ABSTRACT

PTT Public Company Limited (PTT) is a national petroleum business organization that purchases and sells petroleum products, the activities of the organization are just like that of a trading company. There are 2 constraints for PTT to manage inventory they are the average stock of each product which must be above legal reservation level, and the average stock of all products which should not be more than 3 days supply above legal reservation level of all products. PTT can manage inventory comply of both constrains but problems occur during operation. The most important cause of these operation problems is that PTT does not know how much oil to be stocked at each depot.

The economic order quantity Model (EOQ) is used to derive the optimal stock level together with other factors which affect the PTT stock. The optimal stock solution consists of minimum stock level, batch size, and maximum stock level which guide PTT to be able to manage inventory at each depot more efficiently and comply with 2 constraints. The derived product average stock is higher than legal reservation level and the average stock of all products is 2.12 days supply above legal reservation of all products which is less than PTT's target. The operation problems such as unbalance in demand and supply, time consuming in solving problem, and opportunity of stock problem will be also reduced.

After deriving the optimal stock solution, PTT should revise it regularly because some factors such as demand, legal reservation level, and tank capacity which affect PTT's stock will be changed.