

ABSTRACT

The electric motorcycle industry has experienced rapid growth in recent years, along with increasing global demands to reduce greenhouse gas emissions and shift to more environmentally friendly technologies. PT. MOLINDO, as a company that produces electric motorcycles, faces overstock problems in managing spare part inventory. This problem poses challenges in managing the company's operational costs and efficiency. In this context, forecasting becomes a crucial element in effective supply chain management, especially in efforts to reduce operational costs in the electric motorcycle industry. Accuracy in forecasting can directly affect decisions related to inventory and production, which ultimately impacts the company's cost efficiency. This study aims to analyze and improve electric motorcycle spare part inventory control at PT. MOLINDO using the Wagner Within method. This approach involves collecting historical inventory data, reviewing existing inventory control policies, and identifying factors that affect system performance. The data analyzed in the application of the Wagner Within method includes ordering costs, storage costs, and production capacity. The analysis is carried out by comparing actual performance with the standards set by the Wagner Within method, including in terms of optimal order lot size and efficient scheduling with the aim of minimizing total inventory costs. The calculation results show that the implementation of the Wagner Within method has succeeded in reducing the total inventory cost compared to the company's current inventory system. Based on the analysis results, the company has the potential to achieve savings in the inventory costs of battery components and electric motorcycle frames of up to IDR 193,537,996 in a year. By implementing this method, the company can effectively reduce costs associated with storage and procurement of goods.

Keywords : *Electric Motor, Forecasting, Inventory Costs, Spare Parts, Wagner Within.*