An EOQ based multi-storage location of spare part inventories: a case study

Abstract

Spare parts inventory management is very important to ensure smooth operation of maintenance department. The main objectives of inventory management of spare parts are to ensure the availability of spares and materials for the maintenance tasks and increase the productivity of the maintenance department. This research centred on the development of the Computerised Inventory Management System (CIMS) for the maintenance team at Weida Integrated Industries Sdn. Bhd. The inventory management technique used to control the spare parts inventory in this research was the basic Economic Order Quantity models (EOQ). However, the CIMS developed is unique as it has the ability in handling inventories in multiple-storage locations. The CIMS was written using the Visual Basic 2010 software. This CIMS has the abilities to keep records and process the spare parts information effectively and faster besides helping the user to perform spare parts ordering tasks compared to the current manual recording. In addition, the ordering quantity and frequency for the CIMS is determined through the EOQ technique. However, observation indicates that the overall average inventory level currently at the factory is lower than the expected overall average inventory level produced by the CIMS. This is due to the fact that the CIMS was unable to consider the opening stock in ordering the inventories. Therefore, further improvements are needed to optimize the performance of the system such as using the EOQ with the reorder point technique, the periodic or continuous review system.