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寶血會上智英文書院
Holy Trinity College

「Ruling of the Seven Seas: the Rise and Fall
of Hong Kong Shipbuilding Industry」

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<Ruling of the Seven Seas: the Rise and Fall of Hong Kong Shipbuilding Industry>

Category A: Written Report (Senior)

School: Holy Trinity College

Group members:

Chau Hui Tung

Fan Yui Chi

Cheung Sze Ki

Ng Wing Yee

Abstract:

An analysis on the past, present and future of the shipbuilding industry in Hong Kong.

In the 19th century, shipbuilding became a momentous and significant industry in Hong Kong. However, the industry declined after WWII. To this day, it has become a sunset industry that is fading out.

Although this industry does not play an important role anymore in Hong Kong's economy, its contributions to the city's development cannot be neglected. Here, we would like to look into the reasons behind the success and decline of the shipbuilding industry, as well as its possible future development.

Rise

Firstly, foreign investors brought in their experience in managing dockyards, western shipbuilding skills and capital to Hong Kong's shipbuilding industry. The number of Hong Kong's dockyards increased and became more advanced and improved a lot, while the types of ships built became more diverse.

Secondly, the low rent and wages for labour are much cheaper compared to dockyard workers in Europe, attracting businessmen to start their own shipyard in Hong Kong.

Thirdly, the geographical position of Hong Kong offered a deep water harbor, shelter from strong winds and a firm seabed suitable for anchoring, contributing to the rapid development of shipbuilding industry in the city.

Fourthly, the rapid development of entrepot trade created a large demand for new ships and ship repairing services in Hong Kong. As a result of the spike in entrepot trading, more and more ships and repairing services for trading were needed in order to meet the demand of entrepot trading.

Lastly, the circumstances of World War I and World War II increased the demand for new ships, especially Britain and the US. The large scaled conflicts increased the demand for ships greatly as countries used all means to gear up for battles.

Fall

Firstly, the destruction brought by the Japanese Occupation destroyed many dockyards and related infrastructure, resulting in a drop of the total tonnage of ships built. In terms of diversity, only warships were being built to support the war effort. This obstructed the development of the shipbuilding industry.

Secondly, as China was involved in the Korean War as an ally of North Korea, the United Nations started a widespread embargo on China and the trading from China dropped sharply, which was a huge blow to Hong Kong's shipbuilding industry that was closely related to the entrepot trading.

Thirdly, industrialists from mainland came to Hong Kong to escape the Chinese Civil War and brought with them capitals, skills, experience and labour force to Hong Kong. This led to the rise of light industry. Since Hong Kong's entrepot trade was so badly hit by the UN embargo, shipbuilding gave way to light industries.

Fourthly, the local population increased sharply after WWII. Since shipbuilding needs a lot of space and most people changed to work in tertiary industry during 1970s, many shipyards were shut down.

Lastly, heavy competition from aviation contributed to the decline of shipping in general. Transportation by air was faster and more efficient compared to shipping, this change dragged the shipbuilding industry down as well.

Future

Despite such setbacks, there is still a presence of shipbuilding in Hong Kong.

For now, there are only a few shipyards left in Hong Kong that participate in shipbuilding. The main challenges faced by the industry would be competition from neighbouring regions and a lack of new-blood and talent.

Hong Kong's maritime industry as a whole faces serious competition from other surrounding countries. Inaction from both the government and the industry itself could be blamed for being out-competed.

Few young people consider joining the shipbuilding industry in Hong Kong. Few shipbuilding companies are left and there is a lack of new blood and talent in the industry despite a range of training programmes and degrees regarding the maritime industry.

Future possibilities for Hong Kong exist and can be developed. One possible development would be for Hong Kong to concentrate on the technological design on ships. Hong Kong has the potential to develop new designs on shipbuilding, focusing less on the industrial production of ships developing parts of a ship or even the software used in shipbuilding.

To attract new blood to the industry, local universities and organizations have opened degrees and programme to be studied regarding the maritime business in Hong Kong.

Despite being past its original glory, there is still a way for the shipbuilding industry to exist in Hong Kong. No matter it being industrial production or focusing on R&D, there is still a future for this industry.

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Introduction

Shipbuilding is regarded as Chinese traditional industry and it reached its height during the Song Dynasty and Yuan Dynasty and early Ming Dynasty. This industry was essential to the nation's trade and commerce, moreover, it was incorporated into the army, giving rise to a formidable navy. As Chinese, our history of sailing can be traced back to thousands of years ago. We take pride in the fact that the Chinese were the first ones to sail at the seven seas and explore foreign lands. The remarkable skills of our traditional shipbuilding is nothing but a form of art. Chinese shipbuilding prowess was preserved and carried on in the south of China by humble fishermen and even pirates. Therefore, we are very interested in understanding how Hong Kong carried on with the traditional craftsmanship and how Hong Kong won its fame for shipbuilding.

In the 19th century, Hong Kong had developed into a major shipping centre of the mainland and an important entrepot of the world. From then on, shipbuilding became a momentous and significant industry in Hong Kong, even the main pillar industry. It had contributed a lot to Hong Kong's economy and development. Hong Kong and Whampoa Dock became the largest shipyard among Asian countries. However, the glorious shipbuilding industry went into a decline after the Second World War. Every life and journey has its end. To this day, It has become a sunset industry that is

fading out and dying, only to be found in Hong Kong people's memories, all but forgotten as one of the many eras before now.

Although this industry does not play an important role anymore in Hong Kong's economy nowadays, its contributions to Hong Kong's development cannot be neglected as it was once an economic pillar of Hong Kong. Throughout our study, our team wants to have better knowledge about the transition of shipbuilding industry. Apart from that, we would also like to look into the reasons behind the success and decline of Hong Kong's shipbuilding industry, as well as the effect it had on Hong Kong citizens' lives and the direction of its future development.

Reason for choosing this topic

During our research for the topic of this report, we were surprised at the long tradition of the shipbuilding history in China. From the primitive water transports of inflated animal skins and simple rafts from the Neolithic era to more and more sophisticated ships. Born from the need to travel along rivers and lakes and fishing, the Yue culture at the southeast coast of modern China has developed alongside the heartland of Chinese culture. We were amazed at the amount of variety concerning warships and transports, especially from the Song Dynasty period.

As Hong Kong was originally an entrepot, we were curious about the connections between the long standing shipbuilding tradition of China and the entrepot trade in Hong Kong. We decided on the shipbuilding industry as it provides a great connection between the Chinese culture and British influence towards Hong Kong.

Research Method

i) Primary Information

In order to gather historical facts about shipbuilding Industry, our team visited the special exhibition about shipbuilding of China and the dockyards in Hong Kong, which was held by Hong Kong Maritime Museum. During the visit, we have explored Hong Kong's unique maritime heritage and understood more about the history and the operation of shipbuilding industry which built classic yachts, launches, ferries and large freighters for countries and companies around the globe.

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ii) Secondary Information

Apart from that, our team had collected more second informations from relevant web pages, reference books, news articles, official reports, tv programmes etc. Related informations were found in Central Library and Government Records Service.

Rise of Hong Kong's Shipbuidling Industry

The shipbuilding industry is among the firsts of Hong Kong's industrialization and shares its fame with the entrepot trade industry since its establishment in the early 19th century. Exactly how glorious was the era of shipbuilding? Here are some facts for you. They built a variety of ships, from battleships for the navies of the US, Britain and other European countries, to commercial ships such as the many Hong Kong Star Ferry vessels in service till this day.

As to the 1950s, Hong Kong's two leading dockyards, the Hong Kong and Whampoa Dock and the Taikoo Dockyard hired up to 8,500 workers, taking up 20% of the total

labour force back then. At the height of its era, the industry can produce ships of a total of 80,000 tons, maximizing to its limit.¹ How did the industry develop into one of Hong Kong's economic pillars, with the technique, skills and total tonnage that are compatible to that of Japan, which was named the best shipbuilder in Asia back at that time?

1.1 Foreign Investment

The earliest shipbuilding companies and dockyards were all founded and built by foreign entrepreneurs. The Hong Kong and Whampoa Dock was built by Douglas Lapraik, Thomas Sutherland and Jardine, Matheson & Co, in 1868. Taikoo Dockyard was built by the Swire family, in 1910.² Since the early days of the colony, American shipbuilders had started their shipbuilding business in Hong Kong as well. Charles Emery and George Frazar set up their shipyard in Kowloon in 1844, while J.H. Vaughan set up the shipyard of Hong Kong Transportation Co in 1951.³ These foreign investors brought in their experience in managing dockyards, western shipbuilding skills and capital to Hong Kong's shipbuilding industry. Before these western investor's involvement in the industry, Hong Kong shipwrights used traditional Chinese shipbuilding arts to build junks and sampans but not western style ships.⁴ With these foreign investment, the number of Hong Kong's dockyards increased. At the same time, the technique and facilities had become more advanced and improved a lot, while the types of ships built had become more diverse. The ships built in Hong Kong finally entered the international shipbuilding market. The demand for ships "made in Hong Kong" slowly increased from then on.

1.2 Cheap rent and wages

Hong Kong only started its industrialization since the colonization of the United Kingdom in 1842, after the signing of Treaty of Nanking. In 19th century, Hong Kong

¹ Ricky Kan, "延續香港工業的光輝 – 香港現代修船業", IMechE Hong Kong Branch Young Member Section

<https://hkym.s.wordpress.com/2008/04/25/ship-repair/>

² Hugh Farmer, "Early HK Shipyards and Graving docks", The Industrial History of Hong Kong Group <https://industrialhistoryhk.org/early-shipyards-graving-docks/>

³ York Lo, "J.H. Vaughan – An American Shipbuilder in Hong Kong", The Industrial History of Hong Kong Group

<https://industrialhistoryhk.org/j-h-vaughan-an-american-shipbuilder-in-hong-kong-by-york-lo/>

⁴ Hugh Farmer, "Early HK Shipyards and Graving docks", The Industrial History of Hong Kong Group <https://industrialhistoryhk.org/early-shipyards-graving-docks/>

only had a small population consisting of merely 300, 000 people in 1901.⁵ Before colonization, Hong Kong was only a fish port with a lot of people engaging in fishery. Hong Kong had not yet been developed, nor was it modernized and thus the British government could plan the specific uses of lands for industrialization. The first industries that developed since colonization were the entrepot trading and some small-scale manufacturing industries (e.g sugar refinery).

However, these economic activities and the small population did not take up much land. As a result, the rent for land and wages of labour were relatively cheaper than that of the developed European countries. This had attracted many businessmen to start their own shipyard in Hong Kong as shipyards require a large area and other supporting facilities such as reservoirs take up a lot of spaces as well. Let us examine the size and scale of one of the largest and busiest dockyards in Hong Kong's shipbuilding history, Taikoo Dockyard, which was located in Quarry Bay. The original idea of setting up Taikoo Dockyard was to maintain a stable supply of ships for the company's factories such as the sugar refinery and to invest in other profitable industries. Taikoo Dockyard took up 52 acres of land, the largest among all and had the capacity for the world's largest steamship at that time, SS. OCEANIC (685 feet long, 68 feet wide). To meet with the need of fresh water of the dockyard's daily operation, several private reservoirs (e.g Choi Sai Woo Reservoir and Taikoo Reservoir) were built by the company.⁶ The businessmen saw the opportunity that Hong Kong provided for shipbuilding and seized the chance to have a head start.

1.3 Favourable Natural Geographical Location

Hong Kong was gifted to have a deep-water harbour, the Victoria Harbour. It was also located in the Southern China coastal area. These two geographical characteristics were the reasons why Hong Kong caught the eyes of the United Kingdom as the empire searched for an oversea base for the British trading community in Canton.⁷ A port providing berths for cargo liners must be close to the centre of commercial and trade activities. It must also offer deep water, shelter from strong winds and a firm seabed suitable for anchoring. In the mid-19th century, Hong

⁵ Ling Kee Publishing Co.,LTD. ,New Exploring World History(Second Edition) Introduction and Theme A, p. 79

⁶ 太古簡史

<http://www.somanhing.com/gotowalk/dist/east/quarrybay/taikoo.pdf>

⁷ Tsang, Steve, A Modern History of Hong Kong (2004), London: I.B. Tauris, ISBN 978-1-84511-419-0

Kong was the only port along the coast of Guangdong that met those criteria, and thanks to its favourable geographical location, it quickly developed into a shipping hub.⁸ The favourable geographical location of Hong Kong no doubt contributed to the rapid development and rise of shipbuilding industry in the city.

1.4 Rapid Development of the Entrepot Trading

Development of entrepot trading and shipbuilding industry are closely connected as shipbuilding is one of the supporting industry of entrepot trading. The rise of entrepot trading in the early days of colonization directly affected the shipbuilding industry. In early 19th century, trading relied heavily on shipping, especially long distance and overseas trading. As China signed more and more treaties promising to open up ports along its coast, the international market expanded with China joining in. Hong Kong, as located in China and a member of the Chinese culture, was the ideal place for trading with China. On the other hand, the completion of Suez Canal in 1869 facilitated the trading between Hong Kong and the United Kingdom. The 110-day transit time between Hong Kong and the United Kingdom was greatly reduced to merely 30 days, prompting the speed of international trading.⁹ Most importantly, Hong Kong adopted the free port policy. Under the free port status, ships from all over the world could enter Hong Kong freely without paying any taxes and no tariff would be imposed on the incoming goods. As the colony of the United Kingdom, Hong Kong enjoyed the tax benefits of the British Commonwealth Preferential Tariff Agreement, by which its goods (such as textiles, plastic shoes and cement) could be exported to the Commonwealth countries at lower tariff rates. Such lax restrictions and low tariffs created the dream place for all businessmen and manufacturers. As a result from the above reasons, entrepot trade spiked.

The spike in entrepot trading also meant a spike in the demand for new ships and ship repairing services in Hong Kong. Ships get worn out, ships would sink, ships need regular repairing. As a result of the spike in entrepot trading, more and more ships and repairing services for trading were needed in order to meet the demand of

⁸“Pictorial exhibition introduces Hong Kong's shipbuilding and ship repair industry”, July 13, 2011, HKSAR Government Press Releases
<https://www.info.gov.hk/gia/general/201107/13/P201107130311.htm>

⁹ Pictorial exhibition introduces Hong Kong's shipbuilding and ship repair industry”, July 13, 2011, HKSAR Government Press Releases
<https://www.info.gov.hk/gia/general/201107/13/P201107130311.htm>

entrepot trading. This was the reason why shipyards and shipbuilding and repair companies mushroomed. When there is a huge demand, there would be an increase in supply to satisfy the needs of an industry.

1.5 Wartime Demands

During World War I and World War II, sea battle had become more and more common and advanced. As the countries prepared themselves for a widespread war and during the war, they need a lot of warships and repairing services. As the colony of one of the Allied powers, Hong Kong stood by the Allied countries and aided them by building warships. As mentioned in the previous parts of our study, Hong Kong win against other Southeast Asia colonies of the Allied Power due to its outstanding geographical location. Its natural advantage and the mass investment from western businessmen helped shape the shipbuilding industry, boosting the confidence of European countries and the United States. As a result, Hong Kong's shipbuilding skills was praised and recognised by the international world. Before and during the war, Hong Kong had busied itself with the tremendous demand for warships. When fighting in World War I, Taikoo and Whampoa dockyards in Hong Kong received a large number of contracts as Europe and America were deeply involved in the wars.¹⁰ Hong Kong had also provided shipbuilding and repairing services to the United Kingdom's Royal Navy as one of its colonies.

On the other hand, Hong Kong was occupied by the Japanese army during World War II. During that period, the Japanese military ordered shipyards in Hong Kong to build more warships for them. Japan was crowned with the title of "the best shipbuilding country in Asia" at that time. This proved that the technique and skills of Hong Kong's shipbuilding industry were recognized by the Japanese, as well as the Western people. Wars, especially large scale and widespread ones, did increase the demand for ships greatly as countries used all means to gear up for battles.

¹⁰ Ling Kee Publishing Co.,LTD. ,New Exploring World History(Second Edition) Introduction and Theme A, p. 71

Downturn and Fall of Shipbuilding Industry in Hong Kong

Although shipbuilding once boomed in the 19th-century, it declined after the Japanese Occupation. Luckily, shipbuilding boomed rapidly again after the surrender of Japan. However, the good time did not last long for the industry, shipbuilding officially fell after the Korean War because of various reasons. Hong Kong slowly developed into an industrial city after the Korean War.

2.1 Japanese Occupation of Hong Kong

In 1941, Japan invaded Hong Kong. Many dockyards and transportation infrastructure were destroyed. The heavy bombing of Kowloon Dockyard on 16 October 1944 and the raid of 16 January 1945 which caused considerable damage to Taikoo Dockyard were evidences of the damage caused by WWII.¹¹ Just to imagine the time needed for the industry to fully recover. How detrimental it was to an industry's development! It was no surprise that the development of shipbuilding had slowed down during this time. Not only the total tonnage of ships built was not as much as that of the industry's peak, but also, only warships were being built by the Japanese Navy to support the war effort, as reflected by the records of shipyards during the Japanese occupation period.¹²

各造船所引揚船台生産能力 Slipway Dimensions & Capacities

P.L.A.C.E. (處分)	No. Number (所台船揚)	Length -- Metres --	Width	Depth	T. Tonnage (噸)	Remarks
The 2nd Ship-building Yard (NAVAL DOCKYARD) (第二造船所)	1.	15.24	4	3.91		
	2.	15.24	4	3.91		
	3.	15.24	4	3.91		
Hongkong Ship-building Yard (TAIKOO DOCK) (香港造船所)	1.	64.00			3000	
	2.	108.60			4000	
	3.	77.70			2000	
工友木中坊	1.	18.45	6.10	1.45		
	2.	15.40	4.68	1.12		
KWONG HIP LUNG. (廣協隆)	1.	49.41	8.85	1.85	400	
	2.	23.79	5.56	1.53	200	
	3.	26.93	6.56	1.33	60	
	4.	21.93	7.61	1.63	40	
	5.	20.52	3.97	1.53	20	
KWONG TAK HING. (廣德興)	1.	54.90	8.54	2.14	700	
	2.	36.64	8.54	2.14	200	
	3.	18.43	4.57	2.14	60	
	4.	24.40	6.71	.76	200	
	5.	44.25	8.24	.76	300	
	6.	21.40	4.87	.76	50	
KWONG CHEUNG HING. (廣長興)	1.	44.25	8.53	1.83	350	
	2.	55.45	9.14	1.83	400	
	3.	21.40	7.31	1.83	100	
A KING'S Ship-Builders (KING KEE) (敬記船廠)	1.	9.14	2.74	.91	3	
	2.	7.61	2.14	.91	3	
	3.	19.81	4.27	1.51	30	
	4.	10.33	3.05	1.22	5	
	5.	8.14	3.05	1.22	5	
	6.	9.14	1.82	1.22	3	
	7.	6.10	1.82	.92	3	
TUNG TAI (同太)	1.	36.50	9.10		300	
KWONG MAN HING. (廣民興)	1.	39.65	9.14	1.82	200	
	2.	22.85	5.94	1.84	75	
	3.	19.81	5.49	1.82	60	
TSANG HO (桑和)	1.	15.24	5.49	3.05	350	
	2.	8.52	3.05	1.37	10	

Slipway Dimensions & Capacities, Naval Dockyard, Hongkong Shipbuilding Yard, Taikoo Docks, Kwong Hip Lung, Kwong Tak Hing, Kwong Cheung Hing, Ah King, A King, King Kee, Tung Tai, Kwong Man Hing, Tsan Lee (source: provided by Elizabeth Ride)

¹¹ ER, Taikoo Dockyard during the Occupation 1942-1945 – new information and photo, The Industrial History of Hong Kong Group

<http://industrialhistoryhk.org/taikoo-dockyard-occupation-1942-1945/>

¹² ER, Shipbuilding in Hong Kong 1943, The Industrial History of Hong Kong Group

<https://industrialhistoryhk.org/shipbuilding-hong-kong-1943/>

At the same time, some of the shipyards had simply stopped their lines of production for all new ships. For example, the Aberdeen Dock, known as the Lamma Shipyard, was controlled by the Kokoki Butei in 1941. At that time, no new construction work was undertaken by the yard. The principal work for workmen was to repair the wooden auxiliary vessels.¹³ It can be seen that the total output of the shipbuilding industry fell and the diversity of the ships built was very low as only warships were built. This obstructed the development of the shipbuilding industry and led to its fall.

2.2 Trade Embargo on Hong Kong

In 1951, the United States and the United Nations asked other countries to impose an embargo on China as China was involved in the Korean War as an ally of North Korea. This started a widespread embargo on China and the trading from China dropped sharply, which was a huge blow to Hong Kong's shipbuilding industry that was closely related to the entrepot trading. Hong Kong, where was a colony of Britain, was strictly banned the export of wartime materials to china. In the figure, more than 40% of Hong Kong's trade was with China in 1938. However, it dropped about 20% in 1952.¹⁴ As trading with China took up almost half of Hong Kong's entrepot trading, the entrepot trading was hit badly. Since there was a huge decrease in trade at this time, the demand for shipbuilding also decreased as the demand for new ships were to cover the growing demand of entrepot trading before the embargo. According to Anthony Eden, the Foreign Secretary of Britain, noted that Hong Kong was one of the largest trading centres in the world during peaceful time. Owing to the embargo on shipments to China, Hong Kong was not able to perform its normal economic functions.¹⁵ The value of Hong Kong's exports to China fell from 1.6 billion in 1951 to 0.182 billion in 1955, by 88.625%.¹⁶

¹³ ER, Aberdeen Dock (Lamma Shipyard) during the Japanese Occupation 1942-1945, The Industrial History of Hong Kong Group
<https://industrialhistoryhk.org/aberdeen-dock-occupation-1942-1945/>

¹⁴ 李宗文：《香港進出口貿易手冊》，中卷（香港：工商觀察社，1954），頁2。

¹⁵ Ling Kee Publishing Co.,LTD. ,New Exploring World History(Second Edition) Introduction and Theme A, p. 72

¹⁶ Catalysts for Hong Kong's Industrialization: The Korean War Embargo, Hong Kong Memory, https://www.hkmemory.hk/MHK/collections/postwar_industries/industrialization_in_postwar_hong_kong/index.html



China's share in Hong Kong's Total Trade from 1938 to 1952¹⁷

The embargo dealt a huge blow to Hong Kong's economy. The scale of shipbuilding became smaller since there was no trade. Under these circumstances, people turned to manufacturing as an alternate economic opportunity.

2.3 Chinese Civil War

Apart from the embargo of Korean War, a full-scale civil war also broke out in China in 1946, many capitalists move those facilities to Hong Kong. Furthermore, industrialists from Tianjin, Shanghai and Guangzhou relocated in Hong Kong because of the Chinese Civil War. It was an understatement to say that it was a hot mess of chaos. The unstable political environment was not an ideal place for production and manufacturing. This resulted in an massive influx of people coming into Hong Kong from mainland, to a place where they must have seen hope in reconstructing a new life. These immigrants were here to seek a peaceful life and stable working working environment, where they did not have to fear for their lives and their beloved family members. The industrialists from mainland brought with them capitals, skills and experience to Hong Kong. Many of the grassroots who fled to Hong Kong were skilled factory workers, filling the gap of experienced and skilled workers and craftsmen which Hong Kong lacked at that time. These two groups of people brought to Hong Kong the most critical elements for setting up factories of the light industries.

After the war, the facilities and equipment stayed in Hong Kong which led to the rise of light industry. The locally manufactured goods made up 70% of the gross value of

¹⁷ 李宗文：《香港進出口貿易手冊》，中卷（香港：工商觀察社，1954），頁2。

Hong Kong's exports, greatly exceeding the percentages of entrepot trade, which means shipbuilding could not be used in this time. Many people worked at the factories back then, for example toys factories, clothes factories and plastic factories. At the same time, because Hong Kong's entrepot trade was so badly hit by the UN embargo, the transformation from entrepot trade to light industries was formed. Therefore, shipbuilding did not help much in light industries. It fell because of this.

2.4 Population Change

After the Second World War, the local population increased sharply to about 2.2 million in 1950s. Besides, there were more and more immigrants coming to Hong Kong. In the late 1970s, there were already 4 million people live in Hong Kong.¹⁸ Since shipbuilding need a lot of space and most people were change to tertiary industry in 1970s, many shipyards were shut down. For examples, the Hong Kong and Whampoa Dock Company Limited was merged with the Taikoo Dockyards and Engineering Company in 1973 because they decided to decrease the labour force and avoid the waste of facilities. The Bailey Shipyard closed in 1960 and changed to Wah Lok Theatre. Therefore, shipbuilding was not available in Hong Kong since there were too much people. The population size has escalated so much since the beginning of the colonial period, up to a state at which dockyards had to be closed in order to gain more land for housing. To a certain extent, the shipbuilding industry was sacrificed at the expense of the livelihood of the citizens.

2.5 The Replacement of Aviation

After the Second World War, the development of aviation boomed rapidly. Many airplanes from business and private use changed to airliner which is for transporting passengers and air cargo. Comparing to shipping at that time,marine trade was much slower than by air. In terms of efficiency and to preserve the quality of goods, more and more businessmen were willing to use cargo planes instead of shipping. From the figure, it can be seen that the freight carried by civil aircraft had skyrocketed from 846 metric tons in 1947 to 26,513 metric tons in 1967, increasing

¹⁸ Hong Kong Population, Trading Economics, <https://tradingeconomics.com/hong-kong/population>

by more than 30 times.¹⁹ Therefore, it was one of the reasons why the shipbuilding industry declined.

PASSENGERS AND FREIGHT CARRIED BY CIVIL AIRCRAFT

Year	Number of Passengers (including military personnel carried by civil aircraft)			Freight Carried (in metric tons)		
	Arrival	Departure	Total	Import	Export	Total
1947	83,811	38,347	122,158	531	522	1,053
1948	115,101	102,580	217,681	513	1,212	1,725
1949	159,930	159,748	319,678	2,822	3,274	6,126
1950	32,669	43,228	75,897	791	1,540	2,331
1951	32,179	43,691	75,870	1,391	1,339	2,730
1952	41,281	45,494	86,775	912	1,566	2,478
1953	46,208	50,153	96,361	815	1,473	2,288
1954	55,537	59,559	115,096	621	1,666	2,287
1955	68,202	72,740	140,942	539	2,078	2,617
1956	83,878	94,176	178,054	738	2,223	2,961
1957	120,840	116,884	237,724	934	2,611	3,545
1958	141,088	144,121	285,209	792	2,647	3,439
1959	154,046	154,111	308,157	1,359	3,058	4,417
1960	186,650	194,234	380,884	1,539	3,231	4,770
1961	213,033	243,247	456,280	1,861	3,650	5,511
1962	292,007	299,397	591,404	2,092	4,813	6,905
1963	318,553	326,312	644,865	2,436	5,810	8,246
1964	390,638	395,193	785,831	2,596	7,391	10,297
1965	443,117	445,125	888,242	3,847	10,411	14,258
1966	557,743	552,927	1,110,670	5,701	16,002	21,703
1967	641,898	666,091	1,307,989	5,914	20,599	26,513

Passengers and freight carried by civil aircraft²⁰

The future of shipbuilding in Hong Kong

As seen from the above researches, shipbuilding in Hong Kong has already stepped down from one of the leading heavy industries of the city, making way for tertiary industries such as Finance and Trading and Logistics. With the development and urbanization of Hong Kong, the docks of Taikoo and Whampoa have already been transformed into housing estates. The available land and facilities for shipbuilding has declined sharply as a result of Hong Kong's disadvantaged geographical layout. With every inch of land becoming more and more expensive, shipbuilding becomes harder and harder to maintain in Hong Kong. As a result of the declining opportunities in the industry, it also suffers from a lack of new blood and professional talent regarding the maritime industry.

¹⁹ Passengers And Freight Carried By Civil Aircraft, Hong Kong Statistics 1947-1967, https://www.statistics.gov.hk/pub/hist/1961_1970/B10100031967AN67E0100.pdf, p. 122

²⁰ Passengers And Freight Carried By Civil Aircraft, Hong Kong Statistics 1947-1967, https://www.statistics.gov.hk/pub/hist/1961_1970/B10100031967AN67E0100.pdf, p. 122

Despite such setbacks, there is still a presence of shipbuilding in Hong Kong. Here, we will discuss the present situation of the industry, and from there, present the future possibilities of the shipbuilding industry in this age in Hong Kong.

3.1 The present status of the shipbuilding industry

For now, there are only a few shipyards left in Hong Kong that participate in shipbuilding. According to the Marine Department of Hong Kong, in 2018, there are a total of eight out of nineteen shipping enterprises that offer shipbuilding as their services.²¹ Most shipyards would include ship-repairing as well since shipbuilding alone cannot fully support the operations of the company.

The Hong Kong maritime and port industry, including shipbuilding still has a presence in Hong Kong's economy. According to the Transport and Housing Department in 2018, its contribution to the Hong Kong economy in terms of value added and personnel engaged contributed HK\$ 28,270 million to Hong Kong's gross domestic product (GDP) in 2016. This represented 1.2% of the overall output of the economy and 2.3% of the total employment in the city. Among this, the maritime business services contributed 14% respectively to the industry.

Maritime business services sector contributed HK\$ 3,929 million to Hong Kong's GDP in 2016, equivalent to 0.2% of the GDP of the economy.²² Ship building and repair ranks second in contribution to the sector in terms of value added, with nearly HKD 1000 million in total. They were also the largest employer in the sector, employing about 1800 workers in the industry.

In general, the marine and port industry in Hong Kong as a whole has shown a slight decline in value added, total GDP output and total employment in 2016 compared to 2014 in economic development.

The locations of ship docks for shipbuilding in Hong Kong now mostly concentrate at Tsing Yi Island. At Tsing Yi, there is enough space to house dockyards while not disturbing nearby residents. Two large shipyards, located off the west coast of Tsing

²¹ Marine Department Shipyards/ship repairment
https://www.mardep.gov.hk/en/pub_services/sdfiles/shipyard.html

²² Study on the Economic Contribution of Maritime and Port Industry in 2016
https://www.hkmpb.gov.hk/document/Study_on_Economic_Contribution_of_Maritime_and_Por.pdf

Yi Island, operate three floating dry docks²³. The largest has a lifting capacity of up to 46 000 tonnes. There are also a number of smaller shipyards in Hong Kong, but those only carry out repairs to vessels instead of shipbuilding.

The present status of the shipbuilding industry currently would be available but under-developed. Although there is a presence of shipyards dedicated to shipbuilding, it only exists in a small quantity and not considered advanced in technology.

3.2 Challenges faced by the industry nowadays

The main challenges faced by the industry would be competition from neighbouring regions and a lack of new-blood and talent.

Hong Kong's maritime industry as a whole faces serious competition from Mainland China and other surrounding countries. In the case of shipbuilding, the Mainland could offer bigger shipyards and better equipment such as larger cranes compared to Hong Kong. For example, the China State Shipbuilding Corporation [CSSC]²⁴ is a shipbuilding complex operating under the guidance of the State Council of China, with dockyards such as the Jiangnan Shipyard, Hudong Shipbuilding and Guangzhou Shipyard. It is able to produce various categories of commercial ships weighing up to 300,000 tonnes, a great many types of naval ships, special purpose vessels, workboats and offshore units. Marine equipment, like marine diesel engines, diesel gensets, deck machinery, etc. Compared to Hong Kong, which the largest dock could only lift 46,000 tonnes. Before the Reform and Opening up Policy, Hong Kong could still enjoy an advantage in quality and quantity in ship building. However, the Mainland has caught up and surpassed Hong Kong with cheaper labour, bigger dockyards

One major reason for the decline would be inaction from both the government and the industry itself. The dockyards were out-competed and disappeared in Hong Kong because shipbuilding was cheaper in Japan, and the government was not prepared

²³ Shipyards directory

<https://www.shipyards.gr/shipyards/search-by/country?value=HONG%20KONG>

²⁴ China State Shipbuilding Corp.

<https://www.globalsecurity.org/military/world/china/cssc.htm>

to go to the length of the Japanese government to subsidise the industry.²⁵ Decline of throughput all over the world also contributes to a low number of ships being ordered. Even Chinese exports are coming down because Chinese manufacturers are constrained by environmental and labour conditions such that they would rather relocate to Vietnam, Bangladesh and other places.

Another major reason would be fierce competition from other manufacturing sectors for human resources. With the many new developing industries in the world, such as AI technology, and traditional industries such as car manufacturing, shipbuilding has to face large competition in regards to talent. Talent may not choose to work in the shipbuilding industry as there are many other choices for them.

Not many young people are considering to join the shipbuilding industry in Hong Kong as they simply do not have any interest in it. Few enterprises that focus on shipbuilding are left and there is a lack of new blood and talent in the industry despite a range of training programmes and degrees regarding the maritime industry. For many young people, shipping seems too far away from their daily life, while traditional shipping and ports are “sunset” industries that are no longer important to Hong Kong²⁶, which greatly impacts the industry on attracting young people to join the industry.

3.3 Future possibilities for the industry

Despite fierce competition from neighbouring regions such as China, Japan and Southeast Asia, there is still hope for the shipbuilding industry. Future possibilities for Hong Kong exist and can be developed.

One possible development of the shipbuilding would be for Hong Kong to concentrate on the technological design on ships. Hong Kong has the potential to develop new designs on shipbuilding, focusing less on the industrial production of ships. For example, innovations in autonomous shipping have made significant

²⁵ South China Morning Post Hong Kong's port seeks new role amid mainland China competition and decline in container throughput
<https://www.scmp.com/news/hong-kong/economy/article/2024633/hong-kongs-port-seeks-new-role-a-mid-mainland-chinas-rise-and>

²⁶ China Daily Good maritime education explains HK's status as international shipping center
<https://www.chinadailyhk.com/articles/191/134/99/1554827646833.html>

inroads recently²⁷, with Danish shipping giant Maersk and British engine maker Rolls-Royce taking the lead with “advanced autonomous waterborne applications”. Hong Kong could invest in similar research & development of shipbuilding techniques. It did not have to be involved in actual ship construction, but could develop parts of a ship or even the software in Hong Kong, similar to Hong Kong International Terminals’ port management software used throughout the world.

The City University and University of Hong Kong has co-developed a special coating for the lower hull of ship with nanotechnology in 2018²⁸. It prevents marine creatures from growing on the hull, without the damage to the environment like the old Cu₂O paint. With this new technology, heavy metal pollution by the hull paint will be greatly reduced. This shows that there is great potential for the focus of R&D of shipbuilding in Hong Kong.

In addition, the HKSAR government has also been paying more and more attention to the nurturing of all-rounded maritime talents. As early as 2014, the Maritime and Aviation Training Fund, in the amount of HK\$100 million, was set up and operated. In the Policy Address released in November 2018, as one of the eight initiatives to support and enhance the development of high value-added maritime services, the government decided to invest an additional HK\$200 million in the fund to strengthen the cultivation of industry professionals, covering most of the professional training courses provided in Hong Kong.

To attract new blood to the industry, local universities and organizations have opened degrees and programme to be studied regarding the maritime business in Hong Kong. For example, the Hong Kong Polytechnic University’s Department of Logistics and Shipping offers undergraduate and postgraduate degrees in international shipping and logistics, while the City University of Hong Kong has the Hong Kong Commercial and Maritime Law Centre, which offers postgraduate courses in maritime law and the law of the carriage of goods by sea; in collaboration

²⁷ South China Morning Post Hong Kong’s port seeks new role amid mainland China competition and decline in container throughput
<https://www.scmp.com/news/hong-kong/economy/article/2024633/hong-kongs-port-seeks-new-role-a-mid-mainland-chinas-rise-and>

²⁸ 城大獲撥款逾二千萬元 研發全球首創低溫熱轉電技術 City U News Centre
<https://newscentre.cityu.edu.hk/zh-hant/media/news/2018/02/09/funding-boost-more-efficient-air-con-t-technology>

with the University of Plymouth in the United Kingdom, HKU School of Professional and Continuing Education offers undergraduate degree programs in maritime transport and logistics to working professionals; and the Maritime Services Training Institute under the Vocational Training Council provides a wide range of training courses for seafarers and maritime related practitioners. In addition, international maritime organizations, e.g. the Baltic and International Maritime Council, as well as local shipping associations, e.g. the Hong Kong Ship-owners Association, regularly or irregularly offer short to medium-term training courses to the working population to meet the needs of the industry.

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With the development of the shipping industry in surrounding regions, talents in shipbuilding could definitely find opportunities not just in Hong Kong, but throughout the world as well.

Conclusion

It is true that Hong Kong is long past its glory time in the shipbuilding industry. From its rise to one of the leading heavy industries in Hong Kong, to the gradual decline of ship docks in the 60s. However, let's not forget the fact that the industry has more than 100 years of history and witnessed the growth of Hong Kong. Shipbuilding will always be remembered as one of Hong Kong's pillar industries, one thing for Hongkongers to hold their heads up high and be proud of.

Despite being overtaken by neighbouring regions such as China and Japan, there is still a way for the shipbuilding industry to exist in Hong Kong. No matter it being industrial production or focusing on Research and Development, there is still a future for this industry. Our team believes from the bottom of our hearts that there is still hope and a future waiting ahead of us for the industry, if only the young people of Hong Kong can unit together.

²⁹ China Daily Good maritime education explains HK's status as international shipping center <https://www.chinadailyhk.com/articles/191/134/99/1554827646833.html>

<Ruling of the Seven Seas: the Rise and Fall of Hong Kong Shipbuilding Industry>

Category A: Written Report (Senior)

School: Holy Trinity College

Group members:

Chau Hui Tung

Fan Yui Chi

Cheung Sze Ki

Ng Wing Yee

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