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Location Characteristics of Cruise Terminals in China: A Lesson from Hong Kong and Shanghai

Xiaodong Sun [1], Tsz Leung Yip [2] and Yui-yip Lau [3,4,*]

1 School of Business Administration, East China Normal University, Shanghai 200062, China; xdsun@bs.ecnu.edu.cn
2 Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University, Hong Kong, China; t.l.yip@polyu.edu.hk
3 Division of Business and Hospitality Management, College of Professional and Continuing Education, The Hong Kong Polytechnic University, Hong Kong, China
4 European Centre for Social Responsibility, 900003 Constanta, Romania
* Correspondence: yuiyip.lau@cpce-polyu.edu.hk

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Abstract: Starting from the late 1960s, the cruise industry has appeared in two key regions, namely Europe and North America. However, the cruise industry has undergone fundamental changes which implies that the number of frequent cruisers is growing, with western travelers supposedly travelling to diverse cultures, attractive cruising destinations and exotic experiences in Southeast Asia for western travelers, and thus cruising in the Asian region has been happening at an enormous growing rate. Among the Asian regions, China is experiencing the fastest growth rates. Both Hong Kong and Shanghai established two cruise terminals which can be described as homeport cities in the 21st centuries. However, Hong Kong and Shanghai cruise terminals need to deal with neighboring competitors like Singapore, Japan, Vietnam, just to name but a few, in a challenging and dynamic environment. In order to examine Hong Kong and Shanghai's potential evolution into an international cruise terminal hub, we suggest Connectivity, Regional Competitiveness, Utilization, Infrastructure, Security, Environmental Management (CRUISE) framework to seize attainable prospect of the external environment and investigate locational characteristics of cruise terminals in Hong Kong and Shanghai respectively. The first mover and sustainable competitive advantage will be performed. Academic and managerial implications of the research findings for cruise terminals are elaborated.

Keywords: cruise terminal; Hong Kong; Shanghai; location characteristics; CRUISE framework

1. Introduction

Broadly speaking, cruise is described as any fare paying voyage for leisure and pleasure on-board a passenger vessel whose primary objective is the accommodation of guests, normally visiting different destinations with flexible routes. In other words, cruises are proposed as "the transportation of pleasure-seeking travelers on ocean voyages offering one or more glamorous ports of calls" [1]. Cruise is also defined as "any fare paying voyage for leisure on-board a vessel whose primary purpose is the accommodation of guests and not freight normally to visit a variety of destinations rather than to operate on a set route" [2]. The major elements of a cruise product component consist of transportation, accommodation, dining, ship-board entertainment, recreational activities, domestic and foreign ports of calls, and shore excursions [3].

In the 1920s, cruising was the preferred mode of travel for the world's social elite. Post Second World War (1945) cruising declined as a result of losing trade to passenger aircraft [4]. According to the Organization for Economic Cooperation Development (OECD) countries of Maritime Transport (1970),

there was a decrease in sea travel (1957–1970), which further reduced the need for passenger ships [5]. Thanks to scientific and technological advancement, tremendous improvements have occurred in the design, power supply, accommodation, and catering facilities of cruise ships in the past 30 years. Modern cruise ships create competition with land-based holidays, including hotels [6]. While cruise travelers are mainly motivated by relaxation, social gathering, and the beautiful environment and scenery, the worldwide cruise industry has shown a significant trend towards expansion over the past decade [7]. The global cruise industry served 7.2 million passengers in 2000 and 28.5 million cruisers in 2018, and up to around 30 million passengers in 2019 [8]. The cruise sector has become one of the most dynamic and profitable sections in the entire leisure and travel industry [9].

In general, the cruise market is divided into three main regions including North America, Europe, and Asia [10,11]. The cruise sector contributes to a significant component of the global tourism industry, especially in the region of Asia [4,12]. In recent years, Asia has recorded a higher growth rate than other regions. Many frequent cruisers are looking for attractive destinations, diverse cultures, and wonderful experiences which they would find in Asian regions, for example, mainland China, Hong Kong (China), Singapore, Taiwan (China), Japan, and Vietnam. In order to meet an increasing demand from cruise passengers in the forthcoming years, cruise lines are continuously increasing their capacity in terms of the number and size of cruise ships. Recently, the region of Asia has demonstrated a dramatic growth in the cruise tourism business. In 2017, 10.4% of global cruise ships were deployed in the region of Asia. Indeed, China accounts for around 6% of the global capacity. In 2017, the number of Asian cruisers exceeded 4 million. About 2.39 million (59%) cruisers sailed from China cruise ports (see Figure 1). Start from 2016, China has already surpassed Germany to become the second largest cruise passenger market in the world. We have provided the details in Figure 2.

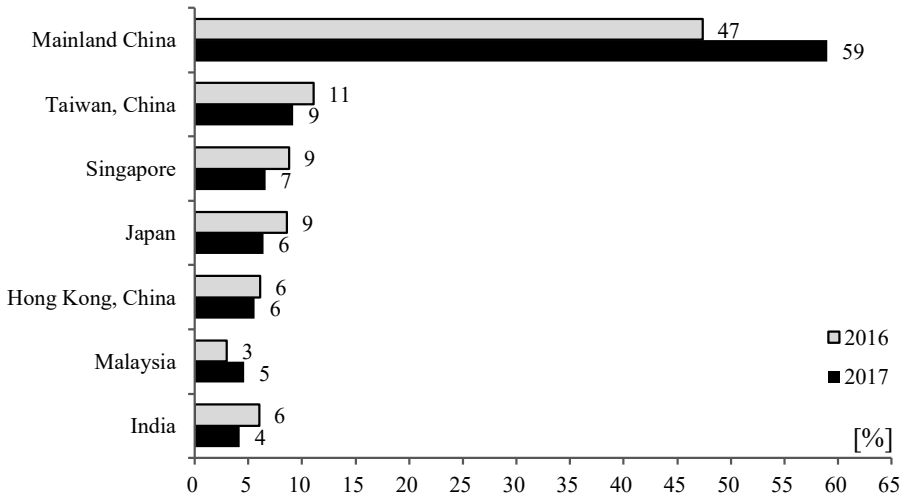

Figure 1. Passenger volume by source market. Source: Cruise Lines International Association (CLIA), 2018b.

In terms of infrastructure, the global homeport system is mainly distributed in the Caribbean, Mediterranean, and Alaskan regions [10,11]. In Asia, Shanghai Wusongkou is the largest home port, followed by Singapore and Hong Kong (China) [13], see Table 1 for scheduled calls by port. In China, both Shanghai and Hong Kong are now positioned in the Asia Pacific Cruise Center as well as operating two cruise terminals in one city. For a cruise city, the prerequisite of a sustainable cruise business is being included in attractive cruise itineraries. The location of the cruise terminal is one of the most important factors affecting cruise liners to select both departure ports and ports of call. To this end, identifying port location characteristics is one of the fundamental managerial requirements to develop a sustainable cruise tourism business.

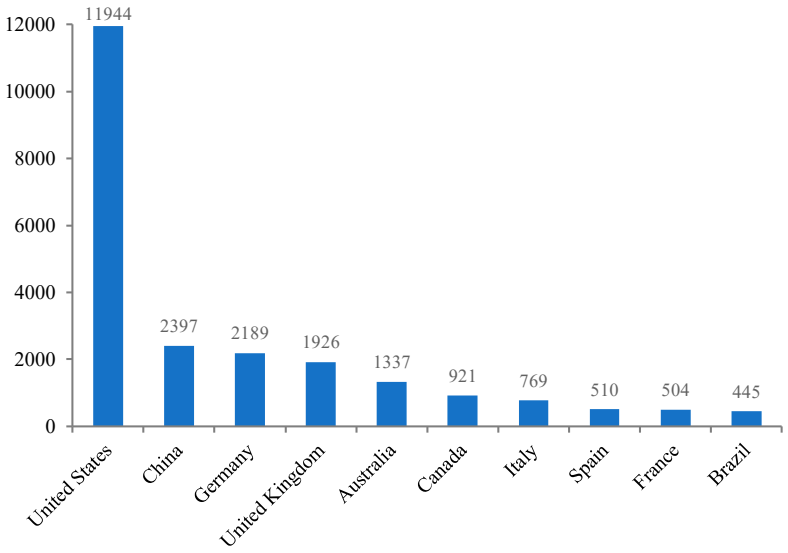

Figure 2. Top 10 cruise regions by passenger ('000) in 2017. Source: Cruise Lines International Association (CLIA), 2018b.

Table 1. Top 10 scheduled port calls by port in 2017.

Country	Port	Transit	Turnaround	Overnight	All
China	Wusongkou/Shanghai	18	539	24	581
South Korea	Jeju Island	477	0	0	477
Singapore	Singapore	24	325	44	393
Japan	Fukuoka/Hakata	297	42	2	341
Hong Kong	Hong Kong	63	163	37	263
Japan	Nagasaki	247	0	0	247
Malaysia	Georgetown/Penang	156	51	0	207
South Korea	Pusan/Busan	197	8	0	205

Source: Cruise Lines International Association (CLIA), 2018b.

In the academic community, there is an increasing number of research studies addressing the features of cruise ports [14]. However, studies on location characteristics of cruise terminals have received only minor attention. There is a significant research gap yet to be filled in relation to emerging markets, notably in China. Therefore, the current paper conducts a comprehensive study to achieve three objectives: (1) Investigate locational characteristics of cruise terminals in Hong Kong and Shanghai respectively; (2) propose a framework on how Hong Kong and Shanghai could be evaluated into an international cruise terminal hub; and (3) academic and managerial implications of the research findings for cruise terminals are investigated.

2. Literature Review

In the literature review, we have used the research papers from Chinese Social Sciences Citation Index (CSSCI) for Chinese journals and Social Sciences Citation Index (SSCI)/Scientific Citation Index (SCI) for English journals. In terms of the English journals, they are Scopus indexed. In past decades, cruising-related studies have been focused on tourism management and neglected by maritime transport management. In practice, cruising is similar to container liner shipping and hence, cruising-related topics are a part of maritime studies [15]. In past research works, there are only 55 academic articles that have discussed the cruise industry in the maritime transport research papers. In the context of maritime transport research papers, [16] was a pioneer in cruising research studies. The initial study mainly focused on discussing some structural aspects of cruising. Subsequently, [17] further reviewed cruising trends and analyzed the economic impact of cruise ships on the ports of call or the tourist destinations. Thus, the main themes of cruising research are to provide a historical evolution of

cruising and the characteristics of the cruising market in the 1980s. Starting from the 1990s, research studies not only identified the segments of the cruising market [18,19], but also passenger safety and cruise ship accidents [20,21].

There is a general awareness that, since the 2000s, cruising is significant for both researchers and practitioners. Over 85% of cruising research papers have been published during the contemporary period. Simultaneously, there were substantial works which addressed cruising management, economics (i.e., pricing, competition), and daily well-being of cruising activities. Typical examples including behavioral aspects of interfirm relations, customer perceptions of the cruise industry, the portfolio analysis of the cruising sector, cruise ship operational efficiency, safety management, cruising regulations and governance, and cruising sustainability, just to name but a few.

In terms of cruise ports or cruise terminals, past research studies typically investigated these aspects through content analysis and the questionnaire survey method. Ref. [22] found that the importance of site location according to different types of cruise ports (i.e., homeports, ports of call, or hybrid ports). Investigating three major cruise ports in Florida (i.e., Miami, Everglades, and Canaveral), [23] revealed that passenger handling capacity (i.e., customs clearance, service, etc.), surrounding hotel facilities, and onshore tourism products are important planning elements. In addition, homeports should pay more attention to surrounding hotels rather than ports of call. Ref. [24] took the Mediterranean cruise port as an example and identified the most important factors for cruise liners to choose their homeports which included accessibility of the port (i.e., whether there is an international airport), flight density and reliability, tourist facilities, cruise ship reception capacity, safety and security, urban tourism services, and local transportations. An empirical study on the Spanish port system by [25] showed that cruise ports that are close to hub airports with a large population and unique tourism resources are more likely to attract cruise calls and tourists. It seems that traffic indicators are the dominant factor. Recently, [26] employed the Google Maps platform to investigate public transport from ports of call to their hinterlands' tourist attractions in the Mediterranean. The regionalization of cruise ports scenario are emerged.

Recently, the World Tourism Organization reported that the sustainable development of cruising activities is needed to balance between socio-cultural, environmental, and economic areas [27]. Sustainable cruising development fulfils the needs of current tourists and grasps the future opportunities [28]. To this end, the negative impacts of cruising activities on society, the environment, and economy could be decreased accordingly [27]. Ref. [29] identified that the port of call sustainability analysis should include the significance of cruisers' intention and behavior. Currently, cruisers are deciding to select an environmentally responsible cruise product instead of a conventional cruise [30]. To this end, sustainability of the majority of port of calls relies on the implementation of actions that enhance their familiarity and reputation through environmental management [29]. Thus, cruise terminals are now striving towards responding to stakeholders' expectations and demands.

Regarding cruise ports/terminals characteristics in Asia, [14] used social network analysis to examine the centrality of cruise ports in Asia and identify hub ports in the region which consisted of Singapore, Shanghai, Hong Kong, Ho Chi Minh City, Nagasaki, Penang, Phuket, and Port Klang. Concerning a hub index, Singapore ranked first and then followed by Shanghai, Penang, Phuket, Hong Kong, and Port Klang. Ref. [31] applied the fuzzy-Analytic Hierarchy Process (AHP) method in analyzing the East Asia region. They revealed that geographical location, traffic conditions, environmental climate, culture, tourism attractions, and port facilities are critical factors determining cruise liners' ports of call selection. Accordingly, tourism attraction was the dominant factor and then followed by traffic accessibility. Based on multiple criteria, Singapore and Hong Kong were found to be the most attractive ports of call, followed by Phuket, Sanya, and Port Klang. In relation to cruise terminal site selection, [32] conducted an institutional analysis to explore how the location of the second cruise terminal in Hong Kong (Kai Tak Cruise Terminal) was selected by applying a semi-structured in-depth interview method. The results indicated that more stakeholders were expected to be involved in the location selection procedure compared to other transport terminals.

Apart from economic impacts, institutional factors such as norms, rules, policies, and decisions are also critical in the site selection process in the long-lasting effect. Furthermore, a variety of literature was focused on how cruise ports characteristics, ports of call, and destinations influence cruisers satisfaction from a marketing perspective [33–41].

3. Cruise Terminals in Mainland China

The cruise industry in China is under the introductory stage at around 10 years [11]. In 2006, the first homeport cruise ship, Costa Allegra was deployed in Shanghai Port International Cruise Terminal. This marked the beginning of the Chinese cruise industry development. In the past decade, China has intensively concentrated on the construction and further upgrade of cruise port facilities to meet the boom of cruise tourism. In 2016, China recorded over 2 million cruise passengers travelling to Asian cruise destinations, occupying the second largest cruise market in the world. After launching many infrastructure projects, a comprehensive cruise port system appeared along the China coastline [11]. Generally, the China coastline consists of 17 cruise ports such as Dalian, Tianjin, Qingdao, Weihai, Yantai, Lianyungang, Shanghai, Zhoushan, Wenzhou, Xiamen, Guangzhou, Shenzhen, Haikou, Sanya, Beihai, Fangchenggang, and Fuzhou (under construction). The clear picture is provided in Figure 3.

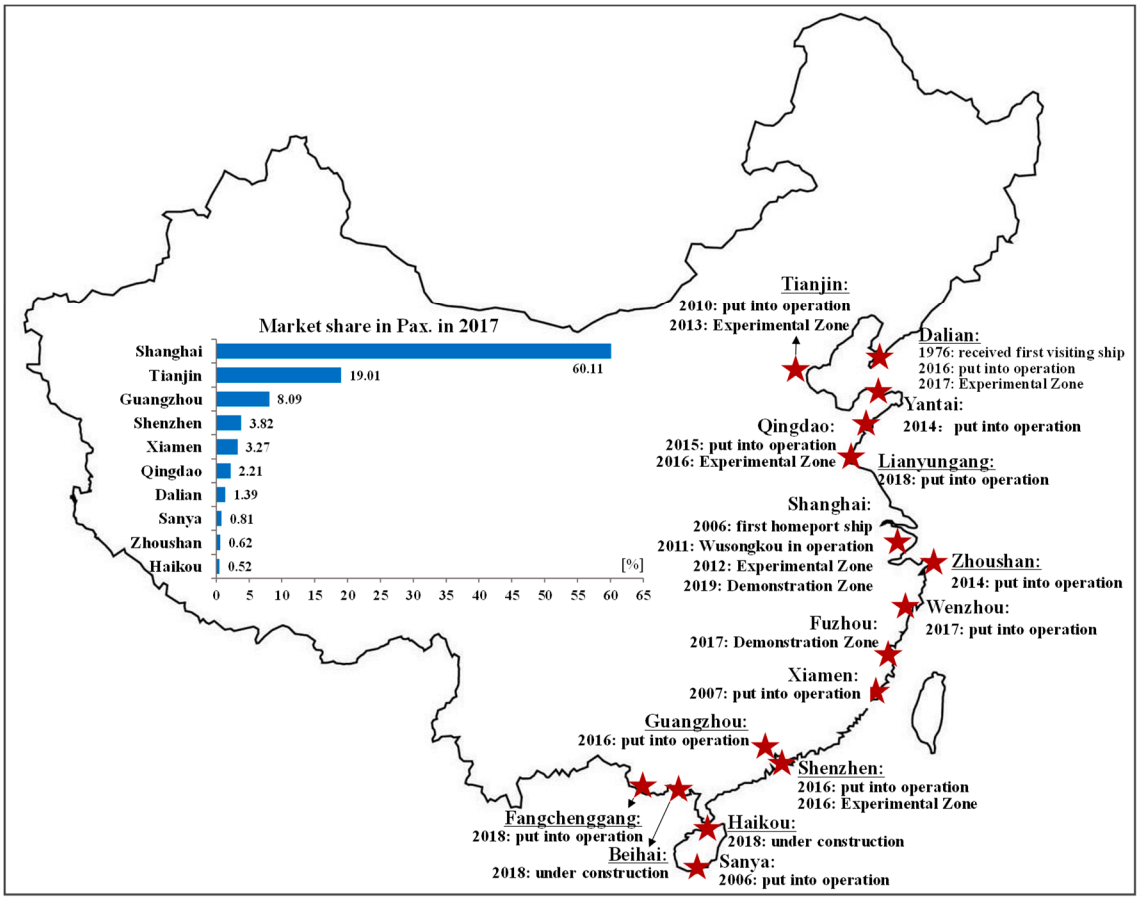

Figure 3. The cruise port system in mainland China.

According to statistics of the China Cruise and Yacht Industry Association (CCYIA; www.ccyia.com) in 2017, 11 of the major cruise ports in China received 1181 cruise ships and 4.954 million (inbound and outbound) tourists. Compared with the last year, it has increased by 18%. Shanghai ranked the first, accounting for 43.35% (512 port calls) and 60.1% (2.98 million cruisers) of total calls and passengers respectively, followed by Tianjin (14.82%, 175 calls; 19.01%, 0.94 million cruisers), Guangzhou (10.33%,

122 calls; 8.09%, 0.43 million cruisers) and Shenzhen (9.23%, 109 calls; 3.82%, 0.19 million cruisers). The details are found in Figure 3.

The rapid development of China's cruise ports is inseparable from strong government support. By 2019, the Ministry of Culture and Tourism of China approved Shanghai, Tianjin, Qingdao, Shenzhen, Dalian, and Fuzhou as the 'China Cruise Tourism Development Experimental Zone' to create an innovative development model of the industry. In order to maintain sustainable growth in China's cruise industry, the establishment of the 'China Cruise Tourism Development Demonstration Zone' was approved in Shanghai in August 2019. In doing so, it continuously encourages Shanghai to leap in cruise policy innovation, expand the scope of development, enhance economic benefits and upgrade the service level. So far, Shanghai has become the largest and the fourth homeport in Asia-Pacific and in the world respectively. Currently, Shanghai is now operating two cruise ports, namely the Wusongkou International Cruise Port and the Shanghai Port International Cruise Terminal.

4. A CRUISE Framework

As Davies and Ellis [42] pointed out that "sustained prosperity may be achieved without a nation becoming 'innovation-driven', strong 'diamonds' are not in place in the home bases of many internationally successful industries and inward foreign direct investment does not indicate a lack of 'competitiveness' or low national productivity." In the Porters' diamond framework, it includes factor conditions, demand conditions, related and support industries, and company strategy, structure and rivalry [43]. The relevance of the Porters' diamond framework with the aim of the context of the firm would create more value to its application in business [44]. Based on the Porter's diamond framework, it facilities to establish a comprehensive CRUISE framework considering inherent resources and acquired capabilities to explore the uniqueness and sustainable development of different cruise terminals. Hence, we extend the traditional Porters' diamond framework (1998) [45] into the Connectivity, Regional Competitiveness, Utilization, Infrastructure, Security, Environmental Management (CRUISE) framework in this section. To the best of our knowledge, this is the first attempt to extend Porter's diamond framework into cruise research studies. Based on the literatures [14,31,32,39,46–51], we hypothesize that the CRUISE framework enhances Hong Kong's and Shanghai's cruise terminals regional competitiveness in the Asia-Pacific region in this section. The framework is a representation of reality. The CRUISE framework contains the six main components to perform a cruise terminal operation. The CRUISE framework can be elaborated as C refers to connectivity, R refers to regional competitiveness, U refers to utilization, I refers to infrastructure, S refers to security, and E refers to environmental management. The key elements of the CRUISE framework are given in Figure 4.

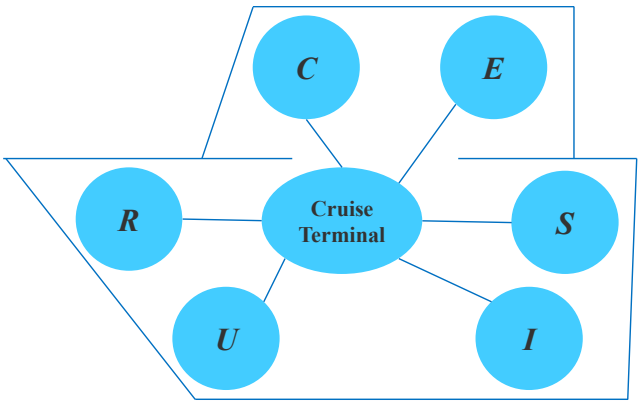

Figure 4. Connectivity, Regional Competitiveness, Utilization, Infrastructure, Security, Environmental Management (CRUISE) Framework.

C—Connectivity: [32] addressed connectivity as one of the critical success factors of cruise terminals. The location of the cruise terminal should be accessed conveniently and close to the city center [49]. In other words, the cruise vessel's "reason-to-come" into and near the city is essential. For a homeport, the transportation, especially aviation, is important due to passengers from all over the world coming to the homeport. Airport support, airline availability, and flight regularity are of high concern. Therefore, it is necessary to have a well-developed international airport, with smooth and fast custom clearance procedures. In addition, transportation from the airport to the cruise terminal should be very convenient. Railway connection with a smooth ticketing system between the international airport and the cruise terminal could be beneficial to tourists. Other one-stop public transports such as coach and taxi could minimize the time tourists spend on transit. Furthermore, transportation in town is very crucial for being a successful home port. Well-developed highways and tunnels between the cruise terminal and other urban areas could reduce the risk of a traffic jam in the city and unnecessary delay of the cruise departure under bad traffic conditions.

R—Regional Competitiveness: [50] suggested that the regional competitiveness is related to the industry competing with neighboring rivals by attracting investment from foreign, private, and public capital, creating innovation environments through skilled employees, entrepreneurs, and creative workers and facilitating technological development. Based on that, the excursions for shopping and sightseeing should not be too far away from the terminal. Usually, the cruise liner would design the pre-cruise or post-cruise sightseeing city tour for the passengers for an additional expense. These tours are designed for the tourists who will stay in the city from a few hours to a few days. Consequently, excursion destinations should be fascinating with various components from exploring local culture to sightseeing and shopping. Availability of hotel accommodation is crucial for these tourists who are willing to stay in the city for days.

U—Utilization: Cruising is affected by natural and institutional seasonality. Natural seasonality refers to natural circumstance like weather and climate. Institutional seasonality arises from religious, cultural, ethnic, and cultural factors [48]. Thus, some cruise terminals are not utilized or under-capacity in non-peak seasons [14]. Under-capacity leads to cruise terminals facing the problem of diseconomies of scale. The under-utilization of cruise terminals induces low profitability [52]. To overcome the shortfall, cruise terminals collaborate with cruise liners so as to attract cruise liners call to the cruise port frequently. Also, cruise liners redesign the cruise itinerary to increase the port call significantly. In the long term, cruise terminals could launch promotional campaigns with different stakeholders like tourism associations, cruise liners, travel agents, and government bodies.

I—Infrastructure: The size of the vessel is getting bigger and bigger; therefore, cruise liners should consider the capability of accommodating the cruise, such as pier length, pier width, terminal space. Thus, this is the time for cruise ports to develop investment plans for cruise terminal infrastructure [48]. Ref. [31] addressed that a well-developed infrastructure is one of the key factors in cruise home port competition. Once the cruise arrives to the city, many passengers prefer planning their trips by themselves instead of joining the excursions provided by the cruise. An information desk with lots of useful information about the local city such as a map and guide should be provided. At the same time, the information desk should be big enough with sufficient manpower to accommodate and serve the big crowd of tourists. Foreign currency exchange stores with numerous counters should be available in various spots in the terminal as many tourists may not have the local currency. The locations of both the information desk and local currency stores should be easily accessed with clear signage and direction.

Normally, tourists reach the terminal much earlier than the cruise departure time. Shopping centers with local products and restaurants should be available in the cruise terminal. Operation hours should be long enough to cover all the cruises' departure time. Restaurant variety is one of the other concerns. It is preferred to have different cuisines to cater for the taste and preference of people from around the world.

As a home port, tourists will come along with luggage. To be more convenient and user-friendly, the terminal should have clear signage and direction for the tourists to go to the cruise. The connection

between the drop-off points of public transport to the cruise with moving walkways or shuttle bus could save time and enhance the experience. Thus, the comfort of infrastructure of cruisers embarkation or disembarkation is critical for cruiser satisfaction [39].

Smartphone and laptops are common equipment that cruise tourists would bring along. In the cruise, Wi-Fi hotspots, Internet service, and cellular rates are extremely expensive. The price range is from 35¢ to $1 US per minute. Even though the cruise arrives at the port, the price may be slightly lower by switching to the roaming rate of the telecommunication provider of the local city. It is necessary to provide Wi-Fi service in the terminal, like airports.

S—Security: Cruisers recognized that they perceived a risk of terrorist threat in the forthcoming years [47]. Ref. [39,51] pointed out that cruise terminals should strengthen port security construction like increasing security checkpoints. In addition, cruise terminals need to carry out a security plan to prepare for terrorist attack and maritime piracy [32,47]. Normally, the cruise would stay at the port for 8–10 h [53]. The waiting area of the terminal, customs quarantine control area, and counters for entry and exit control should be sufficient. The speeding up of the process of customs clearance, efficiency and manpower support is importance. Ideally, the home port, for attracting the big vessels such as Allure of The Seas of the Royal Caribbean International, should be capable of handling over 3000 people within one hour.

E—Environmental Management: Cruise terminals create an energy model to evaluate the effectiveness of the building's energy conservation measures. The key elements include (1) energy saving switches to control lighting; (2) high performance building envelope; (3) high performance glazing; (4) heat recovery and Variable Air Volume (VAV) systems; (5) high efficiency fans, pumps, and motors; (6) installation of energy efficient lighting systems; and (7) variable speed pumps on the chilled water and domestic water systems.

Air emission is another key issue of environment management. In cruise liners operations, they are dependent on the use of fossil fuels. As a result, sulfur oxide emissions pose human health risks. In China, there are appointed emission control areas for air pollutants. This is urgently in demand for cruise terminals where they are very close to densely populated cities such as Hong Kong and Shanghai [46]. Thus, environmental management could achieve cost reductions and enhance sustainable development in the cruise industry.

5. Case Studies

5.1. Hong Kong Cruise Port

In recent years, Hong Kong has showed dramatic growth in the cruise industry [7]. Asian cruise travelers were expected to grow from 1.07 million in 2005 to 2.38 million by 2020 [13]. Hong Kong is located at the heart of Southeast Asia where Hong Kong is near the northeast coastal cities of China (Guangzhou, Xiamen, Ningbo, and Shanghai), Japan and Korea, as well as near the southwest countries including Vietnam, Thailand, Singapore, Malaysia, the Philippines, Indonesia, and Bali [7]. Also, Hong Kong is an aviation hub in Southeast Asia. Hong Kong is connected to about 180 destinations served by more than 100 airlines [54]. Fly–cruise packages stimulated the development of the Hong Kong cruise industry. Currently, Hong Kong has established two cruise terminals to enhance the competitive advantages in Asia.

5.1.1. The Ocean Terminal

The British government granted the operating right to Kowloon Wharf in 1966. Kowloon Wharf could conduct a large scale redevelopment project pertaining to building the first-class cruise terminal for international cruise liners and the first commercial mall in Hong Kong [32]. The Ocean Terminal is located in Tsim Sha Tsui where it is a vibrant and dynamic city with strong Chinese traditions blended with a colorful Western culture. The Ocean Terminal is in close proximity to tourist attractions such as Avenue of Stars, Tsim Sha Tsui Promenade, Clock Tower, and Star Ferry, and nearby the Hong Kong

Culture Centre, Hong Kong Museum of Art, and Hong Kong Space Museum. The Ocean Terminal could provide a 'guest experience' which attracts numerous luxurious and elegant cruise vessels from various cruise lines like Costa, Crystal, Cunard, Hapag-Lloyd, Princess, and Star Cruises in the past years [55]. After Kai Tak has opened its cruise terminal, the Ocean Terminal will be mainly serving cruise ships of smaller size (below 50,000 tons).

5.1.2. Kai Tak Cruise Terminal

Since the Ocean Terminal was inadequate to serve an increasing number of cruise liners in peak seasons and the enlarging size of mega cruise ships, cruise liners have no alternative to disembark passengers either in anchor or in the open waters of the Victoria Harbor or near the Kwai Tsing Container Terminal. Building the new cruise terminal in Kai Tak seemed inevitable. The Kai Tak cruise terminal was officially opened on 13 June 2013 and the second berth was ready in mid-2014. Kai Tak cruise terminal could serve mega size cruise ships and is positioned as a cruise home port. In order to become a cruise home port, many international cruise ships call the ports, a large scale of the metropolitan city, and excellent transport connectivity. The surrounding area and facilities of the Kai Tak cruise terminal is rated at an unsatisfactory level. At the initial stage, the Kai Tak cruise terminal could establish a trans-shipment cruise hub for Southeast and Northeast Asia regions. The Kai Tak cruise terminal can become a cruise home port at a later stage [32]. To promote the cruise industry and cruise-related economy, Hong Kong Tourism Board signed an agreement with the Taiwan Tourism Bureau, Ministry of Transportation and Communications [56].

5.2. Shanghai Cruise Port

Since the time of the founding of the Xia dynasty in the 21st century, China has recorded the history of more than 5000 years and is recognized as one of the four ancient civilizations in the world. China is situated in eastern Asia and the western shore of the Pacific Ocean, with an inland and coastal water area of more than 4.7 million square kilometers. The continental coastline extends for approximately 18,000 km. The vast areas of land and long coastline generate the favorable development of the cruise industry. Sea transport is one of the popular transport modes in the Chinese tourism industry. There were 4.6 million passengers arriving in China by sea transport in 2013 [57]. In China, with geographical advantages, sound infrastructure, and tourism development experience, the government is planning to build more cruise terminals, notably in Shanghai. In the Shanghai government's port development blueprint, for the next five years, cruise business in Shanghai is the main focus, and it is targeted to be developed into a home port. In Shanghai, there are two terminals, Shanghai Port International Cruise Terminal and Shanghai Wusongkou Cruise Port Terminal.

5.2.1. Shanghai Port International Cruise Terminal

The Shanghai Port International Cruise Terminal, is located in the center of Shanghai, connects the Bund in the west and faces the Oriental Pearl Tower over the Huangpu River to the south. It is connected within 50 km from Pudong International Airport, Shanghai Hongqiao International Airport, Shanghai Railway Station, Shanghai Hongqiao Railway Station, and Shanghai Wusongkou International Cruise Port. Also, it has an 882-m wharf shoreline. Up to now, there are 3 cruise berths and 15 yacht berths available for cruise ships, yachts, and sightseeing boats.

The gross space of this terminal is about 400,000 square meters, including a 130,000 covered site area. It consists of a cruise terminal, port building, lodging, office buildings, marine museum, shopping centers, cultural centers, and other recreational facilities [58]. This terminal allows three mid-sized (i.e., less than 70,000 tons, because of the height limitation of Waigaoqiao Bridge) cruise ships to stop at the berth at the same time. The total capacity of the terminal is 1,000,000 passengers. In order to handle more passengers and attract more tourists, the Customs, Border and Immigration Office is working hard on simplifying the process for ships and passengers traveling to the region.

Due to the geographical location, normally, the cruises choosing this terminal as a home port is mainly for travelling between Shanghai and Korea or between Shanghai and Japan [59].

5.2.2. Shanghai Wusongkou Cruise Port Terminal

The development of the Shanghai Wusongkou Cruise Port Terminal started in 2009. It targets the current biggest cruises. After the completion of the first phase of the project in 2011, Wusongkou had owned 774-m of shoreline with a 354-m berth and a 420-m berth. Consequently, the terminal could accommodate one 100,000-ton cruise ship and one 200,000-ton cruise ship at the same time. To facilitate the crowd flow, the terminal provides the passenger boarding bridge so that the tourists could reach the terminal building directly and conveniently. The second phase of the project started in 2015. The terminal added two new berths by extending the shoreline by 380 m upstream and 446 m downstream. The total length of the wharf would be extended to 1600 m. After being finalized in July 2018, the Wusongkou International Cruise Port owns the berth capacity consisting of two 150,000-tons and two 230,000-tons. The cruise ships can berth at the same time. The terminal is expected to receive 800 to 1000 cruises per year and over 3 million cruisers annually. On 13 July 2018, the new passenger terminal of the Shanghai Wusongkou International Cruise Port was put into trial operation. Three large cruise ships, the Majestic Princess, the Novo True Pleasure, and the Mediterranean Glorious, arrived at the cruise port, bringing more than 20,000 inbound and outbound tourists together.

However, the location is a problem. The terminal is far away from the Shanghai Pudong International Airport. There is neither a connecting train station, nor public transport available. The tourists may either take a taxi directly from the airport—the taxi journey is about 90 min—or go to the urban area by train and then take the taxi to the terminal. There is no parking space in the cruise terminal; instead, the tourist could be dropped off inside the pier if they go there by taxi [59].

Based on the CRUISE framework, we would like to create a comparison table to evaluate the four named cruise terminals in the six key areas. Through the comparison table, it enables the researchers to easily compare similar items and look at multiple significant attributes quickly among four cruise terminals. The comparison table is listed in Table 2.

Table 2. Comparison of CRUISE elements of Hong Kong and Shanghai terminals.

CRUISE Framework	Hong Kong		Shanghai	
Elements	**Ocean**	**Kai Tak**	**Shanghai Port**	**Wusongkou**
Connectivity	+++	-	+++	-
Regional Competitiveness	+++	+	+++	+
Utilization	+++	+	+++	+
Infrastructure	+	+	+++	+
Security	+++	+++	+	+
Environmental Management	+	+++	+	+

Remarks: Excellent refers to "+++"; Moderate refers to "+"; and Poor refers to "-".

6. Discussion and Conclusions

The cruise industry in Asia is consistently increasing. To generate more economic development from the cruise industry, many Asian countries are building the new cruise ports or renovating the existing ports with world class facilities so as to becoming a home port or even the port of call [60]. In recent years, the new cruise ports are targeting to accommodate the widest and biggest sized cruise ships in the world, for examples, Allure of The Seas of the Royal Caribbean International, which has 225,282 gross tonnage with maximum capacities of 6296. In doing so, we found that the Kai Tak cruise terminal and the Shanghai Wusongkou cruise terminal are the second cruise terminals in Hong Kong and Shanghai respectively.

In our study, it clearly shows that there are insufficiencies in the location and site selection of cruise terminals, as well as the interactions between urban land use and cruise terminals. Theoretically,

we assume that the perfect pre-condition of the site to grow a cruise terminal was not obtainable in the initially selected area. However, the government decided not to choose another site, crucially overlooking the rationality and predilection of the cruise industry. The government eventually chose to confirm those requirements to the appointed site only after the new cruise terminals were formally set up.

In principle, the key roles of the new cruise terminal in both Hong Kong and Shanghai are to enlarge capacity and enhance service quality to cruise liners and cruisers. Nevertheless, we investigated the poor site selection process when creating the new cruise terminals related to the key common problems encountered in both Hong Kong and Shanghai which consist of poor connectivity, an insufficient infrastructure support, low capacity utilization creating the diseconomies of scale, a lack of regional competitiveness, a lack of new cruise tourism product, and a majority of cruise liners are unwilling to establish the regional office or headquarter in that city [32]. A major problem Shanghai now faces is the imbalance of inbound and outbound cruise tourism. From a geographical perspective, Wusongkou is far from the main scenic spots in Shanghai. Thus, it is difficult to design suitable shore excursion products and sightseeing. In addition, when more than two cruise ships berth at the same time, traffic congestion often occurs surrounding the Wusongkou port area. Since both cruise terminals are still under the maturity stage, connectivity, regional competitiveness and utilization is still a questionable in developing a sustainable home port in the forthcoming years.

Being a home port, tourists would stay at the country before or after the cruise for a relatively long stay, which could support the related business sectors including hospitality, logistics, and tourism. Apart from tourist spending, the local employment in various related business sectors benefited. The home port would provide the cruise for staying, repair and maintenance. To a certain extent, it can establish a sustainable tourism city in the region of Asia.

With the rapid development of the industry, various environmental problems will happen. When a cruise ship berths, the large electricity consumption requires a large amount of heavy oil and diesel oil. It will stimulate adverse environmental pollution. Hong Kong and Shanghai have room for improvement in the green cruising management. Developing an environmental city with an e-transport system is required to be incorporated into green tourism opportunities in the forthcoming years. Although a shore power system has already been put into operation in Shanghai, it remains insufficient. Sometimes cruise ships need to be modified to align with the power equipment specification. Furthermore, there are no clear guidelines and mechanisms to carry out a monitoring system for effective tracing of green indicator.

Besides, security remains a key concern for cruisers and cruise liners in Shanghai. In order to improve the security level, cruise terminals can draft security plans, provide staff training together with cruise ship drills and exercises regularly, implement cruise ship security alert systems connected with land-based authorities of any potential hijackings, maritime piracy or terrorist attacks, and evaluate the threat and vulnerability of cruise ships [47].

This study provides a conceptual idea of the location characteristics of cruise terminals in China. The CRUISE framework can be further investigated by semi-structured, in-depth, face-to-face interviews with different industry stakeholders in order to make a comparative study across the cities in China. As a result, it can provide useful guidelines for Chinese cities to establish a regional cruise hub in Asian regions in the forthcoming years.

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