

## ABSTRACT

*Hita Loka Tara Cooperative is a student cooperative that provides daily necessities for all campus members at Telkom University Surabaya, such as food, beverages, stationery, and other essential items. In its operations, the cooperative still relies on a manual stock management system, resulting in low efficiency and accuracy in inventory planning. To address this issue, this study implements the ARIMA (AutoRegressive Integrated Moving Average) method into a web-based sales prediction system designed to support structured and data-driven decision-making in inventory management. The research involved collecting 50 weeks of historical sales data from five top-selling product categories, followed by data preprocessing, stationarity testing using the ADF method, ACF and PACF analysis for parameter determination, ARIMA modeling, and accuracy evaluation using MAPE and RMSE metrics. The prediction results are presented through an interactive web dashboard to facilitate user monitoring and interpretation. Evaluation results indicate that the Beverage category achieved the best performance with a MAPE of 13.35% and RMSE of 147.63, while the AICE category had the lowest accuracy with a MAPE of 75.21% and RMSE of 47,75 due to high data fluctuations. System functionality testing using the black-box method also confirmed that all features operated correctly. Overall, the ARIMA method is effective in predicting stock availability based on historical patterns; however, it has limitations when applied to highly unstable data, thus requiring additional approaches to improve prediction accuracy across all product categories.*

**Keywords:** *ARIMA, Sales stock Prediction, Web Based Sistem, Cooperative Management, MAPE, RMSE.*