ABSTRAK

Selama beberapa tahun terakhir, pasar saham di Indonesia telah mengalami perkembangan yang cukup signifikan. Bahkan ketika pandemi COVID-19 mulai mewabah dan Bursa Efek Indonesia (BEI) mengalami penurunan yang signifikan selama beberapa periode, banyak orang masih yakin untuk mengembangkan portofolionya terlepas dari aktivitas pasar saham yang semakin volatil. Hal ini mendorong adanya diskursus mengenai prediksi harga saham di tengah gempuran volatilitas yang naik turun akibat terdampak pandemi COVID-19, khususnya pada sektor farmasi yang paling terdampak akan berbagai macam sentimen terkait pandemi COVID-19 itu sendiri. Penelitian ini berfokus pada perbandingan efektivitas kedua metode dalam memprediksi harga saham pada 3 perusahaan sub-sektor farmasi pada masa terjadinya pandemi COVID-19. Beberapa metode yang akan diuji antara lain Random Walk, GARCH, dan LSTM. Indikator akurasi ditentukan dari nilai RMSPE dan RMSE dari tiap model, di mana model yang memiliki tingkat akurasi terbaik akan digunakan untuk meramal harga saham selama 7 hari ke depan.

Kata kunci: Deret Waktu, Pemelajaran Mesin, Volatilitas Saham

ABSTRACT

Over the past few years, the stock market in Indonesia has experienced significant developments. Even when the COVID-19 pandemic began to spread and the Indonesia Stock Exchange (IDX) experienced a significant decline for several periods, many people were still confident to grow their portfolios despite the increasingly volatile stock market activity. This prompted a discussion about stock price predictions amidst the onslaught of volatility that rose and fell due to the impact of the COVID-19 pandemic, specifically in subsector pharmaceuticals which theoretically was affected the most by the sentiment of stock price during the pandemic itself. This study focuses on comparing the effectiveness of the two methods in predicting stock prices in 3 companies in the pharmaceutical subsector in the midst of the COVID-19 pandemic. Three methods that will be tested include Random Walk, GARCH, and LSTM. The accuracy indicator is determined from the RMSPE and RMSE values of each model where the model that has the best level of accuracy will be used to forecast stock prices over the next 7 days period.

Keywords: Time Series, Machine Learning, Stock Volatility