

A Work Project, presented as part of the requirements for the Award of a Masters Degree in
Management from NOVA School of Business and Economics

Relocation Trends in Manufacturing and the Impact on South China Exports

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June 10th, 2016

A Project carried out as an extension of the Business Project developed during the CEMS
semester at HKUST Business School, in collaboration with

Hutchison Port Holdings Trust

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Abstract

HPH Trust's business was supposed to be impacted by the relocation trends that the manufacturing industry is actually undergoing in South China, due to changing factors such as rising wages and policy changes. A combination of quantitative analysis and qualitative studies, based on comprehensive desk research, found that relocation trends are limited and might even represent a growth opportunity if HPH Trust extends its catchment area to West and Centre China provinces, through end-user marketing. Lastly, an academic discussion over the "Diamond of National Advantage", illustrated by Michael E. Porter in his publication "The Competitive Advantage of Nations", is presented.

Keywords

Relocation Trends – South China – Manufacturing Industry – Porter's Diamond

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1. CONTEXT

1.1. Client

Hutchison Port Holdings Trust (HPH Trust) is the first publicly traded container port business trust. Listed on the Singapore Exchange (SGX), HPH Trust is affiliated with Hutchison Port Holdings (HPH): a subsidiary of CK Hutchison Holdings Limited, which is the world's leading container terminal operator by throughput handled. Its leadership position derives from its network of port operations, which comprises 269 operational berths in 48 ports, spanning 25 countries throughout Asia, the Middle East, Africa, Europe, the Americas and Australasia.

In particular, HPH Trust owns interests in world class deep-water container port assets located in two of the world's busiest container port cities by throughput - Kwai Tsing (Hong Kong) and Shenzhen (People's Republic of China) - as well as, the economic benefits of two river ports, namely Jiangmen and Nanhai Terminals, and certain port ancillary services, both complementary to the deep-water container port's core business.

HPH Trust is well positioned to leverage the scale and the exposure to trade flows in the Pearl River Delta thanks to its world class facilities with natural and superior operational advantages, underpinned by long-term operating rights. First, its strategically-situated terminals with direct deep-water channel approaches and optimised design and layout, can accommodate the world's largest mega-vessels. Second, its award-winning terminal operating system, nGen, and its advanced cargo handling equipment and infrastructures, enable HPH Trust to streamline port processes, improve the efficiency of port operations and enhance information exchange with shipping lines by integrating with their systems.

For all of these reasons, HPH Trust is positioned as market leader in South China and is able to maintain a strong and established global connectivity, thanks to both its extensive network of ports and to its established relationships with the world's major shipping lines, logistics parties and shippers.¹

1.2. Market Overview

In the last three decades, the soaring manufacturing industry has not only fostered the outstanding economic growth of People's Republic of China, but has even led to intensive investments in the maritime sector, undertaken in order to address the increasing volumes of containerised cargos.² In particular, several ports have been newly constructed or, enlarged whenever possible. Along the coastal area of People's Republic of China, three main port agglomerations have emerged: 1) the Bohai Bay port agglomeration, which comprises the harbours of Qingdao, Tianjin and Dalian (respectively ranked #7th, #10th and #14th in 2014 in terms of global port throughput); 2) the Yangtze River Delta port agglomeration, where Shanghai is the dominant port, followed by Ningbo-Zhoushan harbour (respectively ranked #1st and #5th in 2014 in terms of global port throughput); and 3) the Pearl River Delta port agglomeration, where Shenzhen and Hong Kong clearly show a dominant position (respectively ranked #3rd and #4th in 2014 in terms of global port throughput), followed by other relevant ports such as Guangzhou and Xiamen (respectively ranked #8th and #17th in 2014 in terms of global port throughput).³

It is important to note that Hong Kong port lost its leadership position as the world's busiest port in 2005, surpassed by Singapore first and by Shanghai second, in 2007. In the last two years, it has also been overtaken by the fast-growing Shenzhen and Ningbo-Zhoushan harbours. While Shanghai, Singapore and Ningbo-Zhoushan have been mainly serving different cargo sources from Hong Kong, the neighbouring Shenzhen port has been able to erode Hong Kong's competitive advantage to serve outbound shipments. In the last decade, Shenzhen has managed to attract increasing volumes from the Pearl River Delta catchment, forcing Hong Kong to reposition as a transshipment hub in order to stay competitive in the market. Proximity to cargo sources, lower road haulage costs and terminal handling charges per TEU, diminishing intangible cost advantages of Hong Kong, trade facilitation measures undertaken by Mainland

authorities and the development of advanced logistics parks in China have made Shenzhen the top choice for forwarding a cargo from South China. This exemplifies inter-cluster port rivalry.⁴ However, by analysing the current port industry's competitive landscape, it is also necessary to examine intra-cluster port rivalry. To increase their catchment areas, harbours are increasingly competing among themselves, even outside their agglomerations. Rivalry among the ports within each cluster is clearly stronger, but due to harbours' expansions in scale and to the development of infrastructures in inland provinces, competition intra-cluster is becoming increasingly relevant, overall between Yangtze and Pearl River Delta agglomerations.⁵

1.3. Current Client Situation

HPH Trust is facing several issues, which are particularly affecting the Hong Kong's port performance. In recent years, there has been a severe increase in competition from Chinese ports, namely Shenzhen, Shanghai and Ningbo-Zhoushan. At Kwai Tsing, throughput has dropped for 22 straight months as more shipping lines prefer to call newer facilities in China, avoiding the city's crowded cargo terminals.⁶ As a result, Hong Kong's port traffic fell 9.5% through all of 2015, while container volume rose 1.4% at Shenzhen's terminals through November, compared with the previous year. Mainland Chinese ports have a clear proximity advantage as they are closer to manufacturing areas. Furthermore, the new class of mega-vessels is also too large to fit well into Hong Kong's shallow channels when fully loaded, while can enter deep-water ports along the Chinese coastline with more ease. These are reasons for cargo-handling costs in Shenzhen port to be 5% up to 20% less than in Hong Kong, creating in this way, a relevant cost advantage.⁷ Not being competitive in treating outbound shipments, Kwai Tsing has repositioned itself as a transshipment hub. However, this shift in the cargo mix is challenging the terminals' ability to move huge numbers of containers around the port.⁸ Serving as a hub for large shipping alliances requires thousands of inter-terminal moves to

reposition containers, and the port cannot cope during peak times, resulting in chronic congestion. Land constraints represent a major obstacle to the fulfilment of its new role. The yard area per berth in Hong Kong is less than half of the international average. Additionally, more mega-vessels are plying the world's ocean. These giant ships create surges in volumes with every port call and place immense pressure on the terminals. The mix of these two factors is generating congestion at port's berthing and storage facilities: with shipments to US and European markets way down, the big ships frequently have to wait for incoming cargo, still in transit, before they can be fully loaded and be underway. The storage may be for months. Longer storage means more space is needed. This compounds congestion.⁹

Another factor which is adding pressure to the terminal operator business is the global shipping industry. Large shipping lines are establishing strategic alliances or even consolidating, increasing in this way their bargaining power when dealing with the ports all over the world.¹⁰ Lastly, HPH Trust may face some problems due to the potentially diminishing manufacturing base in the Pearl River Delta, its primary catchment area, consequently to relocation trends. This may be partly a symptom of China's economic slowdown and it is now casting a cloud for all the South China ports, including Shenzhen and Hong Kong.¹¹

1.4. The Business Project Challenge

Being the regional leader in the container port industry, and recognizing the potentially harming relocation trends, it is important for HPH Trust to understand the direction and the strength of relocation movements across the most relevant industries. This would allow HPH Trust to quantify the severity of the problematic and to be better prepared with an appropriate medium to long-term strategy. HPH Trust should try to find possible solutions to ensure a sustainable business growth, with a solid positioning in the region, even with a potential decrease in exports from the region.

2. REFLECTION ON THE WORK DONE AND INDIVIDUAL CONTRIBUTION

The aim of the Business Project is to understand the possible root causes behind relocation trends in manufacturing industry and to determine their current and future impact on South China exports. Based on the results of the investigation, practical and actionable recommendations that HPH Trust could implement in order to maintain and even improve its strategic position within the region, are elaborated.

2.1. Problem Definition

Looking at the current scenario, HPH Trust's business might be impacted by the relocation trends that the manufacturing industry is actually undergoing in South China, due to changing factors, such as rising wages and policy changes. Several issues have emerged in recent years that have made it more problematic, for manufacturers operating in Pearl River Delta and in other areas of South China, to retain their businesses in the region. First, slowdowns in global markets have resulted in relevant disruptions of the established trade patterns, due to more volatile product demand from US and EU. Second, labour shortages, rising wages, appreciating Chinese Yuan and US Dollar, higher material costs, and other factor cost increases are affecting the region's cost position and creating additional pressure for manufacturers.¹² At the same time, several changes in regulatory and legal structures, such as stricter regulations in export processing, labour and environmental rules in China, have added complexities and compliance cost burden for the manufacturers, particularly for small-medium enterprises.¹³ Rising costs and stricter regulations are clearly a "push factor" for manufacturing companies operating in the Pearl River Delta and other areas of South China. Natural destinations when manufacturers decide to migrate, appear to be South and South-East Asian countries, where factor costs are lower, labour force is more abundant, regulations and restrictions are looser and FDI incentives are significantly more attractive. Furthermore, inland provinces in China represent other

potential relocation sites. Indeed, the Chinese government's plan to achieve balanced growth across the country, has resulted in some preferential incentives being offered to firms considering relocation to these areas. Such "pull factors" include incentives such as tax rebates, fast-tracked approval for the establishment of businesses, favourable land supply arrangements, and improved transport and logistics infrastructures from inland provinces to major gateway ports.¹⁴ Lastly, nearshoring is another possibility that sourcing managers have when deciding to relocate from South China region. Need for faster speed to market and for reliability, are reasons to migrate closer to the domestic market to benefit from a lower and more secure productive lead time. Because of these developments and due to the new emerging opportunities in other locations, some manufacturing facilities are currently relocating to other parts of China, to South or South-East Asia or even to the rest of the world. This might clearly have a negative impact on South China's export volumes and therefore on HPH Trust's operations.

2.2. Methodology

2.2.1. Hypotheses

The initial hypotheses developed supposed that relocation trends were a game changer for manufacturing industry in China and in particular in South Region. Several migration movements were expected to be observed, with those having a relevant impact on the volumes exported from both China and South Region.¹⁵

Across industries, different sectors were predicted to behave differently, due to structural characteristics and to a distinctive sensitivity to changes in costs and other non-cost factors (e.g. regulations, trade agreements). However, wide variances within each industry were not anticipated to be extremely significant in terms of strength and direction of relocation trends.¹⁶

The assessment of a selection of four industries, namely toys, apparel, furniture and electronics,

was considered to be sufficient to derive conclusions on the relocation behaviour of other productive areas and of the manufacturing sector more generally.

In terms of direction, other provinces in inland China and low-cost countries in South- and South-East Asia were foreseen to be the most probable destinations for factories moving out of Pearl River Delta and Guangdong province. The manufacturing novices, namely South-East and South Asian countries, thanks to their lower factor costs of production, were considered to be the major receivers of relocating factories.¹⁷

Cost considerations were assumed to be the major criterion in the decision-making process for relocation to other manufacturing sites. Soaring factor costs in China were deemed to be the main reasons to migrate to more favourable and cheaper destinations.¹⁸

Other factors, not directly related to costs, such as productivity and reliability of the workforce, or enforced regulations and trade agreements, were considered to be important in the decision-making process but somehow secondary with respect to costs.

To conclude, relocation trends might have important consequences on the port industry and specifically on HPH Trust's terminal operations, as decreasing volumes from manufacturing sector would negatively impact its business. Lower volumes would mean fewer calls from shipping lines to HPH Trust's ports, and thus poorer connectivity to other world destinations. But it would also mean fewer income opportunities as the number of containers handled would be reduced. This would result in additional pressure on profitability, already challenged by other above mentioned factors, such as increasing bargaining power of shipping lines. A further complicating factor is related to HPH Trust's business nature which is capital and investment intensive and rather inflexible: the terminals cannot be easily transferred, upgraded or rebuilt. Restructuring the business through structural changes is therefore difficult and expensive. Thus, it was considered to be extremely important for HPH Trust to anticipate possible developments and harmful trends, concerning its key business, to be able to influence actionable factors.

2.2.2. Analysis

The analysis confirmed only a part of the initial hypotheses. Desk research, quantitative and qualitative studies gave a more complex and comprehensive picture with respect to what was expected in the beginning.

Through interviews, data analysis of export volumes, and report readings, it was possible to establish that relocation trends are not a game changer for manufacturing industry in South Region and in China. Indeed, in the next years, China will only show a slower growth pace but will continue to rank number 1st in terms of export volumes. At the same time, although East and West China grew at a faster pace in the last ten years and stole part of South China volume share, Pearl River Delta and Guangdong province will maintain their predominant position and show positive growth figures in volumes.

Some migrations movements are definitely happening both at global and at China level. Worldwide, some developing countries, particularly in Asia, are entering the manufacturing industry. This is indicated by their increasing volume shares and higher growth rates. Concerning China, coastal provinces in the East and inland provinces in West and Centre China are attracting some manufacturing production. However, these migration movements appear to have only a limited impact on the export volumes coming from China and South Region, and thus also on the HPH Trust's business.¹⁹

By studying four different sectors, namely toys, apparel, furniture and electronics, it was observed that different industries are behaving differently and that these variations are due to sector's structural characteristics and to a distinctive sensitivity to changes in costs and other non-cost factors.

Due to the high need for expertise, innovation and industry agglomeration, toys industry is less sensitive to cost increases than other industries. China will remain market leader in the next years and South Region will retain its leadership position, even after a loss in share with respect

to East China. West Region shows the highest growth, but it has a marginal share within the toys market.²⁰

Due to its sensitivity to labour costs, apparel industry and overall its lower-end sector, is prone to move to countries with lower wages in South and South-East Asia. China is expected to maintain its leadership position in the next years, but it is also projected to show a negative growth and a decrease in worldwide volume share. This is the only industry studied where China is expected to lose ground in the coming years. Within China, East China and West China, have gained share with respect to South China with the latter showing the highest growth.²¹

Due to its reliance on productivity and efficiency, and its need for scale, China will remain leader in the furniture industry as all of these factors are present and ideal. Within the sector, there are some movements to lower costs destinations such as Turkey and Poland, which have been showing strong growth figures. In China, there has been a shift from South to East and West Region with the latter showing the highest growth.²²

Due to its high need for expertise and industry agglomeration, electronics industry is relatively insensitive to cost increases and mainly remain in China. However, due to costs and environmental policy considerations, there have been also some movements to less developed countries. Within China, electronics industry has been mainly retaining in South Region, notwithstanding the loss in volume share with respect to East Region.²³

Apart from the importance of examining the differences among industries, the study has proved the relevance of analysing the variations within each sector. Indeed, different segments of the same industry, behave in distinctive manners. In particular, low-end, less sophisticated commodity producers tend to be more sensitive to cost increases and will look for less developed areas to find cheaper production factors. While, high-end, more sophisticated commodity producers tend to be more sensitive to the quality of production factors, such as

expertise of the workforce and reliability, efficiency, speed of the value chain, and will thus prefer to remain in China and South Region, where these are abundant and favourable. During the several interviews conducted, similar results have been found across industries: the segment which has been always named to be relocating is the low-end, less sophisticated category. Therefore, the initial hypotheses about a uniform observable pattern for each of the industries under review, has been dismissed as wide variances within each sector, at least between low-end and high-end products, are observable in terms of strength and direction of relocation trends.

The assessment of the above mentioned four industries was also sufficient to derive conclusions on the relocation behaviour of other productive areas and of the manufacturing sector, more generally. Specifically, it has been observed that there are some industries that will remain very strong in South Region and in China, as productive clusters, which are difficult to transfer, are already established. Expertise and productivity of workforce and speed, reliability and efficiency of value chain are further reasons to maintain the production in Pearl River Delta and Guangdong province.

In terms of direction, Inland and East provinces in China have been the major destinations for factories moving out of Pearl River Delta and South Region. East and West Regions have been increasing their shares of export volumes, at the expense of South Region, in all the industries under study. These areas have also grown faster than South Region, overall Centre and West provinces. Despite a visible relocation shift to other parts of China, the integrity of the export volumes coming from South Region has not been irreversibly impacted by these movements. Surprisingly with respect to what was initially expected, movements outside China to lower cost destinations are happening but with a much smaller order of magnitude of the one foreseen. Due to their lower factor costs of production, the manufacturing novices, namely South-East and South Asian countries, were considered to be the major receivers of relocating factories.

However, these movements are limited only to some commodities and countries. Apparel is the industry which has been migrating to a larger extent (to South and South-East Asian countries), while for other industries, only the low-end production has been transferred outside China. In terms of countries, Vietnam, United Arab Emirates, Turkey, Mexico, Poland and Bangladesh are the ones showing the highest growth with the largest volume share. Thus, it is possible to assume that these countries are suitable recipients for relocation when it happens outside China boundaries. Low-cost South- and South-East Asian countries are top choices when transferring the manufacturing sites, with Vietnam being the most relevant relocation site outside China. However, the presence of Turkey, United Arab Emirates, Mexico and Poland as top growing manufacturing areas suggests that nearshoring is also a valid option for sourcing managers.

In the initial hypotheses, cost considerations were assumed to be the major criterion in the decision-making process for relocation to other manufacturing sites. Soaring factor costs in China were deemed to be the principal reasons to migrate to more favourable and cheaper destinations. However, what was found in the research is really surprising. Costs are definitely important in the decision-making process for relocation but they are considered as relevant as other factors not related to costs, such as productivity and reliability of the workforce, or enforced regulations and trade agreements. This clearly depends on the sensitivity of each product category and segment to cost increases, but it can be generalized. For low-end commodities, cost savings are seen as fundamental. However, when dealing with high-end more sophisticated branded products, other considerations are made: efficiency, productivity and reliability of the workforce; need for faster time to market and proximity to raw materials and compliance to international standards for ethical sourcing, are factors that are even more strategic than cost savings. Another astonishing result was found by generating a quantitative model, relating Guangdong province's real costs and its relative global volume share in the four industries under study: despite a cost increases of more than 300%, Guangdong province has

shown increasing share (apart from apparel sector) and volumes (all industries). Thus, costs do not seem to be the only predictive variable for migration movements. Other factors, rather than costs, have been then deemed at least as much important.

Labour problems, need for faster leadtimes and for proximity to consumers, efficient infrastructures and logistics, US dollar and RMB appreciation, government policies and regulations, free trade agreements and need for diversification of sourcing portfolio, have been found in the desk research and the quantitative analysis as significant criteria considered when making a potential relocation decision. In particular, labour problems related to increasing employment protection and labour shortages have been identified as the major push factors for migrating to other areas, together with new government policies and regulations. Concerning the former, collective wage bargaining, social insurance requirements and the absence of employable workforce, are additional burdens for South Region manufacturers and are deemed to be the main responsible for soaring wages.²⁴ Regarding the latter, new social security, safety, export and environmental regulations have added complexity and compliance costs for doing business in China, due to more severe rules and laws to be respected respect in the manufacturing industry.²⁵ Moreover, three government policies, namely “Made in China 2025” and Guangdong “Development Plan” and “Bi-Transfer Strategy” have fostered a restructuring of current industry portfolio, by delocalizing low-end ones and by trying to attract more sophisticated item productions in South Region.²⁶ Furthermore, the Trans-Pacific Partnership free trade agreement, about to be stipulated by Vietnam and other South-East Asian countries, will be worsening the position of China with respect to these countries, as cost savings obtained by moving production, could range from 20% up to 30%. Lastly, “Go Inland” and “One Belt – One Road” campaigns, promoted by the Chinese government will stimulate the development of Central and Western provinces, penalizing the attractiveness of Pearl River Delta and Guangdong province.

According to this analysis, relocation trends do not seem to have important consequences on South Region and China manufacturing industry. Thus, port sector and specifically HPH Trust's handled volumes will not be irreversibly affected by migration from South Region. However, it has to be noticed that the catchment area is not anymore concentrated in Pearl River Delta and Guangdong province only, but it is expanding to neighbouring provinces in Centre and West China, to East China and even to other countries. HPH Trust will not be able to recover volumes migrating to East China, where Shanghai and Ningbo-Zhoushan ports are the top choices. The same rationale applies to manufacturing sites transferred to other countries, as other ports like Singapore will be preferred, even for transshipments. Therefore, HPH Trust should try to maintain its current volumes, by focusing on high-end more sophisticated product segments that are majorly retaining in South Region. At the same time, it should try to extend its catchment area to neighbouring provinces, in West and Centre Regions, which have been steadily growing in recent years. By doing so, HPH Trust could be able to at least maintain its current volumes and even increase those. This will allow HPH Trust to improve its network connectivity, by expanding the amount of calls by shipping lines to HPH Trust's ports. The enlargement of China productive area should motivate HPH Trust to try to extend its income opportunities by attracting new containers from West and Centre provinces. This would result in a reduction of pressure on profitability, already challenged by the increasing bargaining power of shipping lines, for example.

2.2.3. Methodology

A combination of quantitative analysis and qualitative studies, based on comprehensive desk research, have been performed in order to have a deeper understanding of the situation of relocation trends in manufacturing industry and their impact on South China exports.

The scope of the Business Project has been limited to outbound shipments only. Transhipments and inbound imports were not considered in the analysis. Moreover, it has only included, exports from Guangdong province, exiting via both Hong Kong and Shenzhen ports. Interviews have been conducted with logistics, manufacturing, shipping and port stakeholders and the analyses of different sectors have been restricted to toys, apparel, furniture and electronics industries only.

The desk research has provided the basis for deriving initial hypotheses for the study and for building a solid base for the quantitative and qualitative analyses. Data concerning Guangdong province's profile and historical relocation trends' direction and order of magnitude, have been collected. Additionally, information regarding potential drivers for relocation and possible reasons to remain in Guangdong have been analysed on academic papers and scientific reports. The quantitative analysis has followed and it has first examined historical manufacturing capabilities and export flows from Guangdong province with respect to other areas in China and in the world, in order to detect relocation changes in the past, and forecast potential future directions. The study has also included a comparison of the economic potentials between Guangdong province and other relocation sites, and a numerical investigation of the economic and non-economic drivers in Guangdong province. The data regarding export volumes has been extracted from Seabury, a database which captures the world's ocean trade flows obtained from customs recordings. Moreover, other public sources such as Chinese National/Guangdong Province Statistics and International Organization indexes, amongst others, have been used to contextualised the previous figures. Lastly, a model to predict future export flow changes have been created by relating Guangdong real costs and global volume share evolution. This model was supposed to show a negative correlation between the two variables and to indicate a potential trend for future years. As explained in the previous paragraph, this has not happened.

The qualitative analysis has firstly consisted of a field-trip to HPH Trust's terminals in Kwai Tsing port where it was possible to speak with the managers, responsible for the Business Project, in order to obtain useful information to initialise the study. Subsequently, eighteen one-to-one interviews were run with logistics managers and other experts from three 3PLs (Kuehne + Nagel, DAMCO and OOCL), nine clients from four different sectors of manufacturing industry (Jakks, Crayola, Levi's, Ikea, Kingfisher, Midea, Ricoh, Gree and The Hong Kong Shippers' Council), four retailers (JC Penney, Meijer Trading, Metro Group Buying, Target) and two shipping lines (CMA CGM and Wan Hai Lines). These were a mixture of in-person and telephone interviews. A further interview with the global sourcing manager of Arena Water Instinct has been run in order to double-check and confirm the final findings and to derive improved conclusions and recommendations.

Lastly, it is possible to conclude that the combination of comprehensive desk research and solid quantitative and qualitative analyses has provided the instruments to assess manufacturing relocation trends, the rational and the drivers behind those, the needs within the supply chain (shipment sizes, leadtimes, flexibility, seasonality, etc.), and the expected export flow changes. The findings from the study have been used to derive practical and actionable recommendations that HPH Trust could implement in order to maintain and even improve its strategic position within the region. A final report and presentation were prepared in order to incorporate both the findings and the recommendations.

2.3. Recommendations

The recommendations to the company have been based on two main ideas: 1) leverage on existing strengths in order to maintain current volumes in South China; 2) extend catchment area to growing neighbouring provinces in order to benefit from relocation trends. Regarding the first point, the existing strengths of HPH Trust are: its long history of success, the quality

of adjacent infrastructures, its reliability for fast loading and unloading times, its good connectivity and its capability of handling vessels of all sizes. HPH Trust should capitalize on those and even try to improve them, in order to maintain its current volumes. Concerning the second point, HPH Trust should mainly concentrate on Shenzhen port, as it resulted to be the most preferred solution for outbound shipments, due to its cost and proximity advantages, its connectivity and its advanced infrastructure. Five provinces in proximity to Shenzhen port, namely Chongqing, Jiangxi, Hubei, Yunnan and Guizhou, have been identified as optimal opportunities due to their strong records in the period 2005-2015 and their growth potential in the coming years. What is more, apart from Hubei, Shenzhen is the major port serving outbound volumes coming from these provinces. By comparing, transportation costs, time and distance from manufacturing site to both Shenzhen and Shanghai, it was found that Yantian terminal is already competitive for all of the provinces, excluding Hubei. Thus, there is a concrete possibility to extend Yantian catchment area to capture these new opportunities. On top of that, in recent studies on logistics sector in China, punctuality, flexibility, reliability and quality management have been found to be even more important than costs and distance.^{45, 46} HPH Trust should majorly capitalize on this aspect, as this is an opportunity to ensure a solid organic growth for coming years.

Building a deeper understanding of the end-user is the best strategy to maintain current volumes from South Region, to extend catchment area to top growing provinces and to overcome existing logistics challenges in China. Indeed, shippers are usually the final decision-makers on which port to call and getting in touch them could be of crucial importance to understand relocation patterns, to find new potential customers and to identify strategic locations to serve them better. With a direct approach to the customers, HPH Trust would be able to address major logistics issues by improving the visibility in the supply chain and by providing faster and more reliable quality transfer to HPH Trust's terminals. For all of these reasons, the main

recommendations to HPH Trust is to foster end-user marketing, in order to extend its catchment and create new revenue sources. To realize it, HPH Trust should enhance end-user experience: the company should expand its touchpoints with consumers to better understand their supply chain requirements and challenges. This will allow the firm to be able to get close to end-users and collect insights in order to find new innovative solutions, creating value in the supply chain. First, HPH Trust should leverage on its port network to create a competitive edge (e.g. in terms of visibility, customs, information tracking) and collaborate to build the sales pipeline. Second, HPH Trust should try integrate information collected from end-users and HPH business units to identify supply chain opportunities and potential product offerings. Third, HPH Trust should develop customized logistics solution offerings, by acting as a logistics intermediary, in order to better connect ports and end users. There is an opportunity to expand the firm's product lines and business activities into logistics and intermodal management. A clear example could be found in the creation of a dry port (inland intermodal terminal directly connected to sea terminals by rail or road connection). In this way, the company could increase the proportion of revenues deriving from shippers and increase its profitability by proposing new charges, such as landside and ancillary services. The ultimate goal for HPH trust would be the offering of port centric logistics solution by bundling port, ancillary and logistics services, to enhance customer stickiness and positively influence cargo flow. This will help the company to maintain a solid relationship with shipping lines and expand the connectivity and footprint of its terminals, thanks to more calls to its ports.

2.4. Concerns

The suggested initiatives try to circumvent at best the fact that HPH Trust is an inflexible business due to its capital and investment intensive nature. This has definitely posed some hindrances in reaching a feasible solution, as it was not possible to propose improvements of

the existing infrastructures. The most relevant limitation of the proposed recommendations is related to the existing relationships with 3PLs. This party would be the most affected by a potential vertical expansion of HPH Trust in logistics and ancillary services. Tougher competition and some resistances should be expected if the company decides to implement the proposal, which may also lead to a worsening of the current business relationships.

Furthermore, directly approaching shippers could be a long and expensive process, even if some established connections are already existing. In particular, it might be difficult to create ties to inland manufacturers that have never been in touch with HPH Trust before.

Moreover, when evaluating the funding of the suggested initiatives, the recent slowdown in volumes handled by HPH Trust terminals should be taken into consideration, as new costs might create increasing pressure on profitability. Specifically, the building of a dry port would require a huge initial capital investment.

Lastly, increasing competition and decreasing costs of rail and air transportation could be hardly tackled by HPH Trust and could represent a relevant threat for its business in the future.

2.5. Individual Contribution

In developing the Business Project, my teammates have appreciated my strong motivation and the hardworking attitude with which I tackled each task and issue, and thus I soon became the leader of the group. Having this role, I have tried at my best to foster cooperation and create a positive environment in the team. It was not always easy due to the very diverse backgrounds and working styles of the group members: namely, two Germans and two Chinese and I were part of the team. As leader, I coordinated the activities by dividing tasks among the others based on their strengths and on their interests. More specifically, I executed the whole quantitative analysis and I significantly contributed to the desk research and the drafting of the final report. Lastly, I also took part in several interviews and broadly supervised the qualitative analysis.

3. ACADEMIC DISCUSSION

3.1. Possible Links with the Masters Degree in Management

The Business Project prepared at HKUST Business School presents many linkages not only to the MSc in Management I have undertaken but even to major I have chosen, namely Strategy and International Business.

On one side, the increasing competition in the port industry, the loss of competitive advantage of Hong Kong port and the emergence of external factors which have the potential to disrupt the maritime business, such as relocation trends in manufacturing sector, are some of the changes that have to be identified, evaluated and addressed by a company, in order to be able to survive in its own market but even to find new growth opportunities.

On the other side, assessment of costs, respect of ethical principles in production, environmental sustainability, quality management, possible damages to brand image, procurement of raw materials, logistics considerations on transportation and productive leadtimes, reduction of working capital and risk management, are only some of the aspects that have to be considered when making outsourcing decisions for manufacturing products. Moreover, these are also factors that have to be carefully assessed and tackled in an internationalization process, to ensure a smooth expansion abroad.

Furthermore, marketing can be of crucial importance also for a port. As suggested in the recommendations, understanding the costumers and their changing needs, through a closer interaction with them, can unleash new business opportunities and create new revenue sources.

Lastly, a side comment has to be made on costs. Even if costs are important, they are not everything. A good manager has always to keep in mind that costs have to be considered within a bigger picture, together with other variables, as it was found in this Business Project. Reducing costs, when this represents a shortcut, might have detrimental consequences on the quality of the product offered and even worse, on the brand image perceived by people.

3.2. Relevant Theories and Empirical Studies

One of the most relevant theory that can be used to understand the Business Project challenge, namely Relocation Trends in Manufacturing Industry and the Impact on South China Exports, is probably the “Diamond of National Advantage” illustrated by Michael E. Porter in his academic paper “The Competitive Advantage of Nations”.²⁷ From a management perspective, this framework is valuable in examining countries as a possible source of international competitive advantage. However, it has to be noticed that theories around this subject have evolved over a long period of time. In the beginning, the classical theorists emphasized the importance of absolute and comparative advantage, as a critical determinant of a country’s exports. Recently, modern theorists have given more relevance to competitive advantage, trying to show how competitiveness of each country depends on a unique mix of a number of specific factors, as in the case of Porter.²⁸

In opposition to mercantilist view, Classical Trade Theory highlighted the extent to which a country gains from trade, if it devotes its resources to the creation of goods and services in which it has an absolute (Smith, 1776) or a comparative advantage (Ricardo, 1817). On one side, Smith further emphasizes that division of labour and free trade are critical factors in determining the absolute advantage of nations. On the other side, Ricardo supports labour specialization, investment in capital, and free trade as engines for growth.²⁹ Among other studies which followed, neo-classical theories, like Heckscher and Ohlin’s one, tried to model how factor endowments result in comparative advantage. While Samuelson & Stolper’s factor endowment theorem, showed how comparative advantage in exports are related to the capital and/or labour intensity of production techniques adopted to fabricate the good.³⁰

The technological revolution that took place during the 1960s gave rise to a number of multinational enterprises. Theories of international trade during this period reflect the changing commercial realities, like the one introduced by Leontief who emphasized the importance of

human capital and technology, as important determinants of trade.³¹ Theorists like Linder stressed the importance of the birth multinational enterprises (MNEs) and the evolution of international trade, consisting of intra-industry trade between countries at the same stage of economic development, due to their similarities in consumers' preferences.³² Subsequently, during the 1960s the product cycle theory of international trade became very important for explaining and predicting international trade patterns and reasons for MNE expansion. Stages in the product cycle suggest that when trade cycles emerge, a product is initially produced by a parent firm, then by its foreign subsidiaries and finally anywhere in the world where cost of production is the lowest. However, this theory underscores the importance of technological innovation and market expansion as critical elements in explaining patterns of international trade.^{33, 34, 35}

Moving from a pure international economics sphere, and focusing more on strategy and international management studies, a shift from comparative to competitive advantage, in explaining trade theories, has to be made. The theory of competitive advantage was originally advocated by Porter. Through the "Diamond of National Advantage", Porter contextualises the analysis of firms' competitive advantage within the international arena.^{36, 37, 38} The main question addressed in the publication is why some countries are more successful in some specific industries with respect to others. In the study, four classes of country characteristics are identified as the determinants of national competitive advantage: factor conditions; demand conditions; firm strategy, structure and rivalry; and related and supporting industries. These are said to play a major role in shaping the context that allows country's firms to gain and sustain competitive advantage. According to Porter the complete framework, which he calls the 'diamond', is a dynamic system in which all elements interact and reinforce each other. Actually, it is this systemic nature that makes it difficult to replicate the exact structure of the industry in another country. Additionally, it is relevant to add that Porter also includes the roles

performed by the ‘government’ and ‘chance’ as factors influencing the functioning of the above mentioned four major determinants. However, these are not creating sustainable competitive advantages.

Moving to the description of the four most critical determinants of national advantage, and starting from factor conditions, Porter identifies in his paper the following categories: physical resources, capital resources, infrastructure, human resources and knowledge resources. There is a further subdivision into basic and advanced factors that can be either general (inherited) or specialised. Through investment and innovation in specialised factors, advanced ones are created and upgraded and become difficult to be imitated in other locations. This, according to Porter establishes the basis for a country sustainable competitive advantage.

Porter also considers demand conditions as a source of competitive advantage for a country. According to what he describes in his publication, the sophistication of domestic country buyers might be even considered more important than the size of the home country demand. Porter affirms in his research that domestic demand characteristics shapes how companies perceive, understand and react to consumers’ needs. This obliges firms to continuously innovate and upgrade their strategic positions to match higher standards imposed by buyers, in terms of quality, characteristics and service offered by the products.

According to Porter, firm strategy, structure and rivalry is another determinant of national competitive advantage. The main point highlighted by Porter is the presence of systematic and structural differences in strategies and structures of firms, among countries at international level. Those heavily depend on the national environment and determine the approach adopted by firms in competing. This ultimately leads to their competitive advantage. Porter recognizes rivalry in the home market as one of the most relevant driver for the competitive advantage of firms in a specific country. Indeed, domestic rivalry obliges firms to improve quality and to be innovative, by remaining cost competitive.

Lastly, Porter identifies external economies of related and supporting industry clusters, such as vertical spill-overs and networks of institutions and of specialised inputs, as the real source of competitive advantage. These are factors which foster agglomeration and the consequent formation of clusters. In other words, environments where learning, innovation and productivity can thrive. On one side, Porter characterizes localised clusters as a prominent feature of nearly any advanced country. On the other side, he notes that industrial agglomerations are virtually lacking in developing economies and that this aspect limits their productivity.³⁹ It has to be added that the introduction of related and support industry clusters as a separate determinant of national competitive advantage has been viewed as one of the most important contributions of Porter's Diamond Theory.⁴⁰

To conclude on the importance of this framework, according to Peng, the "Diamond of National Advantage" is the first multilevel theory to realistically connect firms, industries and nations. In terms of empirical evidences supporting the findings of the Business Project, a research conducted by Cheng, applying Porter's "Diamond Model" to textile industry in Guangdong, found that the province still has advantages in comparatively low cost labour force (w/r to developed countries), complete supply chain and lots of specialized industrial clusters. But with the increase of costs, shortage of land and labour, lack of own brands and domestic demand, low profit rate and strong rivals, Guangdong's garment's diamond could become weaker.⁴² Another study conducted by Bindzi Zogo and Wei, concluded that although the economic model established by China to develop its auto industry traces its basis in the diamond's determinants, the application of these variables has followed a different approach backed up by a pentagram model which places the government as the primary actor in the fast transformation of China auto industry.⁴³ Similar results have been found by Bridwell and Kuo, when analysing China computer industry, in conjunction with Taiwanese one. The critical factor in determining the synergies between the two countries will be the policies of the two governments.⁴⁴

3.3. Implications for Theory and Future Research

In terms of recommendations for further academic research that could create a better understanding of the Relocation Trends in Manufacturing Industry and the Impact on South China Exports, it could be interesting to test the “Diamond of National Advantage” framework for Toys, Furniture and Electronics Industries, that are mainly retaining in China notwithstanding with the soaring costs. The use of the model could provide additional and useful information concerning the factors which are favouring the retention of some industries in China and suggest possible direction for Chinese central and provincial policies, in order to safeguard well-performing sectors. On the contrary, the application of Porter’s diamond to garment industry could furnish fresh ideas on how to limit migration of less-sophisticated items.

4. SELF REFLECTION

4.1. Personal Experience

To write this paragraph, I am using the feedback I received during the team review with my teammates. During that session, I appreciated a lot that my group saw in me leadership skills, recognizing the fact that I took lots of responsibilities on my shoulders. I was glad to hear that I also motivated and pushed my teammates to make a better job, thanks to my energy and my passion, and that I guided them through a good planning, being able to split the tasks based on their strengths. However, they also noticed that most of the times I am rambling, and I tend to repeat myself a lot. I have been told this feedback other times, so I will definitely commit to be more direct and concise, by using less words and trying to be more effective and straight to the point in my communications. Another development area they signalled to me was about my emotional attachment to the deliverables I prepared. My team members made me notice that I should try to create a more defined barrier between personal and professional spheres, by being more willing to accept feedbacks when they are negative and use them as motivators to work

better, rather than complain on why the performance was not good enough. This is surely a key developmental area that I will try to strengthen in the future. This will take time and lot of efforts, but I will commit to be more engaged in active listening and more open to other ideas, suggestions and critical feedback, by trying to look at my work in a more objective and impartial way. Third, they made clear that my leadership position pushes me to take lots of responsibilities on my shoulders. They recognized this to be a very positive aspect of my character, but they also saw some drawbacks deriving from it. In particular, they suggested me to redirect my leadership skills to enable my team members to be more accountable, as they could have been more helpful to reach our final objectives. As I wish to become a better leader, I will definitely start from these feedbacks.

4.2. Benefit of Hindsight

First, the cooperation with the Business Project partner was not particularly easy as the managers were significantly hands-on towards our deliverables. Moreover, it was not simple to coordinate with them due to many changes in the scope and the content of the materials to be submitted and of the analyses to be run. Thus, if I would start the Business Project again, I would attempt to better define and respect the scope of the project, which was too many times modified. Furthermore, I would try to better understand and manage the expectations of the client, by proposing more frequent meetings and material review sessions with the managers. Second, the collaboration within the group was not ideal. The contribution from team members was not constant and equal in terms of quantity and quality, during the whole duration of the Business Project. Therefore, if I would start the Business Project again, I would dedicate more time to a careful initial project management, with a clearer subdivision of milestones and tasks among team members. This could have avoided many issues that emerged and simplified the overall work and the atmosphere within the team.

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