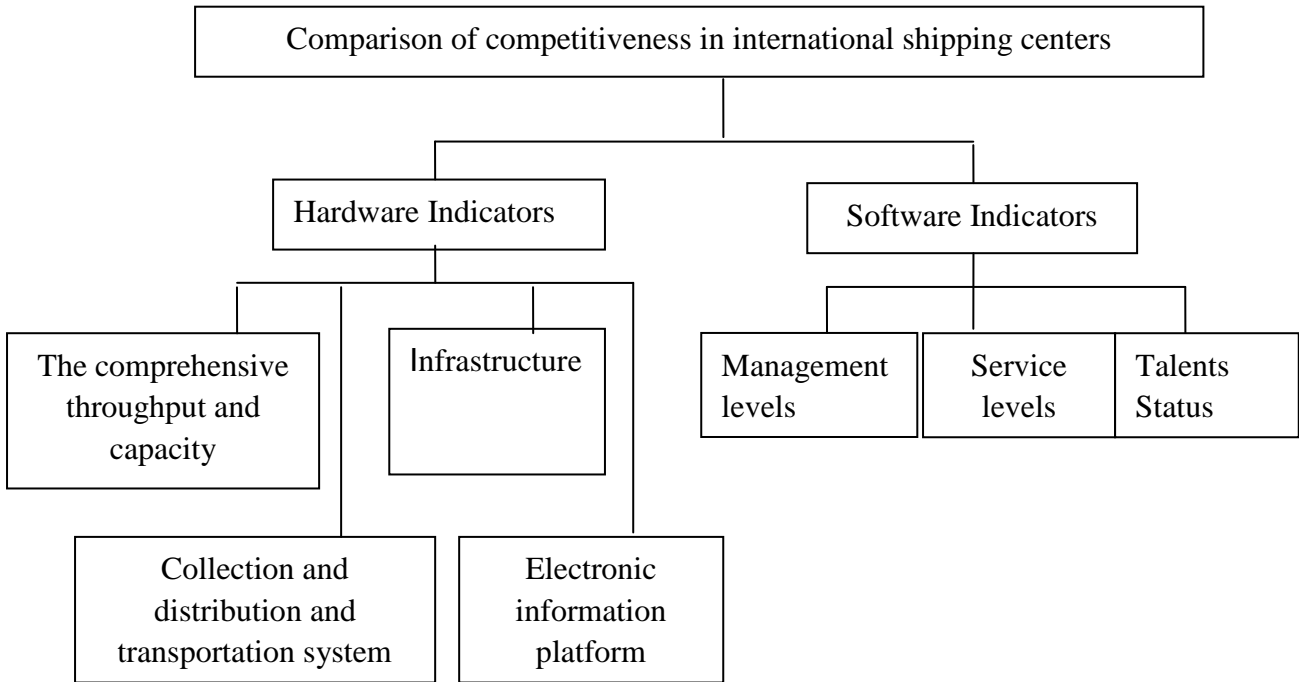


Figure 3-2 Contrast Indicator system of comparison between hardware and software conditions in the development of shipping centers

3.5 Calculation and Discussion of AHPModel

(1) The process of calculation

In the indicators system above, comparison of the competitiveness is the core layer, the hardware and the software indicators are the middle layer, the specific indicators detailed is the sub-rule layer, and what kind of significant differences exist in Shanghai and London were finally discussed, in which the estimate matrix was established and the related numerical values were calculated at various levels. In the contrast of sub-rules, the views of some researchers and workers with practical experiences were consulted in the Shanghai international shipping center, namely, application of expert evaluation method was carried out for the comparison in importance of formula, the estimate matrix was established at different levels, and indicator weights W in single ranking at all levels were respectively calculated, and the maximum eigenvalue is λ_{max} , consistency indicator is CI , consistency indicator ratio is CR , and the results calculated were just as follows: (application of AHP software yaahp0.5.2 for analysis).

(Table 3-4 Target Layer A-B Matrix)

A	B1	B2	W	CR=0.000<0.1
B1	1	2	0.55	
B2	1/2	1	0.45	

(Table 3-5 Sub-rule level B1-C Matrix)

B1	B11	B12	B13	B14	W	$\lambda_{\max}=4.0301$ CR=0.0113<0.1
B11	1	1/4	3	1/5	0.1831	
B12	4	1	5	1	0.3335	
B13	1/3	1/5	1	1/4	0.1499	
B14	5	1	4	1	0.3335	

(Table 3-6 Sub-rule layer B2-C Matrix)

B2	B21	B22	B23	W	$\lambda_{\max}=3.0044$ CR=0.0043<0.1
B21	1	8	5	0.5938	
B22	1/8	1	1/3	0.1565	
B23	1/5	3	1	0.2496	

It can be seen from the value of CR, the judgment matrix built from the data in the table above are complete with satisfactory consistency. Then the level of total order is determined here and integrated weighting evaluation can be acquired. In the light of single ranking weight in the various levels, the calculation of the compound weights W in the gradation total order is just as follows:

Table 3-7 weights of competitiveness indicators in the international shipping center

Indicators	Indicators	Weight	Indicators	Weight	Sorting weights W
competitive ness in the shipping center	C1 hardware indicators	0.55	integrated throughput and capacity	0.1831	0.101
			collection, distribution and transportation system	0.3335	0.183
			Electronic information platform	0.1499	0.082
			Infrastructure	0.3335	0.183
	C2 software Indicators	0.45	Management levels	0.5938	0.267
			Service levels	0.1565	0.070
			Status of Talents	0.2496	0.112

It can be seen that the management level is the core indicator affecting the competitiveness, then followed by an indispensable role of infrastructure, collection, distribution and transportation system in shipping competitiveness, and subsequently followed by state of personnel.

During the process of paper drafting, five experts and scholars in shipping management were invited to score the hardware and software conditions in Shanghai and London, and the range of scores is from point 1 until 9, "9" represents absolute possession of competitiveness, "8" very competitive, "7" more competitive, "6" a little competitive, "5" general competitiveness, "4" is not much competitive edge, "3" less competitive, "2" little or no competitiveness, "1" absolutely no competitiveness. Then average their scorings and we can get the following tables:.

Table 3-8 scoring of various competition indicators in London and Shanghai by experts in the shipping center

City	Integrated throughput and capacity	Collection, distribution and transportation System	Electronic information platform	Infrastructure	Management levels	Service levels	Status of Talents
Shanghai	9	6	5	7	6	5	5
London	7	9	8	8	9	8	7

Table 3-9 Scoring situations in London and Shanghai

City	Integrated throughput and capacity	Collection, distribution and transportation System	Electronic information platform	Infrastructure	Management levels	Service levels	Status of Talents	Total score
Shanghai	0.906	1.101	0.412	1.484	1.603	0.352	0.562	6.220
London	0.705	1.651	0.660	1.267	2.405	0.563	0.786	8.237

3.5.2 Results and discussion

It can be seen from the above that the competitiveness score of Shanghai international shipping center is 6.220 in the case of a total score of 9, while the competitiveness score of the international shipping center in London is 8.237. Therefore, compared with that in Shanghai, the competitive advantages in international shipping London in London were still very obvious, which is closely bound up with many years of great development and accumulation in London, which to some extent reflects that

Shanghai has not yet to be among the leading ranks in international shipping center and it still remained to be strengthened in many ways.

(1) Shanghai is still in the initial stage of development in international shipping center. The leading international shipping center in Shanghai is still in its infancy, which is in the era of shifting from the core functions of international shipping center in the first generation to international shipping center in the second generation, but its function is positioned to become the international shipping center in the third generation with a number of integrated functions such as logistics collection and distribution, industry-driven advancement, shipping services, management and coordination. Shanghai has had some advantages like a certain location, deep-water port and economic hinterland and others, but the upgrade process there are still many obstacles in the process of upgrading, which makes extremely difficult for Shanghai to complete the task of the international shipping center in 2020.

(2) There still exists obvious insufficiency in collection, distribution and transportation system as well as electronic information platform in Shanghai. Shanghai has certain advantages in overall throughput and capacity, infrastructure, etc, in terms of comparison with the hardware environment, therefore the large-scale building-up is obviously not that important, but the collection, distribution and transportation system as well as electronic information platform needs to be strengthened. This helps to remind Shanghai to avoid duplicated construction of scales, waste of human and material resources to capital and less economic efficiency.

Collection, distribution and transportation system is core that relates the future and destiny of the port as well as the important prerequisite of achieving the functions of international shipping center in the third generation. The following table is comparison of the collection, distribution and transportation system structure in international shipping center.

Table 3-10 comparison of collection, distribution and transportation structure in international shipping center

Title	proportion of collection, distribution and transportation structure		
	road	waterway	railway
Singapore	3	95	2
New York	78	2	20
Rotterdam	47	45	8
Shanghai	85	10	3

It can be seen from above that collection, distribution and transportation system of containers in Shanghai depends heavily on the highway, and the share held by the road is too high making urban transport face a lot of pressure; abutment between trunk and feeder docking port in local area is not that smooth. Trunk and feeder port has not yet been abutted, coastal port has witnessed the rapid development in Shanghai, but the development of inland waterway network cannot be compared with that in Jiangsu and Zhejiang provinces. Gradation in inland waterways is relatively low, which cannot be equally abutted with inland waterways in Jiangsu and Zhejiang provinces. Railway transport is the weakest, which has not yet entered the container port terminal, and container sea-rail transport with high cost and small volume of transport, which the advantages like the long distance, high-volume, low cost and fast transportation in the trunk transport has not yet been given full play. With the industrial upgrading in Shanghai and Yangtze River Delta region, industries with large-scale input and output in raw materials has gradually shifted to the central and western regions, then the distance of collection, distribution and transportation in Shanghai international shipping center gradually increase, which urgently needs the medium-long-distance transport ways like waterways and railway to support the collection and distribution system. And it needs to be improved.

(3) Management levels in Shanghai needs to be improved

In the soft environment, the level of management in London is much higher than that in Shanghai and service levels and personnel are no exception. And what needs to be improved in Shanghai is the soft environment and low management level is currently the biggest bottleneck, which has had a significant association with historical factors, policy environment and the like, therefore, it is currently the first and imperative task to proceed from the reality of the current situation and strive to improve the management level.

Management function is the "glue" for all sub-systems functions in resource allocation, which can bring along the effective functioning of other subsystems by improving management capabilities, thus achieving the global allocation of resources in Shanghai international shipping center of the third generation.

In the institutional co-operation in the port, Shanghai international shipping center covers the geographical scope across two provinces and one city of Shanghai, Zhejiang and Jiangsu. Since the construction of Shanghai international shipping center, the long-term strategy of the construction and development focusing on "Shanghai as the center, Zhejiang, Jiangsu as the two flanks" has been taken, but in fact, the relationship between "center" and "wings" is all very subtle, and the implementation of the strategy was extremely difficult without efficient, effective cross-regional agencies of coordination and regulation.

Currently, its own port and shipping brand has been formed in the northern and southern flanks respectively in Shanghai international shipping center, and "Ningbo-Zhoushan Port" brand was played in Zhejiang province, while "Suzhou port" brand was played in Jiangsu province. As early as in 2006, on the operation platform of Shanghai, port management authorities of 16 cities in Yangtze River Delta co-founded the Yangtze River Delta joint conference system of port management departments, however, due to the administrative barriers between two provinces and one city and intersection of economic hinterland, this meeting system performs

practically no function, the overall advancement and integration of resources is currently to have difficulty progressing. The port layout and shipping services in Shanghai international shipping center cannot be effectively integrated, with the unnecessary gradations, overlapping functions, which is difficult to form a rational network of 'hub- feeder port-feeder port". Slow promotion in port cooperation cannot gain the initiative for t Shanghai international shipping center in the world shipping market, and affect the radiation of urban services in Shanghai to the Yangtze River Delta, Yangtze River Valley and the whole country. While interaction and interlink in the development of international key ports are very common, such as port of New York and New Jersey in North America, port of Rotterdam and Antwerp in Western Europe, port of Busan and Gwangyang in South Korea, which are all a sizeable port cluster for the formation of an integrated shipping center.

In the shipping management system, there exists excessive gradation and agencies of various departments in the construction and management of Shanghai international shipping center, separation state in the construction, management and operation, fragmentation of the state management functions. In Yangshan bonded port, actual authority in Management Committee in Bonded Area is not in place and doesn't have the appropriate authority, which cannot play the roles of unified development, administrative functions and overall co-ordination and constraint the smooth development of industrial structure and function layout in port area affect the play of the industry service capabilities.

(4) There is also a big gap in the level of service between Shanghai and London

In the service level, Shanghai is also a far cry from London with increasingly diverse services but low in level and a market which has not yet formed a good and high reputation. Currently, the port and shipping industry is still concentrated in ship transport and the port, as well as supporting water transport industry, but the modern shipping service industries like shipping agencies and ship financing, marine insurance, maritime arbitration, maritime shipping information consulting services

and others are also underdeveloped, with the low degree of internationalization. Besides, international shipping industry is capital-intensive and technology-intensive industries, while large-scale trends in the ship tend to be more and more intense, so the demand for capital by port and shipping industry has been on the increase, then the financial services like ship financing, marine insurance and others came into being accordingly. However, due to the above-mentioned constraints of lower internationalization, thus it limited the development of the financial services and led to the situation that many state-owned shipping companies can only detour to London to carry out ship financing business.

(5) Personnel situation in Shanghai has yet to be improved

It can be seen from the contrast of talents conditions that London is still the highland as well, high-level personnel in the port design and planning, shipping management, logistics and other important areas are still very scarce in Shanghai. There are a lot of integrated talents, but lack in the supply of expertise talents, lower than London in operation of practice, with very uneven distribution of service professional resources, which has greatly exacerbated one-way development domestically with a low degree of internationalization. For instance: companies engaged in the major international ship management in Shanghai are mainly based on the internal capital, small in scale with low level and less talent in maritime law and organization with low international level; Severe shortage of professionals in international maritime law, and less maritime law firm of high levels, which is also the important reasons why there exist the gaps in the management and service. According to statistics, some millions TEU containers in mainland China are in transit abroad every year, with the loss of hundreds of millions of dollars a year just in the transfer handling fee,. Second, the service costs are high. In a sense, it fundamentally restricts the development of port and shipping industry, which has seriously affected the upgrading of function construction of Shanghai international shipping center.

Chapter 4

Analysis into the Competitiveness of Pudong Shipping

Accumulation Area

4.1 The definition of the shipping accumulation area

There is no more authoritative interpretation of shipping accumulation area for the concept of shipping, which is a more popular term, the writer believes that shipping accumulation area can be understood as a range of people and businesses together engaged in shipping or the related work, with which more similar is the "shipping industries clusters." Professor E. Haezendonck in Antwerp University, is the first person made that port and shipping industry cluster in theoretical circles and introduced the cluster theory into the analysis of port and shipping industry, and she made that port and shipping industry cluster is "engaged in port-related services engaged in a series of independent businesses, gathered in the area of the same port, and uses almost the same competitive strategy in order to obtain the joint competitive advantages relative to the cluster outside "[26]The writer believes that on this concept are somewhat narrow in defining, for no elaboration is on the mutual cooperation between the various business relationships, flexibility and symbiosis, and the definition of shipping accumulation area was put forward based on this concept in the paper, which refers to port and shipping industry groups with geographical location of a large number of interrelated areas, association, industry, research institutes and other units gathered in a particular port together taking shipping industry as the core, where provides an overall one-stop service for port and the areas of port. Therefore, shipping accumulation areas included every industrial environment. In the operation of port terminal, waterways transport, collection, distribution and transportation system, which is a versatile concept of fictitious organizations, related to maritime transport, port services, insurance, financial services, certification training and other industries [27].

The Standing Committee of CPPCC in Shanghai held its first twenty-seventh meeting in April 11, 2011, referred to the role and positioning of the Pudong New Area in the international shipping center, Mr. Hsu Pei-sing, the member of Standing Committee of the CPPCC, said Pudong New Area should be the main battlefield in the building of international shipping center. Meanwhile, some of the elements in Shanghai international shipping center are gathered in the Pudong, for instance, Lujiazui shipping and finance service zone, Waigaoqiao shipping and logistics accumulation area, Lin Gang logistics and integrated maritime services cluster areas. Therefore, the shipping accumulation area in Pudong is of the significance to the construction of Shanghai international shipping center and a corresponding boost to China's shipping status.

4.2 The analysis of competitiveness of the shipping accumulation area

4.2.1 Core Services

Shanghai, as a vast economic hinterland, is constantly upgrading its service quality to attract the majority of foreign shipping companies to be stationed. Currently more than fifty well-known shipping companies around the world, such as Maersk of Denmark, Land and Sea company of the United States, Evergreen Marine Corp, passenger liner of Japan and the like were stationed in the shipping market in Shanghai, and opened a variety of international container liner routes. By 2010, Shanghai port has attracted more than 80 domestic and foreign large-scale shipping companies to join the operation of liners, and besides, has had trade relations with more than 600 shipping companies, over 500 ports in the world's 190 countries and regions, with the combined total tonnage of the ship reaching 17.8 billion tons and 25.7 million times' voyage into Shanghai. There are existing 275 water transport enterprises, 78 foreign shipping agencies, 139 freight forwarders in Shanghai, with a large number of shipping, freight forwarding, customs clearance companies gathered in East Da ming Road, forming the "Shipping street. "

The container throughput in Shanghai grew by 12% and reached 7.4 million TEUs compared with the same time last year in the first quarter of 2011, as of April 23, it has reached 2.02 million boxes, which had a slight increase compared with the same period in the previous month, and to create the international shipping center in Shanghai has been put into substantive operation stages, according to Annual Report by Shanghai International Port Group in 2010, container throughput reached nearly 30 million TEUs last year with an increase of 16.3% compared with the same time. Reporters from the Oriental Network today learned from the Shanghai International Port Group, the Shanghai International Port Group has still maintained a good development momentum in the first quarter of this year, with a slight increase in container throughput and the number of flights year on year, Mr Chen Xu yuan, Chairman of Shanghai International Port Group, said, the number of flights in March this year is 1380, but so far has already reached 1425 in April. Pudong New Area occupies a very high proportion from the port, the traditional transport, cargo handling and service, the port cargo throughput and container throughput accounts for more than 80% share in Shanghai.

After initial acceptance of Waigaoqiao branch shipping channels project in March, 2011, a number of large container vessels has subsequently called at the wharf in Phase IV of Waigaoqiao safely, the ship's draft is 12.5 meters, an increase of 2 meters compared with that before the dredging. Currently, the fourth and fifth generation container ships berthing Waigaoqiao Port can improve the standard of heavy boxes containers 700. In the afternoon in April 18, 2011, the deepwater channel of Shanghai Waigaoqiao Container Terminal was officially opened, marking another important achievement made in the construction of Shanghai international shipping center. The Shanghai Shipping Exchange inaugurated in November,1997, through the implementation of international container liner and shipping freight rate filing, freight coordination and inspection systems, so that the whole shipping market prices have been stabilized and price competition effectively curbed, which has become the effective means of market management. Freight index prepared and released by the

Shipping Exchange timely reflects the price trend of shipping market, which has played a good role in the specification of shipping transactions, adjustment of the shipping market price, communication of shipping market information and the like. At the same time, the shipping exchange set up its brokerage firm, whose operations has sped up the cultivation of the shipping brokers and actively promoted the norms of market behavior in China. Shanghai has considerable size in terms of the salvage, marine insurance, maritime trials, scientific and technological strength. Now shipping industry insiders said, Shanghai has already become one of the areas with "many trading opportunities, low transaction costs, regulated trading conduct. "

It can be seen the number of companies engaged in the core service of shipping are on the increase in Pudong shipping accumulation area, and its hardware conditions and the quality of service delivery as well as the degree of international recognition have also been improved, which has played an important role in the construction of Shanghai International Shipping Center. However, in the core shipping services, there still exist the following questions: First, lack in the concept of competition in port and shipping enterprises, sub-standard market operations. China's current port and shipping enterprises, mostly state-owned enterprises, influenced by the traditional concept of the planned economy, lagging behind in the service concept, low service quality, despite various cargo transport and shipping companies, but there is still the extensive growth with insufficient scale and uneven level of services and common malignant price competitions, which put many obstacles for the shipping market. In addition, the management of the shipping market in Shanghai is inadequate with frequent occurrences of illegal operation and various maritime frauds, and the deterioration of the credit environment makes the appeal in port of Shanghai to the international transit cargo source is in a serious shortage.

4.2.2 Services in intermediate links

Pudong New Area, Shanghai now has nearly 5,000 kinds of shipping-related businesses, almost involving all major aspects of the shipping chains like industry

port and pier, shipping and freight forwarding, warehousing and logistics, ship transport, ship trading, ship insurance, information consultation, science and technology and the like, however, the middle part of modern shipping service is still relatively weak. Intermediate stages like insurance services, consulting, loans are still very inadequate.

In 2006, premiums of 951.38 million yuan were completed in Shanghai cargo insurance, increased by 13.10% compared with the same period last year. Cargo throughput in Shanghai Port reached 537 million tons with an increase of 21.2% year-on-year; container throughput reached 21.71 million TEU with an increase of 20.1%, but meanwhile the growth in freight insurance was much lower than that of cargo throughput and container throughput. In 2006, premium income of 486.58 million yuan was completed in Shanghai shipping insurance with an increase of 13.10% and over the same period the amount of vessels in Shanghai achieved 619100 trips with an increase of 3.42%, the growth of marine insurance was 10 % higher than the amount of vessels. Nevertheless, the overall size of Shanghai shipping insurance market is very small, as the largest port accounting for only 1% of the global market share in 2006, and sea cargo insurance in Shanghai is very low, a large number of import and export goods, especially imported goods are insured outside China[28]. It can be seen it is closely bound up with the short-time development of Shanghai's insurance agency with late start-up and inadequate technical expertise and worse service functions. In legal services, professional firms engaged in the maritime affairs in Shanghai started late and lacked in professional advantages, there are only well-known law firms in 2008: Beverly, LIU Yan, Li Chen three.. Overall, the related resources in Pudong are urgently needed to be further integrated to fulfill its financial industry, integrated services and the related comprehensive advantages to promote the development of modern shipping service industry, which can further bring along the development of international shipping center and harmonize integration of the relevant units and cities in the surrounding areas. The active settlement of Maritime Industry Promotion Center, Maritime Industry Association, Maritime Safety

Administration, International shipping Court of Arbitration, International Shipping and Logistics Service Center personnel and a number of functional organizations to Pudong in April 2011 will have a certain role in promoting the middle part of the shipping services.

From the modern shipping service with high end, in the next phase of development, the Pudong New Area in Shanghai, through its innovation, exploration and the special way of international comprehensive experiment zone will play a greater and more effective role in the construction of Shanghai international shipping center.

4.2.3 Formulation of policies and regulations

With the further reform and opening up, reform has been conducted continuously in our economic system, and shipping policy is continuously adjusted to meet the development needs of the market economy, and meanwhile the behavior in the traditional combination between the administration and the enterprises, excessive intervention in the business operation have been gradually reduced, management functions and business functions have began to be separated. Since 1983, China has promulgated and released a number of laws and regulations, among which "Maritime Transportation Regulations of the PRC", "Maritime Traffic Safety Law" and "Maritime Law " are the representative, largely fill in the legislative blank in shipping industry of China. Regulations involved in the shipping sector have reached more than 400 pieces in 2010, including various laws and regulations in ocean shipping and inland, coastal, etc. Various laws related with water transport like "Marine Environmental Protection Law", "Shipping Law", "Law of the Territorial Sea and Adjacent areas", "Crew Ordinance" and others have emerged.

In the beginning, the shipping policy has got a full support from the country, then gradually weakened, and now the current policy of special protection for shipping has been reduced, but a number of policies have still been offered in some of the shipping

free trade zones in Pudong area of Shanghai, which has a big role in attraction of investment, the accumulation of capital and power. But overall, there still exist many omissions in China's laws and policies, shown in weaker line-up with the international standards, serious convergence of laws and regulations, incomplete legislative system, the outdated contents, the non-uniform levels, the lack of scientific and forward-looking perspective and so on. The performances of the existing systems and regulations in Shanghai is the fragmentation and incompleteness, low transparency, which makes too much power entered into the shipping market and too much intervention in the shipping economy, the element of "the rule by man" exceeded that of "rule by law", some "power and money transactions", phenomena of "abuse of power for private purposes" abounds, which has hindered the market mechanism to play a role and increased market volatility. However, on the other hand, in order to encourage the key and high-end shipping service enterprises to settle in Pudong new area, preferential policies like special fund, one-time subsidies, tax subsidies, support for the construction of soft environment were implemented, and besides, the newly introduced corporate personnel in the shipping service enterprises and related services can also enjoy the preferential treatment like their household registration, admittance of children into school, healthcare, apartments and other relevant treatments. The related personnel pointed out that Pudong New Area will continue to do well in the comprehensive reform and the piloting work with early trial and so on. Pudong has already introduced the industrial preferential policies like business tax concessions, tax breaks for Sino-foreign ship, tax rebate for departure of port, and high-end talents system in shipping industries. The port and shipping enterprises distributed in Pudong New Area will enjoy the fruits of a series of shipping business innovation due to the implementation of "12th Five-year Plan Outline of Shipping Development in Pudong New Area". Pudong New Area will conduct the pilot in leasing of shipping finance, bonded delivery of futures, operation of offshore trade, water-to-water transit container consolidation services creating good conditions for the development of enterprises. Thus, overall, there has existed many shortcomings in the policies and regulations, but the government in Pudong

New Area made many efforts in order to attract businesses, talents and further expand the market competitiveness.

4.2.4 Personnel exchange and training and release of information

After years of rapid development, the communication networks in Shanghai has witnessed continuous development, the number of sites founded the Internet in Shanghai was up to the fourth nationwide, and the momentum for information development is fairly rapid. Shanghai Shipping Exchange plays an active role as information intermediary providing the objective basis of information for government macro-control of coastal shipping markets, which is of great significance whether for business-making decisions, or for regulation of the market operation, adjustment of the tariffs to promote fair competition.

Shipping Exchange has also established its own information collection and release channels, set up its own publication "Maritime trade journal", which becomes the window for the outside world to know more about Shanghai and price, supply and demand, policies, laws and regulations in the world shipping market. The transmission platform of Shanghai Port and Shipping EDI center was opened in May, 1995, which provides its core services to government, the terminal, regulatory authorities, shipping agency, shipping companies, yards, cargo handling, transport companies, freight forwarding, etc; its core business is oriented for the information service in the process of container transport, mainly includes three aspects: to provide the e-data exchange, data extraction and classification, dynamic query into ship container cargo, statistical analysis and other related value-added services, which has developed the port and shipping information website with characteristics of the container transport industry, provide the development of application systems, integration of systems and consulting services for the container transport business and relevant departments, general and commercialized software products oriented for the port and shipping has been researched and developed. However, there still exist corresponding problems in the construction of information in the Pudong district: lack of communication channels to be further developed; lack of private information agencies which didn't form the complement to public institutions; there is still much shortage in the construction of Shanghai EDI center, service quality and variety to be further enhanced.

In human resources, construction of talents highland in Shanghai has obtained a certain effect, with the rise in the number of personnel in shipping, finance, economy and trade as well as a better improvement from quantity to structure in personnel, on the whole, the total personnel shifted from the growth stage to the " period of stable development ", which has demonstrated that the development corresponds with the shipping industry, and the overall quality has been greatly improved with increase in the number of talents with a variety of senior professional titles, the increasing number of college diplomas. In addition, professions tend to be broader and wider, the personnel in aspects of ships, engineering, accounting, auditing and others have been completed, and in the personnel structure, 37.6% of technical personnel in shipping and transport, 19.5% of technical staff in engineering and 20.4% is the other categories of persons, 20.3% of economic class officers, four teams accounted for 97.8% of the total professional and technical staff.

4.2.5 Association of Shipping Set-up

After years of development and change, the Shanghai customs clearance efficiency and the quality of service have been greatly enhanced, the current elevation of "off-site reporting, port clearance," " declaration ahead of time, the physical release" "fast transit", "paperless customs clearance", makes customs clearance time of imported goods in Shanghai sea port compressed from the previous average of 0.9 days to 0.73 days, and meanwhile the proportion of operation time of customs clearance in overall ports compressed from 21% to 17%.With coordination and organization of customs, economy and trade, commodity inspection, taxation and other government departments, YiTong network was opened and network platform was provided for data information resources in the trade, customs, tax, port, exchange and other various departments. Meanwhile, the reform was conducted in the administrative approval system in Shanghai, which has created a more relaxed environment for investors at home and abroad. For instance, a series of administrative examination and approval procedures were comprehensively simplified in

Waigaoqiao Free Trade Zone, Pudong new area, from the 128 items of the original administrative examination and approval involving the regional management committee, industry and commerce, public security, taxation and other departments to 69 items, and the rest are no longer needed for approval or turned into the record.

However, compared with the international standards, currently there are too many administrative examinations and approvals, which are still a major obstacle to an open market in Pudong new area; In the regulation of foreign and local interests, the attitude of the government is still not positive enough; Capacity in the service quality and port management has yet to be improved, how to further simplify the joint inspection, customs clearance procedures of international shipping in Shanghai port to facilitate the ship-owners is a problem needed for further study.

4.3 Summary of SWOT Analysis

According to the conditions of geographical location, functional positioning and economic hinterland, the shipping accumulation areas abroad are the major competitors in the shipping accumulation area of Shanghai, which should positively catch up with and overtake Singapore, Tokyo and Hong Kong in the short term, and strive to go beyond London in the long run, while some domestic ports in such as Dalian, Zhoushan, and Nantong has caught up from behind and will also become one of the potential competitors in the shipping accumulation area of Shanghai. The SWOT analysis has been carried out with actual conditions of shipping accumulation areas in Shanghai.

4.3.1 Advantages

The advantages shipping accumulation area Pudong New Area is facing in the development is very prominent, first of all, it has very good natural conditions and economic conditions as well. As the center in Yangtze River Delta, Pudong is seated in the epicenter of the northern and southern coastlines, and meanwhile the hinterland like the dense population, sophisticated economic development, high economic density and industrial distribution in the eastern coastal

areas of the Yangtze River Valley, which is very helpful for the collection, distribution and transportation system.

Second, superiorities like very strong economic background, the relatively adequate capital, with more sophisticated technology and increasingly improved business mentality has been held in Pudong new area, Shanghai, which has brought indispensable fundamental factors to the development of Pudong accumulation area as well as building of the international shipping center.

Third, very good conditions of hardware have been formed in the Pudong new area of Shanghai, and with the planning and development, the current equipment and facilities, port conditions and the like have ranked the first nation-wide even the first the world over, which has laid the solid foundation for the enhancement of shipping competitiveness in Pudong accumulation area.

4.3.2 Disadvantages

First, they are poor management and low operational efficiency. Although infrastructure in Shanghai has witnessed significant improvement, for instance, Yangshan Port and other ports have been equipped with advanced equipment, there has still existed the phenomena of low efficiency and high cost in most ports currently, there remains a great distance in the overall service capacity compared with foreign ports.

Second, it is the issue of talent. Currently all-round talents in shipping industry are in scarcity, although the structure of personnel tends to be more rational, the all-round managerial and technical personnel remain inadequate, which is one of the important reasons why the intermediary services such as insurance is very low in the international position.

Third, a number of electronic information platforms have been established in Pudong, Shanghai, but the electronic information platform are generally in the position of isolation, the abutment of the platform is a major problem as well. Self-contained information construction with division between strip lines in different areas and different management departments is also evidently in the uneven levels of development, which cannot achieve real-time information sharing and data exchange.

Fourth, the serious lagging behind of the soft environment is the greatest difficulties, for the time being the applicability and soundness of current laws and regulations need to be improved, consummation and support in the financial sectors are seriously short, highly value-added services industry still lags behind, from which we can see the growing development of industry accumulation area has faced critical or difficult time.

4.3.3 Opportunities

First of all, world financial crisis each time will inevitably bring about the economic restructuring, likewise the financial crisis in 2008 once again laid the status of China in the world, but at the present with development opportunities for further breakthroughs, it will certainly bring about a substantial increase in international status and benefit the development of the shipping industry as well.

Second, the Pudong New Area has faced the excellent advantages of the policy, a spurt of progress has been witnessed in Shanghai since the large-scale development in Pudong new area in the early 90s, which is inseparable with government policy preferences, and the "two centers" and suggestive advices introduced in 2009 have given more preferential system and policy support to Shanghai International Shipping Center.

4.3.4 Threat

First, as the transfer of international shipping focus to the East Asian regions,

Singapore and other areas which have aimed to become the international shipping centers, has no longer been dependent on the traditional mode of operation on hardware, which are undoubtedly the important competitors against Pudong accumulation area.

Secondly, various fresh policies have been unveiled in many places domestically like Nantong, Zhoushan and other places, for instance, such as the full and flexible play of the preferential policy of tax incentives in Zhoushan. All fees are waived for the relevant procedures of new ship-building in the municipal shipping trading market. Only 40% of the transaction fees are collected for the wholly-owned enterprises that do transactions in its original shipping in the municipal shipping trading market. The general cargo ships with over 10,000 deadweight, gasoline tankers with 3,000 tons deadweight, chemical tankers I and II, and liquefied gas ship purchased from outside the city, the trading fees are charged half for the excess portion above 10 million yuan in tonnage value; Allowances of relocation will be given to shipping companies (shipping) with certain scales introduced from outside the city, encouraging the shipping companies to settle down in Zhoushan; The award will be given to shipping enterprises with annual tax revenue exceeding the target amount for the first time to encourage bigger and stronger shipping companies; The government will render one-time amply reward on shipping companies for self-opening and operation of the international cargo liner routes for over a year with Zhoushan port as the starting port (the port of destination, transit port). Besides, Nantong city government has offered the financial subsidies of land and rent as well as business income tax shall be exempted or reduced for foreign-funded enterprises in the allied industry concentration area. The fast development in shipping industry of these areas has also become potential competitors in Pudong accumulation area.

4.4 SWOT matrix and strategic suggestions

Here, the related SO strategy, WO strategy, ST strategy, WT strategy were proposed in this paper in accordance with some strengths, weaknesses, opportunities and

threats in Pudong shipping accumulation area, Shanghai mentioned in the context, just as shown in Table 4-1 matrix.

Table 4-1 SWOT analysis matrix of Pudong shipping accumulation area

Internal analysis External Analysis	Strength (S)	Weakness (W)
	Strength of natural conditions Economic strength Strength of the hardware	Management levels Personnel issues Information platform Laws and regulations Supporting services
Opportunities(O)	SO strategies	WO Strategies
Economic restructuring under financial crisis Government policy	Use strength of hardware to increase the attractiveness of the port Carry out the services with characteristics under the present conditions to promote the cohesion in the shipping market Shift the international shipping center from the hinterland type to the high-end service type	Improve the legal and information platforms with the degree of the international standards Use the strength of current policies to increase the training and attraction of talents Promote industrial restructuring with the advanced experience in London
Threats (T)	ST Strategy	WT Strategies
Singapore and other international competitors Zhoushan and other domestic competitors	Establish mechanisms for the coordinated development of the Yangtze River Delta region Apply integration role of industrial clusters of services Increase the introduction of international talents	Improve the system of the shipping market Regulate the environment of the shipping operation Be in line with the international standards to vigorously improve management and service levels

Chapter 5

Research Conclusions and Outlook

5.1 Conclusion

It can be seen from the comprehensive survey of the "planning outline", the Pudong New Area will strive to build itself into the Asian-Pacific hub port and high-end international shipping service center initially with accumulation of elements, consummate system, nationwide service and global concentration until 2015. The orientation of shipping development at Pudong New Area: the main battlefield promoted by international shipping center, the core area of the allocation of global shipping resources, highland of modern shipping service, integrated experimental zone for international shipping, demonstration area of the cultural development in the shipping, and functional building is focused on intensification of the global maritime resources capacity in Pudong New Area.

The four stages of the international shipping center was reviewed in the paper, the competition gap in terms of international shipping center between Shanghai and London was respectively discussed from the perspectives of hardware conditions such as the integrated throughput and capacity, systems of collection, distribution and transportation, electronic information platform, infrastructure and software conditions such as management levels, service levels, personnel status, serious disparity was pointed out in the construction of the soft environment at Shanghai.

Finally, the relatively detailed analysis of Pudong shipping accumulation area was conducted, pointing out the development and weaknesses in terms of the current core shipping services, services in the intermediary links, policy, personnel exchange and training, information, association and institution and others, and finally the competitiveness of the accumulation area in Pudong was briefly summarized through the SWOT analysis. It was pinpointed that the advantages of accumulation area in

Pudong lied in the natural conditions, economic base, hardware conditions and the like, whereas the disadvantages were presented as deficiencies in management level, personnel status, information platform, especially many obstacles in the development of soft environment. Meanwhile, the financial crisis and preferential policies made it possible for the Pudong to embrace the new development opportunities, and what's needed to be focused on was threats of competition from Singapore and Ningbo and the other places, and then relevant strategy and suggestion were come up with.

5.2 Prospects of Research

The method of combining theory and evidence was applied to discuss the competitiveness of the shipping accumulation area at Pudong in the paper, and because of space and energy constraints, there are many deficiencies in the research which can be further expanded from the following aspects:

First, foundation was laid for the analysis of competitiveness of Pudong accumulation area based on the probe into the specific strategies and proposals of competitive edge of the accumulation area at Pudong, and besides, the relatively detailed introduction of hardware and software environment between London and Shanghai was conducted in the paper, and the future generations can also do further research in the specific strategies of enhancing the competitiveness of Pudong shipping accumulation area.

Second, the analytic hierarchy was applied in the analysis of the related circumstances between London and Shanghai in this article on account of the difficulty in data collection, and the descendants can use questionnaires and the like to score the port, which can make the results more objective and authentic.

Third, Probe into the development models of Pudong accumulation areas and the development in Pudong new area from the refined perspective is conducive to the further study of the integration of resources in Pudong new area and the Yangtze River Delta region.

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