

Assessing the Feasibility of Warehouse Transshipment Special Zone in Taiwan based on Total Cost Concept

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Abstract

According to the guiding policies of Asia Pacific regional operating center proposed by Executive Yuan of R.O.C, Taiwan government is devoted to integrate the function of Export Processing Zone and Offshore Shipping Center for the purpose of promoting the Warehouse Transshipment Special Zone (WTSZ). This seems to create another good business opportunity for Taiwanese industry in any respect.

However WTSZ project is still on the stage of promoting campaign, it so difficult to forecast any performance in the near future. Today, except some official publication concerning with rough introduction of WTSZ for a reference, one cannot make any empirical test the feasibility of this project with the limited data and information,

For the solution to this problem we use the scenario approaches based on total costs concept and comparison between Taiwan distribution model and Hong Kong distribution model to examine whether the WTSZ's logistic system is available for Freight Forwarder as a third party logistic provider.

Our finding is that the existing logistic system has several problems to be defined by cost reduction and time saving perspectives. For example, custom clearance process, custom custody charges and system, port construction fee, entering barrier, regulation restriction, inter-government communication and so on.

If the above mentioned problems could be solved by our government step by step, the freight forwarder would easily enter the logistic market in WTSZ, offering their customers higher value-added service such as logistic management, distribution, consolidation, storage, handling, transit arrangement, information exchange and so on.

Keywords: *Freight Forwarder, Warehouse Transshipment Special Zone, Third Party Logistics, Total Cost Concept.*

I .Introduction

A third-party logistic firm will provide all logistic functions (e.g. all material management and physical distribution functions), other arrangements are more narrowly focused on where a third party may control one or two logistic activities. Presently, many shippers are establishing logistic outsourcing relationships with logistics firms being capable of providing fully integrated multiple service. These firms are willing perform part or all of the logistic requirements for a shipper, including transportation, warehousing, order fulfillment, information management, light assembly, inventory management, and strategic distribution consultation.(Moore and Cunningham,1999)

According to Moore (1999) research illustrated the categories of third party including transportation firm, logistics firm, warehousing firm, Package delivery firm, brokers, a freight forwarder, freight audit/payment companies, warehousing and packing companies, hence freight forwarder is concluded to one type of third party logistic provider.

In general, freight forwarder organizes the transportation of goods for shippers by contracting with one or more carriers to complete movement. the forwarder provides the documentation for all phases of the transport. The forwarder acts as a single point of contact for the shipper and consignee, especially in regard of routing, pricing and shipment tracking.

The term “ Freight forwarder” includes a wide variety of organizations, which offer services to shippers. An appropriate definition is hard to find, with even the Institute of Freight Forwarder(IFF) finding this task challenging:
“ The freight forwarder’s—formally termed the shipping or forwarding agent—initial role was one of arranger of international transport service, finding space for a shipper’s export cargo. In recent years this role has expanded encompassing the co-ordination of transport documentation custom clearance and other such ancillary services”. (Lillie and Sparks, 1993). Assembling small shipments into single large consignments, which are passed on to the carrier in the name of the freight forwarder as shipper. This involves receiving individual packages from different shippers and consolidating them, for subsequent dispatch, but not necessarily by the first available service. Consolidated assignments are then disassembled at destination or at a convenient intermediate point en route, and individual consignments re-forwarded to destination. (Ross, 1996)

In recent years, expanding on the service scope of the freight forwarder as a third party logistic service provider. A third party provider can operate the distribution facility for the shipper, or the receiving for the consignee. A third party provider can

also provide all the information system facilities required by the shipper, the carrier, or the consignee. Forwarder-based firms stress their ability to link operational assets across provider of whatever service is required to satisfy their customer logistics requirement (Bowersox and Closs, 1996).

In an effort to increase their potential contributions to the value chain of the customers, many International Freight Forwarders are becoming “one Stop” comprehensive service provider so called “ Total Logistics Management Companies”. One of the reasons leading to the expansion of service provided by international freight forwarders is the increase of competition within the forwarding industry. Leading Ocean carriers now providing forwarding service (such as Sea-Land, Nedlloyd, and Maersk) and air carriers have begun targeting large accounts (such as KLM, Lufthansa, and American Airline). In this competitive environment, differentiation has become a critical strategic tool (Qzsomer, Mitri and Cavusgil,1993).

The service domain of freight forwarder includes logistic management for offering customers more high value-added service in the foreign literatures, however few research to examine, whether Taiwanese freight forwarders can act as a third party logistic service provider in the Warehouse Transshipment Special Zone.

Therefore the objective of this paper is to highlight the functions of Warehouse Transshipment Special Zone being promoted by Taiwan government at first, and then to utilize the scenario approach based on a total cost concept in order to assess the feasibility of Freight Forwarder entering the logistic market in WTSZ.

II. The functions of Warehouse Transshipment Special Zone

(I) the functions of Warehouse Transshipment Special Zone

Our government is promoting the Warehouse Transshipment Special Zone (WTSZ) for the purpose of creating another New Taiwan economic miracle, trying to find out the transforming way of solving the bottle neck of Export Processing Zone. The advantages of developing WTSZ in Taiwan can be illustrated as follows:

1.Excellent location

Taiwan is located in the center of Asia Pacific with shortest average sailing voyage which not only effectively saves time and reduces substantially operating costs but helps the zones to be centers of manufacturing, R & D, assembly, inspection & verification, and distribution for America, Europe, and Asia Pacific. By way of

division of labor, the zones can create a mutual win- win situation by joining the markets of Singapore , Hong Kong and Shanghai.

2. Convenient Procedures and Swift Customs Clearance

Procedure beginning from application, screening, company registration to issuance of factory building permit are all handled by the EPZ administration . Customs clearance can usually be completed within three and half-hours.

3. High Building Coverage Rate

The building coverage rate will be reduced but floor space rate enlarged, with more open green belt of land and bigger factory floor space. Due to floor space rate is 200%-1000%, it could facilitate investors to utilize land space more efficiently. As table 1 illustrated the building coverage rate and floor space rate of WTSZ

4. Tax Incentives

4.1 Exemption (deduction) on customs tax, commodity tax, and so on.

4.2 Business tax: Tax of transshipment operator is levied in accordance with 10% of its revenue.

4.3 Customs Tax: Customs tax for local sale after taxation is levied in accordance with added value after tax deduction.

5. Low Land Rental

Annual land rental for one square meter costs only about US\$ 5.

6. Solid Manufacturing foundation

6.1 Include up, middle, down-stream industries which foundation is solid.

6.2 Salary of the administrative, managerial, and technical personal is the lowest among the most advanced countries.

6.3 Can speedily obtain business opportunity due to multi-national firms and progressive information.

7. Convenient Traffic

Near to airport, seaport, and freeway, so traffic is very convenient.

8. Progressive Information

Availability convenient and complete global information net system.

9. Good Security

Fire-fighting station, guards, and police station are established to protect the safety of the investor's body and property.

10. Complete Peripheral Facilities

Tax bureau, bank, restaurant, welfare center, health center, employee dormitory, nursery, and multifunctional sport & activity center are established to facilitate the enterprise to save operation cost .

Before 1997, Taiwan only had three export processing zones, Two located in Kaohsiung and one is Taichung, with a total land area of 192 hectares. Recently two

other zones were established in Taichung port and Kaohsiung. Respectively, the expanded zones will have a total land area of 491 hectares.

EPZ policies encouraged the zone investors to convert their labor-intensive factories into hi-tech, high value-added and low pollution industries. In 1986 the trade surplus generated by the EPZ was US\$11.70 billion. By helping the enterprises to upgrade their manufacturing techniques through automation and encouraging investments in the hi-tech, high value-added industries, the zone was able to generate a trade surplus of US\$21.02 billion in 1998. In 1989 high technology industries accounted for 74% of the zone's income but this had increased to 89% of the EPZ's revenues in 1998. In the future, the EPZ hope to accommodate mostly high-tech, high valued-added, low pollution and low energy consuming industries and also multinational operations headquarters, warehousing & logistics and related industries.

Table 1 Statistics on EPZ's Investment, Employment and Trade

Unit: USD\$1000

Year	Zone	Approved Enterprises	Operating Enterprises	Investment Amount	Employee	Trade Amount	
						Import	Export
1986	3	252	239	459,483,349	89,023	1,231,739	2,402,736
1987	3	252	248	552,947,420	90,876	1,628,666	3,173,617
1988	3	246	244	625,206,351	83,599	1,784,131	3,766,339
1989	3	239	237	706,520,730	72,899	1,819,399	3,907,262
1990	3	235	227	796,828,448	67,667	1,616,831	3,525,148
1991	3	241	234	885,973,174	66,151	1,915,512	3,990,568
1992	3	242	229	923,299,835	60,747	2,097,620	4,190,374
1993	3	233	219	924,554,003	51,907	2,283,327	4,325,455
1994	3	233	217	968,585,665	53,671	2,800,633	4,780,210
1995	3	235	228	1,206,423,680	55,191	3,776,816	6,271,975
1996	3	231	223	1,575,959,298	55,778	3,987,052	6,897,065
1997	3	225	221	1,929,923,498	57,016	5,105,908	7,934,118
1998	5	229	207	2,891,878,784	59,598	5,168,457	7,270,805

Source: digest from export processing zone administrative authority's annual data, 1999.

Table 2 Statistics on Approved Enterprises by Category

Category of Industry	No. of Enterprises in operation		Arrived Investment Amount		No. of Employees	
Total	207	100%	2,147,843	100%	58,935	100%
Precision Equipment	12	5.80%	143,817	6.70%	6,268	10.64%
Electronic Products	101	48.97%	1,810,707	84.30%	39,723	67.40%
Metal Products	14	6.76%	29,995	1.40%	825	1.40%
Machinery Instruments	8	3.86%	23,341	1.09%	1,220	2.07%
Chemical Products	2	0.97%	8,032	0.37%	5	0.01%
Foods Manufacturing	1	0.48%	927	0.04%	34	0.06%
Vehicles Manufacturing	1	0.48%	2,597	0.12%	24	0.04%
Garments Manufacturing	15	7.25%	22,060	1.03%	4,475	7.59%
Miscellaneous Products	43	20.77%	100,423	4.68%	6,277	10.65%
International Trading	9	4.35%	4,756	0.22%	41	0.07%
Information Service	1	0.48%	1,188	0.06%	43	0.07%

Source: digest from export processing zone administrative authority 's annual data,1999.

Figure 1 Value-added performance by one person

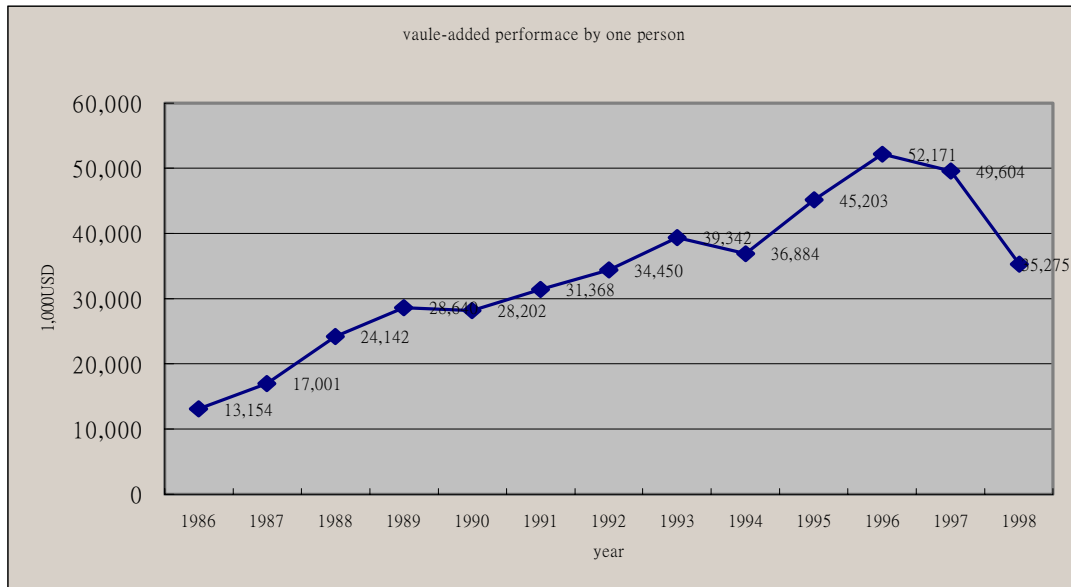
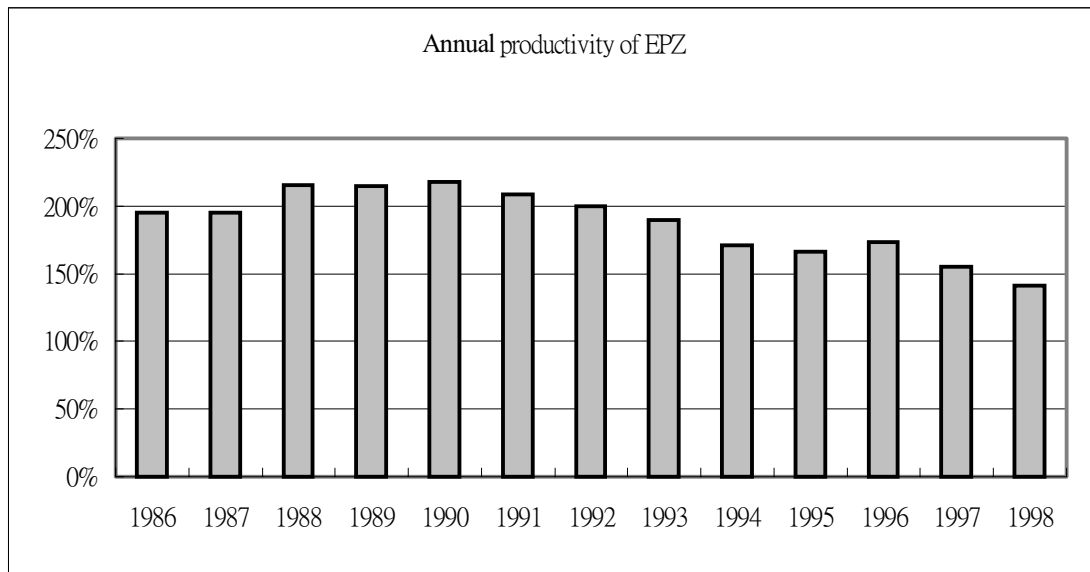


Figure 2

Annual productivity of EPZ



A. Scope of the special zone

To cope with international competition and coordinate the Asia Pacific operation center plan, the export processing zone on May 8, 1996 was ordered by the Executive Yuan to establish the Special Warehousing Transshipment Zones with their scopes designated as below:

1. Chunatao Special Zone: Being the original Kaohsiung EPZ, its major functions include high added-value manufacturing industry, warehousing industry and multinational operation center and international trade, total land space is 72.3 hectares.
2. Chengkung Special Zone: located at both sides of Cheng-Kung 1st Road, Kaohsiung, the land is owned by government businesses, major functions include warehousing industry, assembly business, financial industry, assembly business, financial industry, regional operation center(international trade), and electric, electronic, information, precision machinery and instrument manufacturing industry. Land space is 55.36 hectares.
3. Tangjung New Tang Special Zone: 25.6 hectares.
4. Hsiaokang Special Zone: located north to the Kaohsiung International Airport, its major functions include air transportation, warehousing, electric and electronic machinery and instrument manufacturing industry as well as pre and post businesses. Available land space is 32 hectares.

5. Chungkang Special Zone: located in the Taichung Port Cargo Terminal, its major functions including high added-value manufacturing industry, processing industry and re-export related industries. 182 hectares.

Added to 192 hectares of the original three zones, the special zones now have a total land area of 491 hectares.

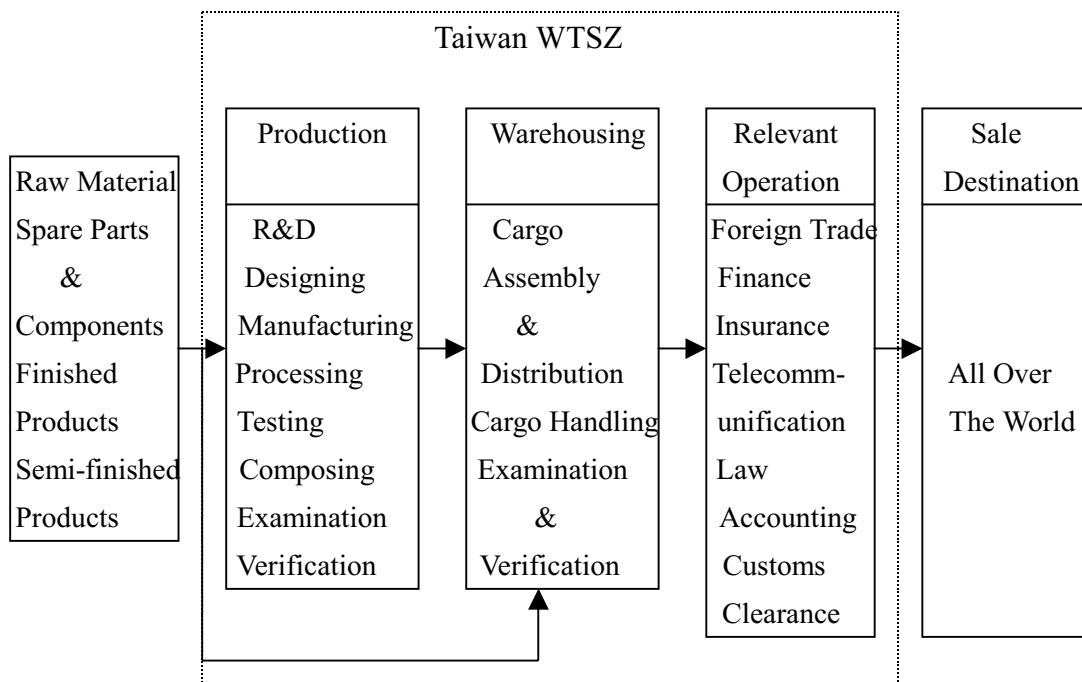
B. Business type

With a lot of land, the export processing zones administration set out the development task. To develop the new zone, the administration began planning the business direction and injecting it with new spirit and content. After intensive consideration the strategy for operation center, they were declared as special district for high value added enterprises.

According to this strategy, except for the already existing hi-tech and high value-added manufacturing industry, three new categories of industries will be recruited:

1. Manufacturing and its Up-and Down-Stream industries.
2. Warehousing Transshipment Operation.
3. Relevant Service Industries.

Figure 3 The Business Scope of Taiwan WTSZ



Source: Export Processing Zone Administration, (1998), *Export Processing Zone Investor's Guide*,

Ministry of Economic Affairs, Taiwan, R.O.C.

C. Investment requirements: Investor should meet the following requirements

- 1) Minimum capital: Manufacturing industry is NTD 40 million; warehousing industry is NTD 80 million; transportation industry is NTD 50 million; trading industry is NTD 5 million; transportation service and others are NTD 1 million. If other laws have regulations on the minimum capitals regarding the above-mentioned industries and are higher than the said standard, then the latter should be applied.
- 2) The minimum leasing land area required for constructing a self-designed factory building: manufacturing industry: 2000 m²; warehousing & transportation sector: 3000 m²; no limit for other industries.
- 3) The highest building rate and coverage rate for self-designed factory building;
For Hsiaokang special zone there is no limit on coverage rate, but the high-rise building must comply with the regulation regarding airport restriction on building.

Table 3 Building Rate and Coverage Rate of different areas

Item zone	Building Rate	Coverage Rate
Chungtao Factory Area	60%	500%
Special Industrial /Commercial Service Area	70%	1000%
Zone Warehousing/ Transportation Service Area;	60%	300%
Chengkung special Zone	60%	600%
Tangjung special Zone	60%	600%
Hsiaokang Special Zone	60%	No limit
Taichung Harbor Special Zone	80%	600%

Source: Export Processing Zone Administration, (1998), *Export Processing Zone Investor's Guide*, Ministry of Economic Affairs, Taiwan, R.O.C.

The special zone will act as composing, processing, exporting, and transiting base. It is expected that in coordination with the sea/air multi-modal transshipment, profits will be increased 10 times, cost reduced, and competitiveness upgrade. It is predicted by 2006 the special zone will achieve an annual production value of US\$100 billion and generate 100,000 additional job opportunities.

Annual production value of per hectare: after operation for 10 years the enterprise should achieve the following standard;

- (1) Warehousing industry: USD 100 million
- (2) Manufacturing and other industries: USD 200 million.

Table 4 Anticipated Vision of WTSZ

Item \ Target Year	1998 - 2006
Land space	491 hectares
Investing companies	over 2000 firms
Investment Capital	US\$ 43.6 billion.
Production Value	US\$ 100 billion
Employee numbers	1,000,000 employees

Source: Export Processing Zone Administration, (1998), *Export Processing Zone Investor's Guide*, Ministry of Economic Affairs, Taiwan, R.O.C.

(II) The function of offshore shipping Center

The offshore shipping center was open for direct links across the Taiwan Strait on April 19, 1997. However the existing policies do not allow cargoes across the Taiwan Strait with custom clearance and entrance of goods yet only transit operation, therefore it just makes a little impact on trade across the Taiwan Strait. According to official statistics showed that the unloading volume of 1998 was 152,000TEUs and the loading volume was 121,000TEUs, there were a total of 273,000TEUs. The growth rate of 1998 has reached 113.28% compared with the traffic volume of 1997 being recorded 128,000TEUs, it seems that traffic volumes across the Taiwan strait is increasing gradually.

Though the traffic volume was not large, it was still very attractive Taiwanese businessmen in Fuzhou and Xiamen, but both ports' water depth is only 5 meters and 8 meters respectively where only small size feeder can call on. Although small-size ships still voyage across the Taiwan strait, by using Kaohsiung port as the transit port which has the water depth of over 10.5 meters, around the earth large-size ships will make Kaohsiung port as the transshipment center for South and east China. The transshipment benefits offered by the Kaohsiung port derive mainly from cost consideration, purchasing raw material by Taiwanese businessmen and multi-national enterprises from Hong Kong and Southeast Asia regions and exporting the finished products to Japan and United States. If Kaohsiung is substituted for the transshipment port, the cost will be immensely reduced as much as 40%. Added to time saved, then

the cost can be reduced up to 50%, thus generating more profits.

Table 5 Container traffic volume in offshore shipping center

Unit: 1000TEUs

	1997	1998	Growth Rate
Kaohsiung port			
Non-offshore shipping	5,693	6,271	10.15%
Offshore shipping	128	273	113.28%
Total	5,821	6,544	12.42%

Source: digest from ministry of transportation & communication's annual report, 1999.

III. Methodology

Supply chain management analysis, and improvement is becoming increasingly important, the performance measures utilized universally in literature or in practice. Supply chain models have predominantly utilized two different performance measures:

- (1) cost
- (2) a combination of cost and customer responsiveness.

Benmon (1999) concluded that costs may include inventory costs and operation costs, customer responsiveness measures include lead-time, stakeout probability, and fill rate. The author summarized the supply chain model available in the literature and the corresponding performance measures used, its performance measures in supply chain modeling indicated as follows:

- 1.cost
- 2.cost and activity time
- 3.cost and customer responsiveness
- 4.customer responsiveness
- 5.flexibility

Besides, Benmon's argument concluded that total cost is incorporated in the domain of supply chain performance. Total cost analysis is the key to managing the logistics function. Management should strive to minimize the total cost of logistics rather than the cost of each activity. Attempts to reduce the costs of individual activities may lead to increased total cost.(Dougals and James,1993) The total-cost idea was instrumental in deciding which of a firm's activities should be grouped

together and called physical distribution activities, it provided the basic argument for the collective management of logistics activities.(Ballou,1987).

Due to WTSZ's project being performed recently, there are only some government official agendas and a few related research we have collected, so it is hard to measure the feasibility of freight forwarder entering into logistic market in WTSZ by questionnaire . For solution of this problem we use not only the scenario approach to analyzing the issues based on total cost perspective to compare the difference between Taiwan distribution model and Hong Kong distribution model, but also by personal interview with some forwarders, CFS (Container Freight Station) operators, logistic firms and government officials to acquire the available data involving existing regulation, custom clearance process, government project , logistic offering price and so on.

With respect to the description of scenario background data, assumed that one 20'container loaded electric appliances of 3 shipments which cost USD 10,000 and their volumes are 9cbms individually, transported by sea from Xiamen(Mainland China) to Kaohsiung(Taiwan),after arrival at Taiwan, the Forwarder would deliver this shipment to the Container Freight Station(CFS)for unloading , storage and assortment. The deposit time in warehouse is 15days waiting for another 2 shipments(supposed the some product, some price and some volume) to be consolidated and loaded into one single 40'container together, after 15days such consolidated shipments are expected to dispatch to Los Angeles/USA by ship.

At present there are 2 alternatives of handling the transit commodities at Kaohsiung for a forwarder as a third party logistic provider in Taiwan .First is case A ,second is Case B . on the other hand, in order to make the comparison a difference between Port Kaohsiung and Port Hong Kong on distribution cost, we hypothesize another Case C representing the shipment distributed through Hong Kong.

The description of overall Cases can be illustrated as below:

1) Case A: Xiamen – Kaohsiung– Los Angeles (distribution by carrier)

Upon Arrival at Taiwan, the shipment would be delivered to one shipping company's contract agents in charge of handling logistic operation at Container Freight Station (CFS) in the port Kaohsiung (so called on-dock distribution center). The advantage of this model is that some custom custody expenses would be covered by the carrier and storage fees are free within 10 days , the forwarder could save much money, but the disadvantage is that the boarding date of shipments must be matched with this carrier's sailing schedule without any alternatives.

2) Case B: Xiamen–Kaohsiung –Los Angeles. (distribution by CFS)

If compared with Case A , the Forwarder has more free option of picking up any CFS contractor to handle their shipments , but he must pay not only more higher custom custody charges and warehousing charges without any free day, but also pay inland transportation charges from port to CFS ,which is located nearby or far from Port Kaohsiung (so called

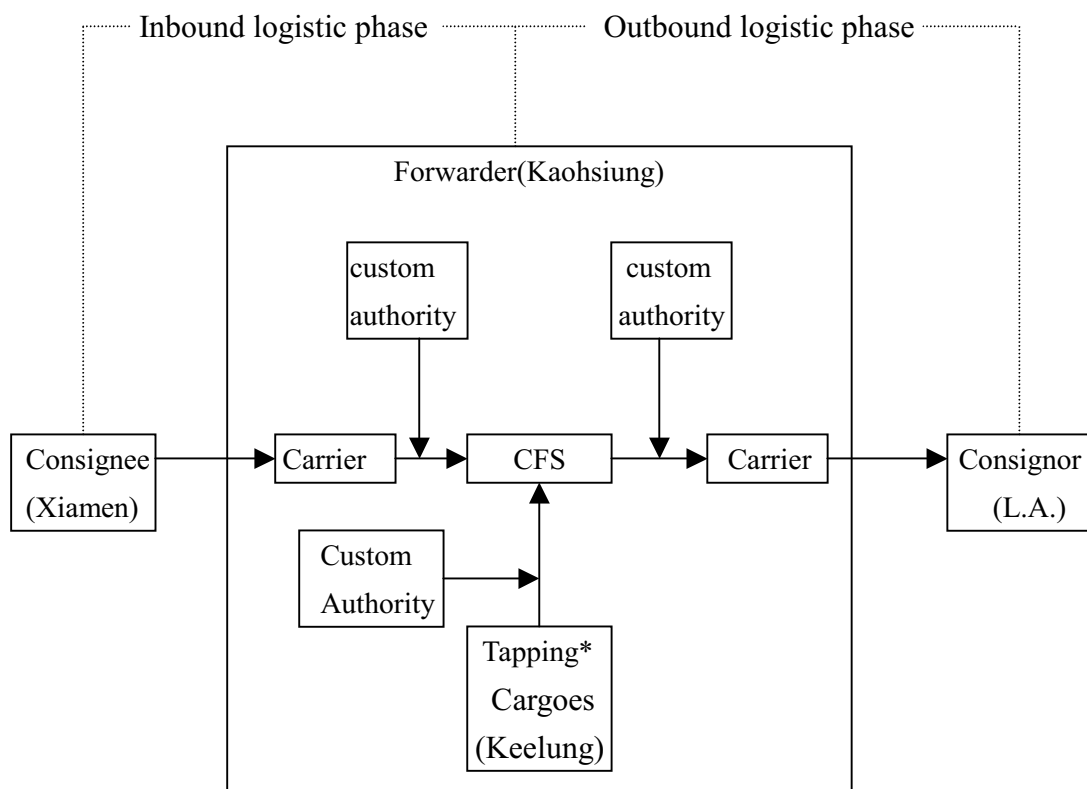
off-dock distribution center).

3).Case C: Xiamen–Hong Kong–Los Angeles(distribution by CFS)

For the purpose of comparing the difference between Kaohsiung and Hong Kong in term of logistic cost, we assumed Case C that 3 shipments transported by sea from Ximen to Hong Kong , the forwarder made use of H.K. logistic center to consolidate another 2 local shipments by one single 40’ container , after a few days the overall consolidated shipments will be delivered by sea to American’s Los Angeles .

Except Case C, no matter on the Case A or Case B We could define flow chart of physical distribution system in WTSZ as the two phases, one is inbound logistic phase ; another is outbound logistic phase for analyzing the issue conveniently. The former included from consignee (Xiamen, Mainland China) to forwarder(Kaohsiung, Taiwan); the latter is from forwarder (Taiwan)to consignor (Los Angeles, U.S.A.).

Figure 4 Flowchart of physical distribution system in WTSZ



Note: * tapping cargoes: means consolidated local cargoes to Mainland China’s shipment for the benefit of earning.

IV. Finding

In general, Average gross profit for Freight Forwarder except market factor's fluctuation is about 20-25%, so in this instance it had better over USD1134 (USD5670*20%). As above table 5 showed that only Case C can meet this standard; another Case A or Case B are hard to reach, because gross profit of case A is 956dollars; case B is 885dollars;case C is 1269dollars.

It seems so difficult for a forwarder to get optimal profit from a number of unreasonable problems occurred at the present logistic system, such as custom authority charges, port construction charge, regulation restriction, entering barrier, custom clearance process, and so on. As the table indicated, overall transportation expense (including ocean freight and inland transportation expense) of Case A, Case B and Case C recorded USD3250, USD3284, USD3230 respectively; handling charges are USD 798, USD 608, USD 1011; custom broker fee is USD 313, USD 313, USD 150; document Charge is USD 18, USD 18, USD 10; the other storage expense, custom authority charge and port construction charges are free in Case C (so Called Hong Kong distribution Model) as well as Singapore port .

According to Table 6 ,Case A is cheaper than Case B at custom authority charge and storage charge. Because the custom custody charges are absorbed by the shipping firm by itself, and storage charges are free within 10 days if a forwarder can use the carrier's CFS for shipment storage in Kaohsiung port.

Besides, Hong Kong or Singapore' s transit time is about 2-3days on the principle of "Cargo pass first, Document check later"; in contrast, Taiwan's transit time may be wasted at least 5days through Cargo inspection process and Document checking process according to the strict regulation of our national security law.

Table 6 Component of Logistics cost

	A Case		B Case		C Case	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
Transportation	3250	68.94%	3284	68.63%	3230	68.94%
Handling	798	16.93%	608	12.71%	1011	16.93%
Storage	135	2.86%	190	3.97%	0	2.86%
Custom authority charge	0	0%	172	3.59%	0	0%
Custom broker fee	313	6.64%	313	6.54%	150	6.64%
Port construction charge	200	4.24%	200	4.18%	0	4.24%
Document charges	18	0.38%	18	0.38%	10	0.38%
Total logistic expense	4714	100%	4785	100%	4401	100%

Table 7

Specification of Logistic Cost

Unit: \$=1USD

	A Case	B Case	C Case
Selling Price	5760	5760	5760
Logistic Cost			
1. Inbound Logistic Cost			
Ocean freight(Xiamen/Kao)	450	450	
Ocean freight(Xiamen/H.K)			250
Terminal Handling Charge	151	151	155
Document Charges	9	9	0
Unloading Charge	152	89	312
Storage Charges	135	190	0
Sub total	897	889	717
2. Outbound Logistic Cost			
Custom Broker charges	313	313	150
Consolidating Charge	304	177	312
Ocean Freight(Kao/L.A.)	2800	2800	
Ocean Freight(H.K./L.A.)			2800
Terminal Handling Charges	191	191	232
Document Charges	9	9	10
Port Construction Charges	200	200	0
Custom Inspection Expenses	0	94	0
Custom Officer Traffic Charges	0	78	0
Inland Transportation Charges	0	34	180
Sub total	3817	3896	3684
Total Logistic Cost	4714	4785	4401
Gross Profit	956	885	1269

Note:1.The above offering price is real with reference to forwarder's quotation in May ,1999.

2.Currency exchange rates: 1USD=7.75HKD, 1USD=32.99TWD(1999.5.20)

In summary, the overall logistic costs of Case C are which cheaper than those of Case A and Case B. Our forwarders are expected to lose their competitive advantages in term of time saving and cost reduction, if the government cannot adjust the unreasonable custom inspection charges and the custom clearance system.

Although the WTSZ has many advantages according to our government's official agenda, it also has some problems that need to be solved in the future.

The finding of this paper can be summarized as follows:

1. In order to integrate the offshore shipping center, the warehouse Transshipment Special Zone , Multi -function Commerce & Trade Park appears not so easy , it will

take much time to solve the disputes between central and local governments from different interest considerations. For example, the coverage rate of building regulation has different standards between the central government and local governments. Nobody knows which one is right to follow. Furthermore, WTSZs have several locations in different places which are owned by Kaohsiung port authority, Kaohsiung City government and Export Processing Zone administration authority individually, the quality of infrastructure construction seems to be deteriorated if they cannot reach any agreement on controversial issues. Therefore, our government needs to work together in order to create a good operational environment for logistic industry.

2. For the purpose of labor cost reduction and upgrading productivity most of state owned companies have forces to lay off the unproductive employees after privatization, some management prefer transferring some employees to other public sectors or private sectors to eliminate labor dispute or labor strike. Several lands in WTSZ owned by some companies are eager to support this project for solving the labor problems, but they are not capable of dealing with any logistic related problem due to the absence of sufficient logistic management know-how and technical skill.

3. The stable development on Cross-strait economic relationship

Cross-strait traffic and trade volume has gradually played a key role in Taiwan 's economic development since our government allowed Taiwanese people to freely invest and travel in Mainland China. The stability of the development of cross-strait economic relations will become an essential prerequisite for Taiwan achieving its aim of becoming a multi-function operation center. The long-term development of cross-strait economic relations must be planned with broad economic strategy.

While pursuing the development of cross-strait economic relations, we can make more deregulation of logistic policy without violation against the national security and economic stability in Taiwan. All such planning should adhere to a gradual process of step adjustment.

4. Current logistic system has several problems need to be defined based on total cost concept. For example, custom clearing process, custom custody charges and system, port construction fee, Entering barrier , regulation restriction, and so on.

Particularly, it is necessary for custom authority to transform old custody attitude into new customer-driven attitude for the fast custom clearance, we can adopt the principle of “ cargo pass first, document check later” used by Hong Kong and Singapore to accomplish the objectives of transit time reduction and cost down .

5. Although port construction fee is much helpful for port development and government financial revenue, and the fee will be diminished from 4/1000 into 3/1000 after September. But charge rate is calculated by FOB price of commodities on the commercial invoice, and also such charge are not levied on the transit cargo at Hong Kong or Singapore. For promoting forwarder's competitive strength, our government should assess the possibility of free charge or changing calculation method.

6. According to the existing custom clearance law regulated that "only the real cargo owner could rent the warehouse and handle the transit cargo in WTSZ, any forwarder has no right of renting or owning a warehouse for logistic service offering. Because the law status of freight forwarders was uncertain in Taiwan, no any relate law can protest their legal right. Taking advantage of carrier's distribution service or CFS operator's distribution service is the only choice, If they offer shipper some logistic service.

V. Conclusion

We took advantage of scenario approach based on total cost concept to analyze the feasibility of a freight forwarder offering logistic service in WTSZ, discovering some drawbacks in the existing system that need to be revised, such as customs clearance charge, transit time and customs regulation.

According to our research, this paper can be concluded as follows:

1. In order to integrate the function of offshore shipping center, warehouse Transshipment Special Zone and Multi-function Commerce & Trade Park inter-government coordination and communication is necessary to provide a good operating environment for logistic industry to enhance their competitive advantages.
2. Our government should set up the education institution of helping state owned companies to promote logistic know-how and management skill associated with transportation, distribution, automatic warehouse and information management, and also encourage them to learn more new logistic knowledge by joint venture or strategic alliance with superior domestic or foreign logistic firms all over the world.
3. The cross-strait economic relationship has directly influenced Taiwan accomplishing its objective of becoming a multi-function operation center including offshore shipping center and warehouse transshipment special zone. For increasing traffic and trade volume between both sides, we should create a more flexible custom clearance system and logistic policy without violation against the national security

and economic stability of Taiwan. For example, according to existing customs regulations any CY transit cargo from Xiamen/ Fuzhou to Kaohsiung cannot allow custom clearance and import inside Taiwan. We should adjust this regulation that transit cargo across Taiwan Strait can be operated in the WTSZ through sufficient communication of both side governments.

4. The current logistic system has several problems that need to be defined in the view of total cost concept. Such as custom clearing process, custom custody charges and system, port construction fee, Entering barrier, regulation restriction, and so on. Our government should adjust the existing custom clearance system with the principle of “ cargo pass first, document check later” to reduce transit time and operating cost in WTSZ.

5. Although port construction fee is much helpful for port development and government financial revenue, and the fee will diminish from 4/1000 into 3/1000 after September . But such charges are free at Hong Kong or Singapore. In order to create cost niches for the forwarder, our government have to assess the possibility of free charge or changing calculation method on custom custody charge and port construction fee.

6. Our government should set up the special law to exercise jurisdiction over forwarder firms, and deregulate the entering barriers of logistic market for them. Moreover, it's our government's responsibility to promote their competitive capability not only to confront with serious threat from Mega foreign forwarder entering domestic market after we join in the WTO, but also induce them to expand market domain into abroad including Mainland China, Japan, American, Europe and other countries.

To sum up, there are several issues and barriers arising in the near future, while our government is promoting the WTSZ project. However we have a confidence with our government could integrate the trade special zone, offshore shipping center, the Kaohsiung multi-functional commerce park, and the Taichung port special Zone successfully to create a good environment for freight forwarder as a logistic service provider.

Someday warehousing transshipment special zone in Taiwan will become the hub of the Asia pacific operation center, it will further construct the development of other center, and thus recreate another economic peak for Taiwan.

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