IMPLEMENTATION OF MIN-MAX STOCK METHOD FOR OPTIMIZATION OF STOCK CONTROL IN PRODUCT INVENTORY INFORMATION SYSTEM

(Case Study: Jogjakustik15 Sleman)

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ABSTRACT

Jogjakustik15 is a musical instrument store in Sleman that sells guitars, cajons, amplifiers, and various other musical accessories. Jogjakustik15 faces obstacles in managing its product inventory in the form of difficulty in determining restock and the right number of product restocks. The main problem that occurs is the lack of stock on products with high demand and excess stock on products with low demand due to restock decisions that are still carried out conventionally without systematic calculations. Given these problems, the proposed solution is to develop a product inventory information system (SIPPERPRO) by implementing the Min-Max Stock method to optimize product stock management. The methods used in data collection include observation, interviews, literature studies, and software development with the Waterfall model. The test results show that the system has a success rate of 95% from 60 black box testing scenarios, with an accuracy level of the Min-Max Stock method reaching 100% based on testing 28 parameters from 7 different products. The system successfully generates safety stock, minimum stock, maximum stock, and restock quantity recommendations based on historical data of outgoing product transactions and supplier lead time, is able to determine product restock quantity recommendations accurately, and provides automatic restock notifications when stock reaches the minimum limit, allowing Jogjakustik15 to manage inventory more optimally and efficiently.

***Keywords**: Jogjakustik15, Inventory Control System, Min-Max Stock*