

An application of the Porter's diamond framework: the case of Hong Kong airfreight industry

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Abstract

The Hong Kong airfreight industry faces keen domestic rivalry due to the emergence of Cathay Pacific's new air cargo terminal. The emergence of new air cargo terminal brings the airlines with low switching cost and strong bargaining power over air cargo terminals. They face cut-throat competition among each other. This paper investigates the internal and external environments and examines the performance of Hong Kong airfreight industry like the growth rate of air cargo throughput, operational efficiency and market share. Regarding the competitive business environment, we identify the key factors of strengthening the role of Hong Kong as an international air cargo hub. This paper applies the Porter's diamond framework to illustrate that how Hong Kong airfreight industry utilizes their inherent resources and enhances capabilities to compete with neighboring competitors like Guangzhou Baiyun International Airport and Singapore Changi Airport in dynamic and challengeable environment. This paper applies the concept of regional competitiveness to critically assess Hong Kong's potential evolution into an international air cargo hub. It provides an opportunity to look at the competition encountered by Hong Kong airfreight industry and grasps feasible opportunity in the external environment. The sustainable competitive advantage and first mover advantage will be achieved.

Keywords: Hong Kong Airfreight Industry, Domestic Rivalry, Porter's diamond framework, Regional Competitiveness, Sustainable Advantage, International Air Cargo Hub

1. Introduction

According to the Policy Address delivered by the Chief Executive of Hong Kong in 2001, the government of the HKSAR has recognized that the logistics industry was one of the four pillars in Hong Kong economy. The airfreight industry is an important element in Hong Kong logistics industry. In the review of airfreight industry in Hong Kong, there is a recent report conducted by GHK (Hong Kong) Ltd, an individual research organization authorized by The Airport Authority Hong Kong. Hong Kong is still the prime hub for forwarding logistics business among Southern China region. Hong Kong not only provides an extensive and excellent of transportation system, but also endows the leading international network connecting China to other parts of the world. Thus, it requires shorter flight time during the whole shipment. Compared with Taiwan, the required flight time is 6% shorter; Compared with Manila, the required flight time is 10% shorter; Compared with Singapore, the required flight time is 36 % shorter. It can help to save the total fuel cost by HK\$40 millions annually as there are fewer flights time required (Schwieterman, 1993). In terms of invisible cost, including flight connections, custom clearance, cargoes handling efficiency, facilities, security, and Hong Kong International Airport (HKIA)'s advantages has outweighed over our neighborhood competitors. According to the report from GHK (Hong Kong) Ltd, it shows that using different airports can charge different charges and then affect the cost of shipment. From the Table 1, it can see that the shippers can gain the greatest cost advantage if they use HKIA. It revealed that there is the competitiveness of Hong Kong air cargo business.

Table 1: Comparison of Tangible Cost between Hong Kong International Airport, Guangzhou Baiyun International Airport and Shenzhen Baoan International Airport

Airport	Hong Kong International Airport	Guangzhou Baiyun International Airport	Shenzhen Baoan International Airport
Destination			
Los Angeles	HK\$19,750	HK\$24,900	HK\$27,000
Frankfurt	HK\$27,150	HK\$28,400	HK\$29,300
Tokyo	HK\$18,800	HK\$18,900	HK\$19,300

Sources: GHK (Hong Kong) Ltd, 2006

In fact, Hong Kong has ranked as one of the world's leading international airports since 1996, handling about 3.7 million tons of cargo in 2007. The air cargo has recorded around 1.3% of Hong Kong's total cargo throughput, but it contributes to 35% of its total external trade value at HK\$1,946 billions in 2007 (source: Hong Kong International Airport, 2008). Besides, there is a report commissioned by the Airport Authority Hong Kong, cargo volumes handled at HKIA will surge by 6% a year in the coming year. Last but not least, the Airports Council International mentions that Hong Kong is ranked the first in handling international cargo and the fifth in international passengers respectively in 2007. Table 2 illustrates the air cargo throughput at HKIA.

Table 2: The air cargo throughput at HKIA

Year	Tonnage ('000 tons)
1998	1,629
1999	1,974
2000	2,241
2001	2,074
2002	2,479
2003	2,642
2004	3,090
2005	3,402
2006	3,579
2007	3,742

Source: Hong Kong International Airport, 2008

However, there have been a few studies to review in airfreight industry, especially in Hong Kong. This study helps to illustrate that how Hong Kong airfreight industry utilize their inherent resources and enhance capabilities to compete with neighboring competitors in the dynamic and challengeable environment. The resources are heterogeneity, rare, imperfectly mobile, imitable and non-substitutable (Peteraf, 1993). The critical resources can either tangible like infrastructure, airport facilities and configuration, or intangible like individual expertise and skills, know-how, reputation and customs particle that the Hong Kong airfreight industry owns, controls and access to on a semi-permanent basis (Helfat and Peteraf, 2003; Lai, 2004; Valentin, 2001). On the other hand, the capacity is related to the competences and capabilities of the Hong Kong airfreight industry to perform a coordinated set of tasks to build, integrate and reconfigure the internal and external resources and capabilities so as to appropriately match the opportunities in the environment (Helfat and Peteraf, 2003; Teece et al., 1997). In the literature, it is suggested that the core competence can help the firms to differentiate themselves so as to build up their customer-focused capabilities (Lai, 2004). The customer-focused capability is the concept of market orientation and it comprises segmental focus, relevancy, responsiveness and flexibility (Zhao et al., 2001). Following this concept, it can help the Hong Kong airfreight industry to differentiate from their competitors on providing a wide variety of air cargoes service and attain better service performance in the final outcome (Lai, 2004).

Therefore, this study aims to (1) explore the internal and external environments of the Hong Kong airfreight industry, (2) apply the Porter's diamond framework to identify the key factors of

strengthening the role of Hong Kong as an international air cargo hub and how Hong Kong airfreight industry utilizes their inherent resources and enhances capabilities to compete with neighboring competitors, (3) propose directions for the Hong Kong airfreight industry to sustain competitive advantage and enhance regional competitiveness in Asia region, (4) discuss under-explored topic for future research in Hong Kong airfreight industry.

2. The Current State of the Hong Kong Airfreight Industry

Thanks to globalization, the Hong Kong airfreight industry facing the stiff competition and rising expectations from their customers. Accordingly, the airfreight industry not only provides port-to-port transport, but also offers a wide variety, customized and differentiated customer services with different customer requirements like priority lift, courier lift, secure lift, live animal lift and fresh lift. The Hong Kong airfreight industry requires changing from manual operation to automatic operation so as to deliver the services and the product at the right time, at the right place, at the right condition and at the right people. Recently, Cathay Pacific (CX) initiates actively to become Asia's biggest carrier. CX uses HK\$8.22 billions to take over the business of Dragon Airline by stock acquisition (source: Cathay Pacific Airways Limited, 2006). This acquisition make Cathay Pacific Asian's biggest airline which allows CX to develop its mainland flight route. After CX took over Dragon Airline's share, it is accessibility to mainland market will bring in more cargo capacity for CX. Because of profitable routes into the mainland's fast-growing airfreight market and the leading air cargo terminal operator in Hong Kong, the Super Terminal 1 is insufficient to provide effective cargo handling service to CX. In 2007, the Super Terminal 1 annual throughput of air cargoes around 2.63 million tones and the land area is 171,322 sq.m. The overall land use efficiency is approximately 15.4 tons per sq.m (source: Hactl, 2007; Hactl Press Release, 2008). Their efficiency will be further reduced when the cargo volume increase in the coming years. At the same time, a 10-year contract between CX and Hong Kong Air Cargo Terminals Limited (Hactl) will be expired in 2009. In a view of this, CX develops an independent air cargo terminal seems to be inevitable. CX invests an approximately HK\$4.8 billions to set up an independent cargo terminal in the second half of 2011 and have gained the award of franchise for 20 years at HKIA (source: Cathay Pacific Cargo Press Release, 2008). It can deal with the airline's rapid growth in cargo volume and product enhancement, especially mainland China. With Cathay Pacific Airways plans to set up an independent new air cargo terminal at HKIA, it brings an additional cargo handling capacity and attracts more cargo flights at HKIA. It further consolidates Hong Kong as an international air cargo hub in the world.

In case of CX's new terminal is recognized as a third cargo terminal operator (CTO), Asia Airfreight Terminal (AAT) will be found herself in a more stiff competition due to other airlines can also use CX's cargo terminal. Nevertheless, CX establishes new air cargo terminal creates competitive pressure and rivals on Hactl and AAT. On the other hand, CX intends to establish its own airfreight terminal by backward vertical integration (Slack and Fremont, 2005). It can be viewed as the value-added chain in a total integrated logistics system and integrated conglomerates (Davis and Duhaime, 1992; Notteboom, 2002). Through backward vertical integration, company sets up their subsidiaries that the whole supply chain are managed itself. (i.e. they produce some of the inputs and use it in the production process. The final outcome is to produce own products). In this case, CX hopes to provide air cargoes handling services by its own subsidiary company in the return of benefits. In the commercial level, CX can enjoy the low cost competitive advantage due to efficiency increases and input utilization (Fronmueller and Reed, 1996). Compared with Hactl's land use efficiency, the target of new air cargo terminal can bring over 25 tones per sq.m (source: Cathay Pacific Cargo Press Release, 2008). Also, CX can develop the diversification in this industry and one stop-shop services to customers. It can improve the customer service level accordingly (Notteboom, 2002; Slack and Fremont, 2005). In the strategic level, CX can enjoy the lower cost of operation and then can offer the lower price to the customers. In other words, it can attract other customers to use CX air cargo service from other air cargo terminals and build up their cargo network extensively. On the negative side, the backward vertical integration creates significant costs for CX like administrative cost, strategic cost (i.e. sunk costs and commitment escalation) because of the problem of complexity in coordination and communication within CX (Fronmueller and Reed, 1996).

The Hong Kong airfreight industry not only faces domestic rivalry, but also encounters neighboring pressure in Asia region. Thanks to open skies policies, airline market deregulation and alliance, it creates the pressure and strong competition in the airfreight industry (Francis et al., 2002; Park, 2003). The open skies policies stimulate the liberalization in the aviation industry. It will further remove the capacity control of each route and entry barriers (Forsyth et al., 2006). In addition, it permits airlines to set prices and quantities without any restriction while they are free to form the ownership arrangements and alliance without government intervention (Adler and Hashai, 2005; Forsyth et al., 2006). Consequently, the notion of regional competitiveness facilitates the Hong Kong airfreight industry to encounter a competitive market in Asia region. The regional competitiveness (European Commission, 1996) is defined as “the ability to produce goods and services which meet the test of international markets, whilst at the same time maintaining high and sustainable levels of income, or more generally, the ability of regions to generate, while being exposed to external competitions, relatively high incomes and employment levels.” The regional competitiveness leads to the Hong Kong airfreight industry to achieve a sustained competitive advantage. The sustainable competitive advantage is related to the Hong Kong airfreight industry implements value creating strategy which is not able to duplicate and difficult to implement or imitate by the neighboring rivals in a longer period (Barney, 1991; Dierickx and Cool, 1989; Oliver, 1997). The nature of airfreight industry is fundamentally heterogeneity that they have comparative advantages and disadvantages in the dynamic environmental circumstances (Barney, 1991; Peteraf, 1993). According to Ghemawat (1986), there are three effective strategies mention that it can create the sustainable competitive advantage in Hong Kong airfreight industry. They are (1) the size in the targeted market, (2) superior access to resources or customers and (3) restrictions on competitors’ options. Hence, they will exploit their inherent strength and weakness as well as responding to opportunities and threaten others (Barney, 1991; Valentin, 2001).

3. Application of the Porter’s Diamond Framework in Hong Kong Airfreight Industry

The concept of regional competitiveness has gained considerable attention and widespread support from the associated institutions and academicians. It brings significant effect on enhancing economic performance like wage, employment rate, exchange rate, trade volume and GDP per capital as well as gaining sustainable competitive advantage of the regional development (Porter, 2003). In the regional competitiveness, the location factors cannot be ignored because (1) the localization of industry foster the specialized local providers of inputs to production, (2) the speedy of the diffusion of information generates technological spillovers in the localized industry, (3) the pooling of specialized labor stimulates the local demand (Budd and Hirmis, 2004). It facilitates the agglomeration economies and upgrades the productivity in the clusters (Porter, 2000). According to Porter (2000), each industry can be grouped into the cluster of related and supporting industries plays a significant role on the economic development. The Hong Kong airfreight industry can be grouped as the clusters where it consists of freight forwarders, third party logistics service providers, airline companies, air cargo terminal operators, government, truckers, trade associations. The clusters are also linked by commonalities and complementarities that create the spillovers across airfreight industry and professional and academic institutions (Porter, 2000; Porter, 2003). Indeed, the Porter’s diamond framework (1998) and the regional competitiveness can provide a theoretical foundation to assess how Hong Kong match its internal competences to its external environment and hence consolidate as an international air cargo hub (Porter, 1981).

3.1. Porter’s Competitive Advantage of Nations

The Porter’s national ‘diamond’ framework integrates the comparative advantage of different industries with the theory of competitive strategy (Grant, 1991). The nature of industry is fundamentally heterogeneous in resources and capabilities leads to have a comparative advantages and disadvantages in the dynamic environmental circumstances (Peteraf, 1993). With the analysis of the Porter’s competitive advantage of nations, it is the firms rather than nations and it is the principal actors. In fact, the principal role of the nation is the ‘home base’ which can help to shape the identity of the firm, the character of the top management, the approach to strategy and organization and to

determine the availability and qualities of the resources available to the firm. In the Porter's diamond framework (1998), it has identified four interacting determinants that constitute the 'national demand'. Hence, it affects industry's ability to establish and sustain competitive advantage in the competitive environment (Grant, 1991).

- *Factor conditions*: it refers to the factors of production creates the industry's comparative advantage in the international market. Basic factors can provide the initial advantages like the natural resources, climate and location (Grant, 1991; Porter, 1998). For instance, Hong Kong is located at an optimal location. People can move toward over half of the world population within 5 flying hours. There are over 85 airlines (including 19 cargo-only carriers) operated in HKIA. The HKIA has connected with more than 150 locations in 47 countries around the world. Aircrafts land off and on the airport for about 800 times everyday. The frequency of flight provides shippers and passengers' flexibility in cargo-shipping and traveling (source: Hong Kong International Airport, 2007). Due to Hong Kong's high accessibility, Hong Kong have been established as an aviation hub in Asia-Pacific region. However, the basic factors cannot provide sustainable competitive advantage leads to the individuals, governments and companies invest in the advanced factors. The specialized factors of production include individual expertise and skills, know-how, infrastructure, technology and communication (Grant, 1991; Helfat and Peteraf, 2003; Lai, 2004; Porter, 1998; Valentin, 2001). Such as, The Airport Authority Hong Kong invests HK\$4.5 billions to expand its apron in order to serve new large aircraft A380 and the Low Cost Carrier like Jetstar Asia and Northwest Airlines. HKIA can maintain its competitive advantage as it increases its capacity in terms of passenger and cargo without providing extra timeslot. Most importantly, The Airport Authority Hong Kong invests HK\$3 billions on the addition of Cargo Stands and taxiways. There will be 10 additional Cargo Stands in 2007. Thus, it can increase their cargo capacity as HKIA forecasts that the cargo growth will be expected to average 6% per year in the next 20 years (source: Hong Kong International Airport, 2007). The advanced and the specialized factors can help Hong Kong airfreight industry gain the strategic position with the factors of production.
- *Demand conditions*: the industry innovates faster and the sophisticated 'home demand' can create the competitiveness. The industry needs to respond the sophisticated home demand by rapid improvement of product and offering the superior product quality, features and service (Porter, 1998). Such as, HKIA and Hactl through his subsidiary Hong Kong Air Cargo Industry Services Limited (Hacis) have formed the collaboration on establishing the Air Cargo Consolidation Centre (ACCC) in the Futian Free Trade Zone in Shenzhen. It is just only 1 km away from the Lok Ma Chau border crossing in Hong Kong. Under ACCC, It can help to improve efficiency for exporters and cargo agents and ensure the reliability and enhance connectivity within the HKIA catchment area. Most importantly, it can facilitate the flow of goods to Hong Kong as well as enhancing HKIA's position as a primary cargo gateway for China (source: Hactl Press Release, 2003).
- *Related and supporting industries*: the related and supporting industries are regarded as the complementary products or services of the industries. The close working relations and the ongoing coordination of related supporting industries enhance the competitive advantage of the industries (Porter, 1998). There are many actors participate in the Hong Kong aviation industry like the airline companies, freight forwarders, air cargo terminals, third party logistics service providers and trucker. Through the information technology, it can closely coordinate with different parties in the same platform. Take the real case of AAT. AAT has participated in the Digital Trade and Transportation Network (DTTN) pilot where it transforms the house manifest data from the forwarders' Freight Management system automatically to the AAT preferred format through the DTTN platform. Hence, AAT can receive timely and accurate information as well as the forwarders can save time in capturing data of the AIMS. The AIMS is a web-based application system and platform that enrich the operational transparency and fully integrate with government, airlines and other air cargo community systems. Under this tool, it facilitates the shipment declaration process by submitting the house manifest faster and accurately and traces the shipment record in real time (source: <http://www.aat.com.hk>).

- *Firm strategy, structure and rivalry*: the rivalry is an essential ingredient of the competitive advantage of the industry. The domestic rivalry leads to the visible pressure on the firm to lower costs, improve quality and innovation. Hence, it can upgrade the competitive advantage of the industry (Grant, 1991). For instance, Hong Kong airfreight industry is a competitive business leads to the domestic rivalry between each other. Hactl and AAT are the same nature of business and they compete with each other. Because of the technology improvement and process re-engineering, Hactl has increased their handling capacity from 2.5 millions tons to 3.5 millions tons of cargo. At the same time, AAT Terminal 2, which cost HK\$1.75 billions in construction, will be completed by the end of 2006 with an annual handling capacity of 910,000 tons. Together with its terminal 1, AAT can provide 1.5 millions handling capacity (source: Hong Kong International Airport, 2008). After CX established their air cargo terminal, it will further increase the cargo handling capacity and efficiency and the airlines have more choices of airfreight terminal and gain the benefit like rebate.

The 'diamond' framework is an interactive system which the four determinants are highly correlated and interdependently with each other and upgrade the competitive advantage of industry over time. The domestic rivalry accelerates the Hong Kong airfreight industry innovates and invests the advanced factors of production to offer specialized supporting service (Grant, 1991). The supporting industries are able to respond the home demand (Porter, 1998). Such as, Haxis has implemented the Superlink China Direct. It is the customs-bonded air-road connection between HKIA and 57 locations around the PRD region. Also, the Northbound and Southbound modes provide consolidated truck services and chartered truck service for Import and Export cargos. In addition, there are six inland cargo depots serve as a cargo collection and distribution centre in the PRD region. Apart from this, the inland cargo depots with applicable IATA city code which enable airlines to use a direct Master Airway bill to ship cargo from overseas to major cities in the PRD regions. In other words, it can provide one-stop service to the shippers. However, the domestic rivalry and the customers are highly sophisticated and knowledgeable leads to rapid improvement and upgrade their service by the Hong Kong airfreight industry. The advanced and specialized factors like physical infrastructure, skilled personnel and knowledge bases in airfreight industry can help the Hong Kong airfreight industry to upgrade their competitive advantage continuously (Porter, 1981; Porter, 1998). Haxis extend his Superlink China Direct Northbound service between HKIA and Humen, Dongguan. Haxis forms the joint venture with Dongguan Humen Great Trade Container Port Company Limited so as to extend their cargo network at the Inland Cargo Depots in the Pearl River Delta (PRD) as well as the vast manufacturing base in South China. The integration of South China region enhances the cross-boundary efficiency and hence reducing cargo transit time and transportation cost accordingly. It can provide time-definite delivery of cargo and stable service to shippers (source: Haxis Press Release, 2005).

The government plays a vital role on enhancing the role of Hong Kong airfreight industry as an international air cargo hub. The government measurements can influence the four determinants indirectly and partially through the variety of actions in the Porter's 'diamond' framework (Porter, 1998), shown as Figure 1.

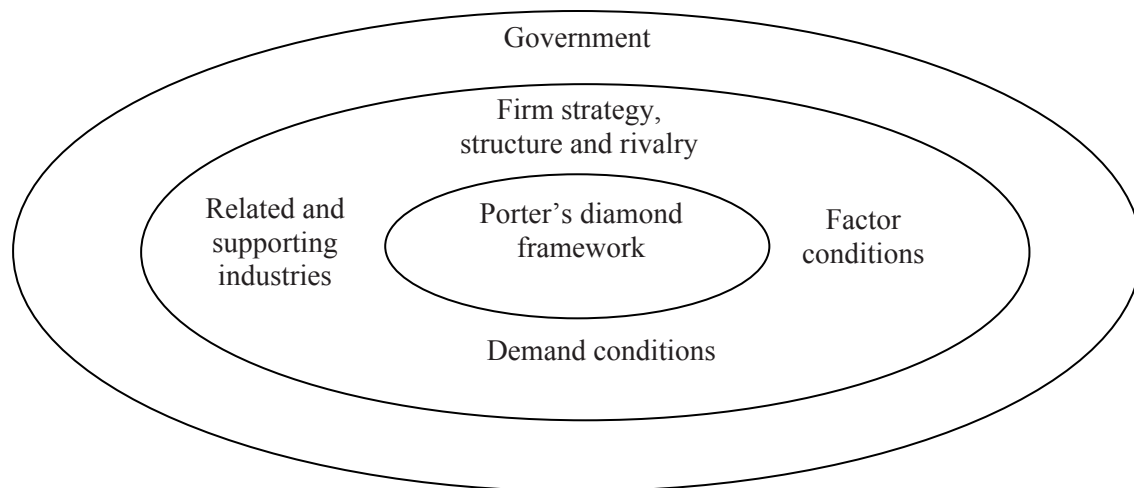


Figure 1: Porter's Diamond Framework
Source: Porter, 1998

- Providing the subsidies to the airfreight industry in Hong Kong. For the land or surface connectivity, it must continue an appropriate physical infrastructure development in order to streamline the border crossings and ease of infrastructural bottlenecks. For instance, the Hong Kong-Shenzhen Western Corridor provides direct access to the eastern PRD area while Hong Kong-Zhuhai-Macau Bridge enhances the connections between HKIA and western PRD area. It can integrate the hinterland within PRD area and bring more cargo sources from PRD area to Hong Kong (source: HKIA Master Plan 2025).
- Establishing a trade-freedom city. Hong Kong has recorded their weighted average tariff rate was zero percentage in 2005 and Hong Kong's economy is 90.3% free in 2008 (source: 2008 Index of Economic Freedom). As most of the commodity enter Hong Kong are tariff-free, it can attract the enterprises do the investment in Hong Kong and absorb cargo.
- Preparing the fifth freedom to Hong Kong by the CAAC. There will be the ASEAN Open Skies in 2015. There will be full liberalization of air services within Asia region (Ionides, 2008). It implies that Hong Kong will be easier to enter into the mainland and increase the catchment area in mainland regions due to without any restrictions for carriers to fly within Asia region.
- Developing creative and value added logistics services to shippers. The government collaborates with air cargo operators to develop streamline intermodal transportation network through customs clearance technologies like a common e-platform. It can simplify the custom clearance procedure and enhance the flexibility of cargo delivery (source: HKIA Master Plan 2025).

Recently, the academic institutions and literature reviewers are increasing awareness of regional and national economies by using the concept of “industry clustering” (Porter, 2003). A cluster emphasizes the importance of coordination and mutual improvement while the reducing level of rivalry intensity and competition in the community (Porter, 2000). According to Porter (2003), he defines “clusters act as a geographical proximate group of interconnected companies, suppliers, service providers and associated institutions in a particular field.” The cluster analysis is a classification tool that can help the Hong Kong airfreight industry characterized as clusters of related and supporting industries (Punj and Stewart, 1983). It can help to define different cluster boundaries in the Hong Kong airfreight industry (Lun et al., 2009).

- 1st party users: parties that own the products to deliver like Small Medium Enterprises (SMEs), global traders.
- 2nd party users: parties that own the airport facilities or vehicles to offer delivery and logistics services like airlines, air cargo terminal operators, warehouse operators, truckers.
- 3rd party users: parties that provide customized services to the shippers like third party logistics providers, freight forwarders.

- 4th party users: parties that implement the trading regulations like trade associations and government to meet customer requirements and increase customer service level.
- 5th party users: parties that provide consultation services and research studies like research centre and academic institutions to enhance the regional competitiveness of Hong Kong airfreight industry.

Clusters are important because of the externalities connect the constituent industries like common technologies, skills and knowledge (Porter, 2000). It creates knowledge spillovers and interconnections between upstream firms like air cargo terminal operators and downstream firms like freight forwarders. Thus, it not only facilitates the vertical and horizontal linkages among the boundaries of industries, but also encourages the agglomeration activities and specialized service in a regional economics (Budd and Hirmis, 2004; Cooke, 1997; Grant, 1991; Porter, 2003). Recently, the development of Traxon is a breakthrough in the Hong Kong airfreight industry. It can gain global connectivity and worldwide access with different partners like airlines, freight forwarders, airports, GHAs, GSAs. Besides, it can increase efficiency and enhance flexibility due to real time communication in the electronic neutral platform (source: <http://www.traxon.com>).

3.2. Regional Competitiveness

The competitiveness is a universal term which is mostly applicable to the business and economic environment. It is a way of benchmarking which is used for the firm to evaluate themselves and compare the internal performance with competitors. Hence, the firm gets superior performance by ongoing improvement (Budd and Hirmis, 2004; Francis et al., 2002). According to the Department of Trade and Industry (UK), “the competitiveness is the ability to produce the right goods and services of the right quality, at the right price and at the right time” (source: <http://www.dft.gov.uk>). The competitiveness is also defined as the firms has the ability to compete in the international market through the policy inputs like business environment, physical infrastructure and knowledge infrastructure as well as the essential conditions like business performance, productivity, price and cost and labor supply so as to increase efficiency and effective (National Competitiveness Council, Ireland, 2006). In addition, the Organization for Economic Cooperation and Development (1996) identify the national competitiveness is “the degree to which it can, under free and fair market conditions, produce goods and services which meet the test of inter-national markets, while simultaneously maintaining and expanding the real incomes of its people over the long term.”

According to the study of Porter (2003), the regional competitiveness is related to the Hong Kong airfreight industry competes with neighboring rivals by attracting investment from foreign, private and public capital, creating innovation environments by skilled employees, entrepreneurs and creative workers and facilitating the technological development. To illustrate, HKIA can attract the foreign, private and public capital due to receive revenue earnings from air side support services franchises and there is profit attributable to equity shareholder of HK\$2,273 millions. Besides, the HKIA creates innovation environments with about 60,000 skilled labor workforces. Last but not least, the airfreight terminal like Hactl and AAT has fully automation so as to increase cargo handling capacity and enhance security level (source: HKIA Master Plan 2025). The HKIA creates the agglomeration economies by a high employment level and a high income consists of aeronautical revenue like landing fees, parking fees, aerobridge fees and passenger services and security tax and non-aeronautical revenue like airport concession fees and franchise fees in the region. It can contribute to Hong Kong’s evolution into an international air cargo hub.

4. Conclusion

This paper discusses the importance and the role of airfreight industry in Hong Kong. In the coming years, CX will build own cargo terminal leads to the stiff competition between each other and reduce the level of monopolize in the aviation industry. This brings the significant effect on Hong Kong’s airfreight industry. The airlines will have more choice of air cargo terminal and gain the benefit like reducing the cargo handling charges and rebate due to the cut-throat policy. Besides, it can increase

the cargo handling capacity so as to meet the increasing demand in the future. In this study, we apply the concept of regional competitiveness to critically assess Hong Kong's potential evolution into an international air cargo hub. To deal with this situation, we address some practical measures for Hong Kong airfreight industry to encounter the competition and grasp the feasible opportunity in the external environment. Thus, it can gain sustainable competitive advantage and first mover advantage.

Actually, there are a few studies and literature to discuss and analysis on the airfreight industry, particularly in Hong Kong. In the past study, few of the literature use the qualitative method to analysis in the aviation industry. This study not only explores the internal and external situation of airfreight industry in Hong Kong, but also applies the Porter's diamond framework to identify the key factors of strengthening the role of Hong Kong as an international air cargo hub and how Hong Kong airfreight industry utilizes their inherent resources and enhances capabilities to compete with neighboring competitors. To supplement that idea, we also apply the concept of regional competitiveness to highlight some important points about how to sustain Hong Kong as an international air cargo hub in the literature. To begin with, the government should develop the hardware in the air side and land side within the transportation network so as to increase HKIA's capacity and connective. Hence, it can build up the multi-modal transportation. With the help of closer regional linkage and new facilities with advance technology, Hong Kong airfreight industry's crowns will not being dethroned by the neighboring competitors. Secondly, Hong Kong needs to establish a trade-freedom city where it can attract the enterprises do the investment in Hong Kong and absorb cargo. Thirdly, HKIA needs to cooperate with mainland like the customs clearance and the bilateral agreement and freedom of air so as to increase the connection to mainland area. In other words, it can attract more airlines to use HKIA and then increase revenue in the final outcome. Last but not least, Hong Kong's airfreight industry is not only to maintain a cost-effective expansion strategy, but also need to provide value-added service so as to exceed customer expectation. We believe that Hong Kong's airfreight industry will have prosperity in the future.

On the other side, we should take account of some limitations in this study. This study mainly focuses on the business view to analysis the airfreight industry in Hong Kong. However, there is a lack of study on the airfreight operation and focus on the cargo side in the aviation industry only. On the other hand, this study mainly focuses on the qualitative analysis to explain the framework for managing Hong Kong airfreight industry. In the future research, we carry out an extensive survey so as to get a comprehensive study and thoroughly analysis of the Hong Kong airfreight industry. This can inspire our new insights about the framework for managing Hong Kong airfreight industry.

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