ABSTRACT

HOLT-WINTERS MULTIPLICATIVE EXPONENTIAL SMOOTHING METHOD AND SEASONAL AUTOREGRESSIVE INTEGRATED MOVING AVERAGE (SARIMA) METHOD IN FORECASTING SEASONAL TIME SERIES DATA

By

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The aim of this study is to examine Holt-Winters Multiplicative Exponential Smoothing Method and Seasonal Autoregressive Integrated Moving Average (SARIMA) Method and to compare this two methods in forecasting data on the number of train passengers in Indonesia. Based on the results of the study, it was found that the Holt-Winters Multiplicative Exponential Smoothing Method was more feasible than the SARIMA Method in predicting the number of train passengers in Indonesia in the future period.

Keywords: Holt-Winters, Multiplicative, SARIMA, MSE.

ABSTRAK

METODE PENGHALUSAN EKSPONENSIAL *HOLT-WINTERS* DAN METODE *SEASONAL AUTOREGRESSIVE INTEGRATED MOVING AVERAGE* (*SARIMA*) PADA PERAMALAN DATA DERET BERKALA MUSIMAN

Oleh

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Tujuan dari penelitian ini adalah untuk mengkaji Metode Penghalusan Eksponensial *Holt-Winters* Multiplikatif dan Metode *Seasonal Autoregressive Integrated Moving Average* (*SARIMA*) serta membandingkan kedua metode tersebut pada peramalan data jumlah penumpang Kereta Api di Indonesia. Berdasarkan hasil penelitian diperoleh bahwa Metode Penghalusan Eksponensial *Holt-Winters* Multiplikatif lebih layak digunakan dibandingkan Metode *SARIMA* dalam meramalkan jumlah penumpang kereta api di Indonesia periode kedepan.

Kata kunci: *Holt-Winters*, Multiplikatif, SARIMA, *MSE*.