

ABSTRACT

PT TMSS Yageo Indonesia faced challenges in the material delivery process using the conventional Kanban system. Delays and errors in material filling were detected throughout the process. To improve the effectiveness, efficiency, and accuracy of material delivery, the company implemented the digitalization of the Digital Kanban System (SKD) integrated with the Enterprise Resource Planning (ERP) system.

This study focuses on analyzing the effectiveness of the SKD implementation, which is connected to the ERP system in managing Kanban-based material delivery. This approach is expected to improve delivery time efficiency and reduce errors during the material delivery process.

Three key indicators were used to evaluate the efficiency and effectiveness of SKD: On-Time Delivery (OTD), delivery efficiency, and material accuracy to the production line. OTD was evaluated based on the percentage of deliveries arriving on time compared to the total number of deliveries during a defined period. The evaluation of efficiency relied on measuring how actual delivery durations corresponded to the predetermined cycle time benchmarks. Efficiency was assessed by evaluating the difference between actual delivery performance and the expected cycle time. These indicators demonstrate how effectively the SKD supports a consistent and reliable material delivery process.

The research findings show that On-Time Delivery (OTDm) achieved a 100% rate with no recorded delays. The observation period showed a consistently high level of delivery efficiency. The highest number of deliveries was recorded in the second month, and no delays occurred during the study.

According to the study's findings, a comprehensive rollout of the SKD in the whole production environment would be advantageous. To support system adaptability and long-term efficiency, it is vital to improve monitoring processes, provide ongoing workforce development, and encourage continuous research efforts.

Keywords: Digital Kanban System (SKD), ERP Integration, Supply Chain Efficiency, On-Time Delivery (OTD).