

A Strategic Business Management of Liner Business in Thailand: Case Study of Evergreen Liner Group, Thailand.

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Abstract— This paper presents a strategic management of Evergreen Liner Groups in Thailand (ELGT). The results reveal by resource-based view (RBV) technique shows that ELGT still remains its position as the fourth biggest shipping liners in the world because of its competitive advantage over the competitors. ELGT has 2 container management models – loaded and empty containers. Key strategic management for ELGT is an availability of the container with competitive price, short delivery lead time, and high operating performance.

Index Terms— container management, container and port terminal, strategic management, resource-based view, ABC analysis.

I. INTRODUCTION

At the present time, Thailand has gained the main income from exported trade to other countries as high as 70 % of Gross Domestic Product (GDP), making Thai government to implement the policies about the exported transactions by giving the advantageous benefits and some conveniences to Thai entrepreneurs in many aspects, such as free-tax exporting zones free-serviced port management as well as facilitating trade transfer for Thai-exporter feasible competition [1]. There are several mode of transportation in order to fulfill the shipment of cargo, such as, sea, road, rail, and air. Among those mentioned modes, sea is the major transportation mode of goods or cargo. The important facility for sea transportation is port which usually has various handling equipment to load/unload cargo from/to ships. A container terminal is an area which may consider as the transshipment area. There are two types of container terminal – maritime container terminal and inland container terminal. Therefore, it may be the transshipment area between ship and land vehicles or between land vehicles, such as truck and train. A container terminal provides storage facilities for loaded and empty containers, such as berths, quay cranes, tractors, forklifts, and other

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handling equipment [2]. Each container terminal may operate by different parties, both private and public.

Evergreen Liner Group, Thailand (ELGT) composes of 4 major businesses in line – Evergreen Shipping Agency (Thailand) Co. Ltd. (ESAT), Evergreen Container Terminal (Thailand) Ltd. (ECTT), Green Siam Air Services Co. Ltd. (GSAS), and Evergreen Laurel Hotel (Bangkok, Thailand) (ELHT). Global Evergreen Liner group is known as one of the outstanding transporters, seaport entrepreneurs, and container depot of the world. It plays an important role as a node in global supply chain which has over 240 shipping network all over the world. Main operations in sea transportation services of ELGT are freight services, storage facilities (both port terminal and container terminal), container leasing service, and door-to-door trucking service.

In recent years, the economic crisis occurs over the world. All business is looking for new strategies to survive, including liner business. Many strategic management techniques have been improved to gain the competitive advantage over the competitors. ELGT's strategies in gaining the competitive advantages are an availability of the container, encompassed with competitive price, short delivery lead time, and high operating performance. This paper aims to study the strategic management technique of ELGT to see how it can improve its operations in the crisis period and remain its rank as the fourth biggest shipping liners in the world [3].

II. ELGT's SWOT ANALYSIS

A SWOT analysis is an analytical tool to enable the organization to understand itself. It provides the information on how strengths and weaknesses in relation to the opportunities and threats that it face [4]. It is also vital to the survival and prosperity of the organization. ELGT has done the SWOT analysis and revealed the results as follows:

Strengths:

- Service quality: Company offers the best service and service-minded quality to meet with customer's satisfaction.
- Reasonable price: Marketing strategic with discount freight rate is specially considered for target customers in long term-service.
- Complete sea transportation services: ELGT composes of businesses which fulfill all activities required in sea transportation. It also fulfills the transportation network with air transportation service.
- Facility location: All facilities of ELGT locate in the prime area, such as; ELGT's port locates in a world class

port called Laem chabang port, ELGT's container terminal locates between industrial zone and major port. Those facilities are also the biggest facility of each kind among those facilities in the same area.

- Strong background: ELGT is a branch of Evergreen group which is one of the biggest shipping companies in the world and has networks all over the world.

Weaknesses:

- Container shortage: There are more exports than imports in both value and volume, resulting in the shortage of the containers.
- Limitation of customers: Nominated Customers are first priority as agent's order that it is difficult for them to approach new customers in the new trade lane.

Opportunities:

- Expansion of trade logistics: Thai government support the export industries due to it is a main income of the country. All trade logistics facilities including container terminal have been giving the advantageous benefit by the government.
- Investment Opportunity: ELGT is a joint-venture between Thai party and Evergreen Group which has a strong financial background. This is an opportunity for ELGT to have an additional investment support when it is necessary.

Threats:

- Economic recession: Economics recession directly affects overall company's performance and high competition.

From the above analysis, ELGT has developed strategies to improve the competitiveness of the company's core business which are container terminal and sea transporter. The detail of the strategic planning will be discussed in section IV.

III. LITERATURE REVIEW

This section reviews the literature relating to: (1) evolution of container delivery system; (2) port terminal management; (3) container terminal and yard management; (4) competitive advantage strategy for container terminal management. The purpose of the literature review is to provide a perspective of previous studies that has been conducted as well as to illustrate relevant research area.

A. Evolution of Container Delivery System

The container concept has been introduced since the Roman times to improve the efficiency of goods' flow [5]. The container was first used in rail transportation in 1830s [6] and in sea transportation in 1960s [7]. The main objective in application of container to sea transportation and all other modes is to standardize the dimensions of the shipment between all transportation modes [7]. The containerization is the largest form of unitization with other synchronized factors to the logistics systems [8]. Since the introduction of containers to sea transportation, the container delivery system has dominated bulk delivery system in most types of cargos movements. It plays an important roles and contribution to a development of multimodal transportation [8]. This concept leads to a huge reduction of transportation cost and also creates a new

trade opportunity channel [9]. Today, containerization system reaches a high growth phase which can influence the development of world economy [10]. Ref [11] gives an intensive review on the revolution of containerization including concepts, technologies, methods, and physical appearance of packaged cargo moved by container.

B. Port Terminal Management

Ports are viewed as the core of national development that must have the qualification of suitably physical infrastructure including competitive capabilities to country constructively. The port system is a complex system which composes of four main stakeholders in port communities [12], [13] – internal stakeholders, external stakeholders, public policy stakeholders, and community stakeholders. Port is viewed as part of supply chain systems of sea transportation which consists of several logistics activities and also incorporates with other functions, including industry, distribution, housing, and recreation [14]. Therefore, supply chain and logistics management can be applied to develop port management strategies. The key success in managing port terminal is output performance. Ref [15] has done an extensively review on literature in describing of the operations, processes, activities, and relationships in ports and terminals. Ref [12] also gives some reviews in aspect of the economic factors for developing port policy.

C. Container Terminal and Yard Management

Container terminal is a facility that interfaces sea and land transportation modes which aims to provide the most efficient and productive flow of goods carried in a container. Containers will be transported into the terminal by trucks, railways and barges from inland, and be stored in container yard temporarily before being loaded into a ship for export flow. For import flow, the process is reversed. Time spent in the container terminal for loaded and empty container is comparatively difference. Loaded container spends less time in the container terminal than the empty one. It is because loaded container is ready to be shipped to the customer as it is scheduled before loaded cargo into the container. An empty container has to wait at the container yard for unpredictable schedule of the next use. A review of literature in container and yard operations, subsystems, equipment, and problems can be seen in [16] - [18]. The container terminal management system is a decentralized management systems, due to its complex and changeable structure [19], [20]. There are many studies on how to manage the container terminal, mostly aimed to minimize overall cost of container terminal operations and improve the operating efficiency [16]. Ref [21] and [22] pointed out the container measurement's concepts and key factors influencing the expansion of container terminal.

D. Competitive Advantage Strategy for Container Terminal Management

In the age of globalization, the overseas container transportation was expanded and grew along with the world economy. The shipping companies and other relevant businesses were employed several management strategies to response with those changes. All strategies aim to cut cost but still maintain high service quality to meet the customers' global requirements. Global customer demands are as follows: accurate and fast transport, more frequent service,

direct port call coverage by mother vessels, provision of so-called global services that simultaneously cover multiple major trades, smooth and seamless door-to-door transport, accuracy of cargo/container tracking system at any time and anywhere, simplified/faster/paperless ship loading procedures, freight rate competitiveness, and many other requirements. Ref. [23] has explained in review literature in details of the basis for a competitive advantage, valuable resources, develop and dynamic capabilities, strategic assets of an organizational resources, integration, building capabilities, including container Management. The imbalance container managing technique and container repositioning is significantly important to a container terminal management due to it is unavoidable operations. Therefore, it must be operated in a cost-effective way.

IV. THE STUDY OF STRATEGIC MANAGEMENT OF ELGT

A strategic management is a conduct of an implementing and evaluating processes that enable an organization to achieve objectives [24]. It also evaluates the competitors and set goals to compete with them. The progress of the plan will be closely monitored to determine how success of the plan it is. New strategy may replace the old one if it has not succeeded [25]. In the recent years, resource-based view (RBV) technique becomes an effective concept to evaluate and explain the business's phenomena [26]. RBV is an effective concept to understand firm survival strategies under competitive market. RBV also helps us to understand sources of sustained competitive advantages of the business [27] which are resources and capabilities [28]. Therefore, RBV is employed in this paper to explore and identify a competitive advantage and resource/capability planning of ELGT. A primary data is gained by interviewing key management and key operators of ELGT. A secondary data is also taken from documentary analysis, relevant publication, journals, and internet.

A business model of ELGT is shown in Figure 1. ESAT is the pioneer of the group in contacting with customers and finding new customers. ECTT is a center of operations and management of the group since it plays an important role in providing and allocating of containers. Figure 2 shows the connection between other parties and ECTT. GSAS is the air transportation service which fulfills the customer's need in connecting to another mode of transportation. ELHT is another line of service which provides the convenience to top management, captain, and staffs of ELGT while residing in Thailand. It is also open services to other customers. These businesses in group are not stand alone business, but have an integration of operations and are responsible for the competitive advantages to the group.

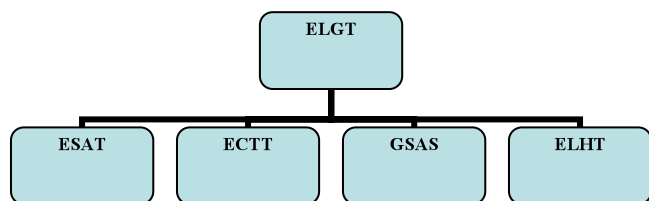


Figure 1: ELGT's Business Model

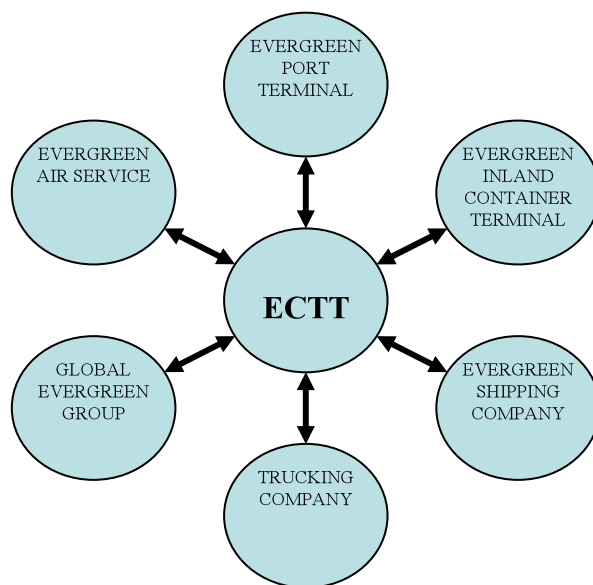


Figure 2: ECTT as the coordinator of ELGT

In transportation businesses, the key success factors are speed and quality of shipment. ELGT also concerns with the same factors. ELGT has ECTT as the center of information and coordination between all partners of the group. Therefore, from this point onward, this paper will present ECTT's strategy in gaining competitive advantage to ELGT.

ECTT serves on two directions of trade – import and export. ECTT manages the container loaded to ship, called import containers and the container unloaded to another ship, called export container, using the same objective and criteria. The objectives in managing those containers are to optimize resources usage while controlling the operating cost and raising the customer service level. Therefore, ECTT has issued the commercial oriented management policies to comply with the agile strategy in handling changes required by the customers. Those policies have the following characteristics: clear visions, innovation, and flexibility. The key factors influencing the efficiency of container terminal design are the total handling and traveling time of the container in the terminal [29].

From the investigation, ECTT is facing with the increasing of the cost due to the following problems:

- Inaccurate forecasting in the demand of container.
- Unpleasant condition of 20 feet container for dry cargo.
- Surplus of 40 feet container.
- Imbalance between inbound and outbound containers.
- Inventory of unneeded containers.
- Unnecessary activities to handle the container in stock yard.

Hence, ECTT focuses on the container management strategies in order to solve those problems. Generally, ECTT has two set of container management model – empty container management model as in Figure 3 and loaded container management model as in Figure 4. The container is considered to be empty as it is empty and is returned from the consignee to ECTT. Warehouse's yard will be

used as the storage of the empty container, waiting for leasing. The sourcing and distribution efficiency of empty container is the crucial goal of the empty container management. From the logistics point of view, loaded containers is the activity concerned with the services to support customers. When ECTT provided loaded containers from the customer, it will be located in container yard before shuttled to port for boarding. The efficiency of managing limited resources, such as space, container, labor, etc., is crucial for loaded container management.

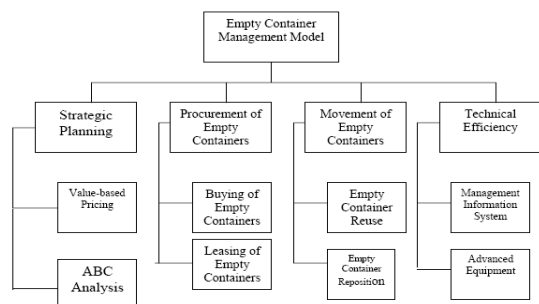


Figure 3: Empty Container Management Model of ECTT

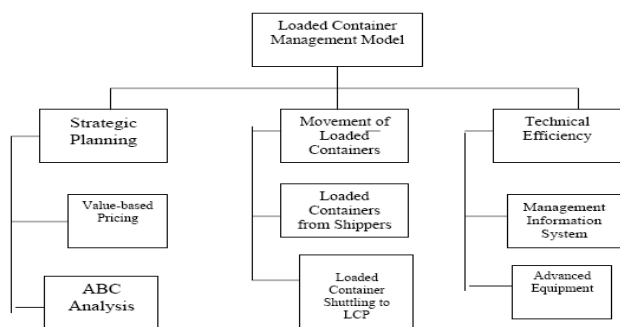


Figure 4: Loaded Container Management Model of ECTT

Figure 3 and 4 has been drawn from the results revealed by RBV technique which also identified ECTT's resources and capability. The main focus of ECTT in container management is the collaborating with other parties in their supply chain. Four aspects of container management (both empty and loaded) of ECTT are strategic planning, procurement of empty container, movement of loaded containers, and technical efficiency.

A. Strategic Planning

Planning of empty and loaded container management of ECTT refers to the theory of the logistics management by combining, comprehend, and integrating all planning processes to achieve goal of the company. The ultimate goals of ECTT are gaining the competitive advantages and customer satisfaction by increasing value and customer service level.

ECTT has three planning levels - strategic, tactical, and operational. The strategic level involves long-term decisions regarding terminal layout, terminal equipment, terminal infrastructure strategic alliances with shipping companies and multimodal interfaces. Tactical level involves mid-term and short-term decisions regarding berth and yard templates and storage policies. Operational level involves decisions regarding daily or real-time

operations such as quayside operations (berth allocation, quay cranes scheduling, ship stowage), landside operations (transfer operations, yard management), and empty containers and human resources management. ECTT's strategic planning can be compared with the strategic planning level which is introduced by Gunther and Kim in 2006 [30] as seen in Figure 5.

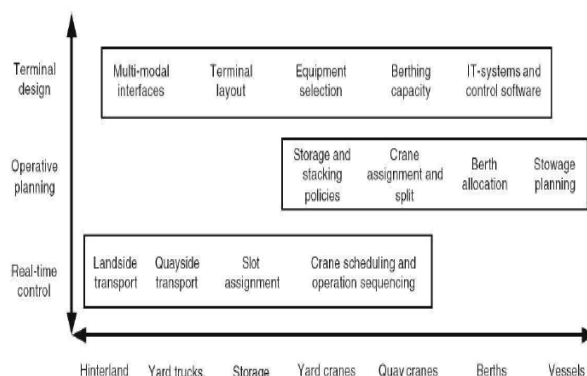


Figure 5: Planning Levels at Container Terminals proposed by Gunther and Kim in 2006

ECTT also set two distinguish classes of KPIs to evaluate the performance of a container terminal. One is service level provided to clients which measures in terms of turn-around time of ship liners and outside truck, berth service time, and gate service time. Another KPI is volume of containers to be handled by the terminal, which measures in TEU units. The managerial tools to control empty and loaded containers at ECTT are value-based pricing and ABC analysis.

The Value-based pricing

Traditionally, ECTT has set price or fee for customer based on the actual cost of the operations, the market price, the competitors' price, and historical price. Today, ECTT adopts value based pricing as one of the business strategy. It sets the price or fee based on the customer's perceived value [31]. The price for each customer will reflect the specific value delivered. The value-based pricing is making more profit to ECTT, due to it makes ECTT become more competitive advantage than the traditional pricing method.

ABC analysis

The ABC analysis or classification is an analysis of a range of items into three class categories: A – outstandingly or critically important; B – of average importance; C – relatively unimportant. The management technique of those different groups is somehow different. In container terminal business, the general purposed container which is the most required by the customers are categorized as the most critical container type or as A item. Hence, the general purposed containers are firstly checked and monitored to preventing the shortage of those types of containers. The precise forecasting technique is necessary for item in class A. Others type of containers will be categorized into B or C using the same criteria. This inventory technique allows ECTT to be able to forecast and stock a right amount of each type of container to supply the customer, with less holding

cost, ordering cost, and opportunity lost cost than the competitors.

B. Procurement of Containers

Because Thailand's exporting volume is higher than importing volume [32], therefore, the shortage of the empty container occurred. ECTT, which also plays role as sea transporter, is also facing this problem. To handle this problem, ECTT puts effort in monitoring and determining the inventory level of all types of container. Two strategies in procuring the empty containers employed by ECTT are leasing and buying new container. From the investigation, ECTT is facing the shortage of 20 feet container. Therefore, ECTT is considering to purchase more of twenty feet containers at competitive prices. However, there are lots of container leasing company in the market which offers competitive price in leasing container to the customers. Other factors that ECTT has considered in buying new container to fulfill customer's needs are condition and modification of container required by the customers, duration of container needed by the customers, and volume of container needed by the customers. ECTT has benefit over the leasing company due to ECTT has its own property to store the empty container. Hence, ECTT always leased the container from the leasing company which rented ECTT's space to store its empty container to service ECTT's customers. This strategy provides a reducing in fleet size as well as container's maintenance cost to ECTT.

C. Movement of Empty and Loaded Containers

ECTT employs the JIT technique that recommended in [33] to manage the container movement. ECTT emphasizes on an effort to minimize the number and cost of truck trips. Two main methodologies can be considered for empty container reuse, namely depot-direct and street-turn [34]. Depot-direct concerns with storing and interchanging empty container at off-dock depots. The benefit of depot-direct is an establishing of a supply point for reusable empties, facilitating empties drop-off and pick up when terminal gates are congested. Street-turn is a movement of empty container from local consignees to local shippers. A benefit of street-turns is to reduce the number of truck, trips and to save driving times to/from container terminals to avoid congested area around the gates.

Container repositioning is an unavoidable activity in sea transportation business. ECTT realized that the current container movement routing is not efficient. ECTT promotes the inter-modal community which aims to reduce the repositioning costs of empty containers as suggested by [35].

D. Technical Efficiency of ECTT

ECTT uses the advanced computerized equipment control systems in developing and improving a global shipping network with all relevant facilities. ECTT operates their system with Maximas program, Radio Phone for controlling truck management, and CASTO program for terminal management. ECTT also adopts and uses advanced port and container terminal equipment from its principle which is Evergreen Group in Taiwan. This high technology equipment enhances ECTT to facilitate all customers' need.

V. CONCLUSION

From this study, the following conclusion can be derived. The proposed methods identify ELGT's SWOT Analysis, strategic management in Container and Port Terminal, competitive advantage strategy both internal and external organization. Consequently, the improvement of container management is essential to reduce transferring time, and streamline the whole container chain and optimizes resources usage while controlling the operating cost and raising the customer service level.

For further research, there are extreme possibilities to initiative the integration model of loaded and empty container flow decision. Because the location and number of container pools has significant impact on the solutions. With the planning horizon considerations, it might be worthwhile to determine at location-allocation models. The future research attempt could be considered uncertain nature of the demand and/or supply in the container management problem.

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Notations

Container Terminal: The area designated for the stowage of cargoes in container, usually accessible by truck, railroad and marine transportation. Here containers are picked up, dropped off, maintained and housed at ECTT's location.

Sea transportation: Movement of cargo containers interchangeably are operated by shipping liner.

ABC Analysis: An analysis of the accounting methodology that measures all the costs associated with specific business activities in terms of production, delivery, maintenance or service.

ELGT: Evergreen Liner Group, Thailand.

ESAT: Evergreen Shipping Agency (Thailand) Co. Ltd.

ECTT: Evergreen Container Terminal (Thailand) Ltd.

GSAS: Green Siam Air Services Co. Ltd.

ELHT: Evergreen Laurel Hotel (Bangkok), Thailand.