CHAPTER 6

CONCLUSION

This research objectives are to control inventory by determining the optimum stock level and to allocate warehouse space and design the equipment for storing the mentioned inventory.

Inventory control processes start with data collection, the outgoing-inventory quantities and the incoming-inventory quantities of the inventory under my study are collected from the warehouse. The historical data are then analyzed by using cumulative graphs. From the graph, the stock level and the in-warehouse time of each item are known. After that, the demand forecasting process is done by using the time-series method. The future demand of each item can be predicted from the graph of the outgoing-inventory quantities and time.

To define the optimum stock level, the total costs for the order placed and the safety stocks should be calculated. The total costs for each order placed are the sum of the ordering costs and the inventory-holding costs. The number of time for ordering the product that give the lowest cost is then be found. Safety stocks of each item are calculated from the product of a decision variable which can be selected to achieve desired results in term of frequency of stockouts and standard deviation of demand during lead time.

The order quantities for each order placed are known from the graph of cumulative-estimated demand. And the important things that should be considered in the graph are the safety stock level, initial stock level, and the economic number of order placed.

After all of the processes are executed, it is found that the stock levels in warehouse are decrease and the cost saving are about 133.5 million baht.

The physical properties, size and weight, of the mention inventory are collected from the warehouse for allocating space and designing storage equipment. The space required to store each equipment is calculated from

the total volume of the equipment which must be stored to serve the demand for a period of time.

To design the storage equipment, the retrieving method and the nature of the inventory should be considered. The inventory under my study are categorized to 2 types, small-size containers which need good equipment protection and big-size containers. The suitable equipment for each type of the equipment are selected from steel shelving, floor storage, flow rack, and pallet rack by considering the characteristics of each storage equipment in the weighing table. It is found that shelving is the suitable equipment to store the small-size containers and pallet rack is suitable for storing the big-size containers.