

Coca-Cola Stock Forecasting using ARMA Model

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Abstract

The goal of this paper is to ...

1 Problem Statement and Motivation

Stock forecasting is vital for a company that wants to be successful and profitable. It helps companies with financial planning, allowing companies to allocate resources efficiently and make informed decisions about investments and expenditures. It allows companies to identify and mitigate risks associated with a volatile market. Finally, along with many other things, forecasting provides a benchmark for the company's actual performance to be measured against. By comparing the forecasted stock prices with the actual prices, companies can evaluate the effectiveness of their strategies and operations.

Clearly the ability to forecast stock prices and other important quantities is of great use and interest to companies everywhere.

2 Data

The Coca-Cola stock price history data came from a dataset on Kaggle's website. The dataset contains 7 quantities indexed by the day of those quantities. These values are the stock's opening price, highest price point in the day, lowest price point in the day, the closing price of the stock, the volume, dividends, and stock splits of the stock for the day. Finding data like this was

difficult to find for quantites like profits, margins, or quantities for specific drinks that fall under the Coca-Cola umbrella. However, the stock price for a company is a good indicator as to what the values are and where they are heading.

The stock price data reuquired a little cleaning. For about 50% the data, the index or date for the stock info comes in the form of YYYY-MM-DD, while the other 50% has the time next to the date, in the same format, YYYY-MM-DD HH:MM:SS-UTC. For the purposes of our analysis, we only needed the date, and the format it was in was acceptable, so what we needed to do was delete part of the index that gave the time. To do this, we stripped the index into its list of strings and only kept the part that gave the date, we made this into a new column called `df['date']`, and deleted the original column.

3 Results

3.1 ARMIA

3.2 VARMAX

4 Analysis

5 Ethical Implications

6 Conclusion