

ABSTRACT

Inventory is any stored resource that is used to satisfy a current or a future need, such as raw materials and finished goods. Inventory continues to represent a major use of capital in the supply channel. Excess inventory is costly to store while insufficient inventory may result in loss of market share, which is more costly. Good management of it means keeping it at the lowest possible level consistent with the balance of costs.

There are two questions for inventory policy. First is how much to order and second is when to order. The answers of these questions are determined based upon the relevant factors that encompass setup cost (K), holding cost (h), demand (D), lead time of ordering (L), and etc.

Hanano (Thailand) Co., Ltd. is the case study company that inspires to revise the current inventory system and improve it so that it can serve changes in the future. The focus of this project is on the new inventory models formulation for the fifteen types of raw material of die lubricants. To set the new inventory policy, the combination of gathering the historical data of the relevant factors and applying the concept of deterministic inventory models in operations research to analyze the problem is necessary. Furthermore, Crystal Ball, a Microsoft® Excel add-in that provides the ability to perform a technique for simulating real-world situations involving elements of uncertainty, and CB Predictor, a Microsoft® Excel add-in that provides the ability to forecast, are applied for the calculation.

Finally, the new inventory policy for fifteen types of raw material is suggested. Formulated in the form of Microsoft® Excel, it is easy to use, controllable, flexible to change, as well as, it tends to reduce inventory costs.