



Competitive Advantage Strategy of Port Enterprise in Indonesia

A Case Study of Eastern Indonesian Ports

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Abstract. In general, ports in Indonesia do not have sound capabilities to face competition with foreign ports. For example, Pelindo III is the largest port company in Indonesia that controls the logistics distribution area of Eastern Indonesia and also faces global port competition. This study explores the competitive advantages of ports in Indonesia through a case study on Pelindo III. The present study focused on desk research and was explored through interviews. The five forces competition model analysis found that Pelindo III has very high competitiveness in domestic environments. Still, this competitiveness tends to be biased because Pelindo III stands behind its strength as the leading authority for managing port services in Indonesia as a state-owned enterprise. In global port competition, Pelindo III has a weakness in providing bargaining power to users in import activities. The global ports' competitive advantages can be achieved if each port's privatization and cargo sovereignty prerequisites are met.

Keywords: competitive advantage · strategy · maritime logistics · port enterprise · Pelindo III

1 Introduction

This study explores the competitiveness of ports in Indonesia, especially Pelindo III, against other ports so that strategic concepts for ideal competitive advantages can be built. The ideal Pelindo III competitive advantages mean Pelindo III competition against foreign ports based on the perception of maritime operators as users of Pelindo III services. These are relevant to the current phenomenon of ports in Indonesia and the possibilities of national ports strategies that must be taken to win the global port competition.

The port industries are capital-intensive and high risk. Miscalculations can lead to significant disasters [1]. The risk is due to the instability of freight rates, the gaps between the volume of departing cargo, the volume of return, and the high investment value [2]. Based on its historical characteristics, ports management requires careful marketing strategies. According to Mariotti [3], Indonesia has not achieved production, efficiency, and quality performance, which should have been executed in the 1960s–1990s. This fact is a gap between the ideal condition and reality.

This research framework begins with a resource-based theory following Penrose's thinking [4], which in his research used a set of internal resources that could affect the company's growth. In the past 25 years, the resource-based theory has been the origin of competitive advantage theory. It constitutes the standard theory in strategy [5]. Based on this, the theory is re-emphasized in the port competitive advantage strategy research.

The value of goods distribution through the ports, consisting of quality, reliability, punctuality in delivery, responsiveness, and the price paid, is a factor in shaping the port's competitiveness [3].

The condition of several strategic Indonesian ports is as follows [6]. First, high Waiting Time (WT) at 27–47 h (the lowest WT in ASEAN is 2 h). Second, low Gross Crane Productivity (GCP) at around 7–11 MPH (the highest Gross Crane Productivity in ASEAN moves 20–30 cranes per hour or MPH). Third, low Crane Intensity (CI) at around 1–2 (the highest CI in ASEAN is 1.8–3.6). Fourth, high Domestic Dwelling Time (DDT) at around 5 days (the lowest in ASEAN is 1 day). These conditions condition show that the main ports in Indonesia have not been successful in building competitive advantages.

1.1 Competitive Advantage of Port Enterprise

Port competition has sharply increased in the 2000s [7]; even now, the competition is no longer among companies but port logistics [8]. Ports are now a controllable business in improving maritime logistics efficiency [9, 10]. This has given rise to a strong motivation to improve operating efficiency [9], lower cargo handling costs, and integrate port services with other components in the global distribution networks [10], with the ultimate goal to increase the port's competitive advantages. The competitive advantages will be sharper when combined with the five forces [11]. Then the competitive advantages are identified from the value chains, which are caused by the ports [8, 9, 12].

Research conducted by Yang [13] analyzes the competitive advantages of the shipping industries in Taiwan based on the RBV theory [13]. Resources that can increase competitive advantages are physical assets (tonnage of ships), intangible assets (nationality of ships), organizational capabilities (volume of cargo), and competitive strength (ratio of cargo). According to Brooks bank et al. [12] and Pomeroy & Johnson [14], the limitation does show how the effectiveness of transportation is for shippers and for recipients of goods (which constitutes the value chain in distribution), as well as transportation operational efficiency for carriers from the port of origin to the destination port.

Ragnarsson's research [15] examines the strategic advantages of small and medium-sized shipping industries in Scandinavian countries in marketing their services to Latin American countries based on competition theory [11] and RBV theory [16].

The competitiveness of an individual port is determined by the quality of services offered to its customers, connectivity, strengths, and weaknesses that can be evaluated [17]. In a broader dimension, port competitiveness is determined by a range of competitive advantages gained or created from time to time [18]. There are many determinants of ports competitiveness, especially on the broader community spectrum [19]; because each entity has a different vision, the specific meaning must be further from the various

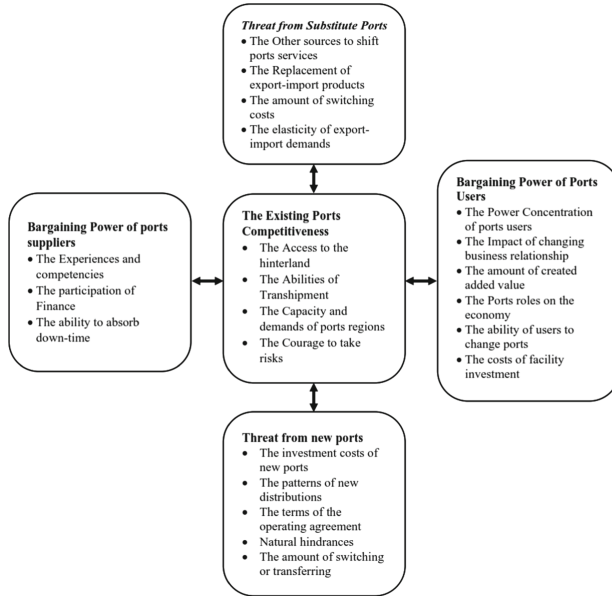


Fig. 1. The Five-Forces Competition Model of Port Enterprise

parties involved in the ports business. Therefore, its competitiveness depends on the entire port community.

1.2 The Five Forces Competition Model of Port Enterprise

The biggest challenge for port marketing is building port competitiveness [9], as it requires guidelines to deal with the demand to achieve it. The port is not free from competition; even since the 2000s, it has become increasingly tight [18]. Meanwhile, according to Lagoudis et al. [17], the concept of competitiveness varies, as Porter [11] and The World Bank [20] think that port competition analysis can be approached with the aspects shown in Fig. 1.

2 Research Methods

The following section aims to analyze the competitiveness of port companies in Indonesia. Pelindo III is the largest port company in Indonesia that controls the logistics distribution area of Eastern Indonesia. This research idea came from several previous studies exploring the port companies' competitive advantages. Despite its limitations in standardizing and generalizing findings, case study methods can offer interpretive advantages in analyzing new or unexplored phenomena [21, 22]. Combined with desk research, structured interviews were conducted with senior managers of Pelindo III business development, senior managers of Pelindo III subsidiaries, and users of Pelindo III port services: PT. Meratus Line, PT. Airline PelayaranPulauLaut, and PT. PelayaranTempuranEmas. For the realization of the case study, a protocol was designed containing

the key information to be collected [23]. Two researchers examined the data to compare possible interpretations before reaching a consensus. Each researcher combined several sources of data collection—interviews and balance sheets to achieve stronger evidence of construction through triangulation. Two experts, one from the port and another from the shipping industry, were involved in the research to obtain a better qualification result.

3 Results and Discussions

3.1 The Five Forces Competition Model of Pelindo III

3.2 The Existing Port Competition

According to Porter (1989)’s theory of competitive advantage, which emphasizes exclusively on internal resources, Pelindo III has a competitive advantage. However, this theory needs to be criticized in the port business because the competitive advantage is also determined by other ports abroad [24] (Table 1). Oceangoing ship routes that come and go to and from Pelindo III have a full load factor (Oceangoing is a ship for international routes, and load factor is the utilization of ship space for cargo). Ships arriving with a full load factor mean that this competitiveness is due to the role of ports of origin abroad [13, 17, 25], not the role of Pelindo III.

Table 1. The Five Forces Competition Model of Pelindo III

The Five Forces Competition Model		Pelindo III
Competition Forces	Indicators	
The Exiting Ports Competitiveness	Access to hinterland	Having good access to buffer areas
	Transshipment’s ability	Oceangoing routes: Incoming ships that have full load factors
		Domestic routes: Outgoing ships that have a full load factor, but those arriving only have a load factor of 50%
	Regional port capacity and demand	Having high cargo handling capacity
		High demand in the region
	Courage to take risks	Making investments with great value
	Ability to absorb losses	Having a profitable subsidiary
	Abilities to Control Operations	Having full authority over the operation of port activities
Competitors Limitation	Applying the association policy model	
Availability of government subsidies	As a State-owned enterprise (BUMN) that has a door for subsidies from the government	

(continued)

Table 1. (continued)

The Five Forces Competition Model		Pelindo III
Competition Forces	Indicators	
Threat from New Ports	New Ports Investment Costs	The main ports (hub ports) have been accommodated by the holding company (Pelindo I–IV)
	New Distribution Patterns	Pelindo III controls the logistics distribution in Eastern Indonesia as long as the logistics distribution center is still on Java island
	Operating agreement terms	Operational agreements for ship piloting services are still weak
	Natural Barriers	Taking advantage of opportunities through limited land
	Amount of transfer cost	Minimizing switching costs by building new terminals
	Cost advantage and customer loyalty	Having power as a monopoly company for port services
Threat from Substitute Ports	Other sources for shifting port services	All export-import activities through Pelindo III
	Export-import product replacement	Industrial products from other countries that have the potential to shift general cargo from the Pelindo III regional area
	Amount of transfer cost	Depending on the ability of the importers to consider the cost of similar products from other countries, especially general cargo
	The elasticity of import-export demands	Inelastic for goods related to public needs and elastic for general cargo
	The proportion of the port cost to the total shipping cost	The total cost of shipping containers is high and still monopolizes grain-dry bulk cargo.
Bargaining Power of Port Users	The concentration of port user power	Relating to users who have a significant concentration of power over the port capacity of Pelindo III
	Impact of changing business relationships	Implementing a cooperative relationship model in the form of a conference
	The amount of added value created	Door-to-door service policy and providing multi-modal transports
	The role of ports in the economy	It provides a multiplier effect of up to 5 billion

(continued)

Table 1. (continued)

The Five Forces Competition Model		Pelindo III
Competition Forces	Indicators	
	User ability to change the port	Domestic users cannot change ports. Importers still can change ports unless related to products from the Pelindo III regional area
	Facility investment costs for users	Having logistics distribution service facilities needed by large companies
	Chokepoint in Ports	Having heavy ship traffic lines, especially the port line at Tanjung Perak
Bargaining Power of Port Suppliers	Experiences and abilities	Having an industrial area for experienced large contractors
	Financial Participation	Due to budget constraints, Pelindo III requires contractors to be included in financing participation
	Abilities to absorb downtime	not covering the impact of losses suffered by suppliers because of the termination of loading and unloading activities at Pelindo III
	Suppliers – Users Relationship	The relationship between feeder ship operators and mother ship operators, Pelindo III, forms a symbiotic mutualism relationship
	Right and Obligations	The granting of concessions to most of the suppliers falls on the company’s subsidiaries for five years

Pelindo III’s position can absorb losses if it occurs from subsidiaries or “grandchildren” under its auspices. According to The World Bank (2007), such a position has high competitiveness against other non-Pelindo domestic ports. This situation implies that Pelindo III is difficult to fail in the domestic competition.

Pelindo III controls its subsidiaries and “grandchildren” under its auspices. All practical operators have specializations in handling certain types of loads to compete.

Pelindo III continuously earns net profit, even though the amount fluctuates [26] (Table 2). Subsidies can help the port’s competitiveness, even if they are temporary. As a State-Owned Enterprise (BUMN), the government will compensate even if Pelindo III suffers a loss. The willingness of this subsidy structurally puts Pelindo III in an advantageous position because particular ports will not receive subsidies from the government.

Table 2. Net profit of 5 subsidiaries of Pelindo III in 2019

No	Company Name	Net Profit (Billion Rupiah)
1	PT. Terminal Petikemas Surabaya	1,202
2	PT. Pelindo Husada Citra	11
3	PT. Berlian Jasa Terminal Indonesia	111
4	PT. Terminal TelukLamong	230
5	PT. Pelindo Daya Sejahtera	11

Table 3. Container cargo handling at Pelindo III in 2014–2018 (TEUs)

2014	2015	2016	2017	2018
4,337,555	4,360,669	4,611,262	4,919,719	5,337,673

3.3 Threat from New Ports

Practically, there are no new ports that can compete with Pelindo III nationwide. Competitors will emerge from global class port operators such as Hutchinson Port and APM terminal when the logistics distribution center changes.

Pelindo III provides guide services, and so do the rates. The policies do not allow the guide service companies to guide other ships to enter the port work area. It is practically acting as a monopoly. In Tanjung Perak, the increase in cargo handling volume faced limited space (Table 3). The policy to respond to the market was to build another port not far from Tanjung Perak, named PT. Terminal TelukLamong. These policies lead to strong barriers for new entrants.

Therefore, the establishment of Terminal TelukLamong (TTL) is a solution to avoid the high cost of transferring facilities [27].

3.4 Threat from Substitute Ports

In Pelindo III, exporters and importers must use this port. However, importers can choose the options through the terms and conditions; namely, the service from the port of origin is the most efficient [28] so that prices in Indonesia can be suppressed. The significant demand for goods to meet the community's needs, namely wheat flour, is inelastic. Its demand is not much affected by the price level. Based on interviews with shippers or recipients of freight forwarders passing through the Tanjung Perak port in Surabaya, both inter-island shipments and the total cost of export-import ports reach 1% of the total shipping costs.

3.5 Bargaining Power of Port Users

Six shipping companies control at least 30% of the Tanjung Perak port capacity. So, the main users are always cared for by Pelindo III. The users bind Pelindo III's competitiveness with a large concentration of power.

Pelindo III's relationship with its users is manifested in the form of a conference involving shipping companies represented by the Indonesian National Shipowners' Association (INSA) as a vessel for ship owners, the Indonesian Logistics and Forwarders Association (ALFI), the Association of Indonesian Loading and Unloading Companies (APBMI) and the ports authorities.

Join slot is a gathering for the use of ship space that is not filled due to limited cargo by shippers, each of which cannot meet the ship's load factor. For the ship to sail economically reasonably, the ship's space is maximized to approach the total load factor with a join slot policy. Relation to the joint slot of the ship's room occurred at Pelindo III branches outside Java, where the ship will go to Java or other islands or even for export purposes.

The position of domestic users in sending or receiving their cargo must go through Pelindo III, whether at Tanjung Perak Surabaya or at 43 other Pelindo III holding port members. Pelindo III's position here is as a monopoly, so it has high bargaining power. It is different for importers abroad; if they are able to divert their imports of goods to other countries, it is clear that Pelindo III has low bargaining power. However, as long as they are still tied to goods from East Java, Pelindo III still has high bargaining power. Thus, the ability of users to shift the use of one port to another contributes to the bargaining power of Pelindo III.

3.6 Bargaining Power of Ports Suppliers

The contractors in the Pelindo III environment: PT. Meratus Line, PT. MaskapaiPelayaranPulauLaut, PT. PelayaranTempuranEmas, Maersk Line, COSCO, and OOCL have long been operating in the environment, both at the Tanjung Perak port, Surabaya, and other ports under Pelindo III. They have established good competitiveness because of their experiences, in line with Laxe [9], which examines that contracting out terminals is one strategy that significantly impacts suppliers' bargaining power. Therefore, Pelindo III's bargaining power is below them, especially for international shipping markets (Oceangoing). In turn, Pelindo III's bargaining power is fictitious.

Pelindo III's budget constraints require the contractors to be included in the financing. The impact on competitiveness is that the contractors have high bargaining power as service suppliers to Pelindo III. At the same time, Pelindo III is in a tied position. After Pelindo III acquired up to 90% of its shares, its competitiveness increased. It can be said that financial participation by outsiders has an impact on weakening Pelindo III's bargaining position.

4 Conclusion

Ports no longer operate in isolated environments from other economic activities. Many factors affect ports' competitiveness, which is then chosen by shipping lines and shippers.

Ports face competitive forces, namely competition among the existing ports, the threat of the entry of new ports, the threat of potential substitutes for global ports, bargaining power against cargo suppliers, and bargaining power against shipping companies as port service users. The analysis of the five forces of competition in Pelindo III shows that Pelindo III has strong competitiveness domestically. This is because of its position, which can directly or indirectly monopolize port services in Indonesia. However, when faced with a global competitive situation in port companies, Pelindo III still has weak bargaining power, especially concerning substitute ports and port service tariffs.

There are four basic port management models: service ports, tool ports, landlord ports, and private ports. Indonesia applies a hybrid model, namely between service ports and tool ports. There are overlapping responsibilities and authorities between the regulator and operator functions. The function of the regulator is carried out in the form of a team from government agencies in “fa” ports. Pelindo, as a port business entity, operates its authority too far so that it sells to other operators, which should be the authority of the regulator. The position as a public entity and a business entity that is not firm impacts port service inefficiency. Pelindo III’s competitive advantage is still low. The unrealistic spirit of privatization by Pelindo III impacts the spirit of building a competitive advantage that cannot be demonstrated significantly. Therefore, a strict port management model between the regulator and exploitation functions is necessary for building its competitive advantage.

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