

## **ABSTRACT**

*Inventory is an idle item or material and its existence is used for consumption activities for consumers. Inventory has an influence on the material flow time in a company's supply chain. Inventory is one of the important elements in business operations that affect the smooth process of products and distribution. Inventory that is not managed properly can lead to problems such as stock outs, overstocks and high inventory costs, potentially harming the company in the long run. Therefore, inventory needs to be managed optimally with a balanced strategy between meeting consumer needs and cost efficiency. With proper inventory management, companies can reduce unnecessary costs and ensure the availability of products needed by consumers.*

*The growth of retail outlets/stores in recent years has been very fast. The need for daily products is needed by consumers to meet their needs. Every company is competing to be able to meet consumer needs. PT XYZ is one of the companies that has a sales business in retail outlets/stores that have spread throughout Indonesia. PT XYZ is engaged in the sale of fast moving consumer goods products. As a company that focuses on daily needs and in selling products to consumers, the company is committed to always meeting market demand by providing quality and diverse products. With a network of outlets spread throughout Indonesia, PT XYZ ensures consistent availability of goods so that customers can access the products they need at any time. In carrying out its operations, the company collaborates with various suppliers to maintain a stable and timely supply flow of goods in order to maintain customer satisfaction and support sustainable business growth. Suppliers who send products to PT XYZ are spread throughout the region and PT XYZ purchases from suppliers with the nearest reach. PT XYZ sells various kinds of needs which are categorized into three, namely Food 1, Food 2, and Non-food. This research was conducted in one of the branches or regional warehouses of PT XYZ in Klaten City, Central Java.*

*In managing its inventory, PT XYZ has not managed it properly, as evidenced by the stock out condition in the Food 1 category in 2023, the state of stock out or lack of stock can have a significant impact on the company's total inventory costs.*

*When product stock runs out, companies not only lose sales opportunities but will also incur emergency costs to speed up inventory replenishment such as shipping costs or higher ordering costs. If the stock out condition continues without any control measures, the company will suffer long-term losses that have the potential to disrupt the company's operations. Therefore, it is very important for companies to manage inventory well to minimize the risk of stock out and maintain the balance of product inventory and inventory cost efficiency.*

*This final project solves the stock out problem carried out with the aim of providing a proposal for product inventory policies that are expected to reduce the total inventory cost caused by the stock out condition of the Food 1 category from PT XYZ. The proposed inventory policy uses the Periodic Joint Replenishment method. This method is used because the products at PT XYZ are supplied by several suppliers, where one supplier can supply more than one type of product at one order. The calculation with the Periodic Joint Replenishment method uses lead time data, major message costs, minor message costs, request data and storage costs. The results of this study are inventory policies in the form of review intervals, safety stock and maximum inventory levels.*

*Based on the calculation results, it shows a decrease in total inventory costs consisting of ordering costs, holding costs, shortage costs and purchase costs with a decrease of 7.04% from existing conditions. The results of the policy calculation in this study were also able to reduce the shortfall cost of Rp 8,264,602,928.*

***Keywords: Inventory Police, Joint Replenishment, Periodic Review, Stock out.***