

## ABSTRACT

*The increasing demand for children's clothing from Senzamor Kids, a Small and Medium Enterprise (SME) in the garment industry, has led to challenges in meeting delivery schedules and ensuring timely distribution to all its distribution centers (DCs). Senzamor Kids operates with one warehouse and three DCs, which are critical to delivering customer orders across various regions. However, delays in meeting customer demands have posed a significant issue, leading to customer dissatisfaction and potential loss of business.*

*This research aims to design a distribution scheduling system using the Distribution Requirements Planning (DRP) method to enhance the ability to fulfill the demand at each DC. DRP, a tool commonly used in supply chain management, is highly effective in aligning production schedules with distribution needs, thus optimizing the supply chain process from the warehouse to each distribution center. By integrating DRP into the distribution process at Senzamor Kids, the goal is to reduce order delivery delays and improve overall service performance.*

*The study begins by analyzing the current distribution practices at Senzamor Kids, identifying key bottlenecks and inefficiencies within the system. These include issues related to inventory management, order processing, and transportation logistics. With these insights, the DRP model is applied to improve the synchronization between the warehouse and DCs, ensuring that stock levels at each DC are adequately maintained to meet customer demand without excessive delays.*

*A key component of the DRP approach is the accurate forecasting of demand at each DC. This study utilizes historical sales data from January to December 2023 to develop a demand forecast model. By accurately predicting future demand, the DRP system can ensure that sufficient stock is distributed to each DC, minimizing stockouts and ensuring timely delivery to customers. This is critical in the fast-paced garment industry, where delays in order fulfillment can result in lost sales and customer dissatisfaction.*

*The DRP method was chosen because of its ability to plan product needs at each distribution level and determine the optimal amount of inventory. This research involves collecting historical sales data, forecasting demand, calculating Economic*

*Order Quantity (EOQ), determining safety stock, and designing delivery schedules. The research results are expected to provide recommendations for optimal delivery schedules to minimize delivery delays, increase customer satisfaction and company competitiveness.*

***Keywords: Scheduling, Distribution, Distribution Requirement Planning (DRP).***