

Supply Chain Strategic Alliances Partner Selection for Rizhao Port

Libin Guo

School of Management, Qufu Normal University, Rizhao 276826, China

Abstract- Under the background of port supply chain strategic alliances, we clarify the current situation of Rizhao Port by SWOT analysis and find out the ST strategy for it, furthermore, we screen out the optimal cooperation partner for Rizhao Port under different alliance forms range from horizontal integration and vertical integration to the blended dynamic logistics alliance.

Index Terms- Port Supply Chain; the SWOT Analysis; Rizhao Port; Strategic alliance

I. INTRODUCTION

Port supply chain, a main constituent of port logistics, includes the levels such as informationization, automation and networking, and emphasizes the modern management of material transportation chain of each link and the extension of comprehensive services. Meanwhile, due to the connection between ports and suppliers and consumers all over the world through shipping companies and land forwarding agents, a port supply chain integrating many means of transportation and types of logistics is formed, and it becomes a relatively best main part and link for the coordinated management of supply chain. Therefore, we can start from the analysis of the SWOT of Rizhao port supply chain, and find out the cooperative partners suitable for the strategic alliance of Rizhao port supply chain among different types of alliance.

II. THE SWOT ANALYSIS OF RIZHAO PORT SUPPLY CHAIN

The SWOT analysis, a commonly used method of strategic competition, is based on analyzing the internal conditions of enterprises itself, and finds out the strengths, weaknesses and core competence. S stands for strengths, W for weaknesses, O for opportunities, and T for threats. Among them, S and W are internal factors, while O and T are external ones, as shows in Chart one. According to the whole concept of enterprise competition strategy, strategy should be an organic combination of “can-do”(namely the strengths and weaknesses of an organization) and “may-do”(namely the opportunities and threats arising from the environment).

Internal origin Attributes of the organization	Helpful to achieving the objective	Harmful to achieving the objective
	Strengths	Weakness
External origin Attributes of the environment	Opportunities	Threats

Chart one: swot analysis

III. THE STRENGTHS OF RIZHAO PORT

Geographical advantages

Rizhao Port has evident geographical advantages, and abounds in gifts of nature. The Port is located in the middle part of China's coastline, with the Yellow Sea on its east, adjacent to Qingdao Port in the north and Lianyungang Port in the south, and with Japan, South Korea and North Korea on the other side of the sea. The port district boasts wide bays, deep waters, vast hinterland, a mild climate, and is an ice-free and a non-silting port, which make it a suitable place for building a large-scale deep water berth about 200~300 thousand-ton, especially for industrial layout in the port areas with large inflows and outflows.

Climate conditions

Rizhao Port enjoys south wind all the year round, of which the frequency rate is 10.95%. And the frequency rate of wind of more than 6 scale for the whole year is 0.51%. Typhoon has a minimum influence on the port because there is no typhoon landing here. Its annual precipitation on average is 955mm. Foggy days mostly occur between February and July, accounting for 90% of its yearly foggy days, and the number of annual foggy days with visibility less than 1km is on average about 11.4 days. The annual average temperature is 12.5°C, with the highest being 37.5°C, and the lowest —14.5°C. The sea surface is ice-free all the year round, and so it is with the port.

Infrastructure capabilities

Rizhao Port, now having five port districts: Donggang District, Zhonggang District, Xigang District, Lanshan District and Lanshan Beigang District, has 28 production berths, and the throughput capabilities of berths are 41320 thousand tons. Among them, Donggang District and Xigang District have 19 production berths, among which two berths are used for 125 thousand-ton coal, and there are 11 berths of a tonnage of over 10 thousand; Lanshan District and Lanshan Beigang District have 7 production berths, among which there are 4 berths of a tonnage of over 10thousand; Xigang District has 2 production berths of a tonnage of 10 thousand.

Donggang District and Zhonggang District: the throughput capabilities are 31580 thousand tons. Coal dock: 2 berths of 125 thousand-ton. There are 9 berths(except the coal dock) more than 10000t, among which Number 4 berth is Daewoo bulk cement berth. There are 8 berths less than 10000t, which are mainly used for the acceptance of small and medium vessels, and the acceptance of break bulk cargoes and general cargoes. Xigang District: a newly-built port district during the Period of ninth-five year plan, with 1 wood dock of a tonnage of 40 thousand and 1 universal bulk, and the throughput capability of 1340 thousand tons. Lanshan District and Lanshan Beigang District: now having 7 production berths, 4 berths of a tonnage of more than 10 thousand, and the throughput capability of 4800 thousand tons.

Collecting and distributing ability

The collecting and distributing of Rizhao Port are convenient and efficient. Yanshi Railway and Pinglan Railway connecting Rizhao Port with other places run westwards through Xinxiang, Houma, and Xi'an before they end in Alashankou of Xinjiang Autonomous Region. They are parallel to Lianyungang-Lanzhou Railway, and intersect with Beijing-Shanghai Railway, Beijing-Jiulong Railway, Beijing-Guangzhou Railway, Jiaozuo-Zhicheng Railway, and Datong-Puzhou Railway, which forms a railway network that connects Rizhao Port with the vast regions of East China, Central China, and Northwest China. The completion of Jiaozhou-Xinyi Railway, and the construction of Dongdu-Pingyi Railway, Zaozhuang-Linyi Railway and the railways in south-central Shanxi Province will further enhance the collecting and distributing ability of Rizhao Port.

Port highway is connected with Rizhao-Dongming Highway and Lianyungang-Huoerguosi Highway, and intersects with Tongjiang-Sanya Highway, Beijing-Shanghai Highway and Beijing-Fuzhou Highway. Four National Highway trunk lines connecting Rizhao Port with other places have access to all parts of the country, forming a highway transport network which extends in all directions. Two railway arteries run through Rizhao port district, and they are Rizhao-Lankao Highway and Shenyang-Haikou Highway, and new Eurasian Continental Bridge and the south-central railway in Shanxi Province under construction. Rizhao-Yizheng Pipeline, Rizhao-Dongming Pipeline and Rizhao-Puyang Pipeline under construction run through Rizhao port district.

Rizhao now has opened eight aviation agencies, which allows doing passenger and cargo business at any time. Round trip tickets from Qingdao to all parts of the country, from Qindao to South Korea, and to Hong Kong, tickets from Jinan to all parts of the country, and tickets from Lianyungang to all parts of the country can be booked; air cargo transportation business from Qingdao to all parts of China can also be done. The 168km between Rizhao and Qingdao Airport, and the 120km between Rizhao and Lianyungang Airport are both within two-hour ride.

The sea routes of Rizhao Port can reach any port in the world, and Rizhao Port has been open to navigation with over 100 countries and regions in the world. Rizhao Port has 3 modernized container berths, which is at present one of container docks with deepest draft and biggest container yard among coastal ports all over China. Rizhao Port, with its annual throughput capability amounting to 5000 thousand tons, is China's biggest transshipment port, boasting 2 specialized bulk cement berths which can berth vessels of a tonnage of 40 thousand and world-class cargo handling technology. Rizhao Port, at present, has China's most advanced and specialized wood chip and timber berths and supporting equipment. Its storage capability amounts to 500 thousand cubic meters. Its annual import volume of timber reaches almost 1000 thousand cubic meters, and more than 1000 thousand tons of wood chips are imported annually, which make Rizhao Port the biggest wood chip and timber distributing center in the north of Yangtze River. Rizhao Port has all kinds of advanced rolled steel loading and unloading facilities and devices, which can satisfy the handling, storage and transportation of all kinds of rolled steels such as billet steel, steel plate, steel wire rod, steel pipes, and section steel. Rizhao Port has launched international passenger-cargo liner, which is twice weekly, from Rizhao to Pyongtaek of South Korea; Rizhao Port has first-class

international ship hall, with its reception capability hitting over 1000 passengers at one time, and annual passenger capability reaching 150 thousand persons.

Economic hinterland

The economic hinterland of Rizhao Port is vast. Rizhao Port adjoins to Southern Shandong energy base, which, having many kinds of mineral resources, especially building material resources famous for their superiority in quality and abundance in quantity, is an important building material base in East China. The direct economic hinterland of Rizhao Port covers regions like the south of Shandong Province, the north of Henan Province, the south of Hebei Province, the south of Shanxi Province and Guangzhong Region in Shaanxi Province, with a population of more than 80 million and an area of 180 thousand square kilometers. Its indirect economic hinterland ranges over Central China and Northwest China such as Gansu Province, Ningxia Autonomous Region, Xinjiang Uyghur Autonomous Region, with an area accounting for 20% of the whole country. The indirect economic hinterland is an important exit of the strategy "Transporting Coal from West to East, and from North to South" implemented by China, and meanwhile an important passage of the strategy of "Western Development".

The Analysis of Disadvantages Faced by Rizhao Port and Strategies

The relatively low informationization level of the Port

Although Rizhao Port has invested markedly more in informationization when accelerating the infrastructure construction, there is still a gap between the overall informationization level of Rizhao Port and China's advanced ports, such as Qingdao Port, Dalian Port and Yingkou Port. The informationization of a port includes not only manufacturing information system, but also all kinds of support service systems, such as human resources, equipment, goods and materials, assets, engineering management, finance, CRM, and logistics information platform; comparatively speaking, there is still a relatively big gap.

Dalian Port, Tianjin Port, Qingdao Port, and Qinhuangdao Port have invested a great sum of money in building e-commerce websites, with which e-port and logistics trade platform built by EDI center are combined to divert logistics and trade information even transaction to the Internet; the coal trade net of Qinhuangdao Port and the coke trade net of Tianjin Port have become the e-commerce platform of online trade delivery, and the coal price index issued by them has been recognized by the industry and the country; Qingdao Port and Lianyungang Port have respectively their own e-commerce, with the two Internet portals of logistics net and trade net providing trade services to users, and both ports are actively developing iron ore trade net and releasing so-called authoritative indexes.

Rizhao Port should step up efforts to build e-commerce platform and logistics information platform centering on EDI and e-port, which is to make use of information networks to combine goods owners, charters, traders, manufacturing enterprises, logistics companies, customs, commodity inspection with the port, thus providing all parties with regional shipping information of comprehensive and intelligent information services and providing users with better services; at the same time Rizhao Port customer call center should be built as soon as possible, and unified customer service call should be opened. All those measures are to take the overall informationization level of Rizhao Port into the rank of China's advanced coastal ports.

Lack of linkage among the three industries

The linkage of the three industries is shortening product cycle from raw material purchase to end consumers by information sharing among manufacturing industry, commercial circulating industry and logistics industry. It's mainly reflected in the aspects of suppliers and manufacturers sharing the information such as plans, manufacturing, storage and logistics, manufacturers and distributors sharing product information, consumer demands, shipment information, inventory and so on, and facilitators and logistics enterprises serving the supply chain making logistics plans also by sharing information.

Rizhao Port should enhance the investment and construction of modern logistics parks to build international logistics park; the modern model park, with the linkage of manufacturing industry, commercial circulating industry and logistics industry, should be based on the sea and land transport hub, be characterized by regional distribution, be led by industrial logistics, center on the third party logistics cluster and logistics resource integration, regard the processing and distributing of raw material as an expansion, and be supported by logistics technology application.

Relatively low industrial level in port-surrounding areas, and the underdeveloped direct economic hinterland

The industrial development in port-surrounding areas can drive the development of the port. Rizhao should make efforts to create a modern port industry system which is under the leadership of the port and develops simultaneously the steel industry, petrochemical industry, wood industry, and food and drug industry. Lanshan District can focus on developing steel industry, chemical industry, ships and equipment manufacturing, modern logistics, wood processing, soybean and aquatic products processing and so on, building it into a world class steel base, a heavy and chemical industries clustering region at Haizhou Bay, the biggest distribution hub of imported wood in the north, and a trade and logistics center of marine products, chemical liquids and rolled steel.

The direct economic hinterland of Rizhao Port includes 18 municipalities, and they are: the seven municipalities in the south of Shandong Province (Rizhao, Linyi, Zaozhuang, Jining, Heze, Tai'an, Laiwu), the five municipalities in the north of Henan Province (Xinxiang, Jiaozuo, Hebi, Anyang, Puyang), the four municipalities in the south of Shanxi Province (Changzhi, Jincheng, Linfen, Yuncheng) and two municipalities in the Guanzhou region of Shaanxi Province. The main characteristics of the hinterland: the disparate economic development of the hinterland; industrial structure characterized with the problems such as "low, small and loose". Different regions can make use of and step up efforts to develop their domestic resources so as to give full play to their advantages.

The backwardness of logistics service

Rizhao should enhance the construction of logistics parks such as bonded logistics center, comprehensive port logistics parks, wood processing logistics parks, and aquatic products logistics parks. The goods supply of Rizhao Port is composed of ten dominant

types of goods, which are coal, iron ore, container, grain, liquid chemical and oil, aluminum oxide, coke, cement, wood and steel; the auxiliary types of goods have all kinds of bulk cargoes such as non-metallic ore and chemical fertilizer, and roll-on roll-off transport of passengers and cargoes has been launched. The logistics service focuses on the development of building steel logistics parks, coal logistics distribution center, bonded logistics warehouse and so on.

The Opportunities of Rizhao Port

Policy orientation: blue opportunities

During the 12th Five-Year Plan period, Shandong Province builds the blue economic zone of Shandong Peninsula and the port industry clustering zone in the south of Shandong; Rizhao implement the strategic plan of building emerging cities with characteristics; the major port and hinterland projects, such as Rizhao-Yizheng Petroleum Pipeline, Rizhao-Dongming Petroleum Pipeline, Rizhao-Puyang Petroleum Pipeline, the railway passage in the central and south part of Shanxi Province, and high-quality steel base of Rizhao, has sped up. All those above provide Rizhao Port with crucial golden opportunities to achieve the sustainable and fast development.

The restructuring of energy resources

The orientation of energy resources restructuring is “transferring the mode and adjusting the structure”. The change of energy resources structure will directly influence China’s coastal transport demand of coal, natural gas and petroleum in the future, thus leaving quite large room for the development of coastal port. Rizhao Port being a young port, with the arrival of low carbon economy era, the fact that Rizhao Port speeds up the construction of green and ecological port will lay the foundation for the sustainable development of the port.

The Threats Confronting Rizhao Port

The contraction of the world’s economy

International trade suffers severe shrinking under the influence of global financial crisis. Especially the container handling capacity related with ports is exposed to more influence. At present, the obstruction in the way of foreign trade recovery is relatively large, and the demand from the US is weakening a lot. During the 12th Five-Year Plan period, there are many uncertainties with the development of foreign trade.

The intensifying competition among regions

The competition of ports is mainly reflected in the aspects of the competition among different port groups, among different ports within the same port group, and among different port enterprises within the same port. The battle among ports are mainly for hinterland resources, transit goods supply, berthing vessels, investment amounts and so forth. China has five major port groups: Bohai Bay Rim, Yangtze River Delta, Southeast Coast Area, Pearl River Delta and Southwest Coast Area.

In the Bohai Bay Rim port group, the three central ports, Dalian Port, Tianjin Port and Qingdao Port, are all comprehensive ones, which are almost on a par in development history, location conditions, hinterland economy and port business. From the perspective of hinterland, they have overlapping parts, which means the fierce competition among them at present and in the future. Dalian Port, which relies on the position of northeast Asian shipping center, is sparing no effort to build international comprehensive logistics port; Tianjin Port, as the core carrier of international shipping center in the north of China, poses “four major industries” to be the pillar expanding functions, and transforms itself into international port operator; Qingdao Port sets up its goal of becoming the economic center of coastal region in the east, the modern service center, and the culture center. 2011 witnessed the “4+1” port strategic alliance framework agreement, driven by Shandong Provincial Government, signed by Qingdao Port, Rizhao Port, Yantai Port, Weihai Port and Busan Port of the South Korea, which means their concerted efforts to build a northeast Asian international logistics hub and a shipping center. Although the leadership of northeast Asia is still unknown, the intense competition is evident and becoming more and more fierce. Therefore, the strategic alliance among ports becomes a quite good development direction.

The Choice of the Strategic Alliance of Rizhao Port Supply Chain

As is showed in the SWOT analysis, advantages outweigh disadvantages of Rizhao Port supply chain, and opportunities and threats both exist, so the ST strategy, in the SWOT analysis matrix, of drawing on advantages and avoiding disadvantages can be adopted. For this reason, our emphasis is how to choose appropriate strategic alliance partners for Rizhao Port supply chain, the way of cooperation, and the feasibility of cooperation.

The Way of Strategic Alliance Cooperation for Supply Chains in Rizhao Port

The port Strategic Alliance should be based on cooperation agreements or network cooperative relationships established among ports or upstream and downstream firms in supply chains for their common goal. It aims at taking full advantage of the limited resources of the ports to exert our greatest strengths and promoting the close cooperation with other ports and firms to meet our own demand for some resources. Following the alliance, we can better realize the goal of intensive management and market competition strategy.

Divided according to the properties of subject in alliance

According to the subject in alliance, we can divide the dynamic logistics alliance into three forms: horizontal integration, vertical integration and blended integration.

Horizontal integration dynamic logistics alliance is the logistics alliance that is formed by core competitive port enterprises and other port enterprises with equivalent logistics capability, aiming at responding to market demand quickly and accelerate resource sharing and complementarity. Without market opportunity this kind of alliance will soon end and then port enterprises will make up another new logistics alliance to meet market demand. Under the influence of this alliance, port enterprises can make the best of the

scattered resources and provide a quick response to the diverse needs of customers. In this process, the quality of service is improved and the cost is saved, making the port enterprises facing less operational risks and competition pressure.

Vertical integration dynamic logistics alliance is a good cooperation in which one port enterprise is at the core and makes business with suppliers and customers on the basis of supply-demand relationship. This kind of alliance is also dynamic, and when market opportunity is over, the port enterprise will weigh the benefits brought by the suppliers and customers and revalue the possibility of cooperation with them. On the one hand, this dynamic logistics alliance can reduce the risks that are caused by long-term cooperation; on the other hand it can also contribute to saving transaction cost. Meanwhile, the alliance enterprises attempt to leave out the middle level of logistics so as to achieve seamless connection. In their alliance, the cooperation enterprises should share logistics information with each other, including supplication information, transportation information, market information, and the information about logistics control and management, and immediately master the overall situation of logistics operation to adjust their plan.

Blended integration dynamic logistics alliance is the alliance that is centered on core competitive port enterprises and links port enterprises at similar capacity and upstream and downstream suppliers. This type of alliance can help small and medium-sized port enterprises lower the logistics cost and concentrate on operating dominant business, and promote common development of alliances by sharing risks.

Divided according to the basic content of alliance

In the light of their basic content, the dynamic logistics alliance of port enterprises can be sorted into market alliance, technology alliance, R&D alliance, supplication alliance and some other non-property rights alliances.

Market alliance, technology alliance and R&D alliance belong to enterprise-to-enterprise alliances, and they are the embodiment of horizontal integration dynamic logistics alliance. Under the influence of these alliances, port enterprises constantly enhance their competitiveness and ally with other ports on the aspects of logistics marketing, port logistics technology and R&D. On the one hand, greater economies of scale are achieved; and on the other hand, the problem of singular enterprises' high expenditure is solved to a great extent.

Divided according to the intensity of cooperation

The cooperative objects and partners of strategic alliances in port supply chains include ports, port logistics parks, the owner of cargo and their association, shipping and logistics companies, and neighboring port industrial parks. The alliances can be achieved in the following ways:

Contractual agreement

For instance, port logistics parks can sign a deal on lands, storages and yards with ports, owners and shipping companies to introduce interflow of commodities, or make a treaty with them on logistics operation in the logistics park so as to provide all-embracing logistics services.

Informal cooperation

For example, ports, shipping companies, owner units and logistics park staff can develop a non-contractual cooperation through accessing each other or exchanging staff in due time.

Joint venture enterprise

Joint venture enterprise refers to a form of enterprise cooperation in which two or more companies can operate one enterprise by co-funding, facing risks and sharing profits. In a broad sense, it belongs to the alliance and now it has been widely adopted. Rizhao and Qingdao Container Terminal Co., Ltd. is a typical example of joint venture enterprise.

Ports, shippers and shipping companies jointly invest in the establishment of logistics enterprises. Under the competitive and cooperative conditions, these companies tend to extensive cooperation, forming a new independent economic entity—— joint venture enterprise. For example, logistics parks can transfer lands for shippers, port and shipping companies, so that these companies can, on the basis of their business need, build appropriate storages or equipment and conduct enterprise management.

Equity transfer

Most enterprises take equity stakes of other enterprises, aiming at assuring the capability of suppliers and establishing informal cooperation. That is to say, the companies participating in logistics business continue to operate their own business in the form of independent entity, and they can also get the benefits from both sides.

Virtual enterprise

A virtual enterprise is an enterprise alliance entity by which companies with different resources and advantages can tap markets and battle their rivals when new opportunities appear in the market. It is organized on the basis of sharing technology and information of information networks and sharing the cost, contributing companies' co-development and mutual benefits. Virtual Enterprise helps participating companies realize the extraordinary goal which cannot be achieved through their own ability, i.e., this goal is beyond the limit of companies' own resources. Therefore, expecting to build a virtual enterprise and break through their own limits, companies must cooperate with other enterprises with common goals and realize strategic alliance in all directions.

The virtual enterprise can be realized by electronic network. The application of network technology provides great convenience for logistics cooperation, which includes that it connects a mountain of core competence of enterprises by the internet to complement each other's advantages and drives to achieve the 1+1>2 systematic synergy effect, making enterprises reap more benefits and create more and better products and service. Ports logistics parks, ports, shipping companies, owners and harbor-neighboring industrial parks can form a temporary and dynamic alliance among enterprises. In this alliance, companies can make up enterprise nets through online agreement, have enough reserves and share resource. So when the market timing comes, they can jointly take this opportunity and achieve common development.

The Partner of Strategic Alliance Cooperation for Supply Chains in Rizhao Port

Horizontal integration alliance partners

Choose alliance partners in the light of the comprehensive competitiveness of their ports.

On the basis of integrated evaluation index system, multi-level grey assessment method of comprehensive empowerment is applied to choosing alliance partners of Rizhao Port and 16 influential ports in China are sorted in order. The result of this research shows Ningbo-zhoushan Port, ranking the top of the list, becomes best partner for Rizhao Port.

Choose alliance partners based on their international ports.

Rank	name of port	January - December, 2013	January– December,2012	Increase over last year %
		(ten thousand TEU)	(ten thousand TEU)	
1	Shanghai port	3361.70	3252.90	3.34
2	Singapore port	3260.00	3166.00	2.90
3	Shenzhen Port	2327.80	2294.13	1.46
4	Port of HongKong	2228.80	2311.00	(3.60)
5	Busan Port	1765.00	1703.00	3.70
6	Ningbo-zhoushan port	1732.68	1617.50	7.12
7	Qingdao port	1552.00	1450.00	7.00
8	Guangzhou port	1530.92	1474.36	3.83
9	Dubai port	1363.00	1327.00	2.71
10	Tianjin port	1300.00	1230.00	5.69
11	Rotterdam Port	1167.00	1187.00	(1.70)

Chart 2 The world's 10 largest container port throughput rankings in 2013

According to ports’ structures and geological locations of the world, we use fuzzy comprehensive evaluation to analyze the data and find out that: East Asia can choose Busan Port as its partner; Southeast Asian can choose Singapore; America’s Pacific Coast can choose Los Angeles; the Atlantic coast can choose Boston; the Gulf of Mexico can choose New Orleans; Europe can choose Rotterdam; and Middle East can choose Dubai.

Choose technology alliance partner.

The top priority of Rizhao Port is to accelerate its development and boost the energy conservation and emission reduction of the port. Compared with 2005, the unit consumptions of integrated energy, production and water in RizhaoPort have been respectively decreased by 35.39%, 19.38%, 72.33% by the end of 2011. According to the Medium- and Long-Term Plan for Energy Conservation in Highway and Waterway raised by Ministry of Transport, coastal ports should, by 2015, reduce their production unit consumption by 8% of 2005. Rizhao Port has realized this goal in advance.

The technology alliance is of great necessity for Rizhao Port.

First, cooperate with high-end scientific research agencies and then put the technical results into every production procedure. Rizhao Port has made strategic cooperation with Waterborne Science Institution of Transportation Ministry and achieved great success, which includes building academician and expert workstation, enhancing the exchange and cooperation with high-end scientific research agencies and accelerating the application of technical achievements to production.

Second, Rizhao Port can seek cooperation with Tianjin Port for its coal conveying technology and share technology with each other. Due to the application of new technology, new equipment and new process, Tianjin Port boasts high-level modernization and

information which rank the top around the whole China. Tianjin Port employs the world's first-class consecutive lading and unloading equipment and its 10 km-long belt and corridor coal convey technology used in Nanjiang Port also hits the world's record.

Third, as for the shipping service center and one-stop service, Rizhao Port needs to draw experience from and cooperate with Tianjian Port in order to make great process. Tianjian Port has established international trade and shipping service center and electronic ports, providing customers with quick and efficient one-stop service ports. In 2010, Tianjian Port began to execute the relevant Business Process Reengineering (BPR), and as a result its data process was optimized and the decision support system was developed on the foundation of its database and expert system (ES). In addition, Tianjian Port built port Electronic Commerce (EC) system based on the EDI system and set up Tianjian Port ICP to expand its ISP function. Its international trade and shipping service center has co-worked with some shipping enterprises and government shipping sectors such as Customs, Inspection & Quarantine, Border Inspection, Maritime Department, port groups, and electronic port. Over 300 service windows are set in the service center, among which there are 133 customs service windows, 43 inspection & quarantine service windows, 18 maritime service windows, 12 border inspection service windows, and more than 60 port groups service windows. Besides, the shipping service center is also equipped with over 30 banks, customs clearances, customs inspections, ship agencies, forwarding companies and other intermediary organizations. They provide customers with various shipping and logistics business, including conducting the shipping exchange, passing customs and inspection, offering port services, financial settlement services, ship and cargo agent services, and information and consultation services.

Fourth, on the aspect of container terminal's central dispatch, Rizhao Port can choose Shenzhen Port as the partner. Shenzhen Port boasts world's advanced container terminal's central dispatch system. The functions of this system include the wireless data terminal, the container location, the remote login and query etc., providing automated, professional and intelligent services for customers. With the advanced facilities such as 65m-outreach shore cranes and 8 stories yards and multi-layered warehouses, Shenzhen Port now can operate ships with the world's biggest containers and offer comprehensive and professional logistics added services at any time.

Choose marketing alliance partner.

First, Hefency Port, Hamburg can be taken into consideration. The development of ports need be driven by the harbor city. If the harbor city is charming, the related effects will rise. Therefore, building Rizhao into a harbor city image with global investment-attracting is essential for Rizhao Port to develop in its globalizing process. Taking Hefency Port as example, Hamburg of German regards huge project constructions as globalizing development strategy and creates a global image of capital-attracting by setting up a new paradigm of European urban, displaying the process of project constructions, holding international architecture contest and creating marketing strategic system on culture capital. All of these reveal that local government can play a role in promoting the city's international development, that is, major development projects, historical and cultural features and appropriate marketing system are effective methods to help the city build a globalizing image, attract global investment and promote its internationalization.^[14]

Second, it's Ningbo—Zhoushan Port. Ningbo—Zhoushan Port is a rapidly developing port in the Yangtze River Delta region, and has great common with Rizhao Port. So both ports can make close cooperation with each other, especially in the fields of investment, business, information technology and maritime affairs. Ningbo—Zhoushan Port and Shanghai Port are always in competition. From the General Plan of Ningbo—Zhoushan Port in March, 2009, we can see that Ningbo—Zhoushan Port would work with Shanghai Port to build an international shipping center, which would generate an important effect on Ningbo—Zhoushan Port to develop into world-top port. The dislocation development and function distinction are the foundation of the two ports. In addition, in order to face with financial crisis, Ningbo—Zhoushan Port exerts its leading advantages, and has signed cooperative agreements with Jiaying, Wenzhou, Taizhou and other ports. Now the transfer amount of containers in Jiaying and Taizhou increases significantly.^[15] What's more, Ningbo—Zhoushan Port take an active part in building "waterless port" in hinterland cities of Zhejiang province and launch the direct sailing to Taiwan, constantly strengthening the ports' radiation force.

Third, it's Shenzhen Port. The relationship between Shenzhen port and Hong Kong Port is similar to that between Rizhao Port and Qingdao Port. In recent years, Shenzhen Port and Hong Kong Port have achieved extensive and outstanding cooperation in many fields, including the investment and construction, the business management, the application of science and technology, the operation specification, maritime researches, the search and rescue, the pilot transition, business negotiations and customer services.^[16] Without Hong Kong industries' help and participation, Shenzhen Port would not reach such great achievements. Meanwhile, the rise of Shenzhen Port also helps Hong Kong industries promote their business upgrading and extend their development space. So the relationship between the two ports can be regarded as the division and cooperation in a virtuous circle.

IV. VERTICAL INTEGRATION DYNAMIC LOGISTICS ALLIANCE

Vertical integration mainly embodies the alliance between ports and cargo, ports and shipping, as well as ports and parks. In supply chains, the ports, owners, shipping companies, logistics parks, and industrial parks can contribute to cargo supplying and seamless link of distribution, and thus enhance the quality and efficiency of ports.

Alliance between ports and cargo

Yanzhou Mininng Group, China National Coal Group, Zibo Mining Group and Lu'an Mining Group are not only the comperative partners of Rizhao Port Group but also its stockholders. So Rizhao Port has mature alliance with these owners. For

owners, they expect suppliers can provide “less bulks, less inventories, while more batches and more varieties” services, and “door-to-door”, “self-to-shelf” or “line-to-line” logistics services with low cost. Under the influence of economic globalization, ports have to face with the constant profit decline in harbor handling and freight transport brought by the intensively competitive market. So ports have to seek broader space for development. Ports constantly develop their integrated services and meanwhile take their information advantages to expand the services to enterprises’ whole process of production and operation, such as sales planning, inventory planning, order planning and production planning. The ports and cargo alliance is necessary for ports to stabilize their goods supply and can be regarded as the logistics service aim for ports.^[17]

Alliance between ports and shipping

Rizhao Port can build partnerships with world well-known shipping companies, such as Mearsk Group, Cosco Group, P&O Nedlloyd, CMA-CGM Group, China Shipping Group, the Korean Air, the NYK(Nippon Yusen Kaisha Line Ltd) and SIT Group. The container handling capacity of ports is an important indicator of international logistics center. Therefore, in logistics field ports undertake a wide variety of partnerships with shipping companies, especially with container liner companies. For instance, ports and shipping companies jointly take up stakes, operate some inland shipping and wharfs, transfer shares, and allow container liner companies’ stake participation and management, so as to realize asset complementing and resource sharing of each party. Mearsk Group can be the example. Mearsk takes up 30% stake of Tanjung Pelepas Port and positively engages in cooperating with Shanghai Waigaoqiao and managing the fourth-phase stocks. Ports can make cooperation with liner companies on the stocks of wharf bonded areas, storage yards and warehouses. In addition, both sides can jointly present a third logistics service and develop information platform.^[17]

Alliance between ports and parks

Rizhao Port can work with some mature logistics parks like Zhengzhou International Logistics Park, Xuzhou Logistics Park, Lanhua International Logistics Park in Shanxi Province, Gaijiagou International Logistics Park of Ji’nan, Jinxiang International Logistics Park, Jinhua International Logistics Park, Chengdu International Logistics Park and so on. Harbor-neighboring industrial parks and logistics parks are the important positions for innovative alliance. Ports are logistics distribution centers and harbor-neighboring industries are the best integration of production factors and meet for the needs of supply chains. Considering ports’ effects on logistics industries and harbor-neighboring industries, we need to take full use of harbor-neighboring limited land resources and make good arrangements for logistics parks and harbor-neighboring parks. Therefore, when planning logistics parks in the ports and harbor-neighboring areas, we should construct a variety of storage yards and supporting facilities, improve ship agents, freight forwarding, information providing, road transportation and other supporting functions, and launch logistics business to draw domestic and foreign enterprises. We expect that the improvement of logistics services and structures can bring the better convenience for our owners.^[17]

V. BLENDED DYNAMIC LOGISTICS ALLIANCE

Blended dynamic logistics alliance depends on suitable ports and upstream & downstream resources in ports’ supply chains. As for Rizhao Port, it can choose the ports whose business scopes are similar to it and handling capacity is within the field’s standard. So considering the container, Rizhao Port can choose Shanghai Port; as for the iron ore, it can choose Ningbo-Zhoushan Port; as for the cement, it can choose Yantai Port; on the coal, it can choose Qinhuandao Port and on the liquid chemical and oil product, it can choose Lianyung Port.

Viewed from the fierceness of competition and cooperation and the overlapping of economic hinterland, Rizhao Port is suitable to cooperate with Weihai Port, Yantai Port and Qingdao Port in Shandong Province, which needs the government’s efforts and the positioning of every port in the strategic alliance. China and South Korea “4+1” Port Strategic Alliance Operation Rules signed by Qingdao Port, Rizhao Port, Yantai Port, Weihai Port and South Korean Busan Port market the operation of “4+1” port cooperation mode driven by Shandong Provincial Government.

REFERENCES

- [1] Huanbiao chen: Port supply chain and construction (part one) shuiyun management, 2009, (10) ,9-11.
- [2] SWOT Encyclopedia, <http://baike.baidu.com/view/95520.htm>
- [3] Rizhao port baidu encyclopedia, <http://baike.baidu.com/view/77577.htm>
- [4] Kun zhang: port logistics development strategy in Shandong peninsula, 2008 the thesis in Ocean University of China.
- [5] Zheng sun: the research Based on the competition strategy of Qingdao port in logistics integration , 2010.
- [6] Rizhao port push construction of port information , Rizhao daily. <http://www.chinahighway.com/news/2006/143862.php>
- [7] Gang cai: Bohai sea infighting of three port group , <http://www.sina.com.cn>
- [8] Xinhong chen: analysis Port enterprises to form a dynamic logistics alliance mode, Port Economy , 2008.9.
- [9] Yazhu gu: From the perspective of the port industry cluster to discuss port logistics alliance, Marketing Research, 2008.2
- [10] Libin guo,yuzhong zhang: The construction of evaluation index system in port logistics strategic alliance, Shipping Management , 2011.8
- [11] Jin yang: Rizhao port, "save" a better tomorrow, CHINA Water Transport, 2012.5.21

- [12] Tianjin baidu encyclopedia, <http://baike.baidu.com/view/76205.htm>
- [13] Shenzhen baidu encyclopedia, <http://baike.baidu.com/view/290436.htm>
- [14] Gengzhi huang, desheng xue, dide su: Global Image Making: Marketing Strategies of Megaproject-Hafencity in Hamburg,2011,vol26.No.1.
- [15] Huihui zhang: Ningbo-zhoushan port and Shanghai port together build international shipping center ,china news, 2009.4.28
- [16] Study on the relationship between the contrast of shenzhen and Hong Kong and report, <http://wenku.baidu.com/view/ac8cd0d149649b6648d7470f.html>
- [17] Tongshun qin: carry out strategic thinking of the comprehensive logistics alliance innovation in port, Transportation Science & Technology, 2004.1.

AUTHORS

First Author – Libin Guo, School of Management, Qufu Normal University,Rizhao276826,China