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A Tale of Two Ports:

the Role of the State in a Laissez Faire Economy

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By

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DECLARATION

I declared that this dissertation represents my own work, except where due acknowledgement is made, and it has not been previously included in a thesis, dissertation, or report submitted to this University or any other institution for a degree, diploma or other qualification.

Signed : _____

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ABBREVIATIONS

ACT	Asia Container Terminals Ltd
ASA	American Standards Association
COSCO	China Ocean Shipping (Group) Company
DPI	Dubai Port International Terminals Ltd.
FSI	Financial Secretary Incorporated
HKCD	Hong Kong Cyberport Development Holdings Ltd.
HKCM	Hong Kong Cyberport Management Company Ltd.
HIT	Hongkong International Terminals
ICC	Interstate Commerce Commission
ISO	International Standards Organization
Marad	United States Maritime Administration
MH-5	Materials Handling Sectional Committee 5
MTL	Modern Terminals Limited
PADS	Port and Airport Development Strategy
PCCW	Pacific Century CyberWorks
PCF	Port Cargo Forecasts
PCG	Pacific Century Group
PDC	Hong Kong Port Development Council
PDSRs	Port Development Strategy Reviews
PRC	People’s Republic of China
PRD	Pearl River Delta
SPV	Special purpose vehicle
TC104	ISO Technical Committee 104
TDD	Territory Development Department
TDS	Territory Development Strategy
TEUs	Twenty-foot equivalent unites

ABSTRACT

A tale of two ports, namely Hong Kong International Container Terminal (Container Port) and Cyberport is presented in this dissertation which endeavours to examine their planning success and failure. It is recognised that the Government acted as a good coordinator in the successful Container Port development, who has given supports to private container operators since 1960s when the concept of containerization had been appreciated and adopted world-widely. Contrasting to Container Port, Cyberport has been developed mainly under the initiation by Government.

After reviewing the development history and business performance of both ports, the author came up with a major argument, which is the role of Government engaged in the development of Container Port and Cyberport determined their success and failure. Concerning the two ports development, it is concluded that in a laissez faire economy, successful development is mainly driven by market itself while the Government is recommended to be a coordinator rather than an initiator.

CHAPTER ONE

INTRODUCTION

BACKGROUND

The two “ports” discussed in this dissertation are the Hong Kong International Container Terminal (Container Port or Container Terminal) and Cyberport. The evolution of Container Port was traced back to 1842 when Hong Kong was still an entrepot. With both the Government and private sectors’ participation, wide attention had been paid to containerization in 1960s. After the concept of containerization had been studied, within ten years, the Kwai Chung Container Terminal was ranked the fourth largest in the world and second largest in Asia. The business of Container Terminal was realized to be very successful. Up till now, the Container Terminal in Hong Kong has still maintained its position as the world’s busiest port. In the evolution of Container Port, the shift away from the historic cargo handling methods and centres was in part being pushed by the industry itself. However, without a solid basis provided by the Government for supporting the new system, the progress was believed to be slow because the industry tended not to abandon its existing bases. Therefore, both the Government and private sectors played an important role in moving the Container Port in Hong Kong to be an international port.

On the other hand, the development of Cyberport was mainly under the Government's initiation with this idea originated from Pacific Century Group (PCG) because the Government believed that Cyberport could act as an IT flagship, an essential infrastructure to form a strategic cluster of information services companies to meet the challenges of the 21st Century. After the Government's announcement of the development Cyberport project, the involvement of private sectors started as the Government appreciated on their expertise and entrepreneurial spirit. Contrast with the usual practice, this project was awarded to the PCG without a formal tender process.

It is also interesting to note that although Cyberport was planned to be a leading information technology centre of the Asia-Pacific region, large amount of residential area (Residence Bel-Air) had been developed. This created a scandal upon both the Government and PCG because the Cyberport was alleged to be a deal between the Government and PCG aimed at favouring PCG. The interest rewarded to PCG upon the construction of Cyberport is the real estate interest. At the beginning of the project, the private sector was planned by the Government to be the major shareholder of Cyberport project, but upon the completion of the project, it finally turned out that the capital contribution by Government is 64.5 percent of the total equity of the project, in other words, the current major shareholder of

Cyberport project is the Government instead of private sector whose capital contribution is only 35.5 percent.

One significant contrast between Container Port and Cyberport is that the former one is built on an existing, powerful, forward moving industry in which both the private sector and government had devoted their effort in the evolution. While the Cyberport development was mainly driven by the Government. However, the whole project had appeared to be a real estate development rather than a Hong Kong's information technology flagship, the original picture in the mindset of the Government. In this dissertation, I will evaluate the performance of the Container Port and the Cyberport followed by an investigation of the corresponding reasons of their success or failure.

OBJECTIVES

The objectives of this dissertation are threefold and as follows,

1. To study the history and nature of the Container Port and the Cyberport
2. To determine the initiating forces of the developments of the Container Port and the Cyberport
3. To evaluate the performance of the Container Port and the Cyberport and investigate the corresponding reasons of their success or failure

METHODOLOGY

For this dissertation, an extensive literature review of books, articles, and journals was carried out. To discuss the role of Government in a laissez faire economy, the cases of Container Port and Cyberport concerning their ways of planning and development are studied. The literature review mainly focused on the concept of planning by Government and market in order to understand the rationale of these different planning ways as well as the concept of containerization for the purpose of understanding the container industry development in a global aspect.

To evaluate the performance of Container Port and Cyberport, different approaches had been used. For the former port, the forecast by Hong Kong Port Development Board and Planning Development in the Port development strategy reviews on the container and cargo throughput as well as the business performance of container terminal operators would act as the evaluating indicators. For the latter port, it would be evaluated in terms of the residential portion and Cyberport portion. The business performance of the residential portion could be reviewed in the financial statements of Hong Kong Cyberport Development Holdings Ltd. (HKCD)

Nevertheless, concerning the Cyberport portion, due to the unavailability of financial statements of Hong Kong Cyberport Management Company Ltd, the Cyberport portion could only be reviewed in the basis of the information available in the press release, minutes of the legislative council consisting the Report of Cyberport Project and financial statements of HKCD. For business evaluation concerning the Cyberport office and the Le Méridien Cyberport Hotel, comparison approach would be conducted by looking at the occupancy rate and unit pricing rate of the Grade A office and 5-star hotel in Hong Kong Island respectively. For a retail entertainment complex (The Arcade), the evaluation is based on the observation from the site visits conducted.

ORGANISATION

This dissertation has six chapters. Chapter One is the introduction, which includes the background, objectives, and organization of this dissertation. Chapter Two is the literature review, which includes the definitions and reasons of planning, Pigovian and Coasian Paradigms concerning planning by government and planning by market, reasons of planning failure and finally a detailed discussion of containerization development. Chapter Three and Chapter Four present the planning and development of Container Port and Cyberport respectively including the historical review and their

performances. Chapter Five examines the reasons of success and failure of the two ports. Finally, Chapter Six is the conclusion, giving a summary of the key issues of this dissertation.

CHAPTER TWO

LITERATURE REVIEW

DEFINITION OF PLANNING

Planning is categorized into two rather different but related meanings by Peter Hall (Hall, 1980) according to the means of processing of "planning". First, it can refer to *"a set of process whereby decision-making engage in logical foresight before committing themselves"* which include problem definition, problem analysis, goal and objective setting, forecasting, problem projection, design of alternative solutions, evaluation of alternative solutions, decision processes, implementation processes, monitoring, control and updating. These are common in the planning of many public activities such as defence, economic development, education, public order and welfare.

But secondly, it can refer to *"processes that result in a physical plan showing the distribution of activities and their related structures in geographical space"* (Hall, 1980). This kind of planning is also known as physical planning, or town and country planning, or urban and regional planning.

REASONS OF PLANNING

According to Lai (1997a), the modern planning is generally considered to be the outcome of three major factors in European experience in the 19th Century. First, the town planning emerged in the later stages of the industrial revolution in order to overcome the new problems associated with urbanization. Second, planning was seen as a way to cope with problems of poverty and education which were redefined as “social problems” capable of being managed through new professions like planning and social work. The third reason is the invention of the modern economy. In historical perspective, European pre-war economic thoughts and political experience influenced heavily on the planning of the post-World War II. As a result, planning was believed as a profession dealing with the techniques, activities, procedures and management of government interventions in spatial and socio-economic affairs in terms of economic reasoning suggested by Escobar (Escobar, 1992). Escobar suggested three general factors of the emergence of planning which corresponded to the policy issues. First, the efficiency in resource allocation in the presence of “market failure” was concerned, namely the existence of externalities, problems of providing public goods and the existence of monopoly under the profit mechanism in the process of industrialization and urbanization. Second, there was a desire for equity in income, wealth distribution and opportunity. Third, Pigovian

micro-economic and Keynesian macro-economic management was generally accepted in Western countries.

PLANNING BY GOVERNMENT & BY MARKET [1]

In the views of economist, it is more often to classify “planning” according to the decision makers. Therefore, planning can indeed be categorized into “planning by government” and “planning by market”. The two competing paradigms of zoning was understood as a kind of government regulatory measure, in terms of economic theorization the Pigovian developed on the basis of the book named *The Economics of Welfare* written by Professor Arthur C Pigou (Pigou, 1920), which was first published in 1920. On the one hand, and the Coasian paradigm developed mainly on the basis of Ronald Coase’s Nobel Prize paper “The Problem of Social Cost” of 1960. In terms of economic efficiency in the planning arena, the Pigovian paradigm is one for government intervention whereas the Coasian paradigm is against it (Lai, 1994). In the British literature, the equivalent of the Pigovian and Coasian debate is the discussion within the planning profession about the

[1] The information of this section is mainly based on Lai, L. W.-c. 1994. "The economics of land-use zoning: A literature review and d analysis of the work of coase". *Town Planning Review* 65: 77-99. and _____. 1997a. "Property rights justification for planning and a theory of zoning". *Progress in Planning* 48: 161-246.

conventional dichotomy of “plan” versus “market”, “planning” versus “price mechanism”.

Pigovian Paradigm

The Pigovian paradigm refers to the expression of the concept of “external effects” which is a ground for the support for government intervention. In modern welfare economics, an externality is a kind of market failure which can be divided into positive externalities and negative externalities. In the former case, it arises where the cost suffered by a party due to the activities of another is uncompensated. Conversely, in the latter case, the externality refers to the benefits produced by one party are enjoyed by another without compensation. Pollution is a typically described as an example of negative externalities according to Pigou. Those uncompensated costs or benefits would create economic inefficiency. The Pigovian economists advocates the belief that the market only responds to private costs and benefits, and such behaviour lead to the failure of equating marginal value and marginal social costs, and hence failure of Pareto economic efficiency. Therefore, they agree that the ways in tackling this problem is the intervention by government or state regulation of the land market. (Pigou, 1920)

Not only “externalities” is being concerned by the Pigou’s advocates, but also the existence of “public goods”. According to Lai (1997a), public goods are the goods or services which the free market is believed to be naturally disinterested in providing an adequate amount, if any at all. The reason behind this is the public good is non-excludable, in other words, it is jointly consumed. The consumption of the good by one individual does not reduce the amount of the good available for consumption by others and hence no one can be effectively excluded from using that good. The marginal cost of serving one more consumer is zero, and for efficient resource allocation, the seller is required to set zero pricing which deter the private sector. Moreover, the consumers would have a tendency to deny their real demand, hoping that they could be the free rider without payment. Classic examples given by Lai are national defence and education. Without the government involvement, individual citizens tend to deny their needs of these services when they are asked for the concerned expenditure in the expectation that someone else would pay for them. In the argument concerning the public goods, government planning is thus further supported since the government could supply what the market is believed to be unable or unwilling to produce at a price which appeared to be zero in the views of citizens, but indeed the cost is borne by the tax payers.

Lastly, the problem of “monopoly”, the sole supplier of a good or service, leads to the intervention of government planning. The unregulated monopolies, like externality, are said to incur economic inefficiency for failing to equate marginal valuation with marginal cost. The standard solutions to correct such inefficient outcomes include a tax on the monopoly’s “abnormal profit”; minimum output quota; maximum price control; and breaking up the monopoly by anti-trust legislation with a view to reintroducing competition into the market.

To conclude, the problems concerning externality, public goods and monopoly are the major arguments made by Pigovian economists for supporting the intervention of government intervention in the market.

Coasian Paradigm

The Pigovian welfare economics arguments, however, was challenged by Ronald Coase. Concerning the externalities, he wrote a paper named “The Problem of Social Cost”. In this paper, he firstly gave rise of his popular theorem, the Coase theorem. He believed that if property rights are clearly determined and if all costs of transactions are zero, then resource use will be the same regardless of who owns the property rights. This theorem implies

that Pigovian interventionist measures are unnecessary because the market can tackle externalities if transaction costs are zero by internalizing the uncompensated costs or benefits. It is because the involved parties who are in conflict of interests would negotiate among themselves and reach an agreement finally by means of trading their rights. This would lead to the same resource allocation regardless of who owns the property rights. (Coase, 1960)

The Coase theorem is different from the Pigovian model where one party is assumed blameworthy. According to Lai (1997a), the general idea of the matter of Coase is *"a balance of conflicting interests which depends on the cost-benefit comparison of the activities of the parties involved rather than an arbitrary and a priori condemnation of any of the parties."* Avoiding harm on one party indeed would incur harm on another party. Even though social costs are created by many activities, they also generate social benefits meanwhile. Hence, when tacking the externality problem, it would be at the expense and also the benefit aspects. It was also pointed out both direct benefits to the parties involved in the production and indirect benefits to the innocent third party would be involved in the externality production. It is rare that the innocent third party suffering directly from the externalities received zero indirect benefit in the real world.

Concerning the “public goods”, Coase used a historical case of lighthouse to illustrate that the private sector could produce profitable public goods by using direct pricing to fund public facilities. He discovered that a private lighthouse business did in fact exist as early as the reign of the Quarts by conducting a historical survey of the financing of lighthouses in England and Wales. Private parties built, operated, financed and owned the lighthouses. They could sell the lighthouse or dispose of it by bequest. The toll varied with the lighthouse and ships paid a toll, varying with the size of the vessel, for each lighthouse passed. The specialized toll collecting agents and the constraints that vessels ultimately needed to berth at a port solved the metering and free-riding problems in the case of the lighthouse. Coase pointed out that the economists’ common belief regarding the impossibility of securing payment was due to their habit of armchair speculation untested by empirical facts. This illustration although was simple historical case study, it gave a general transaction cost view of public goods i.e. they are goods for which direct pricing is not viable due to high transaction costs. (Lai, 1997a)

Finally, the notion of property right suggested by Coase gave critique on government intervention against monopoly. Firstly, being the monopoly is the only existing firm, it still has to deal with the potential competition which would encourage it promote innovation to reduce cost. Secondly, the

“abnormal profit” gained by the monopoly is regarded as a pay back to its past investment for being the survivor of market competition after the elimination of weaker firms. Therefore, this so-called “profits” are actually normal returns for efforts which win the consumers over rather than unexpected return.

The assumption of Coase Theorem, however, has been criticized for being highly unrealistic in the real world. Furthermore, it is argued to be tautological since under the assumption of zero transaction costs and perfect information, entry and exit will definitely be costless and complete competition and efficient resource allocation must be resulted. In response to the above criticism, Professor Lawrence Lai explained that the more significant point is the corollary of the invariant version of Coase Theorem, *“where transaction costs are positive, resource allocation would be affected by the ways in which rights and liabilities are assigned”*. (Lai, 1997a)

The Government can influence the resource allocation through assigning and reassigning the rights and liabilities. In other words, it implied that policy is not inevitably redundant and the Government has a positive role in

delineating property rights. The two aspects of thinking of Coase are comparative costs approach and delineation of property rights.

Comparative Costs Approach

Indeed, Coase had not neglected the existence of transaction cost in the real world. According to Lai (1997a), Coase stated that the market incurs transaction costs in his paper “The nature of the firm”, and the existence of transaction cost is the reason of the emergence of firms in the market so as to reduce such costs. Government can also be treated as an example of firm which aims to tackle transaction costs. The major question is whether the cost incurred by the Government intervention would be greater or smaller than the alternative of leaving it to the market without regulation. Comparison of the opportunity cost of different institutional arrangements is thus essential.

Delineation of Property Rights

It is concluded by Coase that the delimitation of property rights is a prerequisite to market transaction. In term of the field of planning, Coase found that zoning as government regulation may be acceptable if the transaction costs of using the unregulated land market become excessive.

There are also two broader concepts of zoning according to Lai (1997a). Firstly, zoning is a pure forward planning without any development control so that change in use or transfer of rights can be costless and left to the market. Secondly, it is predicted that all types of land rights contain one common attribute i.e. the exclusive right in the use of land. This right to exclude others in fact is in relation to the concept of boundary delineation.

REASONS OF PLANNING FAILURE[2]

As indicated by Hall (1980), the planning disasters refer to *"any planning process that is perceived by many people to have gone wrong"*, and they could be divided into positive and negative disasters. The former ones are *"the decisions to take a course of action, with a physical result, that were implemented despite much criticism and even opposition, and which were later felt by many informed people to have been a mistake"* while the later ones are *"decisions to take a course of action, culminating in a physical result, that were later substantially modified or reversed or abandoned after considerable commitment of effort and resources"*. (Hall, 1980) Three kinds of planning uncertainty were distinguished in the work of Friend and Jessop (Friend and Jessop, 1969). They are the uncertainty about the relevant

[2] The information in this section is based on Hall, P. G. 1980. *Great planning disasters*. London: Weidenfeld and Nicolson.

planning environment, decisions in related decision areas and value judgement.

Uncertainty on Relevant Planning Environment

They refer to everything outside the immediate decision-making system. It is not easy for planners to predict the mass behaviour of people in society, whether the particular subject is their propensity to have children, to move about, or to demand different goods and services. The failures consist essentially of bad forecasts, invariably of a quantitative kind of the system that is being planned, or planned for. And most prove to be of two kinds: first, bad forecasts of demand; secondly, bad cost forecasts. Poor demand forecasts are a problem because they directly affect the evaluation of the project in terms of its rate of return, whether this evaluation is made in conventional finance-accounting terms or in terms of some social cost-benefit framework.

Uncertainty on Decisions in Related Decision Areas

It includes decisions that are within the decision-making system but relate to areas of discretion beyond the immediate problem. This is much more specific and small-scale than the first kind of uncertainty. It deals with the behaviour of other individual decision makers, or these same decision-

makers in groups or organization. They may be in other organizations, or in other parts of the same organization. The important point is that they have some area of discretion outside the area of our decision-makers, which makes them to some degree independent agents; therefore our decision-makers have to take regard of their actions.

Uncertainty on Value Judgments

It includes all the problems where information has been assembled, but where the final decision turns upon questions of value. In the democratic cities, it consists of the problem of gauging the values of the client population and trying to forecast how these many change over time. Consequently, it leads the problem of how to compare value weightings on different dimensions among different groups, in situations where the values are in conflict.

CONTENERISATION [3]

The concept of containerization is developed because of the advantages to be gained from a through transport system. From beginnings in the United

[3] The information in this section is based on the Levinson, M. 2006. *The box: How the shipping container made the world smaller and the world economy bigger*: Princeton, N.J.: Princeton University Press. and Burg, G. V. 1975. *Containerisation and other unit transport*. Edited by London: Hutchinson Benham.

States, it is now generally accepted in the developed countries of the world that a standardised method of transportation of cargo across the oceans can offer definite economic gains. (Burg, 1975) The concept of marine freight containers dates back to the mid-1950s when a Scottish American trucking company executive, Malcom McLean, saved loading time by taking the body from a tractor-trailer and placing it fully loaded on a ship.

"On 26 April 1956, a crane lifted fifty-eight, kialuminium truck bodies abroad an aging tanker ship moored in Newark, New Jersey. Five days later, the Ideal-X sailed into Houston, where fifty-eight trucks waited to take on the metal boxes and haul them to their destinations. This was the beginning of a revolution" (Levinson, 2006)

The first such conversion, in 1956, was a modified Pan-Atlantic tanker, the Ideal X, which sailed from New Jersey to Texas with 58 35-foor containers on board. It was realized that before the concept of containerization was engaged, transporting goods was very expensive. The value of a container is how it is used. The container made shipping less costly and less complicated due to the usage of highly automated system for moving goods. Although containerization destroyed an old economy with ill-paid and ill-treated workers who made their livings by loading and unloading ships, it helped build a new one. A large number of new ports were built in placed with no

ports before like Felixstowe in England and Tanjung Pelepas in Malaysia. Small towns, which are distant from the population centre and a port, could take advantage of their cheap land and labour to entice factories so as to enjoy cheap transportation. Poor countries could become the suppliers of wealthy countries far away for their economic development. The industrial sectors in Hong Kong was at advantage also since the cost of bringing raw materials in and sending finished goods out had decreased drastically.(Erie, 2004)

This new economy encouraged domestic companies to become international ones. They had no choice to avoid the global competition because the global market is coming to them. Multinational manufacturers were likely to transform into international manufacturers by integrating isolated factories into network so that the cheapest location in particular item production could be chosen. In 1956, the world was full of small manufacturers selling locally, but at the end of the twentieth century, pure local markets for good were few and far apart from one another.

Workers

Marine transport of cargo had been a labour intensive industry for many years, whereas it ought to have been an industry relying far more on

mechanical appliances to move essentially heavy and bulky packages. In the early 1950s, before container shipping was even a concept, most of the world's great centres of commerce had docks at their heart. Millions of people were employed to drive, drag, or push cargo through city streets to or form the piers in the freight transportation industry. Warehouses and factories were located at the heads of many of the wharves for easier delivery of raw materials and faster shipment of finished goods. In San Francisco or Montreal, Hamburg or London, Rio or Buenos Aires, the surrounding neighbourhoods were filled with households that made their livings from the port.

Using ships to move goods was very complicated in the 1950s though it had been practised for thousands of years. At the shipper's factory or warehouse, the freight would be loaded piece by piece on a truck or railcar. Hundreds or thousand of such items would be delivered to the waterfront using the truck or train. Each item had to be unloaded separately, recorded on a tally sheet, and carried to storage in a warehouse stretching alongside the dock. Loading and unloading the goods was the job of the longshoremen. The work could be brutally physical. They moved hunks of metal across the dock, from the incoming ship to a lighter, or barge which would transport them to plants. Limited automation had arrived during World War II (1939-1945). However, even with machinery at hand, the ultimate solution was still using muscle.

Labours might work in daylight or at night, in all weather conditions and their jobs contained the risk of tripping over a load of pipe or being knocked down by a draft on the hook. Forty seven dockworkers were killed on the job between 1947 and 1957 in Marseilles, while in Manchester, where dockers serviced ocean-going vessels that ascended a canal from the Irish Sea, one out of two longshoremen suffered an injury in 1950, and one out of six landed in the hospital. New York reported 2,208 serious accidents in 1950, which was a relatively lower injury rate. It was unpleasant and often dangerous job for the longshoremen working on the dock with an injury rate three times of construction work and eight times that in manufacturing. (Pacini and Pons, 1996)

Despite of the low wage and risks borne, sociologists found that few of the dock workers wanted to quit the job. Longshoremen often spent their entire lives near the waterfront. Also, it was observed appears such waterfront jobs belonged to particular working class communities more than in any other industry in a big city. In London and Liverpool, the Irish ruled the docks, hence non-white immigrants from the West Indies or Africa could not find any employment (Rubin, 1974). In the American South, where about three quarters of all longshoremen were black, and white and black dockworkers were belong to separate union locals and often worked separate ships.

(Kelley, 1993) Generally speaking, strangers, including men of different ethnic groups, were unwelcome in the dock work.

Harsh working conditions, economic uncertainty, and the insularity of docker life gave rise to unique mores. Dockworkers saw themselves as tough and independent men doing a very tough job. They presented themselves as rough-and-ready individuals and that self-image was also the public's image. A British survey published in 1950 placed dockers twenty-ninth among thirty professions in status at a time when dockers earned more than the average national wage. (Hall and Jones, 1950) Longshoreman at that time belonged to a global fraternity of mean with a common outlook on life and a common sense of exclusion from the mainstream.

After the global trade had been stimulated by containerization, the living standard of workers boosted not only due to the ready availability of inexpensive imported consumer goods, but also improvements in wages and benefits. Government provided stronger safety nets, the workweek grew shorter, disability pay was made more generous, and the retirement at sixty or sixty-two was normal. All in all, the container helped bring advantages to workers.

Reshaping the Maritime Business

The US economy bloomed in the years just after World War II but the maritime industry did not. It was warned by a California State Senate committee in 1951 that unless the cargo handling costs could be reduced, there as little hope for coastwise revival. Although the larger American ship lines were not particularly profitable, they were relatively sheltered. Competition in this industry where almost all ship lines belonged to cartels. Reshaping the business of shipping was then left to an outsider with no maritime experience whatsoever, a self-made trucking magnate named Malcom McLean. (Fitzgerald, 1986) McLean was born in 1913 near the tiny town of Maxton, deep in the swamp country of south-eastern North Carolina. Maxton, once called Shoe Heel, had been populated by Scottish Highlanders in the late eighteenth century.

By 1935, twenty-two-years-old McLean owned 2 trucks and 1 tractor trailer, employed nine drivers who owned their own rigs, and had already hauled steel drums from North Carolina to New Jersey and cotton yarn mills in New England with just one year of experience as a trucker. By 1940, six-year-old McLean Trucking owned 30 trucks and grossed $230,000. McLean built his operations during the war, gaining additional routes. At the war's end in 1945, Malcom McLean controlled a thriving business with 162 trucks, mainly hauling textiles and cigarettes from North Carolina to Philadelphia,

New York, and southern New England. Revenues in 1946 were $2.2 million, nearly ten times the level of 1940. McLean, already wealthy at age thirty-four, viewed this as just a beginning. (Levinson, 2006) An obsessive focus on cutting costs was the key to the success McLean Trucking. Moreover, the cost-saving innovations continually materialized as McLean Trucking grew as a dynamic company in a very stodgy industry. By 1954, it had become one of the largest trucking companies in American, ranking eighth in revenue and third among all truck lines in after-tax profit. (Levinson, 2006)

The concept that became container shipping was Malcom McLean's. McLean, impatient to build a business, demanded that his staff find a way to turn his concept into reality. In March, a call to Keith Tantlinger was placed as McLean wanted Tantlinger's expertise immediately. Tantlinger, aged thirty-five, was a chief engineer at Brown Industries in Spokane, Washington, had already built a reputation as a container expert. Brown had been building truck trailers since 1932, and Tantlinger's job, along with designing trailers for trucking companies, involved speaking at industry meetings to promote Brown's products. In 1949, he had designed the first modern shipping container, a 30-foot aluminium box that could be stacked two high on barges or placed on a chassis and pulled by a truck. However, despite much curiosity, this modern-designed container was not appreciated in the industry except McLean. (Levinson, 2006)

In the meeting with Tantlinger, McLean proposed to use containers thirty-three feet long, a length chosen because the available deck space aboard the T-2 tankers was divisible by thirty-three. These boxes were at least seven times the size of any containers then in the common use. He proposed to install metal frames, called flying decks or spar-decks, above the tangle of pipes that covered the decks of his two tankers. The spar-decks would hold the containers eight abreast. The idea was to attach six steel pieces, each a foot long with a small hole at the bottom, to the sides of each container. When the container was loaded on board ship, the steel pieces would slide vertically through slots in the frame of the spar-deck, and a rod would be inserted through the holes, underneath the frame, to lock the container in place. Most importantly, the containers Pan-Atlantic planned to use would be designed to be shifted easily among ships, trucks, and trains. (Levinson, 2006; Tantlinger, 1982)

Tantlinger quickly saw that the system was unworkable: the containers were meant to be locked in placed with steel pieces protruding beneath them, making them impossible to stack, and the A-shaped brackets made the trailers too wide and too tall for the highways. Tantlinger told McLean that standard Brown containers, which used the aluminium sides and roof to bear most of the load, would do the job. The McLean group was trying, unsuccessfully, to disprove his claim. Sold on the merits of Brown’s

containers, McLean ordered two hundred boxes and demanded that the reluctant Tantlinger move to be his chief engineer.

Part of Tantlinger's job was to convince the American Bureau of Shipping, which sets standards for maritime insurers, that the Ideal-X would be seaworthy when loaded with containers. After negotiation, the Coast Guard agreed to a test. McLean asked trucking company workers to load two containers with cardboard boxes filled with coke briquets, a cargo of average density and negligible cost. The boxes were lashed to the spardeck of the converted T-2s. The ship then sailed back and forth between Newark and Houston, the Coast Guard checking the load after each voyage, until a trip the heavy seas persuaded that maritime agency that loaded containers were safe. They finally got the Bureau of Shipping's approval.

For the matter of loading, most cargo ships in the 1950s had winches allowing them to load and unload in any port, but a standard shipboard winch could not shift a twenty-ton container without destabilizing the ship. Two huge revolving cranes at a disused shipyard in Chester, Pennsylvania had been taken for the solution. McLean dismantled the cranes which contained booms seventy-two feet above the dock. He cut twenty feet out of their structures, and shipped them off to Newark and Houston. Port workers at both locations reinforced the piers to accommodate the added weight and

installed the rails and large power supplies the cranes required. Hanging from the cranes was another moneysaving piece of equipment newly invented by Tantlinger, a spreader bar stretching the entire length and width of a container. It was necessary for longshoremen to climb ladders to the roof of each container and attach hooks dangling from the crane by using the spreader. Instead, the crane operator could lower the spreader over a container and engage the hooks at each corner with the flip of a switch. Once the box had been lifted and moved, another flip of the switch would disengage the hooks, without a worker on the ground touching the container. (Levinson, 2006)

McLean wanted to start new service in 1955. Not until late 1955, after months of hearings, the Interstate Commerce Commission (ICC) overruled objections from the railroads and authorised McLean to carry containers between Newark and Houston. On April 26, 1956, one hundred dignitaries enjoyed lunch at Port Newark and watched the crane place a container on the Ideal-X every seven minutes. The ship was loaded in less than eight hours and set sail the same day. The cost of loading also decreased. Loading loose cargo on a medium-size cargo ship cost $5.83 per ton in 1956 while McLean's experts pegged the cost of loading the Ideal-X at $0.158 per ton. (Bonnot, 1956) The container seemed to have a future. Later, McLean's engineers figured out that through the addition of small deck extensions, the

tankers' capacity could be increased from 58 containers to 60 and then 62. (Levinson, 2006)

However, the railroad and trucking industries worked against McLean's invention. They protested vehemently that McLean's takeover of Waterman without ICC approval was a blatant violation of the Interstate Commerce Act. In November 1956, an ICC examiner agreed that although Malcom McLean was a man of vision, determination and considerable executive talent, his purchase of Waterman without commission approval broke the law. As punishment, McLean Industries was suggested to be forced to divest Waterman. Fortunately, the ICC rejected the examiner's recommendation in 1957.

Malcom McLean was definitely the "inventor" of the shipping container although metal cargo boxes of various shapes and sizes had been used for decades, and numerous reports and studies supported the idea of containerised freight before the Ideal-X set sail. The transformational nature of McLean's accomplishment had to be appreciated. Containers designed by Malcom McLean differed from those early containers since they fundamentally altered the economics of shipping and had no wider consequences.

The fundamental insight of Malcom McLean was that the shipping industry's business was moving cargo, not sailing ships which was commonplace today but quite radical in the 1950s. That led him to a concept of containerization quite different from anything that had come before. To reduce the cost of shipping goods, McLean understood that not just a metal box was required but an entire new way of handling freight i.e. changing every part of the system including ports, ships, cranes, storage facilities, trucks, trains, and the operations of the shippers. In that understanding, he was years ahead of almost everyone else in the transportation industry in the 1950s. (Levinson, 2006)

Standardization of Containers

Late 1950s: Diversity of containers

By the late 1950s, the concept of "containers" was being considered in the transportation world. But "container" meant very different things to different people. In Europe, the container was usually a wooden crate with steel reinforcements with a height of 4 or 5 feet and they were designed for being shifted by cranes with hooks, and others had slots beneath the floor so they could be moved by forklifts. In New York, one manufacturer named Marine Steel Corporation advertised more than 30 different models. According to a survey conducted in the United States in 1959, out of the 58,000 privately

owned shipping containers, 43,000 of them were 8 feet square or less at the base, while a mere 15,000, which were mainly owned by Sea-Land and Matson, were more than 8 feet long. (Levinson, 2006)

This diversity of containers threatened the development of containerization. Ones could imagine that if one transportation company's containers would not fit on another's ships or railcars, each company would need a vast fleet of containers exclusively for its own customers. Due to the absence of standardization of containers, the European railroad container could not cross the Atlantic since trucks and railroads in U.S. were not designed to handle European sizes, and the systems used by various American railroads were incompatible with the European containers. It meant that a container on the New York Central could not readily be transferred to the Missouri Pacific. Therefore, regardless how small the scale of the business or infrequent the ships' visits, each ship line had its own dock and cranes in every port, because other companies' equipment were not able to handle its boxes.

Marad's decision on container standardization

In 1958, the United States Maritime Administration (Marad) decided to end this anarchistic situation. Marad was an obscure government agency, but it

had enormous power over the maritime industry. With its a sister agency, the Federal Maritime Board, they distributed subsidies to build ships, administered laws dictating that government freight should travel in U.S.-flag vessels, gave operating subsidies to U.S. ships on international routes, and enforced the Jones Act [4]. The variation of containers increased Marad's financial risk. In case a ship line, which was subsidized by Marad, built a vessel to carry its unique containers, but then ran into financial problems, Marad might end up to foreclose on a ship that nobody was willing to buy. Setting common standards was not only Marad's desire, it was also supported by the navy, which had the right to commandeer subsidized ships in the event of war and worried that a merchant fleet using incompatible container systems would complicate logistics. In June 1958, Marad named two committees of experts, one to recommend standards for container sizes and the other to study container construction. (Levinson, 2006)

The gauges in railway industry, for example, had gone through a standardization process but there were two other important differences between standardizing rail gauges and containers. One was the scope since the width of a railroad track affected only railroads, while the design of containers affected the ship lines, railroads, truck lines, and even shippers

[4] Jones Act is the venerable law dictating that only American-built ships, using American crews and owned by American companies, could carry cargo between U.S. ports.

who owned their own equipment. The other difference was the history. Railroads had been established for several decades before it was found that incompatible track gauges was a major problem. Container shipping was, on the other hand, brand-new thus it pushed standardization before the industry developed. This might lock everyone into designs that would later prove undesirable. (Farrell and Saloner, 1986; Katz and Shapiro, 1994)

Hence, from an economic perspective, it was reasonable to wonder the desirability of the standardization process that began in 1958. If government agencies in that period had conducted cost-benefit studies as practice, the entire process of container standardization was likely not to be proceeded. Controversy arose almost at once as the abovementioned concerns were not presented in the first meeting held by Marad's two expert committees on successive days in November 1958. Also, both Pan-Atlantic and Matson, the only two companies actually operating containerships, were not invited to participate into the process of setting standards for the industry that they were creating in 1958, as their industry constructions were not subsidized by the government.

After much debate, a "family" of acceptable container sizes, not just a single size, was defined under the agreement of the, although some European railroads could not carry loads wider than 7 feet. It was explained by the

committee that the decision have to be guided mainly by domestic requirements, with the hope that foreign practice would gradually conform to their standards. For container heights, the committee finally agreed that containers should be no more than 8 1/2 feet high but could be less[5]. Length was a tough to design because the diversity of containers in use or on order presented a serious operational problem. The short container although could be stacked atop a longer one, its weight could not rest on the longer one's load-bearing steel corner posts. To support a shorter container above, the bottom container would require either steel posts along its sides or thick, load-bearing walls. More posts or thicker walls would increase weight and reduce interior space and render the container more costly to use. The length question then was deferred. (Levinson, 2006)

The other Marad committee on the contrary defined the most important task of container construction as establishing maximum weights for loaded containers, because weight limits would determine the lifting power required for cranes and the load that the bottom container in a stack might have to bear. The weight of empty containers, however, would not affect cranes, ships, or trucks, and the committee decided not to address it. Various other

[5] Some maritime industry representatives favoured containers 8 feet tall while trucking industry officials, who were observers without a vote, argued that 8 1/2-foot-tall boxes would let customers squeeze more cargo into each container and allow room for forklifts to work inside.

complicated issues, such as the strength of corner posts, the design of doors, and the standardization of corner fittings for lifting by cranes, were not considered. (Levinson, 2006)

Emergence of ASA

The American Standards Association (ASA) was the competitor of the committee appointed by Marad. The association was supported by private industry and in the business of setting standards, dealing with issues as extensive as the size of screw threads and the construction of plaster walls. The work was vital but also monotonous. Engineers on a typical American Standards association committee would study technical reports, hear the views and interests of the firms concerned, and eventually recommend standards that individual companies could follow if they wished. To deal with containers, the association created Materials Handling Sectional Committee 5 (MH-5) in July 1958. MH-5, organized itself into subcommittees, were instructed to develop specifications that would permit optimum interchange among carriers and also be compatible with domestic pallet containers and cargo containers, and foreign carriers. (Levinson, 2006)

The MH-5 committee argued that the maritime industry alone should not be making decisions about standardization and the process should involve other

affected industries, and should include foreign organizations so that the standards might eventually apply globally. Therefore they asked the Marad committees to withdraw from the scene, but the Marad committees refused and carried on over the winter of 1959, debating maximum weights, lifting methods, and the pros and cons of requiring steel posts every eight feet along container walls rather than just at the corners. Meanwhile the MH-5 subcommittees went to work on the same issues. The MH-5 subcommittee on dimensions quickly reached a consensus that all pairs of lengths in use or about to be used i.e. 12 and 24 feet, 17 and 35 feet, 20 and 40 feet would be considered “standard”. Only a proposal to endorse 10-foot containers was rejected by the subcommittee, because they were too small to be efficient. (Levinson, 2006)

The trailer manufacturers, truck lines, and railroads dominated the decision of MH-5. They preferred to reach a decision on container sizes quickly because the domestic use of containers was expected to grow once standard dimensions were approved. Also, within the limits suggested MH-5 subcommittee, trucks and railroads could accommodate almost any length and weight. On the other hand, some lines worried that if their containers were deemed “non-standard”, the large investments could be rendered worthless. Bull Line begged to be left alone to continue to carry containers 15 feet long and 6 feet 10 inches high on its break-bulk ships because it was

willing to interchange containers with other companies. The government was urged by other lines to let the market sort things out as the container industry matured. The Marad committee on dimensions split when it reviewed of “standard” lengths that the MH-5 subcommittee’s six proposed in April 1959. Marad gave the deciding vote in favour of the MH-5 standards since it was in a hurry to get standards into place. (Levinson, 2006)

Emergence of National Defence Transportation Association

Meanwhile, yet another player entered the standards business. The National Defence Transportation Association, representing the companies that handled military cargo, decided to study container dimensions too. The effort’s chief proponent was an aggressive entrepreneur named Morris Forgash. A consensus was reached quickly under the pressure imposed by Forgash. By late summer of 1959, it had agreed unanimously that “standard” containers would be 20 feet or 40 feet long, 8 feet wide, and 8 feet high. (Ruppenthal, 1960)

The MIT-5 subcommittee and the Marad dimensions committee adopted one set of “standard” sizes, while the National Defence Transportation Association approved another, therefore the wheeling and dealing started at the ASA. It was the ASA’s normal procedures, to designate six “standard”

sizes by using mail ballot among all participating organizations. Yet, the vote never occurred and insiders set to work to change the recommendations. A task force of the dimensions subcommittee convened on 16 September 1959, and its chairman, Ogden, announced to revisit the question of container length since almost all states had permitted 40-foot trailers and the length limit that had justified 35-foot boxes no longer existed. Also, eight states had increased their length limits to permit trucks to pull two trailers of 27 feet each in the West. Ogden thus urged the committee to approve 27-foot containers as a regional standard size for the West, to reduce costs for trucking companies. (Levinson, 2006)

Emergence of Mr. Hall

Mr. Herbert hall, the chair of the entire MH-5 process and was a retired engineer at Aluminium Company of America, intervened in the standardization process. Despite of the fact that he knew little about the economics of using containers, he was fascinated by the concept of an arithmetic relationship among sizes. He believed flexibility could be created by making containers in 10-, 20-, 30-, and 40-foot lengths. However, his suggestion was not agreed by railroads and ship lines, because loading a train or ship with four 10-foot containers would cost four times as much as loading a single 40-foot containers. The 10-, 20-, and 40-foot lengths Hall

favoured were promptly approved, while the other lengths were deleted from the list of “standard” sizes because the ASA’s Standards Review Board would not accept the 12-foot, 17-foot, 24-foot, and 35-foot containers that the MH-5 subcommittee had endorsed. Hall’s recommendations, together with the proposed 27-foot standard for the West and several standards for container construction, were sent to member organizations for a vote late in 1959. (Levinson, 2006)

Nevertheless, no ships or containers then in use or in design would fit into the container system recommended by Hall. If Pan-Atlantic and Matson agreed to use only 10-foot, 20-foot, and 40-foot containers, tens of millions of dollars of investment would be written off. Also, they were not willing to shift to container sizes that they deemed inefficient for their own purposes. Nevertheless, Pan-Atlantic and Matson would give up eligibility for government ship-construction subsidies if they declined to adopt the standards, while their competitors would be able to build “standard” containerships partially at government expense. The proposed 27-foot regional standard was defeated in the voting among individual companies, but the recommendation for Hall’s “modular” lengths met with large numbers of abstentions. The confusion led Hall to decide to organize a revote. This time, there was no ballot but only a single question on the suitability for the association to establish standard nominal dimensions 8

feet wide, 8 feet high, and 10, 20, 30, and 40 feet long. Hall, as the chairman, decided that the 10-foot multiples had won sufficient support. 10-, 20-, 30-, and 40-foot boxes were declared to be the only standard containers on 14 April 1961. The Federal Maritime Board promptly announced that only containerships designed for those sizes could receive construction subsidies. (Levinson, 2006)

Emergence of ISO

At American urging, the International Standards Organization (ISO) agreed to study containers. The ISO project aimed to establish worldwide guidelines before large financial commitments were made by firms. Delegates from eleven countries, and observers from fifteen more, came to New York in September 1961 to start the process. Most were appointed by their governments, except for the United States which was represented by the ASA. The United States was the chair of the meeting. It was the practise of ISO to decide how a product must perform rather than how it should be made wherever possible which meant that ISO Technical Committee 104 (TC104) would focus on making containers easily interchangeable, not on the details of construction. Prolonged debate between proponents of steel containers in Europe and aluminium containers in America could be avoided. No standard would dictate aluminium or steel. Three working groups were

set up and a slow-moving process began. The ASA's MH-5 subcommittees continued work on other domestic standards, with the hope that whatever they agreed would later be accepted by ISO while many leading U.S. transport engineers were involved simultaneously in both groups. (Levinson, 2006)

The endless discussion over container sizes had consumed three years in the United States and it was repeated at the international level. In 1964, smaller containers including the European railroad sizes and American 5-foot and 6 2/3- foot boxes along with 10-, 20-, 30-, and 40-foot containers were formally adopted as ISO standards. Containers owned by the two leading container-ship operators, Sea-Land Service (the former Pan-Atlantic) and Matson, could not be conformed to the new "standard" dimensions. While one set of ISO subcommittees and task forces was determining dimensions, other groups of experts were seeking common ground concerning strength requirements and lifting standards. (Levinson, 2006)

Problems of lifting and locking devices

The problem came with the lifting and locking devices that fit into the holes. Since one simple locking system would not work for all, complicated systems of chains and locks were necessary for railroads that carried the

containers of various ship lines to secure all of the different containers. Therefore, it was crucial to have agreement on a standard corner fitting for making containers readily interchangeable. Facing the obstacle by every company which had financial reasons to favour its own fitting, an MH-5 task force had tried, and failed, to come up with a new design compatible with all existing corner fittings in 1961. Containerships were hugely capital-intensive and the industry's viability depended upon minimizing port time and maximizing the time. Special concern about "gathering" was paid by the ship lines.

Modified version of the Sea-Land fitting as U.S. standard

Finally, with the suggestion by Fred Muller, an engineer serving as the MH-5 committee's secretary, Sea-Land released its patent rights on 29 January 1963, so that the MH-5 committee could use them as the basis for a standard corner fitting and twist lock. Although the Americans promoted the Sea-Land fitting as the basis for a potential international standard, four of the leading steamship lines, Sea-Land, Matson, Alaska Steamship, and American President Lines fought back. It was because they would be required to change all of their containers. Hence, they proposed a minor change to the fitting that the MH-5 committee was designing based on the Sea-Land patent. Marad urged ship lines to accept whatever MH-5 agreed

upon. Finally, the American Standards Association's Standards Review Board approved a modified version of the Sea-Land fitting as the U.S. standard on 16 September 1965, and ignored the fact that the specialists on its MH-5 committee were still debating the finer details of corner fittings. (Levinson, 2006)

American design as international standard for corner fittings

In the meeting of the ISO container committee in The Hague on 19 September 1965, the United States presented the modified Sea-Land corner fitting as the new U.S. standard, and the National Castings fitting was put forth as the British standard. The British quickly agreed that the American favourite was superior. Although ISO rules required that the documents supporting proposed standards had to be distributed four months in advance of a meeting, the MH-5 committee had made its recommendation only a few days earlier, and no technical documents were ready. The ISO committee voted unanimously to waive the four-month rule.

The new era of freight transportation finally seemed to have arrived, when the ISO delegates approved the American design as the international standard for corner fittings on 24 September 1965. In principle, land and sea carriers would soon be able to handle one another's containers. Container-

handling hardware could then be designed with more certainty, and an increasing number of products designed to load and carry containers would be marketed. (Levinson, 2006)

Shortcomings of the approval

The corner fitting was approved by the ISO container committee without defining all of the loads and stresses it should be able to withstand. Starting in the autumn of 1965, fittings which are based on the design that had worked for Sea-Land's operations had been ordered by ship lines and leasing companies, but they had never been tested under other conditions. The maximum container weights had not yet been set by the ISO committee. In Europe, the coupling systems of railroads were different from those in the United States, and the Sea-Land fittings and locks had never been subjected to such conditions.

The approved new fittings were tested by the engineers around the world through 1966, and a variety of shortcomings had been realized. Also, the containers failed in the emergency tests carried in Detroit. The uncomfortable fact was that the corner fittings which had been approved in 1965 were deficient. Nine engineers were told to solve the problems quickly. It was calculated by them that thicker steel was required for the walls of

each fitting to solve most of the problems. No existing container complied with their “ad hoc” design. In June 1967, ISO approved the “ad hoc” design at a meeting in Moscow. New fittings were required to be welded into the thousands of boxes that had been built with the ISO-approved corner fittings in 1965. It had cost millions of dollars. (Levinson, 2006)

Cooperation with Sea-Land and Matson

The process of standardization was proceeding nicely, but the economic benefit of standardization was not clear. Although 10-, 20-, 30- and 40-foot containers had become American and international standards, the demand from shippers or ship lines for these “standard” sizes was not really high. It was found that 30-foot containers were not being used by any ship lines and only 10-foot containers had been purchased due to its handful nature, but the main carrier using them soon concluded that it would not buy more. The international standards were not generally accepted in the market. The non-standard containers continued to dominate even the U.S. Government imposed pressure on carriers to use “standard” sizes. The containers used by Sea-Land and Matson were 35-foot and 24-foot respectively with 8 feet 6 inches high which accounted for two-thirds of all containers owned by U.S. ship lines in 1965. Only 16 percent of the containers in service complied with the standards for length, and a good number of those were not of

standard 8-foot height. To buy equipment and convert their ships to carry containers, Sea-Land and Matson had raised tens of millions of dollars of private capital. By 1965, they were preparing to expand internationally and might want subsidies to build new ships. If Marad only subsidised to companies adhering to the "voluntary" MH-5 standards, Sea-Land and Matson would be at a serious competitive disadvantage. Meanwhile, other ship lines urged the government to push adoption of standard containers so that any company could handle others' containers.

Indeed, Sea-Land and Matson were less concerned about the conversion cost of containers. Instead, they worried about the inefficiency of doing business brought by the standard containers. Matson president, Stanley Powell, testified that using 20-foot containers would increase the operating costs by $500,000 per ship per year in service to the Far East, and would increase costs for trucks picking up and delivering containers as well. Also, Malcom McLean, Sea-Land president, showed that switching from 35- to 40-foot containers would reduce revenues by 7 percent and costs hardly at all. Although non-standard containers were being used by Sea-Land and Matson, Marad was ordered by Congress not to discriminate against them, so Matson was granted its construction subsidy. The company decided years later to switch from 24-foot containers to 40-foot containers only when the

adjustable cells conceived to satisfy a congressional committee made the shift cheap and easy. (Levinson, 2006)

Two controversies over standard containers

Making containers compatible with airplanes, ships, trucks, and trains was ineffective as the requirements were difficult to satisfy. Air containers are required to be stronger than maritime containers, and with smooth bottoms to travel on conveyor belts rather than corner fittings for lifting by cranes. After months of studies, a separate standard was developed for air containers.

A more serious problem arisen in railway. Since end walls of the containers bore no great loads when the containers were on ships, the braking of a train could cause the end of a container to bump into the end of the car. The end walls in North America demanded twice as strong as those needed by ship lines, to reduce the potential for damage claims. However, increasing the strength of end wall meant to raise the cost and weight, hence maritime interests resisted stronger end walls. By 1970, the bitter battles among competing economic interests came to the end as the ISO published the first full draft of its painstakingly negotiated standards. (Levinson, 2006)

Creation of international container shipping

After 1966, as truckers, ship lines, railroads, container manufacturers, and governments reached compromises on issue after issue, a fundamental change could be seen in the shipping world. The standardization of container shapes and sizes enhanced the development of containerization in 1965. Leasing companies' confidence was boosted by investing large sums in containers and moving into the field in a big way, soon owning more boxes than the ship lines themselves. Besides Sea-Land, which still used mainly 35-foot containers, and Matson, which was gradually reducing its fleet of 24-foot containers, almost all of the world's major ship lines were using compatible containers. Finally, international container shipping could become a reality. (Levinson, 2006) The weight and dimensions of the most common types of containers used worldwide are shown in Appendix 1.

CHAPTER THREE

CONTAINER PORT: PLANNING AND DEVELOPMENT

BACKGROUND OF PORT OF HONG KONG

With a port history over 160 years and serving as a Container Port in the recent 30 years, the port of Hong Kong is a major hub port which is served by about 80 international shipping lines providing about 500 container liner services per week connecting to over 500 destinations worldwide. The major cargo handling facilities include container terminals, river trade terminal, mid-stream sites, public cargo working areas as well as supporting facilities, such as ship repair yards and typhoon shelters. Hong Kong's port handles 80 percent of the Hong Kong's total freight. It is estimated by the Government that close to 80 percent of the container cargo come from the Pearl River Delta (PRD) Region of the Mainland. (Hong Kong Economic Services Bureau Port and Maritime Division, Planning Department, and Marine Department, 2001)

There is no doubt that Hong Kong has maintained its position as the world's busiest Container Port up to 2006 with the total container throughput reaching about 23.5 million Twenty-foot equivalent units (TEUs) in which 68 percent of the throughput was handled by Kwai Chung-Tsing Yi

container terminals' amounted to 16 million TEUs. The remaining 32 percent container throughput was handled at mid-stream sites, River Trade Terminal, Public Cargo Working Areas, buoys and anchorages, and other wharves according to the Hong Kong Port Development Council (PDC) of the HKSAR Government. The capacity and berth information of Container Terminal 1 to 9 are demonstrated in Appendix 6 to 9.

The success of port in Hong Kong is due to the coordination of hardware and software. The superb deep-water harbour, proximity to the Pearl River Delta Region, laissez-faire policies adopted by the Government, and an efficient system of port facilities are the major "hardwares" installed in the territory for the port and container industry to operate. The entrepreneurial people who are profit-motivated and responsive to market changes; the well-established banking, financial, insurance and legal systems providing wide ranges of services; the efficient information communication network; simple documentation and custom inspection procedures are the "softwares" which enhance efficiency in handling port activities.

Nevertheless, Hong Kong is one of the few major international ports in the world, does not have a port authority, where port facilities are financed, owned and operated by the private sector. The Government's role is to undertake long-term strategic planning for port facilities and to provide the

necessary supporting back-up land, navigation channels infrastructure. On average, some 231,000 ships, comprising both ocean vessels and river vessels for cargo and passenger traffic, visit the port of Hong Kong yearly.

HISTORICAL REVIEW OF CONTAINER TERMINALS IN HONG KONG[6]

1842-1965: Initiatives of Early Planning

The role of Hong Kong as an entrepot can be traced back to as early as 1842. Following the end of the first opium war in 1842, the Treaty of Nanjing which ceded Hong Kong to Britain in perpetuity stated that it was "obviously necessary and desirable that British subjects should have some port whereat they may careen and refit their ships". The deep water harbour, which is close to the Pearl River, offered a safe haven for ships. The growth in popularity as a major trading port posted the necessity for the Government to lay moorings for the large vessels to operate. In addition to the effort of the Government, private companies also contributed by building and operating piers and wharves which were associated with godowns.

[6] The information in this section is based on the Pryor, E. G. 1991. *Hong kong's port and airport development strategy: A foundation for growth* and Ng, M.-k. 1992. *The politics of planning and regional development: A case study of the container port and airport development in hong kong*.

Several schemes for port development were worked out in the early twentieth century. In 1924, the Port Engineer of the Port Development Department, Mr. J. Duncan, devised a plan concerning development of wharves and godowns in various locations in the territory. However, his plan was taken no action because it was never proved that there was a real need for such projects and due to the financial stringency following on the General Strike and Boycott (1925-1926).

In 1929, a Hong Kong Harbour Board was set up to give advice on the development and operation of the port. Two years later, the Board was replaced by Harbour Advisory Committee which was lasted until the commencement of the Japanese occupation. In early 1941, a report on the "Future Control and Development of the Port of Hong Kong" was compiled by Sir David Owen, proposing the set up of a "Hong Kong Harbour Trust", the formation of a number of reclamations and the development of new, deep-water berths at Kowloon Point and Hung Hom served by extensions of the Kowloon-Canton Railway (KCR). Nevertheless, the proposals were not realized due to Japanese occupation since late 1941. Some of the plans were realized only many years later following the return of peace.

In 1948, Sir Patrick Abercrombie formulated the first strategic plan for Hong Kong. The planning report reflected a number of suggestions which

includes constructing an industrial/ port development zone connected with railway and additional wharves and reclamation. Yet, the plans had to be shelved due to the sudden influx of refugees from China and the United Nations embargo on trade in 1951. It was a serious attack on Hong Kong's trade business with China as China's re-exports plummeted.

Then over the next two decades, the trade of the port was mainly handled in conventional ways at mid-stream buoys and at privately owned and operated wharves. Until in the early 1960s, container ships were introduced on scheduled shipping routes between the U.S.A. and Western Europe. The Government then immediately set up a Container Committee[7] of senior level officials and representatives of port operators in 1966 and since then Containerization has been gathering momentum throughout the world.

[7] Apart from the study conducted by the Container Committee, there were a number of independent studies undergoing in parallel. For instance, Colony Outline Plan was prepared, covering a 20-year period from 1966 to 1986. As far as port development is concerned, the plan anticipated the development of container terminals at Kwai Chung and the continued use of mid-stream buoys. Although the Plan was conceived to be rather unsophisticated, in other sense, it did help to establish the importance of an integrated approach for long-term port development.

1966-1976: “Container Revolution” and Private Sector-led Development

In the face of the competitive container cargo services, a Container Committee was appointed by the Governor on July 12, 1966 to “consider the implications for Hong Kong’s trade and industry of the recent rapid world-wide development of container transportation services and to make recommendations on the need for suitable container handling facilities for the port of Hong Kong and the method of their provision” (Container Committee, 1966).

The membership of the Container Committee was noteworthy which mainly consisted of representatives from the container industry: two representatives of wharf and godown interests; a representative of the Chinese Manufacturer’s Association; two representatives of shipping liner service companies; a representative of the Hong Kong General Chamber of Commerce; a representative of the Federation of Hong Kong Industries; the Superintendent of Crown Lands and Survey; two representatives of the Director of Commerce and Industry and a representative of the Economy Secretary, Colonial Secretariat. The Committee was chaired by a Justice of Peace with a civil servant from the Marine Department acting as the secretary. According to Ng (1992), this composition suggested that the

Container Port development was considered as a purely economic issue and therefore should be confined to the trade and industrial sectors. Neither professional planners nor the general public was involved. It also reflected the lack of planning concerns within the Government at that time.

The principal task of the Committee was *"to decide whether the plans and potential of the existing wharf and godown companies would be adequate to meet the requirements of the container carrier, as far ahead as one could reasonably predict; and if not, whether completely new facilities must be provided; what those requirement would be; who would operate them; on what terms"* (Container Committee, 1966). The Committee concluded that *"unless a container terminal is available in Hong Kong to serve these [containers] ships, the trading position of the Colony will be affected detrimentally"* (Container Committee, 1966:10).

After considering all possible sites on Hong Kong Island, the mainland (i.e. Kowloon) and the whole coastline of the harbour from Lei Yue Mun to Tsuen Wan, the Terminal Sub-Committee advised that *"95 acres of unreclaimed seabed at Kwai Chung for a container terminal and in addition, an area of some 20 acres should be reserved for a period of 5 years in the first instance to meet anticipated demands for expansion or associated storage facilities"* (Container Committee, 1966:11).

The Committee suggested that *"if institutional investment is to be attracted, Government participation may be necessary in some degree"* (Container Committee, 1966:11). However, although the Committee suggested that Government investment in Container Port development might be necessary, full control of container terminals by the private sector was essential to make the enterprise successful. This idea was expressly stated as *"the Shipping carrier group were emphatic in saying that there was unanimous agreement among shipping companies as a group, that control of operations throughout the container movement must be in the hands of the container operator, and complete control must extend to container ship berths as well as other facilities. Complete control was essential if success in this new field was to be achieved, whether that control is exercised by means of a lease over berth and marshalling areas, or by guaranteed use and control of the berth at that time required accompanies by a lease of marshalling areas."*

Subsequently, in the October 1967 Report of the Container Committee, it was recommend that the *"Government should proceed forthwhile with the planning and development of Stage I of the Kwai Chung Scheme…; and that studies should be initiated immediately by Government and the industry as to the means by which the Schemes may be financed"* (Container Committee, 1967). This decision had a lot to do with economic conditions at that time.

In 1968, the 1966 and 1967 riots due to the banking crisis returned to normal.[8] The investment climate was improved.

In 1970, tenders were called for the sale of four containership berths with related "back-up" area. Each berth was 1000 feet with an alongside depth of 40 feet. Berths went to Britain's Modern Terminals and Sea-Land Orient of the United States. For joint development to cut costs, the latter entered into negotiations with the Japanese, represented by Oyama Lines. The Government also constructed complementary access roads and a flyover with work under way on three container berths at Kwai Chung. Meanwhile, individual multi-million dollar container conversion plans were pushed ahead by several wharfing companies. The biggest were those of North Point Wharves and the Hong Kong and Kowloon Wharf.

The planning of two further container terminal lots was finalized in 1971. By 1972, new access roads in Kwai Chung were ready in time for the opening of the first container berth. The first berth of the container complex at Kwai Chung was officially opened for use on September 5, 1972. This

[8] After the banking crisis in 1965, civil riots broke out in 1966 and 1967. Land sales fell, and the 1966 government budget was in the red. The manufactory sector faced problems of labour shortages and technology stagnation. The problems can only be solved by either letting in more immigrants or increasing productivity. However, new investments in the private sector were postponed as a result of labour disputes and demonstrations in 1967. The Government, therefore, became very cautious in capital spending after riots of 1966 and 1967.

marked the beginning of a new era of cargo transportation for Hong Kong. Berth One was owned and operated by Modern Terminals Limited (MTL) and it involved an investment of HK$155 million. It had an area of about 37 acres. Berth Two was built by Kowloon Container Warehouse Ltd, backed mainly by Japanese shipping interests with Oyama as the prime mover. Berth Three was owned by the Sea-Land Orient which had been operating containerships to the US for more than two years, using Kowloon Docks' facilities.

In 1971, the foreign trade of the PRC increased[9] and so was the need for containerization. Chinese ports could not handle this growing need which helped to boost container traffic in Hong Kong. In 1975, Hong Kong's two major ship-handling combines, Modern Terminals Limited (MTL) and the Hong Kong and Kowloon Wharf and Godown Company Limited, joined hands in building Terminal Five.

The Kwai Chung container terminal was completed in 1976 despite the stock market crash in 1973, the Oil Crisis and the world economic recession in 1974 ad 1975. It had the capacity to handle up to equivalent of 1.5 million 20-foot containers a year and was then ranked the fourth largest in the world and the second largest in Asia. There were six berths totalling more than

[9] U.S. President Richard Nixon lifted the 20-year old trade embargo from the PRC.

6000 feet giving onto about 150 acres of cargo handling space, which included container yards and container freight stations. Six “third generation” container ships could be simultaneously accommodated and worked at these berths, all of which were operated by private companies or consortia. Until then, the administration and private terminal operators confined the planning and development of the Container Port.

1977-1987: China’s “Open Door Policy”, the Joint Declaration and Further Expansion at Kwai Chung

In the late 1970s, the construction of large scale infrastructure projects were initiated by the Government such as the Mass Transit Railway and the reclamation of land in the New Territories for the development of new towns. The emergence of Hong Kong as an international financial centre made the financing of these projects possible. Money supply increased from HK$176.8 billion in 1981 to HK$457.8 billion in 1985. Also, the amount of loans to finance capital construction increased from HK$24.1 billion in 1981 to HK$33.8 billion in 1985 and HK$103.1 billion in 1990.

China’s Open Door Policy, in early 1979, increased economic transactions between Hong Kong and southern China especially the Pearl River Delta and helped sustain Hong Kong’s traditional regime of accumulation, i.e.

labour-intensive industries producing cheap consumer goods for the world market. Manufacturers moved their factories across the border to the Pearl River Delta due to the cheap land and labour resources. Raw materials or semi-finished products are sent there for processing before export to final markets. Therefore, there was a boom for Hong Kong container port business. The number of containers handled in the port increased dramatically from 1.55 million Twenty-foot Equivalent Units (TEUs) in 1981 to 4.44 million in 1989. The value of Hong Kong's domestic exports to the PRC increased at an average annual growth rate of more than 120 percent between 1978 and 1984, jumping from HK$81 million to HK$11,280 million. Re-export also grew spectacularly, from HK$214 million in 1978 to HK$28,060 million in 1984.

Given the drastic increase of transactions between Hong Kong and China, there was a need for having a second site for container terminal. Junk Bay, Tuen Mun and Lantau were suggested by the Chamber of Commerce as three possible sites for the second container terminal. Subsequently in 1982, the Container Port Executive Committee was established as advisor of the Director of Marine on matters relating to the container port at Kwai Chung and its future development. In the Study on Harbour Reclamation and Urban Growth commenced in the same year, the Government concluded a substantial expansion of the container port in Kwai Chung area and future

expansion off south-eastern Tsing Yi Island are the two port development possibilities. Since 1983, “trigger point mechanism” has been employed in planning container port development in future.

In 1984 Territory Development Strategy (TDS) was completed, including provisions for development of additional container terminals at Kwai Chung. In the same year, the government completed negotiation with the Hongkong International Terminals (HIT) to build Terminal Six. HIT reclaimed the Kwai Chung Creek to increase 57 percent of the efficient working capacity of the container terminal to 2.2 million TEUs a year. The reclamation cost was HK$655 million and was completed in 1987. In the second phase, a further 28 hectares of land was reclaimed by HIT to provide three additional berths and associated terminal facilities in 1987. The project was completed in May 1989, making Terminal Six then the biggest container terminal facility in the world. In 1986, the “in-house” Port Development Strategy [10] (PDS) came to completion.

[10] It aimed to provide a framework for the long-term development of container terminals at Stonecutters Island up to 2001, rearrangement and additional provision of mid stream buoys and other port facilities. However, it included no engineering feasibility investigation and only remained as a piece of paper work.

In order to cope with the increasing demand [11] in 1987, more container terminals had to be built. In April, 1988, HIT bid HK$4.39 billion to build and manage Terminal 7, which was adjacent to HIT's Terminals 4 and 6 and its capacity doubled that of the Kwai Chung Container Port. This extremely high bid by HIT was criticized by the Beijing-owned China Merchant's Navigation Company Ltd. (which bid for HK$2.7 billion) as it caused the land prices be inflated to an extent where Hong Kong might no longer be competitive. However, from the Government's point of view, container terminal development did contribute significantly to the Government's revenue. After securing the development of Terminal 7, HIT became the dominant interest in container port development.

The old British "hongs" (companies) in the territory was challenged by the evolution of ownership patterns of the container terminals reflects the rise of Chinese and Hong Kong economic interests. Originally, Terminals 1 and 5 were built by MTL, mainly composed of old British hongs. However, in 1980, Sir Yue-kong Pao, a local Chinese, paid HK$2.1 billion to buy the control of British-owned Wharf Holdings and made MTL come firmly under the control of local capital. Terminal 2, which was originally built by the Japanese, was later bought by the HIT. In 1988, MTL took over the right of

[11] 15 million tonnes out of a total of 62 million tonnes of good in 1986 was containerised, the figure jumped to 23 million out of 70 million tonnes in 1987. Re-export in terms of value also increased from HK$64,784 in 1986 to HK$98,213 in 1987.

developing Terminal 2 to swap its right in developing Terminal 6. Terminal 4, 6 and 7 were built by the HIT which was 66.5 percent owned by Mr. Lee Ka-shing's Hutchison Whampoa. Mr. Lee is the biggest property tycoon in Hong Kong. The development of container port was thus almost monopolized by HIT and MTL with over 50 percent and 40 percent respectively.

Late 1980s-Present: "New Politics" - Strategic and Continuous Planning in Response to Demand: PADS

A new planning process of port development was established when the Port and Airport Development Strategy (PADS) for Hong Kong was initiated by Government in 1988 and completed in 1989. The Strategy was intended to *"meet forecast needs over the medium and long terms in a way which would be acceptable from an overall strategic planning point of view, taking account of a possible range of demand forecasts and likely resource constraints."* (Hong Kong Government Secretariat: Lands and Work Branch, 1989) The Study was carried out by consultants appointed by the Secretary for Lands & Works. In case a consensus could not be reached, decision-making and consultation were to be resorted to a hierarchy within the Government at three levels: six specialist working groups, a study steering group and a high-level policy and coordinating group. These groups were

formed from a variety of disciplines from senior levels of the Government, specialist consultants and advisory bodies. Compared to the first intentional port planning conducted in 1966, it showed an improvement in port planning towards a more comprehensive level by the involvement of specialists and different bodies this time and more balanced views on different issues could be gathered. Yet, the government intervention ideology in port planning remains unchanged as in the earlier stages which can be revealed by the involvement of various government officials in the process.

On March 8 1988, consultants, who were appointed by the then Secretary for Lands and Works to produce a long term Port and Airport Development Strategy (PADS) for Hong Kong, had to advise on the best location for the container terminals 8 and 9 in response to the rapid surge of trading activities. The consultants were not involved in the selection process of the optimal sites of the three scenarios, which were shortlisted by the administration. They were employed only to compare and point out the implications if any one of the scenarios is chosen. Moreover, the Government restricted the operation of the consultants within the planning scope. The consultants were not only given the goals and objectives, but also the study parameters, capacity studies, demand requirement forecast, and the evaluation criteria. Collection of information like land-use supplies was also out of the question of the consultants. Instead, the Government gave this

task to individual consultants or working groups within the bureaucracy. All these showed a strong government interventionist ideology of port planning.

With the information given, the PADS consultants undertook the process to identify areas available for locating port, airport, transport links and other compatible development areas. Upon the completion of the PADS study, the focus of the port development has been shifted to the formulation of a long-term development plan at strategic level. The HKSAR government started playing an important role in the coordination of the port development process and central to the Government's work is to forecast Hong Kong's future growth in terms of freight throughput. Moreover, since PADS was completed in 1989, four Port Development Strategy Reviews (PDSR) had been carried out to ensure that Hong Kong's port development can keep up with the times and global development, and can maintain a competitive position. (Hong Kong Economic Services Bureau Port and Maritime Division, Planning Department, and Marine Department, 2001)

Facing the introduction of PADS by the government, the two container giants, HIT and MTL, were having different opinions and fierce competition. HIT, which practically owned all the spare capacity in the Container Port, had persistently opposed to further expand the container terminals. However, MTL was rather keen to expand spatially to accommodate the growing

demands of its customers. Their rivalry was complicated by the PRC's plans for new container ports in the Pearl River Delta.

On the other hand, the accelerated development of the container ports was criticized by the local communities. Due to the growth and expansion of the container ports, Kwai Chung had meanwhile developed rapidly into an important industrial and residential district, conflicts of land uses resulted. The Kwai Chung District Board argued that new container terminals should be located further from residential areas with supplementary land for parking, loading and unloading trucks. Independent road networks should be provided for the ports.

As mentioned, ever since 1983, the "trigger point mechanism" has been used to plan future development of container terminals. In essence, the "trigger point" is reached when the level of throughput is 65 percent of the maximum capacity of the container terminals. Then, new facilities must be brought into operation. The actual growth rate per annum in total cargo and containerised cargo between 1986 and 1991 was greater than the forecast made by the Container Port Committee in 1989. Based on the actual growth rate, it was estimated that a new Container Terminal 8 would be required by mid 1994 and Container Terminal 9 would be required by October 1995. (Hong Kong Government Secretariat: Lands and Work Branch, 1989) The consultants

identified nine potential sites for Terminal 8 and 9 which were Tsing Yi, Stonecutters Island, Siu Lam and Tai Po. Eventually, Tsing Yi or Stonecutters Island was recommended by the Consultants for Terminal 8. It was noted that in the Port Development Strategy Study completed in 1986, the site at Stonecutters Island was also recommended by the Marine Department.

However, the two identified sites at Tsing Yi and Stonecutters Island identified were close to existing terminals and manufacturing centres in Kwai Chung and West Kowloon, so difficulties were encountered for both sites. Local residents had not been consulted throughout the planning and decision-making process, even though they demanded more information. Residents on Tsing Yi Island requested for a delay in the decision on the siting of Terminal 8. Ten community groups in Tsing Yi argued that Tsing Yi Island, which was already crowded with potentially hazards installations such as the Liquid Petroleum Gas storage plant and chemical plants, was constrained by the congested road network and therefore was not suitable for the development of Terminal 8.

In February 1989, Lai Wan Concern Group and the Shun Shui Po Development Service Center argued that if Stonecutters Island was chosen, residents at the Mei Foo Sun Chuen and Ching Lai Court would be further

disturbed by noise, light, water pollution and traffic congestion. They also suggested that there should be an overall policy in the development of container terminals over the territory, taking the environmental factors, influences on local residents and supportive infrastructure networks into account (Hong Kong Standard, Feb. 20, 1989). Despite of the public opinions, it was announced by the Governor that Terminal 8 would be built on reclaimed land at Stonecutters Island and Terminal 9 and its support facilities would be built on reclaimed land at south-east Tsing Yi Island. The total cost of the new port development was estimated to be about HK$55 billion (at 1989 prices). It is expected that some 80 percent of the required financing will come from the private sector.

HIT, owner of Terminal 7, also continued to attack the Government's decision to expand the Kwai Chung container port through the media since Terminal 7 had not reached its full capacity and there was no need for further expansion. Mr. Simon Murray, managing director of Hutchison Wharnpoa and chairman of HIT, called for a reappraisal of PADS. He argued the expansion of Kwai Chung should take into consideration the port developments in China, including the extensive reclamation work under way in Shenzhen, Chiwan, Chekou and Yantian which are close to Hong Kong.

Additionally, Singapore and Kaohsiung (in Taiwan) challenged Hong Kong's position as the dominant transshipment port for the region. In 1991, Singapore in fact took Hong Kong's place as the number one container port in the world in terms of throughput. Also, Hong Kong's importance as an entrepot port reduced due to the improvement in relations between the PRC on one hand and Taiwan and South Korea on the other which may lead to the introduction of direct shipping services. On the other hand, MTL, a rival of HIT in container cargo handling, favoured the construction of Terminal 9 in south-east Tsing Yi as it is adjacent to terminals currently under their operation (Ng, 1992) and MTL argued that HIT had been against the building of Terminal 9 because they would like over-spill demand from terminal users to go to Terminal 7 which still has spare capacity. Also, MTL considered that Chinese ports lacked the important hard and soft infrastructure to make them successful and therefore in short and medium terms, ports in the PRC would not rival the Hong Kong ports (Ng, 1992).

HIT and MTL formed a consortium on a 50-50 basis to develop Terminal 8 on a Private Treaty Grant eventually in March 1991. The consortium paid a HK$2 billion land premium. The PRC's vested interest in container port developments in Hong Kong was fully reflected in the development of Terminal 8. China-backed China Ocean Shipping Corporation (Cosco) entered in an agreement with HIT to invest and operate two inner berths of

Terminal 8. The China Merchant Holdings Company which is owned by China's Ministry of Communications also negotiated with MTL, which will own and operate the two outer berths, for a 20 percent shareholding in MTL.

In 2001, MTL, HIT and ACT had entered into a Joint Development Agreement ("JDA") to jointly procure the construction of Container Terminal 9. The total cost of construction for the whole Container Terminal 9 is estimated to be HK$4.8 billion with a target completion date in 2005. MTL, ACT and HIT agreed to share the construction cost at an agreed ratio as stipulated in the JDA. Furthermore, under a Berth Swap Agreement with ACT, upon the completion of the whole of Container Terminal 9, MTL transferred to ACT all of its rights, title and interest in Container Terminal 8 West and ACT transferred to MTL all of its rights, title and interest in Container Terminal 9. (The Wharf (Holdings) Limited, 2001)

In 2005, two new players, Dubai's DP World and Singapore's PSA International, entered the terminal business. The move changed the situation that had been held by the four existing terminal operators, i.e. HIT, MTL, Cosco-HIT and CSX World Terminals. DP World acquired CSX World Terminals from US transport giant CSX Corp in January 2005 and gained an initial foothold at the Kwai Chung container terminals. This gave DP World a stake at Container Terminal 3 and CT8 (West), in addition to operations in

China. One month later PSA International bought out the interest held by Hong Kong infrastructure company NWS Holdings and had been CSX World Terminals' partner in CT3 and CT8 (West). As a result, PSA International acquired NWS Holdings' 33.34 percent stake in CT3 and its 31.4 percent interest in Asia Container Terminals Holdings (ACT), which operated CT8 (West). PSA then used US$4.39bn in April to acquire 20 percent of the equity and loan structure of Hutchison's ports network. While the agreement made PSA a partner in Hutchison's global business, it also cemented its interest in Hong Kong's container terminal scene, which has increased to five companies.

MTL remains the oldest of the bunch after opening the territory's first purpose-built container terminal at Kwai Chung in 1972. The company, which operates nine berths including two feeder berths, has the capacity to handle 5.5m TEUs at its four terminals – container terminals 1, 2, 5 and 9 (South). In March 2005, the company handled its 50 millionth container since it began operating 33 years previously. Meanwhile, they used HK$1bn (US$128.5m) for upgrade of its facilities, which was completed in 2006. These improvements in operating efficiency helped support the recommendation of the government-funded Hong Kong Port Master Plan 2020 to improve existing operations at Kwai Chung before constructing additional terminals. Similar improvements by other terminal operators are expected to

boost the port's total throughput to 24m TEUs a year. (Hong Kong Marine Department, 2006)

Conclusive Remark

It was found in the above discussion that in 1966-1967, when the container revolution was making its impacts on the economy of Hong Kong, the administration was in a very difficult position. The riots in Hong Kong at that time rendered the British Colonial Government of Hong Kong cautious over public expenditure. However, the economy of Hong Kong would suffer seriously if containerization was not implemented because manufactory and trading activities were the life blood of Hong Kong at that time. The Government, therefore, had no choice but to let the private sector develop ad operate the container ports. Therefore it could be seen that the Container Port development was initiated by the market while the Government had played a passive and reactive role in the first phase of the container port history in 1970-1976 (Ng, 1992). After the PRC's Open Door Policy in 1979 and the settlement of Hong Kong's uncertain political future by the Sino-British Joint Declaration in 1984, a more proactive approach had been adopted by the Government in planning the container ports. Given the changing politics of planning in the territory since the 1980s, this second phase of the container port development has aroused public concern, but

their concerns had largely been ignored because the established planning mechanisms for developing the container ports were immune from public pressure and security.

On the other hand, the People's Republic of China (PRC)'s vested interests in Hong Kong's container port development had grown as a result of the Open Door Policy and Hong Kong was an important entrepot port for the PRC's imports and exports. These interests guaranteed a relatively smooth planning and implementation of the container port development in Hong Kong. Up to the 1980s, the Government together with the private sector had been the main actors in planning and developing container ports. Recently, PRC has joined this partnership. Established institutions do not allow meaningful and effective wizen participation in the course of events. Hence, those in power take all the important decisions while the general public, especially the local communities, have to bear the consequences.

When the Container Port Executive Committee was first established in 1982, there were representatives from relevant Government Departments and container terminal operators. In 1988, this Committee was disbanded. The Port Committee, the Port Operation Committee and the Container Terminal Landuse Sub-Committee were subsequently set up to advise on policy issues and day-to-day operation of the ports. In 1991, these Committees were

replaced by the Port Development Board (PDB) which is under the Land Development Policy Committee. Unofficial members of the Port Development Board are appointed by the Government. Under the Port Board, there are three sub-committees. One of them is Container Cargo Handling Committee, members of which are nominated by the PDB secretariat (civil servants) and approved by the PDB. Shipping, banking, container operators, and related professional interests are represented in the PDB and the Container Cargo Handling Committee.

However, there is no representative from local communities on these committees. In fact, there is no channel to inform and consult local residents about the planning and development of container ports and their interests have been neglected. Without citizen participation, many controversial issues can then be "submerged" and decisions can be made behind closed doors. This is an unfair practice. The community at large should have an opportunity to question on the port development and the corresponding negative impacts such as pollution problems. Only a more open approach can guarantee better information, more realistic predictions, a more rounded perspective, more understanding and more imaginative and "rational" results.

After the completion of PADS, Hong Kong has approached a strategic level, which is concerned with the long-term development of the port and the basis

of port planning system in Hong Kong has been formed. The port planning is involving more expertise and specialists like planners, economists and statisticians. In addition, the issues considered in the process are getting more comprehensive, covering environmental and social issues.

OPERATORS OF CONTAINER TERMINALS[12]

Overview

The Hong Kong International Container Terminals (named Kwai Chung Container Terminals until Container Terminal 9 was opened on Tsing Yi) are situated in Kwai Chung-Tsing Yi basin. There are nine terminals under the operation of five different operators, namely Modern Terminals Ltd (MTL), Hongkong International Terminals Ltd (HIT), COSCO-HIT, DP World and Asia Container Terminals Ltd (ACT). (Appendix 2) They occupy 275 hectares of land which includes container yards and container freight stations and provides 24 berths and 8,530 metres deep water frontage. The water depth of the Kwai Chung-Tsing Yi basin is 15.5 m. The total handling capacity of the container terminals is over 18 million TEUs per year.

[12] The information is this section is based on the website of the terminal operators, *Working for you - the port of Hong Kong: Handbook & Directory* by Hong Kong Marine Department & *Critical Review of Port Planning System in Hong Kong* by Wong

Table 1 Development Sequence and Operators of Container Terminal 1-9

	Opening Date	Operator
Terminal 1	September 1972	Modern Terminals Ltd. (MTL)
Terminal 2	During 1973	Kowloon Container Warehouse (1973) Hong Kong International Terminals Ltd. (HIT) (February 1976) Modern Terminals Ltd. (MTL) (February 1989)
Terminal 4	April 1976	Hongkong International Terminals Ltd.(HIT)
Terminal 5	March 1976	Modern Terminals Ltd. (MTL)
Terminal 6	1st berth May 1988 2nd berth January 1989	Hongkong International Terminals Ltd. (HIT)
Terminal 7	1st berth November 1989 2nd berth January 1990 3rd berth April 1990 4th berth September 1990	Hongkong International Terminals Ltd. (HIT)
Terminal 8	Situated in northern corner of Stonecutters Island January 1994	Cosco-HIT Terminals (Hong Kong) Ltd. (CHT) owns 2 berths in the east (CT8 E) 2 berths in the west (CT8W), which were originally owned and operated by Modern Terminals Ltd., have been taken over by ACT in April 2004.
Terminal 9	Located on Tsing Yi Island, facing Rambler Channel The berths were completed by the year 2005.	The terminal was developed by 3 operators, (MTL), (HIT), and Asia Container Terminals Limited (ACT). Current, HIT has 2 berths in CT9 and MTL owns the remaining 4.

Reference: Hong Kong's Port and Airport Development Strategy – A Foundation for Growth and the Annual Reports and homepages of Container Terminal Operators

Modern Terminal Limited (MTL)

Modern Terminals Limited was established in 1969 and now a major player in the Container Port industry. By 1972, Modern Terminals had built Hong Kong's first custom designed Container Terminal. This was the forerunner of the Hong Kong container shipping industry which established Modern Terminals as the industry leader. Modern Terminals is a privately owned company with a shareholder portfolio of regional industry leaders: The Wharf (Holdings) Ltd (68 percent); China Merchants Holdings (International) Co Ltd (27 percent); and Jebsen Securities Ltd (5 percent). The annual throughput of MTL is 5.4 million TEUs and the annual capacity reached 7 million TEUs in 2006. Moreover, MTL offers to users a total of over 1,000,000 square feet of storage space in the form of an on-terminal 11-storey warehouse building which is located in Berth One in Kwai Chung.

Hongkong International Terminals (HIT)

Hongkong International Terminals (HIT), established in 1969, is the flagship operation of the Hutchison Port Holdings (HPH) Group, the world's leading port investor, developer and operator. HIT is situated in the Kwai Chung container port area of Hong Kong and one of the busiest container ports. HIT operates twelve berths at Terminals 4, 6, 7 and 9 and another two

through its joint venture with COSCO Pacific Limited at Terminal 8 (East). In 2006, HIT and COSCO-HIT handled a combined throughput of 8.235 million TEU, over 50 percent of Kwai Tsing's container port traffic. The Hutchison Logistics Centre located at Container Terminal 4 with over 377,000 square metres of floor space also houses HIT's own container freight station operations.

China Ocean Shipping (Group) Company (COSCO)

COSCO Pacific Limited has a 50 percent interest in COSCO-HIT Terminals (Hong Kong) Limited, a container terminal located at Kwai Chung, Hong Kong. COSCO-HIT Terminals (CHT) Limited, a joint venture between China Ocean Shipping (Group) Company and Hongkong International Terminals (HIT), manages two berths at Terminal 8 East, Kwai Chung. These berths have a quay length of 640 metres and a minimum along side depth of 15.5 metres. The terminal is capable of handling two container vessels simultaneously. The use of advanced computer systems and communications equipment has been used since it become operational in 1995. The Annual handling capacity of COSCO is 1.8 million TEUs in 2007.

Dubai Port International Terminals Ltd. (DPI) [13]

DPI (DP World since 2005), one of the world's leading port operators, announced on February 22 2005 that it had completed the acquisition of CSX World Terminals (CSX WT), the international terminal business of CSX Corporation, for closing cash consideration of USD1.142billion, subject to final working capital and long-term debt adjustments. This places DPI among the world top six port operators. The acquisition of CSX WT gave DPI a strong presence in Asia for the first time, including CT3 and CT8W in Hong Kong, Tianjin and Yantai in China as well as operations in Australia, Germany, Dominican Republic and Venezuela. The combined portfolio consists of interests in 15 operational terminals in 13 locations with a combined capacity in excess of 24million TEU. Container Terminal 3, located in the heart of Hong Kong's Kwai Chung port, is now operated by DP World since it acquired CSX WT.

DP World Hong Kong is recognised as the most productive terminal operator in Hong Kong with an average productivity over 40 moves per hour per shore crane, handling over 1.2 million TEUs in record in a single berth. Apart from the premier terminal service, they also provide ancillary services

[13] DP World was formed in September 2005 with the integration of the terminal operations of the Dubai Ports Authority (DPA), which was focused on the UAE ports of Rashid and Jebel Ali, and DPI (Dubai Ports International) which had been set up to export this success internationally.

like on-dock equipment repair and maintenance as well as dedicated vessel and cargo agency services.

PSA International Limited

In April 2005, PSA used US$4.39billion to acquire 20 percent of the equity and loan structure of Hutchison's ports network. This agreement made PSA a partner in Hutchison's global business, it also cemented its interest in Hong Kong's container terminal scene. PSA has now investments in 17 out of the 24 container berths in Hong Kong's port that stretches across a total quay length of 6,125 metres. This includes two berths at CT8 West, one berth at CT3, 12 berths at CT4, 6, 7 and 9 and another 2 at CT8 East. PSA International acquired NWS Holdings' 33.34 percent stake in CT3 and its 31.4 percent interest in Asia Container Terminals Holdings (ACT), which operated CT8 (West).

Asia Container Terminals Ltd. (ACT)

ACT, incorporated in 1993, is the major stakeholder in the six-berth Container Terminal 9 (CT9) development at the port of Kwai Chung, Hong Kong. ACT has an interest in two container berths at CT9. After the completion of ACT's two-berth interests at Container Terminal 9 (CT9), ACT took over the two berths at CT8W in April 2004. ACT is jointly owned

by DP World (55.2 percent) and PSA International Limited (PSA) (44.8 percent).

On December 30, 2004, before the acquisition by DP World, CSX WT announced that it had raised its stake in Asia Container Terminals Ltd (ACT) to 68.6 percent giving the Group a majority share in the operation. ACT is the owner and operator of the premier terminal CT8W in Hong Kong. The transaction was financed from a committed loan facility arranged and underwritten by Deutsche Bank AG on December 16, 2004 for USD1.45 billion.

PERFORMANCE OF CONTAINER PORT:

FORECAST VS ACTUAL GROWTH

According to the statistics on port traffic of Hong Kong 2007 released by Marine Department, among the container ports of the world, the container throughput of Hong Kong port ranks the second with the amount up to 23,539,000 TEUs in 2006 and 22,602,000 TEUs in 2005. The performance of Container Port is measured by twenty-foot equivalent unites (TEUs) across a standard berth. A 20 feet container counts as 1 TEU while a 40 feet container counts as 2 TEUs and so on (Hong Kong Planning Department,

1998). In order to evaluate the port traffic growth of Hong Kong, the forecast and the actual growth will be compared.

A new planning process of port development was established when the Port and Airport Development Strategy (PADS) for Hong Kong was initiated by Government in 1988 and completed in 1989. The Government provided forecast figures to the PADS consultants so that they could search suitable sites to accommodate the predicted growth. In 1989, the Container Port Committee made a forecast on the growth of containerised trade which was based on forecasts prepared by the Government Working Group on Port Cargo Forecasts. The forecasts implied growth in total cargo and containerised cargo of 10.6 percent and 12.2 percent per annum respectively, between 1986 and 1991. (Hong Kong Government Secretariat: Lands and Work Branch, 1989) However, since 1986, the actual growth in these cargoes has been 14 percent and 21 percent per annum. It could then be observed that the growth of Container Port development was unexpectedly high.

To ensure that Hong Kong's port development can keep up with the times and global development and can maintain a competitive position, four Port Development Strategy Reviews (PDSRs) had been carried out. According to *"Port Development Strategy Review 2001"*, the Port Cargo Forecasts (PCF) 2000/01 predicted a slightly higher magnitude of total container traffic as

compared with the previous PCF 1997/1998. The higher throughputs projected in the 2000/01 forecast are mainly due to the anticipated strong export growth of Southern part of the Mainland, which will be further boosted by the Mainland's accession to the WTO. Hong Kong port is forecast to become increasing reliant on cargo originating from the PRD area as the main source of cargo. The volume of containers carries by ocean-going vessels is forecast to reach 30.2 million TEUs by 2020 ad another 10.4 million TEUs will be handled by river trading vessels. This reflects a gradual increase in the share of river containers from 24 percent in 1999 to 26 percent in 2020.(Hong Kong Economic Services Bureau Port and Maritime Division, Planning Department, and Marine Department, 2001)

Table 2 Port Cargo Forecasts (PCF) in Port Development Strategy Reviews 1997/98 and 2000/01

	Ocean[14]		River		Total (million TEUs)	
Year	**97/98**	**2000/01**	**97/98**	**2000/01**	**97/98**	**2000/01**
1999	13.8	12.3	3.2	3.9	17.0	16.2
2001	14.4	14.4	3.9	5.2	18.3	19.6
2006	18.2	17.6	5.9	7.7	24.1	25.3
2011	22.1	22.1	7.1	9.0	29.2	31.1
2016	25.5	27.2	7.3	10.0	32.8	37.2
2020	-	30.17	-	10.36	-	40.53

Both the container throughout and the cargo throughout increased gradually from 1976 to 2007 and approaching the forecast released in the Port Development Strategy. From this, it could be concluded that the Container Port development was growing at a pace under the Government's expectation. A clearer illustration is shown in the following figures.

[14] Changes have been made to the definition of 'ocean' and 'river' cargo under the current statistics system effective from January 1993. Hence, the two components of port traffic are subject to differences in the context of historical and forecast data. Prior to 1993, ocean-going vessels are defined operationally as vessels completing port formalities at Marine Department's Port Formalities Office. On the other hand, vessels completing port formalities at its District Marine Offices are defined as river vessels. Under the revised statistics systems, the classification of vessels into 'ocean' and 'river' is made on the basis of the legally defined 'river trade limits'. The river trade area broadly includes the Pearl River and other inland waterways in Guangdong and Guangxi, and Macau. Hong Kong Port Development Board; Planning Department. 1993/94. *Port development strategy review 1993/94 : Port cargo forecasts.*

Table 3 Forecast and Actual Container throughput in ‘000 TEUs

Year	Forecast		Actual	
	‘000 TEUs	Reference	‘000 TEUs	Reference
1976	*No forecast*		1,030	*Port and Airport Development Strategy Background Notes*
1977			1,260	
1978			1,230	
1979			1,300	
1980			1,460	
1981			1,560	
1982			1,660	
1983			1,840	
1984			2,110	
1985			2,290	
1986			2,700	
1987			3,450	
1988			3,950	*Port Development Strategy Third Review 1998*
1989			4,380	
1990			5,101	*Summary Statistics on Port Traffic of Hong Kong Sept 2007*
1991			6,162	
1992			7,972	
1993			9,204	
1994			11,050	
1995			12,550	
1996			13,460	
1997			14,567	
1998	16,012	*Port Development Strategy Third Review 1998*	14,582	
1999	16,951		16,211	
2000	17,618		18,098	
2001	18,319		17,826	
2002	19,271		19,144	
2003	20,287		20,449	
2004	21,448		21,984	
2005	22,631		22,602	
2006	24,142		23,539	
2007	25,697		*N/A*	
2008	26,712			
2009	27,753			
2010	28,472			
2011	29,223			
2012	29,987			
2013	30,736			
2014	31,430			
2015	32,138			
2016	32,837			
2020	40,530	*Port Development Strategy Third Review 2001*		

Table 4 Forecast and Actual Cargo Throughput in '000 tonnes

Year	Forecast		Actual	
	'000 tonnes	Reference	'000 tonnes	Reference
1976	*No forecast*		23,341	*Port and Airport Development Strategy Background Notes (1988)*
1977			25,637	
1978			27,832	
1979			30,310	
1980			33,562	
1981			35,619	
1982			37,096	
1983			43,349	
1984			47,480	
1985			53,655	
1986	56,300	*Port & Airport Development Strategy: Final Report 1989*	56,289	*Port Development Strategy Third Review 1998*
1987	*N/A*		62,966	
1988	*N/A*		71,390	
1989	*N/A*		73,682	
1990	*N/A*		75,294	
1991	93,300		87,592	
1992	*N/A*		101,600	
1993	*N/A*		118,138	
1994	*N/A*		141,025	
1995	*N/A*		155,906	*Summary Statistics on Port Traffic of Hong Kong Sept 2007*
1996	138,900		157,299	
1997	*N/A*	*Port Development Strategy Third Review 1998*	169,229	
1998	183,014		167,170	
1999	194,079		168,838	
2000	202,874		174,642	
2001	212,355		178,210	
2002	223,422		192,511	
2003	235,394		207,612	
2004	248,725		220,879	
2005	262,483		230,139	
2006	279,138		238,238	
2007	294,994		*N/A*	
2008	307,868			
2009	321,209			
2010	332,324			
2011	344,007			
2012	354,302			
2013	365,059			
2014	375,605			
2015	386,500			
2016	397,567			

(N/A: Not Available)

Figure 1 Forecast and Actual Cargo Throughput in ‘000 tonnes, 1976-2016

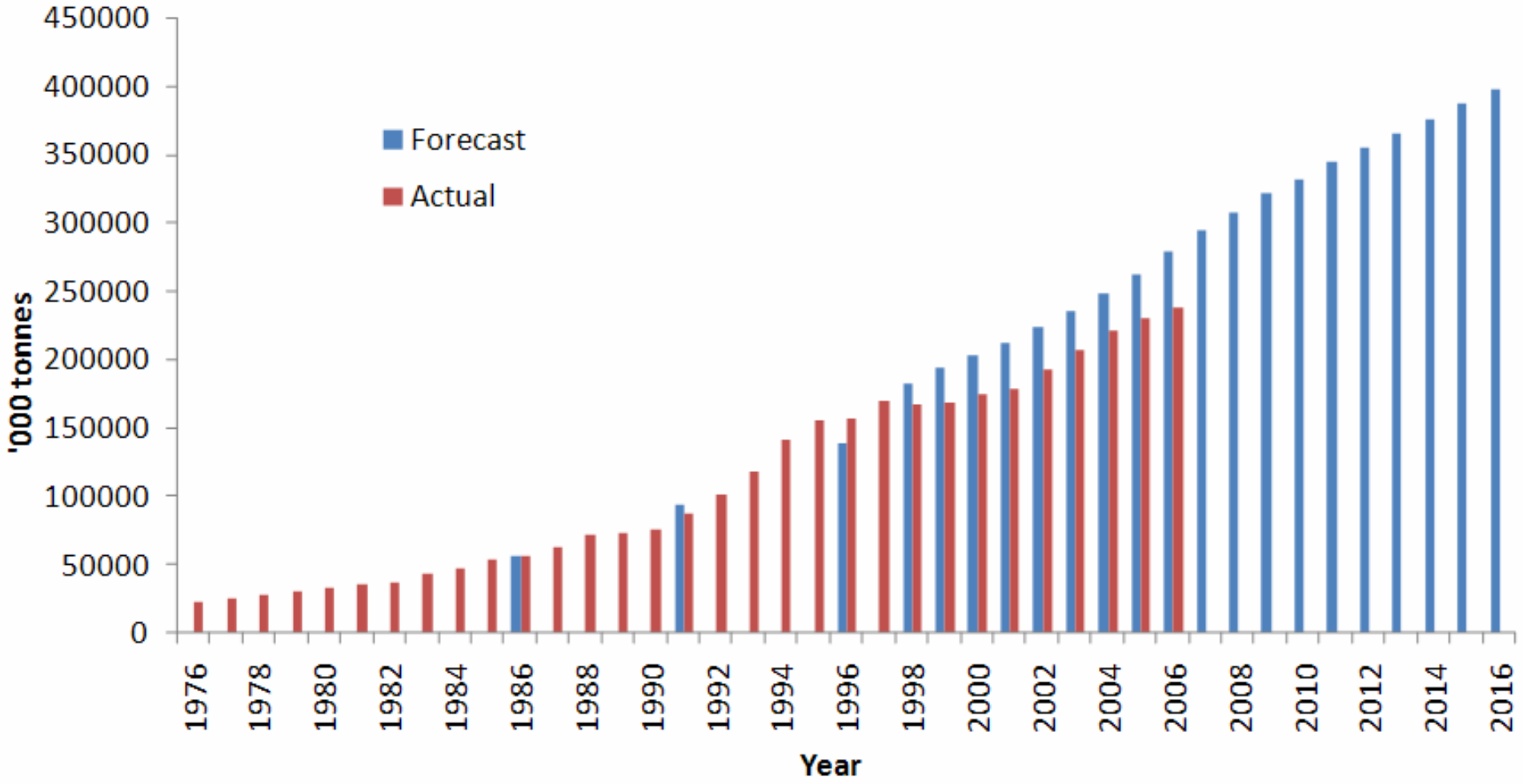
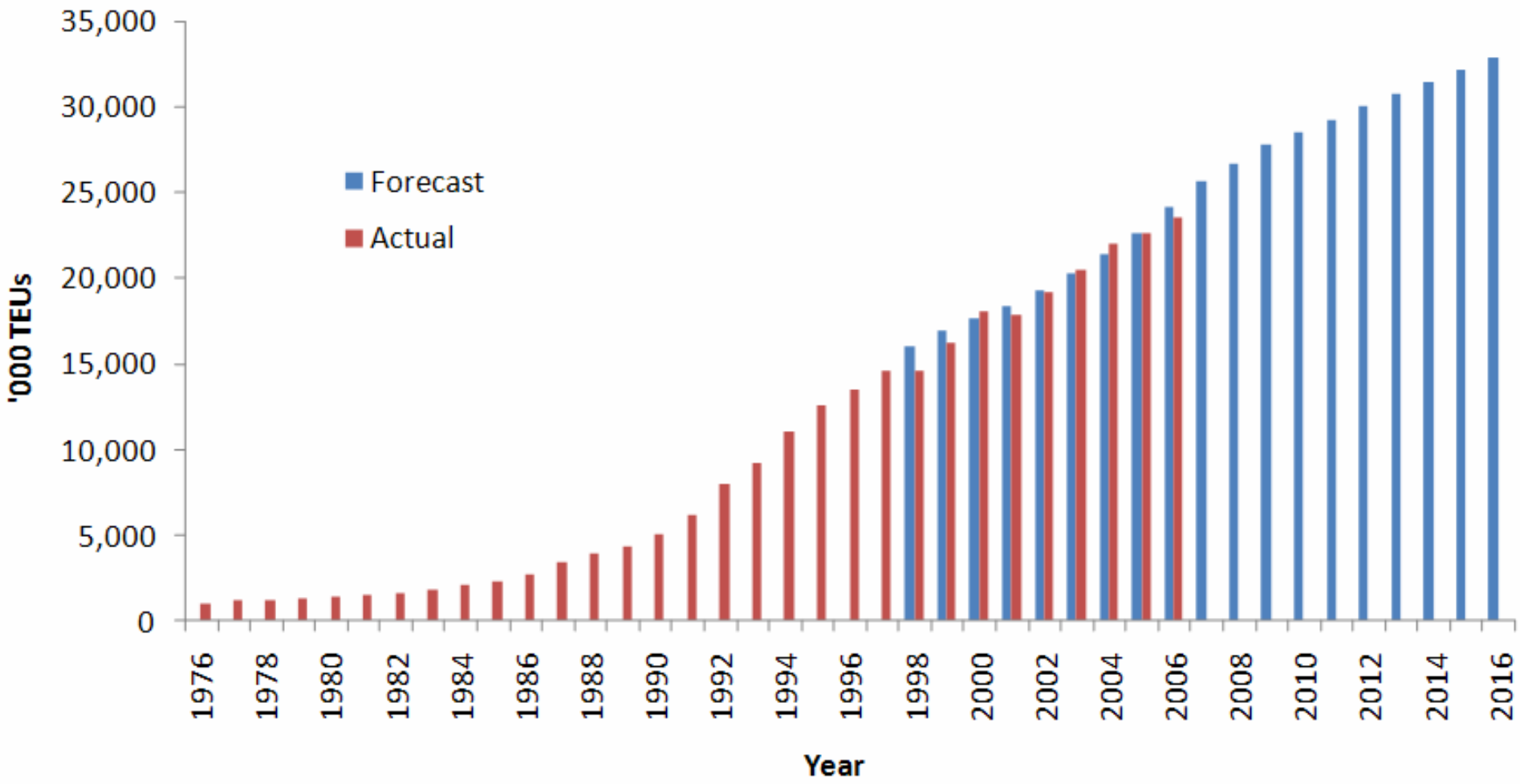


Figure 2 Forecast and Actual Container Throughput in '000 TEUs, 1976-2016



BUSINESS PERFORMANCE OF

CONTAINER TERMINAL OPERATORS

COSCO-HIT Terminal (Hong Kong) Limited (COSCO-HIT) [15]

COSCO-HIT Terminals (Hong Kong) Limited ("COSCO-HIT"), an associated company of the COSCO Pacific Limited, provided handling and storage services to COSCON for cargoes shipped from/ to Container Terminal 8 (East) in Hong Kong. The services rendered were charged at terms pursuant to agreements entered into by COSCO-HIT with COSCON for the year ended 31st December 2003.

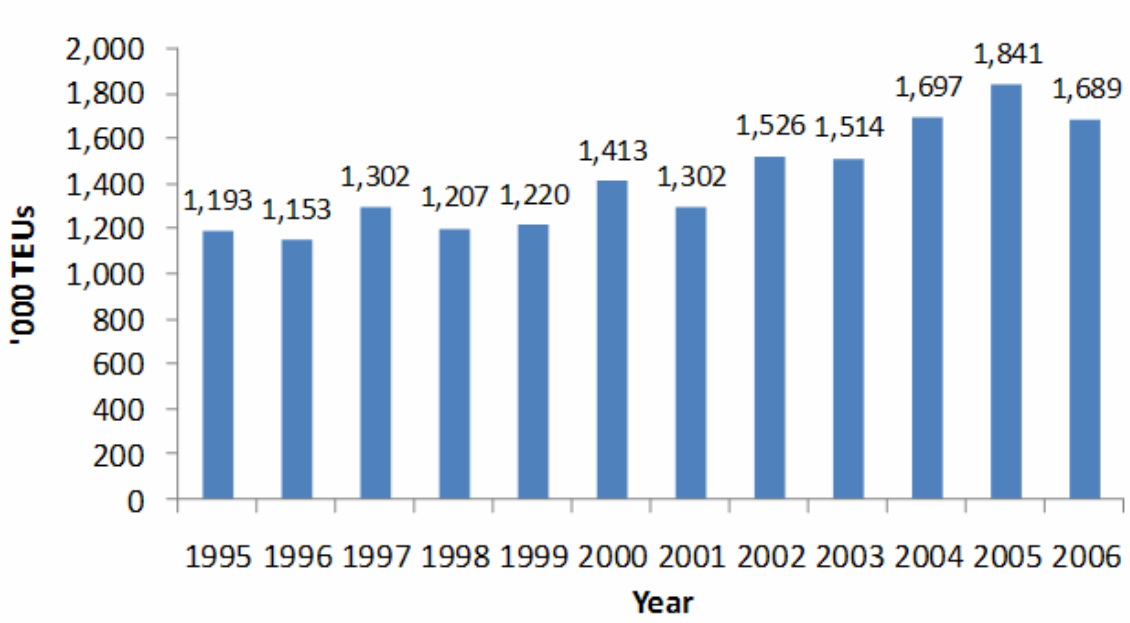
Table 5 COSCO-HIT Terminal Throughput (TEUs) and Growth rate, 1995-2006

Year	Throughput ('000 TEUs)	Growth rate	Year	Throughput ('000 TEUs)	Growth rate
1995	1,193	-	2001	1,302	-7.8 percent
1996	1,153	-3.4 percent	2002	1,526	17.2 percent
1997	1,302	13.0 percent	2003	1,514	-0.8 percent
1998	1,207	-7.4 percent	2004	1,697	12.1 percent
1999	1,220	1.1 percent	2005	1,841	8.5 percent
2000	1,413	15.8 percent	2006	1689	-8.3 percent

Reference: COSCO Pacific Limited Annual Reports 2000-2006

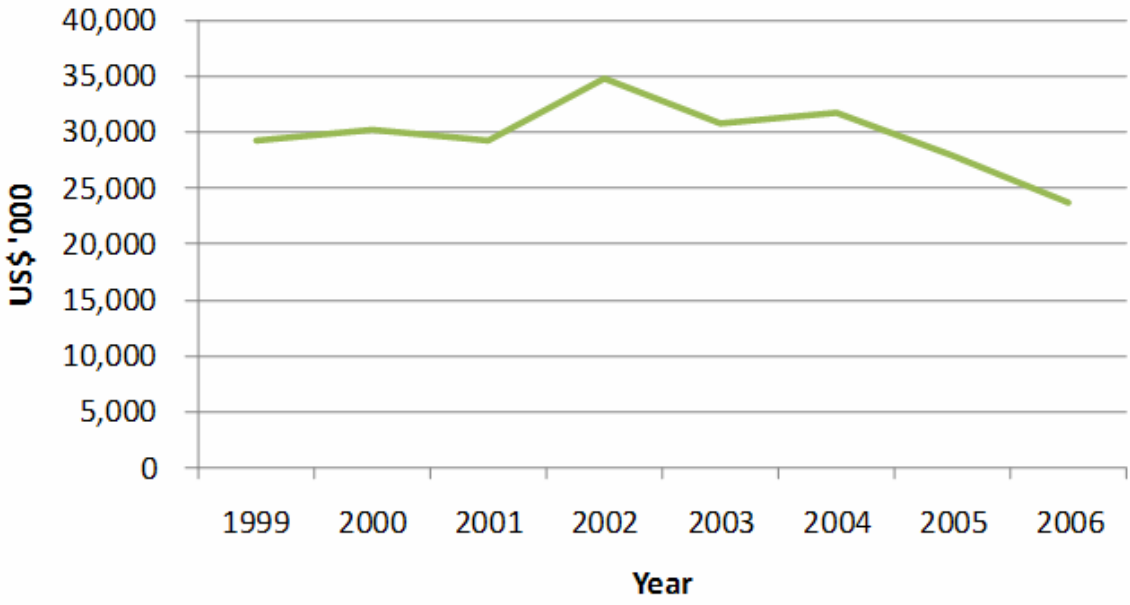
[15] The business review of COSCO-HIT Terminal Limited is based on the data available in Annual Report 2000-2006 of COSCO-Pacific Limited.

Figure 3 COSCO-HIT Terminal Throughput (TEUs), 1995- 2006



Reference: COSCO Pacific Limited Annual Reports 2000-2006

Figure 4 Profit after income tax of COSCO-HIT Terminal 1999-2006[16]



Reference: COSCO Pacific Limited Annual Reports 2000-2006

[16] A further explanation of profit after income tax of COSCO-HIT Terminal Limited is shown in Appendix 8

In 2003, the slight decrease in the throughput of COSCO-HIT was due to the substantial increase in container handling capacity in the region. The renovation work at COSCO-HIT aimed at enhancing handling capacity to prepare for handling of 8,000 TEU container ships. Throughput of COSCO-HIT fell by 0.8 percent over 2002, its profit contribution declined by 5.6 percent due to changes in cargo mix. (COSCO Pacific Limited, 2003)

In 2005, at COSCO-HIT Terminal in Hong Kong, throughput rose 8.5 percent to 1,841,193 TEUs, with demand continuing to grow moderately. Efforts of COSCO-HIT Terminal in exploring new business opportunities resulted in throughput being increased to a record high of 1,841,193 TEUs (2004: 1,697,212 TEUs), while the net profit contribution was slightly lower than that of 2004 due to changes in cargo mix and increasing interest rates. (COSCO Pacific Limited, 2005)

During the first half of 2006, the replacement of four quay cranes by COSCO-HIT Terminals (Hong Kong) Limited directly affected terminal throughput dropped by 8.3 percent while profit contribution also decreased. At COSCO-HIT Terminal in Hong Kong, throughput decreased by 8.3 percent. Net profit contribution amounted to US$23,751,000, a 15.1 percent drop from US$27,981,000 in 2005 as a result of the interruptions to operations caused by the quay crane replacements. It was mainly affected

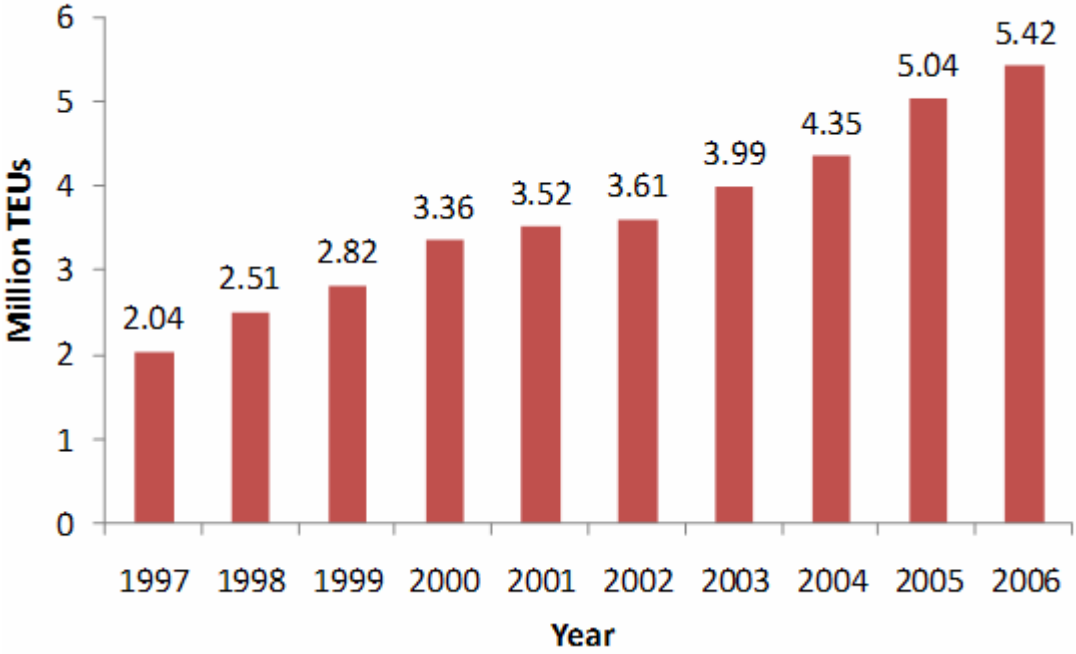
by the construction and replacement of four quay cranes during the first half of the year which disrupted the terminal's normal operation for a certain period of time. The situation had been improved in the second half of the year. The replacement of the cranes has enhanced the terminal's capability to handle larger and more sophisticated vessels with a capacity of over 8,000 TEUs. Nevertheless, it is forecasted by COSCO Pacific Limited that the container throughput will show sustainable growth due to the continuous robust growth in China's import and export trade and the worldwide shipping market, (COSCO Pacific Limited, 2006)

Modern Terminal Limited (MTL) [17]

As mentioned in the previous section, the major shareholder of MTL is the Wharf (Holdings) Ltd with 68 percent of equity attributable. Therefore, the business performance of MTL from 1997 to 2006 was reviewed in the Annual Reports of the Wharf (Holdings) Ltd. As indicated in the Annual Report 2006, MTL is now transforming from operating at a single port (Hong Kong) to a portfolio of strategic ports. It operated Taicang International Container Terminals Company Limited in the Yangtze River Delta since 2004.

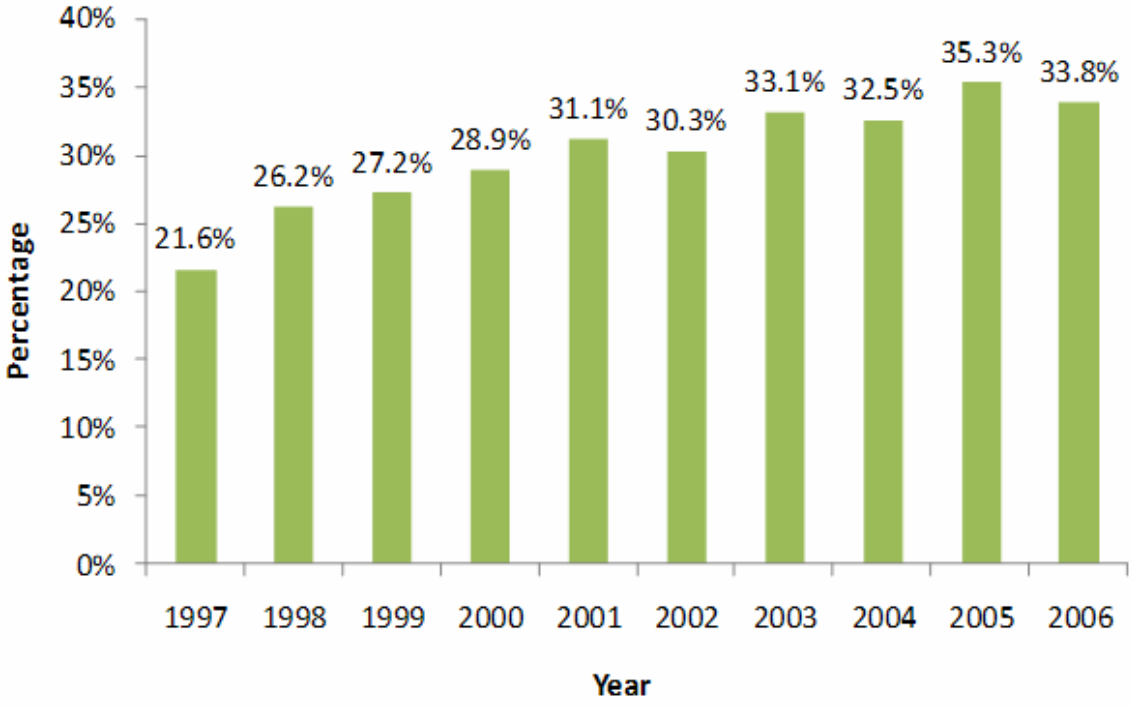
[17] The business review of Modern Terminal Limited is based on the information available in the Annual Reports 1999-2006 of The Wharf (Holdings) Limited

Figure 5 MTL Throughput (TEUs in millions), 1997-2006



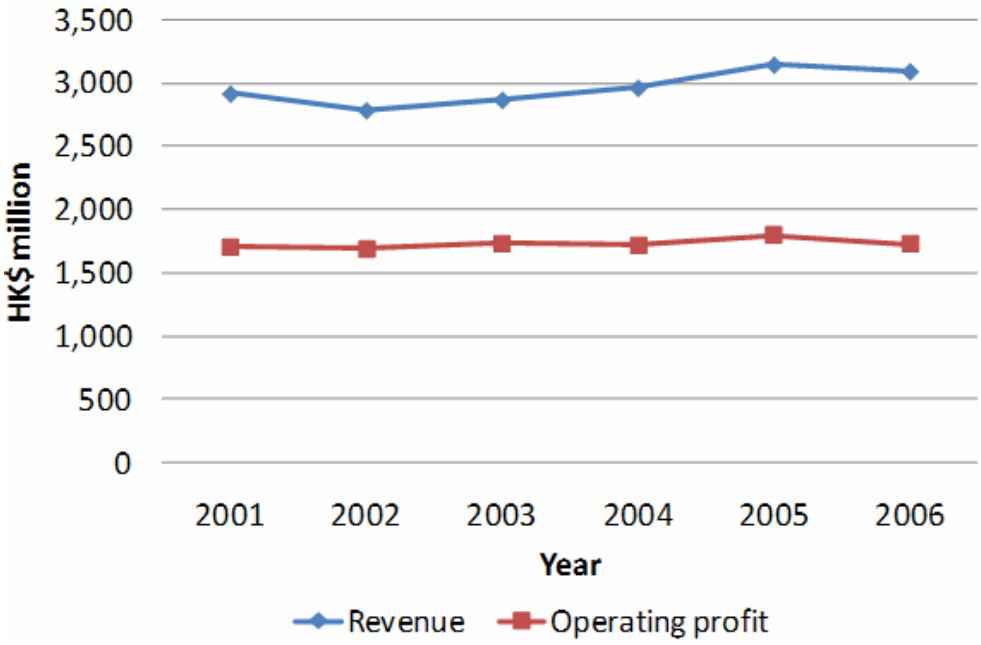
Reference: Annual Reports 1999-2006 of The Wharf (Holdings) Limited

Figure 6 Market share of MTL in the Container Industry, 1997-2006



Reference: Annual Reports 1999-2006 of The Wharf (Holdings) Limited

Figure 7 Revenue and Operating profit of MTL, 2001-2006



Reference: Annual Reports 1999-2006 of The Wharf (Holdings) Limited

MTL launched a new company logo in early December 1999 to meet the challenges of the new millennium. The turnover for 1999 was HK$10,520.5 million, as compared with HK$10,839.7 recorded in 1998. On the background of continued strong consumer demand in the USA and some improvements in the Intra Asia trade, container volumes showed satisfactory growth during 1999. Throughput volumes at container terminals to and from the South China region, including Hong Kong, registered an overall growth of 12.6 per cent equivalent to over 1.3 million twenty-foot-equivalent units (TEUs). Hong Kong ports attracted almost 40 per cent of this growth. Modern Terminals handled a total of 2.60 million TEUs in 1999, up 9.6 per cent over 1998. (The Wharf (Holdings) Limited,

1999) At the end of 1998, Modern Terminals was committed to participating in the development of the Container Terminal 9 (CT9) project in Hong Kong.

In 2001, Modern Terminals' profitability was maintained at 2000's level with an increased throughput of 4.7 per cent over a year ago and productivity gains of almost 12 per cent. In February 2001, The Wharf (Holdings) Limited increased its shareholding in Modern Terminals to 55.3 percent from 50.8 percent. A leading operator of value-added container terminal services in the South China region, Modern Terminals maintained its profit at 2000's level due to increased market share and enhanced productivity. Since 1997, the average cost per TEU handled has been reduced by as much as 50 per cent, and staff productivity in terms of TEUs per headcount increased to 2,985 from 1,525, representing a productivity gain of almost 100 per cent. Despite the mild drop in Kwai Chung's throughput volume in 2001, Modern Terminals maintained its trend of persistent growth since 1998. (The Wharf (Holdings) Limited, 2001)

Modern Terminals handled 3.61 million TEUs in 2002, which was 2.7 per cent higher than 2001's record performance. With continuous investment in hardware, software and human resources, Modern Terminals' container handling capacity expanded by more than 4 per cent, to 4.2 million TEUs,

by the end of 2002. TEUs per headcount, one of the main productivity benchmarks, also improved to 3,072 from 2,985. At the end of 2002, Modern Terminals' market share in Kwai Chung remained more or less unchanged at about 30 per cent. (The Wharf (Holdings) Limited, 2002)

The number of container boxes handled by Hong Kong's Kwai Chung terminal grew by 1.2 per cent in 2003, compared with 5.2 per cent growth the year before. Notwithstanding the uncertainties provoked by the implementation of the US Government's Container Security Initiative requirements, the Middle East military conflict and the SARS outbreak, Modern Terminals handled around four million TEUs during 2003, representing a year-on-year growth of more than 10 per cent – far above the Kwai Chung average. Modern Terminals' market share in Kwai Chung expanded to 33.1 per cent from 30.3 per cent in 2002. The delivery to Modern Terminals of the four berths at Container Terminal 9 in Hong Kong began in October 2003. The revenue of Modern Terminals increased in 2003 as a result of a growth in throughput handled, mainly driven by strong feeder and transhipment volume. Operating profit of Modern Terminals also improved satisfactorily despite the keen competitive environment of the terminal industry in South China. (The Wharf (Holdings) Limited, 2003)
In 2004, Modern Terminals handled 4.35 million TEUs in Kwai Chung, nine per cent higher than the record four million TEUs achieved in 2003.

Driven by continually strong export growth, the South China region registered an overall increase of 19 per cent or 3.96 million TEUs in total volume of containers handled. Modern Terminals' total throughput for 2004 increased by 9.1 per cent or 362,000 TEUs compared with that of 2003. This was mainly driven by feeder, transhipment and intra-Asia volume. During 2003, operating cost increased because of the increased volume of activities and higher depreciation charges incurred due to the introduction of CT9. Despite the continuous improvement in productivity, the increase in operating cost slightly affected the company's operating profit. With continuous investment in hardware, software and human resources, Modern Terminals' productivity continued to improve in 2004. At the end of 2004, Modern Terminals' market share remained at about one-third of the total market in Kwai Chung. (The Wharf (Holdings) Limited, 2004)

In 2005, Throughput at Modern Terminals grew by 16 percent to 5.04 million TEUs in 2005, driven mainly by feeder, trans-shipment and intra-Asia volume. Having taken delivery of four CT9 berths in 2004, Modern Terminals operated 7.5 berths with a total handling capacity of 5.88 million TEUs. Modern Terminals' total revenue and operating profit increased by 6 percent and 5 percent respectively in 2005 on the back of significant throughput growth. (The Wharf (Holdings) Limited, 2005)

In 2006, concerning the Container Terminal business in Hong Kong, despite a 7 percent throughput growth, Modern Terminals' revenue and operating profit decreased by 2 percent and 4 percent respectively in 2006, as a result of box mix shift in favour of trans-shipment and feeder cargos, and increasing competition in Hong Kong and South China. Performance in the first half was particularly soft with only marginal throughput growth. (The Wharf (Holdings) Limited, 2006)

Conclusive Remark

Most often, the business regarding to Container Terminal is only part of the affairs of large corporations, the performance of their Container Terminal therefore may not be illustrated in details in their Annual Reports due to the simplicity reason. Hence, only two operating companies' business reviews were available. Nevertheless, it can be still clearly denoted that Container Port industry in Hong Kong is healthy and well-operated. As indicated in the Annual Reports of COSCO Pacific Limited and The Wharf (Holdings) Limited, the business performance of Container Terminals operated by COSCO-HIT and MTL are improving over years. In recent years, with the increasing investment in advanced technology and facilities, the competitiveness of Hong Kong Container Port in global market is still being maintained.

CHAPTER FOUR

CYBERPORT: PLANNING AND DEVELOPMENT

BACKGROUND

Cyberport, Hong Kong's IT Flagship, is a US$2 billion (HK$15.8 billion) landmark project managed by Hong Kong Cyberport Management Company Limited and wholly owned by the Government of the Hong Kong Special Administrative Region (HKSAR). The project was being developed on a 24-hectare site at Telegraph Bay in the southern district of Hong Kong Island. It comprises four office buildings, a five-star hotel (Le Méridien Cyberport Hotel), a retail entertainment complex (The Arcade) and a deluxe residential development (Residence Bel-Air), aiming at creating an interactive environment that will be home to a strategic cluster of about 100 IT companies and 10,000 IT professionals.

The vision of Hong Kong Cyberport is establishing a leading information technology hub and digital city of the Asia-Pacific region. It aims to create a strategic cluster of quality IT and IT related companies critical to the development of Hong Kong into a leading digital city in the region; to nurture and support the development of small and medium IT enterprises as an essential constituent of such a strategic cluster; to provide a state-of-the-

art infrastructure conducive to the creation of such a strategic cluster and its development; to develop a regional centre of excellence for IT and digital media training for creating human capital in IT through collaboration and partnership with the industry, academia, and research institutes and professional bodies; to spearhead the development of the digital media industry through the provision of hardware, software and technical support in the Digital Media Centre; and to promote the development of services and applications for wireless and mobile communications leveraging on Cyberport's excellent infrastructure and synergy.

HISTORICAL REVIEW OF CYBERPORT[18]

1999: Proposal of Cyberport by Hong Kong Government

The development of Cyberport was announced by Financial Secretary Sir Donald Tsang in his budget speech on 3rd March 1999. To meet the challenges of the 21st Century, the Government believed that it must adapt to the new forces of the Information age and respond to the mega trends of technological advances. Hence in March 1999, the Government proposes to develop a $13 billion Cyberport in Telegraph Bay, Pokfulam, in Hong

[18] The Information in this section is based on the Hong Kong Special Administrative Region Government Press Release and the minutes of Legislative Council Information Technology and the Progress Report on Cyberport Project released by Information Technology and Broadcasting Panel.

Kong providing the essential infrastructure to form a strategic cluster of information services companies. These companies would specialize in the development of services and multi-media content to support businesses and industries ranging from financial services, through trading, advertising and entertainment to communications. In the speech of Financial Secretary of HKSAR, it was mentioned that Hong Kong had an edge in developing information technology and must look for a development in this area which would upgrade the existing economic activities, create new products, and expose them to the electronic world market. And Hong Kong must race against time to have a quick and decisive response in developing its own position in view of the speed with which the information technology sector was advancing and the emphatic efforts of practically all of competitors in trying to carve out their own corners of the market.

It was believed by the Government that the Cyberport would generate more than 12,000 jobs in Hong Kong. Some 4,000 jobs would also be created in the construction industry while it was being built. Also, it would generate demand for support services such as accounting, legal and other back-office functions. Most important, the Cyberport would provide quality products to upgrade the current economic activities and enable people to reach out to the limitless cyber market. Meanwhile the Government had set up a special Task Force to review our immigration policy critically to facilitate the

inflow of talent. In particular, the Task Force would consider how best to remove restrictions on scientists and highly-skilled technologists from the Mainland entering Hong Kong to work hoping that it would help to quickly widen the pool of potential talent and the supply of quality people who could help to realize the vision of Cyberport. The pool of talent would also enhance competitiveness and promoting the development of technology-based industries.

The Government said that the Cyberport development would have to rely largely on the expertise and entrepreneurial spirit of the private sector as only the market knows what is needed for it to flourish and it would not be right for the Government to design and construct it on its own. Most of the $13 billion investment would come from private investment. (Hong Kong Government Press Release, 3 March 1999)

1999: Corporation with Pacific Century Group (PCG)[19]

The Cyberport project, a 24-hectare waterfront project, was awarded to the Pacific Century Group (PCG) in 1999 without a formal tender process for the development, but instead the Government proceeded into detailed

[19] The information in this section is based on the Information Technology and Broadcasting Panel. December 2000. *Progress report of the cyberport project*. Hong Kong: Information Technology and Broadcasting Bureau.

discussions with the company from whom the idea originates. The Government then was alleged that the Cyberport project was a deal aimed at favouring the (PCG). In response to the scandal, the Government explained that development of an attractive Cyberport would require partnership with leading-edge information technology and services companies. However, these companies do not normally enter into large scale property development, let alone a tendering process for such development. PCG was one company which was willing to take on the risks and act as the anchor tenant. Secondly, the Government found that they need to move quickly to compete with other emerging information and telecommunication centres as it hoped to develop Hong Kong into a leading IT and services centre. It was claimed that a tendering process would cause delay and not necessarily produce the desired results. Thirdly, PCG was able to help market the Cyberport to the target tenants by first, becoming an anchor tenant through its joint venture with Intel and getting other leading IT and services companies to become anchor tenants.

The Government said that under the present arrangement, they can be assured of a quality development, minimum Government outlay, and firm interest from the preferred information technology and services companies to move in as anchor tenants. It was also stated that the Cyberport project is

a strategic infrastructure project and not a property development. In terms of hardware, the project provided intelligent buildings, the best telecommunications and information infrastructure, shared IT facilities for tenants. In terms of software, it created a critical mass of talents which only top IT companies could provide. The Government explained that the property development associated with the Cyberport was only a means to achieve this outcome and added that companies without a strong IT background would not be able to meet fully the Cyberport requirements.

PCG, as co-developer and anchor tenant, designed, constructed and funded the development. The Government is the sole owner of the Cyberport including the land, the buildings and the facilities thereon and receives the entire rental from the Cyberport. This meant the developer met the full construction cost, and took on the commercial risks. Its only source of profits was from the ancillary residential development which was claimed by the Government to be necessary to help finance the project. Profits were shared between PCG and the Government on residential development, but before that $200 million was set aside for a Cyberport Development Fund.

The return to the developer depended on the construction cost, the value of the land, sale prices of the flats and the mode of financing. Under the

assessment of Information Technology and Broadcasting Bureau, the return would be less than that achievable in normal property developments. Also, it was clarified by the Secretary for Information Technology and Broadcasting that the plot ratio of the ancillary residential development was between 3 and 4. The current figure is 3.8. The Government was also prepared to sell its share of equity interest in the residential development to third parties who may be interested. (Hong Kong Government Press Release, 16 March 1999) The Government is responsible for providing the necessary infrastructure for the Cyberport. Between May 1999 and December 2000, the Finance Committee approved funding totalling some $1.1 billion for the following works:

(a) Provision of roads, drains and the essential infrastructure for the Cyberport development;

(b) Construction of the northern access road and associated drains and waterworks; and

(c) Extension of water supply to Pok Fu Lam areas.

2000: Cyberport Project Agreement[20]

After 8-month discussion with Pacific Century Group (PCG), the Government signed the Cyberport Project Agreement, on 17 May 2000,

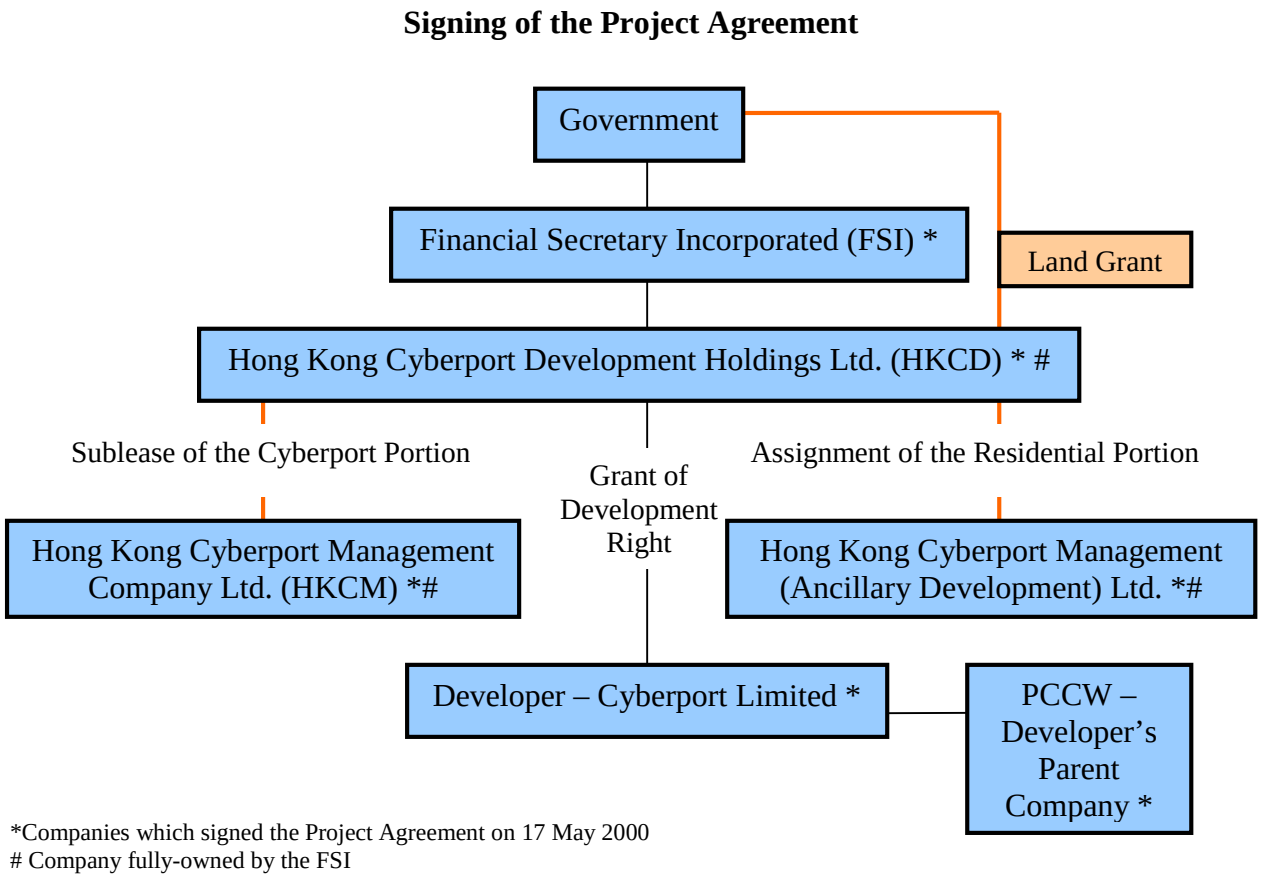
[20] The information is this section is mainly based on the Hong Kong Government Press Release. 17 May 2000. Government, pccw enter into cyberport project agreement.

with Pacific Century CyberWorks (PCCW) and Cyber-Port Limited, a special purpose vehicle (SPV) wholly-owned by PCCW to perform the role of Cyberport Developer i.e. to design, construct, develop and market the Cyberport Portion and the Residential Portion as an integrated development in accordance with the Project Agreement. The Project Agreement was signed by the three limited companies set up by the Government to implement the Cyberport project. They are the Hong Kong Cyberport Development Holdings Company Limited and its two subsidiaries functioning as SPVs, Hong Kong Cyberport Management Company Limited and Hong Kong Cyberport (Ancillary Development) Company Limited. These companies are wholly-owned by the Financial Secretary Incorporated (FSI). The Developer was required to hand back the completed Cyberport Portion to the FSI companies while the units in the Residential Portion were to be put on sale in the open market.

The Project Agreement provided a legally binding contract for the whole project period which lasted from the commencement of the construction of the Cyberport in mid-2000 to the sale of all units in the Residential Portion up to mid-2007 covering detailed issues relating to construction, financing arrangements, sales of residential units, application of the sales proceeds, intellectual property rights, and so on. The Project Agreement clearly set

out clearly the Government controls and PCG's obligations in all aspects. (Appendix 9)

Figure 8 Contractual Arrangement of Cyberport Project



*Companies which signed the Project Agreement on 17 May 2000
Company fully-owned by the FSI

Reference: Cyberport News 2000

The Project Agreement was consistent with the Letter of Intent (LOI) that the Government signed with Pacific Century Group in 1999. It set out the detailed arrangements for the development of the Project and contained adequate safeguards to protect the interest of the Government and that of the general public. The Development Right was granted by the FSI

companies, upon the receipt of the conditions precedent specified in the Project Agreement, such as receipt of the Cashflow Guarantee and acceptance of the concept design, etc.

The Residential Portion Land Value was assessed to be *$7.80098 billion* by the Lands Department on the date of the grant of the Development Right. It was told by the Information Technology and Broadcasting Bureau that the figure of $7.80098 billion was the open market value of the land earmarked for the Residential Portion as at the date of the grant of the Development Right to the Developer on 8 June 2000. This premium of $7.80098 billion reflects an accommodation value of $20,780 per square meter. The Residential Portion Land Value $7.8 billion already included the estimated cost of $1.1 billion for infrastructural works.

The Residential Portion Land Value was used in determining Government's equity contribution to the Cyberport project for the purpose of calculating Government's share of surplus sales proceeds under the Project Agreement. It was expected that both parties would recover their respective contributions from sharing the surplus sales proceeds after the sales proceeds have been applied to meet other agreed project expenses. (Hong Kong Government Press Release, 3 August 2000, 17 May 2000)

2000: Commencement of the construction of the Cyberport[21]

Infrastructural Works

In the Cyberport project, the infrastructural works mainly comprised advance ground treatment works, construction of a public transport interchange, a sewage treatment plant and roadworks including a southern access road connecting the southern end of the site with Victoria Road. These works were entrusted to Carlyle International Limited, a company within Pacific Century Group (PCG), and were monitored by the Territory Development Department (TDD). A northern access road was planned to be built to connect the northern end of the Cyberport site with Sha Wan Drive by end 2003 to coincide with the target completion date of the third phase of the Cyberport development. To meet this timetable, TDD awarded a separate contract to China Harbour Engineering Co. in October 2000.

Superstructure Construction

The overall design had largely been finalized by 2000. The Cyberport Portion itself was to be completed in three phases, from end 2001/early 2002 to end 2003, ahead of the Residential Portion which was scheduled for completion in five phases between mid 2004 to mid 2007.

[21] The information in this section is based on Information Technology and Broadcasting Panel. December 2000. *Progress report of the cyberport project*. Hong Kong: Information Technology and Broadcasting Bureau.

Office Tenants

As at 5 December 2000, over 200 companies ("interested companies") registered interest in becoming tenants at the Cyberport. Fifteen of them, namely Cisco, CMGI, Hewlett-Packard, Hikari Tsushin, Hua Wei, IBM, Legend, Microsoft, Oracle, Pacific Convergence Corporation, Portal, Silicon Graphics, Softbank, Sybase, and Yahoo! have signed letters of intent to become anchor tenants. Through informal meetings and questionnaires, information from the interested companies about their business plans at the Cyberport had been collected. About one third of the interested companies had indicated some preliminary space requirements. Their total indicative space requirements slightly exceed the 112,100m^2 which was planned to provide at the Cyberport. The Cyberport was aimed to accommodate over 150 companies of a full spectrum, ranging from multinational corporations, large overseas and local companies to medium and small sized local and overseas companies that specialize in applications of information technology and in the development of services and multimedia content to support businesses and industries in Hong Kong.

There were some preliminary admission guidelines. The focus was on the information technology and information services sectors. Companies which use or introduce new, leading-edge applications of information technology would be given most favourable consideration. Priority would also be given

to companies which provide services to enhance traditional services delivery e.g. distant learning, securities trading and multimedia film production; provide essential services in support of global or regional business e.g. software development; utilize the Cyberport as a hub of the global information infrastructure e.g. corporate information network or customer service network. (Information Technology and Broadcasting Panel, December 2000)

2001: Cyberport under progress [22]

Cyber-Port Limited is responsible for the provision and procurement of funds to meet the project expenses until proceeds are collected from the sale of the units in the residential development to meet the outstanding project expenses. As at the end of December 2001, Cyber-Port Limited already spent more than $1.6 Billion on the project.

Infrastructural Works & Superstructure Construction

They were under progress. Design work for the Cyberport was completed in 2001 and the construction of the buildings was still in progress. As to the

[22] The information in this section is based on _____. July 2001. *Progress of the cyberport project*. Hong Kong: Information Technology and Broadcasting Bureau.

residential development, design work was already at an advanced stage, and piling foundation for the first phase commenced in 2001.

Master Layout Plan (MLP)

According to the current Master Layout Plan, which was approved by the Town Planning Board in January 2001, the Cyberport (excluding the neighbouring residential development) would provide a total of 112,100m^2 of office space (92,600m^2 in the previous MLP), 29,000m^2 of commercial space (27,600m^2 in the previous MLP), 12,000m^2 for the development of a hotel and 8,100m^2 for quality housing development. It was originally proposed in the previous MLP that 144 residential flats (of 19,500m^2) were to be provided by end 2002. In response to Members' request for provision of more office space, this area were converted to office use, and accommodated some 25 extra IT companies by end 2002.

Office Tenants

The Committee on Admission of Cyberport Office Tenants was set up in March in 2001. The response to the invitation for application for Cyberport office tenancy was positive. As at end June, a total of 54 applications from multinational, overseas and local companies had been received. These 54 applicants altogether sought about 78,000 m^2 lettable floor area, accounting

for 88 percent of the total lettable floor space (88,000m^2) in all the phases of the Cyberport scheduled for completion between early 2002 and end 2003. Quality IT companies started moving into the Cyberport from early 2002 which brought with them professionals from all parts of the world. (Information Technology and Broadcasting Panel, July 2001)

2002: Completion of Phase CI (Cyberport 2), CIB (part of Cyberport 3) and CII (Cyberport 1) [23]

The Cyberport is made up of four office buildings (respectively named Cyberport 1, 2, 3 and 4), a five-star hotel and a retail and entertainment complex. It was being completed in phases to provide a total of 94,100 sq m of lettable office space.

Phase CI (Cyberport 2) was completed in April 2002 to provide a total of 18,000 sq m office space, Phase CIB (part of Cyberport 3) was completed in August 2002 to provide 1,500 sq m office space and accommodate the Cyberport Visitor Centre (which was officially opened on 27 June 2003) and Phase CIA (Cyberport 1) was completed in November 2002 to provide a total of 15,400 sq m of office space;

[23] The information in this section is based on _____. February 2002. *Progress of the cyberport project*. Hong Kong: Information Technology and Broadcasting Bureau.

Office Tenants

It was found in 2002 that 78 companies were interested to move into the various phases of the Cyberport development. These 78 companies altogether have applied for a total of 82,237m^2, which accounts for 94 percent of the total lettable floor area (of 87,500m^2) at the different phases of the Cyberport.

Cyberport Arcade Leasing

Leasing of the 166,000 sq. ft. of retail space at the Cyberport Arcade was guided by a three-prong strategy, namely, an Arcade theme to guide tenant recruitment, the Anchor-Tenant (A-T) approach to secure a core set of retail outlets, and incentives that were essential to attract retail merchants to the shopping centre. Discussion was conducted with at least four substantive proposals from these prospects and one viable proposal was short-listed by the Agent after a 12-month process. Negotiation with the short-listed candidate ensued and an initial A-T agreement was signed in late 2002. (Information Technology and Broadcasting Panel, February 2002)

2003: Completion of Phase CII (part of Cyberport 3) [24]

Phase CII (part of Cyberport 3) was completed in February 2003 to provide 20,100 sq m office space and part of the shared facilities. Although the ancillary residential development was completed in phases between September 2004 and mid-2008 while Phase R1a (Residence Bel-Air) and R1b were still under construction in 2004, pre-sale of Phase Residence Bel-Air (R1a) (544 units) was launched in February 2003. As at end June 2003, over 95 percent of the units were sold. Pre-sale of Phase R1b (about 300 units) was also took place in the fourth quarter of 2003.

The Cyberport Institute, run by the University of Hong Kong, started operation in September 2003. In cooperation with six corporate partners, the Institute offers post-graduate and professional diploma courses in areas such as IT project management, networking and multi-media technology.

Institutional Arrangements

On 5 June 2003, the Hong Kong Cyberport Management Company Limited appointed 10 non-government directors, including the Chairman, to its Board for a two-year term. The new Board, comprising a broad spectrum of experience and expertise in the relevant fields, will continue to direct the

[24] The information in this section is based on _____. July 2003. *Progress report on the cyberport project*. Hong Kong: Information Technology and Broadcasting Bureau.

Company in accordance with prudent commercial principles within the overall objectives and guidelines set by the Government for Cyberport. PCCW was originally planned to be the management company of both the residential and residential blocks, the right to manage the non-residential blocks was deprived due to complaints over conflicts of interest as PCCW was assigned the development and management rights without proper tenders, sparking widespread criticism among local developers.

At its meeting on 20 June 2003, the Board set up a committee to recruit a Chief Executive Officer and a Director (Campus & Project Management) to replace the Cyberport Coordinator and the Deputy Director (Construction & Development) whose secondment to the Cyberport Companies expires on 4 January 2004.

Transportation

The Cyberport is being served by four bus routes and a Green Mini Bus route, namely, Route M49 to/from Central; Route 73 to/from Stanley; Route 970P to/from So Uk Estate, Route 107P to/from Hunghom and GMB Route 69 from Quarry Bay via Causeway Bay. The number of morning express bus services running between Central and Cyberport direct has been increased during the past six months.

Tenancy

As at 10 July 2003, 24 companies and organizations have leased or committed to lease office premises in the Cyberport. Seven of them, including one based in Shenzhen, are new companies in Hong Kong. 97 percent of Phase CI, all the space in CIB, 65 percent of CIA and 26 percent of CII have been taken up. The aggregate take-up rate for Phases CI, IA and IB is about 80 percent.

2004: Completion of Phase CIII (remaining part of Cyberport 3) and Phase CIV (Cyberport 4) [25]

Phase CIII (remaining part of Cyberport 3) was completed in April 2004 to provide 31,900 sq m office space and part of the shared facilities and Phase CIV (Cyberport 4), a three-storey office building (7,700 m^2), was completed in late 2004. The Arcade (formerly known as the Cybercentre) and the Cyberport hotel run by the Le Meridien Group, was opened in early 2004 and in spring 2004 respectively.

One of the major shared facilities located in the "IT Street" of the Cyberport included a well-equipped Digital Media Centre (DMC) to provide one-stop

[25] The information in this section is based on _____. December 2004. *Report on the cyberport project*. Hong Kong: Information Technology and Broadcasting Bureau.

facilities and technical support to digital media content creators in Hong Kong. Other facilities provided in the "IT Street" to support Cyberport tenants' operations included a Wireless-solutions Development Centre, an iResource Centre, a business centre, meeting and training rooms.

Office Leasing and Marketing

All applications for Cyberport tenancy were considered and approved by the Committee on Admission of Cyberport Office Tenants. The Committee, which comprised international and local experts, considers applications having regard to the business profile of the applicant and its relevance to the objectives of the Cyberport.

As at 15 June 2004, 28 companies and organizations (including two new tenants since our last report to the Panel) have leased or committed to lease Cyberport offices. The 28 tenants took up 71 percent of the space in Cyberport 1, 97 percent of the space in Cyberport 2, and 17 percent of Cyberport 3. The aggregate take-up rate for these three completed buildings was about 43 percent.

Financial Arrangement

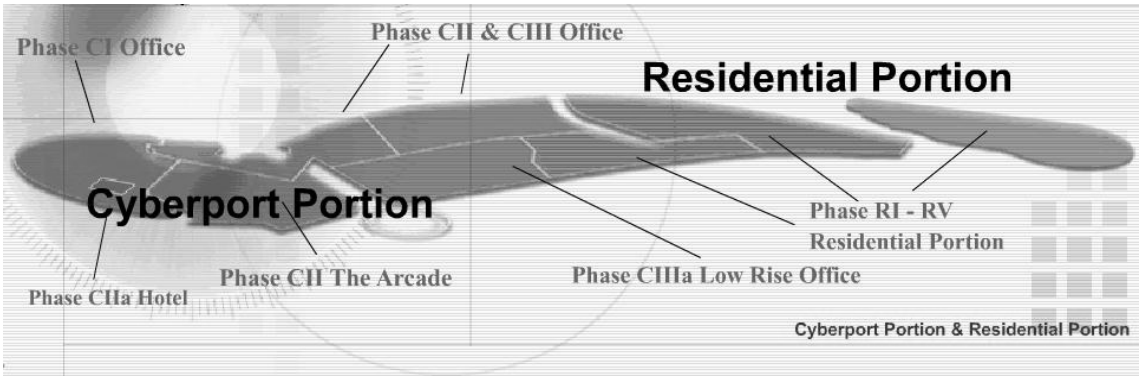
As at end May 2004, Cyber-Port Ltd, the Developer, has contributed around $4.372 billion to the Cyberport project. After deducting the relevant expenses due and payable and contributing to a Development Maintenance Fund for up-keeping the Cyberport, surplus proceeds from the sale of the residential units will be shared between the Government and PCCW according to their respective contribution to the Project. The proceeds generated from the pre-sale of Phases RI and III (part) of the Residential Portion are being used to finance the outstanding construction costs of Cyberport and the residential development with part of the proceeds transferred to the Development Maintenance Fund.

PERFORMANCE OF CYBERPORT

Before evaluating the performance of Cyberport, ones should have a clear mindset that the entire Cyberport development consists of two subsidiaries, namely, the Cyberport Portion and Residential Portion. (Appendix 20) The former involved the development of 94,100-square-meter offices, a five-star hotel (Le Méridien Cyberport Hotel) and a 27,000-square-meter retail and entertainment complex (The Arcade). They are wholly owned by the Government and the entire rental from the Cyberport Portion is received by the Government. On the other hand, the Residential Portion is jointly owned

by the Government and PCCW, hence the profit derived from the sale of residential units would be shared between them according to their respective capital contributions in this project.

Figure 9 Cyberport Portion and Residential Portion at Cyberport



The government's capital contribution to the project was the Residential Portion Land Value of the Cyberport, valued at HK$7.93 billion, which included an estimated cost of about HK$1.10 billion for the basic infrastructure. PCCW was responsible for the construction costs of both the Cyberport portion and the residential portion.

Opportunity Cost of Cyberport

Before investigating the business performance of the existing developments in Cyberport, the opportunity cost of Cyberport is to be taken into consideration so as to understand how much had been forgone for this large project.

The ancillary residential development (Bel-Air), being the brand new sea-view residences in Pokfulam, its sale revenue was found to be great. According to the Transaction Data Bank of Ricacorp Properties Limited, the transacted unit price of Bel-Air as at 2 Jan 2008 was ranged between HK$8,357 and $15,440 per sq. ft. It was then believed that the best alternative use of whole site of Cyberport would be residential development. If the entire 24-hectare site was used to develop high rise residential buildings with high quality at the plot ratio of 3.8 times, the GFA of the entire site of Cyberport would be,

$$240,000 \times 3.8 = 912,000\ m^2$$

Using the accommodation value assessed by the Lands Department in 2000 (20,780 per m2), the land value of the entire site of Cyberport would be,

$$912,000 \times 20,780 = HK\$18,951,360,000\ (18.9\ bn)$$

It is about 2.4 times the value being attributed by the government to its stake (HK$7.8bn) in the Cyberport. This then is the opportunity cost of the Cyberport, less any gains that may accrue to the government from its development and future rental.

Residential Portion (jointly owned by PCCW and Government)

The Residential Portion of Cyberport is an ancillary development. The capital contribution by the Government to the Project is the Residential

Portion Land Value at the time when the development right was granted to the Cyberport Developer, which was HK$7.93 billion including the estimated cost of HK$1.10 billion for the basic infrastructure. The capital contribution of the Developer was the funding it provided to finance the construction costs and related expenses of the project which was HK$4.36 billion.

Table 6 Capital contribution of PCCW and Hong Kong Government

	HK$ billion	***Percentage***
Government's contribution of Land	7.93	64.5 percent
PCG's contribution of capital	4.36	35.5 percent
Total equity	12.29	100 percent

The surplus proceeds from the sale of the residential units, after deducting reserve funds as well as the relevant expenses due and payable are shared between the Government and the Developer according to the respective capital contributions (Government – 64.5 percent and Developer – 35.5 percent). The first distribution of surplus proceeds was made in 2004.

In June and September 2005, the Government received the second and third distributions of the surplus proceeds totalling about $1.33 billion out of a total distribution of $2.06 billion. The total cumulative surplus distribution received by the Government to-date is about $3 billion. (Information

Technology and Broadcasting Panel, April 2006) According to the transaction data bank of Centaline Properties Agency Limited, the unit price of Residence Bel-Air is found to be the highest among the luxury residential developments located around with the average unit price HK$12,783 while that of Chi Fu Fa Yuen and Baguio Villa are HK$5,709 and HK$7,563 respectively. (Appendix 11-13)

Based on the latest forecast by the Developer, the total amount of surplus proceeds that should be available for distribution up to 2010, including $4.65 billion distributed to date, is estimated to be around $20 billion, from which the Government's share should be around $12.9 billion in total, including $3 billion already received to date. It should be noted that the actual amount of surplus proceeds available for distribution and hence the Government's share will vary depending on the actual sales prices of the remaining residential units. (Office of the Government Chief Information Officer Commerce, March 2007)

The Hong Kong Cyberport Development Holdings Limited reported a profit of HK$817 million in 2005/06 compared with a profit of HK$1,134 million in 2004/05 and a loss of HK$159 million in 2003/04. The profit in 2004/05 and 2005/06 has mainly been contributed by Project Income from ancillary residential development and it is expected to continue until around 2009/10.

Cyberport Portion (solely owed by Government)

Despite of the fact that the Cyberport Portion is a Government-owned asset, the financial accounts of Cyberport Portion have never been disclosed to public after its official completion on 28 June 2004. For this reason, a request had been made by phone on 28 December 2007 for the annual reports of Cyberport. The Senior Customer Services Officer of Cyberport Facilities Management Office, Miss Tiontee Lo, replied that the Hong Kong Cyberport Management Company Limited (HKCM) refused to disclose their annual reports. Upon the conversation on phone and the replied email, they claimed that that they have the rights not to publicize the financial accounts because HKCM is neither a listed company nor a governmental department.

"As per our previous conversation, due to the Hong Kong Cyberport Management Company Limited is not the listed company, I am afraid that it is inconvenience (inconvenient) for us to disclose the annual report to public." (Appendix 16)

Without the official financial accounts of the Hong Kong Cyberport Management Company Limited, the business performance of Cyberport office, The Arcade and the Le Méridien Cyberport Hotel can only by evaluated in the basis of the information available in the press release,

minutes of the legislative council consisting the Report of Cyberport Project and financial statements of Hong Kong Cyberport Development Holdings Limited[26] (Appendix 19).

Office

Cyberport commenced operation in 2002 with the admission of the first office tenant. According to the financial statements of Hong Kong Cyberport Development Holdings Limited, the rental income[27] of the whole Cyberport project increased from HK$33,007,796 in 2004 to HK$40,252,375 in 2005 while in 2006, it reached to HK$51,619,036. However, such rental income consists of those from both Residence Bel-Air and Cyberport office, in other words, the independent financial account for Cyberport office is not shown. Therefore the money investment return of Cyberport office is unable to be recognised.

For this reason, the occupancy rate is to be used as the second indicator for investigating the performance of Cyberport Office. In February 2005, the

[26] Hong Kong Cyberport Management Company Limited is one of subsidiaries of the Hong Kong Cyberport Development Holdings Company Limited.

[27] Rental income is one of the components of total turnover of Cyberport Project. Others include management fee income, income from hotel operation, car park fee income, information technology facilities income, fees for usage of DMC and IRC equipment ad services, broadband service and installation fees and other incidental income.

occupancy rate of Cyberport was only 42 percent. (Hong Kong Government Press Release, 1 November 2007) As at 6 December 2006, it grew to 75 percent with 96 tenants, including 30 incubate companies. (Mak, 2006) As indicated in the Press Release released by the HKSAR Government on 1 November 2007, the occupancy rate further increased to 87 percent. The increasing occupancy rate implied that the financial state of Cyberport office is generally improving. Nevertheless, the average monthly rent, including management fess, was HK$ 20 per square foot in December 2006 which was far behind the average HK$77 per square feet net effective rents for Grade A office space recorded in Central in the third quarter of 2006, according to Savills Valuation and Professional Services. (Mak, 2006) Such low-rent practise would amount to intervention in the rental market and tempt some of companies to strive to define themselves as suitably I.T.-driven in order to qualify for lower rents in this area. As at 31st March 2006, it was recorded that 46 multinational and local offices committed to be tenants in Cyberport office. (Appendix 10)

Le Méridien Cyberport Hotel

Income from hotel operation was witnessed in an increasing trend, growing from HK$51,601,223 in 2005 to HK$79,792,117 in 2006.

Table 7 Extracted Financial Statement of Hong Kong Cyberport Development Holdings Limited

	2004	2005	2006
	HK$	HK$	HK$
Turnover			
Rental income	33,007,796	40,252,375	51,619,036
Management fee income	22,988,026	28,712,461	37,574,855
Income from hotel operation	-	51,601,223	79,792,117
Car park fee income	1,649,508	2,296,732	4,000,995
Information technology facilities income	684,956	1,506,984	1,398,759
Fees for usage of DMC and IRC equipment and services	12,392	1,260,608	2,271,057
Broadband service and installation fees	-	-	898,974
Other incidental income	7,025,048	10,213,131	10,218,516
	65,367,726	135,843,514	187,774,309

Reference: Report on the Cyberport Project (March 2007), Information Technology and Broadcasting Panel

Nevertheless, according to the Hong Kong Hotel Rates (01-29 February 2008) issued by H.I.S. (Hong Kong) Company Limited, the unit pricing rate of Le Méridien Cyberport is relatively low among the five-star hotels situated in Hong Kong Island. The unit pricing rate of single occupancy and twin/ double occupancy in Le Méridien Cyberport is HK$1,120 while the average unit pricing rate of the five-star hotels situated in Hong Kong Island is HK$2,472. In other words, the Le Méridien Cyberport charges only half of the market unit pricing rate of a standard five-star hotel.

Table 8 Unit pricing rate of 5-star hotels in Hong Kong Island in 2008

Hotel Name	Single occupancy	Twin/ double occupancy
1. Landmark Mandarin Oriental	HK$3,020	HK$3,020
2. Le Méridien Cyberport	*HK$1,120*	*HK$1,120*
3. Mandarin Oriental	HK$2,500	HK$2,500
4. Four Seasons Hotel Hong Kong	HK$2,770/ HK$3,720	HK$2,770/ HK$3,720
5. Grand Hyatt	HK$2,320- HK$3,020	HK$2,320- HK$3,020
6. Island Shangri-La	HK$2,500- HK$2,690	HK$2,500- HK$2,690
7. Regal Hong Kong	HK$1,080- HK$1,680	HK$1,080- HK$1,680

Reference: H.I.S. (Hong Kong) Company Limited

The Arcade

It is recorded in the Report on the Cyberport Project released by the Information Technology and Broadcasting Panel in March 2007 that the first retail tenant in the Arcade started operation in 2004. (Information Technology and Broadcasting Panel, March 2007) In 2007, 84 percent of the lettable retail space in the Arcade has been let or occupied and there were fourteen tenants including the Anchor Tenant. In order to verify this statement, a site visit of The Arcade has been paid on 13 July 2007 and 11

March 2008. In the first visit, surprisingly, it was realized that there were very few shoppers in The Arcade and the restaurants were full of spare tables and chairs. Indeed, not even one consumer could be seen in some restaurants during lunch-time! In the Open Food Court located at level 4 of The Arcade, there were two people taking their seats and reading newspapers without making any order of food or beverage. This deserted condition seemed to be slightly improved in the second visit conducted on 11 March 2008 in the evening. There are more consumers enjoying their dinner in some restaurants, however, there were no doubts that the unoccupied dinning area still dominated.

Upon the two site visits, it was realized that among all the retailers having their business in The Arcade, other than food and beverage, the number and occupying area of both property agencies and shops providing wedding services dominated over others, but again, no matter what kinds of shops they were, it was hard to see shoppers inside. Furthermore, quite a lot of vacant shops were discovered in The Arcade especially at Level 2 and 4. Some photos had been taken in the visits for better illustration. (Appendix 14 and 15)

Conclusive Remark

In spite of the profit recorded (HK$817,486,402) by the Hong Kong Cyberport Development Holdings Limited in March 2006, this has mainly been contributed by the project revenue generated from the Residence Bel-Air. Since the financial statements of Hong Kong Cyberport Management Company Limited cannot be obtained, evaluating the business performance of Cyberport Portion (Cyberport office, The Arcade and Le Méridien Cyberport) in terms of the revenue and profit is not possible. Hence, the occupancy rate and unit rent of Cyberport office, the unit pricing rate of Le Méridien Cyberport and the on-site observation in The Arcade has formed the basis of the evaluating indicators.

The unit rates of Cyberport office and Le Méridien Cyberport are indeed below the market rate while the lettable retail space in The Arcade has not reached its full capacity. Most important, the shopping area in The Arcade is greatly under usage. Overall speaking, the business performance of the Cyberport office, The Arcade and Le Méridien Cyberport in Cyberport Portion are lagged behind the Residence Bel-Air in Residential Portion. A land value of 18.9 billion has been forgone by the Government for the Cyberport project, so ones would certainly have a very high expectation on Cyberport. However, it cannot be denied that Cyberport is still a disappointment to date.

CHAPTER FIVE

REASONS OF SUCCESS AND FAILURE OF TWO PORTS

Upon the historical review, it is realized that the development of two ports, Container Port and Cyberport, has involved the participation of both private sectors and the Government, but they represent two very different outcomes resulted from the Government participation in a laissez faire economy. Although both private sectors and Government have played roles in two ports, the planning and development of Container Port is indeed driven by market. Therefore, it would be seen as a kind of planning by market. On the other hand, the planning of Cyberport is recognised to be under the government-interventionist approach. The reasons of the Container Port's success and the Cyberport's failure are discussed as follows.

CONTAINER PORT

Global Trend of Containerization

As stated in the literature review of the containerization, the container revolution began on 26 April 1956. However, the growth of containerization was blocked by the plethora of container shapes and sizes in 1965. This problem was solved by the international approval of standard

sizes after 1966. Different parties involved in the container industry reached compromises since then, international container shipping truly started after 1966. This global trend of containerization spread to Hong Kong as well.

Before the containerization concept was being developed by Malcom McLean and extensively applied in the industry in 1966, the port development in Hong Kong was found to be rather slow. As reviewed in the previous section on historical development of Hong Kong Container Port, although several schemes for port development were suggested in the early twentieth century, they were not effectively implemented due to various reasons. In 1924, a plan concerning development of wharves and godowns in various locations had been devised. However, it was taken no action because it was not proved that to be necessary and due to the financial stringency following in that period. In early 1941, a report on the “Future Control and Development of the Port of Hong Kong” was compiled, but they were only realized after many years following the return of peace from Japanese occupation.

In 1948, first strategic plan for Hong Kong was formulated reflecting a number of suggestions which includes constructing an industrial/ port development zone connected with railway and additional wharves and

reclamation. Yet, due to the sudden influx of refugees from China and the United Nations embargo on trade the plans were shelved.

Until in the 1960s, when containerization concept was gathered momentum throughout the world and container ships began introduced on scheduled shipping routes between the U.S.A. and Western Europe, the Container Committee was immediately set up by the Government in 1966 as developing Hong Kong into a Container Port was inevitable. Since then, the shipping of goods become less cost and less complicated due to the usage of highly automated system for moving goods. Later, the container port industry boosted throughout the world, and Hong Kong was one of the coastal cities which greatly benefited from the introduction of containerization. It was not just because Hong Kong has been gifted with a deep harbour, but also the flourishing industrial development during 1960s to 1970s. According to Levinson (2006), the industrial sectors in Hong Kong was at advantage since the cost of bringing raw materials in and sending finished goods out had decreased drastically. The widespread of containerization concept had pushed Hong Kong to be a Container Port. Hong Kong had no choice to avoid this since a global market had been created and appeared in front of the domestic logistic companies through international container shipping.

Government Participation in Forward Moving Industry

In the 1940s to 1960s, the trade of the port was mainly handled in conventional ways at mid-stream buoys and at privately owned and operated wharves, until in mid 1960s, the Government participation in the port development was realized. The Container Committee, which was set up in 1966 and mainly consisted of private sectors, suggested that the Government investment in Container Port development was necessary, but the container operator must have full control of operations throughout container movement. It implied that the Government at that time acted as a coordinator rather than an active player in the port industry. However, such involvement of Government was essential. Without the solid basis provided by the Government, the progress was believed to be slow, because the industry tended not to abandon its existing bases.

Also, the Kwai Chung Container Terminal was built when the port industry was already an existing, powerful and forward moving industry. Such powerful port industry was born from the introduction of containerization concept and also the increasing foreign trade of the PRC in 1971 after the U.S. President Richard Nixon lifted the 20-year old trade embargo from the PRC. They could be interpreted as the market forces driving the Container Port to be developed. Although the Kwai Chung container terminal was completed in 1976 after the stock market crash in 1973, the Oil Crisis and

the world economic recession in 1974 ad 1975. It had the capacity to handle up to equivalent of 1.5 million 20-foot containers a year and was then ranked the fourth largest in the world and the second largest in Asia. Hence, the Government participation in constructing Kwai Chung Terminal in 1970s was evaluated to be a correct coordination at right timing.

Other major Government involvement in Container Port industry was realized in 1980s after the Open Policy in China. The drastic increase of transactions between Hong Kong and China pushed the Government to make plans for a second site for container terminal. Subsequently in 1982, the Government concluded a substantial expansion of the Container Port in Kwai Chung area and future expansion off south-eastern Tsing Yi Island are the two port development possibilities. In 1984 Territory Development Strategy (TDS) was completed by Government, including provisions for development of additional container terminals at Kwai Chung. Moreover, in the same year, the government completed negotiation with the Hongkong International Terminals (HIT) to build Terminal Six.

Upon the completion of the Port and Airport Development Strategy (PADS) study since 1989, the HKSAR government started playing an important role in the coordination of the port development process to ensure that Hong Kong’s port development can keep up with the times and global

development, and can maintain a competitive position. Overall speaking, the Government participation in the development of Container Port industry was coordinating in nature and at a time when Container Port industry appeared to be powerful and forward moving.

CYBERPORT

Domination of Residential Development

According to the land value of the Cyberport residential portion assessed by Lands Department in 2000, the land was worth $7.80098 billion with the accommodation value of $20,780 per m^2. The gross flood area (GFA) of the residential portion can be calculated by using the following formula.

$$\text{Accommodation Value} = \frac{\text{Land Value}}{\text{Gross Floor Area}}$$

$$20{,}780 = \frac{7{,}800{,}980{,}000}{\text{Gross Floor Area}}$$

$$\text{Gross Floor Area} = 375{,}408\,\text{m}^2$$

Since the plot ratio of this development was 3.8, the site area of residential portion can then be calculated by using the following formula.

$$\text{Gross Floor Area} = \text{Site Area x Plot Ratio}$$

$$375{,}408\text{m}^2 = \text{Site Area x } 3.8$$

$$\text{Site Area of residential portion} = 98{,}781\ \text{m}^2$$

The site area of residential portion is more than one-third of the total development site area of the Cyberport project. According to the Progress Report on the Cyberport (January 2004), a total of 91,100m^2 of lettable office space was provided. The GFA of the residential portion, when compared with the lettable office space, was found to be 4 times of the lettable office space.

Table 9 GFA of different portion in Cyberport Project

Sections	***Sq. m***
Residential Portion	375,408
Retail and entertainment complex (The Arcade)	27,000
Grade A Offices	94,100

Being a centre with the vision to be a leading information technology hub and digital city of the Asia-Pacific region, the necessity of such large amount of residential development was in doubt. It was criticised by some public bodies that “Cyberport” is indeed a “Cyber Villas”. (Webb-site.com, 1999) The domination of real estate development has hindered the Government to achieve the ultimate mission of Cyberport i.e. to create a strategic cluster of quality IT and IT related companies because it in fact reduced the available area designated for I.T. excellence. It was hard to explain the existence of a luxury housing development in an area which was

originally designed for clustering I.T. companies except for its great profit-generating power which was favoured by PCG.

Misinterpretation of Silicon Valley by Hong Kong Government[28]

It is quite obvious that the Cyberport is meant by the Government to be our Silicon Valley since the rise of Silicon Valley seemed to offer the possibility that a region with no prior industrial history could make a direct leap to a leading-edge industrial economy with the presence of right set of circumstances. For the purpose of evaluating whether Cyberport can perform the same as the Silicon Valley in the United States, it is prerequisite to get a basic idea of the nature of Silicon Valley and how it came to be.

Silicon Valley is located in the southern part of the San Francisco Bay Area in Northern California in the United States. This term initially referred to a region with large number of silicon chip innovators and manufacturers, but it is now generally used to represent a high-technology sector.

[28] The information in this section is based on Sturgeon, T. J. 2000. *Understanding silicon valley: Anatomy of an entrepreneurial region: How silicon valley came to be*. Edited by Martin Kenney: Stanford University Press. and Webb-site.com. Cyber villas by the sea. http://www.webb-site.com/articles/cybervillas.htm.

History of Silicon Valley

The San Francisco Bay Area had long been a major site of U.S. Navy research and technology. In 1909, Charles Herrold started the first radio station in the United States in San Jose. Later that year, Stanford University graduate Cyril Elwell purchased the U.S. patents for Poulsen arc radio transmission technology and founded the Federal Telegraph Corporation (FTC) in Palo Alto. Over the next decade, the FTC created the world's first global radio communication system, and signed a contract with the U.S. Navy in 1912.

In 1933, a number of technology firms had set up shop in the area around Moffett to serve the Navy. When the Navy gave up its airship ambitions and moved most of its West Coast operations to San Diego. NACA (the National Advisory Committee for Aeronautics, forerunner of NASA) took over portions of Moffett for aeronautics research. Many of the original companies stayed, while new ones moved in. The immediate area was soon filled with aerospace firms such as Lockheed.

In 1953, William Shockley left Bell Labs in a disagreement over the handling of the invention of the transistor. Shockley moved to Mountain View, California in 1956, and founded Shockley Semiconductor Laboratory. Shockley believed that silicon was the better material for making transistors

and intended to replace the current transistor with a new three-element design, but the design was considerably more difficult to build than the "simple" transistor. In 1957, Shockley decided to end research on the silicon transistor. As a result, eight engineers left the company to form Fairchild Semiconductor and two of the original employees of Fairchild Semiconductor went on to found Intel.

By the early 1970s there were many semiconductor companies in the area. The growth of Silicon Valley was fuelled by the emergence of the venture capital industry on Sand Hill Road, beginning with Kleiner Perkins in 1972; the availability of venture capital exploded after the successful $1.3 billion IPO of Apple Computer in December 1980. Although semiconductors are still a major component of the area's economy, Silicon Valley has been most famous in recent years for innovations in software and Internet services. Silicon Valley has significantly influenced computer operating systems, software, and user interfaces.

Cyberport is no Silicon Valley[29]

As realized in the history of Silicon Valley, it was founded with the academic support of nearby Stanford and UCLA Berkeley, but not simply a

[29] The information in this section is based on Webb-site.com. Cyber villas by the sea. http://www.webb-site.com/articles/cybervillas.htm.

Government intention of developing an area of I.T. excellence. Areas of I.T. excellence were developed principally through high quality educational institutions and a good quality of life for the people who work there. Therefore, Hong Kong cannot develop an area of I.T. excellence unless the Government focused its effort on upgrading the educational and physical environment.

Furthermore, numerous modern office blocks with fully digital telephone system and fibre optic lines can be found over the territory. If the I.T. companies need spaces and technological support such as modern offices, high-speed data lines, they can get it easily at a reasonable cost. The private sector would also be very delighted to provide additional spaces for these companies through open tender process for the land. Therefore, the demand for an area of I.T. excellence is indeed quite low in Hong Kong. What I.T. businesses perhaps need most is sufficient numbers of potential employees with an education in information technologies. Their needs can be satisfied by increasing the Government spending on tertiary and secondary education, fostering private investment in training, research and development and making Hong Kong an attractive place to live for immigrant professionals.

CHAPTER SIX

CONCLUSION

In short, the role of Government engaged in the development of Container Port and Cyberport determined their success and failure. In the Container Port development, the Government acted as a good coordinator who has given supports to private container operators since 1960s when the concept of containerization had been appreciated and adopted world-widely. The contribution by Malcom McLean on reshaping the marine business through introducing the containerization concept had imposed benefit to Hong Kong Container Port development and led the private sectors take the initiatives to urge the Government to be involved in the container industry. In other words, the development of Container Port industry in Hong Kong was driven by market force. During the development process of Hong Kong International Container Terminal, the Government has acted as a good coordinator of the private sectors, for instance, the shifting away from the historic cargo handling methods and centres to modern containerization was being pushed by both the industry itself and the Government. It was found to be the start of the success of the Container Port industry.

Contrasting to Container Port, Cyberport has been developed mainly under the initiation by Government. Although it was claimed that the idea of

Cyberport was originated from PCG, the Government indeed took the active role since the start of this project. Also the developments in Cyberport Portion are all under the Government's control and management. There is no doubt that the planning of Cyberport was under the government interventionist approach. The mission of developing Hong Kong's Silicon Valley possibly is a good idea, but unfortunately, it has not been achieved because area of I.T. excellence cannot be founded by a simple Government intention, but the sufficient academic support and talented people in the territory. The failure of the Government planning of Cyberport is thus concluded to be the misinterpretation of the Silicon Valley.

All in all, the Government is recommended to be a coordinator instead of an initiator of a large development in a laissez faire economy.

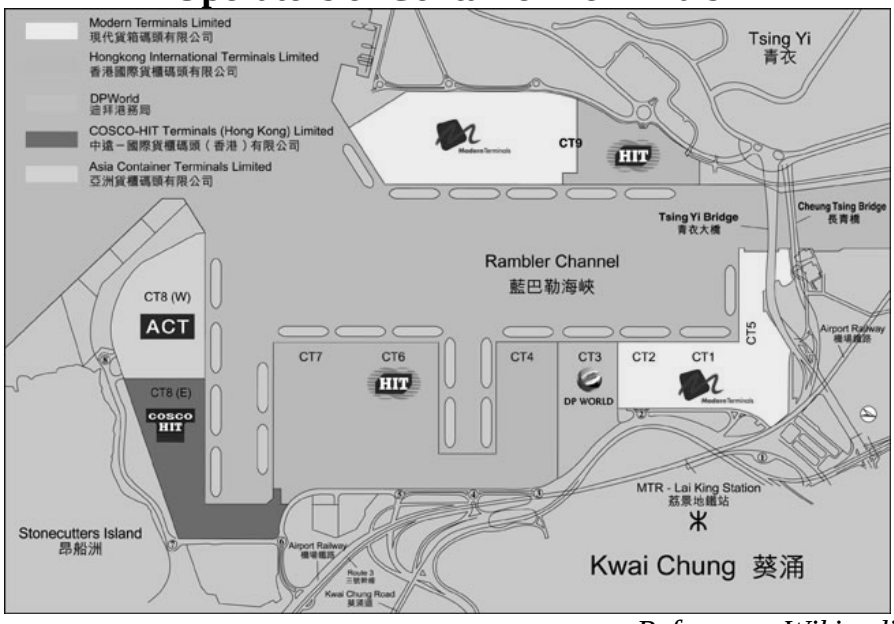
APPENDICES

Appendix 1
Weights and dimensions of the most common types of containers worldwide

		20' container		40' container		45' high-cube container	
		imperial	**metric**	**imperial**	**metric**	**imperial**	**metric**
external dimensions	length	19' 10½"	6.058 m	40′ 0″	12.192 m	45′ 0″	13.716 m
	width	8′ 0″	2.438 m	8′ 0″	2.438 m	8′ 0″	2.438 m
	height	8′ 6″	2.591 m	8' 6″	2.591 m	9′ 6″	2.896 m
interior dimensions	length	18' 10 5⁄16″	5.758 m	39' 5 45⁄64″	12.032 m	44′ 4″	13.556 m
	width	7' 8 19⁄32″	2.352 m	7' 8 19⁄32″	2.352 m	7' 8 19⁄32″	2.352 m
	height	7' 9 57⁄64″	2.385 m	7' 9 57⁄64″	2.385 m	8' 9 15⁄16″	2.698 m
door aperture	width	7' 8 ⅛″	2.343 m	7' 8 ⅛″	2.343 m	7' 8 ⅛″	2.343 m
	height	7' 5 ¾″	2.280 m	7' 5 ¾″	2.280 m	8' 5 49⁄64″	2.585 m
volume		1,169 ft³	33.1 m³	2,385 ft³	67.5 m³	3,040 ft³	86.1 m³
maximum gross mass		52,910 lb	24,000 kg	67,200 lb	30,480 kg	67,200 lb	30,480 kg
empty weight		4,850 lb	2,200 kg	8,380 lb	3,800 kg	10,580 lb	4,800 kg
net load		48,060 lb	21,600 kg	58,820 lb	26,500 kg	56,620 lb	25,680 kg

Reference: Wikipedia website

Appendix 2
Operators of Container Terminals



Reference: Wikipedia website

Appendix 3
Ownership Structure of Container Terminals in 1980s

Modern Terminal Limited (MTL)

Terminal 1: built by the Modern Terminal Limited (MTL) which was originally owned by three of its user shipping lines and five of Hong Kong's leading British business firms: Overseas Containers Limited, Ben Line Containers Limited, and Hapag Loyd AG as well as Swire Pacific Limited, Hutchison International Limited, the Hongkong Bank, Jebsen and Company and Sir Elly Kadoorie Continuation Ltd. Construction started in December 1970 and finished on February 9, 1972 at a cost of HK$154 million.

Terminal 5: built by MTL in Novermber 1975. In 1980, Sir Yue-Kong Pao, a local Chinese, paid HK$2.1 billion to buy control of Wharf Holdings from Hong Kong Land (a subsidiary of Jardine Matheson) and therefore MTL began to be controlled by local Chinese capital.

Terminal 2: built by a Japanese firm (Oyama Shipping) and was later brought by the Hongkong International Terminals (HIT), jointly owned by Whampoa and China Provident, at a cost of HK$175 million. In 1988, MTL took over the right of developing Terminal 2 to swap its right in developing Terminal 6.

Sea-Land Orient Limited (SLOT)

Terminal 3: owned by US-capital Sea-Land Orient, a U.S. Corporation.

Hong Kong International Terminals Limited (HIT)

Terminal 4, 6 and 7: built and operated by the Hongkong International Terminal since the 1980s. HIT services about 2,500 ships a year and its container yard handles about 8,000 container movements a day – providing a total of 10 of Kwai Chung's fifteen berths. HIT is a private sector undertaking with shareholders such as Hutchison Whampoa, the Hongkong Bank, China Resources, Orient Overseas Holdings, Mitsui OSK, and Dao Heng Nominees.

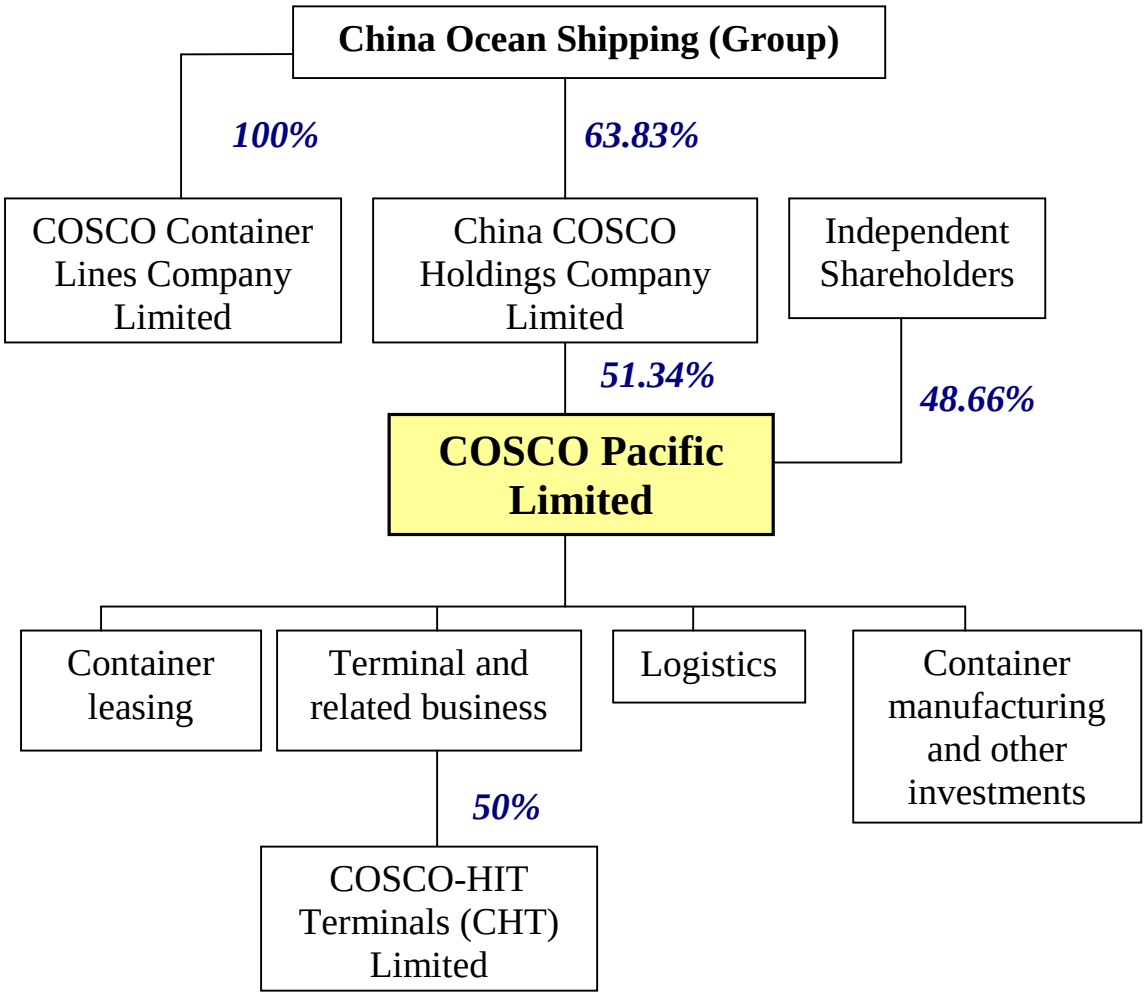
Reference: Ng (1992)

Appendix 4
Ownership Structure of Container Terminals in 2007

Terminal	Operator	Depth (m)	Berths	Quay length (m)	Quay cranes	Area (m^2)
Terminal 1 (CT1)	MTL	14	1		4	
Terminal 2 (CT2)	MTL	14	1		5	
Terminal 3 (CT3)	DPI	14	1	305	6	167,000
Terminal 4 (CT4)	HIT	12.5	3		8	
Terminal 5 (CT5)	MTL	14	1		4	
Terminal 6 (CT6)	HIT	12.5-15.5	3		11	
Terminal 7 (CT7)	HIT	15.5	4		15	
Terminal 8 East (CT8E)	HIT/COSCO	15.5	2	640	9	300,000
Terminal 8 West (CT8W)	ACT	15.5	2	740	8	285,000
Terminal 9 North (CT9N)	HIT	15.5	2	700	9	190,000
Terminal 9 South (CT9S)	MTL	15.5	4	1,240	13	490,000

Reference: Wikipedia website

Appendix 5
Company Structure of China Ocean Shipping (Group) Company



Reference: homepage of China Ocean Shipping (Group) Company

Appendix 6
Hong Kong Container Terminal 3

Terminal Capacity	Over 1.2 million TEUs in record
Terminal Size	16.7 Hectares (167,000m^2)
Berth Information	1 Berth 305 Meters of total berthing 14 Meters water depth
Channel Depth	14.5 m
Distance	2 kilometres (30 minutes) from sea-buoy

Reference: homepage of Asia Container Terminals Ltd

Appendix 7
Hong Kong Container Terminal 8 (West)

No. of Berth	2
Quay Length	740m
Water Depth	15.5m
Terminal Area	28.54 hectares (285,400 m)
Stacking Capacity	34,818 TEUs
Shore Cranes	8 (24-row wide)
Rubber Tyred Gantry Cranes	20
Gate Lanes	14 (In & Out)
Reefer Points	740
Distance between Bollards	50ft
Distance between Fenders	50ft

Reference: homepage of Asia Container Terminals Ltd

Appendix 8 Hong Kong Container Terminals 4, 6, 7, 8 (East) and 9

Facilities	**Terminals 4, 6 & 7**	**Terminal 8 East**	**Terminal 9**
Total Area (hectares)	92	30	19
Ship Berths	10	2	2
Barge Berths	4	5-Apr	5-Apr
Ship Berth Length			
(ft)	9,797	2,099	2,296
(m)	2,987	640	700
Barge Berth Length			
(ft)	1,000	1,469	984
(m)	305	448	300
Minimum Depth Alongside			
(ft)	41.0 - 51.0	51	51
(m)	14.2 - 15.5	15.5	15.5

Reference: homepage of HIT

Appendix 9 Hong Kong Container Terminal 1,2,5,9 (South)

Annual Throughput	5,400,000 TEUs
Annual Capacity	7,000,000 TEUs
Number of Container Berths	7
Number of Feeder Berths	2
Total Area	92.61 ha (228.75 acres)
Length of Berths	2,322 m (7,618 ft)
Minimum Depth Alongside *	15.5 m (50.8 ft)
Stacking Capacity	85,000 TEUs

Reference: homepage of MIT

Appendix 10
Further Explanation of profit after income tax of COSCO-HIT Terminal Limited, 1999-2006

Structure of Share Issue of COSCO Pacific Limited in 2004

Place of establishment/ operation	**Principal activities**	**Paid-up capital**	**Percentage interest in ownership/ voting power/ profit sharing**	
			2004	***2003***
Hong Kong	Operation of container terminal	2 "A" ordinary shares of HK$ 10 each 2 "B" ordinary shares of HK$10 each	50%/ 50%/ 50%	50%/ 50%/ 50%

Reference: COSCO Pacific Limited Annual Report 2004

Structure of Share Issue of COSCO Pacific Limited in 2005

Place of establishment / operation	**Principal activities**	**Paid-up capital**	**Percentage interest in ownership/ voting power/ profit sharing**	
			2006	***2005***
Hong Kong	Operation of container terminal	2 "A" ordinary shares of HK$ 10 each 2 "B" ordinary shares of HK$10 each 4 non-voting 5 percent deferred shares of HK$10 each	50%/ 50%/ 50%	50%/ 50%/ 50%

Reference: COSCO Pacific Limited Annual Report 2005

In 2005, "non-voting 5 percent deferred shares of HK$10 each" was being issued, with the number of these shares equal to the total number of the existing A and B ordinary shares. It was observed that such issuance imposed certain changes on the financial statements of COSCO-HIT Terminal Limited in 2004 which is shown in the following table.

Appendix 10
Further Explanation of profit after income tax of COSCO-HIT Terminal Limited, 1999-2006 (Cont'd)

Extracted Financial statements of COSCO-HIT Terminal (Hong Kong) Limited in 2004

Reference	Non-current assets	Current assets	Non-current liabilities	Current liabilities	Revenue	Profits after tax
Annual Report 2004	306,654	38,910	(277,244)	(20,157)	128,426	63,545
Annual Report 2005	153,327	19,455	(138,622)	(10,079)	64,213	31,773

Reference: COSCO Pacific Limited Annual Report Annual Report 2004 and 2005

The financial statement of COSCO-HIT Terminal (Hong Kong) Limited in 2004 had been presented in both the Annual Report 2004 and Annual Report 2005, but the figures are greatly different. It can be seen that all the figures shown in Annual Report 2005 are half those in Annual Report 2004. Therefore it is believed that the issuance of non-voting 5 percent deferred shares since 2005 explained this significant difference. For the purpose of better presentation of the trend of the profit after tax of COSCO-HIT without the impact of issuance of non-voting 5 percent deferred shares, the hypothetic profit after income tax from 1999 to 2004 is being made as follows.

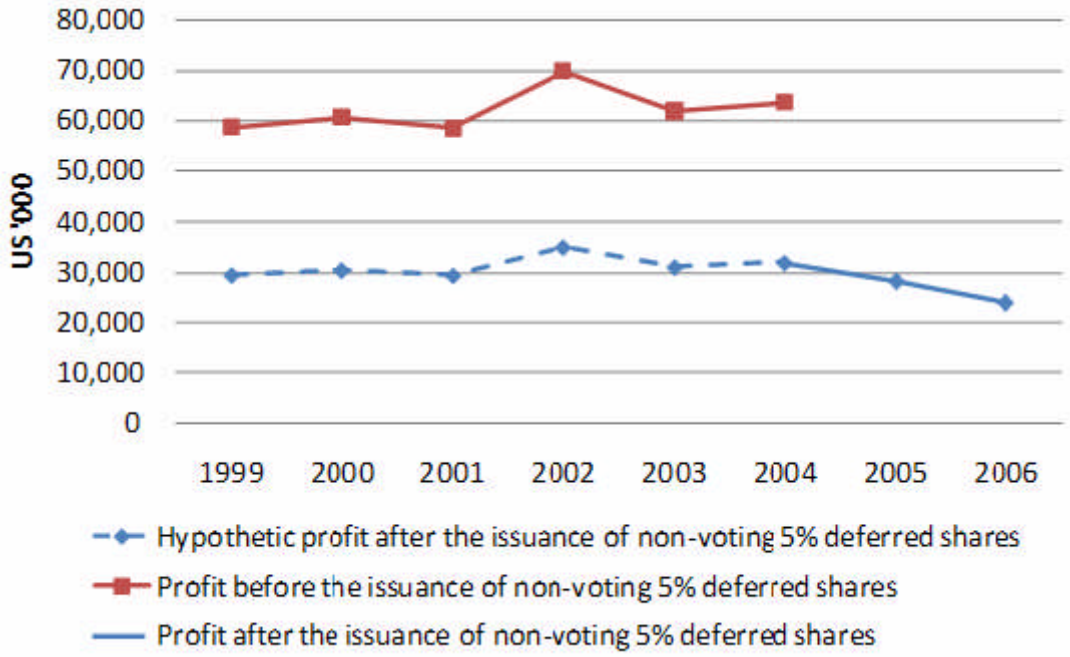
Appendix 10
Further Explanation of profit after income tax of COSCO-HIT Terminal Limited, 1999-2006 (Cont'd)

Profits after income tax vs. hypothetic profit after income tax

Year	Profits after income tax (US$ '000)	Hypothetic profit after income tax (US$ '000)
1999	58,627	29,314
2000	60,602	30,301
2001	58,462	29,231
2002	69,746	34,873
2003	61,829	30,915
2004	63,545	31,773
2005	27,981	-
2006	23,751	-

Reference: COSCO Pacific Limited Annual Report 2000-2006

Profit after income tax of COSCO-HIT Terminal Limited, 1999-2006



Reference: COSCO Pacific Limited Annual Report 2000-2006

Appendix 11
Summary of Cyberport Project Agreement in 2000

- The Project is owned by the Government (through the three FSI-owned companies set up for undertaking the Project). The land and all the Intellectual Property (IP) already created or to be created for the Project are absolutely owned by the FSI companies;
- PCG should bear all the constructions risks by guaranteeing to the FSI companies that the Project will be constructed in accordance with the pre-approved design and specifications, according to the pre-agreed timetable and at a fixed price. The fixed price is $15.8 billion at the Money of Day (MOD) Prices, and the Developer will pay any cost overrun from its own resources (as a PCCW Expense);
- PCG should take on all the financing risks. Before sales proceeds are made available to meet the project expenses, PCG should make capital contribution to the Project out of its own resources and/or raise Project Level Debt. In any case, the Developer will need to provide an ongoing six-monthly cashflow guarantee in advance at any point in time throughout the Project;
- PCG should procure the sale of the Residential Portion in accordance with the arrangements to be approved by the FSI companies, but the sales proceeds should be held in an “A” rated bank and managed by an independent Security Trustee strictly in accordance with the prescribed manner and order;
- PCG should protect the interests of the FSI companies by providing an extensive range of guarantees, warranties undertakings and indemnities;

Appendix 11
Summary of Cyberport Project Agreement in 2000 (Cont'd)

- An extensive range of events of default are included in the Project Agreement, such as insolvency, non-payment, and any breach of other obligations under the Project Agreement. The Developer is required to remedy its breaches within the specified grace periods out of its own resources (as a PCCW Expense) and to reimburse the FSI companies for any cost/loss incurred as a result of its breaches (again as a PCCW Expense). If any of the breaches is not remedied by the Developer within the specified period, the FSI companies may terminate the Project Agreement; and
- PCG should pay a range of expenses (e.g. the Developer's tax, the cost of providing the six-monthly cashflow guarantee, and cost of its capital contribution) out of PCG's own resources.

Appendix 12
Office List of Committed Tenants as at 31st March 2006

1. GXS International Inc.	A multinational company providing network and data centre infrastructure for B2B e-Commerce services globally.
2. Microsoft (Hong Kong) Ltd	A multinational company and a leading software provider. It has recently acquired one more floor in Cyberport (in addition to the two floors leased earlier) to meet expansion needs.
3. ESRI (Hong Kong) China	A U.S. based company providing Geographical Information System products.
4. IT Technology Centre Ltd (formerly Incubation Centre at Cyberport Limited)	A local company providing incubator services for IT industry.
5. PCCW	A H.K. listed company providing international, local and mobile telecom services, Internet and interactive multimedia services.
6. Outblaze Limited	A local company. Development and outsourcing provider of web-based communication and infrastructure software solutions.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

7. SafeNet Asia Limited (formerly Rainbow Technologies (Asia Pacific) Co. Ltd)	A U.S. company new to Hong Kong. It provides information security solutions for Internet, eCommerce and content protection.
8. The University of Hong Kong	For setting up of "Cyberport Institute" to provide research and training facilities on site.
9. Compuware (Asia Pacific) Limited	A U.S. based company providing software tools and professional services for business.
10. Hong Kong CSL Limited	A local company providing telecom and mobile services.
11. Sybase Hong Kong Limited	A multinational company providing technical services on business development and application solution development.
12. HNH International Ltd	A Hong Kong based international company engaging in the production and marketing of classical and world music (including brand names like Naxos and Marco Polo), audio-visual programs, online music and language education, webcasting and book publishing.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

13. Arctic Cooling (HK) Ltd.	A Switzerland based company and new to Hong Kong. It provides thermal solutions to reduce the noise and heat of computer systems.
14. Centro Digital Pictures Ltd.	One of the leading local companies dedicated to digital animation creations for applying onto film, video and other multi-media production.
15. Office of the Government Chief Information Officer (formerly Information Technology Services Department, HKSAR)	A Government body of the HKSAR, which is mainly responsible for monitoring of technology trend, appraising and monitoring new technologies and solutions on IT, providing management and facilities support for IT training, and management of IT services and projects.
16. Shenzhen Strength	A PRC based software company new to Hong Kong. Its software products apply to intelligent residential building system, remote utility meters reading, CATV broadband network.
17. Schneider Electric Business Solutions – SEBS HK Ltd.	A French-based multinational corporation. The Hong Kong office serves as its IT hub and platform to enhance its global customer service, administration as well as other value-added services.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

18.EO Global Ltd.	A small size local company focusing on the research and development of software products in connection with global relocation of personnel, executive search and other human resources management tools.
19.EmployeeConnect (Greater China) Ltd.	A local SME company backed by an Australian company engages mainly in the development and marketing of its software product – "EmployeeConnect", which performs a comprehensive range of web-based functions on corporate human resources and administration matters.
20.CoVi Technologies Inc.	A U.S. company new to Hong Kong. Its principal business is design, development and manufacturing of IT-friendly digital and HDTV video surveillance hardware and software systems.
21.Brightex Technology Ltd.	A small size local company specializing in the development and marketing of software products in connection with mobile devices such as PDAs, mobile phones and tablet PC.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

22. Rockwell Automation Asia Pacific Ltd.	A wholly owned subsidiary of Rockwell Automation, a listed company in U.S. The company provides integrated automation solutions to enhance industrial productivity of its clients by means of advanced technologies.
23. Adel Group (Asia) ltd (formerly Hong Kong Ideal Group Limited)	A PRC based company specializes in research and development, marketing and sales of biometrics access products for IT security applications.
24. eDesiCool Limited (trade name under GeoClicks)	A local SME company engaging in online B2C e-commerce activities. It currently manages 3 websites and affiliates with Amazon.com and Google.com.
25. Societe D Applications Technologiques Del Imagerie Micro-onde (Local registered name for Satimo (SA) Societe D'Applications Technologiques De L'Imagerie Micro-ondes)	A French company new to Hong Kong and focusing on design and manufacture of electromagnetic waves measurement systems apply to wireless application device.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

26. Evolution World Wide	A newly set up local company engages in research and development of anti-spam system.
27. Centanet Company Limited	A wholly owned subsidiary of Centaline (Holdings) Co. Ltd., a leading local real estate consultancy firm. The company principal business is design, develop and maintain a local property portal website as well as an integrated web-based GIS mapping system – "Centamap.com", which is widely popular.
28. Flying Cam S.A.	A Belgium company new to Hong Kong and specializes in close range aerial filming with unmanned helicopter for TV broadcast, movie industry and homeland security.
29. Founder Development Ltd (trade name under HyperNet)	A local company specializing in software development in connection with customer relation management, enterprise resources planning application and e-commerce.
30. Adtio Group Limited	A local company specializing in software development for mobile, wireless and radio frequency identification application.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

31. Typhoon Games (HK) Limited	A local games development company and one of its patented products is the "Hello Kitty" series.
32. CSL Cosmos Solutions Ltd	A local company specializing in software development for mobile data applications applicable to forwarder, transportation, warehousing and logistics business trade.
33. Swiss Reinsurance Company, Hong Kong Branch	A Swiss reinsurance company and Cyberport serve as its IT hub for Asia as well as their regional e-learning and training centre.
34. Qualicom Innovations (Asia) Ltd	A Canadian software development and consultant company new to Hong Kong. The company specializes in the development of enterprise software applications using J2EE and .NET technologies.
35. Hong Kong Polytechnic University	For setting of "Multimedia Innovation Centre of School of Design" which focuses in technology commercialization, research and development, training and creative IP development in the field of digital multimedia and entertainment creation.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

36. Eurosport Asia Limited	A French company new to Hong Kong. The company specializing in production, broadcasting and distribution of sports audiovisual programs. It reaches more than 98 million households in 54 countries across Europe.
37. Regal Cyber Limited	A local company specializing in software and hardware development for biometrics and Radio Frequency Identification (RFID) application.
38. Asia Petroleum Investment Co. Ltd.	A PRC based company focuses in the research and development of Non-linear Parallel Processing System known as XEC III Controller, which is an innovative solution for off-shore oil reserves exploration and detection. The company also intends to establish a network system at Cyberport offering the said technology to international network providers.
39. Hong Kong Education City Limited	Operate under the Education Manpower Bureau (EMB) of the Government of HKSAR and provide a one-stop education portal which serves as an e-learning and e-business platform for students, teachers and parents.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

40. Famous Joy International Limited	A newly set up local company specializing in the creation of digital content, animation and special effects.
41. Energy Saving Solutions	A newly set up local company specializing in the development of LED control software products apply to energy saving and efficiency for LED lighting.
42. Clear Channel Entertainment HK Productions Ltd	A UK based company new to Hong Kong and specializes in web-based ticketing and event promotion as well as mobile broadcasting of entertainment programs and events.
43. AsiaABS Limited	A newly set up local company engages in web delivered solutions for financial services and in particular, focuses on Asset Backed Securities (ABS). The company also develops proprietary software products in Chinese and Thai language.
44. Hong Kong Productivity Council	For setting up "Hong Kong Digital Entertainment Industry Support Centre" to provide industrial support in relation to animation, entertainment software and visual effects.

Appendix 12
Office List of Committed Tenants as at 31st March 2006 (Cont'd)

45. Globe 7 HK Limited	A subsidiary of an Indian based telecom services company, Northgate Technologies Limited who launches the first globally patented SIP VoIP phone. The company is a new set up in Hong Kong.
46. RealEyes 3D Asia Pacific Ltd	A French company new to Hong Kong specializes in design, develop and distribution of embedded applications and mobile devices.

Reference: Report on the Cyberport Project (April 2006)

Appendix 13
Transaction data of Baguio Villa

Latest Transactions	Transaction Date	Area	Unit Price
A Middle Floor BLOCK 24 BAGUIO VILLA	5 Mar 2008	1020s.f.	$7,480
C Lower Floor BLOCK 24 BAGUIO VILLA	5 Feb 2008	1520s.f.	$8,520
Middle Floor BLOCK 33 BAGUIO VILLA	16 Jan 2008	1590s.f.	$8,491
C Upper Floor BLOCK 19 BAGUIO VILLA	10 Jan 2008	1520s.f.	$10,197
B Middle Floor BLOCK 19 BAGUIO VILLA	2 Jan 2008	1020s.f.	$7,892
B Lower Floor BLOCK 26 BAGUIO VILLA	2 Jan 2008	1135s.f.	$5,991
B Middle Floor BLOCK 22 BAGUIO VILLA	9 Dec 2007	1020s.f.	$7,451

Reference: homepages of Centaline Properties Agency Limited

Appendix 14
Transaction data of Chi Fu Fa Yuen

Latest Transactions	Transaction Date	Area	Unit Price
C Middle Floor FU YAN YUEN (BLOCK 8) CHI FU FA YUEN	4 Feb 2008	694s.f.	$5,303
H Middle Floor FU HENG YUEN (BLOCK 11) CHI FU FA YUEN	31 Jan 08	518s.f.	$5,270
G Upper Floor FU YIP YUEN (BLOCK 9) CHI FU FA YUEN	28 Jan 08	694s.f.	$5,879
D Middle Floor FU HO YUEN (BLOCK 5) CHI FU FA YUEN	22 Jan 08	518s.f.	$5,985
E Upper Floor FU YIP YUEN (BLOCK 9) CHI FU FA YUEN	21 Jan 2008	518s.f.	$5,382
D Lower Floor FU WAH YUEN (BLOCK 10) CHI FU FA YUEN	11 Jan 2008	518s.f.	$4,151
B Upper Floor FU YIP YUEN (BLOCK 9) CHI FU FA YUEN	5 Jan 2008	694s.f.	$5,764
E Upper Floor FU YAR YUEN (BLOCK 12) CHI FU FA YUEN	31 Dec 2007	518s.f.	$6,023
D Middle Floor FU YIP YUEN (BLOCK 9) CHI FU FA YUEN	20 Dec 2007	518s.f.	$4,556

Reference: homepages of Centaline Properties Agency Limited

Appendix 15
Transaction data of Residence Bel-Air

Latest Transactions	Transaction Date	Area	Unit Price
B Upper Floor TOWER 5 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	3 Mar 2008	2438s.f.	$15,997
B Middle Floor TOWER 7 PHASE 6 - BEL-AIR NO. 8 RESIDENCE BEL-AIR	5 Feb 2008	939s.f.	$13,299
B Upper Floor TOWER 7 PHASE 6 - BEL-AIR NO. 8 RESIDENCE BEL-AIR	18 Feb 08	939s.f.	$12,886
B Middle Floor TOWER 1 PHASE 6 - BEL-AIR NO. 8 RESIDENCE BEL-AIR	15 Feb 08	595s.f.	$14,286
B Middle Floor TOWER 2 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	13 Feb 08	912s.f.	$12,445
A Middle Floor TOWER 5 PHASE 6 - BEL-AIR NO. 8 RESIDENCE BEL-AIR	13 Feb 08	1560s.f.	$13,998
A Upper Floor TOWER 2 PHASE 1 RESIDENCE BEL-AIR	1 Feb 2008	1399s.f.	$12,580
C Upper Floor TOWER 3 PHASE 6 - BEL-AIR NO. 8 RESIDENCE BEL-AIR	1 Feb 08	1551s.f.	$14,094
B Upper Floor TOWER 6 PHASE 1 RESIDENCE BEL-AIR	30 Feb 2008	1455s.f.	$12,234
B Lower Floor TOWER 5 PHASE 1 RESIDENCE BEL-AIR	29 Jan 2008	1682s.f.	$13,436
B Upper Floor TOWER 2 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	29 Jan 2008	895s.f.	$13,966

Appendix 15
Transaction data of Residence Bel-Air (Cont'd)

Latest Transactions	Transaction Date	Area	Unit Price
C Upper Floor TOWER 6 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	22 Jan 2008	1724s.f.	$13,503
A Middle Floor TOWER 6 PHASE 1 RESIDENCE BEL-AIR	21 Jan 2008	1679s.f.	$13,103
B Lower Floor TOWER 5 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	21 Jan 2008	2367s.f.	$14,998
A Upper Floor TOWER 2 PHASE 1 RESIDENCE BEL-AIR	21 Jan 2008	1322s.f.	$17,247
A Middle Floor TOWER 2 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	21 Jan 2008	1708s.f.	$13,232
B Upper Floor TOWER 3 PHASE 1 RESIDENCE BEL-AIR	18 Jan 2008	1502s.f.	$11,917
A Middle Floor TOWER 9 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	14 Jan 2008	1408s.f.	$9,801
C Upper Floor TOWER 8 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	11 Jan 2008	1379s.f.	$11,603
B Upper Floor TOWER 1 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	9 Jan 2008	912s.f.	$13,114
C Middle Floor TOWER 6 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	9 Jan 2008	1724s.f.	$12,877

Appendix 15
Transaction data of Residence Bel-Air (Cont'd)

Latest Transactions	Transaction Date	Area	Unit Price
B Upper Floor TOWER 6 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	8 Jan 2008	913s.f.	$11,829
A Lower Floor TOWER 5 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	5 Jan 08	2346s.f.	$13,640
A Upper Floor TOWER 6 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	31 Dec 2007	2817s.f.	$15,797
A Upper Floor TOWER 7 PHASE 6 - BEL-AIR NO. 8 RESIDENCE BEL-AIR	28 Dec 2007	1594s.f.	$13,802
B Upper Floor TOWER 2 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	24 Dec 2007	895s.f.	$12,067
B Upper Floor TOWER 1 PHASE 3 - BEL-AIR ON THE PEAK RESIDENCE BEL-AIR	21 Dec 2007	895s.f.	$12,291

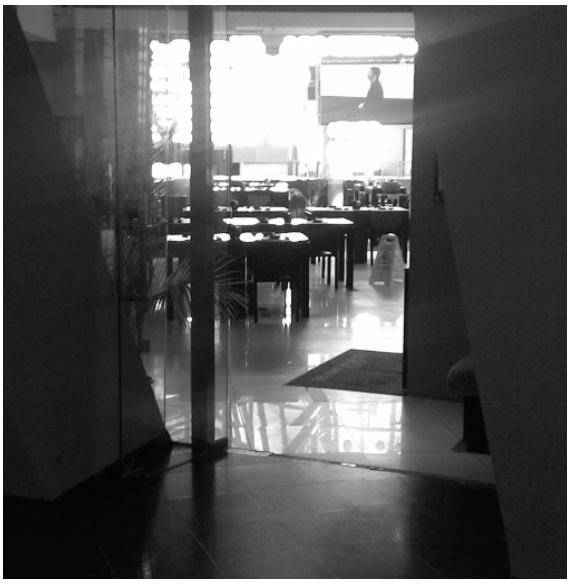
Reference: homepages of Centaline Properties Agency Limited

Appendix 16
Photos shot at Cyberport on 13 July 2007

The Arcade





Appendix 17
Photos shot at Cyberport on 11 March 2008

The Arcade

Cyberport Office

Le Méridien Cyberport Hotel

Appendix 18
Email Reply from Cyberport

Dear Ms Chan,

Thank you for your email. As per our previous conversation, due to the Hong Kong Cyberport Management Company Limited is not the listed company, I am afraid that it is inconvenience *(inconvenient)* for us to disclose the annual report to public.

Should you have any enquiries, please feel free to contact me. Thank you very much for your kind attention.

Best Regards,
Tiontee Lo - Senior Customer Services Officer, Facility Management

ISS EastPoint Property Management Limited
Cyberport Facilities Management Office
Unit 401, L4, IT Street, Core A, Cyberport 3, 100 Cyberport Road
Direct : (852) 3166 3530 ; Tel: (852) 3166 3111 ; Fax : (852) 3166 3100

Email: *tiontee.lo@hk.issworld.com*
Website: *http://www.hk.issworld.com/*

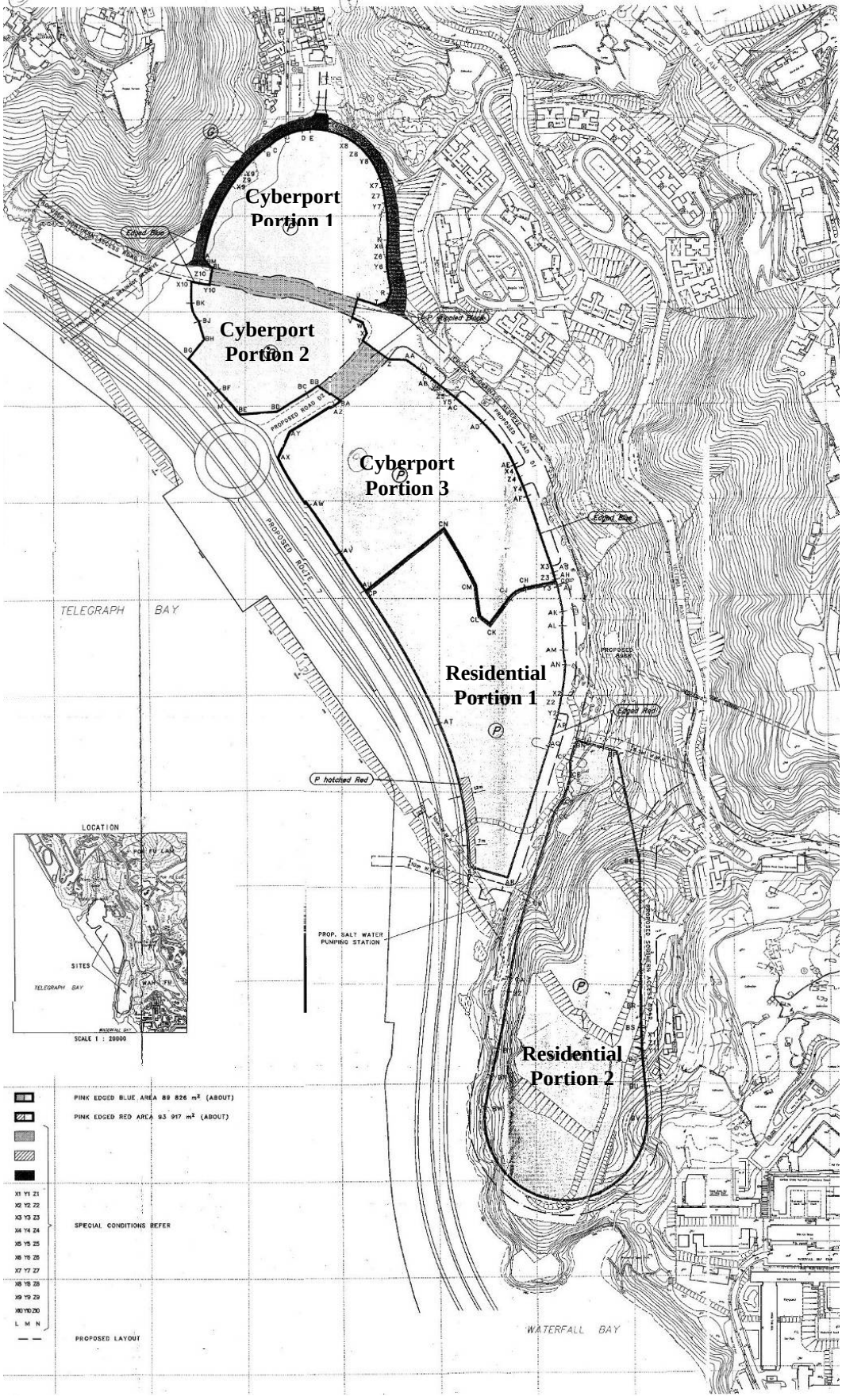
A member of ISS Facility Services Group

Appendix 19
Profit and Loss Account of HKCD for the year ended 31st March 2006

Hong Kong Cyberport Development Holdings Limited
Consolidated Profit and Loss Account for the year ended 31st March 2006

	2004	*2005*	*2006*
	HK$	HK$	HK$
Turnover	65,367,726	135,843,514	187,774,309
Project income	-	1,674,713,591	1,323,491,171
Other revenues	936,250	12,126,034	39,244,398
Total revenues	66,303,976	1,822,683,139	1,550,509,878
Building management expenses	(55,547,267)	(76,340,110)	(89,097,260)
Staff costs	(25,306,124)	(53,702,809)	(62,246,674)
Information technology facilities maintenance fee	(20,049,290)	(25,942,884)	(24,476,861)
Government rent and rates	(4,036,354)	(17,350,524)	(11,489,066)
Other operating expenses	(15,220,382)	(51,293,486)	(56,834,281)
Operating expenses before depreciation	(120,159,417)	(224,629,813)	(244,144,142)
Operating profit/ (loss) before depreciation	(53,855,441)	1,598,053,326	1,306,365,736
Depreciation	(105,165,583)	(171,679,660)	(257,719,823)
Finance costs	-	-	(36,689)
Profit/ (loss) before income tax	(159,021,024)	1,426,373,666	1,048,609,224
Income tax expenses	-	(292,585,413)	(231,122,822)
Profit/ (loss) for the year	(159,021,024)	1,133,788,253	817,486,402

Appendix 20 Plan in Grant of Conditions of Cyberport Project



Scale 1:2000

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