

ABSTRACT

This study aims to analyze inventory control at PT Nusantara Bangun Mitrautama using the MUSIC 3D approach (Multi Unit Spares Inventory Control – Three Dimensional). This approach integrates three classification methods—ABC, FSN, and SDE—to categorize items based on consumption value, movement frequency, and availability level. The research focuses on three main product types: ceramic tiles, pipes, and metal roofing sheets. Based on the classification results, calculations for Economic Order Quantity (EOQ), Safety stock, and Reorder Point (ROP) were carried out to determine the optimal ordering strategy. The analysis showed that the EOQ method can reduce inventory costs by 3%, while the Periodic review approach leads to up to 74% savings for Low Consumption Value items. Thus, implementing the MUSIC 3D approach can improve operational efficiency, reduce costs, and significantly support inventory management decision-making in the company.

Keywords: MUSIC-3D, ABC, FSN, SDE, EOQ, Reorder Point, Safety stock, Periodic Review