

ABSTRACT

This study examines inventory management optimization at PT Shuangfei Electric Systems Manufacturing, a key player in Indonesia's automotive wiring harness industry. Critical inefficiencies, including high holding costs (IDR 2.718 billion annually), low inventory turnover (3.84 for A-class materials), and long procurement lead times, have constrained working capital and profitability.

By implementing Economic Order Quantity (EOQ), Just-in-Time (JIT), and ERP-WMS integration, financial and operational improvements were quantified. EOQ reduces costs by 22%, saving IDR 176.25 million annually, while JIT lowers safety stock by 28.57%, releasing IDR 248.45 million in cash flow. ERP-WMS integration raises inventory turnover to 6.0, saving IDR 978.29 million annually and enhancing liquidity.

Collectively, these measures free over IDR 1.4 billion annually, enabling reduced borrowing, reinvestment, and improved profitability. By addressing inefficiencies, PT Shuangfei aligns with global benchmarks and establishes a framework for sustainable growth.

Keywords: Inventory Management, Financial Performance, Economic Order Quantity (EOQ), Just-in-Time (JIT), ERP-WMS Integration.