

# CHAPTER I

## INTRODUCTION

### 1.1 Introduction of the Study

The oil crisis has created high impacts on the economy of both business sector and household sector as the transportation cost is a major logistics cost. Fluctuation of crude oil price stimulates the bullwhip effect of gasoline consumption which leads to high inventory level and price fluctuation in the chain.

Most oil companies previously adhered to “Marketing concept” to focus mainly on customer driven strategy. Nowadays they tend to cling to a stronger customer focus expecting opportunity to gain more competitive advantages. What is happening to the oil companies are that even though the price is constantly increased and product nature is highly price sensitive, their margins are still narrow. Thus they cannot rely on only marketing concept to help them survive in the highly competition circumstance. Therefore, company profitability can be improved by address to the overall cost reduction.

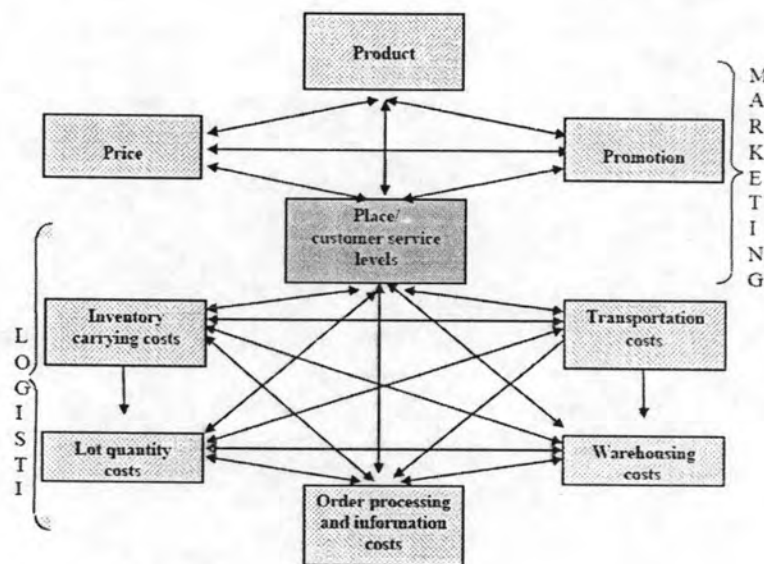
Logistics management is increasingly being seen as a source of competitive strength. It can provide potential of cost reduction and opportunity to increase market share. For the success of organization, the four Ps marketing mix must be integrated with the ideas of right product at right price and right promotion at the right place with logistic concept. The latter plays a critical role in particular to support the availability of product at the right place to generate the customer utility. To achieve the customer satisfaction, it requires an integrated effort from both internal and external players.

Transportation creates the value of Place utility and Time utility, while as Inventory responses directly to customer service level which are necessary for successful marketing concept. Since Transportation and Inventory carrying cost are the major costs

of Logistics system, reduction of transportation cost and Inventory carrying cost lead to organization competitive advantage.

From figure 1-1 shown below, Place component of the marketing mix supports the levels of customer service which is also the output of Logistics system. For many organizations, customer service is a key to gain competitive advantage. Improving of Logistics system can create cost saving both in logistic itself and marketing, higher performance of the whole organization and more significant efficiency and effectiveness.

Figure 1-1 Cost trade-off in Marketing and Logistics



Source: Adapted from Douglas M. Lambert. The development of Inventory costing Methodology: A Study of the Costs Associated with holding inventory (Chicago: National Council of Physical Distribution Management, 19760, P.7

In addition, most organization is continually to improve their operation and competitiveness not only their internal work but rising of co-operation and partnership

between organizations in the chain. Supply chain management (SCM) is the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption to bring the series of benefits which included

- Lower costs from lower stock level, less expenditure, optimize the operation cost, economics of scale.
- Improve performance by better planning, more stable operation and highly productivity.
- Improve material flow as more co-ordinate results more reliable movement and information, more flexible & faster to react the changing of condition.
- Better service level with short lead time, faster and accuracy deliveries.

This research performs to develop the gasoline distribution from central depot to customers (Gasoline stations) by apply the Supply Chain Collaboration concept as “Vendor Managed Inventory” in order to lower the inventory level and increase the customer service level.

## **1.2 Statement of the Problem**

- **Inefficient Tank Truck Utilization**  
Because of the current regulation the trucks are not used in efficient way, e.g. big truck for small deliveries, too frequency of shipments.
- **Inflexible & Low level of customer satisfaction**  
All issues related with scheduling and truck use have resulted to customer’s satisfaction that is affecting customer relations and company competitive.
- **High inventory level & Fluctuate of price and product consumption**

As gasoline is price sensitive product, price fluctuations effect the end customer consumes quantities which lead to high inventory level at gasoline station.

### **1.3 Research Objectives**

- To develop optimal resolutions for better manage inventory level and replenishment policy.
- To increase customer satisfaction and service level from better fill rate and cost reduction.

### **1.4 Scope of the Research**

- This thesis will focus on gasoline distribution from depot to gasoline stations of the case study company.
- Gasoline stations that located in Bangkok only.
- Gasoline stations' orders and behavior in 12 months.
- Gasoline stations' sales volumes and inventory level in 12 months.
- The transportation mode uses from depot to gasoline station only the road mode (Truck load).

### **1.5 Significance of the Study**

To determines the optimal inventory level which satisfy the customer demand at the specific service level and gain more competitive advantage.