

## ABSTRACT

Inventory has not only been viewed as an asset from an accounting and financial perspective, but also as an evil from a production point of view. Hence, effective inventory management is one of the key factors to increase productivity and profitability of an organization. Apparently, the importance of inventory management is widely recognized by a large firm. For a number of small-to-medium business firms, the role of inventory management is still underestimated. The purpose of this paper is to study an inventory control under a quantitative approach to manage inventory for a small business company. Primarily, the study is based on deterministic inventory models. Demand data was analyzed to find a pattern by autocorrelation coefficient function, which data revealed a stationary pattern. Consequently, simple moving average forecasting technique was employed to project new data series. Two fundamental questions of how much to order and when to order were examined under a classic EOQ model and EPQ model, where three models: basic EOQ, EOQ with time-varying demand, and EPQ were studied. The study revealed that EOQ is sensitive to changes and EPQ is suitable when production capacity is greater than demand rate. Both models yield an improvement result to the current inventory status of the case study. However, there is evidence that sensitivity of the models existed which was not examined in this study. Though the quantitative method in this study exhibits a potential improvement, the judgmental approach is necessary to better support the effectiveness of the inventory control. Thus, a combination of quantitative and qualitative methods could be developed for further study.