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ANALYZING GROWTH OPPORTUNITY OF PORT FROM THE RESOURCE-BASED PERSPECTIVE

The Case of Port of Tanjung Pelepas Malaysia

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Capturing growth opportunity has become a major integral activity of any port to sustain growth and competitive advantage. One of the famous strategies in leveraging sustainable growth and competitive advantage is the resource-based theory application into port strategic management, viewing resources of the port (internal and external) and its capabilities as the sources for achieving competitive advantage. In this study, we attempt to identify, exploit, and analyze growth opportunity of a Malaysian port from the perspective of the theory. We analyze the port's resources in terms of values, uniqueness, inimitability, durability, and substitutability. The result is then compared with its rival ports in the region. This study recognizes that the port has successfully identified and exploited its resources for capturing growth opportunity and competing with other ports in the region. We perceive that the port will sustain its growth and competitive advantage as a major port in the region based on its current performance and rivalry circumstances. This study signifies that the higher the level to which resource-based theory of competitive advantage is applied, the higher and longer the growth and competitive advantage will be achieved by the port.

Keywords: competitive advantage; container port; growth opportunity; Malaysia; resource-based view

Introduction

In last few decades, the world has witnessed a rapid growth of the global trade movement that triggers globalization of port logistics (UNCTAD 2007; 2008) or market place globalization (Robinson 2002) as a result of the towering growth of the world population and commodities, increasing economic prosperity, as well as new inventions in maritime and shipping technologies. Port and shipping industries have experienced great transformations to support innovations and developments in maritime industry with necessary infrastructures and services.

In the shipping industry, research on design, size, and capacity of the containership has been carried out continuously to produce larger and faster vessels. According to *Global Security Organization* (2008), around 6,800 containerships in different sizes were recorded in 2000, operated to handle 5.8 million TEUs,[1] and in the early 2004, 100 containerships of 8,000 TEUs were already in operations. *Samsung Heavy Industries* (SHI) in Korea has successfully developed containership that doubled its capacity only in 7 or 8 years. SHI developed a containership of 6,200 TEUs in 1999, followed by the making of containership of 7,700 TEUs in 2000, 8,100 TEUs in 2002, 9,600 TEUs in 2003, and is in progress of developing eight ships of 13,300 TEUs since 2007 to be used by 2011 (Samsung Heavy Industries 2008). Recently, container-ship of 11,000 TEUs known as *Emma Maersk* is already operated by A. P. Moller-Maersk Group. It is the biggest containership ever since in terms of capacity, and the ship has 397 meters length, 56 meters breadth, and 14 meters draft (Maersk 2008).

The process of building containerships of 12,500 TEU is now carrying out according to *Lloyd's Register* and expected to be accomplished by 2010. The study on innovative design carried out by *Germanischer Lloyd* and *Hyundai Heavy Industries* has resulted a design of 13,000 TEU containerships with 382 meters length, 54.2 meters width and *draft*[2] 13.5 meters. It is expected that in the next 10 years, containerships of 18,000 TEU, with 60 meters length and maximum draft 21 meters will be built. This is simply because a research conducted by them shows that this huge containership is possible to be developed (Global Security Organization 2008).

As a result, according to Robinson (2002), the rapid transformation and development within the industries will significantly affect structural and functional changes in ports and port authorities. In such a situation, port authorities need to recognize and capture new opportunities, define new core

[1] TEU stands for twenty-foot equivalent unit that is one of the standard units used for containerization. Another unit used is FEU (forty-foot equivalent unit).

[2] Draft or also spelled as draught is the height of the lowest part of a vessel to seawater surface during the maximum load.

business of the port, identify an appropriate strategic intent as described by Hamel and Prahalad (1994, 1988), specify relevant core and threshold competencies (Hamel and Prahalad 1994), and position all of these as opportunities for growth of the port.

In this paper, we look at growth opportunities of the port from the resource-based theory. The case of Tanjung Pelepas port in Malaysia that recognizes opportunities for growth is explored and analyzed using the theory.

Resource-based Perspective

According to Mahoney and Pandian (1992), the resource-based approach is an emerging framework that incorporates concepts from mainstream strategy research concerning a firm's unique competencies and heterogeneous capabilities, providing value-added theoretical propositions.

Resource-advantage theory views the firm as a combiner of heterogeneous and imperfectly mobile resources. Heterogeneous resources may include a firm's knowledge base about markets and specific expertise. Imperfectly mobile resources are those that can be traded but are of more value within the firm. In the shipping industry, companies may have an assortment of resources, which are in some ways unique and costly to copy, and also more difficult to trade in the marketplace. Competitiveness in many sectors of the maritime industry may be achieved through the efficient and effective organization of a firm's economic resources (Panayides and Gray 1999).

In order to contribute to competitive advantage, resources that are unique must be aligned with core competencies and integrated into the firm's capabilities or complex patterns of coordination among people and between people and resources to perform specific value-added activities. Competencies necessary but not enough to allow a firm to create a differentiated market offering that grants an advantage over competitors are called threshold competencies (Magala 2004).

Resource-based View of Port Growth Opportunities

The notion of competitive advantage is still critical and central to port growth strategies (Robinson 2002, and Magala 2004). The essence of strategy formulation is dealing with competition (Porter 1980, 1998) and a choice to perform activities differently than rivals do (Porter 1996). According to Robinson (2002), a port's advantage is something created for shippers and their ancillary service providers.

The resource-based approach, according to Magala (2004), suggests that the strategies that a port can pursue should focus on the use of resources such as better logistics, good transport networks and intermodal arrangements, available land for expansion, skilled labors, efficient cargo handling and storage facilities, effective configuration of supply chains, and managerial talents that are unique

to the regional port and valuable to port customers. The purpose is to seek marketplace positions of competitive superiority and to contest for growth. Inland distribution and accessibility are also a cornerstone in port competitiveness (Notteboom and Rodrigue 2005). In addition, location of the port is a key factor. A seaport located on a shipping lane has distinct advantages in terms of being on a trade route, thereby experiencing no detour to gain access to/from the port and reducing voyage time (Branch 1996).

An effective strategy to compete for resources, according to Magala (2004), should include the identification and classification of port resources and capabilities (what the port can do more efficiently and effectively than can its rivals). Only after this review, port authorities select a strategy to exploit their resources relative to external opportunities and competition.

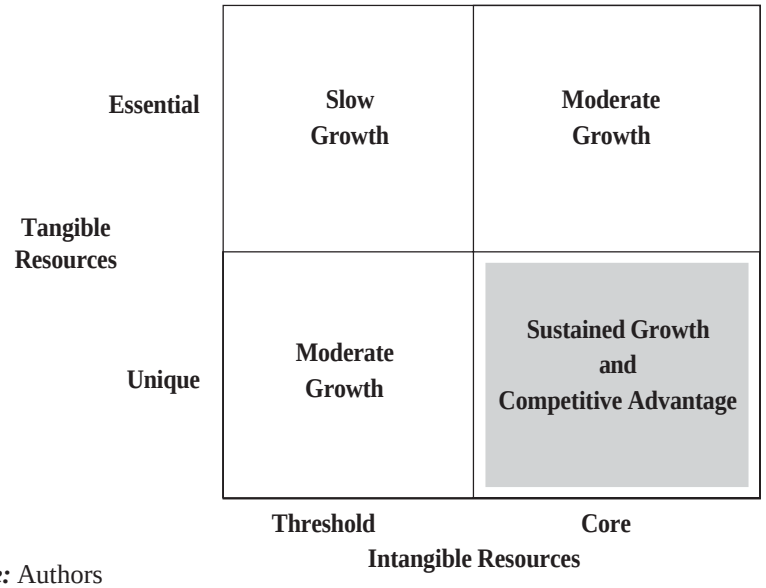
Defining Key Concepts

To stay away from potential misleading, three key concepts critical to the rest of this article are defined in this section. The concepts are: port resources, port growth, and competitive advantage.

Port Resources

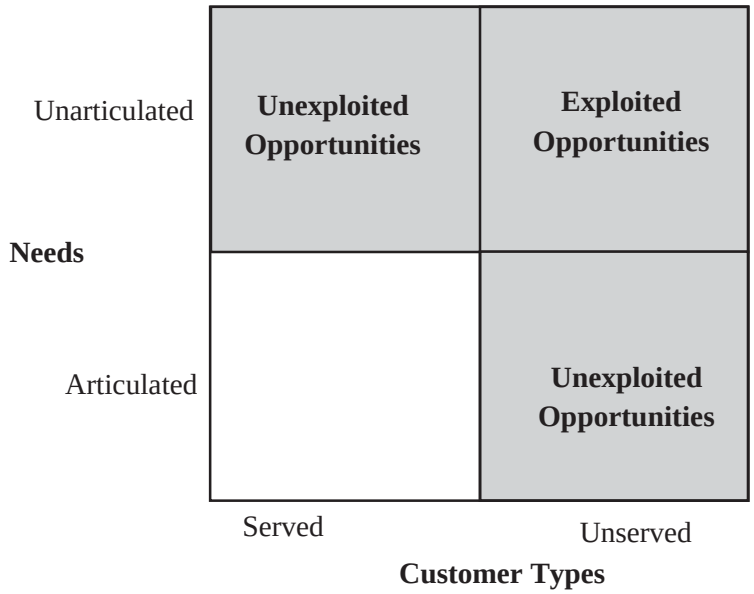
In general, resources can be defined as any tangible (such as personnel and major items of equipment, supplies, money, data, technology, location, and facilities) or intangible entities (time, skill and knowledge, reputation, loyalty, capability and com-

Figure 1. **Role of Tangible and Intangible Resources in relation to Growth and Competitiveness**



Source: Authors

Figure 2. **Illustration of Unexploited Opportunities**



Source: Hamel and Prahalad (1994: 103)

petency) available to a firm for performing operations and accomplishing assignments. We can simply define resources of a port as any factors (assets) that a port can position as inputs in the port production or operation process.

As in normal business environment, port resources can also be seen as internal resources and external resources (see Figure 1). The internal resources are resources that exist within the port whereas the external ones are all resources outside the port that are not the properties of the port but still can be utilized by the port directly or indirectly through certain circumstances such as collaboration and alliances.

In port, resources play an important role in contributing to port growth as well as in achieving competitive advantage of a port (see Figure 2). From the matrix, a port that struggles to achieve sustainable growth and competitive advantage should employ unique tangible resources combined with core and precise intangible resources.

Port Growth

Growth, no matter how big or small, is the objective of any firm including port, and is the *sine qua non* of port industry success, whereas sustainable growth and competitiveness are the strategic ambition of any port.

Table 1. **Port Resources Diversification**

Internal Resources		**External Resources**	
Tangible	**Intangible**	**Tangible**	**Intangible**
Such as:	**Such as:**	**Such as:**	**Such as:**
- personnel - equipment - infrastructure - capital - Information system - technology - geographical attributes - accessibility - facilities	- time and chances - skill and knowledge - reputation and brand - competency - capability proximity - environmental and climate supports	- public and private infrastructure - technology innovation - market access - network availability - industrial area	- customer loyalty - external expertise - supportive policy and regulation

Source: Authors

In economics, growth is always reflected to the increase in the production of goods and services, and sometimes incomes, over time through economic activities. Penrose (1956) argues that factors determining the size of the increments of expansion that any industrial firm can undertake within a given period of time are factors that determine the rate of growth of the firm. For port, growth should be defined as an increase in size, volume (quantity) or value, strength (quality) of productivity, services, and competitiveness vis-à-vis its competitors that a port can achieve within a particular time.

The common factors of a port's problems that affect its growth and efficiency are the lack of available resources such as land availability for expansion, deep-water requirement for handling larger ships, capability of accommodating increased port traffic, environmental constraints, and local opposition to port development (Notteboom and Rodrigue 2005). One of the factors, i.e., the greater depth to accommodate modern containership drafts, may lead to a port growing to be a hub or transshipment in-function, placing it at technical advantage.

Port Growth Opportunities

Port growth opportunities can be seen as any potential or possibility of action and change or favorable event or circumstance that may help a port to grow or enhance its competitive advantage. They may include a marketplace opening or unexploited space by competitors where a port has a potential to increase its market share (see Figure 2). According to Hamel and

Prahalad (1994), a firm (port) should focus on unserved customers whether the need is articulated or unarticulated in order to pull off these unexploited opportunities that may result in port growth.

Hoyle (1999) provides an example. Port of Mombasa in Kenya has opportunities to grow as the port has deep water and is located at a strategic international maritime transit, which is unique compared to other ports in the region. Overall, the port has competitive resources that contribute to future development of the port, i.e., location, history, environment, and inland infrastructure availability. That is why *Manda Bay* is chosen as a suitable place for port development since it possesses a strategic location and availability of land for expansion with relatively low cost (Hoyle 1999). Singapore uses a strategy of investing in Indian ports to avoid the lack of land availability for expansion that it faces (Faizal 2003); this kind of alliances allows the Port of Singapore to utilize other resources (Indian ports), which are external resources, to enhance its growth and sustain its competitive advantage. Port of Ningbo will continuously get bigger markets as a result of having natural advantages such as deep water (Cullinane et al. 2005).

Ports of Hong Kong and Singapore get opportunities for growth from the impact of increasing production costs experienced by industries. The rise of costs has forced manufacturers to move their operations to regions with lower costs, such as South China and Southeast Asia. To capture this opportunity, inadequate facilities should be overcome by the ports in the region. Hong Kong and Singapore have benefited in this condition as many ports in South China and Southeast Asia, which are their competitors, fail to provide satisfactory facilities to handle cargoes (Fung 2001).

The Port of Tanjung Pelepas

The Port of Tanjung Pelepas (PTP) is located at the south-western tip of the state of Johor in Malaysia, facing the world's major shipping route, the Straits of Malacca. With its vision to be the preferred port of choice in Southeast Asia, the port began its operations in 1999 to complement other major Malaysian ports that had been established such as Port Klang, Penang Port, and Johor Port. The port was officially launched by Dr. Mahathir Mohamad, Prime Minister of Malaysia, on 13 March 2000 with a mission to provide unrivalled port services globally.

In its first year of operations, the port handled 20,696 TEUs. In 2006, the port handled 4.77 million TEUs that increased to 5.5 million TEUs in 2007. This throughput achievement has put the port to be ranked in the top-20 major container ports in the world or the third busiest port in the region after Port of Singapore and Port Klang.

Internal Resources

Nature, Location, and Accessibility

Lack of land availability for future development and growth is not a matter for the port since the port is located on a green field site that allows the port for future expansion. Having naturally sheltered deep water of 15-19 meters, no tide restrictions, turning basin of 600 meters, and 12.6 km of access channel for two-way traffic provide the port with unique natural advantages.

The port location of just 45 minutes from the crossroads of Singapore Straits and Malacca Straits, where East-West international trade lanes are located, creates a significant locational advantage to the port that is ideal for both regional and global transshipment and distribution activities (see Figure 3). This locational advantage is an inimitable factor to its competitors.

This strategic location combined with well-developed transport infrastructure such as roadway, railway, seaport, and airport gives the port an

Figure 3. **Port of Tanjung Pelepas Position at the International Shipping Routes**

Source: Supply Chain Leaders (2008)

excellent accessibility. The road and rail systems are linked to a broad highway network that opens inland accessibility to the whole peninsular, Singapore, and other countries through Thailand. This excellent multimodal connectivity, inland and sea, offers a unique feature for integrated logistic network of the port.

Infrastructure

Recent infrastructure has positioned the port as the top-20 world container port. As its vision is to be the preferred port of choice in Southeast Asia, the port is expanding to Phase II of the port development. The expansion will include an additional 2.88 km of linear wharf capable of accommodating an additional 8 new berths. The first four of the eight berths have been completed, and bring PTP's annual capacity to eight million TEUs (PTP 2008).

Current port's berths (six berths) have 15 meters draft alongside but all future berths (Phase II) are set in 17-19 meters of naturally deep water with a wide approach channel and a turning basin of 600 meters wide. These features allow the easy maneuvering of even the largest containerships approaching the port and the fast berthing of the ships at the port.

Current major infrastructure of the port is as follows:

1. Ten berths forming 3.6 km of linear wharf, where six berths have 15 meters draft and four berths have 17-19 meters draft alongside
2. A turning basin of 600 meters
3. Thirty two quay-side cranes and two mobile harbor cranes and 80 units of rubber-tired gantry (RTG) cranes
4. Total area of 1.2 million square meters of container yard capacity that can accommodate 200,000 TEUs
5. Over 1,000 acres of commercial and industrial free-zone land integrated with the port. Of this, approximately 400 acres has been designated as Free Commercial Zone (FCZ) reserved for distribution, logistics, and warehousing activities ideal for consolidation, international procurement centers, regional distribution centers, and distribution services. The remaining 600 acres of Free Industrial Zone (FIZ) is reserved for light, medium and heavy manufacturing industries.
6. Pilotage and towage services with tugboats fitted with fire fighting equipment and 40 ton bollards pulled with 3,200 horsepower engines.
7. Fresh water supply at berths via pipelines.

Technology

In addition to outstanding location and accessibility and the world-class state-of-the-art port infrastructure, the port is also equipped with advanced integrated information technology systems. Some of the systems used in the port are:

1. *Smartrail* System. Rubber-tired gantry yard cranes are retrofitted with *SmartRail* (advanced satellite-guided automatic steering and position determination system) that vir-

tually eliminates human error using the Differential Global Positioning System (DGPS) for pinpointing positioning accuracy, thereby avoiding misplaced containers and reducing waiting time for loading discharge.

2. Container Management System. The core system is utilized for yard and vessel planning and for facilitating precise container movement.
3. Gate Control and Monitoring System (GCAMS) that ensures smooth flow for all gate transactions, and integrates Customs Gate Control System with the Port Container Management System to maximize efficiency.
4. Port Radar System. The system ensures safe and efficient management of all vessel traffic movement at PTP while enhancing effectiveness during emergency situations.
5. Vessel Clearance System (VCS) that allows paperless declarations to various governmental agencies and online approval process.
6. Safety and Security. The Port's Vessel Tracking System known as RADARS (Radar Information Processing and Display) provides vital information such as the status of every container in the port at any given time to the Marine Department for smooth traffic flow and added safety.

External Resources

The Straits of Malacca has been an important maritime route to many types of vessels since hundreds years ago. The number and types of vessels that pass through the straits are now increasing drastically. According to Zubir (2007), there are 220 vessels per day at the moment from both directions that use the straits for their routes. From this number, more than 30 percent of the vessels are containerships; this is according to a report by The National Maritime Portal Malaysia, Ports World (2000). Zubir (2007) also reports that every year more than 50,000 cargo ships use the straits. This figure is close to a statistics released by The International Maritime Organization (IMO) that installed a *vessel traffic system* around Port Klang and finds that the number of vessels that passed through the Straits of Malacca in 1999 was only 59,314 vessels (Ports World 2000). Most of these vessels, mainly containerships, will be berthed at several ports in the straits to load and unload containers at the ports; some will merely transit for certain purposes such as filling up fuel and water, and others will simply pass through the straits for their short-cut navigation.

As a consequence of increases in trade and containership, the throughput activities at several ports in the Straits of Malacca also significantly increase from year to year (PSA 2007, 2008b and Port Aid 2008). The average increase of container throughputs for Port of Singapore is 2.06 million TEUs per year, meanwhile the average increase of container throughputs for the world has sharply increased at 6.7 million TEUs per year. For example, if

Table 2. **Throughputs Volume of Port of Tanjung Pelepas and of Its Rivals**

Port Rank*	Region, Country and Port Name		Throughputs		Percent Growth	
			2006	2005		
	Straits of Malacca					
1	Singapore	Singapore	24,792,400	23,190,000	6.91	10.40
2	Port Klang	Malaysia	6,300,000	5,543,530	13.65	
⇨ 3	Tanjung Pelepas	Malaysia	4,770,000	4,177,120	14.19	
4	Penang Port	Malaysia	849,730	795,289	6.85	
		Total	36,712,130	33,705,939		

*based on 2006 Throughputs

Data Source: Port Aid (2008), PTP (2008), PSA (2007, 2008b), Penang Port Commission (2009)

we look at the throughput activities in 2006 (Table 2) of the top four major container ports in Malacca Straits, we will find that there was an increase of 10.40 percent compared to year 2005.

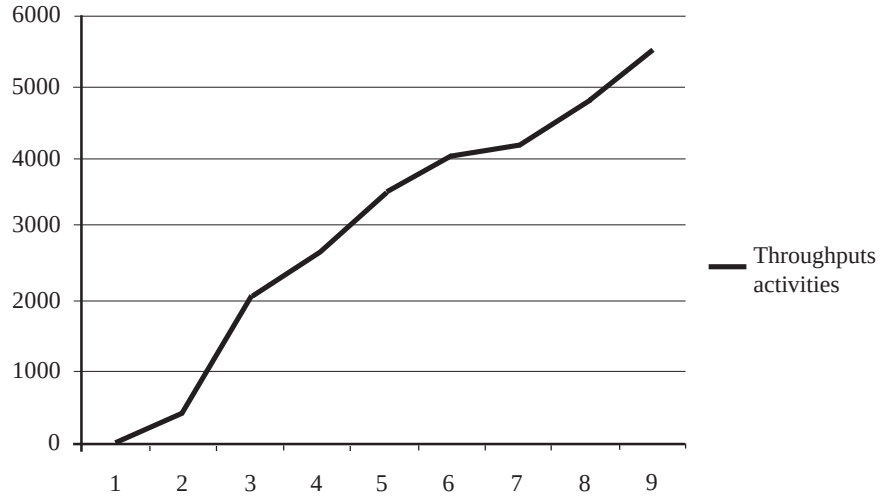
The port of Tanjung Pelepas is located with well-developed transportation infrastructure networks such roadway, railway, seaport, and airport. The road and rail systems link the port to a broad highway network accessible to the whole peninsular, Singapore, and to other northern ASEAN countries through Thailand. It is also very close to other seaports, forming a sound seaport system that can complement each other. Furthermore, the port is also located in the vicinity of two major hub airports in the region, i.e., Senai Airport in Johor and Changi Airport in Singapore. The port location is also near to the *Iskandar Development Region* (IDR), a project by the Malaysian Government to develop South Johor to be a metropolitan area and the most developed spot in Malaysia.

Capabilities

If we look at the port's capabilities of handling the container throughputs (see Figure 4), from 1999 to 2007 the port experienced a very sharp increase in the throughputs volume from only 20,696 TEUs in 1999 to 5.5 million TEUs in 2007. This achievement puts the port as the third busiest port in the region.

With current infrastructure and plan for expansion, the port will be capable of managing eight million TEUs annually, putting containers into 29,785 TEU slots with the storage capacity of 200,000 TEUs. Besides, the port is also capable of handling the biggest containership currently operating, Emma Maersk, with 11,000

Figure 4. **Throughputs Volume of PTP from 1999 – 2007 (In Thousand TEUs)**



Data Source: PTP (2008)

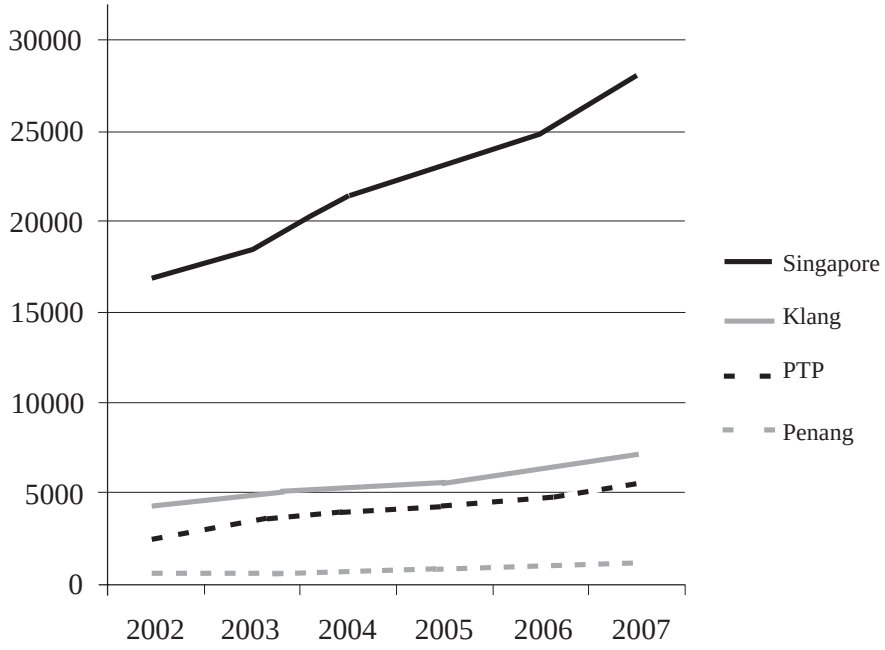
TEUs with 14 meters drafts, and will be able to handle future containerships whose drafts are less than 19 meters. However, with a little dredging work, the port will be able to handle any size of future container vessels. The port is also capable of governing pilotage and towage services for any size of vessels at its turning basin of 600 meters wide.

Comparing Resources and Performance of the Port vis-à-vis Its Rivals

Achieving sustainable growth and competitive advantage has become a major concern to any port. However, many port authorities fail to experience diversity in identifying and capturing opportunities and then transforming them into strategies for the ports' growth. Some ports are focused on market share opportunities as their basis for growth, while other ports put very much attention to their competitors' achievements rather than their own capabilities. Most of the world's major ports give deep and serious attention to their resources as the basis for growth, and hence building competitive advantage.

To analyze the growth opportunities of the port, we compare the port's resources to those of its major rivals in the region. The comparison includes tangible and intangible resources such as container throughputs, capability of container handling, storage, facilities, costs involved in operations, future expansion, human resources, as well as future issues such as land and hinterland availability, and so forth.

Figure 5. **Throughputs Comparison of Four Major Ports in the Region From 2002 - 2007 (In Thousand TEUs)**



Data source: MPA (2009), PTP (2008), Northport (2007, 2006, 2005, 2004), Penang Port Commission (2009a)

If we look at current achievement of the ports in the region, no one would deny that the Port of Singapore, as the world's busiest port, will remain the greatest port for several years to come. The performance gap between the Port of Singapore and its rivals is still too far. However, growth opportunity does not mean that other ports have to defeat the leading port, but rather how a port can bridge the gap. The following chart (Figure 5) shows the position of Port of Tanjung Pelepas in terms of annual throughput activities relative to its rival ports based on data from 2002 to 2007.

A port's achievement (container throughput) is greatly dependant upon the following aspects: resources and capabilities, markets, cooperations, opportunities, and competitive advantage. Despite those other aspects, this paper emphasizes resources and capabilities (competencies) of the port as one of the most influencing aspects of port growth.

Let us compare resources and capabilities of Port of Tanjung Pelepas (PTP) and its three rivals in order to understand the growth opportunity of the port. Afterwards we can follow up the analysis with the financial aspect

Table 3. **Resources and Capabilities Comparison of PTP and its Rivals**

	No of Berths	Depth (m)	Quay Length (m)	Quay Cranes	Storage Area (Ha)	Annual Handling Capacity ('000 TEUs)
PTP	10	16	3600	36	120	8000
Singapore	54	16	16000	190	600	35000
Klang	26	15	6200	61	690	12100
Penang	5	11	1230	11	42	1000

Data source: PSA (2009); PTP (2009); Northport (2007); Westport (2009); Penang Port Commission (2009b)

of the resources and capabilities. Subsequently, we discuss some issues of future development of the port that may also affect growth opportunity of the port.

Table 3 shows selected important resources of the four ports and their annual container handling capabilities that may affect their performances (container throughputs). In terms of number of container terminals, we know that the Port of Singapore has four container terminals: *Brani, Keppel, Tanjong Pagar*, and *Pasir Panjang Terminals*; Port Klang has two terminals; Penang Port has also two terminals; whereas PTP has only one terminal.

For resources and capabilities, we take four aspects: number of berths, quay cranes, area, and annual handling capacity, and then we also take total annual throughputs to compare with PTP's resources and capabilities to show its rivals' strengths and competitive advantages. In Table 4, PTP's strengths is numbered 1 (one) for the all criteria.

As aforementioned, resource and capability are not the only aspect affecting total throughputs of a container port. However, this paper limits its analysis only to this aspect. As we can see in Table 4, in terms of number of berths, Port of Singapore has almost four times more than that of PTP, and Port Klang has almost twice more than that of PTP, while Penang Port has half less than that of PTP. However, crane availability at the berth shows a different figure. From the Table 4, it is shown that Port of Singapore has more cranes at its berth compared to other ports. This figure might say that Port of Singapore can handle more containers than can other ports. Area might be a sound strength if it is backed up with efficiency of loading and unloading activities at the berth. We also notice that Port of Singapore has a capacity of 4.4 times bigger than that of PTP. An interesting point to note is that if we

Table 4. Relative Strength of PTP's Resources Compared to its Rivals

	Berth	Crane	Area	Capacity	Throughput
PTP	1	1	1	1	1
Singapore	5.4	5.3	5.0	4.4	5.1
Klang	2.6	1.7	5.8	1.5	1.3
Penang	0.5	0.3	0.4	0.1	0.2

compare annual container throughputs and annual handling capacities of the ports, we will find that Port of Tanjung Pelepas (PTP) reaches 69 percent of its annual capacity while Port of Singapore reaches 77 percent, Port Klang 58 percent, and Penang Port 90 percent.

In terms of Terminal Handling Charges (THCs), shippers using Port of Tanjung Pelepas (PTP) and Port Klang pay MYR335 for 20-foot equivalent unit (TEU) container and MYR500 for 40-foot equivalent unit (FEU) container, while shippers using Penang Port pay MYR295 and MYR440 for TEU and FEU, respectively. As a comparison (see Figure 6), shippers pay MYR414 per TEU and MYR614 per FEU for THCs if they are sending their containers through Port of Singapore, while in Hong Kong they will be charged MYR886 per TEU and MYR1,305 per FEU for the same service.

Taking Figure 6, we can say that in terms of cost leadership as a basis for competitive analysis (Porter 1998), Penang Port has the highest competitive advantage followed by PTP and Port Klang. However, if we look at the comparison between annual container throughputs (Figure 5) and annual handling capacity (Table 2), Penang Port already achieves 90 percent of its capacity while PTP, Port Klang, and Port of Singapore reach 69 percent, 58 percent, and 77 percent, respectively. This means that competitive advantage will switch to PTP and Port Klang with respect to cost leadership. Of course, THC is not the only charge influential to cost leadership, and cost leadership per se is not the only basis for assessing competitive advantage, but at least we have a rough initial forecast of the competitive advantage of the port.

If we compare port revenues and profits (see Figures 7 and 8), we will see that PTP's revenue and profit increased sharply compared to its Malaysian rivals especially after 2004. Before 2004, PTP spent much of its capital for investment to strengthen its resources and capabilities of handling containers. Roughly, comparison between revenue and profit before tax (PBT) explains operating expenses of the port. In terms of revenues and profits, the Port of Singapore remains unbeatable by its rivals with its resource superiority. To compete with

Figure 6. **Terminal Handling Charges (THCs) Comparison of Four Major Ports in the Region and Port of Hong Kong (In Malaysian Ringgit - MYR)**

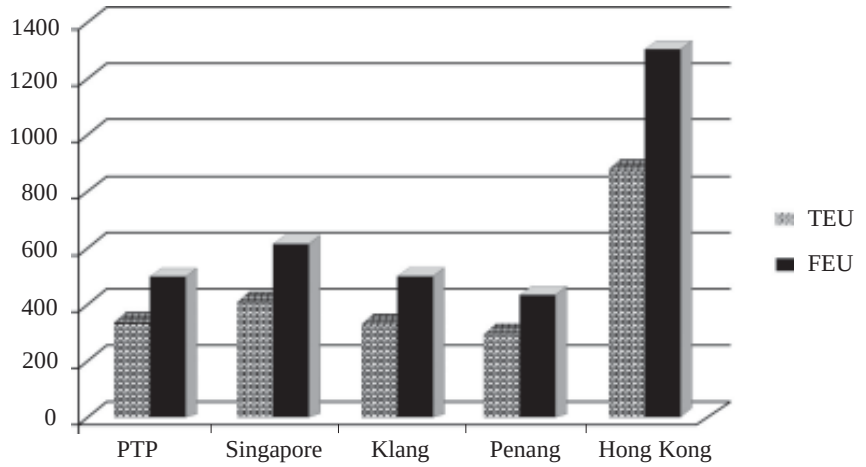
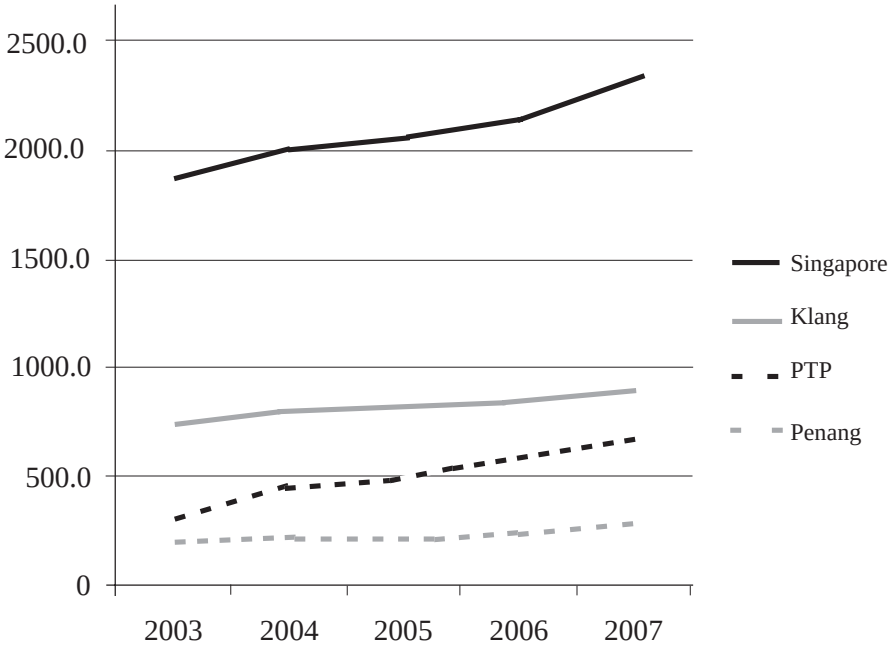
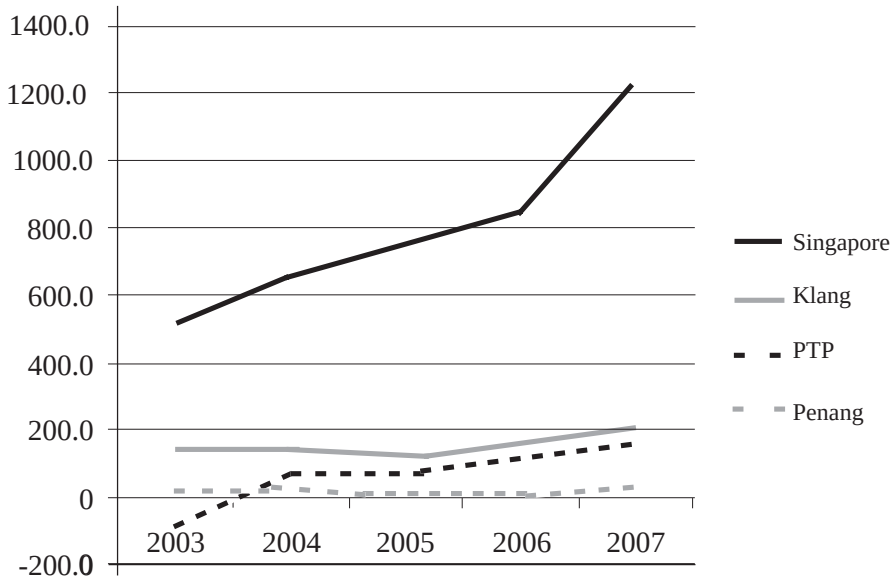


Figure 7. **Revenues Comparison of Four Major Ports in the Region From 2003 - 2007 (In Million)**



Data source: PSA (2008a); Northport (2008, 2007, 2006, 2005, 2004); MMC (2008, 2007, 2006, 2005, 2004); Penang Port (2008, 2007, 2006, 2005, 2004)

Figure 8. **Profit Before Tax (PBT) Comparison of Four Major Ports in the Region From 2003 - 2007 (In Million)**



Data source: PSA (2008a); Northport (2008, 2007, 2006, 2005, 2004); MMC (2008, 2007, 2006, 2005, 2004); Penang Port (2008, 2007, 2006, 2005, 2004)

the Port of Singapore's resources and capabilities, PTP needs to expend a lot of capital for years to come. With its current history and performance, we believe that PTP is capable of at least reducing its gap to the Port of Singapore, and being the second largest container port in the peninsula.

From Figure 8, it can be observed that before 2004, PTP spent much of its capital for investment. In 2003, PTP experienced a loss of MYR84 million as a result of investment spending. Four years after commencing operations in 1999, PTP has grown its profit, and in 2008 PTP became the largest container terminal in Malaysia and the fastest growing port in Southeast Asia (MMC 2005).

Growth Pathway of the Port

The Port of Tanjung Pelepas (PTP) has successfully positioned itself as one of major ports in South and Southeast Asia together with Port of Singapore and Port Klang. This paper has shown that PTP as a 'young' port in the region successfully captures growth opportunity based on its resources and capabilities. Among its unique resources are location, infra-

structure, core competencies, as well as links to exceptional external resources.

The port location offers a trouble-free accessibility to many logistic providers from land, sea, and air. It is located at the world's busiest shipping lane, namely the Straits of Malacca where container traffic pass through from east to west or from west to east bound. The location at a green field site allows the port for future expansion with no significant cost hassle compared to its rival ports, i.e., the Port of Singapore, Port Klang, and Penang Port. Its external resources with integrated logistic networks by land, sea, and air with many logistic centers in the region are incomparable to other ports. These resources, location, and integrated logistic networks are considered valuable, rare, durable, and inimitable.

Even though the port infrastructure has been state-of-the-art, which is valuable and durable, however they cannot be considered unique and inimitable by others. For this, the port should always keep the infrastructure attractive to the market. The port's core competencies should always be among the best and unique in the region. One way of doing this is through strategic alliances with other ports. Strengthening alliances with smaller or bigger ports having unique resources that the port does not have is a great approach that can be undertaken by the port.

Increasing ship size and high growth of container market, especially in the region, is a crucial external resource that the port can capture. The port also has a sound position to support the *Iskandar Development Region* (IDR), a project by the Malaysian Government to develop South Johor into a metropolitan area and be the most developed spot in Malaysia.

The Port of Tanjung Pelepas has a great position, and is connected with well-developed transportation infrastructure networks such as roadway, railway, seaport, and airport. The road and rail systems link the port to a broad highway network accessible to the whole peninsular, Singapore, and other northern ASEAN countries through Thailand. It is also very close to other seaports, forming a sound seaport system that can complement each other. Furthermore, the port is also located nearby two major hub airports in the region, i.e., *Senai Airport* in Johor and *Changi Airport* in Singapore. This outstanding multimodal connectivity is an incredible external resource that leads the port to potentially grow as a very competitive port in the region.

Conclusions

Understanding and capturing growth opportunity is the *sine qua non* for sustaining competitive advantage of a port. One of the well-known means for a port to achieve this is through the perspective of resource-based theory,

which views internal and external resources of the port and its capabilities as the sources for attaining growth and competitiveness.

At any stage of port growth, the resource-based view plays an important role in analyzing port competitiveness. To identify, exploit, and analyze opportunities for growth using the perspective of resource-based view, we have to assess the port's resources (from internal resources to external resources and capabilities) in several aspects: (i) values, (ii) scarcity, (iii) inimitability, (iv) durability, and (v) substitutability.

This study confirms that the port has been successfully becoming a major port in the region by focusing intensively on its growth opportunity based on resources and capabilities. Even though the port does not apply all characteristics of the resource-based theory of competitive advantage to the maximum level relative to its competitors, the port will be able to sustain its growth and competitive advantage as a major port in the region for several decades. However, this can be achieved with a prerequisite that the port be aware and prepared for new challenges and threats. On the other point, increasing applicability of resources to the optimum level will also boost higher and longer growth. The higher the level to which all characteristics the resource-based theory of competitive advantage are applied, the higher and longer the growth and competitive advantage will be achieved by the port.

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