

## ABSTRACT

In the business environment with high competition, every company tries to give good service to customers. The availability of products, in both the breadth of range of items and depth of stock in each item, is important. In addition, to increase customer service levels will enhance the company image and leadership. Shortage or stock-out have more effect than just lost sales. An accurate forecast method would be the important tool that helps a company to provide the right inventory level. However, if demand is uncertain or become more variable, the forecasting tools may not perfectly solve the problems. An unsuitable forecast method may result in initial over-buying. To provide high customer service level, the company has to make a trade-off between inventory cost and the need for profitability of the company.

Supply chain management provides the potential for organizations to reduce costs and improve customer service performance. The economic order quantity (EOQ) model is a classic independent demand inventory system that provides many useful ordering decisions with the purpose of finding the order quantity of an item which minimizes total inventory costs. However, the EOQ model still does not provide the best solution to every situation. Applying additional parameters would help to complete the EOQ model and optimize the solution.

This project will study the situation of a leading specialty paper company in Thailand, all of whose products are imported from worldwide mills. The company uses last year sales data to forecast demand and order quantity for all 200 SKUs. Over-buying and stock-out are usually found in many SKUs. Holding such high inventory, the company still faces shortage and lost sales. This project will study the decision making tool between a Continuous Review System and a Periodic Review System. In addition, this project will apply the EOQ model with opportunity cost as the additional parameter to find the right order quantity and inventory level that could maximize profit to the company.